Influence of a Formal Mentor on Hospital-based Nurse Research Resources and Outcomes

Trisha Saul, PhD, RN PMGT-BC; Teresa Bigand PhD, RN, CNL; Marietta Sperry DNP, MSN, RN, RNC, IBCLC; Carrie Doyle DNP, APRN, ACNS-BC, CENP, CPHQ; Jamie Roney DNP, RN, BSHCM, NPD-BC, CCRN-K; Sherri Mendelson PhD, RNC, CNS, IBCLC
What is nursing research?

✓ "rigorous scientific inquiry that provides a significant body of knowledge to advance nursing practice, shape health policy, and impact the health of people in all countries. (ANCC, 2006)

✓ Holistic perspective to studying individuals, families, and communities.
What does nursing research entail?
What are nursing research outcomes?

✓ Magnet® status is a highly sought-after award validating a healthcare organization’s commitment to a sustainable nursing culture of excellence.

✓ Research Requirement

Outcomes:

# of ongoing/completed studies
# of journal publications
# of abstract submission
# of poster/podium presentations
Engagement In Shared Governance
Engagement in EBP
Improved patient outcomes
Literature Review

- **Wu et al., 2018**
  - Systematic Review of 18 articles found that educational interventions for nurses supporting EBP practices improve patient outcomes

- **Melnyk et al., 2016; 2017**
  - ARCC® Advancing Research and Clinical practice through close Collaboration Model using research mentors improves implementation of EBP, healthcare culture, and patient outcomes
  - 1st U.S. study on nurses’ EBP practice competencies with deficits identified that threaten healthcare quality, safety & patient outcomes

- **Mulkey, 2021**
  - Barriers identified for nurse leaders and researchers to focus on what will assist nurses to participate in scholarly inquiry and research
  - Barriers identified, lack of knowledge, training and skill; mentoring support, protected time; expectations clearly defined (i.e. clinical ladder)

- **Pintz et al., 2018**
  - National Study of nursing research characteristics at Magnet®-designated hospitals
  - Infrastructure/culture that supported nursing research
  - Dedicated Nursing research Mentors/Leaders, research councils; Nurses as PIs, dedicated time, research as “part of job,” Research education & training, financial resources

- **Spironi, et al., 2020**
  - EBP models and research finding in Magnet-designated hospitals in U.S. were shown that facilitators to implement nursing research into practice involve nursing leaders to engage nurses at all levels
  - Nurses who are engaged and educated in EBP can sustain, facilitate, and advance nursing practice to improve patient outcomes

- **Sperry et al., 2021**
  - 17 nurse leaders (CNOs, directors, managers, charge nurses) from 7 So. Cal ministries identified barriers for supporting nursing research.
  - Barriers identified were lack of: infrastructure, research mentors, incentives, time, and research knowledge
  - 50% of nurse leaders who completed a basic research model had significant improvement of research knowledge
  - Additional asks: assistance with data/statistical analyses, research education and research design assistance to further support nursing research
# Forming the Team

<table>
<thead>
<tr>
<th>Clinical Inquiry</th>
<th>System Research &amp; Clinical Scholarship council</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subcommittee</td>
<td>Leader Blessing</td>
</tr>
<tr>
<td>Literature Review</td>
<td>Project Purpose/Design</td>
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</tbody>
</table>

## Team Member Location Responsibility

- **Trisha Saul**: California
- **Sherri Mendelson**: California
- **Teresa Bigand**: Washington & Montana
- **Marietta Sperry**: Oregon
- **Carrie Doyle**: Alaska
- **Jamie Roney**: Texas & New Mexico
Purpose

To characterize relationships between a nurse research mentor, Magnet® designation, and nursing research-related resources in a 53-hospital health system.
Approach

**Project Type:** Research Needs Assessment

**Approvals:** System CNO & Clinical Inquiry IRB approval for non-research.

**Design:** Cross-Sectional survey
- Demographics
- Hospital-Based Nursing Research Characteristics (HBNRC) survey

**Inclusion Criteria:** All 53 acute care hospitals

**Timeframe:** June – October 2021

**Data:** REDCap

**Analysis:** t-test & Chi-squared
Recruitment & Measurements

System CNO asked ministry CNO's to provide a local research contact

A project team member contacted each local research contact

Local research contact completed survey via link, or through 1 on 1 interview

Survey Assessment

Demographics (19)
- Magnet status
- Bed-Size
- # of research studies & publications within 5 years.

HBNRC (3-Subscales)
- Hospital research infrastructure (17 items)
- Research culture (20 items)
- Building a nursing research program (50 items)
### Please answer the following questions about your hospital's work environment:

<table>
<thead>
<tr>
<th>Question</th>
<th>Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>14a. Physical Onsite library at your specific ministry?</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>14b. Access to Medical Librarian to assist with literature searches?</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>14c. Process to retrieve needed articles for nursing research?</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>14d. Online library resources for staff use inside the hospital?</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>14e. Online library resources accessible for staff use outside the hospital?</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>14f. Biostatistical consultation for research design and analysis?</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>14g. Biostatistical software for quantitative data analysis?</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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</table>
Measure: Hospital Culture and Research Program
Subscales

Section C: Hospital Culture
This section focuses on the nursing beliefs and behaviors that reflect the values of nursing research.
At your hospital, to what extent are nurses empowered or encouraged by nursing leadership to:

<table>
<thead>
<tr>
<th>Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
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Section D: Building a Nursing Research Program
This section focuses on nurses functioning as Principal Investigators of their nursing research studies. At your hospital, to what extent can nurses:

19a. Serve as the Principal Investigator for their research study?

19b. Sign the IRB application as the Principal Investigator for their research study?

19c. Assume all responsibilities as the Principal Investigator for their research study?

This next section deals with dedicated nursing research mentors with research expertise (usually a docturally prepared nurse) who help nurses develop and conduct nursing research.

20a. Do you have nursing research mentors (at your hospital or from academic or other institutions) to guide nurses through the nursing research process? Yes


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Results

Total 39 hospitals provided data (73.6% response rate)

In all, 23 hospitals reported a nurse mentor (59.0%)

A total of 10 unique nurses supported the 23 hospitals as a nurse research/EBP mentor (each nurse on average covered 3 hospitals)

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Results

• Hospitals with an RN research mentor were significantly more likely than those without a mentor to have:
  • Reported more research resources
  • Achieved Magnet® designation
  • Conducted research more years
  • Reported more research studies
  • More peer-reviewed publications with a nurse author

What Were the Degrees of the Nurse Mentors?

- MSN = 1
- PhD = 3
- DNP = 6
## Results

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Nurse Mentor (n=23)</th>
<th>No Nurse Mentor (n=16)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed Size</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;300 beds</td>
<td>11 (48)</td>
<td>9 (56)</td>
<td>0.6</td>
</tr>
<tr>
<td>Magnet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>9 (39)</td>
<td>0 (0)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Nurse Research Council</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>16 (70)</td>
<td>1 (6)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD)</th>
<th>Mean (SD)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Number Research Studies</td>
<td>0.8 (0.6)</td>
<td>0.2 (9.5)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Average Published Findings Past 5 Years</td>
<td>1.3 (3.1)</td>
<td>0.2 (0.4)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Average Years Conducting Nurse Research</td>
<td>8.4 (7.0)</td>
<td>0.9 (2.9)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Average Number Articles Past 5 Years</td>
<td>3.4 (4.0)</td>
<td>0.2 (0.6)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>
Results

What Does the Data Mean?

(1 = Never, 2 = Sometimes, 3 = Often, 4 = Always)

Higher scores =

- Leadership more supportive of nursing research
- Hospital Culture more receptive of nursing research
- Research program more likely to be in place
- More likely to have research mentors

Average HBNRC Score & Sub scores for Hospitals with a Nurse Mentor

(n = 23) vs Without (n = 16) (N = 39 Total Hospitals Surveyed)
Conclusion

• Nurses rely on expert consultants as part of the interdisciplinary team
• Research is no different!
• Having a guide may empower nurses to step out of their comfort zone and answer important clinical questions
• Increased studies and disseminations are an important output that again may be best completed under an expert mentor
• Findings confirm that mentoring nurses in research activities increased nurse engagement in research.

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Implication for practice

✓ PhD prepared research mentors
✓ Collaborations with PhD & DNP nurses
✓ Value of nurse researcher
  ✓ Generating new knowledge for the healthcare community
  ✓ Nursing having a voice in research

Further studies can delve into the types of nurse mentor relationships that are most helpful in promoting nursing self-efficacy in research.
Select References


Acknowledgements

Thank you

- Sylvain Trepanier
- Ministry CNOs
- Participants who completed survey
- Don Creton, Providence volunteer who built the REDCap capability for Providence
Questions for presenting authors?

Trisha Saul
- SoCal Region
- Associate Research Scientist RN
- Trisha.Saul@providence.org

Marietta Sperry
- Providence Tarzana
- Mother-Baby Staff RN
- PhD Nursing Student
- Marietta.Sperry@providence.org