Objectives

- Upon completion of the session, the participant will be able to:
  - Define human factors.
  - Describe two ways human factors influence sustained CAUTI reduction.

Purpose

- Reduce the incidence of CAUTI in patients with an indwelling urinary catheter through identification and enculturation of human factors following implementation of an evidence-based prevention program.
- Move beyond protocols to enculturate human factors to sustain/further improve CAUTI rates.

Relevance/Significance

- Human factors recognize that the workplace needs to be designed and organized to minimize the likelihood of errors occurring and the impact of errors when they do occur.  
- Failure to apply human factor principles is a key aspect of adverse events.

Relevance/Significance

- Catheter-associated urinary tract infections (CAUTIs)
  - Account for > 40% of all hospital associated infections
  - Increase length of stay by 2 days and direct cost of $1,000
  - Cost healthcare system $400M annually
  - Reduce hospital payment
  - The Joint Commission identified the prevention of CAUTI as a National Patient Safety Goal (NPSG) to promote and improve patient safety.
  - NPSG.07.06.01: Implement evidence-based practices to prevent indwelling CAUTI

Strategy and Implementation

- Human Factors
  - Science of defining the interrelationship between humans, technology they use, and the environment in which they work
  - Considers how the "human condition" influences how we do our work
  - Emphasizes anticipation and prevention of harm rather than reacting to harm
Strategy and Implementation

- Personal Interaction
  - Daily CNS rounding
  - Collegial provider dialogues
  - Interprofessional partnerships
  - Interdisciplinary rounds
  - Integrate into daily Safety Huddle

- Structured Conversation
  - Deliberate direct nurse conversations
  - Checklist-scripted collaborative conversations
  - Adjusted EMR documentation

- Tool
  - Removal Protocol
  - Daily Need Assessment

- Tool
  - Checklist
  - Prevention Bundle

- Tool
  - Standardized Processes

Evaluation

- Measure and Monitor
  - Effectiveness of prevention efforts
  - Adherence to EBP guidelines
Evaluation

ICU/SDU CAUTI rate below national benchmark

Surgical/Transplant unit CAUTI rate below national benchmark majority of quarters

Evaluation

ICU/SDU catheter utilization ratio below NHSN benchmark

Surgical/Transplant unit catheter utilization ratio below NHSN benchmark

Evaluation

ICU/SDU adherence to bundles at research benchmark

Surgical/Transplant unit adherence to bundles at research benchmark
Evaluation

$112,700 ESTIMATED COST AVOIDANCE

ICU/SDU FY12 to FY15

FY12 $11,270/case x 11 cases = $123,970
FY13 $11,270/case x 1 case = $11,270
FY14 $11,270/case x 6 cases = $67,620
FY15 $11,270/case x 1 case = $11,270

Estimated Cost Avoidance $112,700

Evaluation

$45,080 ESTIMATED COST AVOIDANCE

Surgical/Transplant FY12 to FY15

FY12 $11,270/case x 5 cases = $56,350
FY13 $11,270/case x 3 cases = $33,810
FY14 $11,270/case x 4 cases = $45,080
FY15 $11,270/case x 1 case = $11,270

Estimated Cost Avoidance $45,080

Implications for Practice

- Enculturing human factors helps to design processes that make it easier to do the job right.
  - Avoid reliance on memory
  - Make things visible
  - Standardize processes
  - Routinely use checklists

Implications for Practice

- The influence of human factors, intentional conversations, and team collaboration cannot be underestimated in the age of standardization and computerization.
  - Enculturation of professional nursing autonomy enables nurses to make nursing care decisions within the full scope of their practice in an interprofessional practice environment.

References


Contact Information

Cynthia Oster, PhD, RN, APRN, ACNS-BC, ANP, MBA
Nurse Scientist
Clinical Nurse Specialist
CynthiaOster@Centura.org