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

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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

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### 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</th>
<th>Hazard Ratio</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

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.