

Defining Quality Indicators to Improve Practice (Transforming Care at the Bedside)

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Greetings from Baltimore



What Is Quality?

“The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with professional knowledge.”

Institute of Medicine, 1998



What Is Quality?

- * Quality Health Care
 - * Safe
 - * Timely
 - * Effective
 - * Efficient
 - * Equitable
 - * Patient-centered



Institute of Medicine, 2001

What is Quality Improvement?

- * Is an organizational philosophy/ belief
- * Looks to meet patient s' needs and exceed expectations with a minimum of effort, rework and waste,
- * Uses a structured process to continually identify and improve all aspects of care and service.

Philosophy

- * Collaborative relationships essential to service excellence.
- * Patient needs and system efficiencies come first.
- * Care givers are accountable.
- * Patients and families are empowered.

What is Quality Improvement

- * **Quality improvement is based on several premises, including:**
 - * Employees want to do a good job,
 - * Systems and processes of care produce outcomes, not individuals,
 - * Focus on meeting the needs of patients rather than the needs of the organization,
 - * Data from formal problem-solving methods and statistical tools drives decision-making.

What is Quality Improvement?

- * Integral part of providing care
- * Efforts to prevent infection, reduce complications, promote patient safety, and institute best practice is resulting in significant changes in daily practice.
- * Significant impact on improving patient care and promoting quality outcomes

Quality of Care Initiatives

- * Clinical and/ or customer service in nature
- * Reflect opportunities for improvement
- * High-risk, high-volume, problem-prone
- * Outcomes

Quality of Care Initiatives

- * Strategies to prevent :
 - * VAP
 - * BSI related to CVC
 - * Sepsis
 - * Medication errors



Institute for Healthcare Improvement

- * Rapid Response Teams
 - * Bringing critical critical care to the bedside
 - * Failure to recognize a deteriorating patient leads to failure to rescue
 - * Teams that respond to a deteriorating patient leads to improved survival



Institute for Healthcare Improvement

- * Reduction of Medication Errors
 - * Leading cause of injury to children in hospital
 - * Poor communication at transition points responsible for large number of medication errors and adverse drug events



Institute for Healthcare Improvement

- * Ventilator Associated Pneumonia
 - * Second most nosocomial infection
 - * Increases time spent on ventilator, length of stay in ICU, length of hospital stay
 - * Children hospitals are developing evidence-based interventions to decrease occurrence of VAP
 - * Ventilator bundles

Institute for Healthcare Improvement

- * Central Line Infections
 - * Common nosocomial infection in the PICU
 - * Practices that prevent central line infections
- * Surgical Site Infections
 - * Increase length of stay, mortality, readmission rate, costs
 - * Surgical site infection prevention measures effective in adult critical care indicated in pediatric surgical care.

Indicators

- * A quality indicator is a policy, program, protocol, standard, guideline, assessment measure, or other evaluation tool that shows there is reason to believe measures are in place to assure a high level of care is provided.



Indicators

- * PICU Standardized Mortality Ratio
- * PICU Severity-Adjusted Length of Stay
- * PICU Unplanned Readmissions
- * PICU Pain Assessment
- * PICU Medication Safety Practice
- * PICU Central Line Infection Prevention

www.pediqs.com

PICU Indicators

- * Patient satisfaction (inpatient)
- * PICU readmissions
- * Ventilator days in the PICU
- * Unplanned extubations
- * Infection control



PICU Indicators

- * Medication occurrences
- * Pediatric asthma outcomes
 - * Length of stay
 - * Readmissions
 - * Mortality
 - * Complication rate
- * Mislabelled specimens
- * Documentation-PICU
- * Central Line Infections
- * Documentation of pain assessment

Nurse-Sensitive Indicators

- * Reflect the structure, process and outcomes of nursing care
- * Structure
 - * Supply of nursing staff
 - * Skill level of nursing staff
 - * Education/ certification of nursing staff
- * Process
 - * Assessment
 - * Intervention
 - * RN job satisfaction

Nursing-Sensitive Quality Indicators for Acute Care Settings

- * Mix of RNs, LPNs, and Unlicensed Staff Caring for Patients in Acute Care Settings
- * Total Nursing Care Hours Provided per Patient Day
- * Patient Satisfaction with Pain Management
- * Pressure Ulcers
- * Patient Falls

Nursing-Sensitive Quality Indicators for Acute Care Settings

- * Nurse Staff Satisfaction
- * Patient Satisfaction with Educational Information
- * Patient Satisfaction with Overall Care
- * Patient Satisfaction with Nursing Care
- * Nosocomial Infection Rate

American Nurses Association, 1998

Outcomes

- * Health outcomes - end result of specific care processes
- * "Change in patient's current and future health status that can be attributed to antecedent health care."
- * Five "D's - death, disease, disability, discomfort, dissatisfaction
- * Results produced by the interplay of care processes, structural elements, and inherent patient physiological and psychosocial-economic characteristics

Outcomes

- * Should be “relevant to the individual’s goals in seeking care, the institution’s social contract in providing care, and the society’s value and understanding of elements relevant to the public as well as private health.” Mitchell, 1993



Nurse-Sensitive Outcomes

- * Makes nursing visible
- * Define a dynamic patient or family caregiver state, condition, or perception that is responsive to nursing interventions (Curley, 2001)
- * Also defined as nurse-sensitive if improvement is seen with greater quality or quantity of nursing care (NDNQI, 2000)

**How does quality improvement
make a difference for PICU
patients?**

Transforming Care at the Bedside

- * Nurse-staffing levels and the quality of care in hospitals, Needleman, Buerhaus, Mattkke, et al, 2002, NEJM.
 - * Examined the relationship between the amount of care provided by nurses at the hospital and patient outcomes
 - * 799 hospital in 11 states (5,075,969 medical discharges and 1,104,659 surgical discharges)

Transforming Care at the Bedside

- * Mean number of hours of nursing care was 11.4
 - * RN - 7.8
 - * LPN - 1.2
 - * Aides - 2.4

Transforming Care at the Bedside

- * 14 adverse outcomes
 - * LOS, UTI, pressure ulcers, hospital-acquired sepsis, DVT, CNS complications, in-hospital death, failure to rescue, wound infection, pulmonary failure, metabolic derangement

Transforming Care at the Bedside

- * Medical patients
 - * Higher proportion of care provided by RNs
 - * ↓ LOS
 - * ↓ UTI and GI bleeds
 - * ↓ pneumonia, shock, cardiac arrest, "failure to rescue"

Transforming Care at the Bedside

- * Surgical patients

- * Higher proportion of care provided by RNs

- * ↓ UTI

- * ↓ "failure to rescue"

Transforming Care at the Bedside

- * Conclusion

- * “A higher proportion of hours of nursing care provided by RNs and greater number of hours of care by RNs per day are associated with better care for hospitalized patients”



Transforming Care at the Bedside

- * Hospital nurse staffing and patient mortality, nurse burnout and job dissatisfaction. Aiken, Clarke, Sloane, 2002, JAMA
- * To determine the association between patient-to-nurse ratio and patient mortality, failure to rescue among surgical patients, and factors related to nurse retention

Transforming Care at the Bedside

- * 168 hospitals
- * 10,184 staff nurses interviewed
- * 232,342 discharged general, orthopedic, and vascular surgery patients
- * Risk-adjusted patient mortality and failure to rescue within 30 days of admission, nurse-reported job dissatisfaction and job-related burnout

Transforming Care at the Bedside

- * Each additional patient assigned to a nurse resulted in a:
 - * 30-day patient mortality increases by 7%,
 - * failure-to-rescue rates increase by 7%,
 - * the odds of nursing job dissatisfaction increase by 15%
 - * the odds of nurse burnout increase by 23%.
- * When nurses had eight patients instead of four, their patients had a 31% higher chance of dying within 30 days of admission.

Transforming Care at the Bedside

- * Nurse staffing and unplanned extubation in the PICU, Marcin, Rutan, Rapetti, et al., 2005
 - * 1,004 patients
 - * 55 experienced unplanned extubations
 - * Documentation of patient agitation
 - * Nurse-to-patient ratio

Transforming Care at the Bedside

* Conclusion:

- * Pediatric patients are more likely to experience an unplanned extubation when being cared for by a nurse assigned to 2 patients compared with a nurse caring for one patient



Transforming Care at the Bedside

- * Pressure ulcers in pediatric intensive care: Incidence and associated factors.
Curley, Quigley, Lin, 2003
 - * 322 patients, 21 days to 8 years, on bedrest for at least 24 hours

Transforming Care at the Bedside

- * Pressure ulcers in pediatric intensive care: Incidence and associated factors. Curley, Quigley, Lin, 2003
 - * 27% (86) developed 199 pressure ulcers
 - * Stage I - 70% (139)
 - * Stage II - 27% (54)
 - * Stage III - 3% (6)
 - * 60 Stage II/III, 32% (19) involved head

Transforming Care at the Bedside

- * Continuous quality improvement :
Reducing unplanned extubations in a pediatric intensive care unit . Sadowski R, Dechert RE, Bandy KP, June J, Bhatt - Mehta V, Custer JR, Moler FW, Bratton SL, 2004
- * Assess incidence and patient conditions associated with unplanned extubations and evaluate whether targeted interventions reduced rate

Transforming Care at the Bedside

- * Demographic and clinical information collected
- * Educational sessions
- * Care management protocols
- * Monitoring program

Transforming Care at the Bedside

- * Associated with longer length of mechanical ventilation and length of stay
- * High risk patients (younger)
- * Low risk for subsequent reintubation (weaning patients)
- * QI program contributed to reduction in rate over 5 year period.

Transforming Care at the Bedside

- * Drawing on resources (literature, benchmarking studies, & colleagues) design & evaluate innovations in clinical practice affecting patients, populations &/ or systems.
- * Develop evaluation criteria for individual & population-based patient care.
- * Develop & conduct studies to evaluate
 - * patient care issues/problems
 - * products/technology
 - * cost/benefit ratios

Transforming Care at the Bedside

- * Plan - recognize an opportunity and plan a change
- * Do. Test the change. Carry out a small scale study.
- * Study. Review the test, analyze the results and identify what you've learned.
- * Act. Take action based on what you learned in the study step.

Reduction of Central Line Infections

- * Higher number of central line infections noted
- * Multidisciplinary group convened - nursing, neonatology, infection control, pharmacy, respiratory therapy, housekeeping
- * Root cause analysis performed

Reduction of Central Line Infections

- * Results of root cause analysis
 - * Central line audit tool based on a literature review – CDC guidelines for the Prevention of Intravascular Catheter-Related Infections
 - * Observation of practice – noncompliance with procedure, both insertion and maintenance
 - * Procedure revised

Reduction of Central Line Infections

- * Development of multidisciplinary education plan
 - * Brief description of best practice
 - * Review of audit data
 - * Procedural changes
 - * Strict sterile technique with insertion
 - * Incorporation of Biopatch antimicrobial dressing
 - * Use of more occlusive dressing
 - * Prohibit wearing artificial fingernails

Reduction of Central Line Infections

- * Other system issues identified
 - * Not all equipment available - changes in supply cart
 - * Noncompliance is not an option
- * Education implemented
- * Follow up audits - showed marked improvement

Pediatric Asthma

- * Development of clinical practice guidelines to increase
 - * Treatment effectiveness
 - * Resource use efficiency
 - * Order standardization
 - * Healthcare provider accountability
 - * Evidence-based decision making
 - * Provision of a measurement reference to assess future refinements in treatment protocols

Pediatric Asthma

- * Respiratory therapist driven protocols
- * Discharge education
- * Decreased LOS and readmission rate

Transforming Care At the Bedside



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