

# Injury Schemes Seminar

Balancing Outcomes

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# Opportunities and Challenges in Cross-Jurisdictional Comparison of Compensation Schemes

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# Acknowledgments



Partnership for **Work,  
Health** and **Safety**

[www.pwhs.ubc.ca](http://www.pwhs.ubc.ca)

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Megan Bohensky, Research Fellow, University of Melbourne



## Why to conduct comparative studies?

- Potential to identify areas for system and policy improvement
- Appropriately chosen comparisons can disentangle the structural drivers of injuries from other influences
- Policy variation can aid in program and impact evaluation
- Learning across jurisdictions can lead to improvements in system efficiency and worker safety

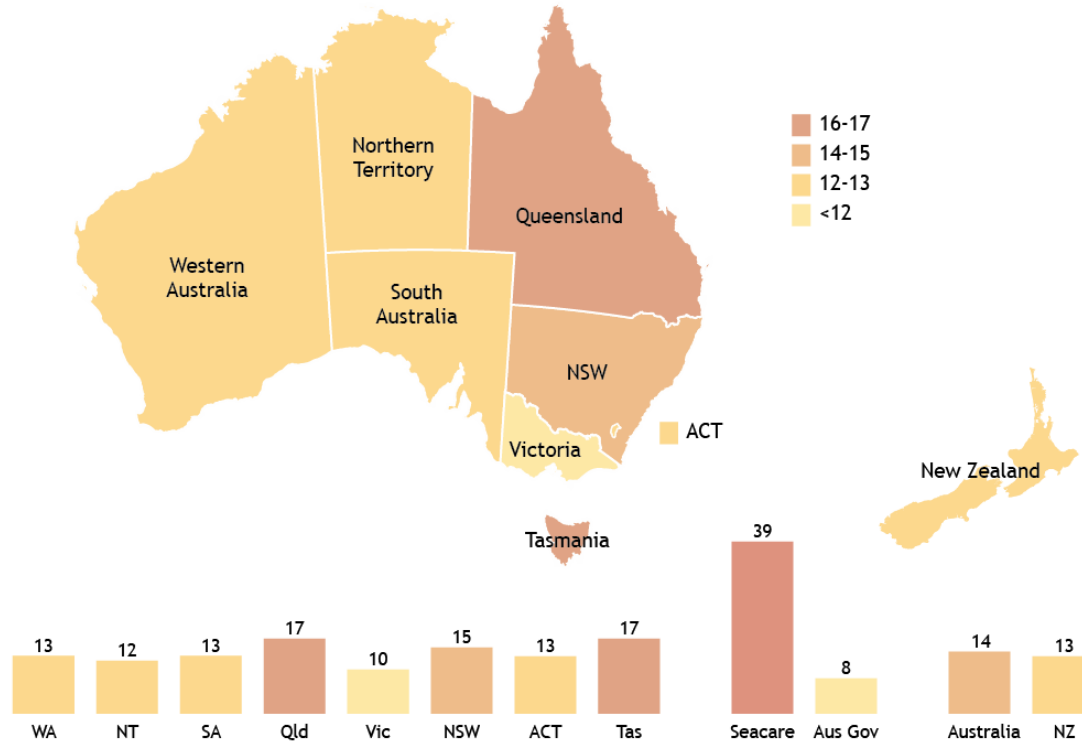


# Challenges

- Hard to compare
  - jurisdictions
  - policies
  - injured workers' outcomes
- Trivial differences
  - causal attribution to the system
- Data
  - consistency
  - availability
  - access

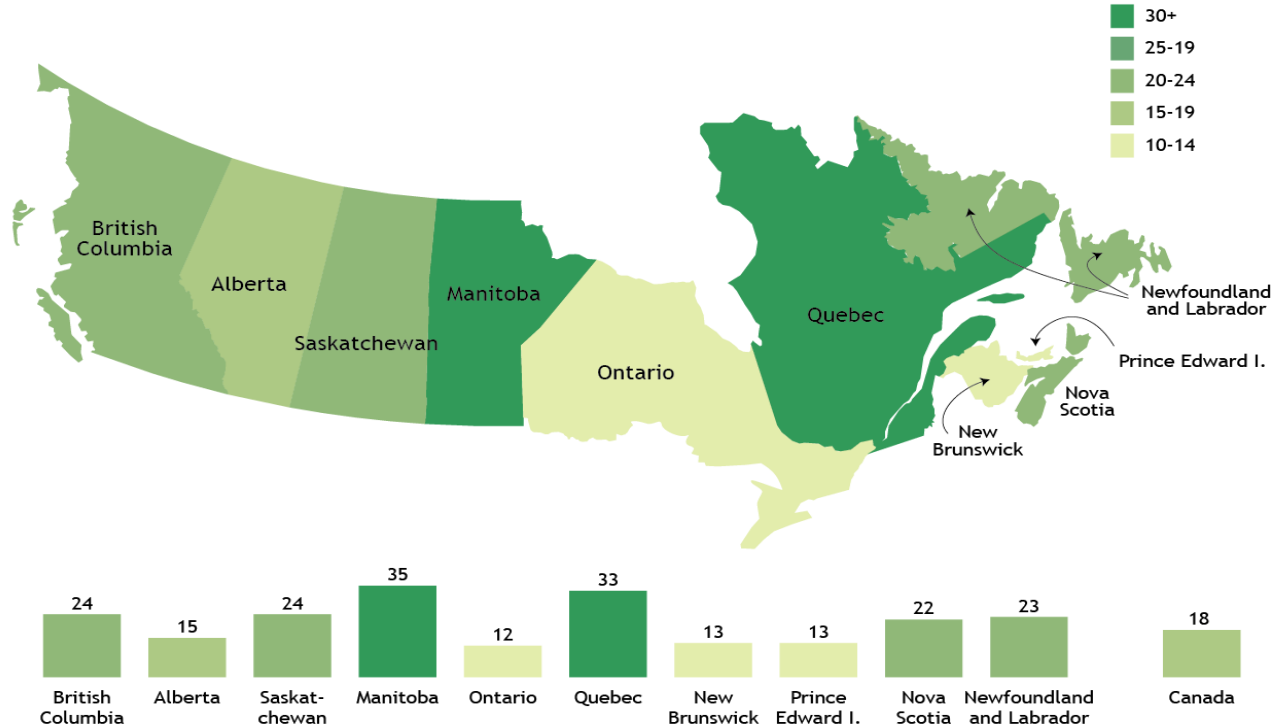


# Serious injury and disease claims per 1,000 FTEs, Australia & NZ, 2009





# Injury claims per 1,000 FTEs Canadian provinces, 2009





# Background

- Case study of VIC (Australia) and BC (Canada) jurisdictions
- Both jurisdictions share similar political, economic and demographic environments
- Broadly similar approach to occupational health & safety and workers compensation (no-fault publicly administered insurance)
- However, there are substantial variations in regulations, policy and practice



# Case study. VIC (Australia) and BC (Canada)

## British Columbia

- Population: 4.6 million
- Employed: 2.3 million
- Workforce coverage: 94%

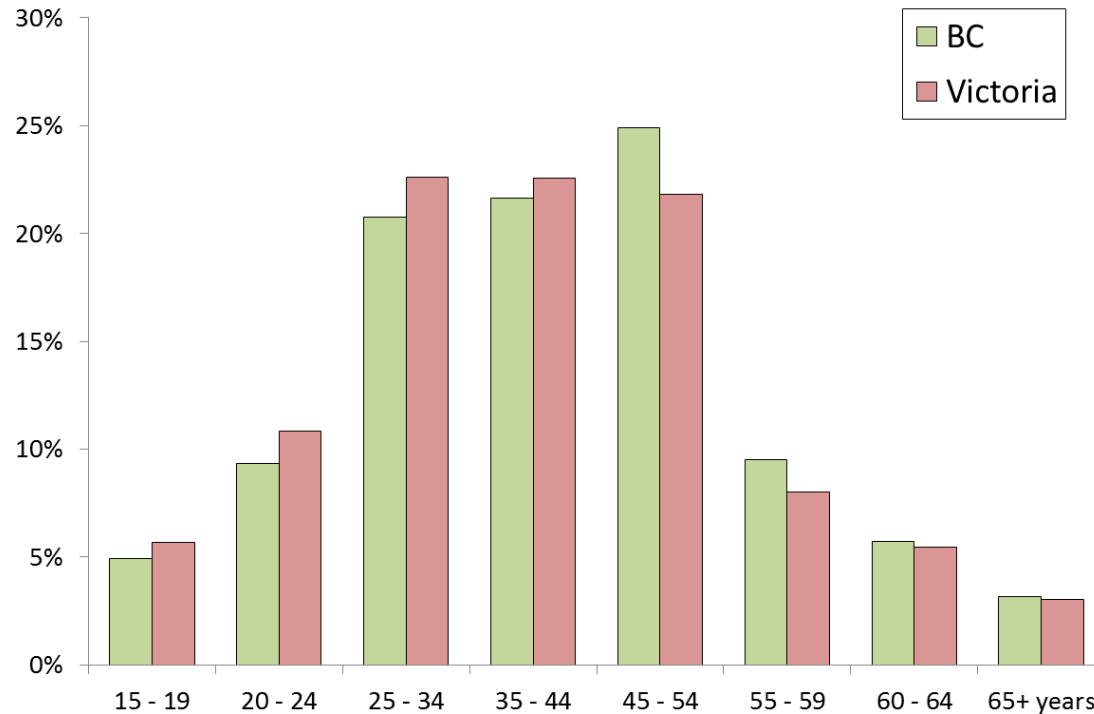
## Victoria

- Population: 5.5 million
- Employed: 2.8 million
- Workforce coverage: 85%





# Comparative analysis of claims data. Labor force, 2010





# Inclusion criteria

- Time-loss injury/illness claims only
- Non-fatal
- 2006-2010 (claim injury/illness year)
- Age of 15-64 years old
- Claim level data (multiple claims included)



## Study sample

BC	Victoria
<b>Short-term disability claims (with at-least one day of wage-loss)</b> <ul style="list-style-type: none"> <li>• 268,612 claims</li> </ul>	<b>Time-loss claims, excluding medical only claims (with at-least 11 days of wage-loss)</b> <ul style="list-style-type: none"> <li>• 247,971 claims</li> </ul>
<b>Injury Type (NWISP/Z795)</b> <ol style="list-style-type: none"> <li>1. All injuries/illnesses</li> <li>2. “01200 Fractures”</li> </ol>	<b>Injury Type (TOOCS v3)</b> <ol style="list-style-type: none"> <li>1. All injuries/illnesses</li> <li>2. “010 Fractures” + “020 Fracture of vertebral column with or without mention of spinal cord lesion”</li> </ol>



## Study sample (contd.)

BC	Victoria
<b>Occupation Numerator (SOC-1991)</b> <ol style="list-style-type: none"> <li>1. All occupations</li> <li>2. Nursing Professionals               <ul style="list-style-type: none"> <li>• “D1 Nurse Supervisors and Registered Nurses”</li> </ul> </li> </ol>	<b>Occupation Numerator (ANZSCO-2006)</b> <ol style="list-style-type: none"> <li>1. All occupations</li> <li>2. Nursing Professionals               <ul style="list-style-type: none"> <li>• “2543 Nurse Managers” + “2544 Registered Nurses”</li> </ul> </li> </ol>
<b>Occupation Denominator (Statistics Canada LFS PUMF, NOC-2006)</b> <ol style="list-style-type: none"> <li>1. All occupations</li> <li>2. Nursing Professionals               <ul style="list-style-type: none"> <li>• “D1 Nurse Supervisors and Registered Nurses”</li> </ul> </li> </ol>	<b>Occupation Denominator (ABS LFS, ASCO-1997)</b> <ol style="list-style-type: none"> <li>1. All occupations</li> <li>2. Nursing Professionals               <ul style="list-style-type: none"> <li>• <i>Including:</i> “2321 Nurse Managers” + “2323 Registered Nurses” + “2326 Registered developmental disability nurses” + “2325 Registered mental health nurses”</li> <li>• <i>Excluding:</i> “2322 Nurse educators and researchers” + “2324 Registered midwives”</li> </ul> </li> </ol>



# Methods for BC data analysis

- Workforce estimates from Statistics Canada's Labor Force Survey (LFS) Public-use Microdata Files used as the denominator for the calculation of cumulative incidence rates per 1,000 employed workers
- The total claim injury/illness count over the 2006 - 2010 study period
- 5-year average employed labor force



## Methods for BC data analysis (contd.)

- Rates using a range of minimum threshold values for time-loss, including claims with at-least 1, 5, 11, 15, 20, 30, 60, 90, and 180 wage-loss days
- Age-specific rates (per 10-year age groupings) for:
  - overall injury/illness claims and fractures (using Z795 Nature of Injury codes for “01200 Fractures”);
  - overall occupations and “D1 Nurse Supervisors and Registered Nurses” (defined by Statistics Canada SOC-1991 codes in the WorkSafeBC data and NOC-2006 codes in the LFS data).



# Methods for Victoria data analysis

- Compensation Research Database (CRD) WorkSafe Victoria data
- All accepted injury/illness claims with at-least 11 days of time-loss extracted for workers aged 15-64 years for the period 2006 to 2010.
- Workforce estimates from the ABS used as the denominator for the calculation of cumulative incidence rates per 1,000 employed workers in VIC
- The total claim injury/illness count over the 2006- 2010 study period - the numerator
- The 5-year average employed labor force -the denominator.



## Methods for Victoria data analysis (contd.)

- VIC data analyses commences at 11 days of wage-loss given the 'employer excess' for initial medical expenses and/or the first 10 days of time-loss
- Age-specific rates (per 10-year age groupings) for:
  - overall injury/illness claims and fractures (TOOCS v3 codes "010 Fractures" + "020 Fracture of vertebral column with or without mention of spinal cord lesion");
  - overall occupations and Nursing Professionals (ANZSCO-2006 codes in the CRD data and ASCO-1997 codes in the ABS data)
    - included** Nurse Managers, Registered Developmental Disability Nurses, Registered Mental Health Nurses, Registered Nurses
    - excluded** Nurse Educators & Researchers and Registered Midwives.





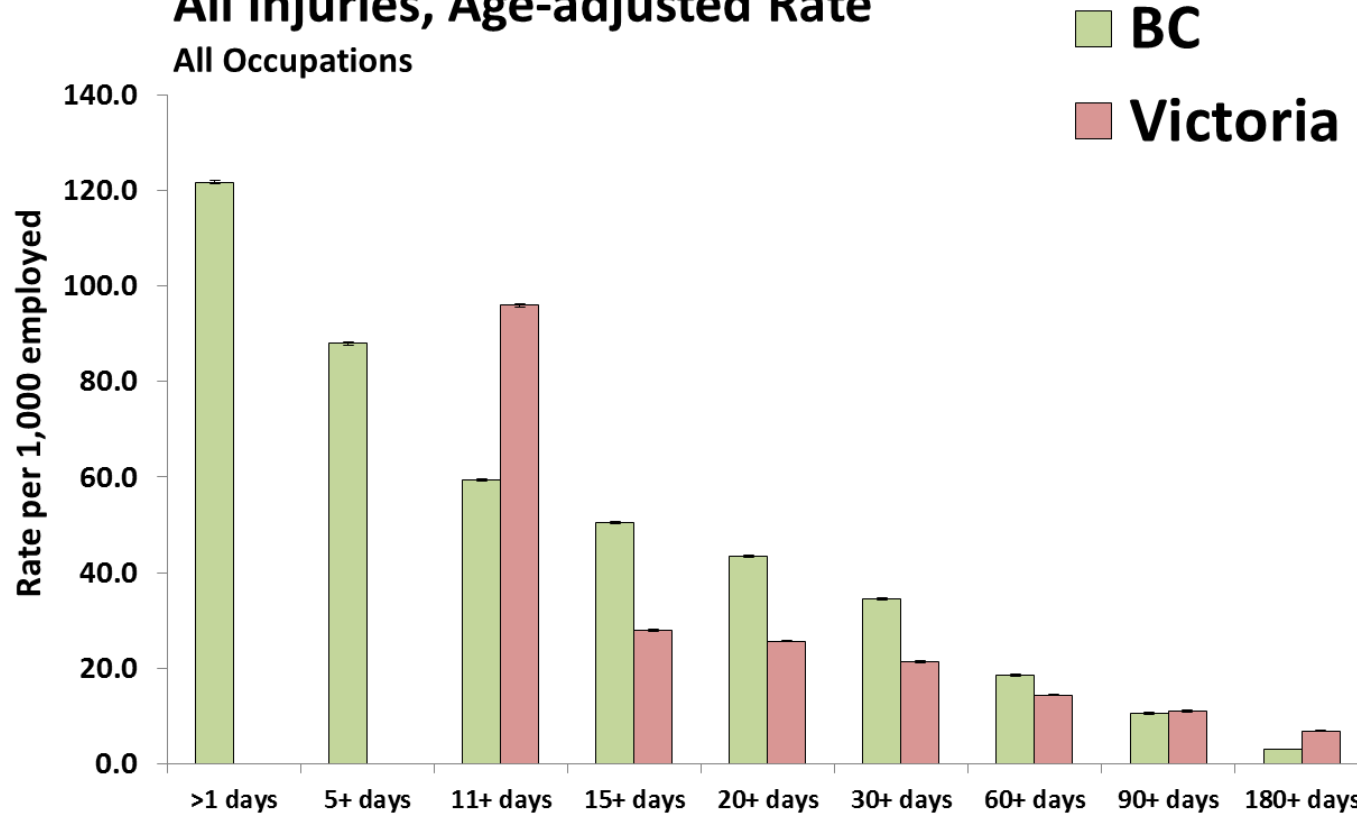
# Methods for direct adjustment

- A comparison of aggregate, jurisdiction-specific claim rates was conducted using direct adjustment to control for the underlying age distribution of the two study populations
- Age-standardized cumulative incidence rates (defined as the weighted average of the age-specific rates) with 95% CIs obtained using a derived reference population based on the combined BC and VIC employed workforce distribution as the weighting factor
- All analyses completed using Stata SE/12.1 using the 'dstdize' command



# All Injuries, Age-adjusted Rate

All Occupations

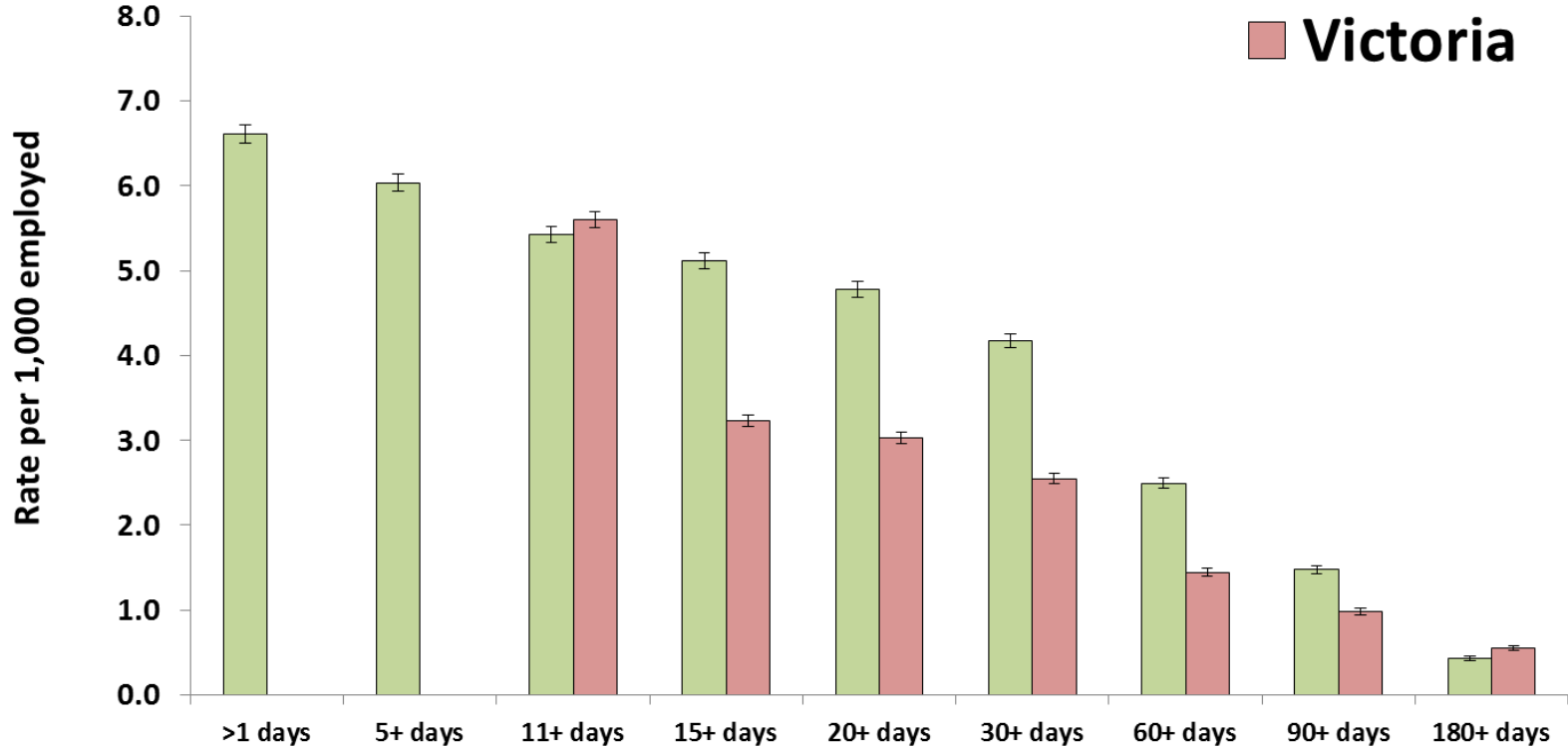




# Fractures, Age-adjusted Rate

All Occupations

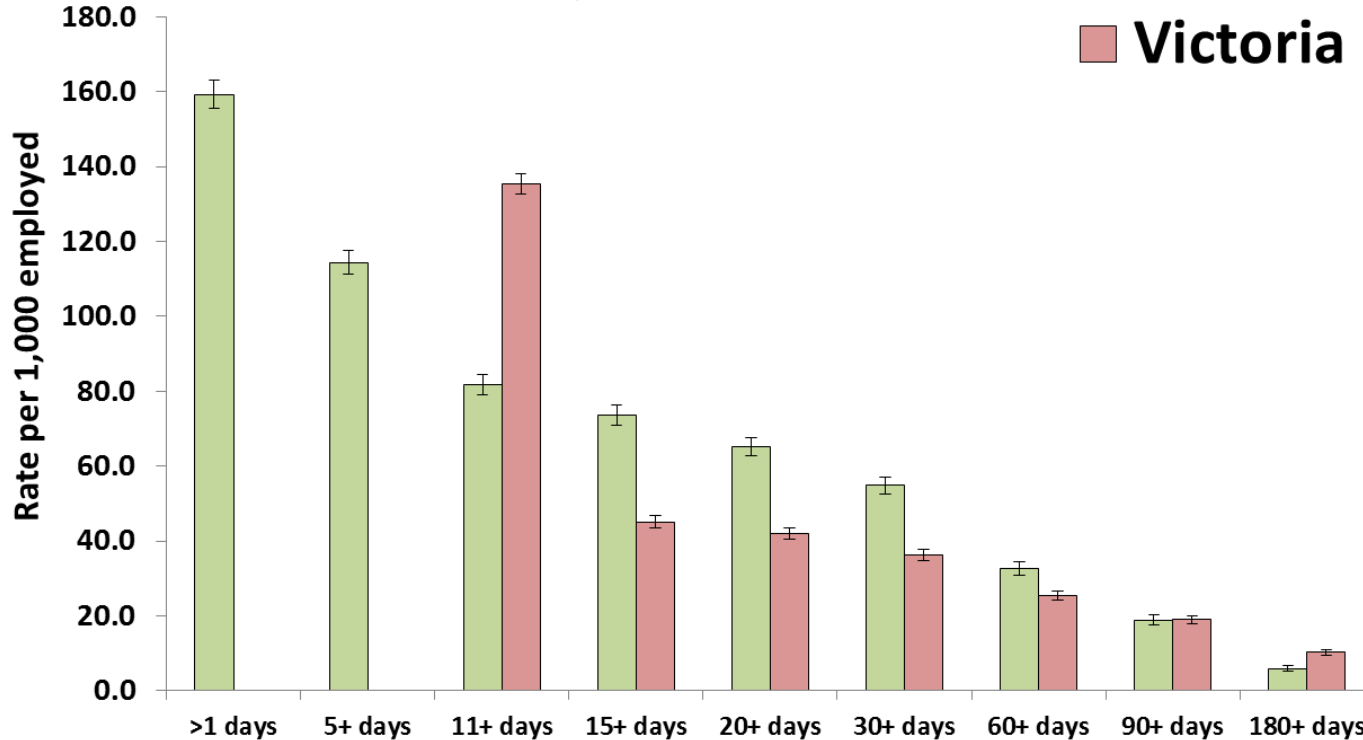
BC  
Victoria





## All Injuries, Age-adjusted Rate Nurse Supervisors and Registered Nurses

■ BC  
■ Victoria



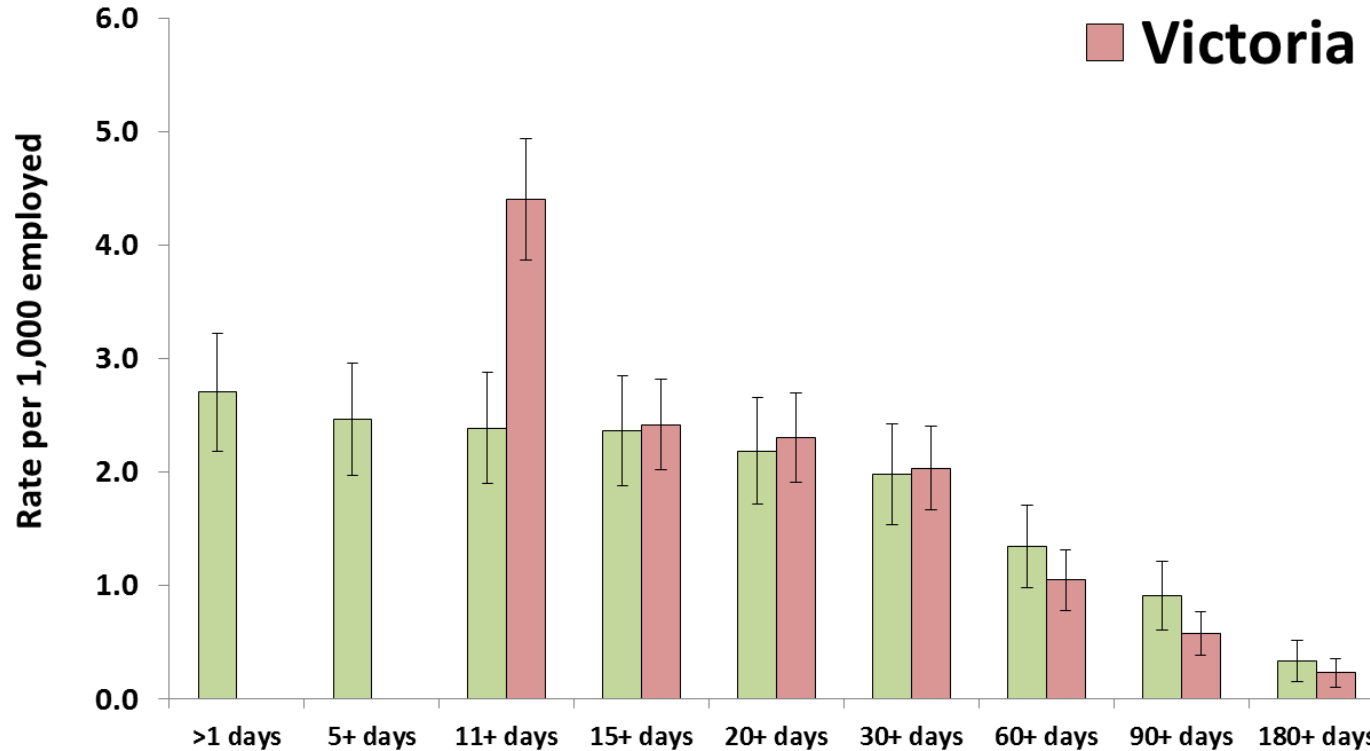


## Fractures, Age-adjusted Rate

Nurse Supervisors and Registered Nurses

BC

Victoria





# Summary

- Comparisons among same occupations and injuries show similar overall injury rate and pattern in disability duration
- Spike in claim rate at claim initiation in VIC suggests system or structural difference ?
- Would we see different patterns in other jurisdictions?



# Questions and Discussion