Using the NDNQI Data Base for Nursing Research

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Objectives

• Understand the value of nursing-focused databases
• Identify opportunities for research using NDNQI data
Quality Indicators

• Quality Indicators (QIs) measure quality associated with processes of care that occurred in an outpatient or an inpatient setting.
What IS an Indicator?

- **Indicator**: *Valid* and *reliable* quantitative process or outcome measure *related to one or more dimensions of performance*, such as effectiveness or appropriateness (The Joint Commission)
Selecting a Quality Indicator

**STEP 1**
Expert members across healthcare (and patients) define quality with uniform standards and measures that apply to the many facets of care patients receive.

**STEP 2**
Information identified from measuring performance is reported and analyzed.

**STEP 3**
Caregivers examine information about the care they are providing and use it to improve.
Diagram of the Causes of Mortality in the Army in the East
Nurse Sensitive Outcomes (NSO)

• Any intervention that is:
  – sensitive to the input of nursing care
  – within the scope of nursing practice
  – integral to the processes of nursing care
• AKA Nurse-sensitive indicator (NSI)
“...nursing-sensitive performance measures are processes and outcomes— and structural proxies for these processes and outcomes (e.g., skill mix, nurse staffing hours)—that are affected, provided, and/or influenced by nursing personnel, but for which nursing is not exclusively responsible. Nursing-sensitive measures must be quantifiably influenced by nursing personnel, but the relationship is not necessarily causal.
• Nursing-Sensitive Outcomes represent the consequences or effects of nursing interventions and result in changes in patients’:
  – symptom experience
  – functional status
  – safety
  – psychological distress
  – cost
## Example Measures for Nursing-Sensitive Care

<table>
<thead>
<tr>
<th>Structure</th>
<th>Process</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>❑ Size</td>
<td>❑ Risk assessment</td>
<td>❑ Injury falls</td>
</tr>
<tr>
<td>❑ Teaching status</td>
<td>❑ Implementation of prevention protocols</td>
<td>❑ HAPUs</td>
</tr>
<tr>
<td>❑ Payer mix</td>
<td>❑ Pain management</td>
<td>❑ Nosocomial infections</td>
</tr>
<tr>
<td>❑ Magnet status</td>
<td>❑ Medication administration</td>
<td>❑ “Failure to rescue”</td>
</tr>
<tr>
<td>❑ CNO/manager</td>
<td>❑ Counseling</td>
<td>❑ Mobility</td>
</tr>
<tr>
<td>❑ Practice environment</td>
<td>❑ Communication, teamwork, decision making</td>
<td>❑ Satisfaction with care</td>
</tr>
<tr>
<td>(e.g., autonomy)</td>
<td></td>
<td>❑ Unplanned readmissions</td>
</tr>
<tr>
<td>❑ NHPPD</td>
<td></td>
<td></td>
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<tr>
<td>❑ Staff mix</td>
<td></td>
<td></td>
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<tr>
<td>❑ Use of agency staff</td>
<td></td>
<td></td>
</tr>
<tr>
<td>❑ Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>❑ Specialty Certification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>❑ Other credentials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>❑ Turnover</td>
<td></td>
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National Database of Nursing Quality Indicators (NDNQI)

• ANA’s National Center for Nursing Quality (NCNQ).
• Goals:
  – Provides unit-level comparative data to hospitals for use in QI activities
  – Develop national data on the relationship between nurse staffing and patient outcomes
• Magnet Implications
NDNQI – Primary focus

- Collect data at the *unit* level to capture nursing practice
- Data come from direct-care nursing practice
- Leads to ability to focus on outcomes that are nurse-sensitive
- Reports can be obtained by unit or hospital type
National Database of Nursing Quality Indicators (NDNQI)

- Currently > 1500 participating hospitals
- Comparison Groups
  - Teaching Status (Academic Medical Center)
  - Bed Size (300-399 beds)
  - Magnet Status
- Quarterly Data Reports
Indicators

• Patient-focused:
  – Satisfaction
  – Pain management
  – Education

• Process-focused
  – Skin integrity
  – Catheter-related infection

• Structure-focused
  – Nursing hours per patient day
  – RN/UAP Skill Mix
NDNQI Core Measures

• Original Indicators
  – Nursing Hours per Patient Day
  – Skill Mix
  – Hospital and Unit Acquired Pressure Ulcers
  – Falls and Falls with Injury
NDNQI Core Measures

• Additional Data Collected
  – Contract/Agency Nurse Hours
  – RN Education and Certification
  – Pressure Ulcer and Fall Processes
    • Risk Assessment
    • Prevention Protocols
    • Severity
  – Hospital Characteristics
    • Staffed Beds
    • Magnet Status
    • Teaching Status
Added Indicators

- RN Satisfaction (survey)
- Pain Assessment
- Peripheral IV Infiltration
- Physical/Sexual Assault
- Restraint Prevalence
- Nurse Staff Turnover
- Healthcare Acquired Infections
NSI and Magnet Recognition Program
Exemplary Professional Practice

- EP3 and EP3EO
  - RN Satisfaction
- EP32 and EP32EO
  - Culture of Safety (NSI)
- EP35 and EP35EO
  - Patient Satisfaction
- Organizational Overview
  - Skill Mix
  - HPPD
  - Certification rates
What NSI Databases Can be Used For

1. NDNQI Core Measures
2. Access hospital and unit-level data and comparison with national trends
3. Monitor trends in nurse-sensitive indicators
4. Target opportunities for practice improvement or nursing research
5. Review evidence and construct projects
Monitor trends in nurse-sensitive indicators

- Quality/Performance Improvement
  - Staffing and patient trends over time
- Nursing Administration
  - Resource/Strategic Planning
- Recruitment
  - RN Retention or Hiring
- Risk Management
Research Considerations

• Data may enable us to isolate nursing’s impact or contribution
  • Strongly related to nursing (workforce or processes)
  • For example: “Does changing skill mix to have more RN HPPD impact patient falls on the oncology unit?”

• Question to consider: Is the impact quantifiable or are there other influences?
  • Characteristics or actions of the patients
  • Influence of other healthcare providers
  • Organization and environment of hospital
Research Considerations

Comparison Data

• Comparison data are owned by ANA and \textit{may not be published by NDNQI member hospitals.}

Publication of Reports

• You may publish your hospital’s data.

• \textit{ALL readers of the report within the facility must be informed that comparison data are owned by ANA and may not be published without prior written consent from ANA.}

• \textit{You may} reference the direction that your scores are from the NDNQI comparison data
An Example of Using NSI Data and EBP in a Research Project:

• Evidence-Based Skin Care
  – Problem: Demonstrated increase in hospital-acquired pressure ulcers
  – EBP Plan:
    • ID staff nurse champions (Dermal Defense RG RNs)
    • Implement evidence-based Braden Scale into all assessment tools
    • Develop skincare algorithm
    • Evaluate new products
Measurements: Before and After

• Research question: Does education on pressure ulcer prevention combined with an evidenced-based screening tool improve patient outcomes in hospital acquired pressure ulcers?

• Evaluate nursing knowledge:
  – Pre-test/post-test of nurses’ knowledge
• Develop education/use NDNQI tutorial
• Use NDNQI Data Base for Pressure ulcer prevalence

\[
\frac{\text{# of patients with PU}}{\text{# of patients assessed}} \times 100 = \% \text{ prevalence}
\]

• Report change in knowledge, change in pressure ulcer prevalence
In Conclusion

• Using a nursing-specific database provides opportunity to:
  – Identify practice gaps
  – Investigate best practices
  – Develop research questions using data to support the need for the research


