

Benefit generosity, claiming, and disability duration

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- The COMPARE project team, and report authors, include Professor Alex Collie, Dr Tyler Lane, Dr Shannon Gray, Ms Dianne Beck and Mr Luke Sheehan of the Insurance Work and Health Group at Monash University. Please refer to the final page for contact details.
- The views expressed in this document are those of the authors and do not necessarily represent those of the project funders, data providers or members of the project advisory group.

BENEFIT GENEROSITY, WAGE REPLACEMENT RATES VS CAPS

- There are three ways to limit time loss compensation through income benefit policy:
 - Time limits, which specify the maximum duration of time loss payments for most claims
 - Wage replacement *rates*, which specify the maximum proportion of wages compensated
 - Wage replacement *caps*, which specify the maximum nominal value to be compensated
- Reducing the amount paid to injured workers is based on economic theory that less generous benefits discourage (unnecessary) claims and reduce the duration of disability (Butler et al 2013)
- The higher an injured worker's income, the smaller the share of their salary is compensated
 - Thus, raising the *cap* affects workers with an income above a specific threshold (see graph to right, from Meyer et al 1995)

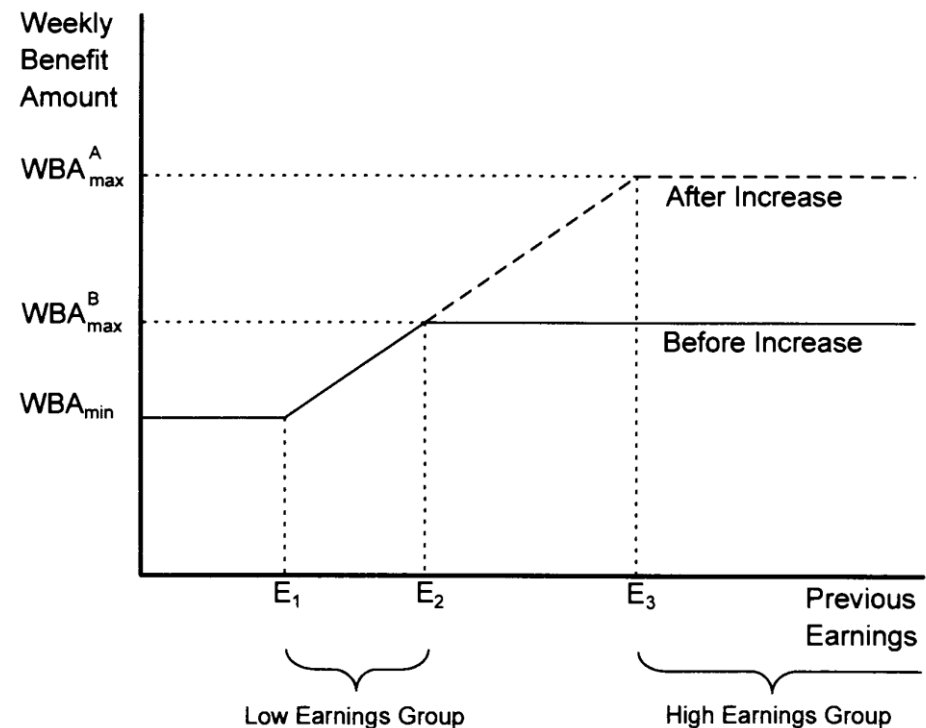


FIGURE 1. TEMPORARY TOTAL BENEFIT SCHEDULE BEFORE AND AFTER AN INCREASE IN THE MAXIMUM WEEKLY BENEFIT

Effect of benefit generosity on claiming

- Krueger (1990), Ruser et al (2004), Biddle & Roberts (2003) all found benefit generosity is predictive of claiming; more generosity predicted more claiming, less generosity predicted less claiming. However, using a powerful regression discontinuity design, Hansen et al (2017) found benefit generosity had no effect on initial claiming, but greater benefits predicted making subsequent claims. The authors suggested that experience of previous claims gives injured workers the information they need to make a cost-benefit analysis of whether filing a claim is worthwhile. Guo & Burton (2010) found that the incentive to claim may be offset by the safety incentives among employers and insurers following an increase to benefit generosity (i.e., *moral hazard*).

Effect of benefit generosity on duration

- Meyer et al (1995) found raising the benefit *cap* increased time off work among higher earners and had no effect on lower earners who were unaffected by the change. Hansen et al (2017) found compensation *rate* had a small effect on duration, estimating that a 10% rate increase resulted in 2-4% duration increase. However, Shraim et al (2015) found no significant difference in duration of time loss between US states with different wage replacement rates when adjusting for other individual-level variables.

However, other important factors can affect the impact of benefit generosity

- Injury type is a strong moderator. Ruser (1998), Bolduc et al (2002), and Johnson et al (1998) found the amount of compensation has a greater effect on claiming and disability duration among hard to diagnose, less visible injuries (e.g., mental health, musculoskeletal/back pain conditions, and carpal tunnel syndrome) than easily diagnosable injuries. Biddle & Roberts (2003) found that injury severity and general health were more important predictors of claiming than benefit generosity.
- Pre-injury income is a major factor. Ruser et al (2004) found benefit generosity was positively associated with claiming, but there was a negative association between pre-injury earnings and claiming (those who made more were less likely to claim and vice versa). Bronchetti & McInerney (2014) found small effects of generosity on claiming that were heavily influenced by the injured worker's earnings. They also found that benefit generosity has had a smaller effect on claiming after 1990, which suggests change over time and that older findings may be outdated. Guo & Burton (2010) on the other hand identify other policy factors, such as restricted access, as driving the changes in claiming.

Research gaps

- However, much of the research evaluated arbitrary thresholds (e.g., wage replacement *rate*) in low-benefit settings; in Oregon (Hansen et al (2017)), the maximum rate was 2/3rds of wages and maximum of 133% of state average earnings; in Michigan (Biddle & Roberts (2003)), 80% of wages or 90% maximum of state average earnings; in Kentucky (Ruser et al (2004)), 2/3rds of wages and maximum of \$217 per week; contrasted with Victoria, where it is 95% of wages or 200% of state average earnings. Such research has rarely evaluated the impact of changes in benefit generosity relative to underlying trends as estimated by a appropriate comparator. To our knowledge, there has also not been any research on this topic in Australia.

THE EVENT

In 2009, Victoria amended the *Accident Compensation Act 1985* to increase benefit generosity for workers' compensation claimants. A number of these were likely to affect claiming and disability durations.

Prospective changes – for claims lodged or injuries occurring on or after 5 April 2010

- Raised wage replacement *cap* from \$1300 to \$1760 (twice weekly average earnings in Victoria).
- Extended the time period for which entitlements to overtime and shift work allowance can be considered from 26 to 52 weeks pre-injury.
- Extended access to superannuation contributions at 9% of Pre-Injury Average Weekly Earnings (PIAWE) beyond 52 weeks.
- Access to insured disability benefits with no impact on weekly payments until they reach 100% of PIAWE

Retrospective changes – for all claims after 5 April 2010

- Increased wage replacement *rate* in first step-down at 13 weeks from 75% to 80%
- Included annual leave and long service leave entitlements for workers receiving weekly payments (all claims as of 1 January 2010)

Other changes protected against discrimination for workers making/pursuing claims and increased penalties for discrimination, staged approach for consequences for workers who do not comply with RTW obligations, employer RTW obligations focused on RTW outcomes rather than paper compliance, etc. (1 July 2010)

***The changes listed here are only those that could plausibly affect claiming behaviour. Please see 'Accident Compensation Act: Changes to the *Accident Compensation Act 1985* explained' for more changes.**

Research questions

1. What was the effect of the 2010 Amendments to the Accident Compensation Act on the incidence of claims and disability duration in Victoria?
2. What was the effect of the raised wage replacement *cap* on claiming and disability duration among higher earners?

Hypotheses

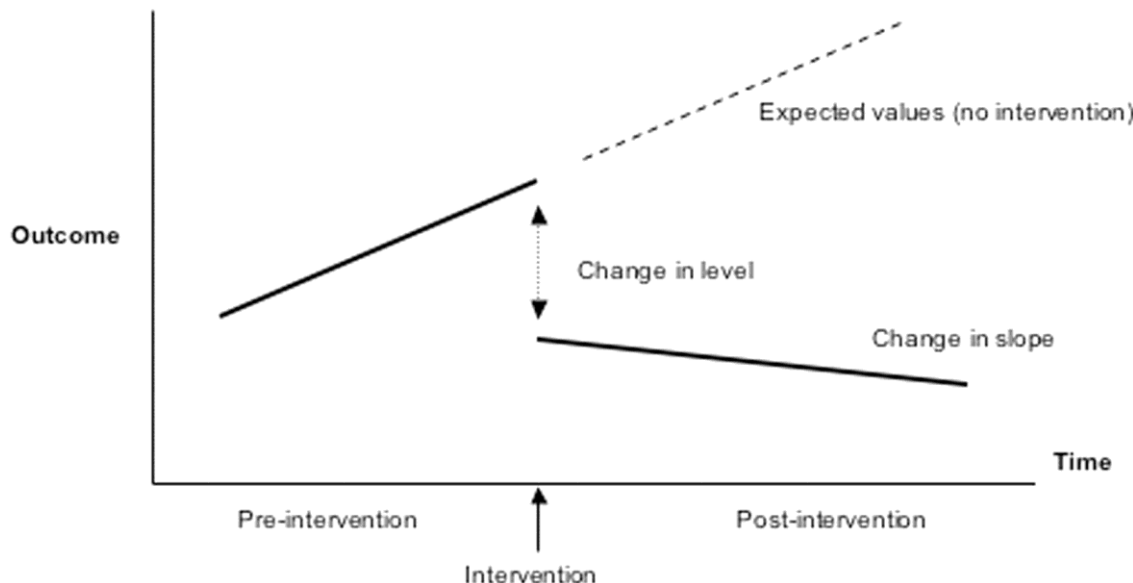
Based on prior research regarding the impact of benefit generosity, we hypothesise that the changes in the 2010 Amendments will

1. Increase claiming and disability duration, though the effect will be moderated by injury type
 - Less visible injuries (e.g., mental health and MSK conditions) will be more sensitive to benefit generosity; e.g., increase in generosity will lead to greater increases in claiming and disability durations among less visible conditions
2. Have a greater impact on higher earners as they receive an additional benefit (raised cap) above those extended to lower earners
 - Similar moderating effects of injury type as stated above

- Compare trends before and after an event to understand impact (example below from MacDougall & Polk 2005)
- Claim records were converted into aggregated datasets of quarterly volumes of claims and disability durations
- Analysed injury subgroups:
 - Mental health conditions, back/neck musculoskeletal conditions, fractures, other musculoskeletal conditions, and all other injuries

COMPARATOR

ITS allows the inclusion of a comparator to adjust for underlying trends. We had a different comparator for each analysis. For the 2010 Amendments as a whole, we compared time loss claims in Victoria to the rest of Australia. To evaluate the impact of the raised cap, we compared time loss claims from higher earners to lower earners, all in Victoria.



DEFINING TERMS

Claiming:

Volume of claims

Disability duration:

Cumulative compensated time off work

Maximum wage replacement *cap*:

Highest nominal compensable amount

Maximum wage replacement *rate*:

Highest proportional compensable amount

Higher earners: > \$1368 in Pre-Injury Average Weekly Earnings (PIAWE)

Lower earners: < \$1316 PIAWE

Earning groups based on whether their wage replacement payments would be affected by the raised cap

- The terms are operational and not based on economic theory about what constitutes 'higher' or 'lower' earnings
- Similar approach used in Meyer et al (1995)

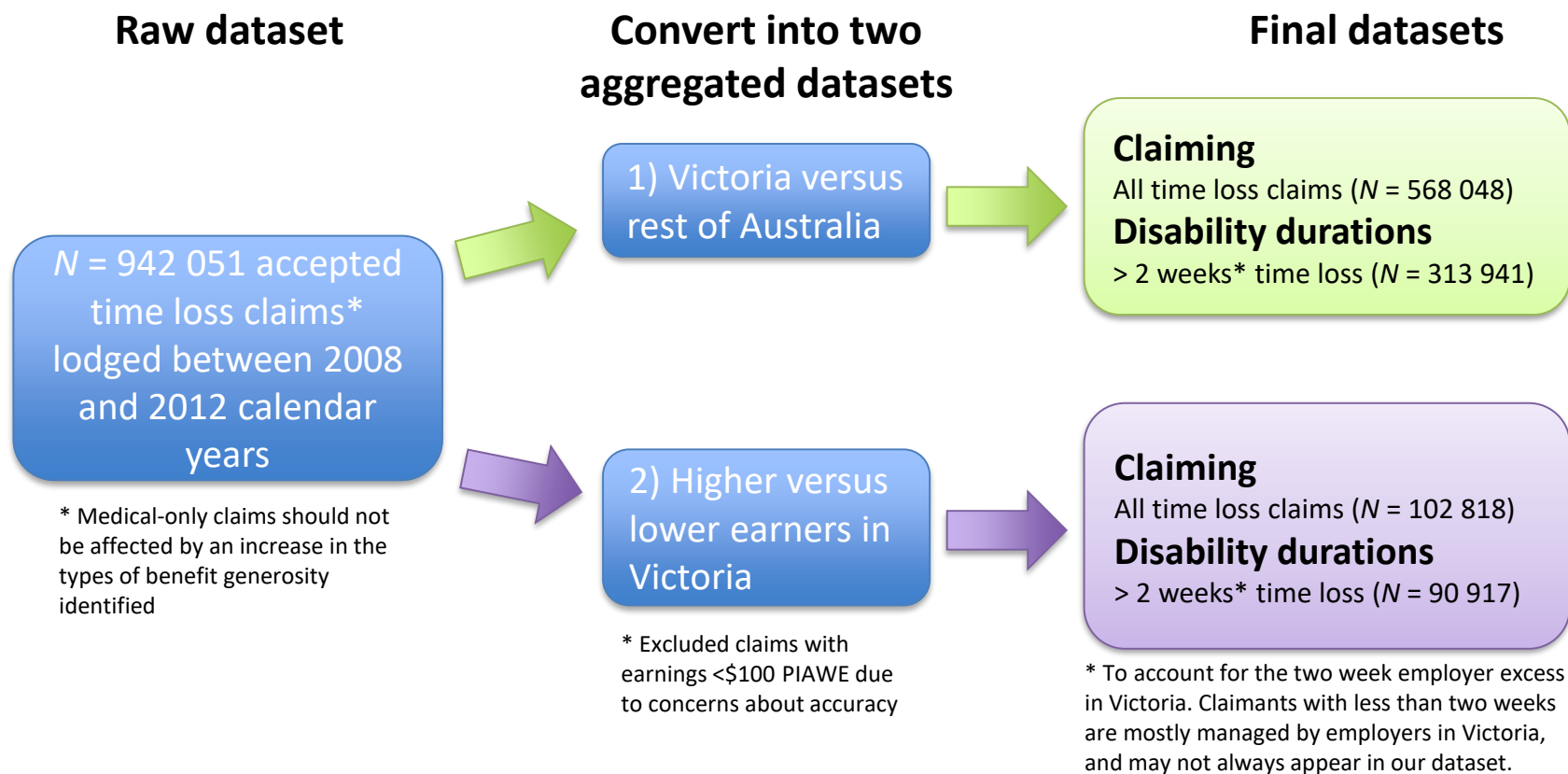
Injured workers receive the lowest of whatever is offered by the *rate* or *cap*

- In Victoria, rate = 95% of pre-injury salary for first 13 weeks of time loss

So, when does the *cap* start to limit compensation?

- Maximum possible weekly compensation before the *cap* was raised: \$1300
- Maximum pre-injury salary before compensation limited by the cap: \$1368 PIAWE
 - $\$1300 = \$1368 \times 95\%$
- Minimum pre-injury salary determined by lowest maximum cap in the time series, which was \$1250 from June 2008 to July 2009
 - $\$1250 = \$1316 \times 95\%$

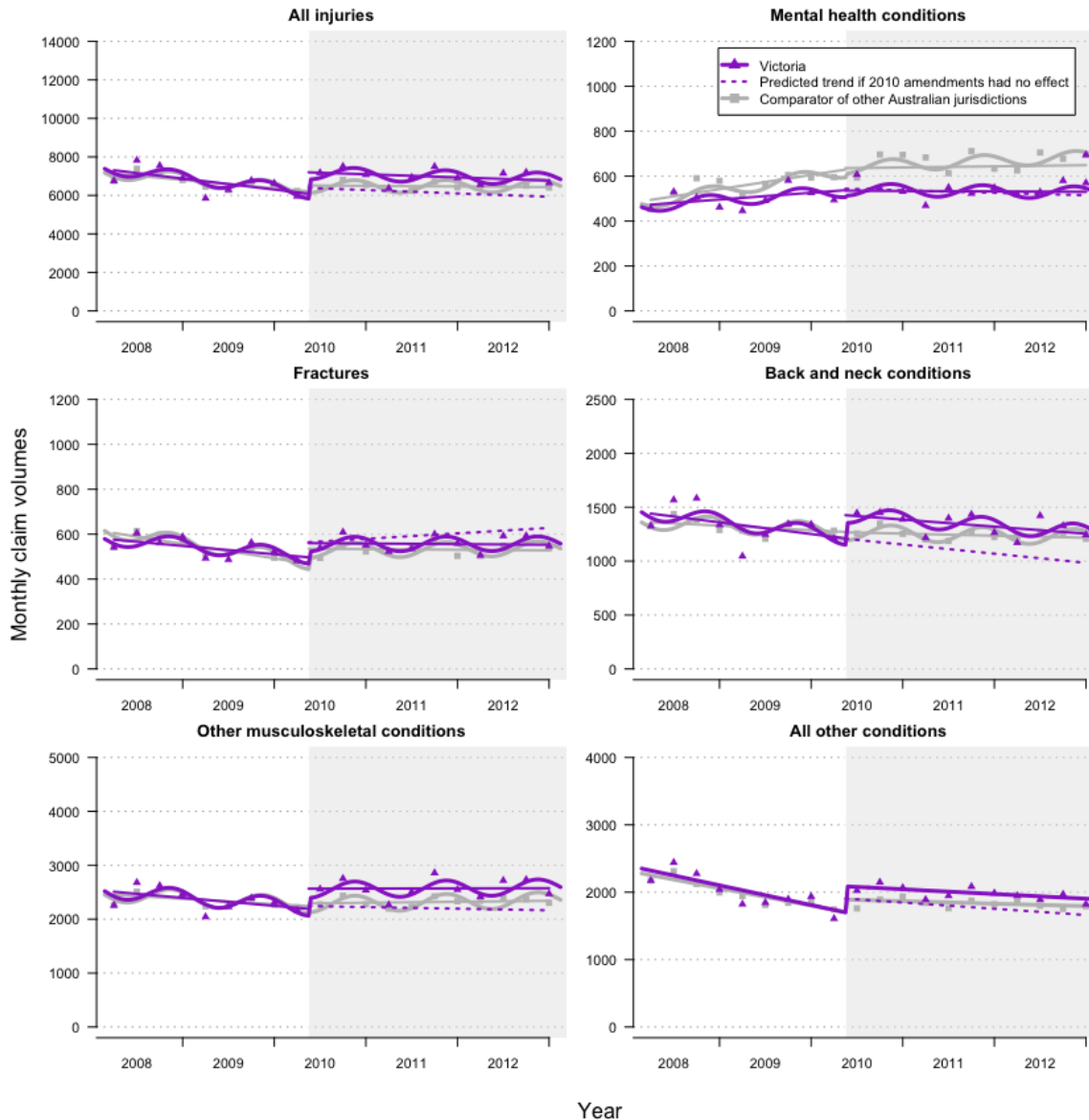
Middle band ($\geq \$1316$ & $\leq \$1368$) excluded from this analysis due to confounding from regular annual increases to the wage replacement *rate*, which are retrospective



What was the effect of the 2010 Amendments on claiming and disability duration in Victoria?

- Exposure group: time loss claims in Victoria
- Comparator: time loss claims in rest of Australia

2010 AMENDMENTS: IMPACT ON CLAIMING

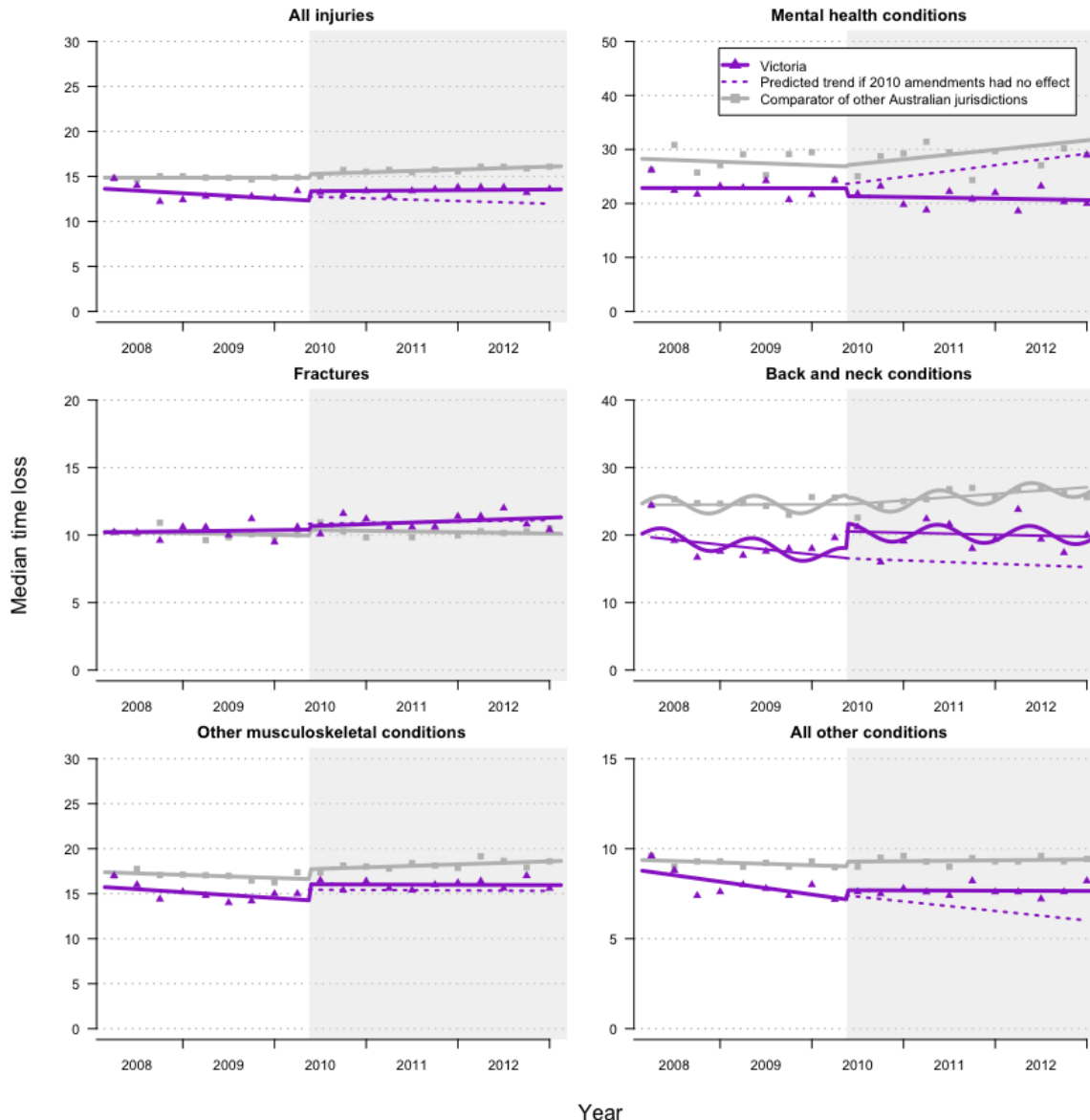


After implementation of the 2010 amendments, there was an immediate 12.9% increase in claims among all injury types in Victoria ($p = .006$), relative to the comparator (top left graph).

There were also immediate increases among back/neck conditions (18.4%, $p = .015$), other MSK (14.4%, $p = .003$), and all other conditions (10.8%, $p < .001$).

There was a slight but significant long-term increase in mental health conditions and a long-term reduction in fractures (both $p < .001$).

2010 AMENDMENTS: IMPACT ON DISABILITY DURATION



Following the 2010 Amendments, disability duration for all injuries had an immediate increase of 5.5% ($p = .001$) in Victoria in addition to a long-term trend increase ($p < .001$) relative to the rest of Australia (top left graph).

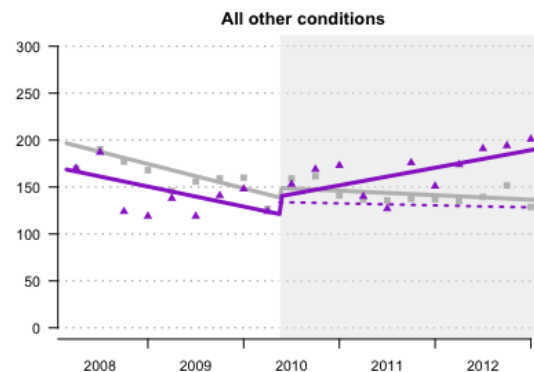
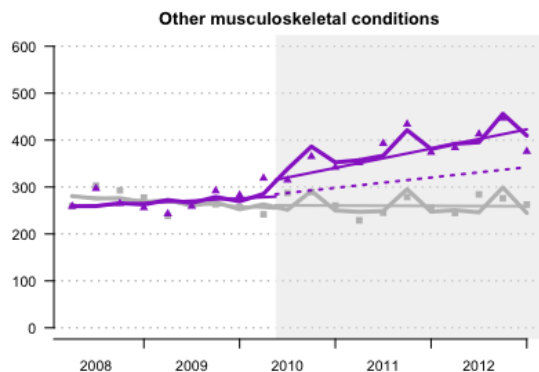
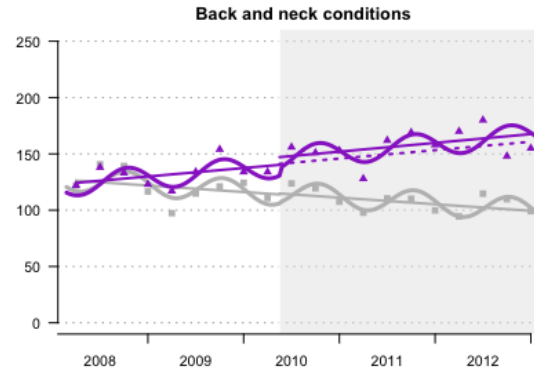
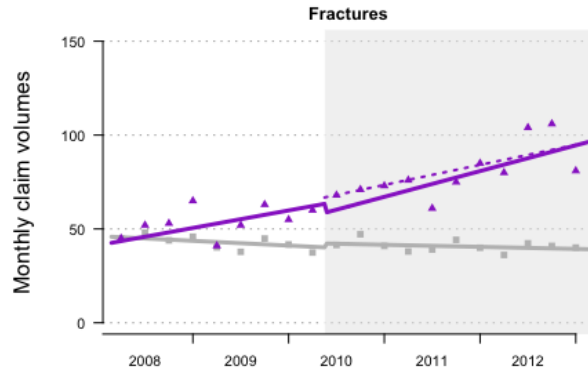
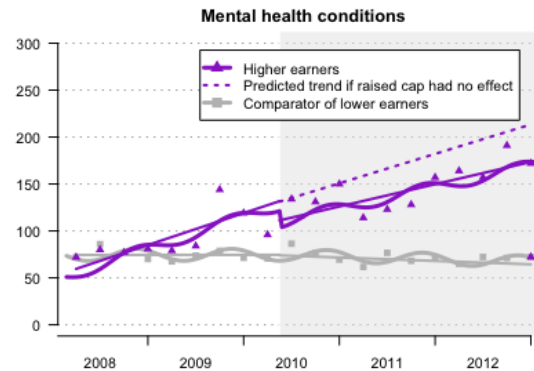
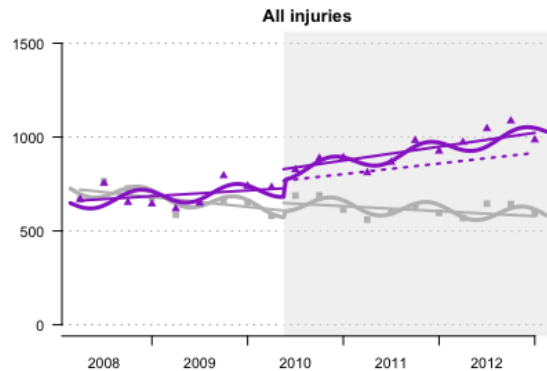
There was a 24.4% immediate increase in duration for back/neck conditions ($p = .005$) and a 4.4% increase in duration for other MSK conditions ($p = .034$). There was also a long term increase among all other conditions ($p = .008$), relative to the trend in the rest of Australia.

There was an immediate decrease in duration of 9.7% among mental health conditions ($p = .007$) followed by a long term trend decrease ($p < .001$) relative to the rest of Australia.

What was the effect of the raised wage replacement *cap* on claiming and disability duration among higher earners?

- Exposure group: time loss claims from higher earners (> \$1368 PIAWE) in Victoria
- Comparator: time loss claims from lower earners (< \$1316 PIAWE) in Victoria

RAISED CAP: IMPACT ON CLAIMING



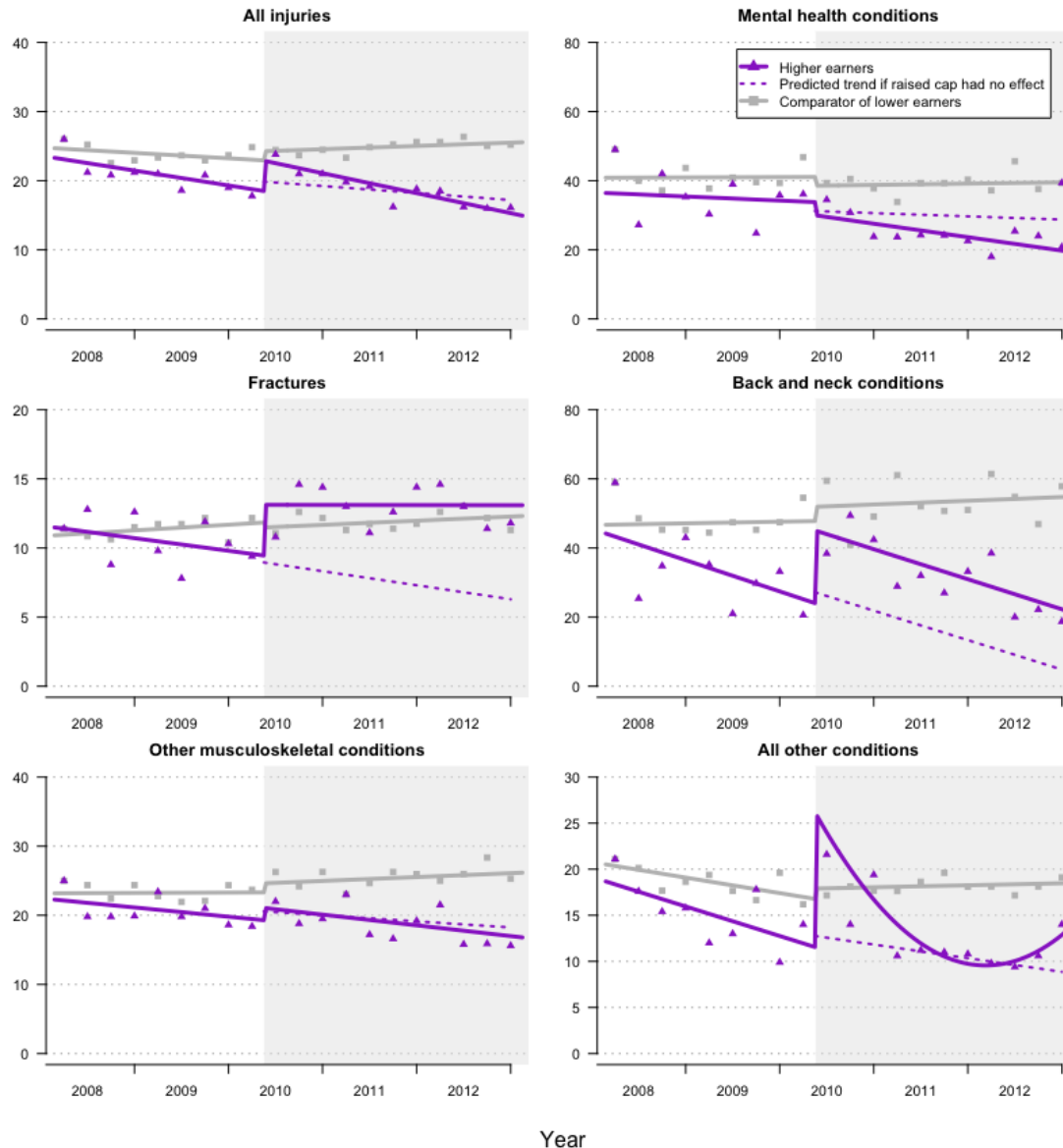
Year

Relative to the lower earner comparator, there was an 8.0% step increase ($p = .015$) in claiming, along with a trend increase ($p = .05$).

Other musculoskeletal conditions had a 20.5% step increase ($p > .001$) along with a trend increase ($p .049$), while there was a 14.8% step reduction in mental health conditions ($p = .026$), and a 9.0% step reduction among fractures ($p = .009$) with a trend increase ($p = .025$).

Among all other conditions, there was a substantial trend increase compared ($p < .001$).

RAISED CAP: IMPACT ON DISABILITY DURATION



There was a 13.1% immediate effect on disability duration across all injuries ($p < .001$), though there was a long-term trend reduction ($p < .001$).

There were large immediate increases among fractures (48.4%, $p < .001$), which included a significant long-term trend increase ($p < .001$), and back/neck conditions (64.7%, $p < .001$).

There was a large spike in all other conditions (77.5%, $p < .001$); we compared models with non-linear time terms to see whether it fit the data better, which it did. However, the plot indicates the spike was driven by two data points and should be interpreted with caution.

There was a substantial long-term trend reduction in mental health condition disability durations ($p < .016$), and a slight but significant long-term trend reduction in other MSK conditions ($p = .015$).

Benefit generosity

In line with existing research, we found an increase in both claiming and disability duration in Victoria after the 2010 amendments.

However, this effect varied by type of injury/disease. The greatest effects were in 'less visible' conditions such as back/neck, and other MSK conditions, with increases in both claiming and disability duration. A reversed effect was observed for mental health conditions, where there were unexpected reductions in both claiming and disability duration. See next slide for more in-depth discussion.

Back/neck, and other MSK conditions

Increased claiming and disability durations, which was consistent with our hypotheses.

Mental health conditions

In some cases, increased benefit generosity reduced claiming and disability duration among mental health conditions. This was contrary to our hypothesis as mental health had previously shown greater sensitivity to increased benefit generosity.

- Possible explanation: *ex post* moral hazard. Employers discourage claims for mental health due to their longer durations and experience-rated insurance premiums; insurers more likely to reject them due to concerns about costs; mental health conditions also hard to diagnose and attribute to work, making it easier to dismiss such claims.
- Employers and insurers are also incentivised to reduce
- However, when claims are reduced, the decrease is usually among the least severe injuries, which raises the average disability duration since only more severe injuries remain. Here, we found both decreased, which suggests that it was not just a reduction in least severe injuries

Workers with a mental health conditions may also shift claim to other types of conditions that are more likely to be accepted. Notably, there was an increase in other (non-back/neck) musculoskeletal conditions. But, if system became more stringent for mental health conditions, we would expect an increase in disability durations.

- Increased expenditures would incentivise the stakeholders responsible for claim costs to return workers with mental health conditions to work more quickly

Fractures

Surprising effect on fractures, which are generally thought to be resistant to benefit generosity (easy to diagnose, attribute to work, and seemingly obvious impediment to work)

- Slight reduction in claims for fractures, large increase in disability duration following raised cap

Slight reduction in claiming may have filtered less severe fractures, leaving more severe fractures in the claiming pool.

- Increased workplace safety (*ex ante* moral hazard; employers and insurers make work safer to limit claims, focusing particularly on causes of trauma that lead to fractures)
- However, seems unlikely that such a small reduction in claiming would have such large effects on disability duration

Possible reason for reduced claiming:

- Higher earners more likely to be white collar workers where fractures are less of an impediment to work – this cohort may be vulnerable to discouragement from employers or insurers
- However, as a more visible injury, harder to encourage workers with fractures to RTW since the injury is more obvious and more obviously linked to the workplace
- Greater benefit generosity, particularly with the raised cap, can give such workers more time to recover once they are in the system
- So, among higher earners, the raised cap could have made it harder to get in to system with a fracture but easier to stay in it

Strengths

- Large population-level dataset
- Powerful research methodology – the interrupted time series
- Subgroup analysis of various condition types
- Addition of comparator to adjust for national-level and intra-state trends

Limitations

- Large number of analyses can lead to spurious statistical associations
- Comparators may not be entirely appropriate
 - E.g., previous research finds higher and lower earners differ in response to benefit generosity
- Not all components of benefit generosity were precisely introduced on 5 April 2010
 - Some were retrospective, some were for injuries occurring on or after this date (rather than claims lodged), etc.
- All workers' compensation jurisdictions represented except New South Wales and Comcare

The results generally support existing research on the effect of benefit generosity and the moderating effect of injury type. However, there were some unexpected results, especially among mental health conditions and fractures within the higher earning cohort. There were also large increases in disability duration among back/neck conditions (which was expected) and fractures (which was not) following the raised cap.

Implications

Benefit generosity generally increases time off work, but the effect varies among the different condition types. Those involved in workers' compensation scheme design should carefully consider the level of benefit generosity to secure the best outcomes.

Directions for future research

- What is the mechanism leading to a decrease in mental health claims and disability durations?
- Why did disability durations increase among fractures following the raised cap? Have we underestimated the psychosocial components of visible claims, or overestimated their impact on the type of work among higher earners (i.e., white collar jobs)?
- Do higher and lower earners respond differently to similar forms of benefit generosity?

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- For more detailed data tables, references for the study design, and other questions please contact Tyler Lane (tyler.lane@monash.edu or 03 9903 8609).