The Prevalence of Shift Work in Canada

PA Demers, I Wong, C McLeod
University of British Columbia, Vancouver

This work was conducted as part of the CAREX Canada project funded by the Canadian Partnership against Cancer. Additional funding was provided by WorkSafe BC, through its’ research partnership with the UBC Centre for Health Services and Policy Research.
Potential Health Effects of Shift Work

- Workplace injury
- Cardiovascular disease
- Cancer, particularly breast
- Reproductive effects
- Others…
Why are the Patterns of Shift Work Important?

• Target populations for Research
  – Identify populations based on demographic and shift schedule characteristics

• Target populations for Prevention
  – Identify large groups with specific shift or other characteristics
Statistics Canada Survey of Labour and Income Dynamics (SLID)

- Annual representative survey of the Canadian population, started in 1993
- 2 panels of 15,000 households each, surveyed annually for 6 years with a new panel introduced every 3 years
- Sampling weights are assigned to each respondent to allow extrapolation from the respondents to the full population
Methods

• 2006 SLID used to examine patterns of shift work by sex, age, industry (15 categories) & occupation (25 categories)

• Trends examined using data from 1996 through 2006

• Responses from participants who were working and between 16 and 69 years old were used

• Extrapolated estimates for the full population are presented
### Shift Work in Canada: 2006

<table>
<thead>
<tr>
<th>Schedule Type</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daytime schedule</td>
<td>65.6%</td>
<td>66.0%</td>
</tr>
<tr>
<td>Rotating shift</td>
<td>11.4%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Irregular schedule</td>
<td>10.3%</td>
<td>11.8%</td>
</tr>
<tr>
<td>Evening schedule</td>
<td>5.4%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Night or graveyard shift</td>
<td>2.7%</td>
<td>1.7%</td>
</tr>
<tr>
<td>On call</td>
<td>2.0%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Split shift</td>
<td>0.8%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Other</td>
<td>1.7%</td>
<td>1.5%</td>
</tr>
</tbody>
</table>

Percent of Labour Force Working Rotating/evenings/night Shifts by Year & Gender

- Rotating - Men
- Rotating - Women
- Evening - Men
- Evening Women
- Night - Men
- Night - Women
Size of Labour Force (1000’s) Working Rotating/evening/Night Shifts by Year & Gender
Industries with the Highest Percent of Rotating/night/evening Shift Workers
Industries with the Highest Numbers of Rotating/night/evening Shift Workers
Occupations with the Highest Percent of Rotating/night/evening Shift Workers

- Protective services
- Chefs, cooks, food & beverage
- Labourers
- Machine operators & assemblers
- Health professionals
- Tech/assisting health

Legend:
- Men
- Women
Occupations with the Highest Numbers of Rotating/night/evening Shift Workers

- Sales, service, n.e.c.
- Retail sales
- Mach. operators & assemblers
- Chefs, cooks, food, beverage
- Clerical
- Tech/assist. health
- Protective services
- Other trades
- Health professionals
Strengths

- Relatively large population based study allowed examination of detailed shift work patterns

Limitations

- Classification of shift work based on answer to a single question with only 8 categories
- Life-time work history not available
- Limited power to examine rare occupations or shifts by multiple variables
Some Conclusions

- Shift Workers are employed in a diverse range of both occupations and industries.
- Women and men differ significantly in their shift work patterns.
- Developing a better understanding of the patterns of shift work should assist in targeting both research/surveillance and prevention-related efforts.