



Understanding differences in work injury and disability of mobile workers in Canada

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OEH Seminar Series

Who we are

- Innovative research unit that combines rigorous work and health research with effective knowledge translation based at the [UBC School of Population and Public Health](#)
- Brings together policy-makers, researchers and other stakeholders to address current and emerging issues of work-related health in Canada
- Situated on the traditional, ancestral, and unceded territory of the x^wməθk^wəyəm (Musqueam)



What is mobile work?



Poll 1

What percent of the Canadian employed labour force is engaged in complex/extended employment-related geographic mobility?

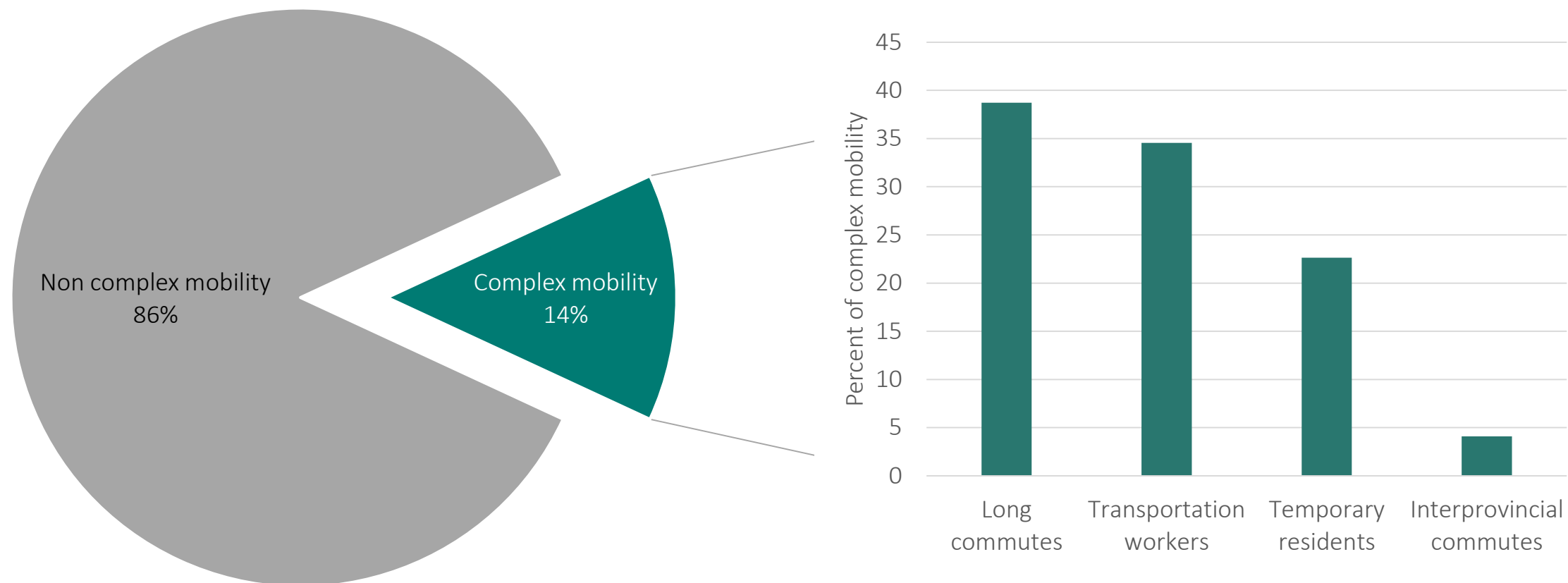
A: <5%

B: 5-9%

C: 10-20%

D: 21-30%

Canadian labour force engaged in employment-related mobility in 2021



Authors' estimates using methodology from Neis B, Lippel K. Occupational health and safety and the mobile workforce: insights from a Canadian research program. *New Solutions*. 2019;29(3):297-316.

Why do mobile workers matter?

- Becoming more common in Canada
- Provide labour supply to industries and regions with shortages
- Present challenges in terms of injury prevention and disability management
 - High-risk industries and occupations
 - Challenging to capture in existing data

Poll 2

Compared to within-province workers, out-of-province workers have a _____ claim rate.

A: Higher

B: Lower

C: Similar

Study 1

- To examine whether there are differences in work-related injury and illness claim rates between within and out-of-province workers in British Columbia, Canada



<https://doi.org/10.1002/ajim.23327>

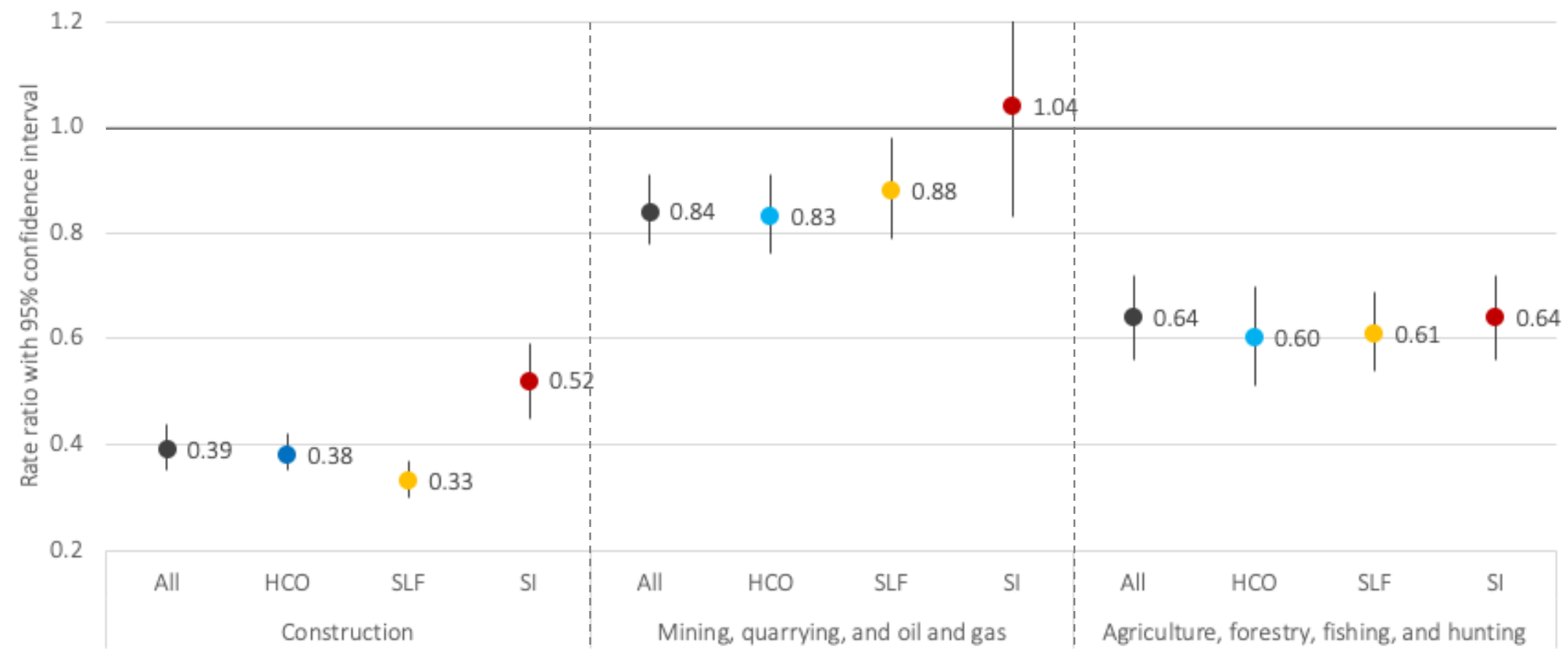
Data and methods

- Workers' compensation claim data from WorkSafeBC
- Interjurisdictional employee estimates from Statistics Canada
- Claim types:
 - Total claims, health care-only (HCO), short-term disability, long-term disability, and fatality (SLF), serious injury (SI)
- Negative binomial regression

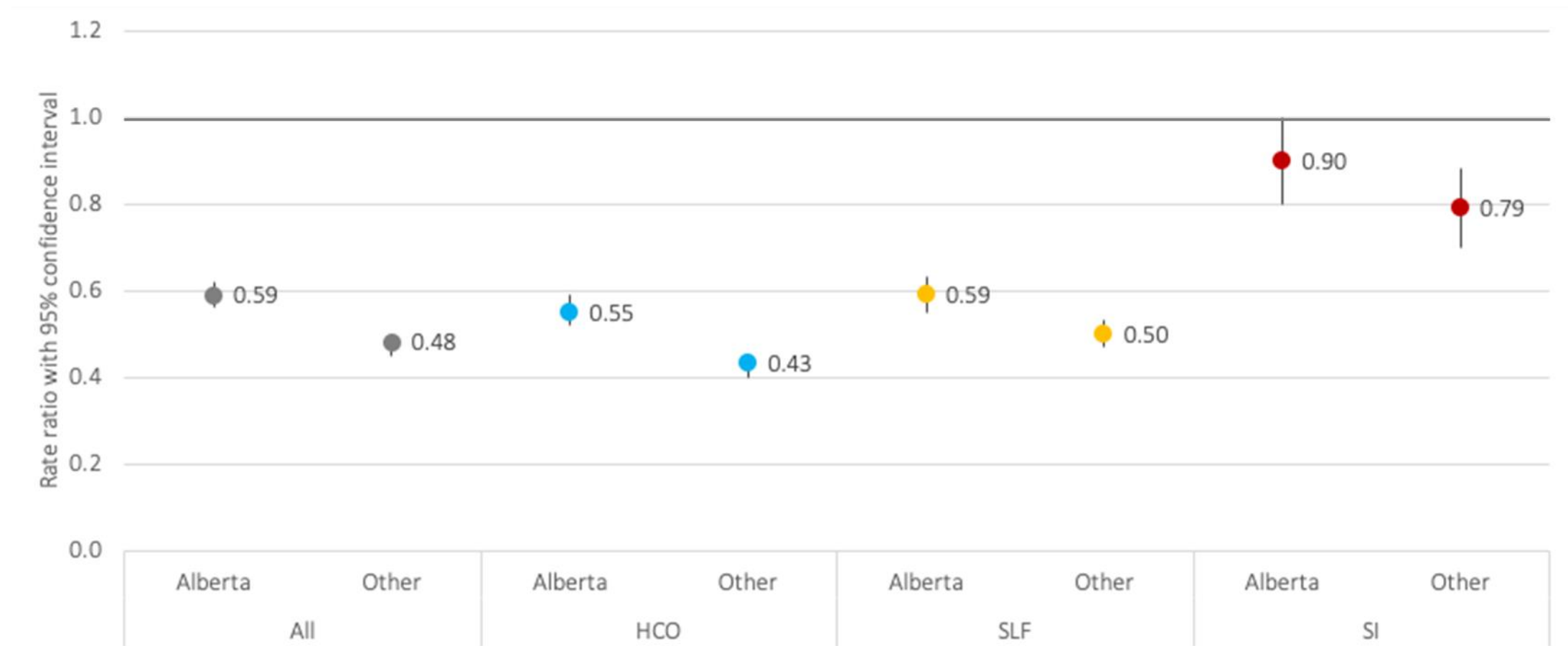
Claim rates by type and sex



Claim rates by type and industry



Claim rates by province



Summary

- Greater severity, greater likelihood of having a claim
- Fewer working hours in BC
- Underreporting
- Claiming compensation elsewhere

Poll 3

Which of the following groups experiences the longest work disability duration?

A: Out-of-province workers

B: Within-province workers


Study 2

- To examine whether differences in work disability duration between out-of-province and within-province workers differed by industry and jurisdictional context

Workplace

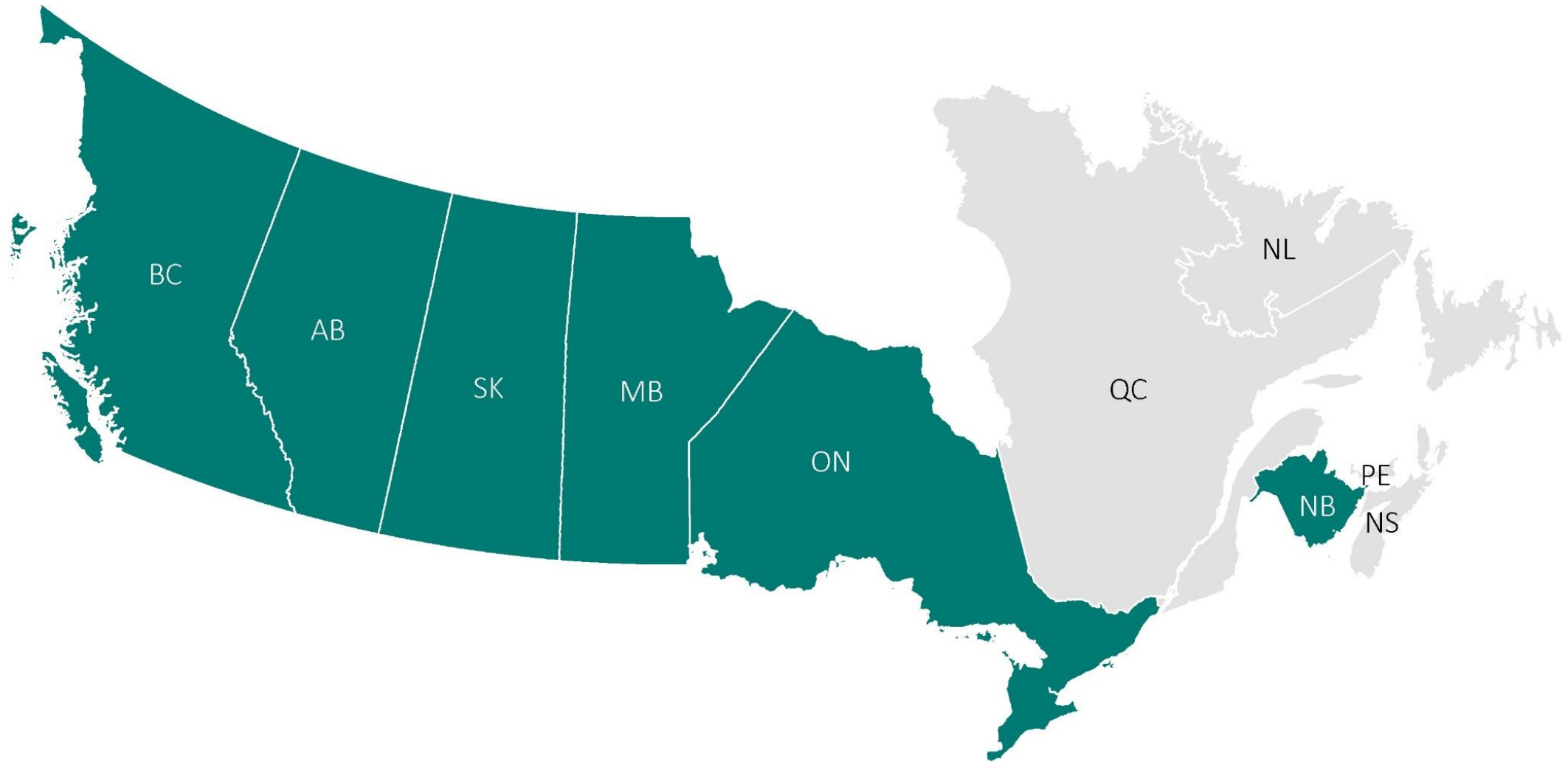
Original research

Do differences in work disability duration by interjurisdictional claim status vary by industry and jurisdictional context?

Robert A Macpherson ¹, Mieke Koehoorn,¹ Barbara Neis,² Christopher B McLeod^{1,3}

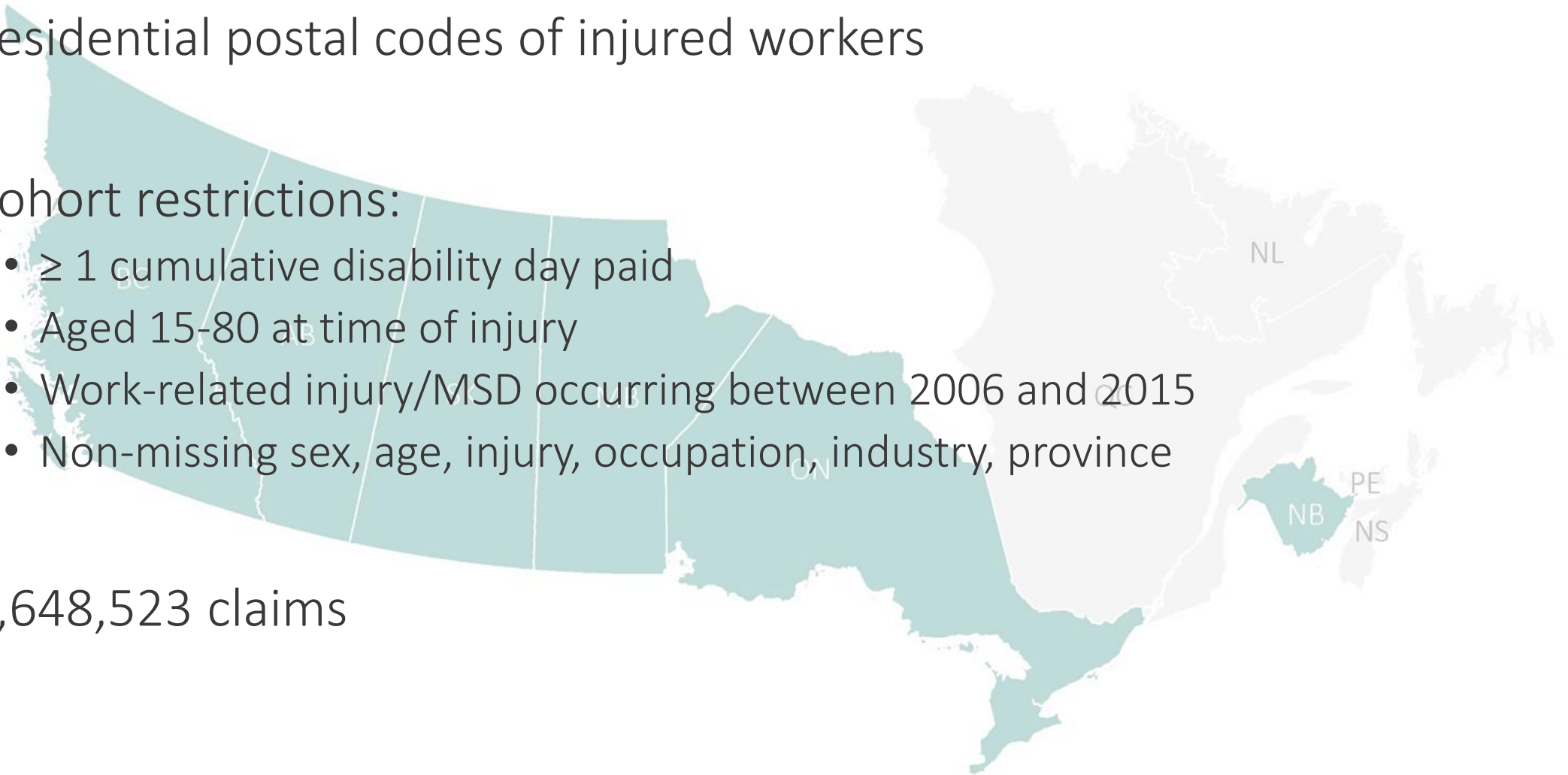
<https://doi.org/10.1136/oemed-2020-106917>

Data and method

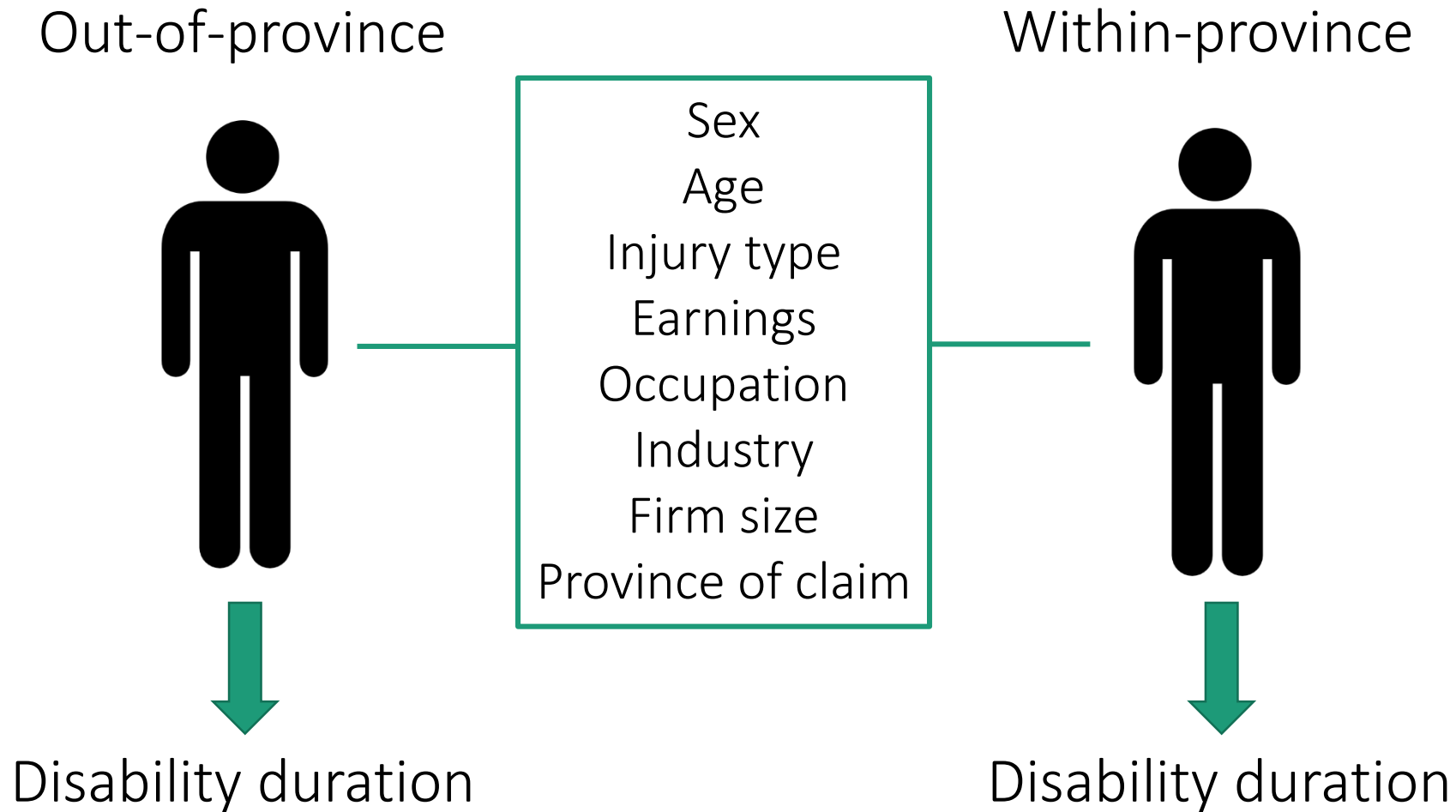


Data and method

- Residential postal codes of injured workers
- Cohort restrictions:
 - ≥ 1 cumulative disability day paid
 - Aged 15-80 at time of injury
 - Work-related injury/MSD occurring between 2006 and 2015
 - Non-missing sex, age, injury, occupation, industry, province
- 1,648,523 claims



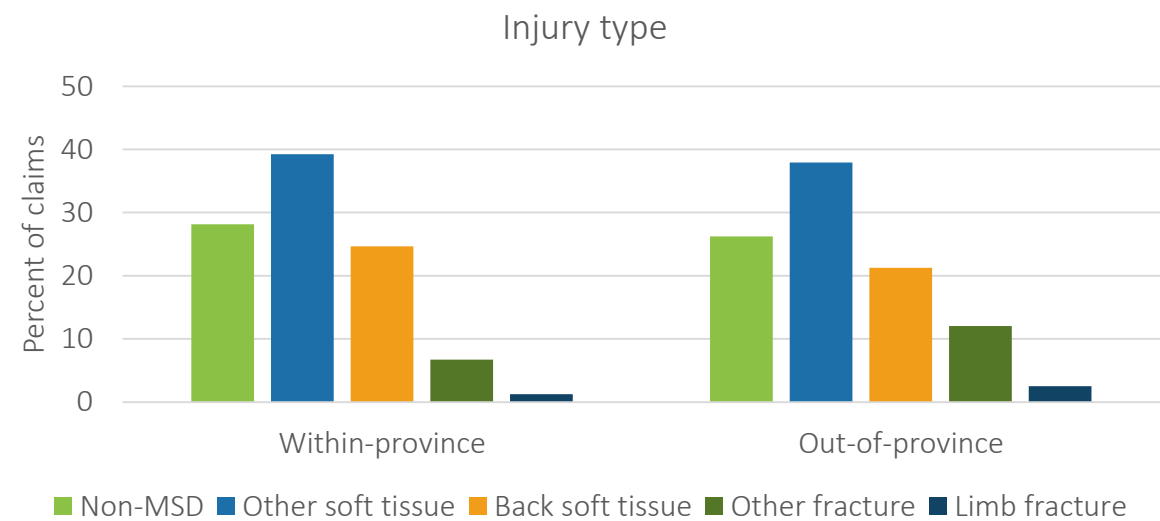
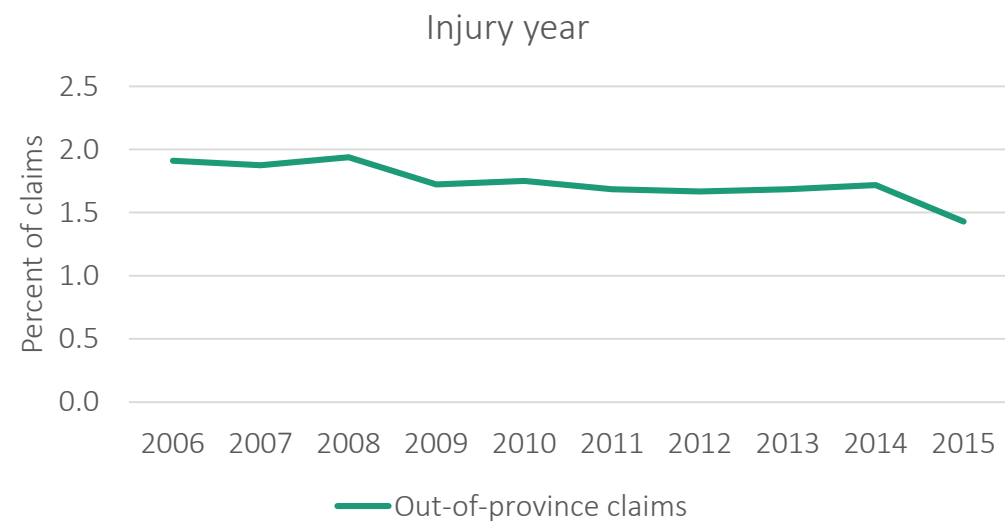
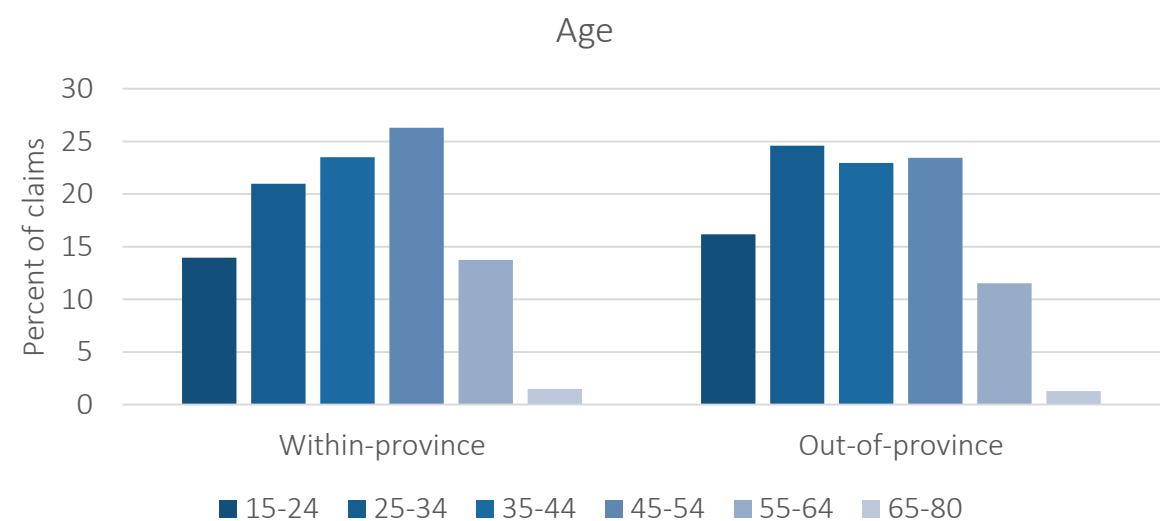
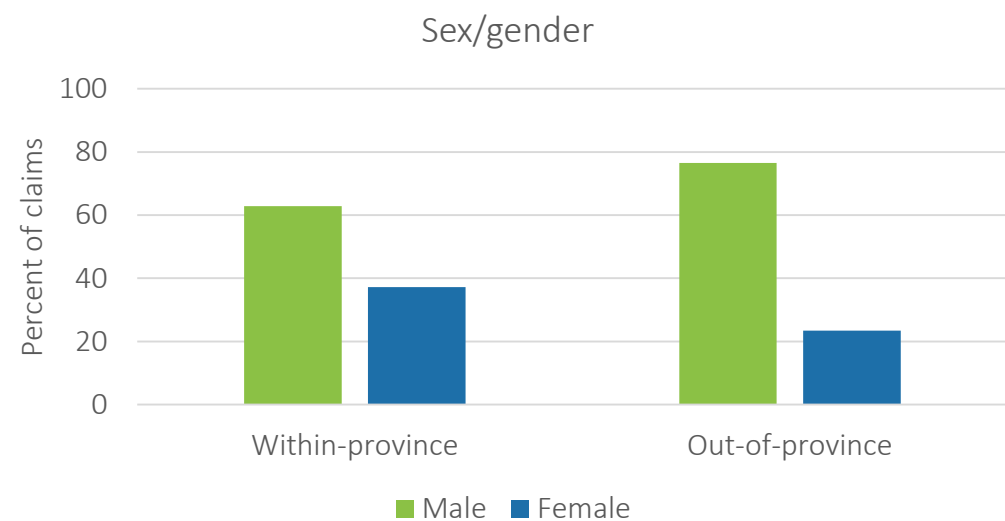
Matching



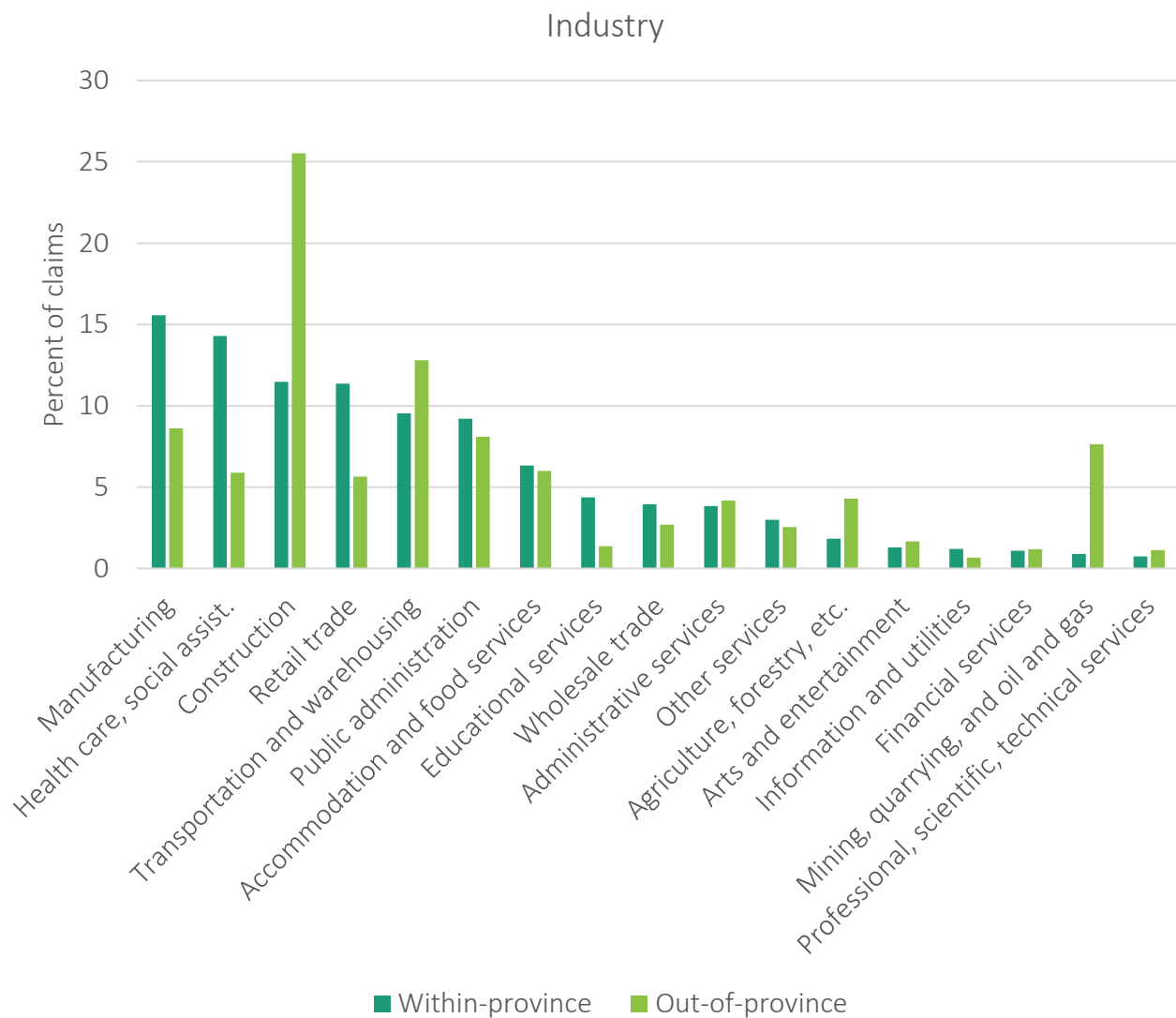
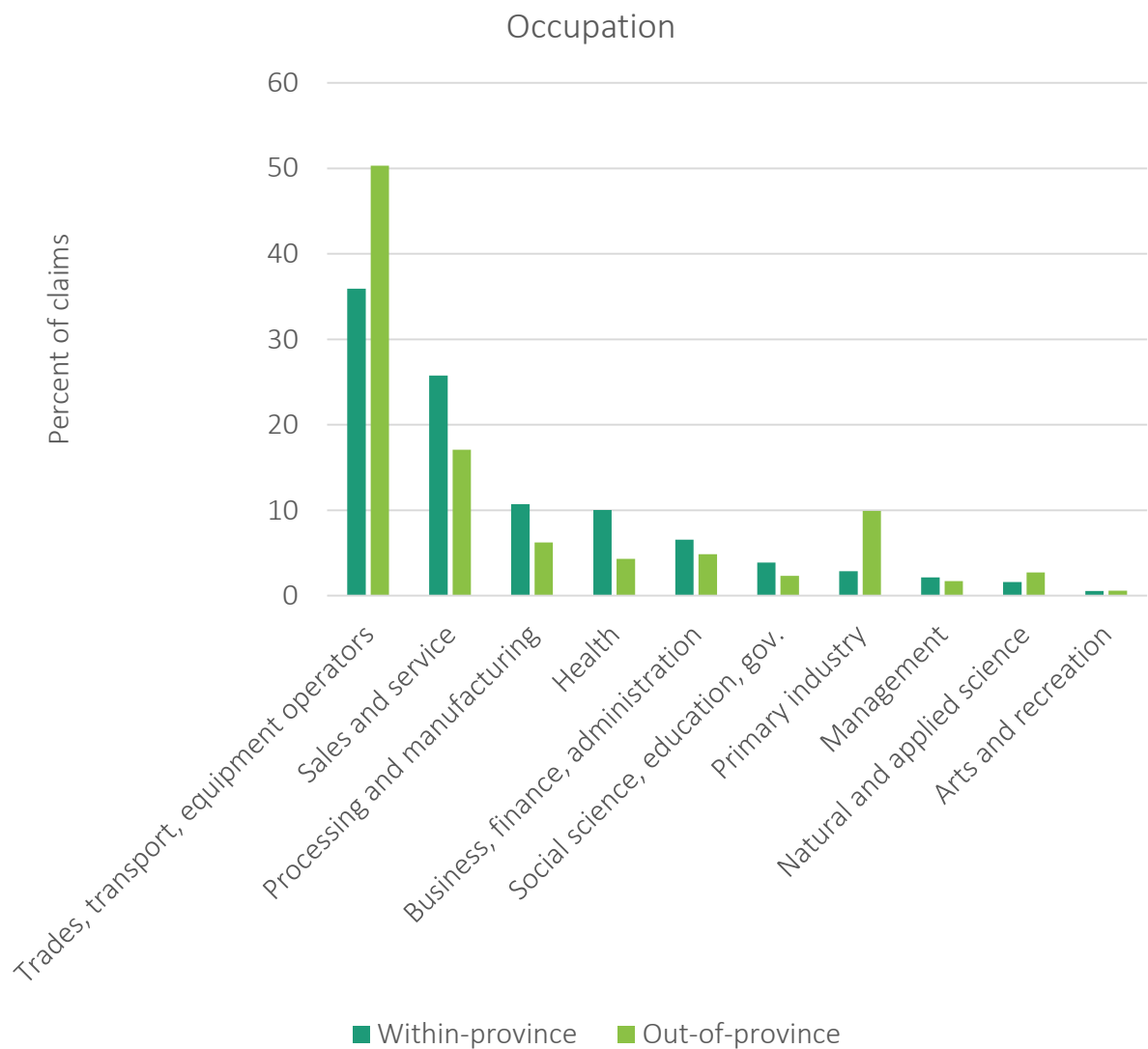
Statistical model

- Quantile regression
 - Estimates the difference in disability days between groups at different points in the distribution (25th, 50th, 75th and 90th percentiles)
 - Adjust for matching variables and additional characteristics (e.g., injury year, urban-rural classification)
 - Stratify by industry, province, sex and injury type

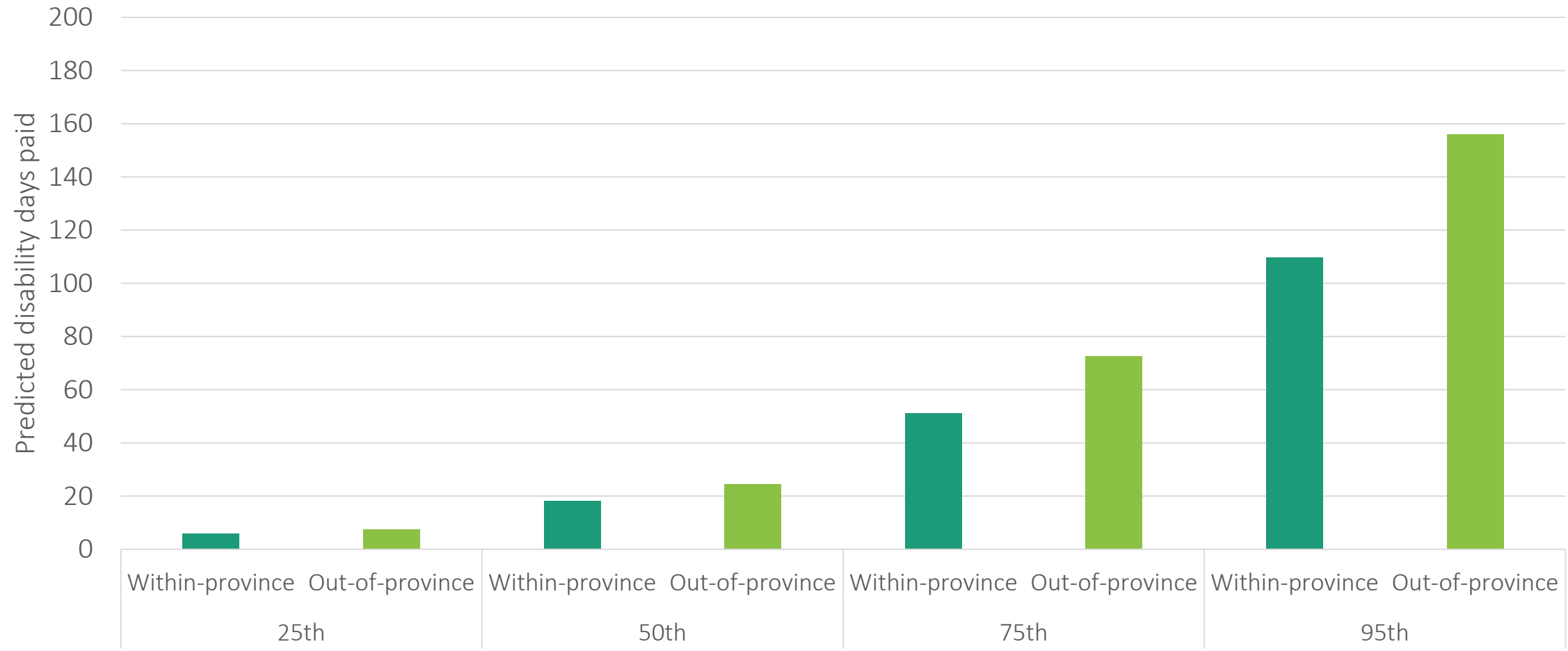
Key characteristics of out-of-province claims



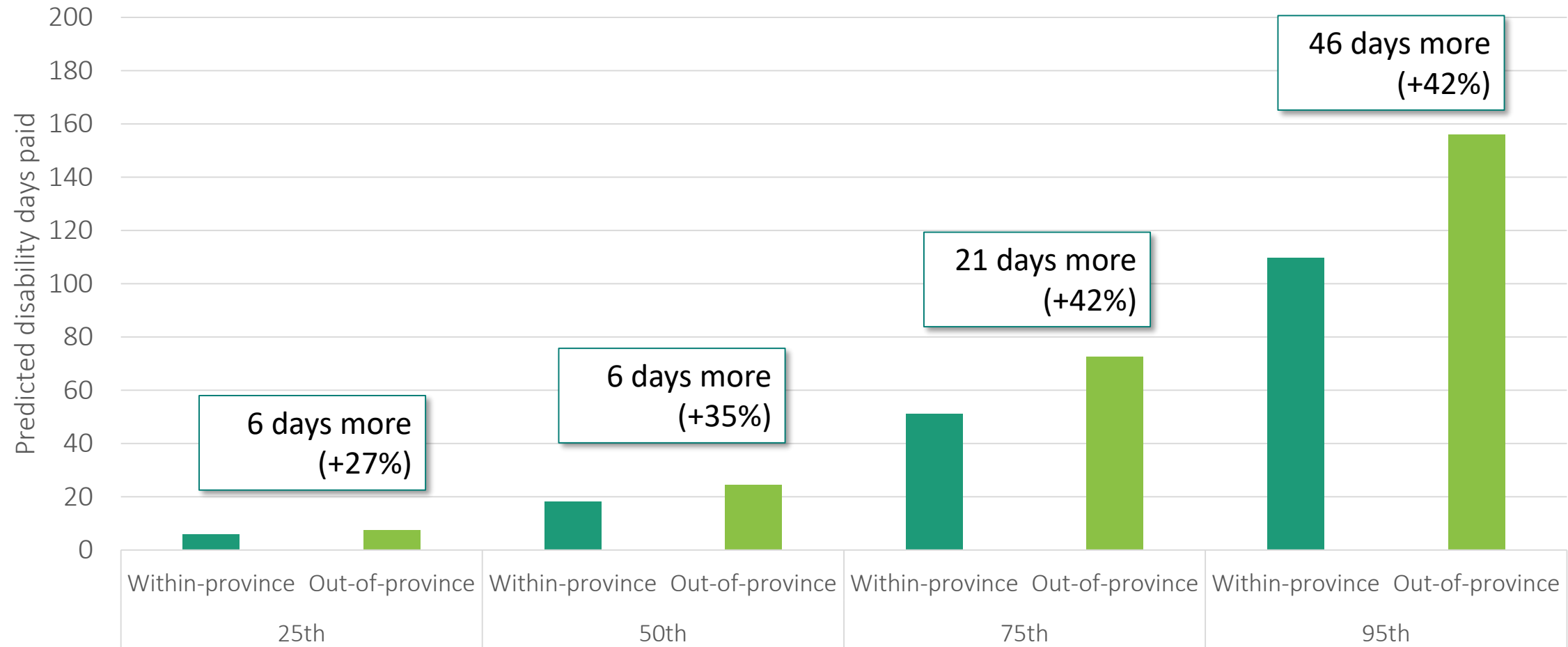
Key characteristics of out-of-province claims



Work disability duration, overall



Work disability duration, overall



Key findings

- Work disability duration is significantly longer for out-of-province workers, even after matching and adjustment on observable characteristics
- Difference varies by industry and jurisdiction
 - Largest differences in construction, transportation and warehousing, mining, quarrying and oil and gas extraction
 - Largest differences in western provinces
 - Larger differences among men and for fracture claims

Study 3

- To compare work disability duration of intra-provincially and inter-provincially mobile workers with non-mobile workers in British Columbia, Canada

ORIGINAL ARTICLE

OPEN

Work Disability Duration Among Mobile Workers

Does Intraprovincial Mobility Matter as Much as Interprovincial Mobility?

Robert A. Macpherson, PhD, Lillian Tamburic, BSc, Barbara Neis, PhD, and Christopher B. McLeod, PhD

<https://doi.org/10.1097/JOM.0000000000003050>

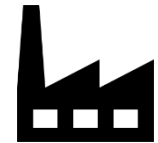
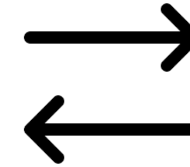
Data and methods

- RTW calendar event data



- Residential and operating location to identify:

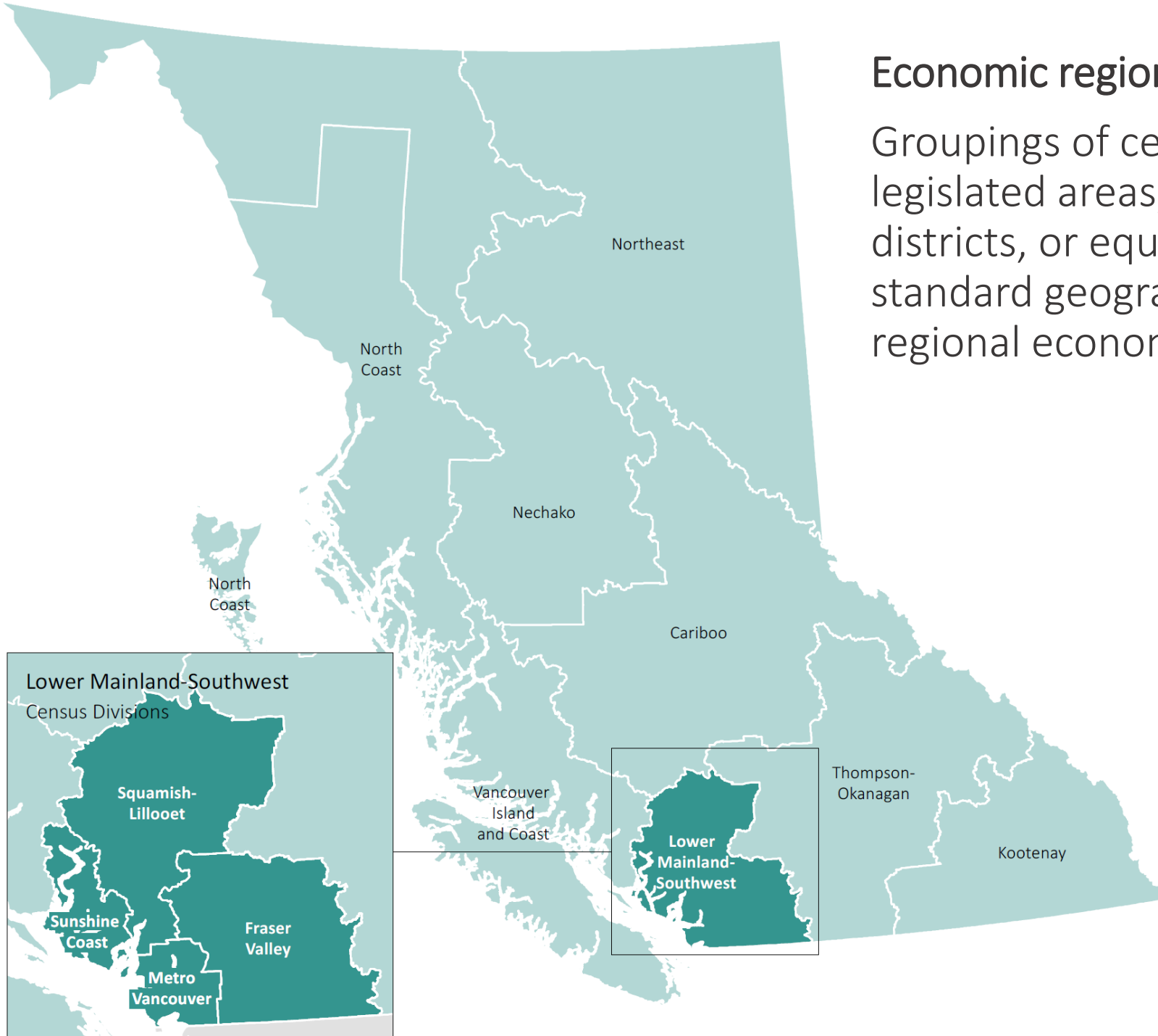
- Non-mobile workers
- Intra-provincially mobile
- Inter-provincially mobile



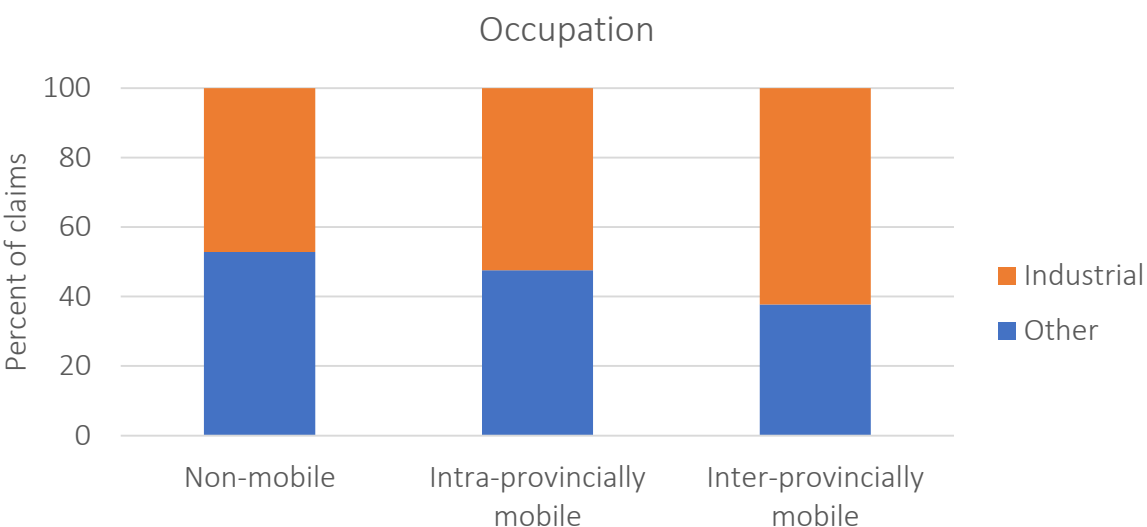
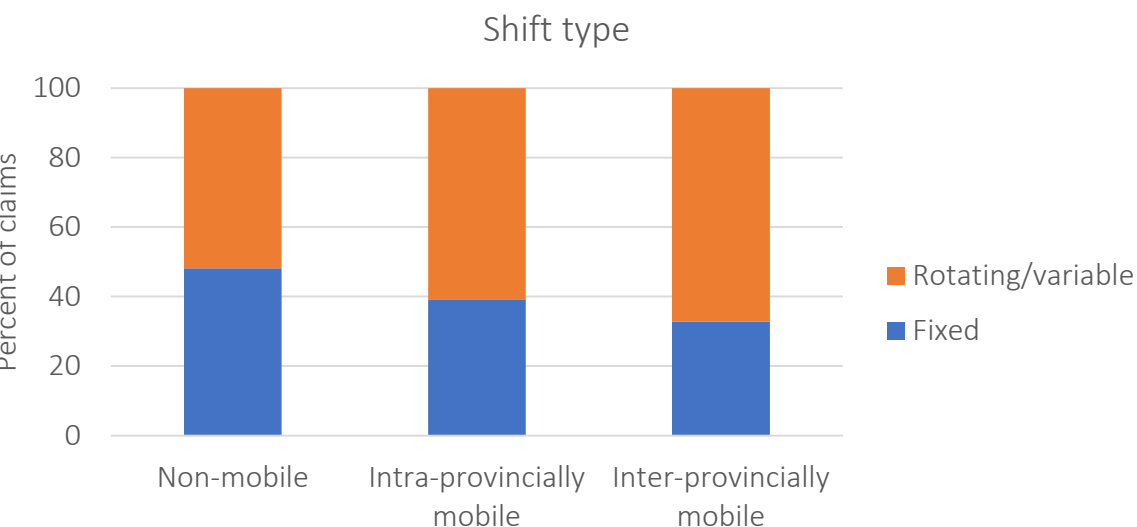
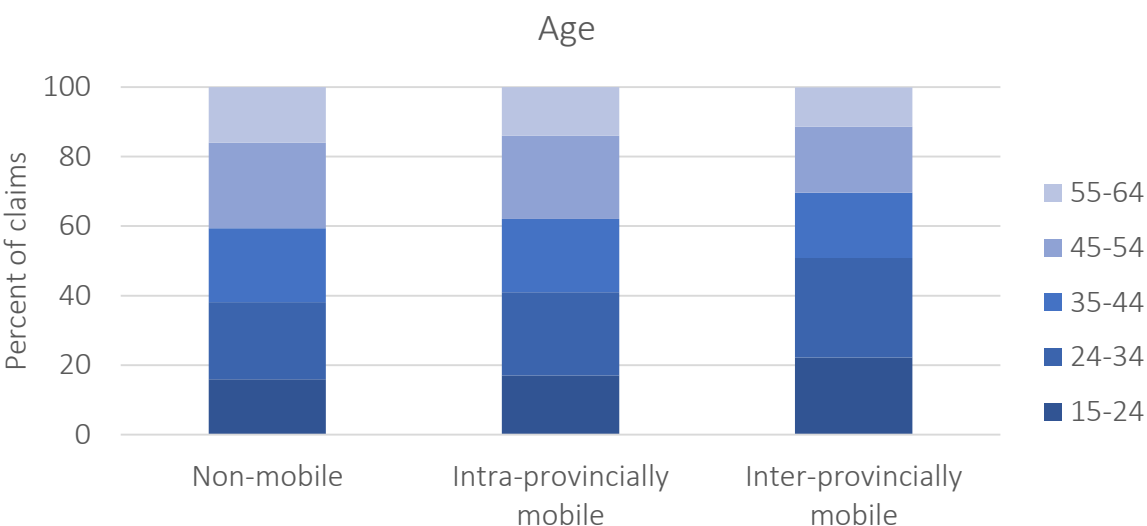
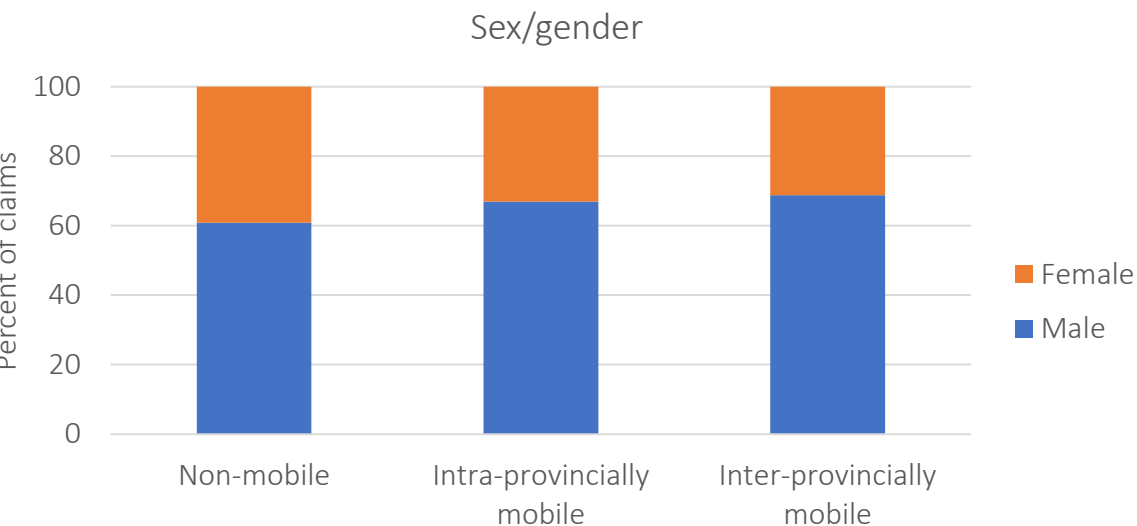
- Quantile regression with matched cohorts
 - Outcome: work disability days during 2-years, post-injury

Economic region:

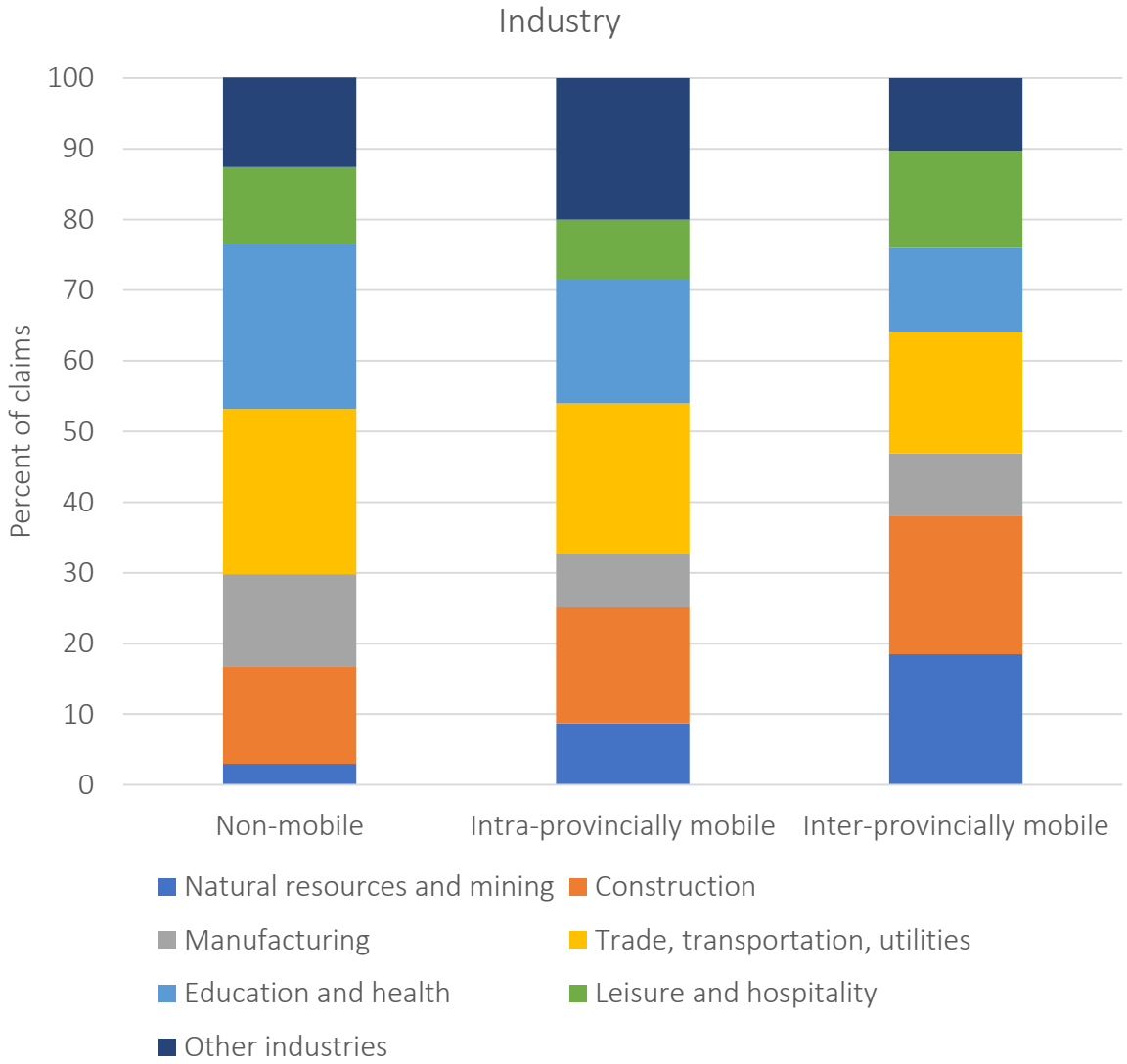
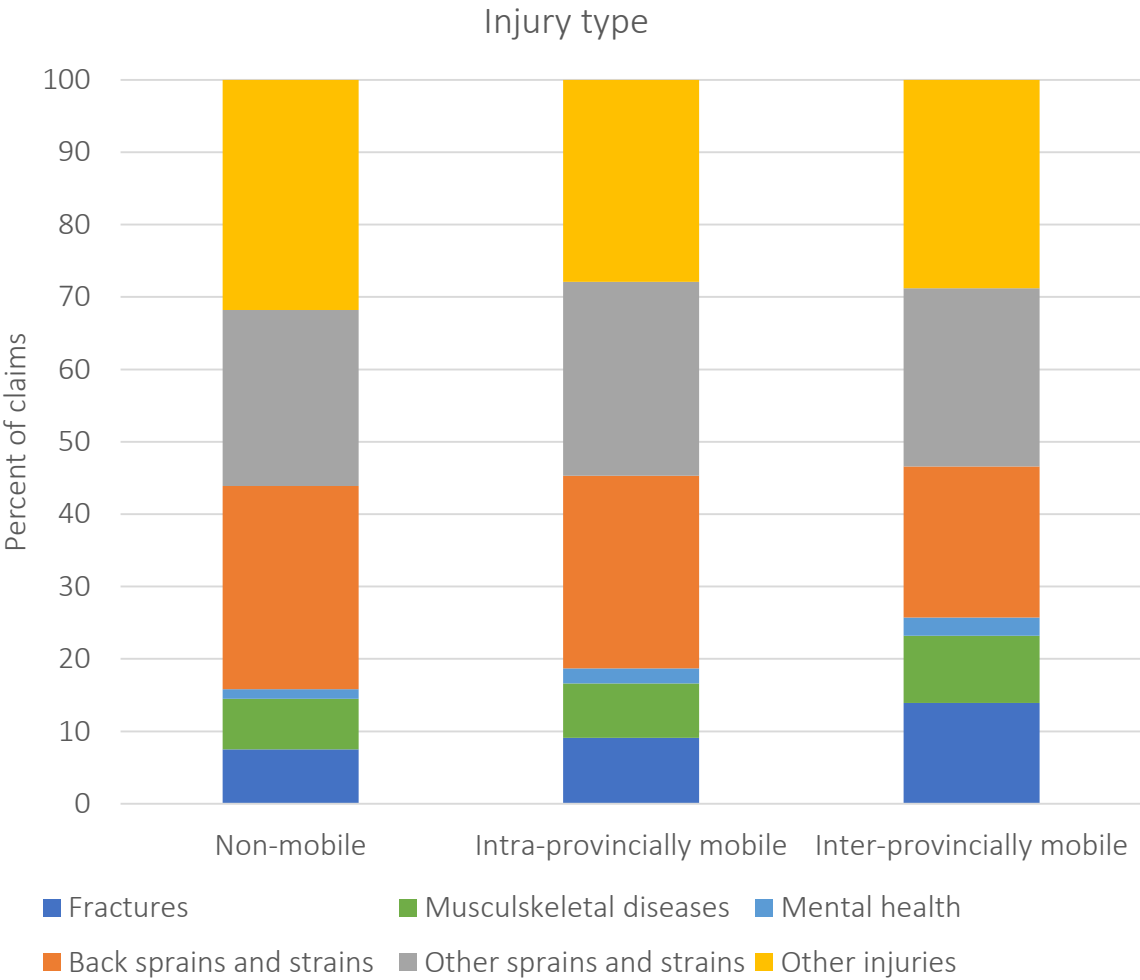
Groupings of census divisions (provincially legislated areas, such as counties, regional districts, or equivalents) created as standard geographic units for analysis of regional economic activity.



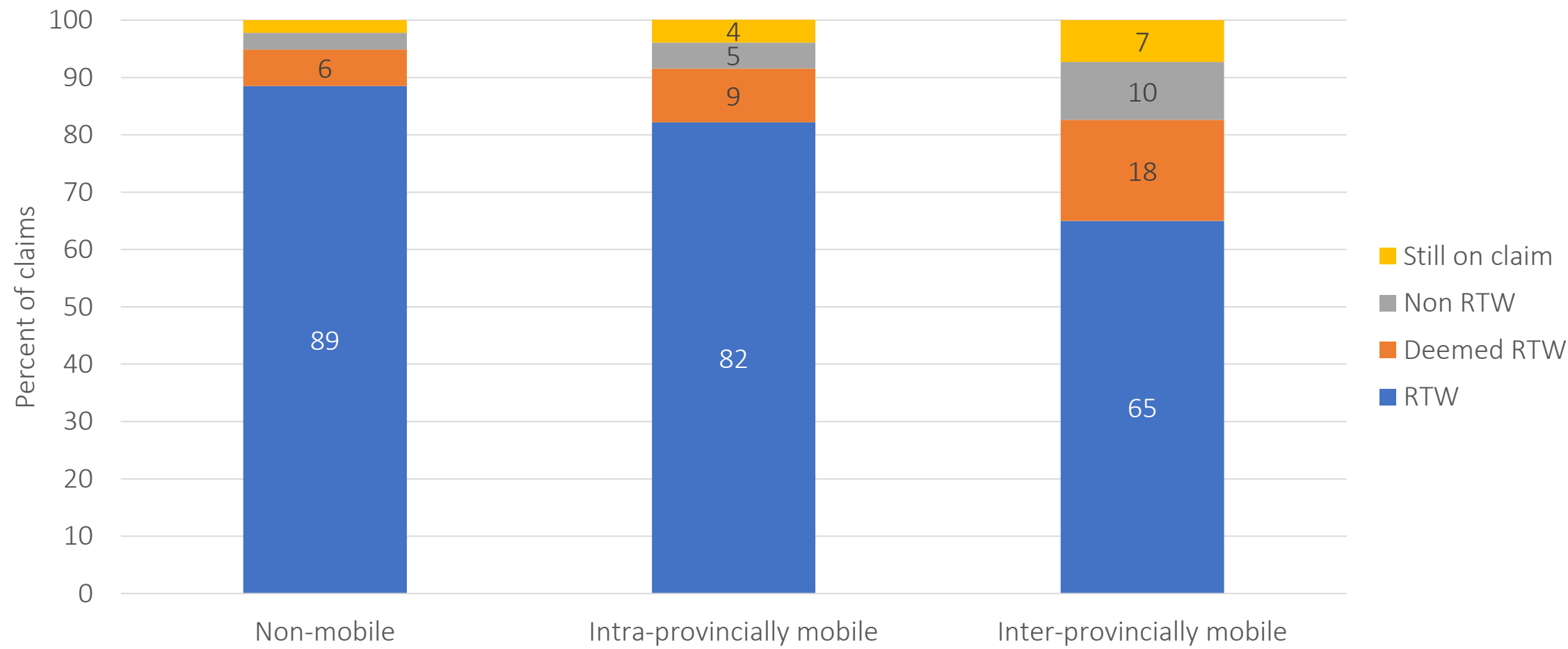
Key characteristics of mobile worker claims



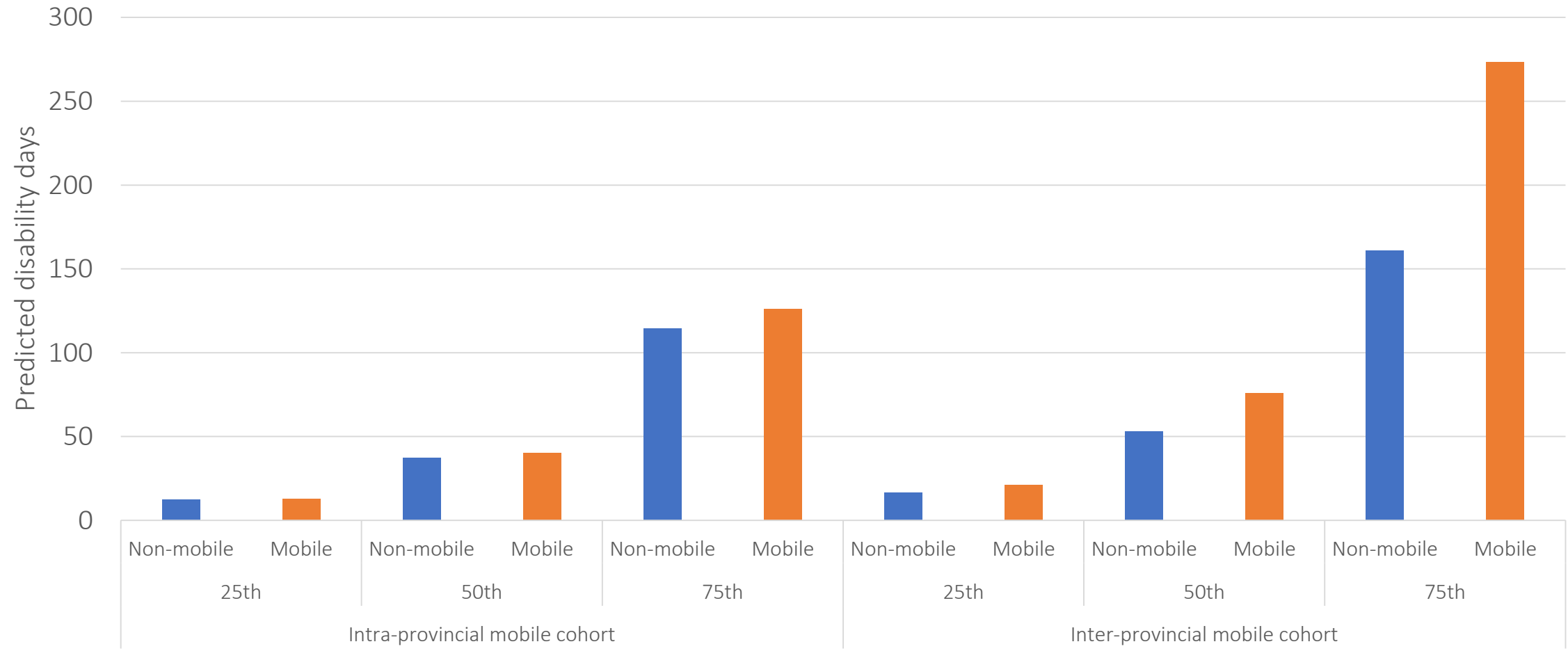
Key characteristics of mobile worker claims



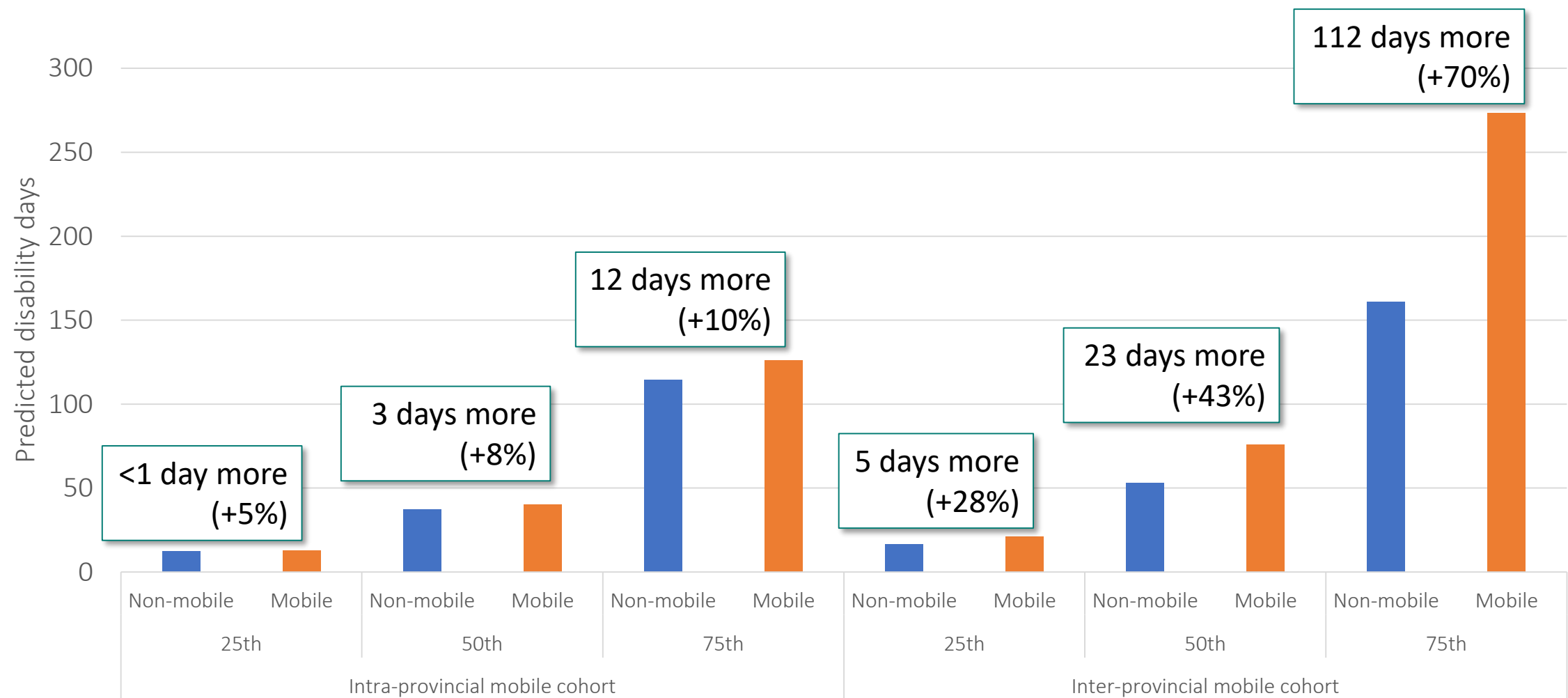
Work disability outcomes by mobile worker status



Work disability duration



Work disability duration



Key findings from stratified analyses

- Injury type
 - Differences persisted despite separately modelling acute (e.g., fracture), chronic (e.g., sprains and strains), and episodic diagnoses (e.g., MSDs)
- Industry sector
 - Differences attenuated in some industries (e.g., natural resources and mining)
 - Differences more pronounced in other industries (e.g., construction, trades, transportation, and utilities)

Key findings from all three studies

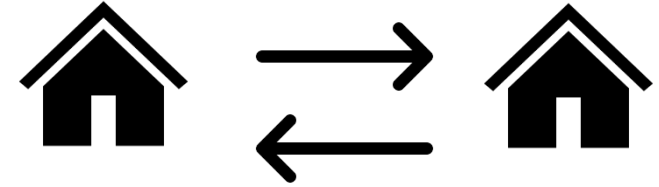
- Persistent differences in work injury and work disability for mobile workers compared to less/non-mobile workers
- Context matters for understanding the scale of differences
- Experience of injury and RTW is different for mobile workers

Discussion

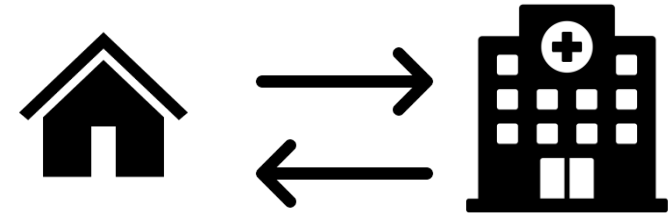
- Strengths
 - Contribute to a growing evidence base
 - Methodological advancement
- Limitations
 - Accuracy of location
 - Underestimation of mobility

Implications for future research

- Changes in address over time

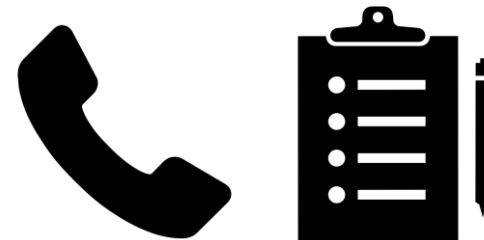


- Distance and time between work and home



- Access to services

- Understanding the *why*?



Implications for policy and practice

- What can be done for inter-provincial workers?
- What can be done for intra-provincial workers?
- What are the potential impacts of legislative change?

FACT sheet



The Interjurisdictional Agreement (IJA)

What is the Interjurisdictional Agreement?
Canadian provincial and territorial Workers' Compensation Boards have signed an agreement to act together in assisting employees and employers who perform work in more than one jurisdiction.

The IJA means:

- employers should not pay assessments twice for the same payroll
- interjurisdictional trucking and transport firms (including courier, bus and motor coach companies) may not have to pay assessments in every province or territory their workers travel in or through
- workers may receive services in their own province or territory, even if they were injured and filed a claim elsewhere



Acknowledgements

Co-authors

Barbara Neis, Christopher McLeod, Lillian Tamburic, Mieke Koehoorn

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"All inferences, opinions, and conclusions drawn in this presentation are those of the authors, and do not reflect the opinions or policies of the Data Steward(s)."

Partnership for Work, Health and Safety

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