The Importance of Nurse Employment Categories in Determining Exit Rates from Nursing

Frieda Waisberg, Audrey Laporte, Carey Levinton, Raisa Deber, Linda O’Brien-Pallas, Andrea Baumann, Kanecy Onate

Study Rationale

• Global Shortage of Nurses:
  • Canada reported a shortage of 16,000 registered nurses in 2002 (Canadian Nursing Advisory Committee, 2002)

• Increased use of a contingent nurse workforce (part time and casual) in Ontario:
  • During the 1990’s economic recession and public health care restructuring, the casual RN workforce in Ontario increases to as much as 14% of the RN workforce (Statistics Canada, 2004)

• Is there a relationship between a nurse’s employment status, particularly working as a casual nurse, and a nurse’s decision to remain active in the profession?
Purpose of the Study

To determine whether Ontario’s employed full time, part time and casual nurses have a different propensity to leave Ontario’s nurse profession.

Study Population: Ontario nurses

- College of Nurses of Ontario (CNO) administrative databases 1993 – 2004
  - merged using nurses’ unique registration
  - Contained information pertaining to nurse demographics (age, gender), nurse training characteristics (education) and nurse workplace characteristics (employment status, workplace sub-sector)
  - 148,830 Registered Nurses (RN)
  - and 49,932 Registered Practical Nurses (RPN)
Description of Study Variables

• Outcome Variable:
  – Time to exit Ontario’s nurse profession in years
  – Where ‘Exit’ occurs when a nurse moves from working in nursing to:
    » Working in non-nursing profession
    » Working outside of Ontario
    » Not employed, or
    » Retired
  – Study design allowed for multiple exit and re-entry into Ontario’s nurse profession within the study’s time frame

Description of Study Variables

Primary Explanatory Variable:
  – Employment Status (full time, part time and casual)
Confounders:
  – Age (Sub-Groups)
  – Gender (M/F)
  – Additional Education (Y/N)
  – Workplace sub-sector (Hospital, Community, LTC, Other)
  – Multiple Employers (Y/N)
Method: Cox Proportional Hazard Regression Model

- Tells us how much more/less likely one category of nurse is to leave
- Where the ‘baseline’ is defined as 1.0
- Those more likely to leave have values > 1
- And those less likely to leave have values < 1
- We did separate analyses for Registered Nurses and Registered Practical Nurses

Cox Proportional Hazard Regression Model

- Baseline Reference:
  – nurse who is:
    • Casual worker
    • Working in the Hospital Workplace Sub-Sector
    • Employed by one employer
    • Has no additional education beyond a nurse diploma
    • 40-44 years of Age
    • Female
Adjusted Hazard Ratios
Employment Status

<table>
<thead>
<tr>
<th>Variable</th>
<th>RN Hazard Ratio</th>
<th>RPN Hazard Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Time</td>
<td>0.577*</td>
<td>0.645*</td>
</tr>
<tr>
<td>Part Time</td>
<td>0.560*</td>
<td>0.693*</td>
</tr>
</tbody>
</table>

What does this mean? Those working as casual nurses are about twice as likely to leave, whereas those working part-time have about the same likelihood of leaving as those working full-time.

*Significant at the 0.05 level

Adjusted Hazard Ratios
Workplace Sub-Sector

<table>
<thead>
<tr>
<th>Variable</th>
<th>RN Hazard Ratio</th>
<th>RPN Hazard Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Term Care Sector (i.e. Nursing Homes)</td>
<td>1.132*</td>
<td>1.160*</td>
</tr>
<tr>
<td>Community Sector (i.e. Home Care)</td>
<td>1.171*</td>
<td>1.507*</td>
</tr>
<tr>
<td>Other Sector (i.e. Doc. Office)</td>
<td>1.529*</td>
<td>1.814*</td>
</tr>
</tbody>
</table>

What does this mean? Nurses working in hospitals are least likely to leave!

*Significant at the 0.05 level
### Adjusted Hazard Ratios

**Interaction Terms**

**Employment Status and Workplace Sector**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Hazard Ratio (RN)</th>
<th>Hazard Ratio (RPN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FT &amp; LTC</td>
<td>0.598*</td>
<td>0.545*</td>
</tr>
<tr>
<td>PT &amp; LTC</td>
<td>0.677*</td>
<td>0.706*</td>
</tr>
<tr>
<td>FT &amp; Comm.</td>
<td>0.555*</td>
<td>0.542*</td>
</tr>
<tr>
<td>PT &amp; Comm.</td>
<td>0.711*</td>
<td>0.767*</td>
</tr>
</tbody>
</table>

In each setting, FT and PT nurses are less likely to leave than those working in a casual position.

*Significant at the 0.05 level

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### Conclusion

- Casual nurses have a higher propensity to leave Ontario’s nurse profession
- Part time and casual nurses should be considered distinct and separate in future empirical studies of market level nurse turnover
- A nurse’s workplace sub-sector also influences the nurse’s propensity to leave Ontario’s nurse profession
Conclusion

• But, the interaction terms demonstrated that employment status had a greater influence than workplace sub-sector on a nurse’s propensity to leave Ontario’s nurse profession.

• Health care decision makers should consider using retention strategies that specifically target casual nurses.