

Determining the association between workers' compensation claim processing times and duration of compensated time loss.

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- These organisations are all represented on the project advisory group, in addition to the Australian Council of Trade Unions and the AiGroup.
- 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.

- Most Australian workers' compensation systems impose time limits within which workers and employers are required to report work-related injury. There are often also limits on the length of time insurers can take to determine whether to accept a claim.
- These limits are intended to promote access for workers and employers to system benefits and services early in the course of injury, to enable return to work and recovery.
- Delays in claim processing times may therefore negatively impact both health and work outcomes.
- Prior studies suggest that excessive delays in insurance claim decision making has been reported as stressful by claimants, and that this stress is associated with greater disability, higher incidence of anxiety and depression, and lower quality of life (Grant et al. 2014).
- Conversely, more complex workers' compensation claims may require more time for insurers to determine eligibility.

- The time taken to make a decision about whether to accept a claim may be affected by a number of factors, including:
 - Injury-related factors such as injury type and severity
 - Worker-related factors such as sex, age, occupation
 - Work-related factors such as self-insurer status
 - Administrative factors such as information gathering and insurance case management processes.

- There have been very few studies of the association between claim processing time and later duration of time loss. Two studies in specific jurisdictions include...
 - **Sinnott (2009)** showed that administrative delays (days of delay to claim decision) within a workers' compensation system was associated with increased odds of developing chronic disability among those with a work-related low back pain. This was evident for people with injury ranging from mild to very severe.
 - **Cocker et al (2017)** studied the impact of delays to claim lodgement, decision and provision of first wage replacement on duration of time loss in the state of Victoria, Australia. This study observed that delays to all three were associated with increased odds of reaching 52 weeks of wage replacement.

In Australia, every state has legislated provisions that describe expectations for aspects of claim processing. These usually include:

- a. the time between injury and worker notifying the employer (worker reporting time)
- b. the time between employer notification and lodgement of claim with the insurer (employer reporting time); and
- c. the time from insurer notification and insurer decision to accept or deny liability (insurer decision time).

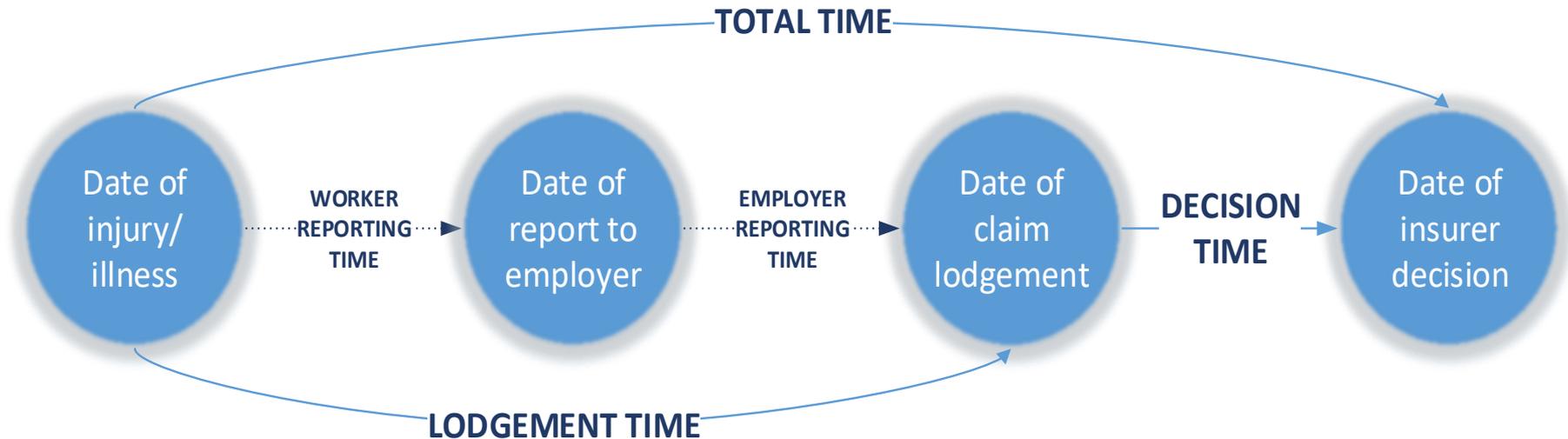
These differences are summarised in the following slide for each jurisdiction.

Note that 'lodgement time' is the summation of worker reporting time and employer reporting time.

Legislative provisions regarding claim submission – Jurisdictional variations

	Worker notifies employer of injury (worker reporting time)	Employer lodges claim form with insurer (employer reporting time)	Timeframes for claim decision by insurer (insurer decision time)
New South Wales	"...as soon as possible after the injury happens."	Within 48 hours of the employer becoming aware of the injury	Commence provisional payments within 7 days upon notification of injury unless there is a reason not to commence. Decision on claim liability within 21 days of the claim being made
Victoria	30 days after becoming aware of injury	Within 10 days after the employer receives the claim	28 days for weekly payments if received by insurer within 10 days or 39 days in other circumstances
Queensland	-	-	No statute for deemed acceptance or rejection, however claims must be determined within 20 business days
Western Australia	As soon as practicable	Five working days	Insurers have up to 14 days
South Australia	Within 24 hours or as soon as practicable	Five business days	10 business days
Tasmania	As soon as practicable	Employer must notify insurer of claim within 3 working days of receiving claims. Employer must immediately complete employer's report section of claim and forward it to insurer within 5 working days of receiving claim.	If the liability has not been disputed via a referral to the Tribunal within 84 days, the liability is taken to have been accepted
Northern Territory	As soon as practicable	Three working days	10 working days after receipt by employer if not decision has been made
Australian Capital Territory	As soon as possible	Seven days	28 days
Comcare	As soon as practicable	-	No legislated timeframes for claim decisions. Determining authorities are required to make determinations accurately and quickly.

Claim Processing Times of Interest



Lodgement time – number of days taken for employer to lodge the claim
[time between date of injury/illness (DOI) and date of lodgement (DOL)]

Decision time – number of days taken for insurer to accept or reject the claim
[time between date of lodgement (DOL) and date of decision (DOD)]

Total time – number of days taken for entire process from injury to acceptance/denial
[time between date of injury/illness (DOI) and date of decision (DOD)]

*Note that date of report (DOR) to employer is not consistently coded and hence could not be included in the analysis.

This project sought to answer the following questions via analysis of the National Dataset of Compensation-Based Statistics:

1. Does claim processing time vary by condition type, self-insurer status, sex, age, and type of claim?
2. Are there significant differences in claim processing times between Australian workers' compensation jurisdictions, after accounting for other factors?
3. Have claim processing times changed over time?
4. Are claim processing times associated with the duration of compensated time loss?

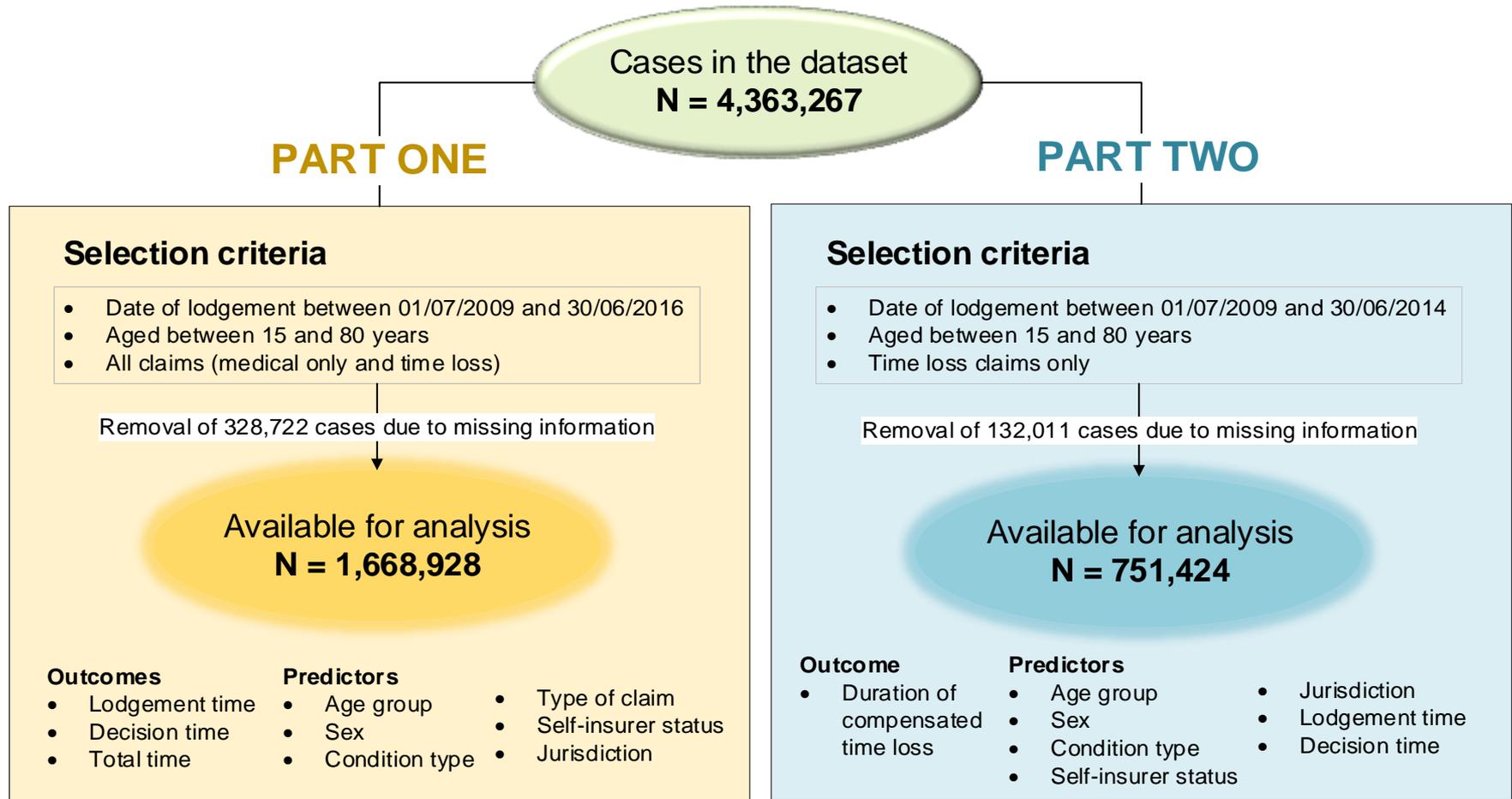
Given that the analysis was looking at two types of outcomes (claim processing times and duration of time loss), two samples were required:

- Sample for part one:
 - Outcome: claim processing times
 - Types of claims included: both medical only and time loss
 - Follow-up: no follow-up time required, hence cut off for inclusion was 30/06/2016

- Sample for part two:
 - Outcome: duration of time loss
 - Types of claims included: time loss only
 - Follow-up: at least 2 years required, hence cut off for inclusion was 30/06/2014 (as dataset contains data to 30/06/2016)

- These samples are summarised in the following slide.

Sample Selection for Claim Processing Time Analysis

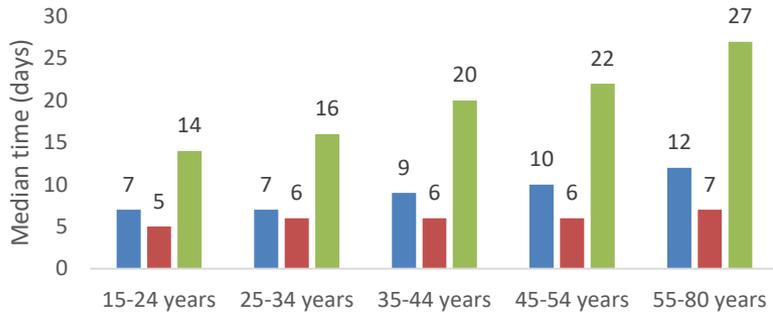


Note: during the data quality checking and assurance phases of the data, cases were flagged if there was an illogical order to claim processing dates (e.g. date of decision was prior to date of lodgement). If flagged, cases were removed from the final sample. Comcare was excluded from analysis due to unavailability of data for all years of the study period.

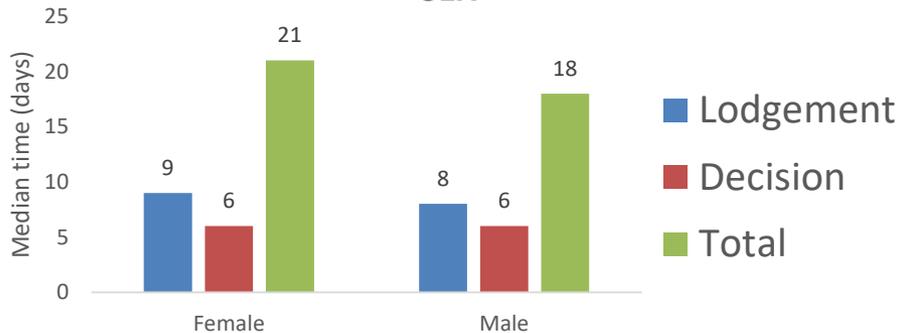
- Analysis of part one focussed on:
 - Determining differences between claim processing times for condition type, self-insurer status, sex, age, and type of claim (Cox regression)
 - Determining differences in claim processing times between jurisdictions, after accounting for other factors (Cox regression)
- Analysis of part two focussed on:
 - Determining whether claim processing times impact upon the duration of compensated time loss, controlling for other factors (Cox regression).
- Results of analysis have been converted to figures and/or tables to demonstrate major / significant findings.

Part 1: Median Claim Processing Times

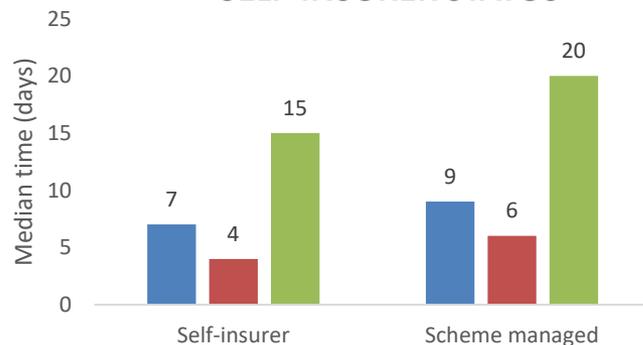
AGE GROUP



SEX

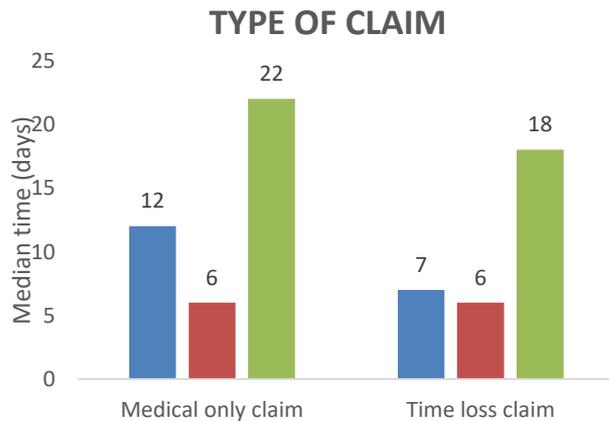
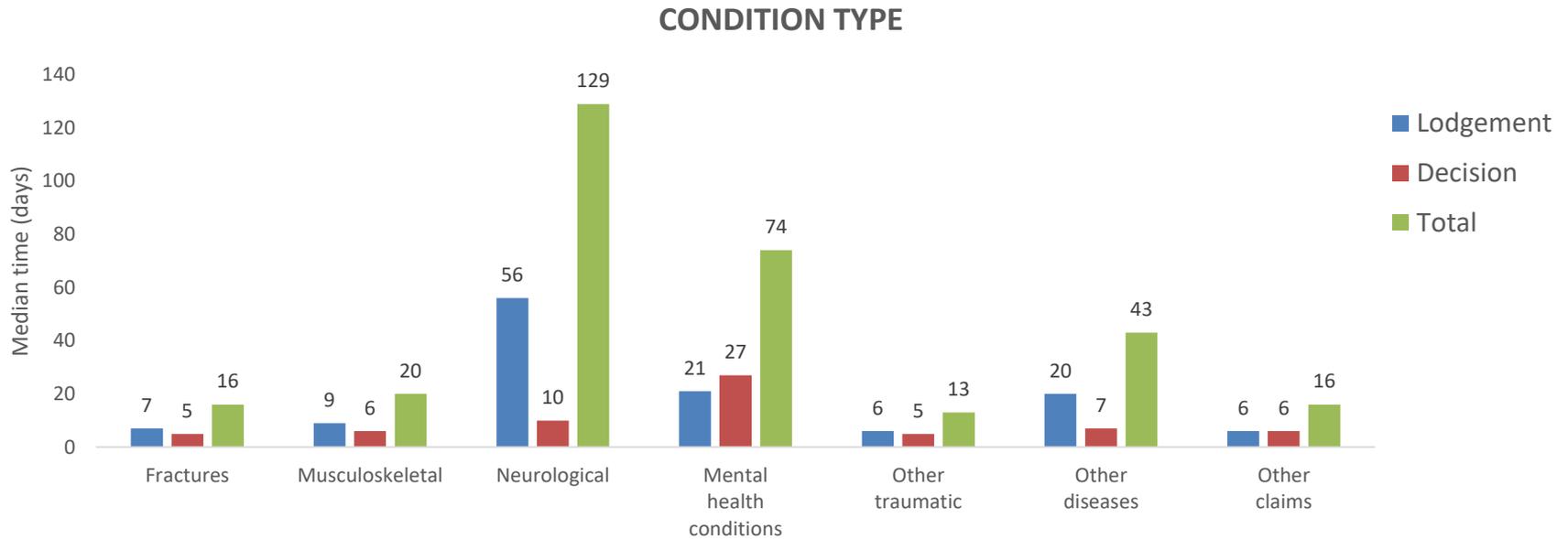


SELF-INSURER STATUS



- With increasing age, there is an increase in median time for claim lodgement, this is also true for claim decision time but the increase is not as large.
- There is a one-day difference between lodgement times for males and females, with females slightly longer. The difference is greater for total time, despite the same median decision time between sexes.
- Self-insurer claims have shorter lodgement and decision times than scheme managed claims.

Part 1: Median Claim Processing Times



- Neurological, mental health conditions and other diseases have the longest claim lodgement times.
- Neurological and mental health conditions have the longest insurer decision times.
- Medical only claims have a longer median time to claim lodgement, however decision times do not differ.

Part 1: Jurisdictional Differences

Figures: Median times (red) and interquartile ranges (blue) for lodgement, insurer decision and total time by jurisdiction

LODGEMENT TIME



TOTAL TIME



DECISION TIME



Claim processing times differed between jurisdictions.

VIC had the longest median lodgement time but was among the shortest decision time.

SA had the longest median decision time.

QLD had the least variability for both lodgement and decision time, and the shortest median total time.

Part 1: Changes in Claim Processing Over Time

Table: Median claim processing times by year and percentage change by jurisdiction

	Lodgement time			Decision time			Total time		
	2009/10	2015/16	% change	2009/10	2015/16	% change	2009/10	2015/16	% change
New South Wales	5	5	0%	6	7	17%	14	17	21%
Victoria	25	25	0%	4	5	25%	38	37	-3%
Queensland	7	5	-29%	3	5	67%	11	11	0%
Western Australia	8	14	75%	7	14	100%	22	51	132%
South Australia	15	14	-7%	5	6	20%	23	24	4%
Tasmania	16	10	-38%	1	5	400%	20	19	-5%
Northern Territory	16	15	-6%	5	7	40%	23	24	4%
Australian Capital Territory	7	7	0%	7	4	-43%	20	17	-15%
Overall	9	8	-11%	5	7	40%	19	20	5%

Part 1: Factors Associated With Claim Processing Times

Table: Factors significantly associated with claim processing times with their associated hazard ratio, ordered by strength of effect.

	LODGEMENT TIME	DECISION TIME	TOTAL TIME
 LONGER TIMES	Neurological conditions 0.34 Victoria 0.44 Northern Territory 0.57 Western Australia 0.59 Other diseases 0.59 Mental health conditions 0.64 Medical only claims 0.76 Australian Capital Territory 0.77 Tasmania 0.80	Mental health conditions 0.56 Neurological conditions 0.71	Neurological conditions 0.34 Mental health conditions 0.54 Other diseases 0.64 Victoria 0.73 Western Australia 0.80
SHORTER TIMES 	15-24 years 1.20 Fractures 1.23 Traumatic injury 1.33	15-24 years 1.21 Australian Capital Territory 1.26 Self-insurers 1.26 Tasmania 1.32 Traumatic injury 1.36 Northern Territory 1.49 Victoria 1.54 Queensland 1.80	Fractures 1.23 15-24 years 1.29 Traumatic injury 1.45 Queensland 1.63

*Only those with HRs at least 20% from the reference group were included (e.g. HR<0.80 or HR>1.20) despite other findings with a p-value<0.05.

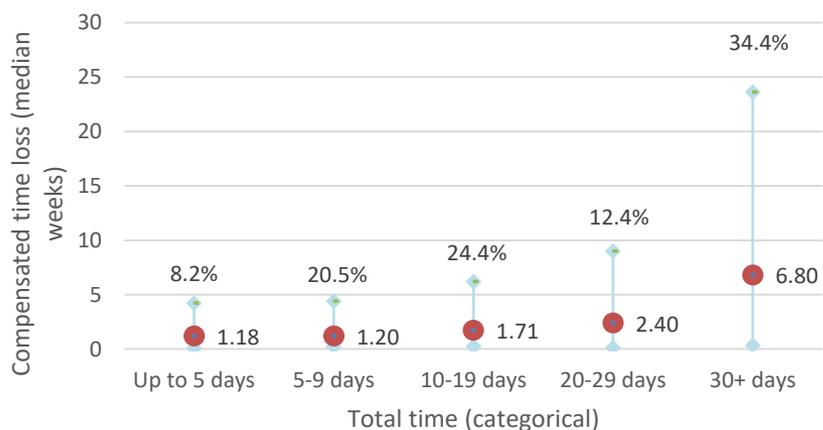
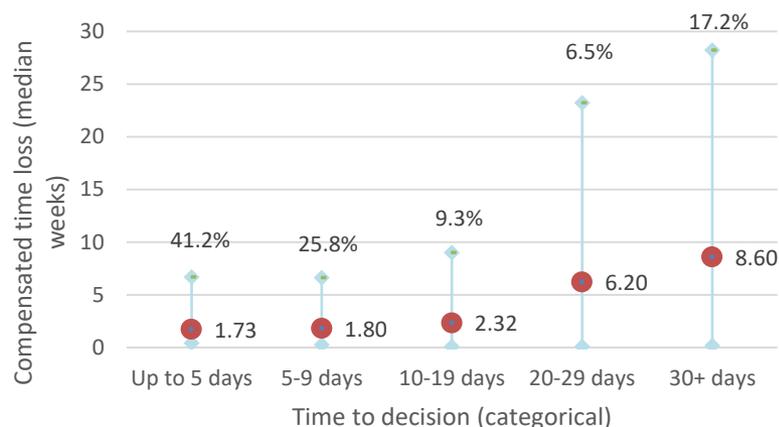
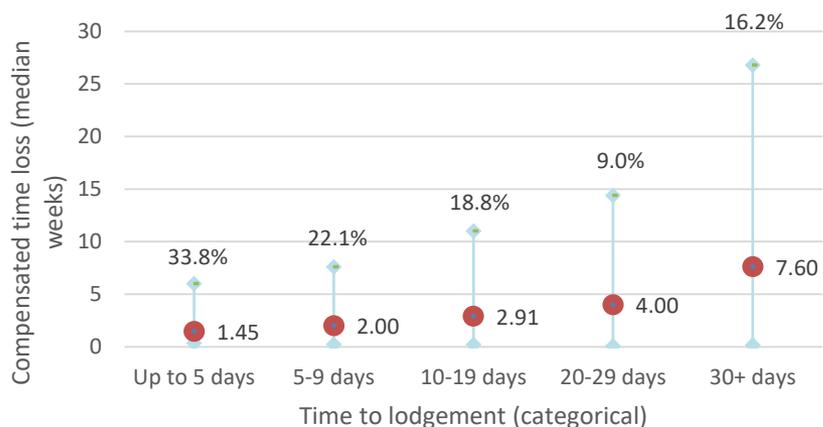
*To interpret hazard ratios: Greater distance from 1 indicates a stronger effect. E.g. Queensland had the shortest decision time of all factors.

Factors Associated With Claim Processing Times - Summary

- Claim processing times were consistently longer for claims involving neurological and mental health conditions.
- Claim processing times were consistently shorter for 15-24 year old workers, and those with traumatic injuries and fractures.
- Victoria, Northern Territory and Western Australia had the longest lodgement times of all jurisdictions.
- Queensland, Victoria and Northern Territory had the shortest decision times of all jurisdictions.

Part 2: Description Of Cohort By Claim Processing Time

Figures: Median compensated time loss (red) and interquartile range (blue) for each category of claim processing time, including proportion of cases within each category



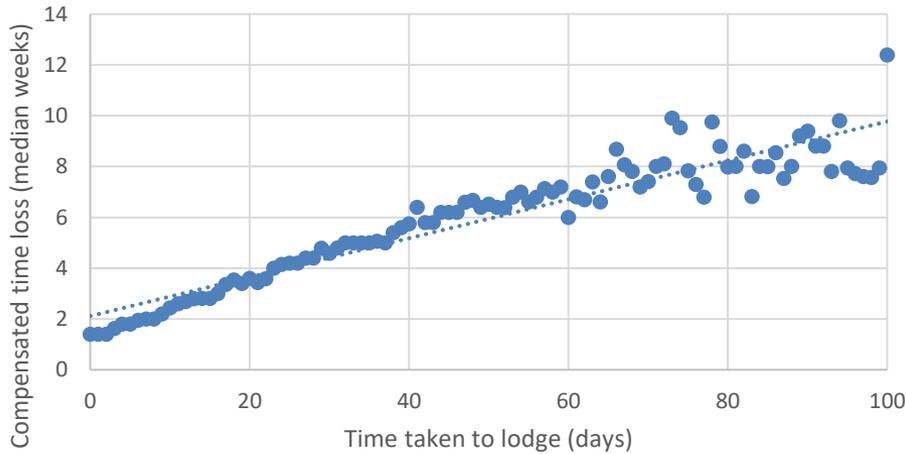
As claim processing time increased, so too did the median time loss.

More than 34% of claims take longer than 30 days between accident and insurer decision time. The median duration of these claims are 6.8 weeks, compared with 1.2 to 2.4 weeks for claims with shorter total times.

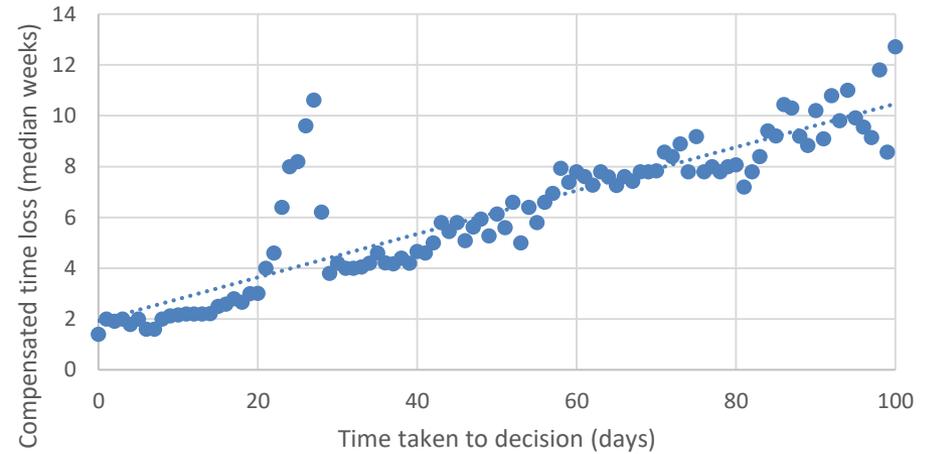
Part 2: Description Of Cohort By Claim Processing Time

Figures: Scatterplots of median weeks' compensated time loss by claim processing time

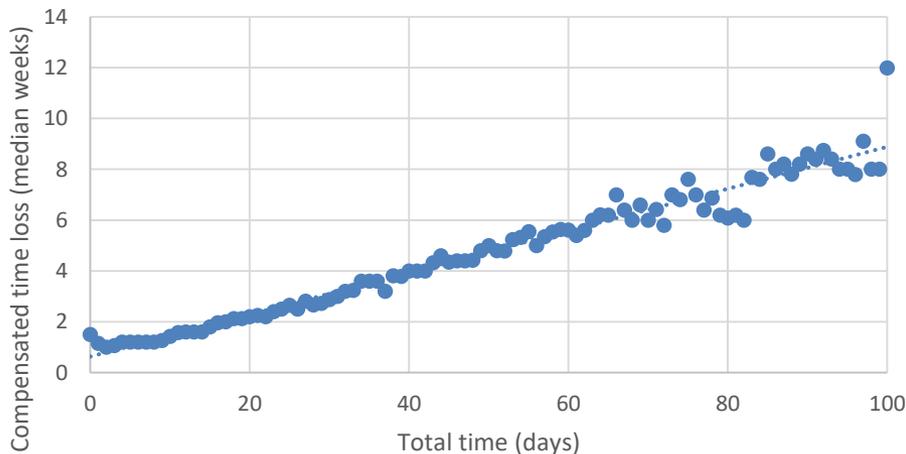
LODGEMENT TIME



DECISION TIME



TOTAL TIME



- These figures confirm what is shown in the previous slide that with increasing lodgement, decision and total time, the median duration of compensated time loss also increases.

Part 2: Factors Associated With Duration of Compensated Time Loss – Lodgement Time As A Predictor

Table: Factors significantly associated with duration of time loss inclusive of lodgement time as a predictor, ordered by strength of effect with their corresponding hazard ratio.

SIGNIFICANT PREDICTORS	
 LONGER DURATION OF TIME LOSS	30+ days lodgement time 0.60 Mental health conditions 0.65 Fractures 0.74 20-29 days lodgement time 0.75 South Australia 0.78
REFERENCE	Up to 5 days
SHORTER DURATION OF TIME LOSS 	Other claims 1.21 25-34 years old 1.22 Other diseases 1.22 Self-insurer 1.28 15-24 years old 1.45 Traumatic injury 1.56

After controlling for age, sex, type of condition and self-insurer status, longer lodgement times were significantly associated with longer duration of time loss.

Mental health conditions, fractures and making a claim in South Australia were also associated with longer time loss.

*Only statistically significant ($p < 0.05$) HRs that were at least 20% from the reference group were included (e.g. $HR < 0.80$ or $HR > 1.20$) despite other findings with a p -value < 0.05 .

*All models included age, sex, condition type and self-insurer status.

*To interpret hazard ratios: Greater distance from 1 (reference) indicates a stronger effect. E.g. Lodgement time > 30 days has the longest time loss, traumatic injury has the shortest time loss.

Part 2: Factors Associated With Duration of Compensated Time Loss – Decision Time As A Predictor

Table: Factors significantly associated with duration of time loss inclusive of decision time as a predictor, ordered by strength of effect with their corresponding hazard ratio.

SIGNIFICANT PREDICTORS	
 LONGER DURATION OF TIME LOSS	30+ days decision time 0.52 Victoria 0.63 Northern Territory 0.66 20-29 days decision time 0.70 Mental health conditions 0.72 Fractures 0.74 Australian Capital Territory 0.76 Western Australia 0.80
	REFERENCE
SHORTER DURATION OF TIME LOSS 	Up to 5 days 25-34 years old 1.21 Self-insurer 1.24 Other claims 1.25 15-24 years old 1.43 Traumatic injury 1.56

After controlling for age, sex, type of condition and self-insurer status, longer decision times were significantly associated with longer duration of time loss.

Workers from Victoria, Northern Territory, ACT and Western Australia had significantly longer time loss than the reference jurisdiction of New South Wales.

Mental health conditions and fractures were also associated with longer time loss.

*Only statistically significant ($p < 0.05$) HRs that were at least 20% from the reference group were included (e.g. $HR < 0.80$ or $HR > 1.20$) despite other findings with a p -value < 0.05 .

*All models included age, sex, condition type and self-insurer status.

*To interpret hazard ratios: Greater distance from 1 (reference) indicates a stronger effect. E.g. Decision time > 30 days has the longest time loss, traumatic injury has the shortest time loss.

Part 2: Factors Associated With Duration of Compensated Time Loss – Total Time As A Predictor

Table: Factors significantly associated with duration of time loss inclusive of total time as a predictor, ordered by strength of effect with their corresponding hazard ratio.

SIGNIFICANT PREDICTORS	
 LONGER DURATION OF TIME LOSS	<p>30+ days 0.53 Mental health conditions 0.71 Fractures 0.71 20-29 days 0.79 Victoria 0.79 Northern Territory 0.80 Australian Capital Territory 0.80</p>
REFERENCE	Up to 5 days
SHORTER DURATION OF TIME LOSS 	<p>25-34 years 1.20 Other claims 1.23 Self-insurer 1.24 Other diseases 1.25 15-24 years old 1.42 Traumatic injury 1.51</p>

After controlling for age, sex, type of condition and self-insurer status, longer total times were significantly associated with longer duration of time loss.

Workers from Victoria, Northern Territory and ACT had significantly longer time loss than the reference jurisdiction of New South Wales.

Mental health conditions and fractures were also associated with longer time loss.

*Only statistically significant ($p < 0.05$) HRs that were at least 20% from the reference group were included (e.g. $HR < 0.80$ or $HR > 1.20$) despite other findings with a p -value < 0.05 .

*All models included age, sex, condition type and self-insurer status.

*To interpret hazard ratios: Greater distance from 1 (reference) indicates a stronger effect. E.g. Total processing time of more than 30 days has the longest time loss, traumatic injury has the shortest time loss.

After controlling for age, sex, injury type, self-insurer status and jurisdiction, claim processing times still had a statistically significant effect on time loss.

- Lodgement time:
 - With longer time to lodgement there is greater likelihood of longer duration of time loss.
- Decision time:
 - With longer time to decision there is greater likelihood of longer duration of time loss.
- Total time:
 - With longer total time there is greater likelihood of longer duration of time loss.

- There were significant jurisdictional differences with respect to both claim processing times and compensated time loss.
- There were no major differences in claim processing times between sexes.
- There were significant variations in claim processing times between injury types, namely:
 - Longer processing times for neurological conditions and mental health conditions
 - Shorter processing times for fractures and other traumatic injuries
- Younger workers had significantly lower claim processing times and compensated time loss than 45-54 year olds.
- Self-insured organisations had shorter lodgement and decision times than scheme-managed claims.
- **There was a relationship between claim processing times and compensated time loss: time loss increases as claim processing times increase.**

- This is the first study to demonstrate that claim processing times are associated with duration of time loss across multiple Australian workers' compensation jurisdictions.
- The magnitude of the relationship between claim processing times and duration of time loss was as large or larger than that observed for other factors that have been shown to affect duration including injury type, age and jurisdiction.
- Claim processing times are modifiable (Lane et al. 2018) and therefore reducing these times could reduce time on income replacement benefits and may support earlier returns to work.
- Some groups of workers have longer processing times (e.g. workers with mental health and neurological claims), and these groups may benefit the most from interventions that seek to reduce claim processing times.

Strengths

- Very large national dataset
- All major workers' compensation jurisdictions represented except for Comcare
- Multiple worker, injury, demographic, claim and employer factors recorded

Limitations

- Administrative dataset not collected for the purposes of research
- Potential for data entry errors - claim processing times were reliant on accurate dates being recorded in the date of lodgement, date of accident and date of decision data fields.
- Data is cross sectional in nature and thus cannot identify causal pathways. Findings shown are associations between variables and do not imply causality.

Grant, G.M., et al., Relationship Between Stressfulness of Claiming for Injury Compensation and Long-term Recovery: A Prospective Cohort Study. *JAMA Psychiatry*, 2014. **71**(4):446-53. DOI: 10.1001/jamapsychiatry.2013.4023.

Link - <https://www.ncbi.nlm.nih.gov/pubmed/24522841>

Sinnott, P. Administrative Delays and Chronic Disability in Patients with Acute Occupational Low Back Injury. *Journal of Occupational and Environmental Medicine*, 2009. **51**(6),690-99. DOI: 10.1097/JOM.0b013e3181a033b5.

Link - <https://www.ncbi.nlm.nih.gov/pubmed/19430316>

Cocker, F., et al., *The Association Between Time Taken to Report, Lodge and Start Wage Replacement and Return-to-work Outcomes*. *Journal of Occupational and Environmental Medicine*, 9000. Publish Ahead of Print.

Link - <https://www.ncbi.nlm.nih.gov/labs/journals/j-occup-enviro-med/new/2018-02-09/>

Lane, T.J., et al., Effectiveness of employer financial incentives in reducing time to report worker injury: an interrupted time series study of two Australian workers' compensation jurisdictions. *BMC Public Health*, 2018. 18:100. DOI: 10.1186/s12889-017-4998-9

Link - <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-017-4998-9>

- More detailed data tables can be accessed through contacting the first author Shannon Gray (shannon.gray@monash.edu or 03 9903 0660).

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