Tailoring QI Education Intervention Projects for Community Health Care

Muhammad Jaffar, MD, University of Arkansas for Medical Sciences
Wendy McCloud, MA, University of Arkansas for Medical Sciences

September 26th, 2017
Objectives

• Discuss initial approach with underserved Arkansas Delta region hospitals and explain educational collaborative efforts between UAMS content experts and clinical leadership from two community hospitals;

• Analyze current hospital policies and procedures for urinary catheter insertion and care technique, central line placement and care technique, and Sepsis Assessment and Management to identify and correct deficits;

• Explain and train hospital staff on current best-practice techniques in prevention of CAUTI, CLABSI, and falls prevention through hands-on learning sessions; and

• Teach initial assessment and management principles for sepsis patients through simulation scenarios involving standardized patients.
Who We Are
University of Arkansas for Medical Sciences (UAMS)

- Arkansas’ only comprehensive academic health center, with colleges of Medicine, Nursing, Pharmacy, Health Professions and Public Health; a graduate school; a hospital; a northwest Arkansas regional campus; a statewide network of regional centers; and seven institutes: Cancer Institute, the Spine & Neurosciences Institute, the Myeloma Institute, the Eye Institute, the Psychiatric Research Institute, the Institute on Aging and the Translational Research Institute.
- The only adult Level 1 trauma center in the state.
- The only accredited provider of ANCC, ACPE, and ACCME credits in the state.
- UAMS has over 3,000 undergraduate health professions students, ~800 medical residents and five dental residents.
- It is the state’s largest public employer with more than 11,000 employees, including over 1,000 physicians at the main medical center and other HCPs who provide care to patients at UAMS, Arkansas Children’s Hospital, the VA Medical Center and UAMS regional centers throughout the state.
Arkansas Delta Region

- One of the six natural regions of the state
- Runs along the Mississippi river, rich in crops such as cotton, soybeans, and rice
- Deepest of the “Deep South”

Lakeport Plantation built in 1850 and now museum
Goal:
Tailoring quality improvement educational interventions to meet the needs of two community healthcare facilities focusing on CAUTI, CLABSi and Sepsis.

DESCRIPTION:
An interprofessional team of clinical content experts, education and instructional design specialists, and simulation technology staff were funded by a healthcare foundation to provide hands-on education to two underserved regional community hospitals for a quality improvement intervention focusing on risk reduction for healthcare associated infections and sepsis.

The team developed, and executed, a process for modifying existing educational content to match the best practice needs of each institution in ways that could be attached to measurable outcomes. A collaborative, multi-step process was utilized to maximize the impact of the interventions and ensure the partnership yielded positive benefits for all stakeholders.

ACTIONS TAKEN:
The project team established an evaluation process of hospital current practices around each of the three primary clinical concepts we wanted to work on (risk reduction for central line infections, catheter associated infections, and sepsis). We then tailored our QI interventions to meet the differing needs of the targeted institutions.
SOAPS: Simulation Outreach to Address Patient Safety
Partners

- Arkansas Dept. of Health
- Greater Delta Alliance for Health
- Chicot Memorial Medical Center (CMMMC)
- Helena Regional Medical Center (HRMC)
Why SOAPS

• Medical Errors and Hospital Acquired Conditions
Medical Errors

--3rd leading cause of death
--251,000 deaths are due to medical errors annually
--Approximately 700 deaths/day
--9.5% of all deaths/year in USA

Medical error—the third leading cause of death in the US
BMJ 2016; 353 doi: http://dx.doi.org/10.1136/bmj.i2139 (Published 03 May 2016) Cite this as: BMJ 2016;353:i2139
Medical error—the third leading cause of death in the US

Medical error is not included on death certificates or in rankings of cause of death. Martin Makary and Michael Daniel assess its contribution to mortality and call for better reporting.

Martin A Makary professor, Michael Daniel research fellow

Department of Surgery, Johns Hopkins University School of Medicine, Baltimore, MD 21287, USA

Medical error is not included on death certificates or in rankings of cause of death. In 2016, Martin Makary and Michael Daniel assessed its contribution to mortality and call for better reporting.
How to Stop Hospitals From Killing Us

Medical errors kill enough people to fill four jumbo jets a week. A surgeon with five simple ways to make health care safer.

By MARTY MAKARY
Updated Sept. 21, 2012 10:56 p.m. ET

When there is a plane crash in the U.S., even a minor one, it makes headlines. There is a thorough federal investigation, and the tragedy often yields important lessons for the aviation industry. Pilots and airlines thus learn how to do their jobs more safely.
Patient Safety in the U.S.

Institute of Medicine, 1999
- 44,000-98,000 deaths per year due to medical error

Office of the Inspector General, 2010
- 180,000 deaths per year due to adverse events (1/2 preventable)

North Carolina Patient Safety Study, 2010
- Study of 2341 randomly selected admissions from 10 randomly selected hospitals statewide
Most Common Medical Errors

1. Adverse drug events
2. Catheter associated Urinary Tract infections (CAUTI’s)
3. Central Line Associated blood stream infections
4. Injuries from fall and Immobility
5. Obstetrical adverse events
6. Pressure Ulcers
7. Surgical Site Infections
8. Venous Thromboembolism
9. Ventilator associated pneumonia
SOAPS: Simulation Outreach to Address Patient Safety

- For this project, we had a concept, but not really a topical focus.
  - Improving collaboration and communications
- Wanted to establish a high-outcomes educational intervention using hands-on teaching methods
- Collaboration among professions was a key element
  - “The current system shows too little cooperation and teamwork. Instead, each discipline and type of organization tends to defend its authority at the expense of the total system’s function.” (IOM:2003)
Why Care about Inter-professional Collaboration?

• “As the delivery of care becomes more complex across a wide range of settings, and the need to coordinate care among multiple providers becomes ever more important, developing well-functioning teams becomes a crucial objective throughout the healthcare system.”

Outcomes
- Reduced HAI’s with Effective interventions
- Decreased disparities in care

Patient Experience
Improves patient satisfaction and trust

Costs
- Lower costs of care
- Appropriate utilization of resources
SOAPS Interprofessional Team

- Office of Interprofessional Collaborative Practice
  - Muhammad Jaffar, MD
- Office of Continuing Education
  - Miranda Morris, MA
  - Wendy McCloud, MA
- Clinical Nurse Educators
  - Mark Rowe, MNSc, RNP, VA-BC
  - Cathy Buzbee, MHA, BSN, RNP, OCN
- Centers for Simulation Education
  - Michael Anders, PhD, RT
  - Travis Hill, MEd
SOAPS

- Three outcome Interventions
  - Central line associated bloodstream infections (CLABSI)
  - Catheter-associated urinary tract infections (CAUTI)
  - Sepsis
Initial Approach

• Getting buy in from CMO, CNO and Infection Prevention staff
  ✓ Initial meeting
  ✓ Agreement
  ✓ Baseline data
  ✓ Review of Policy and procedures
Initial Data Analysis

- No standardized approach for CVL and Urinary catheter placement and care even when a policy existed
- Policies were outdated
- No use of ultrasound for CVL placement
- No meaningful QI so we worked with Infection prevention staff
Use of Sepsis Bundle

• CMMC: “Hit and miss” no screening tool

• HRMC: < 20% of patients were screened for sepsis
Participants

• Outreach training at CMMC
  ✓ 44 nurses (100%)
  ✓ 5 physicians

• Outreach training at HRMC
  ✓ 48 nurses (71%)
  ✓ 4 physicians
Methods

• Simulation
  ✔ Task trainers and standardized patient
• Systems improvements
  ✔ Policy change; protocols
  ✔ Ongoing data collection
• Enduring materials
  ✔ Online modules
  ✔ Video
Plans: CMMC

- Sepsis training: Aug. 5-6
- Standardized patient
- Protocol revisions for initial assessment and treatment of Sepsis
- Task Trainers
- Produce video
- Data validation with ADH: Oct 2016
Plans: HRMC

• Site visit
• Competency skills fair featuring all of the SOAPS training
Systems Improvements

• Policy revisions
• New supplies
• New or revised protocols
• Enduring training video
• Use of ultrasound
Training at CMMC and HRMC

- Near 100% nursing staff participation
- Outstanding evaluations
- Call for longstanding partnership
Use of Sepsis Bundle

- CMMC: “Hit and miss” to near 100% sepsis screening
- HRMC: < 20% to near 100%
The realistic simulation emphasized the necessity for triaging and managing sepsis in a way that other types of training cannot.
CMMC CEO, David Mantz

“Your instructors were of World Class quality. I really appreciate your support for us in our motto of ‘getting better every day.’ We look forward to continuing our partnership.”
HRMC CEO, Leah Osbahr

“Thank you for the outstanding opportunity for hands-on training provided by your team. I hope we can collaborate in the future. There is so much value in what your team is doing for rural facilities like ours.”
Lessons Learned

• Timely formative assessments
  ✓ Stakeholders
  ✓ Alternative strategies

• Magnitude of need and potential for positive impact is large
Future Directions

• Statewide Sepsis Collaborative started in June, 2017 with 24 hospitals enrolled
• V-link consultation between ER
• Offer SOAPS (Simulation training) to other hospitals
  ✓ Contract signed between UAMS and Arkansas Hospital Association
  ✓ Collaboration grant submitted to Blue and you foundation
Summary

• Tremendous need for outreach education
• Excellent immediate outcomes
• Strong foundation for SOAPS
• Far reaching implications of partnerships