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

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Introduction

Increased resources for nurse-driven research are linked to higher numbers of nurse-led studies and nurse-authored, peer-reviewed publications.  

Background

- Nurse competency levels for participating in research activities are reported to be suboptimal.
- Nurses offer unique perspectives in identifying barriers to research implementation.
- Nurses need access to resources to support competency and engagement in research.

Methodology

- Infrastructures and processes to support nurse research activities across 53 different Providence hospitals were assessed.
- Surveys were completed in the Research Electronic Data Capture (REDCap) from June 2021 – October 2021.
- Results were compared to understand whether structures or processes differed between hospitals with and without a formal mentor to support nursing research activities.
- Strength of nursing research qualities within a hospital setting was measured using the Hospital-Based Nursing Research Characteristics (HBNRC) by the authors of the tool.

Sample

- Descriptive study design
- Conducted by a small team of nurse researchers within Providence spanning seven states.
- Hospital CNOs completed brief screening questions in REDCap.
- CNOs identified the main nurse research contact at their hospital.

Data

HBNRC 19 questions included:
1. Hospital bed size
2. Magnet® designation status
3. Number of nurse authored publications in the prior 5 years
4. Number of nurse-led studies conducted in the past 5 years

HBNRC three subscales:
1. Hospital research infrastructure (17 items)
2. research culture (20 items)
3. building a nursing research program (50 items)

Data Collection

- 24 research contacts were identified
- Research contacts at each hospital were recruited to participate in the study
- An email was sent including link to the modified HBNRC survey with permission from tool developers.

Data Analysis

- Frequency and descriptive statistics were conducted to describe the research infrastructure among hospitals.
- Group differences were tested between hospitals with research mentors compared to those without formal mentors using unpaired samples t-tests for continuous data or chi-square analyses for categorical variables.
- All group difference tests were two-tailed to remain conservative, and a p-value of 0.05 was considered significant.

Results

- 31 surveys were submitted, characterizing 39 hospitals from seven states for a response rate of 73.6%.
- 23 hospitals (59%) reported having an RN mentor for engaging nurses in research projects which represented a total of 10 unique nurses.
- The highest level of education for the nurse mentors included MN (n = 1), DNP (n = 6), and PhD (n = 3).
- Hospitals with an RN research mentor were significantly more likely to:
  - have achieved Magnet® designation
  - had been conducting nurse research for significantly more years
  - reported more research studies
  - had significantly more peer-reviewed publications with a nurse author compared to hospitals without a mentor

Characteristics of Hospitals with and without a Formal Nurse Research Mentor

<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>Red Size (beds)</td>
<td>11 (48)</td>
<td>9 (56)</td>
<td>0.6</td>
</tr>
<tr>
<td>&gt;300 beds</td>
<td>12 (52)</td>
<td>7 (44)</td>
<td></td>
</tr>
<tr>
<td>Magnet</td>
<td>Yes</td>
<td>9 (39)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>No</td>
<td>14 (61)</td>
<td>10 (62)</td>
<td></td>
</tr>
<tr>
<td>Nurse Research Council</td>
<td>Yes</td>
<td>14 (61)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>No</td>
<td>7 (30)</td>
<td>15 (94)</td>
<td></td>
</tr>
<tr>
<td>Average Number Research Studies</td>
<td>0.6 (0.0)</td>
<td>0.2 (0.8)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Average Published Findings Past 5 Years</td>
<td>3.3 (3.1)</td>
<td>0.2 (0.4)</td>
<td>0.05</td>
</tr>
<tr>
<td>Average Years Conducting Nurse Research</td>
<td>4.6 (7)</td>
<td>0.9 (2.8)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Average Number Articles Past 5 Years</td>
<td>2.4 (4.9)</td>
<td>0.2 (0.8)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Conclusion

- Hospital culture (m=2.7 mentor, m=2.1 no mentor) showed leadership sometimes/often supportive of nurse research.
- Presence of formal nurse research mentors related to significantly more research publications, studies, and resources.
- Project identified hospitals with nurse research mentors were significantly more likely to have Magnet® designation.
- 23 respondents reported 10 researcher mentors with DNP (n=6), PhD (n=3) & MSN (n=1) degrees.