

Correlation of EBP, Research and Nursing Sensitive Quality Indicators to Nursing Professional Practice

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Learning Objectives 

- Define Evidence Based Practice (EBP) and Research
- Explain methods used to identify and review relevant literature
- Identify Nurse Sensitive Quality Indicators
- Discuss implementation of EBP-IOWA model

Evidence Based Practice (EBP) 

- A framework for the ongoing development and improvement of clinical practice
- EBP is a problem-solving approach to clinical practice that integrates the conscientious use of best evidence in combination with a clinician's expertise and patient preferences and values in making decisions about patient care

Literature Review Resources 

- Cochrane Database
- Governmental Resources
 - National Guidelines Clearinghouse-AHRQ
 - NIH-National Library of Medicine – PubMed
 - Institute of Medicine – IOM
- Cinhal Database

Implications for Professional Nursing Practice 

- Institute of Medicine (IOM) reports:
 - Errors in hospital care were more common than previously thought
 - Health care delivery should be reorganized to improve the quality of care
 - Operationally, nurses have a critical role in securing patient safety
- Contribution of nursing to the reduction of adverse events must be established empirically, so that **nursing-sensitive indicators can be incorporated in such health care-improvement strategies as public reporting of hospital quality and performance-based payment systems.**

Durton, N., Gajewski, B., Klaus, S., Pierson, B.(2007)

Implications for Professional Nursing Practice 

- **National Institute of Medicine:** focused the nation's attention on the quality of hospital care and the problem of patient safety.
 - Results: Errors in hospital care were *more common* than the public had realized.
 - Recommended that health care delivery be reorganized to improve the quality of care.
- **National Response:**
 - Agencies implementing health care-indicator initiatives to promote improvement in health care quality.
 - Public reporting of quality indicators - guide consumer choice and assist businesses/insurers make purchasing/reimbursement decisions**most reflect Physician-driven/Medical outcomes a.k.a. pay-for-performance or value-based purchasing ([Centers for Medicare & Medicaid Services \[CMS\], 2007a](#)).



- **Translation:** good outcomes and efficient health care practices receive incentives = higher reimbursement rates, than hospitals with lesser performance.
- **Recently:** CMS announced that it **will not** provide reimbursement for care related to hospital-acquired complications ([Centers for Medicare & Medicaid Services, 2007b](#)). ***Hospital Acquired Pressure Ulcers (HAPU).

Correlation to Nursing Practice



- **Agency for Healthcare Research and Quality (AHRQ) Study:**
 - Relationship between workforce characteristics, such as nursing hours and ratios, and patient outcomes

The AHRQ review identified 97 observational studies published between 1990 and 2006 and included 94 of these reports in a meta-analysis.
- **Results:**
 - **Higher registered nurse (RN) hours** were related to **lower patient mortality rates.**
 - Lower rates of failure to rescue, and lower rates of hospital-acquired pneumonia.
 - **Higher, direct care RN hours** was related to **shorter lengths of stay.**
 - **Higher total nursing hours** also were found to result in **lower hospital mortality and failure to rescue rates, and in shorter lengths of stay.**



- prevalence of **baccalaureate(BSN)-prepared RNs** was related to **lower hospital mortality rates.**
- **Higher RN job satisfaction** and satisfaction with **workplace autonomy** were related to **lower hospital mortality rates.**
- **Higher rates of nurse turnover** were related to **higher rates of patient falls.**

Conclusion: Higher nurse staffing was associated with better patient outcomes.

Kane, Shamiyyan, Mueller, Duvai, and Witt (2007)

**Business Case for Nursing:
Cost Effectiveness** 

- Cost effectiveness, for **increasing the proportion of nursing hours supplied by RNs**, without increasing total nursing hours.
- Cost of increasing **RN's proportion** of nursing hours was **less than the cost** that would have resulted from adverse events, such as failure to rescue, urinary tract infections, hospital-acquired pneumonia, upper gastrointestinal bleeding, shock, and cardiac arrest.
- More than 90 percent of the cost savings was associated with **reduced length of stay**.

Needleman, Buerhaus, Stewart, Zelevinsky, and Soeren (2006)

Why Address Nurse Sensitive Indicators? 

- *Outcomes improve and costs decline by:*
 - reducing days of inpatient hospitalization
 - reducing number of readmissions
 - preventing complications
 - improving satisfaction
 - Patients
 - Nurses
 - Physicians

Nurse Sensitive Indicators 

- Nursing-sensitive indicators reflect the structure, process and outcomes of nursing care; indicated by the supply of, skill level and education/certification of nursing staff.
- Process indicators measure aspects of nursing care: assessment, intervention and RN job satisfaction. **Patient outcomes that are determined to be nursing sensitive are those that improve if there is a greater quantity or quality of nursing care** (e.g., pressure ulcers, falls, and intravenous infiltrations).
- Some patient outcomes are more highly related to other aspects of institutional care, such as medical decisions and institutional policies (e.g., frequency of primary C-sections, cardiac failure) and are not considered "nursing-sensitive". © 2009 The American Nurses Association, Inc.

Nursing Sensitive Indicators *NNDQI (National Database of Nursing Quality Indicators) **MEMORIAL HERMANN**

Patient falls NQI Patient falls with injury NQI Pressure ulcers: Community acquired Hospital acquired Unit acquired Staff mix NQI Nursing hours per patient day NQI RN Surveys: Job satisfaction Practice environment scale NQI RN education & certification	Pediatric pain assessment cycle Pediatric IV infiltration rate Psychiatric patient assault rate Restraints prevalence NQI Nurse turnover NQI Nosocomial infections: Ventilator-assisted pneumonia (VAP) NQI Central line associated blood stream infection (CLABSI) NQI Catheter associated urinary tract infections (CAUTI) NQI
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**ANA National Center for Nursing Quality

Landmark Study: Nursing Care Hours & Adverse Events **MEMORIAL HERMANN**

- Medical patients, **greater proportion** of hours of care per day provided by RNs and a **greater absolute number of hours of care per day** provided by RNs were associated with:
 - Shorter length of stay
 - Lower rates of urinary tract infections
 - Lower rates of upper gastrointestinal bleeding

Nursing Care Hours (cont) **MEMORIAL HERMANN**

- Medical patients (cont), a **higher proportion of hours of care provided by RNs** was associated with **Lower rates** of:
 - Pneumonia
 - Shock or cardiac arrest
 - "Failure to rescue," which was defined as death from pneumonia, shock or cardiac arrest, upper gastrointestinal bleeding, sepsis, or deep venous thrombosis

Nursing Care Hours (cont)



- Surgical patients, **a higher proportion of care provided by RNs** was associated with:
 - Lower rates of urinary tract infections
 - and a **greater number of hours of care per day** provided by registered nurses was associated with lower rates of "failure to rescue".

Needleman J, Buerhaus P, Matke S, Stewart M, Zelevinsky K. Nurse-staffing levels and the quality of care in hospitals. *N Engl J Med*. 2002 May 30;346(22):1715-22.

National Database of Nursing Quality Indicators (NDNQI)



- The National Database of Nursing Quality Indicators™ (NDNQI®) is the **only** national nursing database that provides quarterly and annual reporting of structure, process, and outcome indicators to evaluate nursing care at the unit level.
- Linkages between nurse staffing levels and patient outcomes have already been demonstrated through the use of this database.
- Currently over 1100 facilities in the United States contribute to this growing database which can now be used to show the economic implications of various levels of nurse staffing.
- CMS recognized
- ANCC recognized/approved



NDNQI and Nursing Research



- Contribution to research can be made through the National Database of Nursing Quality Indicators™ (NDNQI®).
 - NDNQI studies:
 - Nursing Workforce Characteristics Related Significantly to Patient Outcomes:
 - a. total nursing hours per patient day
 - b. percentage of hours supplied by RNs
 - c. years of experience in nursing
 - Pain Related Outcomes (2011): "A.I.R. Cycles"
 - a. Assessment
 - b. Intervention
 - c. Reassessment

What Should Nurses Do to Make a Difference?



- Identify the indicators appropriate to the unit.
- Are you/dept achieving National or set benchmarks?
- Can you set the bar higher/Improve practice and/or outcomes?
- What are the ideal topics for implementing research based evidence on your unit?
 - What patient population do you serve?
 - What technology do you use?
 - What is the clinical expertise on the unit?
 - What is the clinical interest on the unit?

Focus



- On issues on which nursing can really make a difference
 - Avoid spinning wheels
 - Hitting head up against the wall (or with a hammer)
 - Wasting time and effort



Systematic Examination of Outcomes for Continuous Improvement



- Tweak the process, forms, individuals involved, timing, etc...
- *If it ain't broke, make it better*

What does the evidence say practice should look like?

- Conduct a review of the literature; look for practice guidelines
 - Example: Center for Disease Control (CDC)

CAUTI EBP Practice Change 

- Secure the catheter to the leg
- Collect the post-intervention data
- Analyze the data/review data from NDNQI

What Nurse Sensitive Indicators Would You Like to Explore/Improve? 

- Falls
- VAP
- PAIN
- Restraint Prevalence
- Pediatric Pain
- CAUTI
- CLABSI


