

The impact of legislative change: Natural policy experiments.

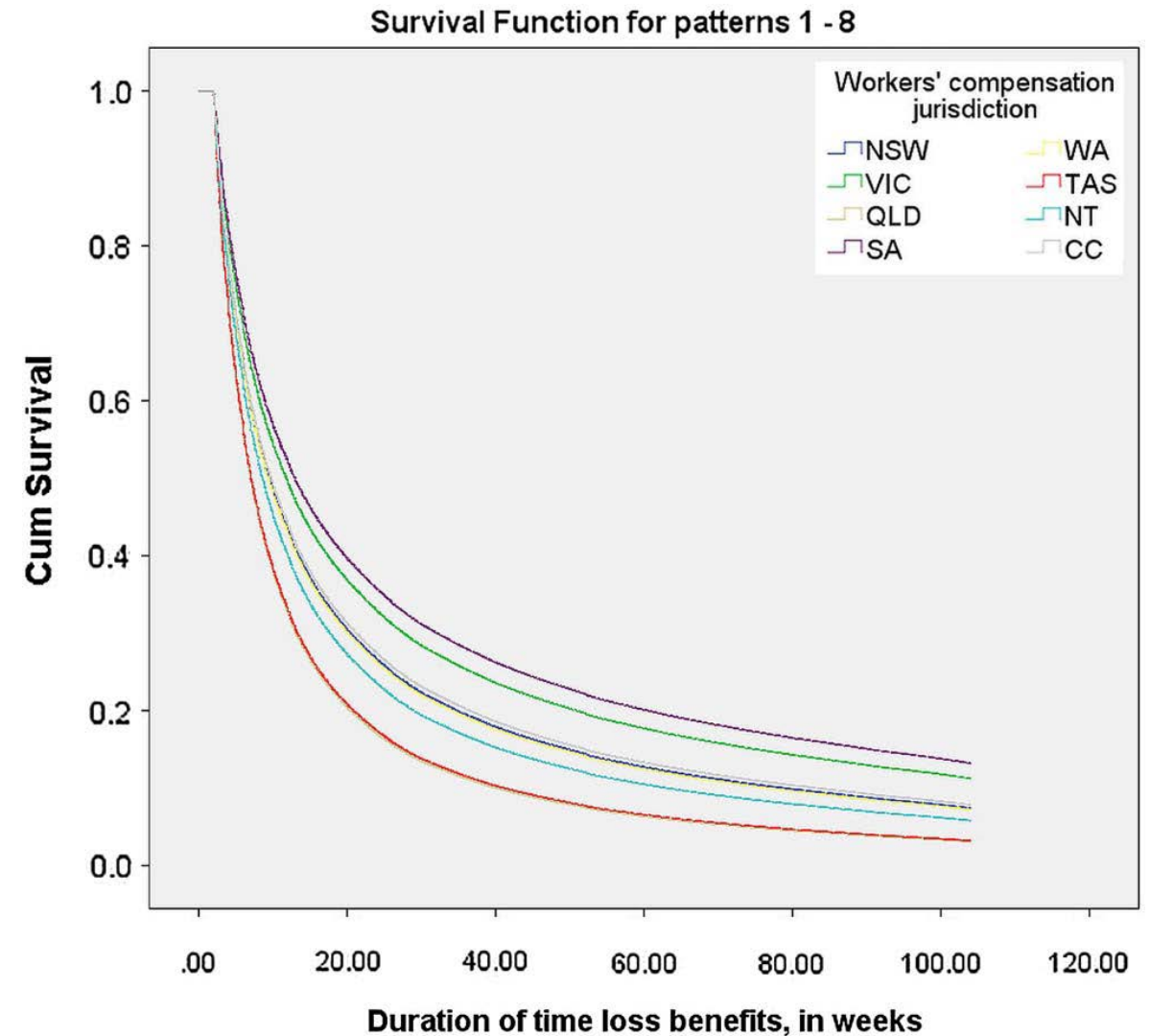
Dr Tyler Lane

Post-doctoral Research Fellow, Insurance Work and Health Group,
Faculty of Medicine Nursing and Health Sciences, Monash
University



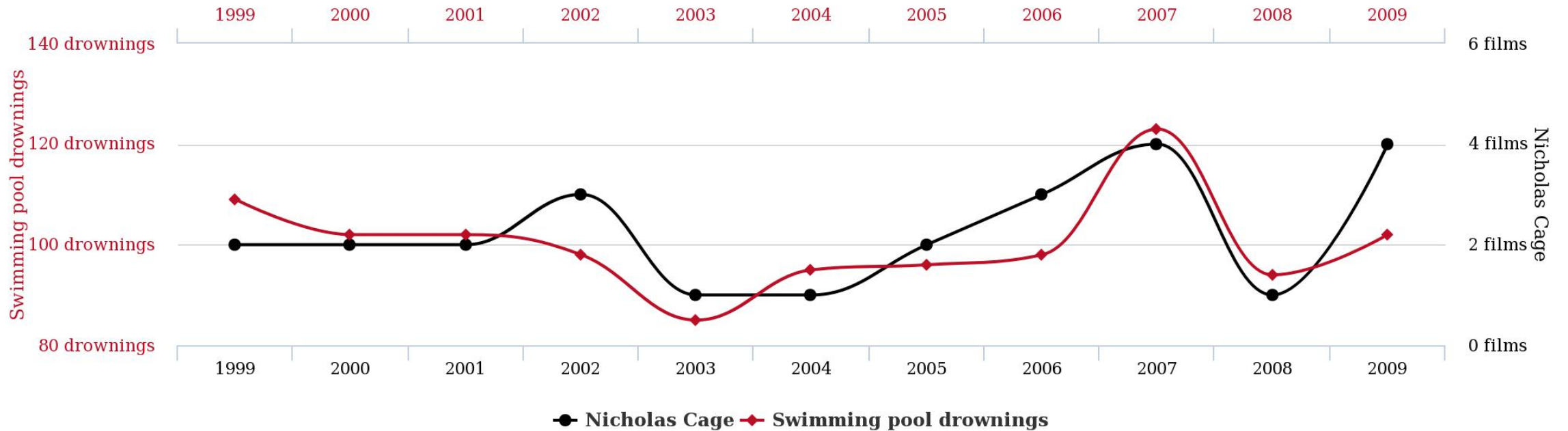
HOW CAN WE ANALYSE POLICY IMPACT?

- Clear differences between jurisdictions
 - What policies led to these variations?
- Direct comparison?
 - Too many policy variations
 - Jurisdictions vary in other ways: population, economy, geography, etc.



"CORRELATION DOES NOT IMPLY CAUSATION"

Number of people who drowned by falling into a pool correlates with Films Nicolas Cage appeared in

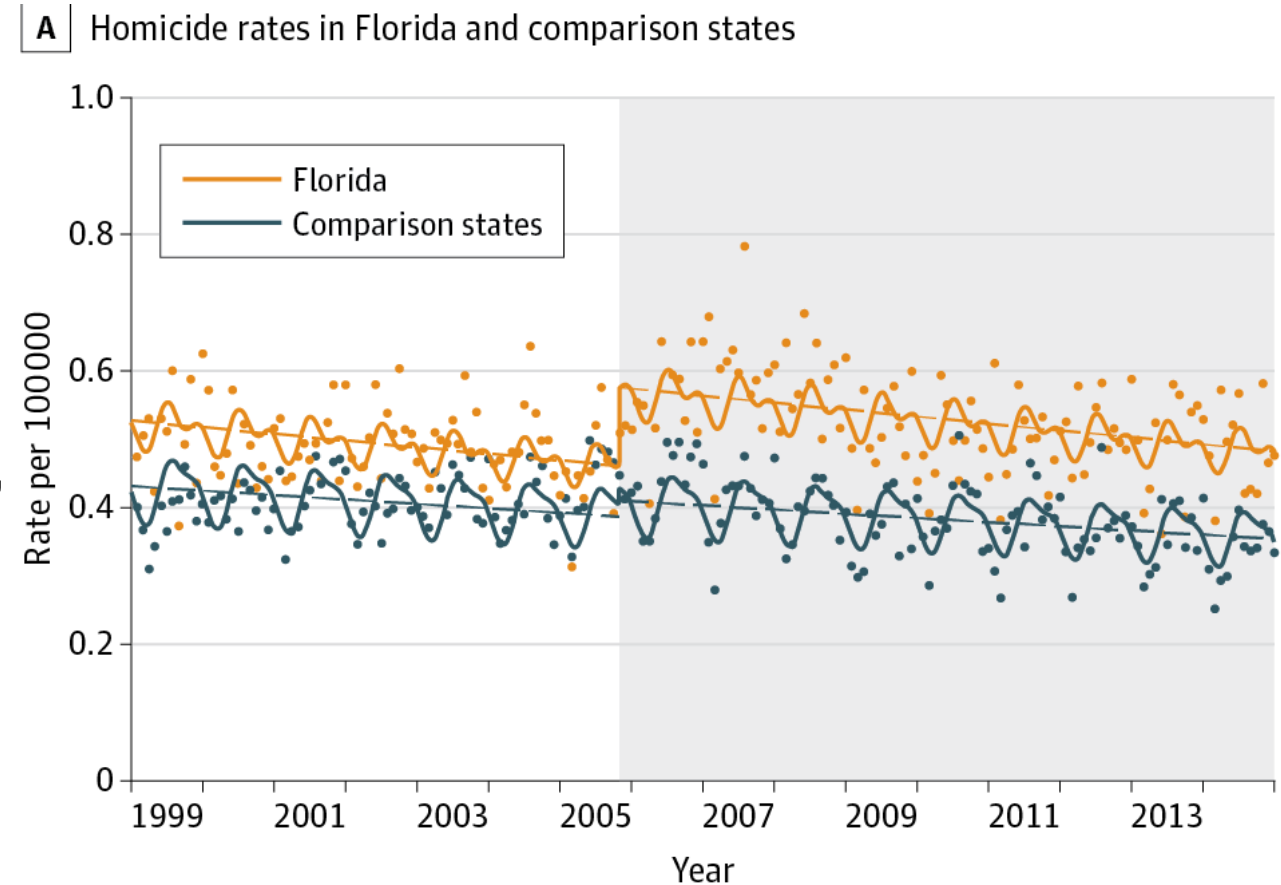


tylervigen.com

- We *do* have ways to test policy impact
 - Natural and quasi-experiments
 - Exposure cannot be randomly allocated, but also not under researcher's control
- Provides counterfactual estimates
 - *What would have happened without policy*
- Famous example: 1854 Broad Street Cholera Outbreak
 - Infection rates much higher around water pump sourced downstream from the City
 - Disproved the miasma theory of transmission, linked infection to contaminated drinking water
 - Key: conclusion reached by comparing users of different water pumps

OUR APPROACH: THE INTERRUPTED TIME SERIES

- **Before-and-after study**
 - Among most robust quasi-experimental study designs
 - Key advantage: adjusts for pre-existing trend
- **Example right: “Stand Your Ground” law and homicide in Florida (Humphreys et al 2016)**
 - Homicides up 0.1 per 100k each month
 - In state of 20 million, that’s 240 people per year!

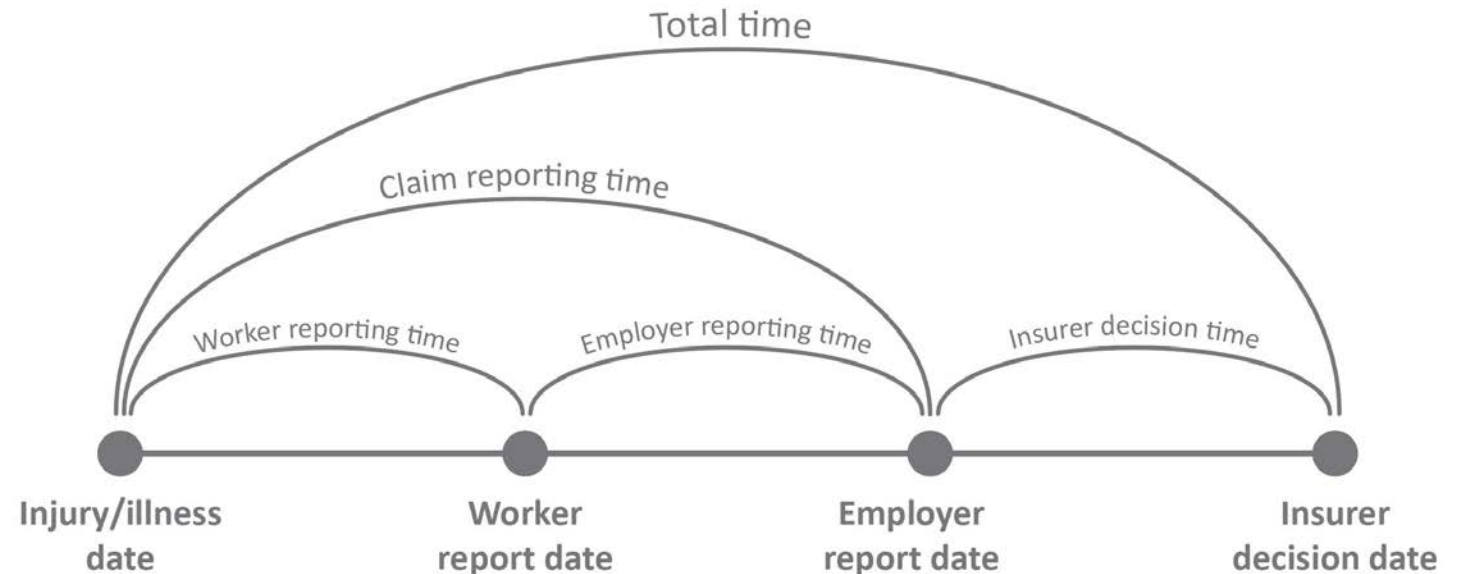


FINANCIAL INCENTIVES TO REPORT WORKPLACE INJURIES MORE QUICKLY: AN ANALYSIS OF POLICY IN SOUTH AUSTRALIA AND TASMANIA

Tyler Lane, Shannon Gray, Behrooz Hassani-Mahmooei, and Alex Collie

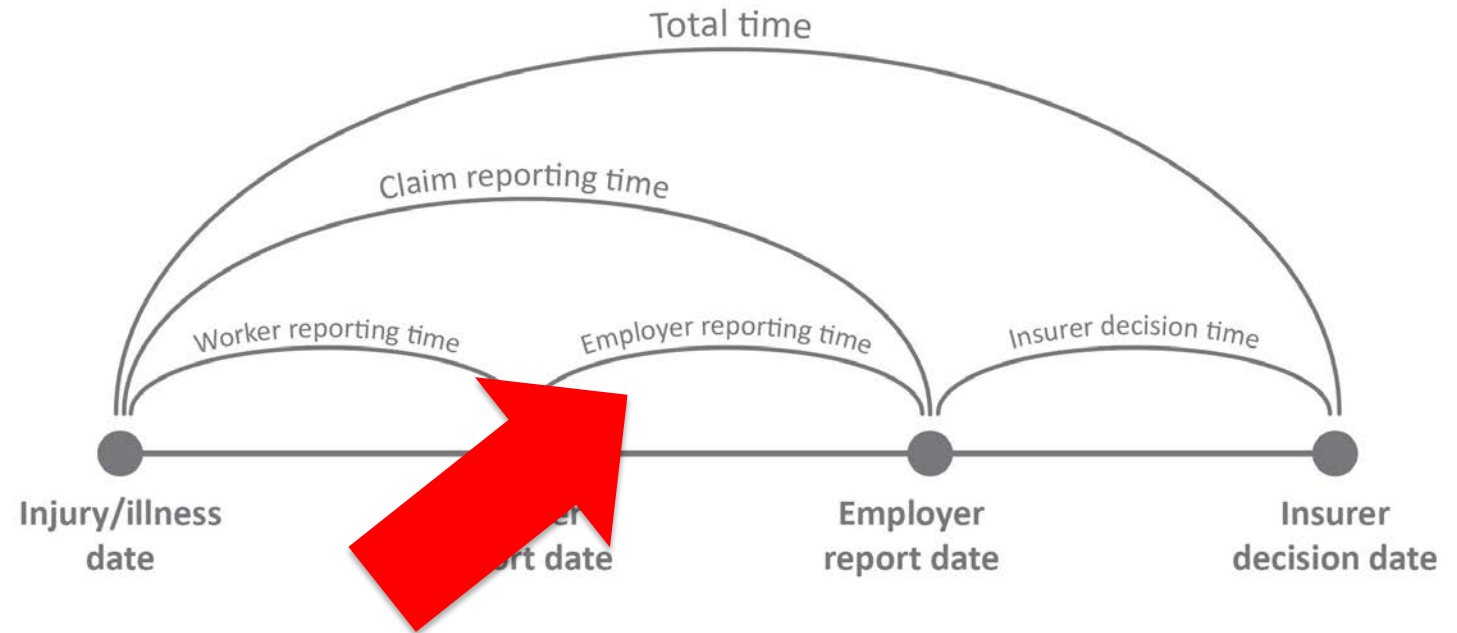
CLAIM LODGEMENT PROCESS

- Delays in claim lodgement process
 - Increase time off work (Cocker et al, 2018; Gray et al, forthcoming)
 - Can lead to poorer mental & physical health (Grant et al, 2014)
- Faster employer reporting may accelerate process, lead to faster treatment and better outcomes for injured workers
 - Financial incentives for employers proposed (Clayton 2007; Clayton & Walsh 2007)



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EARLY REPORTING INCENTIVES



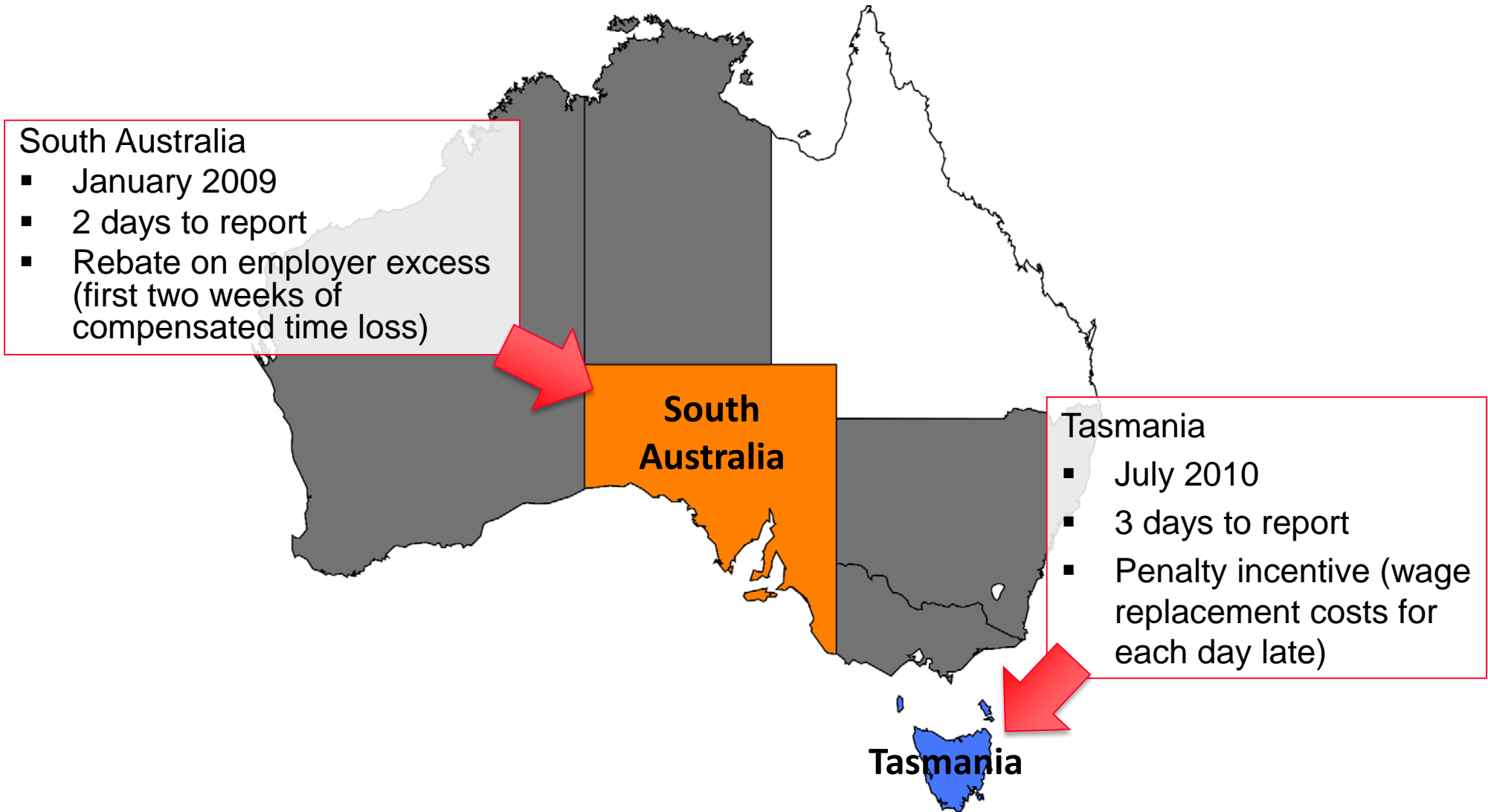
EARLY REPORTING INCENTIVES

South Australia

- January 2009
- 2 days to report
- Rebate on employer excess (first two weeks of compensated time loss)



EARLY REPORTING INCENTIVES



Did incentives reduce time in the claim lodgement process?

DATA PROCESSING

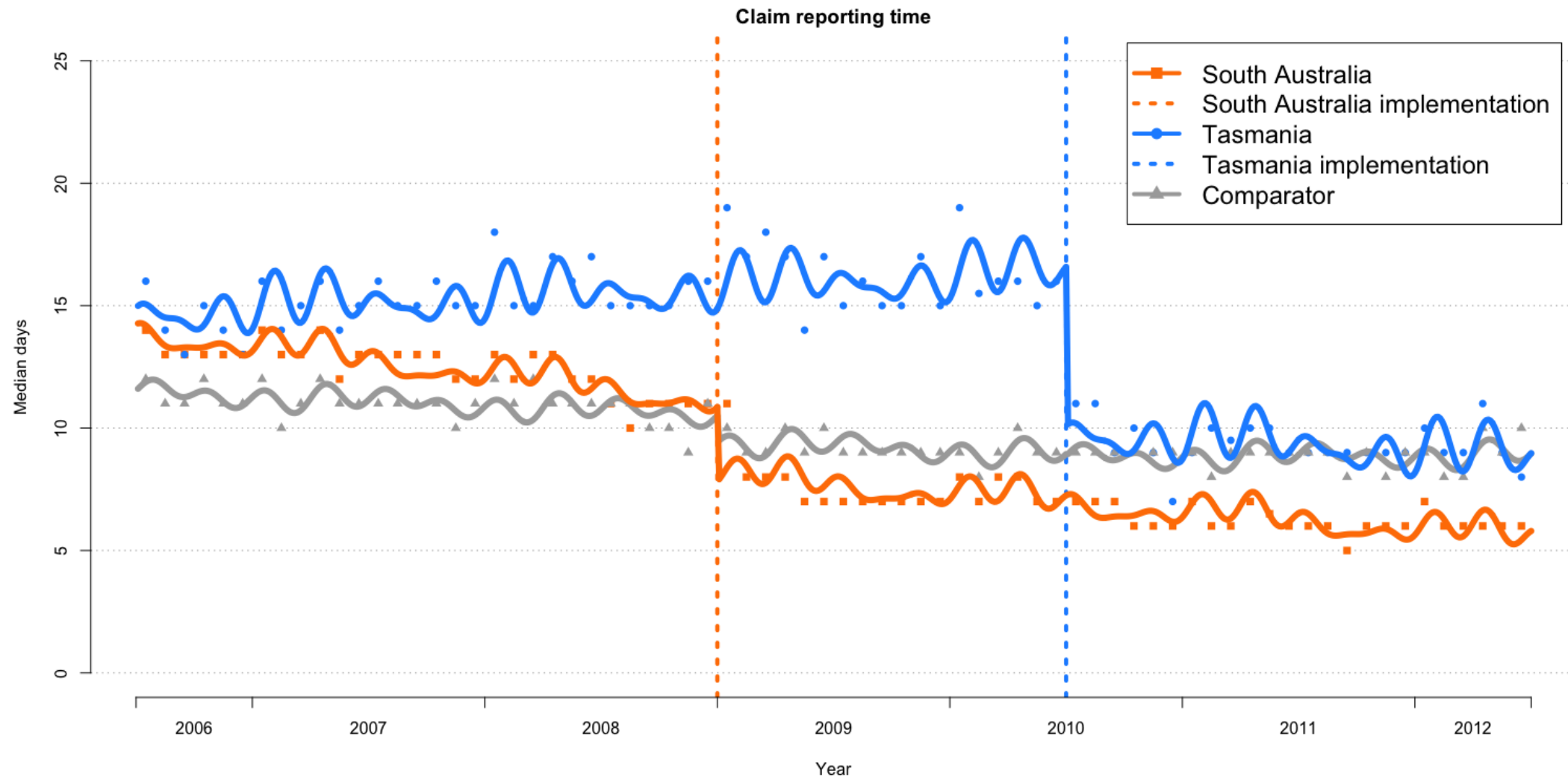
Aggregate by jurisdiction and month of report/lodgement

Claim ID	Workers' compensation jurisdiction	Date of accident	Date of worker report	Date of employer report	Date of insurer decision	Workers' compensation jurisdiction	Month of report/lodgement	Median claim reporting time	Median insurer decision time	Median total time
xx001	Tasmania	04/07/76	14/07/89	05/11/05	08/11/16	South Australia	Jan 08	7	2	11
xx002	South Australia	04/07/76	14/07/89	05/11/05	08/11/16	South Australia	Feb 08	8	3	12
xx003	New South Wales	04/07/76	14/07/89	05/11/05	08/11/16	South Australia	Mar 08	7	2	12
xx004	South Australia	04/07/76	14/07/89	05/11/05	08/11/16	South Australia	Apr 08	6	2	13
xx005	Northern Territory	04/07/76	14/07/89	05/11/05	08/11/16	South Australia	May 08	7	2	10
xx006	Tasmania	04/07/76	14/07/89	05/11/05	08/11/16	Tasmania	Jan 08	4	3	5
xx007	New South Wales	04/07/76	14/07/89	05/11/05	08/11/16	Tasmania	Feb 08	4	6	8
xx008	Victoria	04/07/76	14/07/89	05/11/05	08/11/16	Tasmania	Mar 08	3	5	5
xx009	Tasmania	04/07/76	14/07/89	05/11/05	08/11/16	Tasmania	Apr 08	6	6	5
xx010	Western Australia	04/07/76	14/07/89	05/11/05	08/11/16	Tasmania	May 08	3	5	7
xx011	New South Wales	04/07/76	14/07/89	05/11/05	08/11/16	Comparator	Jan 08	9	5	16
xx012	Western Australia	04/07/76	14/07/89	05/11/05	08/11/16	Comparator	Feb 08	7	5	17
xx013	South Australia	04/07/76	14/07/89	05/11/05	08/11/16	Comparator	Mar 08	6	4	16
xx014	Victoria	04/07/76	14/07/89	05/11/05	08/11/16	Comparator	Apr 08	8	4	17
xx015	Northern Territory	04/07/76	14/07/89	05/11/05	08/11/16	Comparator	May 08	8	4	17

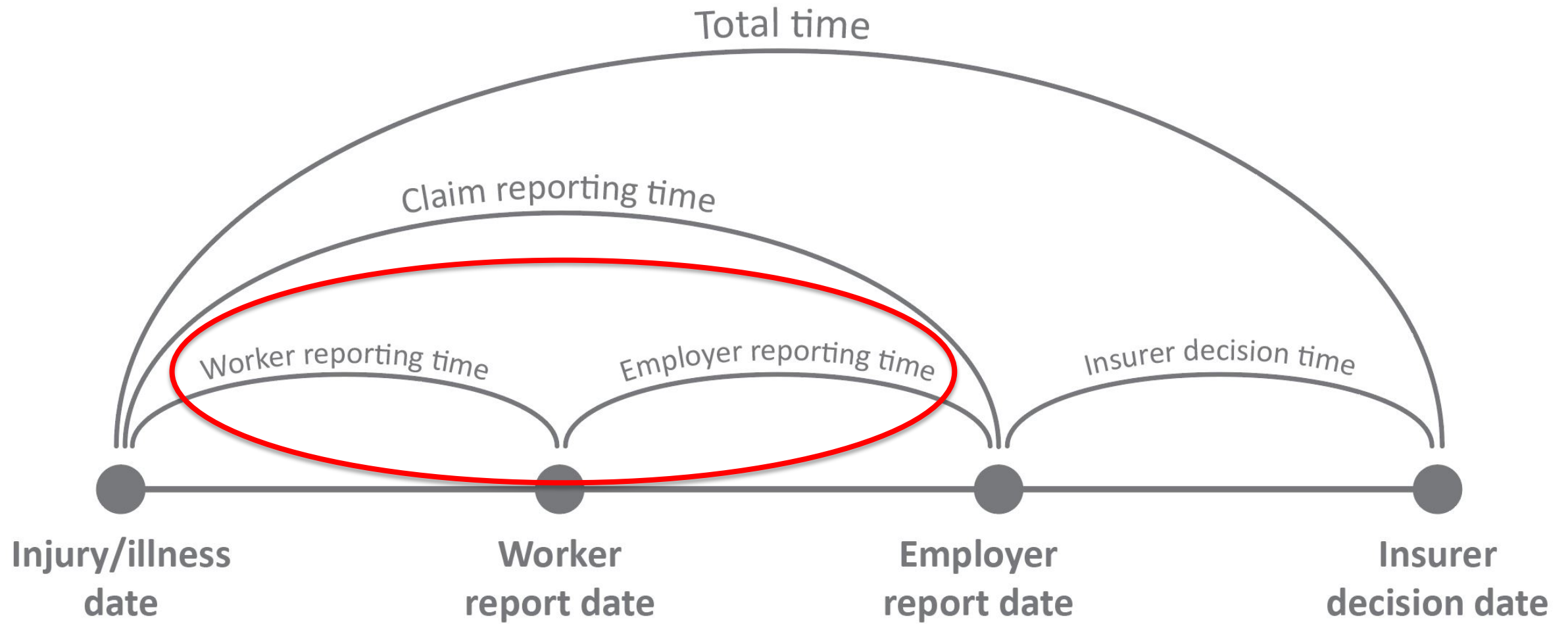
CLAIM REPORTING TIME



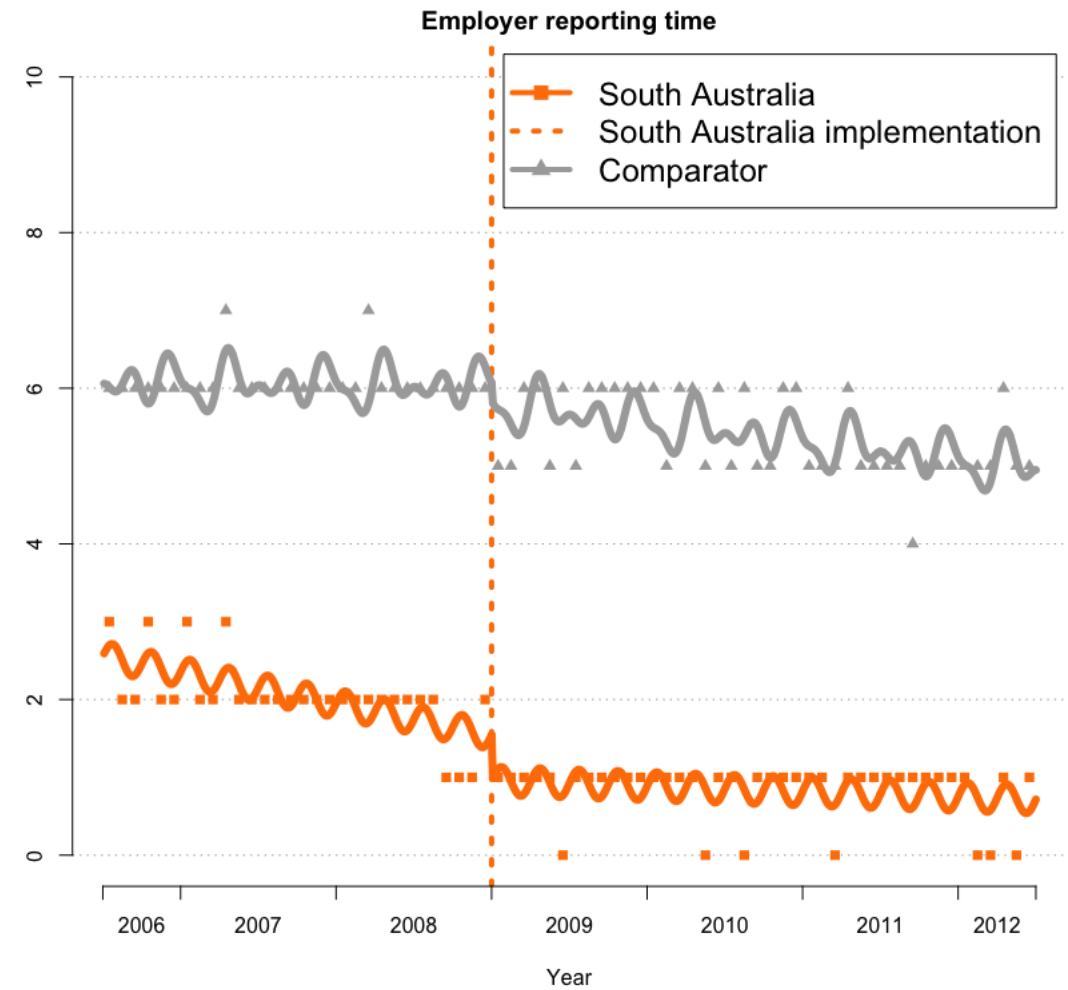
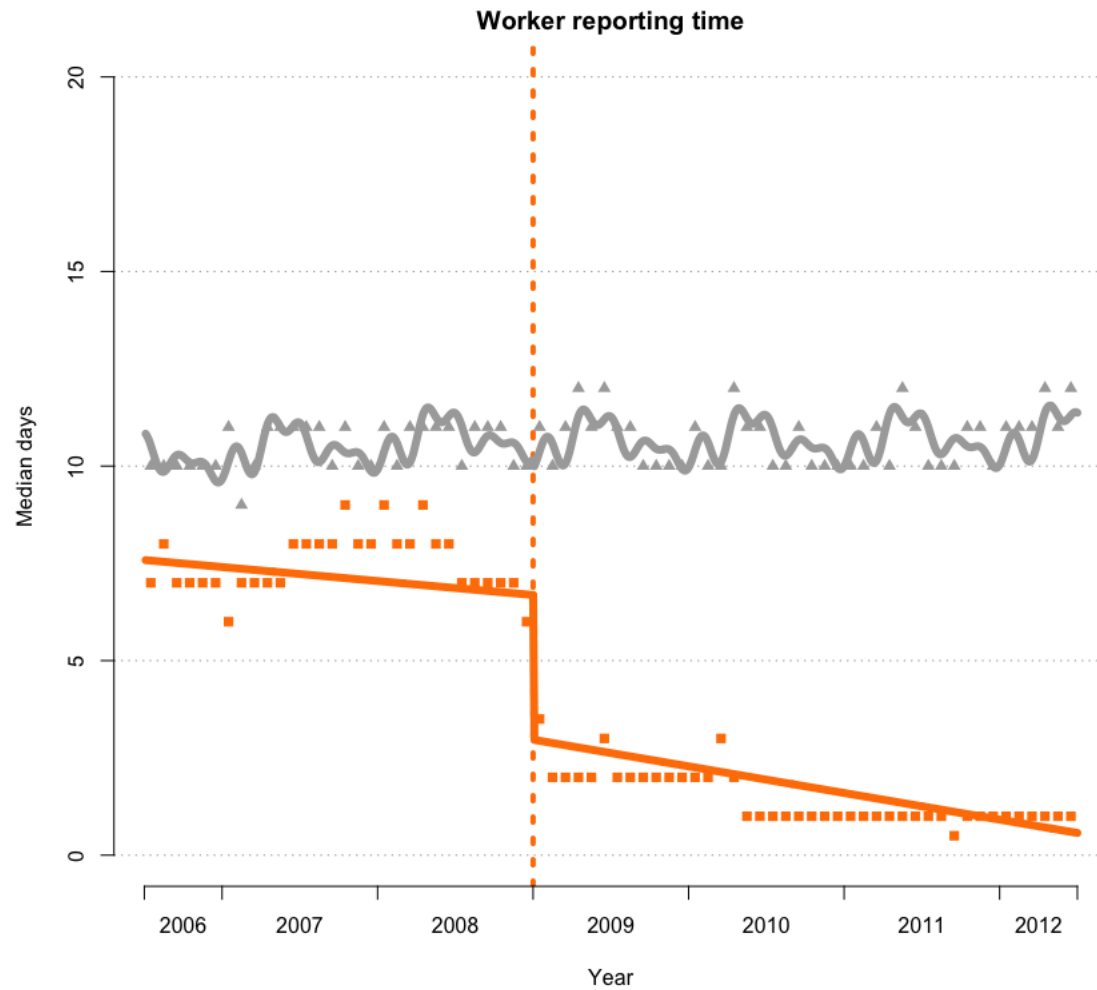
CLAIM REPORTING TIME



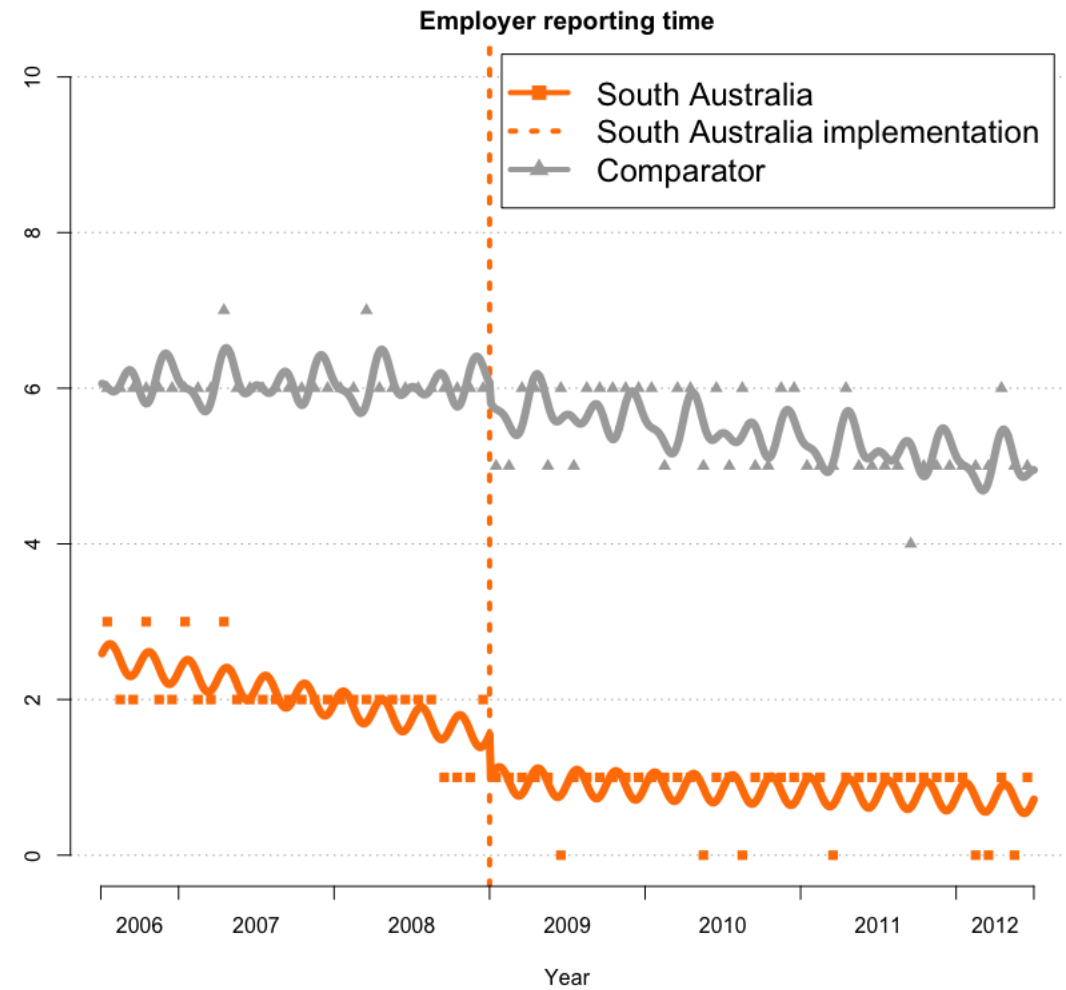
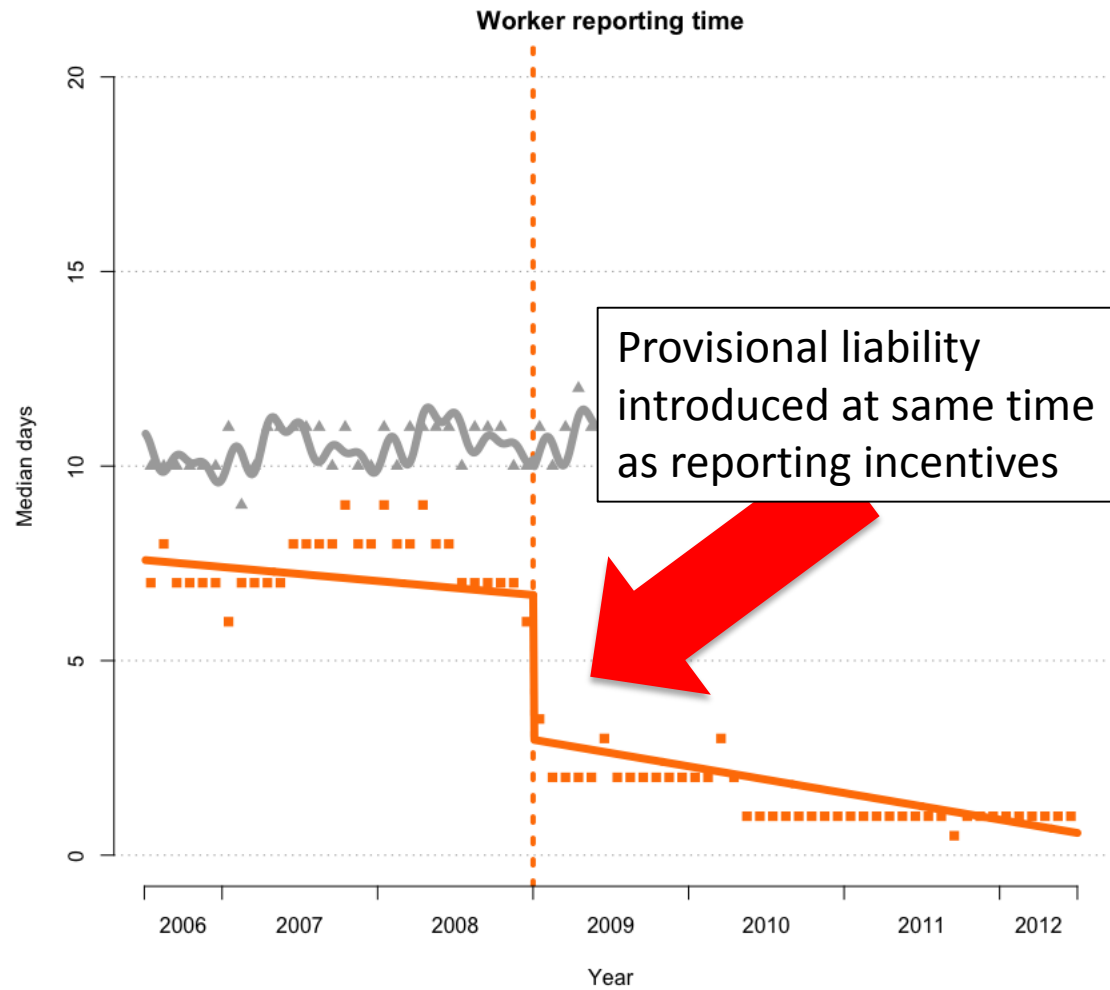
WORKER & EMPLOYER REPORTING TIME



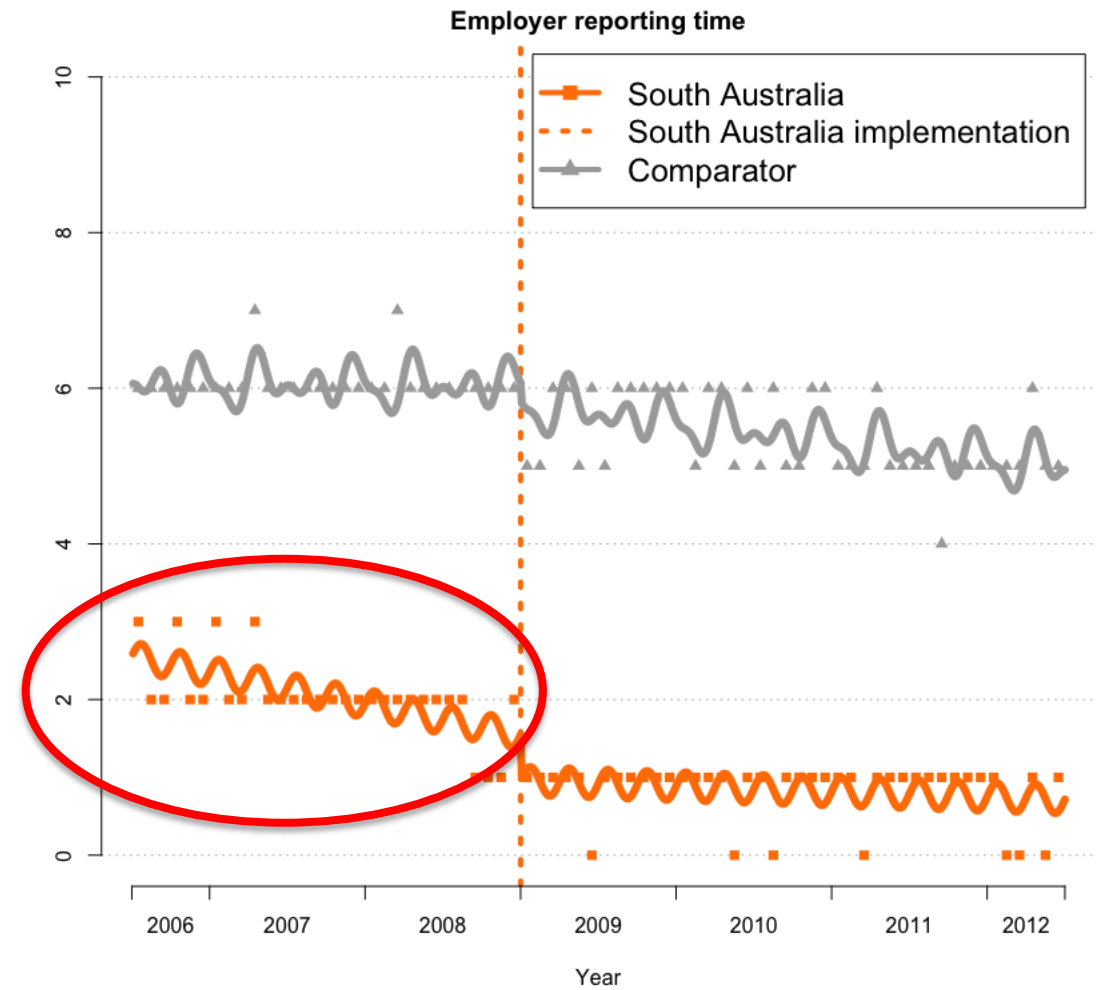
WORKER & EMPLOYER REPORTING TIME



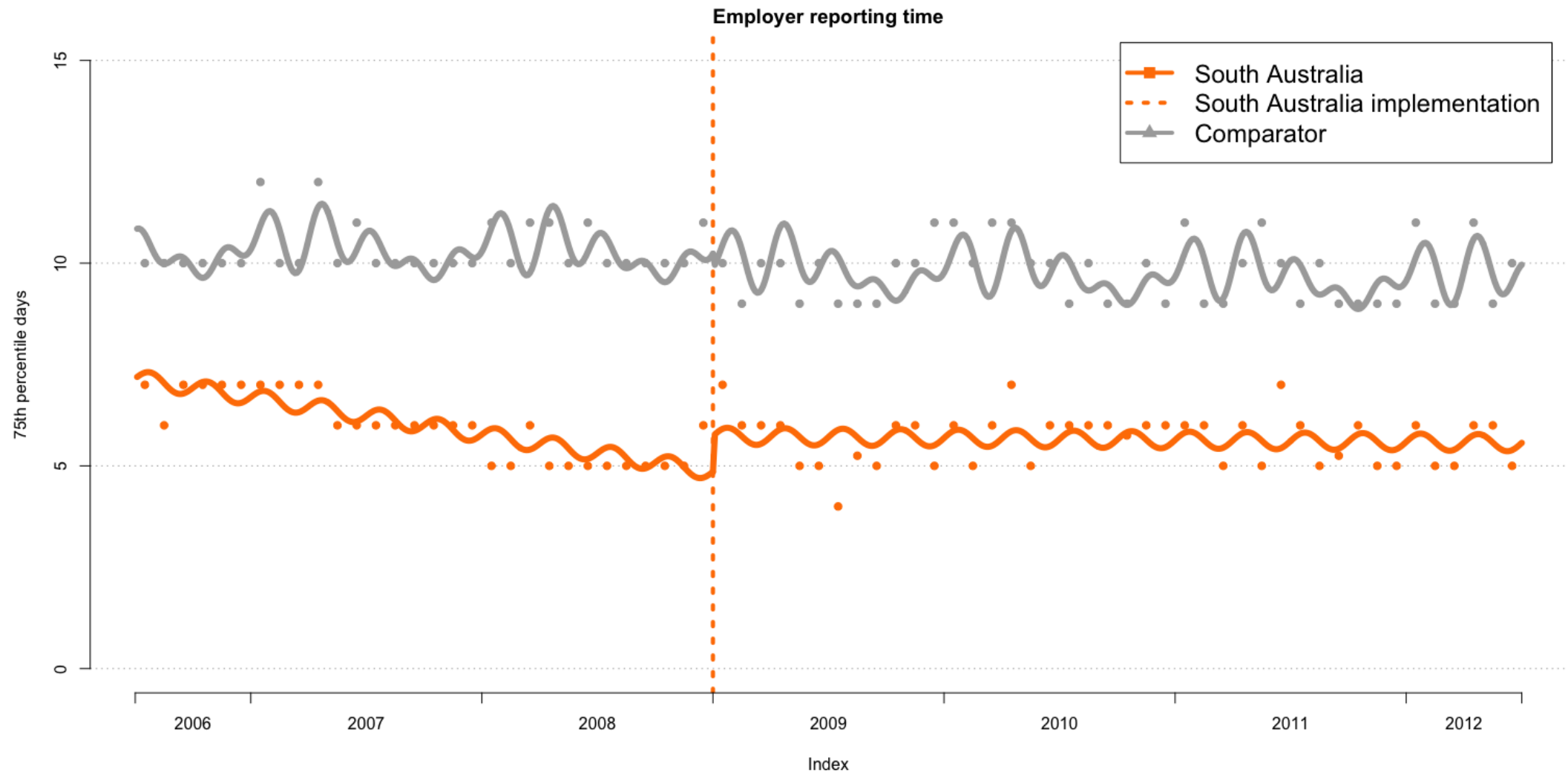
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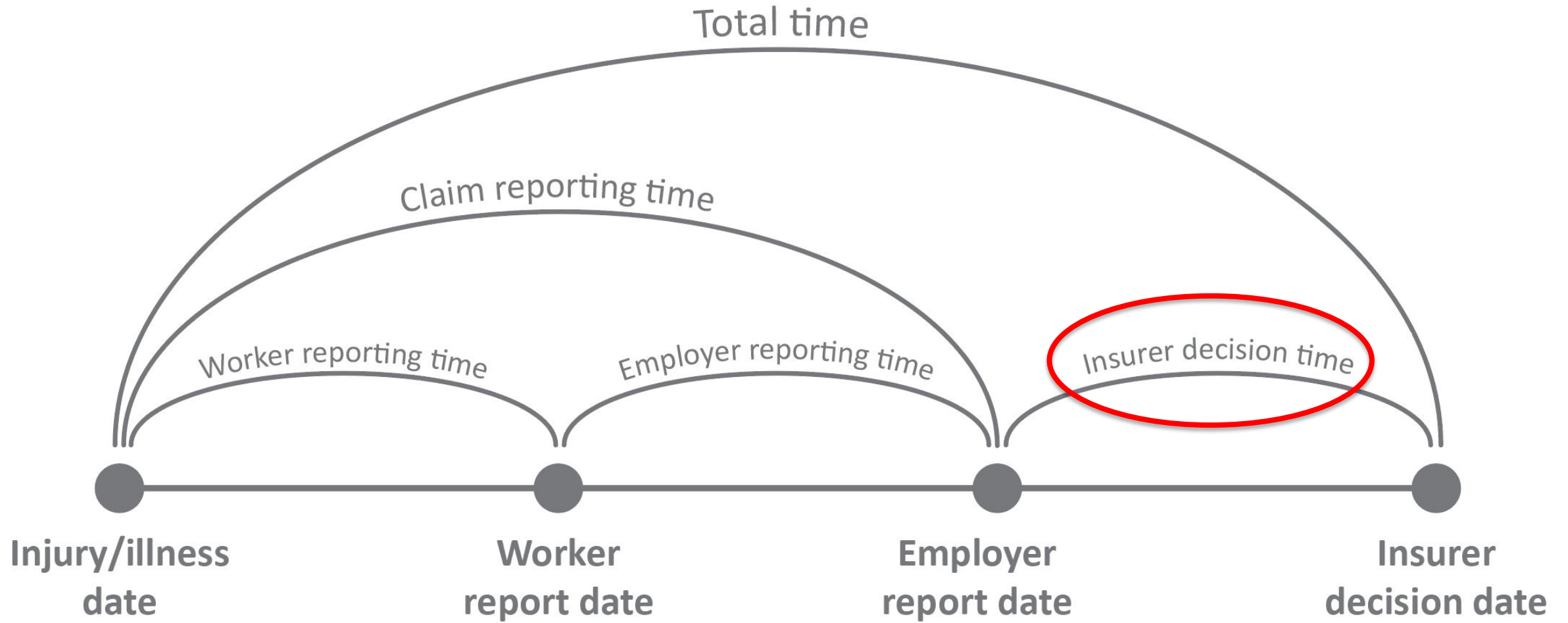
WORKER & EMPLOYER REPORTING TIME



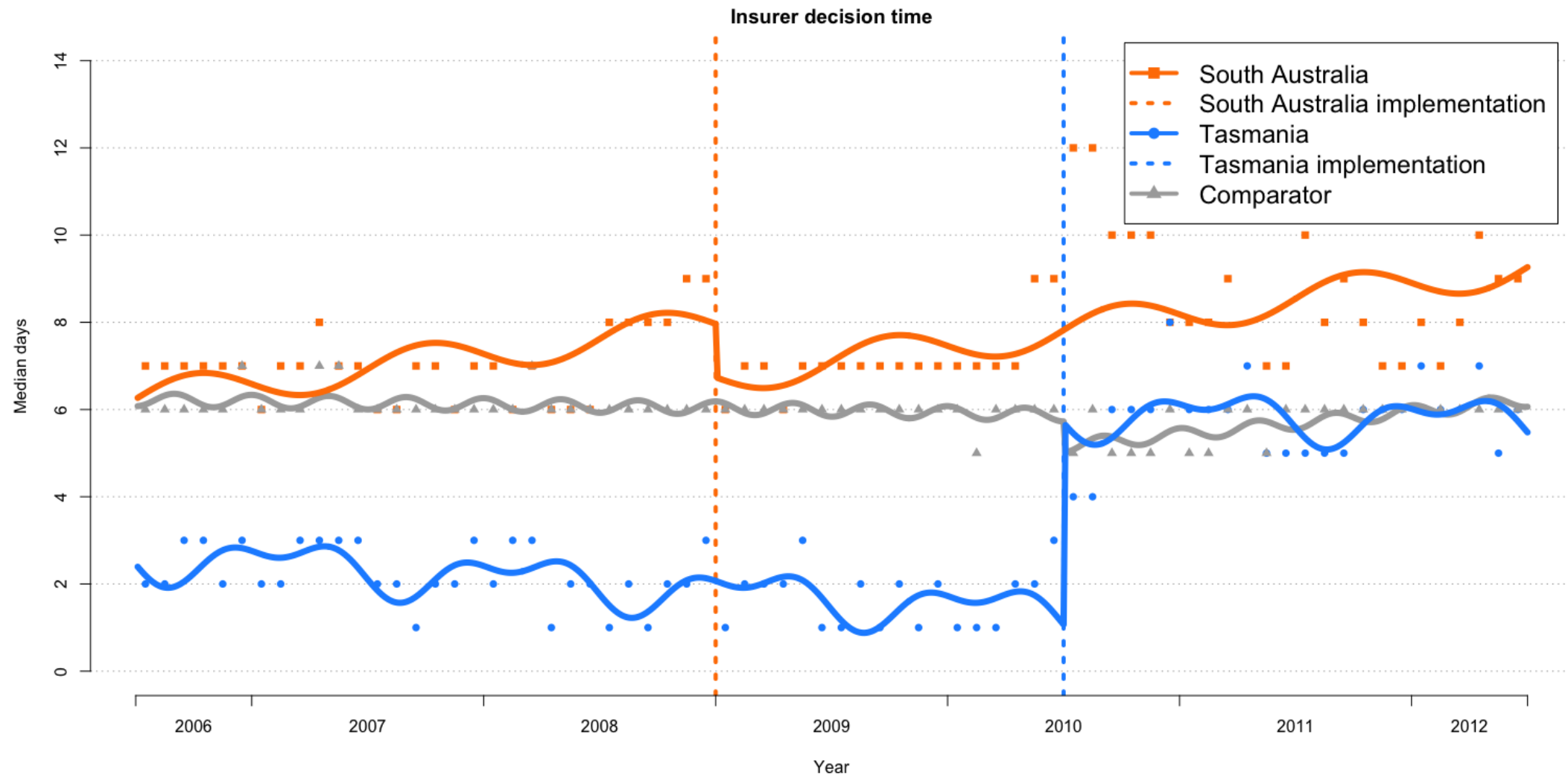
EMPLOYER REPORTING TIME – LONGER-DURATIONS (75TH PERCENTILE)



INSURER DECISION TIME



INSURER DECISION TIME



WHAT HAPPENED TO INSURER DECISION TIME?

- Patterns suggest cause was administrative burden of implementing new policies at the insurer level
 - Incentives part of broader WC legislative packages
 - Administrative burden beyond just implementing incentives!
 - In South Australia, increase coincided with implementation of first wave of larger WC legislation
 - South Australia's legislation introduced in five waves over two years, distributing burden over time
 - Tasmania's implemented all at once, concentrating burden at one point
 - Magnitude of effect much greater in Tasmania
 - Smaller insurers, have lower capacity to implement new policy changes
 - At implementation of incentives:
 - Tasmania: 9000 claims per annum, 7 insurers
 - South Australia: 27,000 claims per annum, 1 claims agent

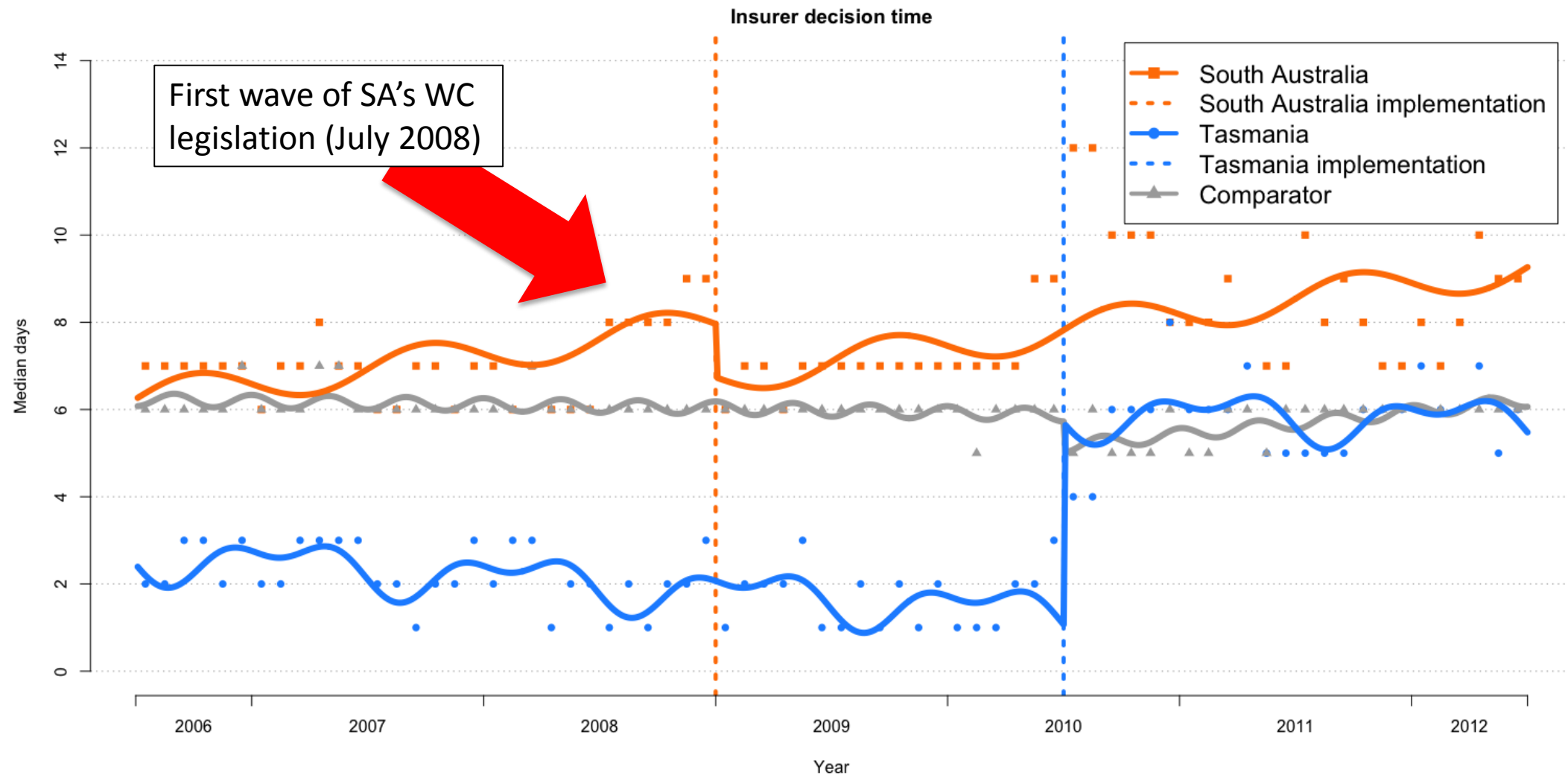
INCENTIVES PART OF LARGER LEGISLATIVE PACKAGE

	South Australia	Tasmania
Date passed parliament	19 June 2008	17 December 2009
Date effective	1 January 2009	1 July 2010
Incentive format	Rebate on employer insurance excess (first 14 calendar days of wage replacement) if employer lodges claim within two working days of becoming aware of a worker injury.	Penalty payment for wage replacement to the worker. If the employer does not report a worker injury to their insurer within three working days, they become responsible for wage replacement payments for each day they are late.
Coinciding changes in legislation (not exhaustive)	<ul style="list-style-type: none"> • Provisional liability granting injured workers up to 13 weeks of compensation and medical costs if a liability decision is not made within 7 days of worker report. • Changes to dispute resolution system. • Cap on what lawyers can charge in disputes and change of pay structure to remove financial incentives for lawyers to perpetuate claims. • Requirements for employers to have rehabilitation and return to work coordinators. 	<ul style="list-style-type: none"> • Payments for counselling for families of deceased workers. • Payments for medical and other expenses for up to 12 months after the cessation of income replacement. • Increase in maximum lump sum for permanent impairment. • Extension of weekly payments for workers based on whole-person impairment. • Increases in income replacement rates and delays in step-downs. • Claimants exempted from step-downs provided they have returned to work for at least 50% of pre-injury hours or duties, or where employer refused or is unable to provide alternative duties. • Reduce whole-person impairment thresholds for access to common law damages. • Requirements for return to work and injury management plans.
Non-coinciding changes in legislation (not exhaustive)	<ul style="list-style-type: none"> • 1 July 2008: Reductions to income-replacement rates. Notice periods before benefit reduction or cessation. Code of workers' rights. Establishment of WorkCover ombudsman and Return to Work Inspectorate. Permitting weekly payments in case of disputes. • 1 April 2009: Changes to work capacity reviews for claimants seeking income replacement beyond 130 weeks (2.5 years). Introduction of 5% impairment threshold for permanent injury payments in physical injury cases. Increase of pain and suffering payments to \$400,000. Establishment of independent medical panels for decisions on medical questions. • 1 July 2009: Restrictions on use of redemptions (one-off payments) to finalise claims with injury date on or after 1 July 2006. • 1 July 2010: Restrictions on use of redemptions (one-off payments) to finalise claims for all claims. 	<ul style="list-style-type: none"> • None

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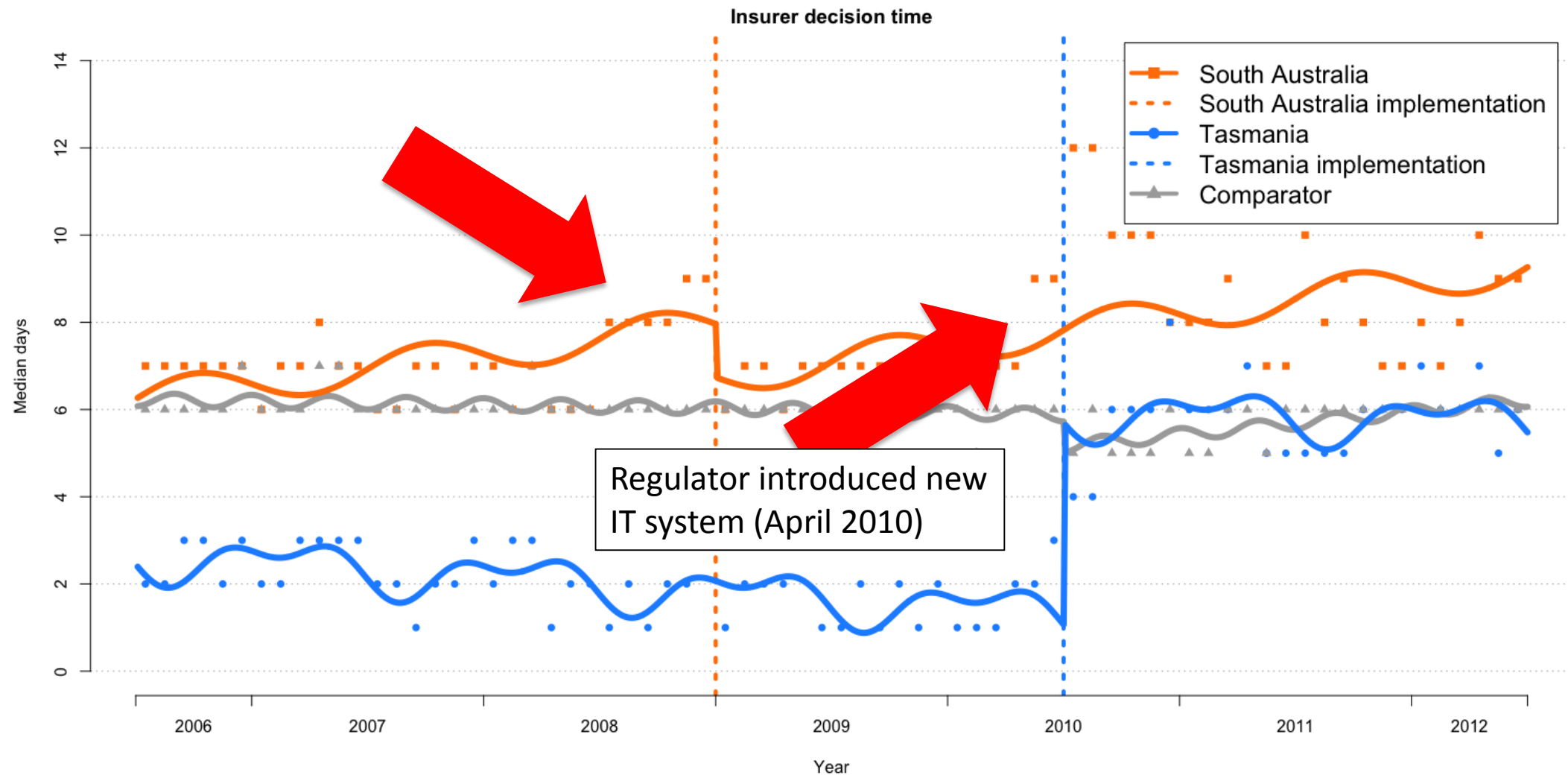
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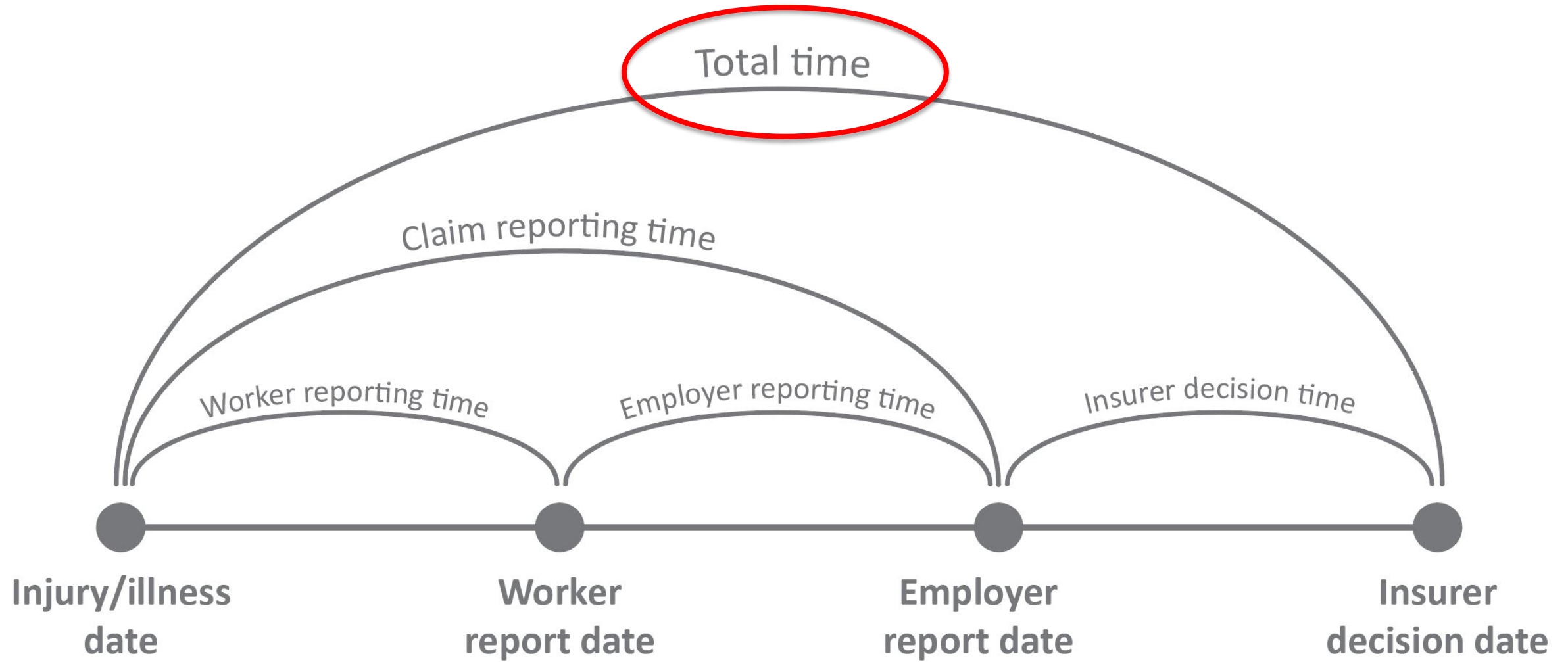
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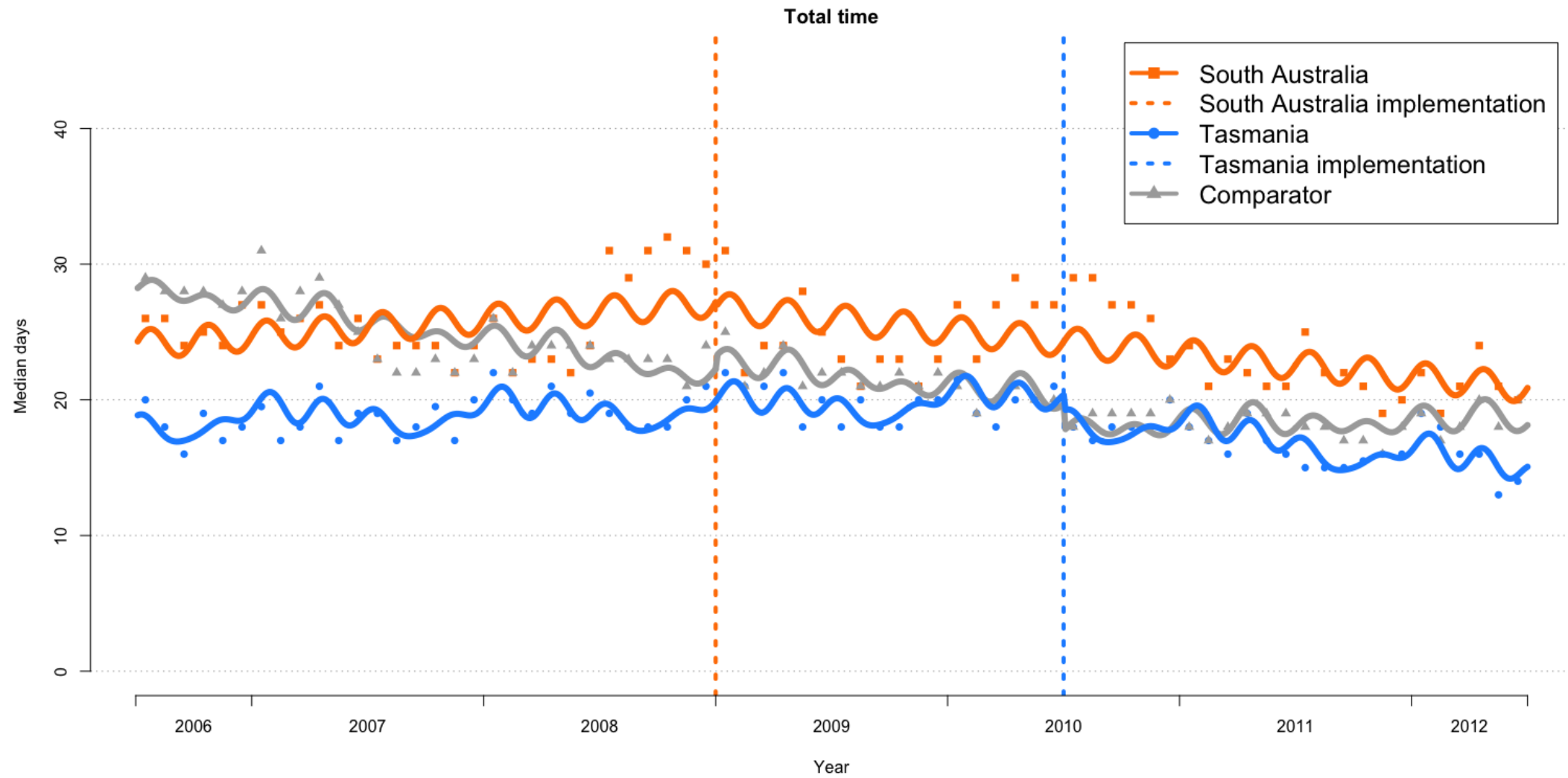
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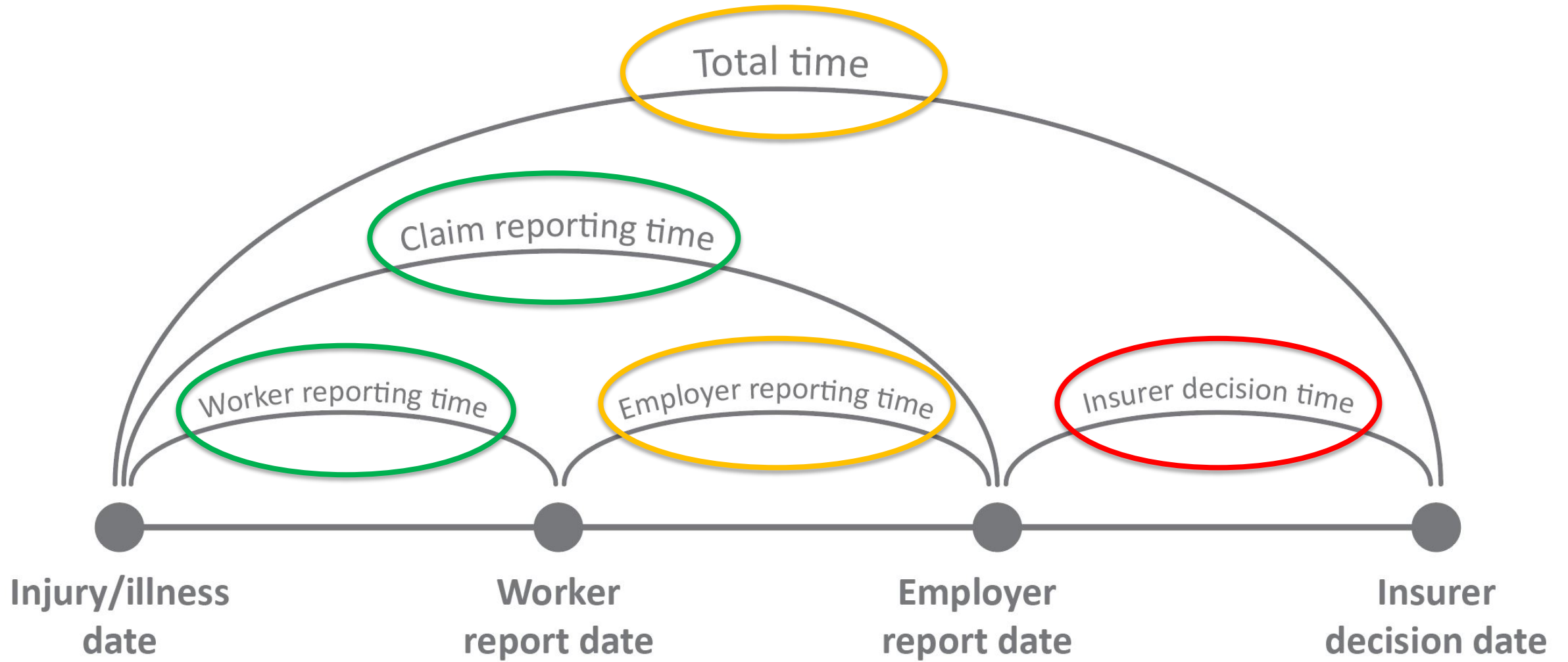
TOTAL TIME



TOTAL TIME



SUMMARY



WHAT COULD THIS MEAN?

- Financial incentives to report worker injuries more quickly shortened claim reporting time
- But *why* did it decrease?
 - In South Australia, decrease only in worker reporting time (not the target!)
 - Suggests incentives did not have direct effect
- Major confounder: provisional liability
 - Grants access to WC services before claims accepted
 - Implemented along with reporting incentives in South Australia; already existed in Tasmania
 - Unable to analyse effect of incentives without coinciding provisional liability in Tasmania
- Long-term reduction in the claim lodgement process, but...
 - Increase in insurer decision time may negate benefits
 - Stress associated with delayed claim decisions predictive of poorer long-term physical and mental health (Grant et al 2014)
 - May be due to implementation of larger WC legislation
 - But, WC policy changes rarely piecemeal
 - Any policy-based incentive must contend with larger policy context

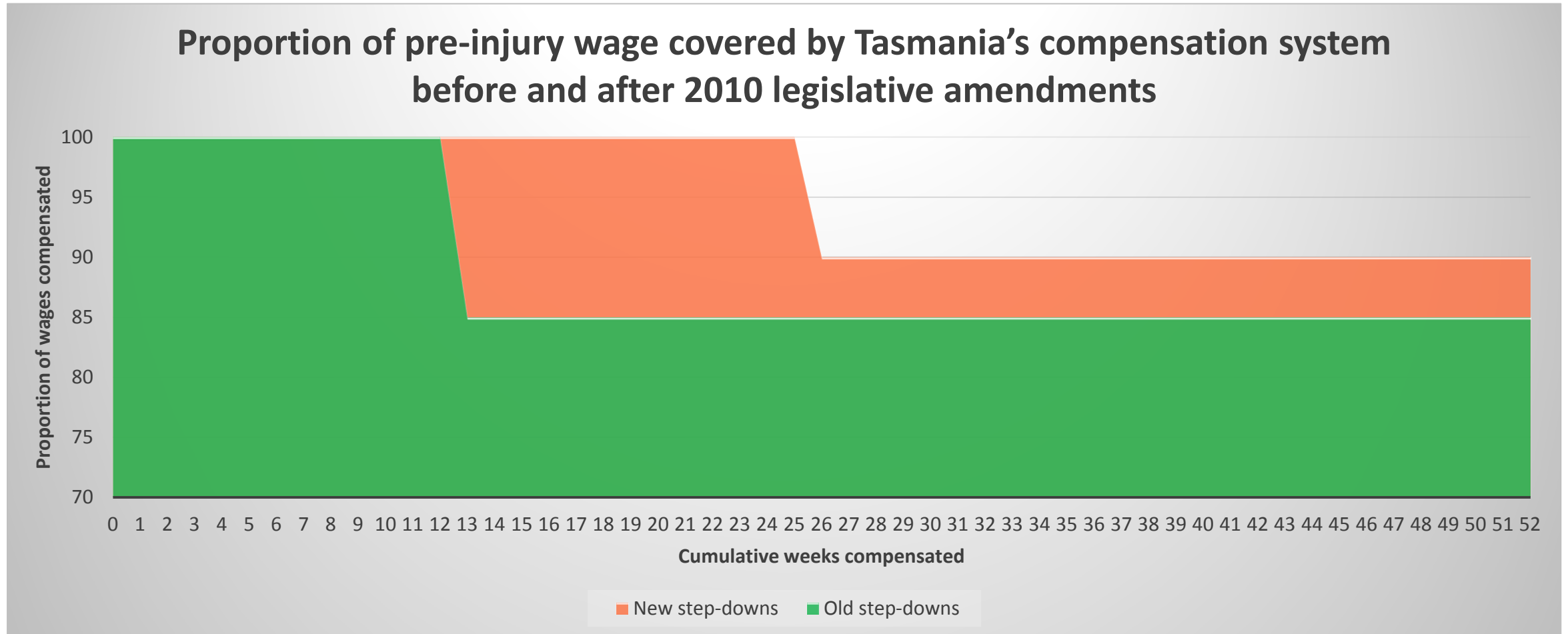
- Financial reporting incentives seem to reduce time to lodge a claim
 - Though the causal mechanism unclear
- Must consider the broader policy and legislative context
 - Administrative burden and competing incentives (e.g., provisional liability)
- Must also consider unintended consequences
 - Increasing insurer decision time can worsen outcomes
- Generalisability of findings limited
 - Provisional liability a unique safeguard, creates competing behavioural incentives

TASMANIA'S WORKERS REHABILITATION AND COMPENSATION AMENDMENT ACT 2010 – IMPACT ON CLAIMING AND TIME OFF WORK

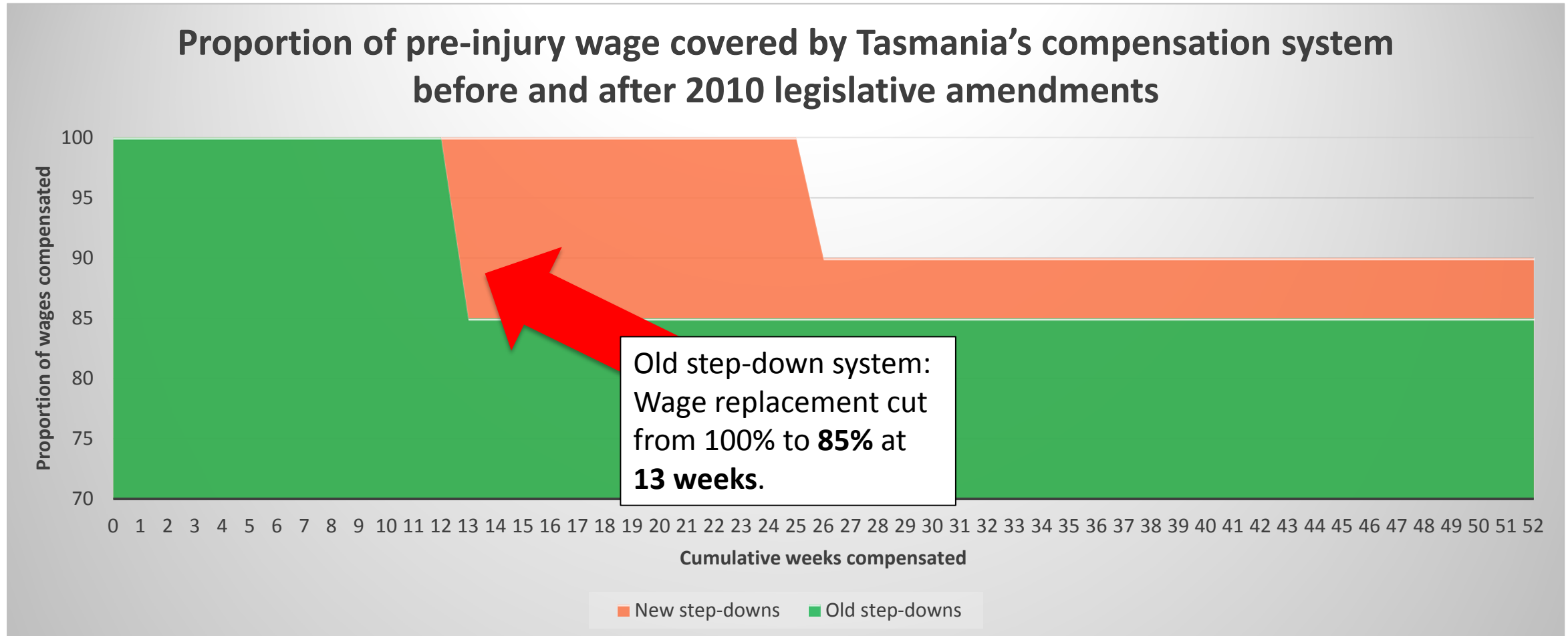
Shannon Gray, Tyler Lane, Behrooz Hassani-Mahmooei, and Alex Collie

- Following scheme review (Clayton 2007), Tasmania introduced major reforms to its workers' compensation system
- Objective: reduce time off work, make RTW sustainable
 - Adopted the Return to Work and Injury Management Model (RTWIMM) adopted as guiding framework
 - Added payments for some treatments prior to claim acceptance
 - Introduced injury management coordinator
 - Requirement for RTW and injury management plan
 - Included early reporting incentives (from previous study)
- Also included measures to provide 'fair and appropriate compensation'
 - Delayed step-downs in wage replacement

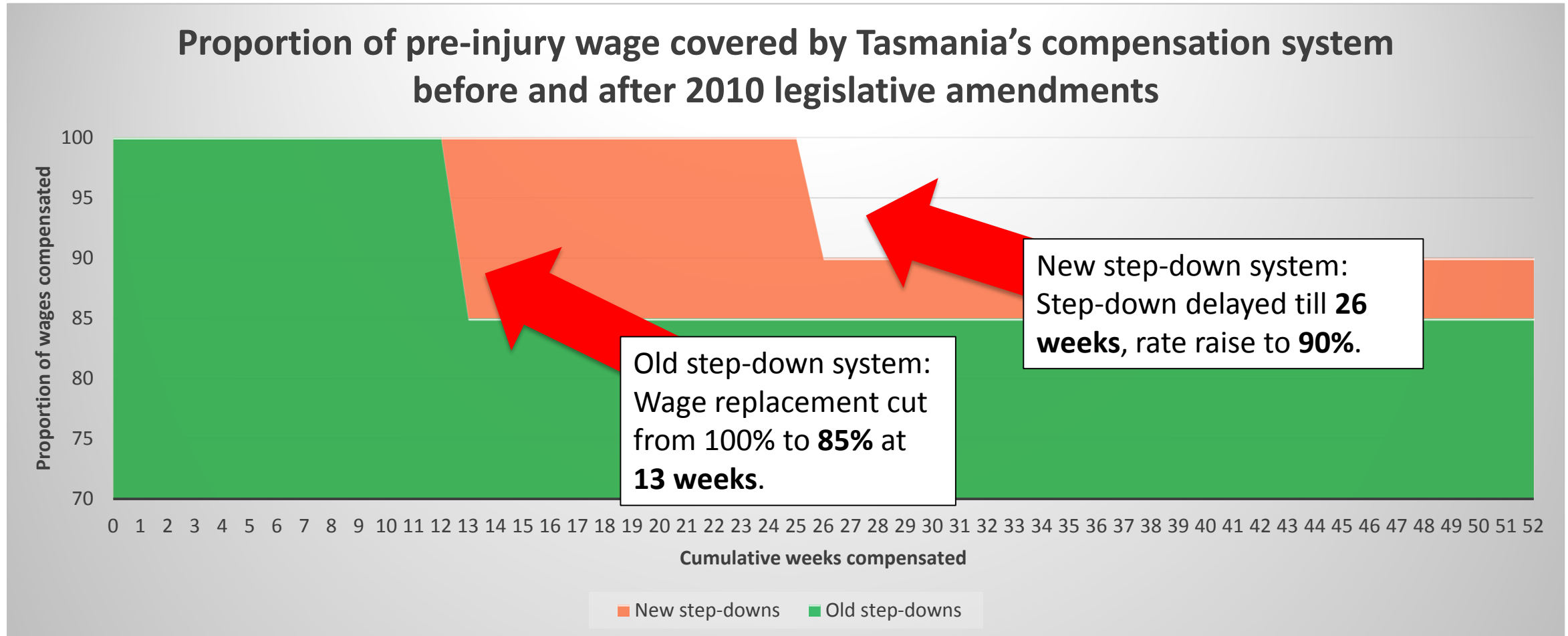
DELAYED STEP-DOWN



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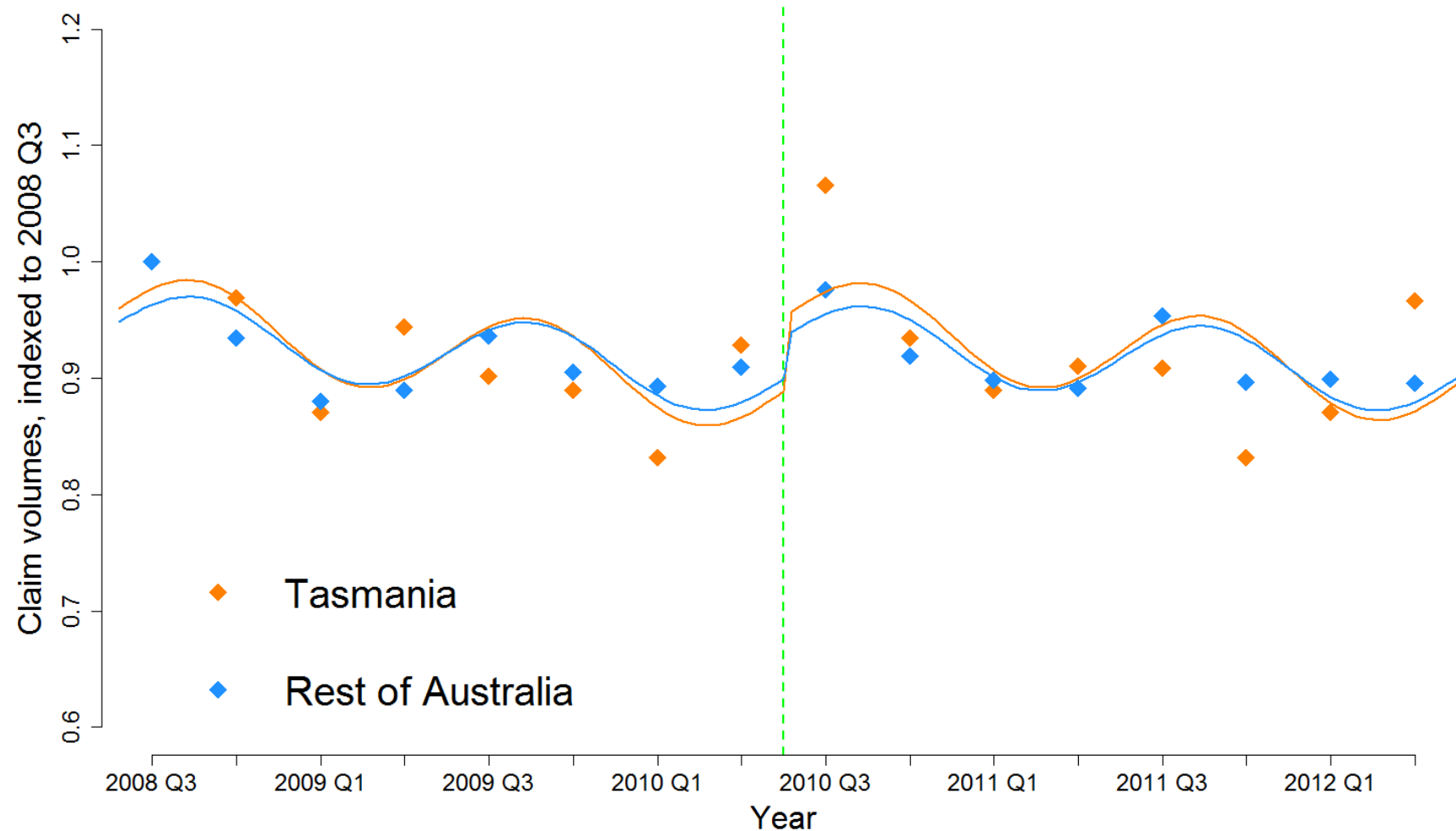
Did the 2010 Tasmanian legislative amendments reduce the volume of claims and duration of time loss as intended?

CLAIM VOLUMES

No increase in claim volumes when adjusting for comparator.

Demonstrates value of adjusting for national-level trends.

Note: Due to size differences in number of claims, both Tasmania and rest of Australia were indexed to the first time point in the data series.

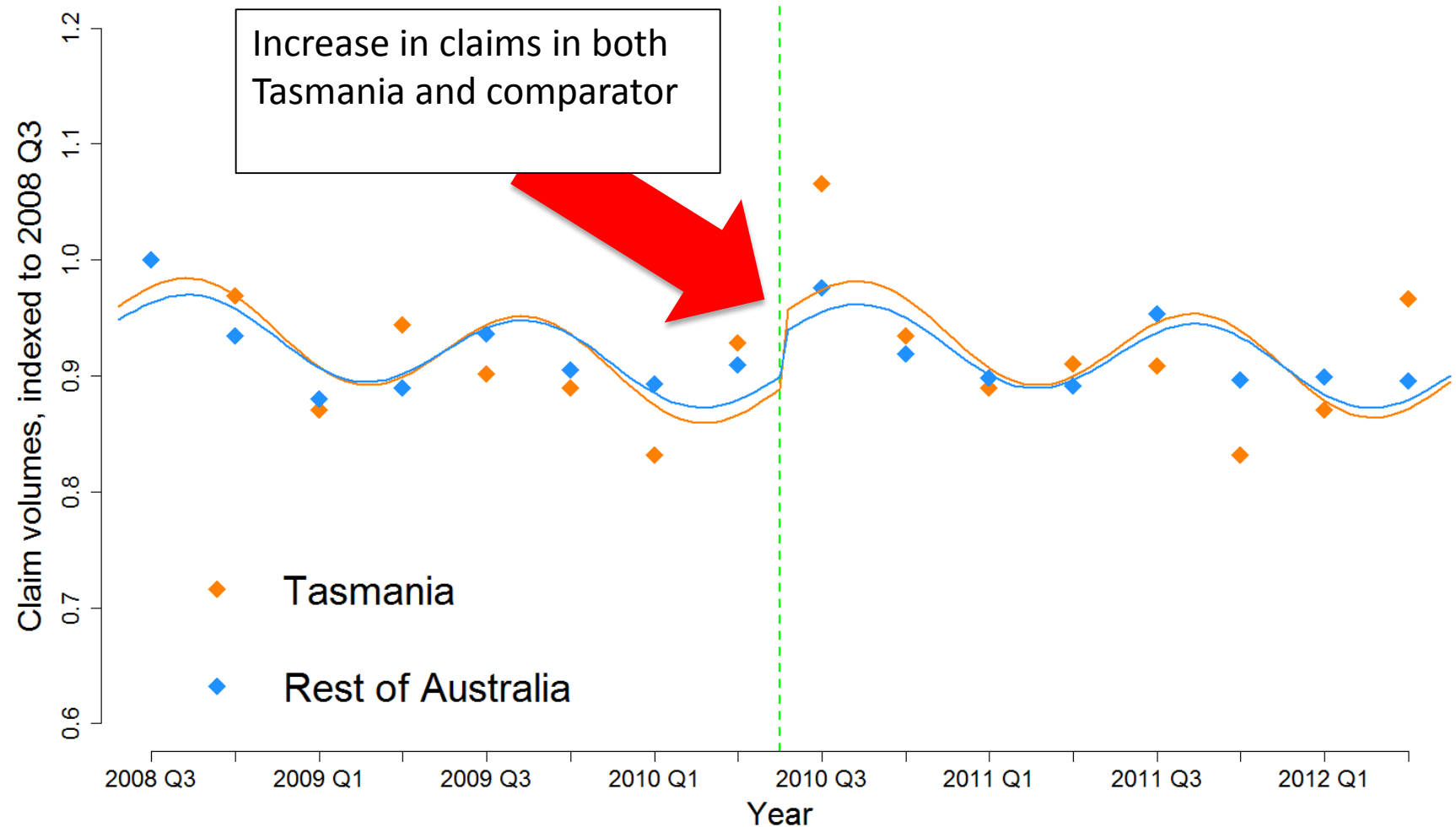


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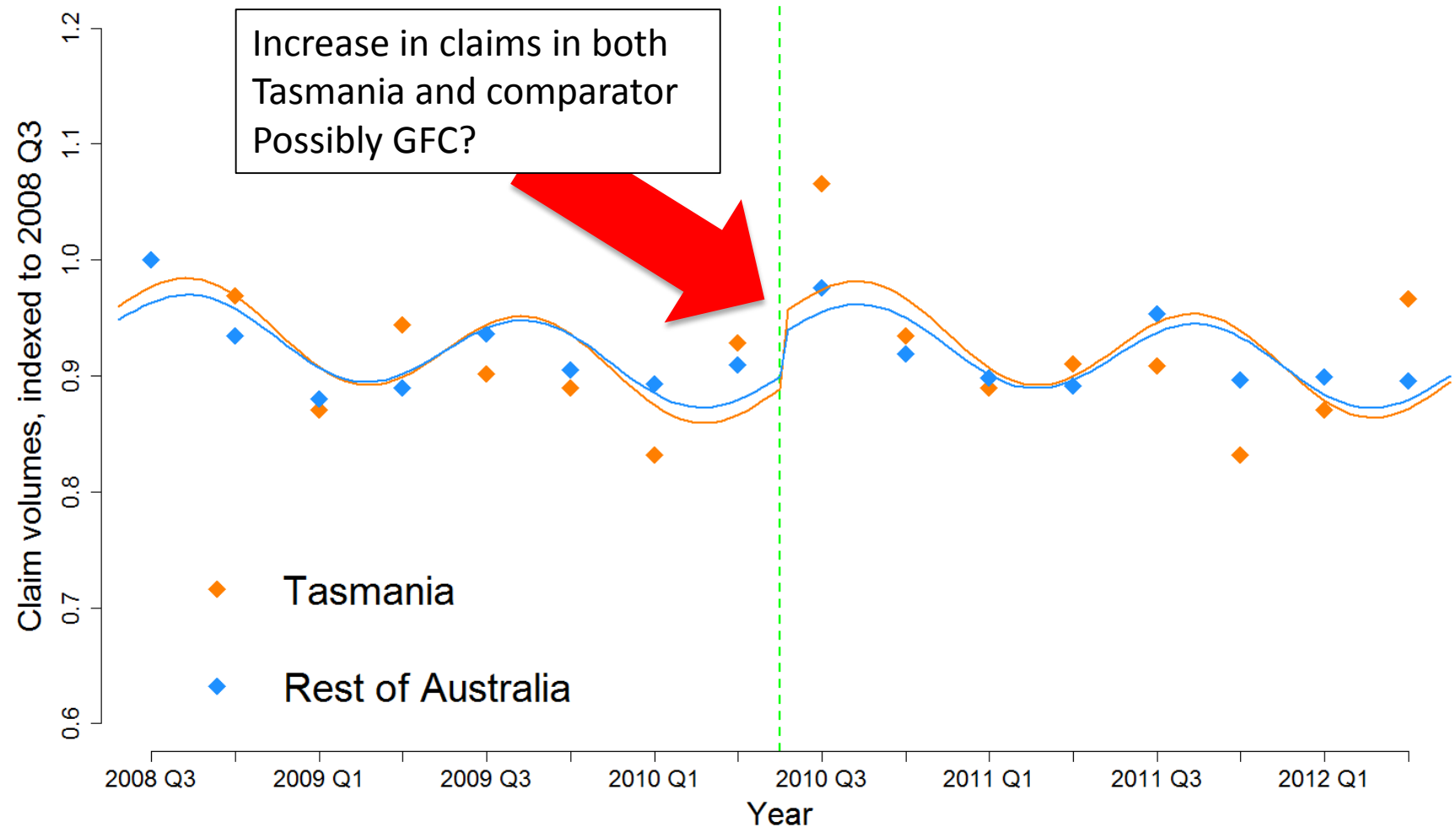


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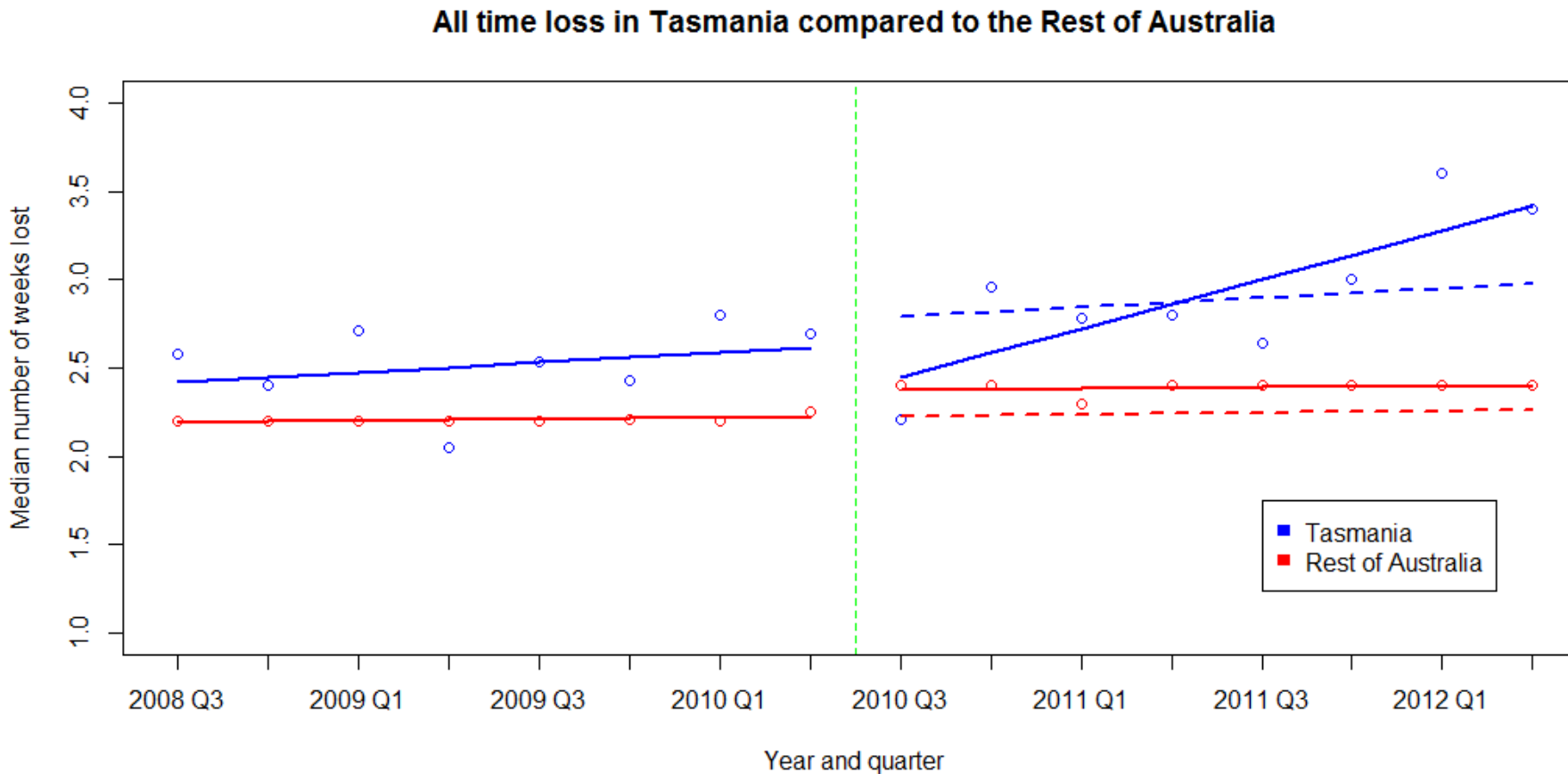
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DURATION OF TIME LOSS, ALL TIME LOSS CLAIMS



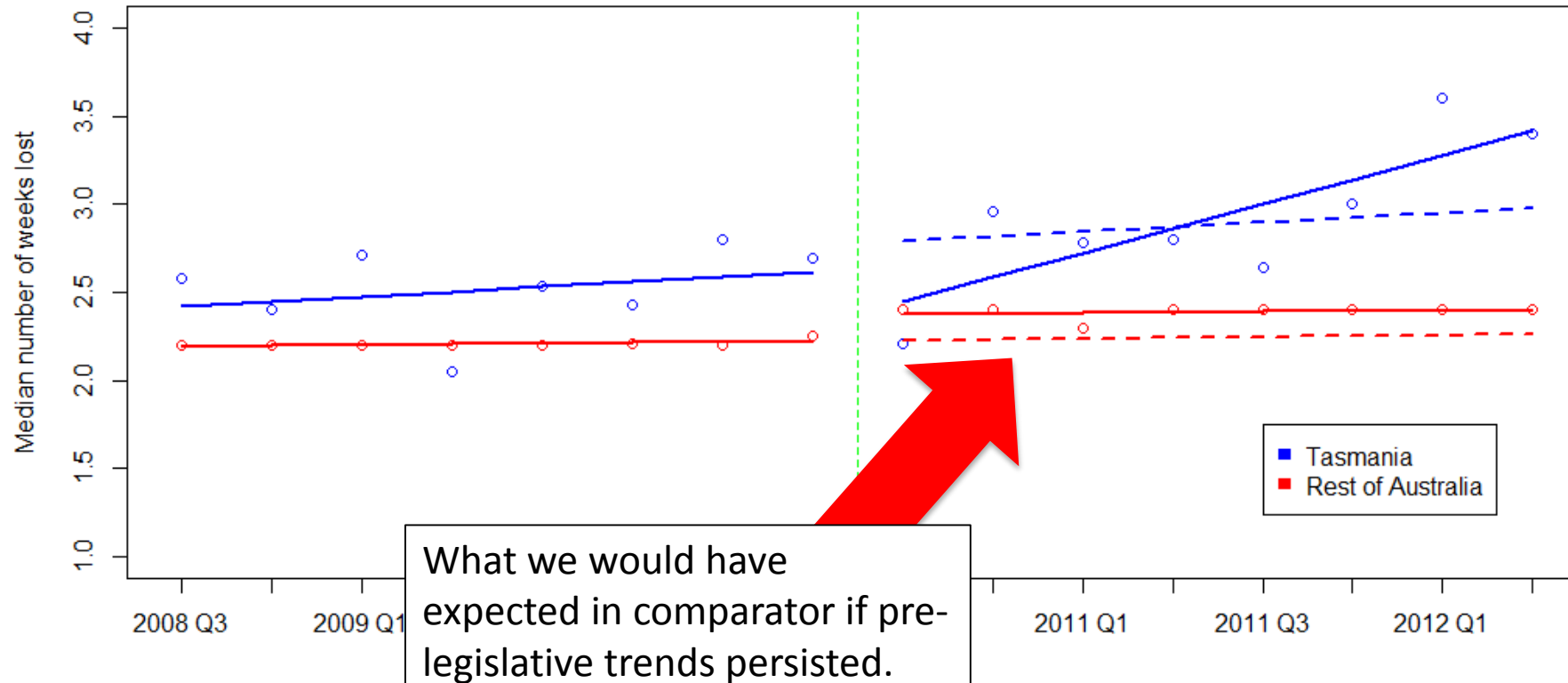
Immediate decrease approaches significance ($p = 0.056$), long-term trend increase significant ($p = 0.025$).

Two years post-legislation, claim durations higher than predicted!

Could be driven by increase and delay in step-down... so we next week look at claims under 13 weeks.

DURATION OF TIME LOSS, ALL TIME LOSS CLAIMS

All time loss in Tasmania compared to the Rest of Australia

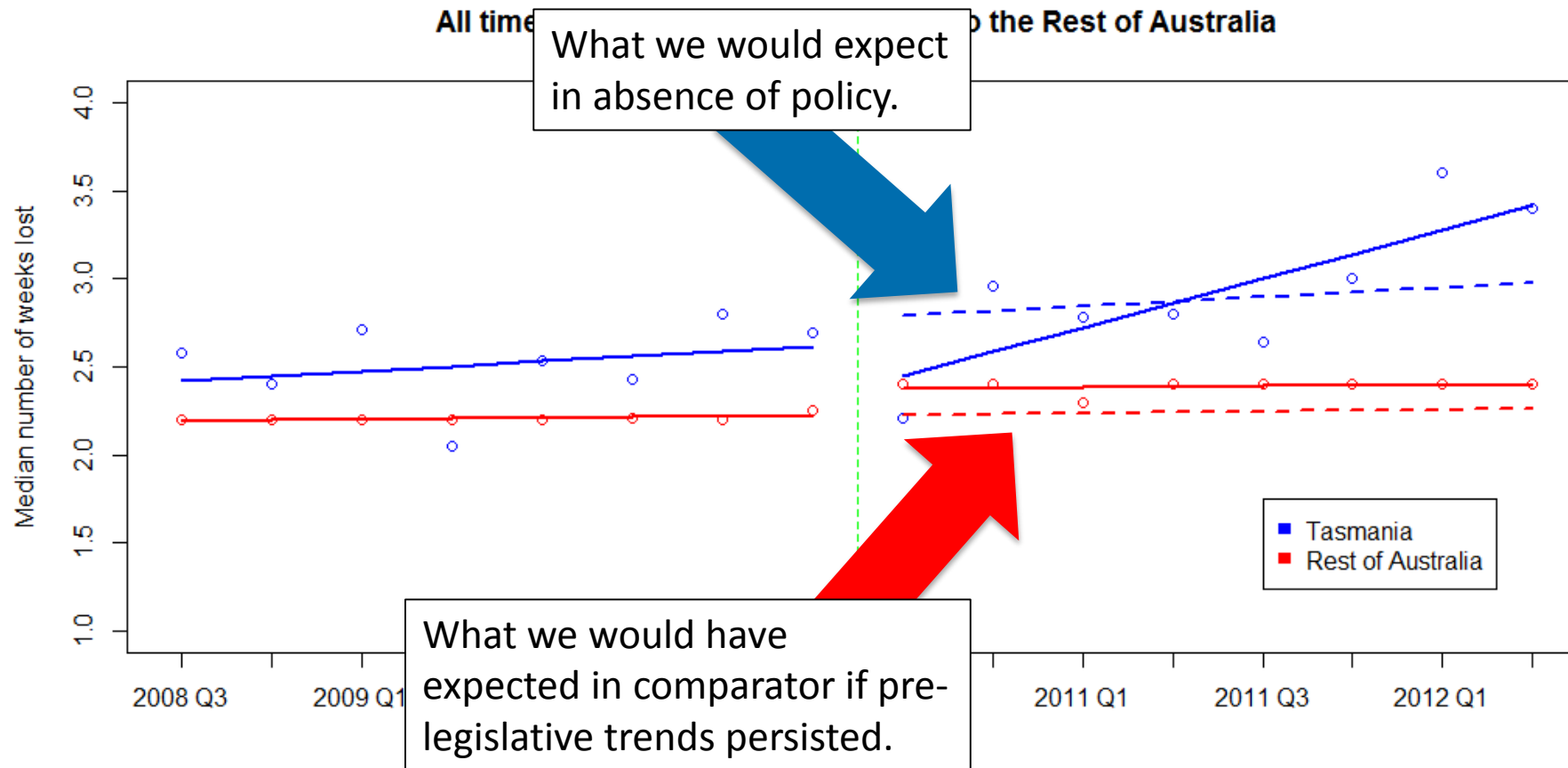


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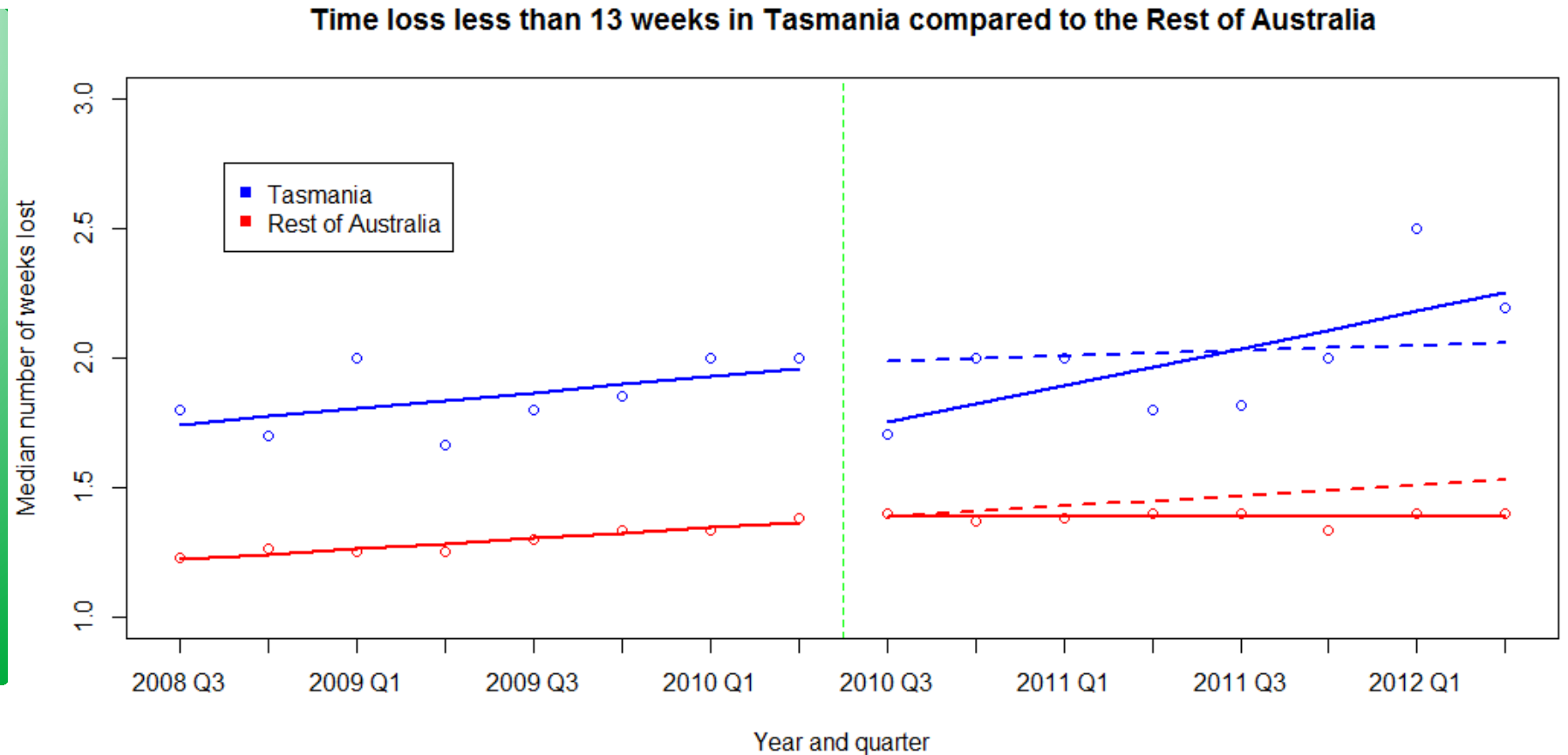
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DURATION OF TIME LOSS, SHORTER-DURATION CLAIMS (< 13 WEEKS)

Purpose of analysis: isolate RTWIMM effects (to reduce duration) from delayed and increased step-down (incentivise longer duration)

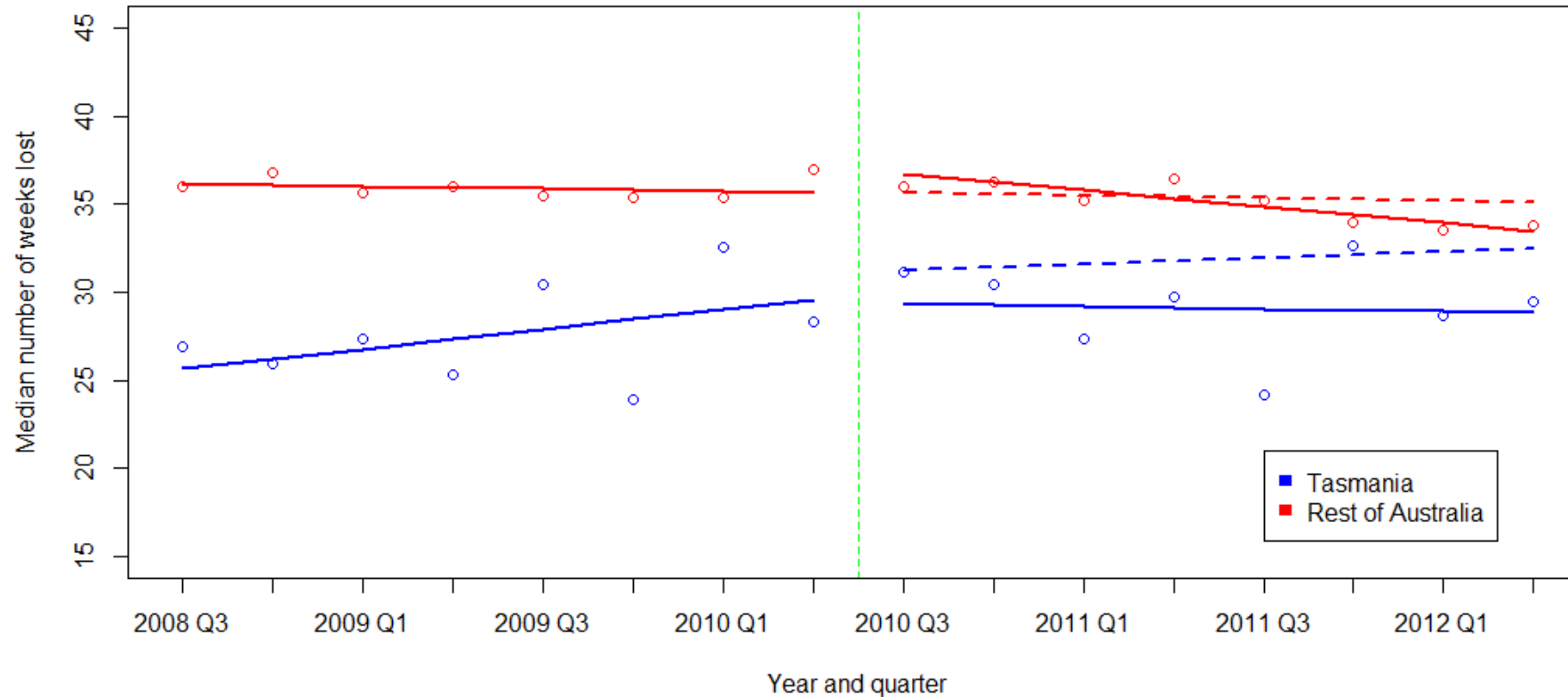
Similar pattern, but non-significant.

Perhaps there was a different effect among longer-duration claims?



DURATION OF TIME LOSS, LONGER-DURATION CLAIMS (≥ 13 WEEKS)

Time loss greater than or equal to 13 weeks in Tasmania compared to the Rest of Australia



No significant change to longer-duration claims.

Remember, we expected an increase due to the delay and increase in the step-down.

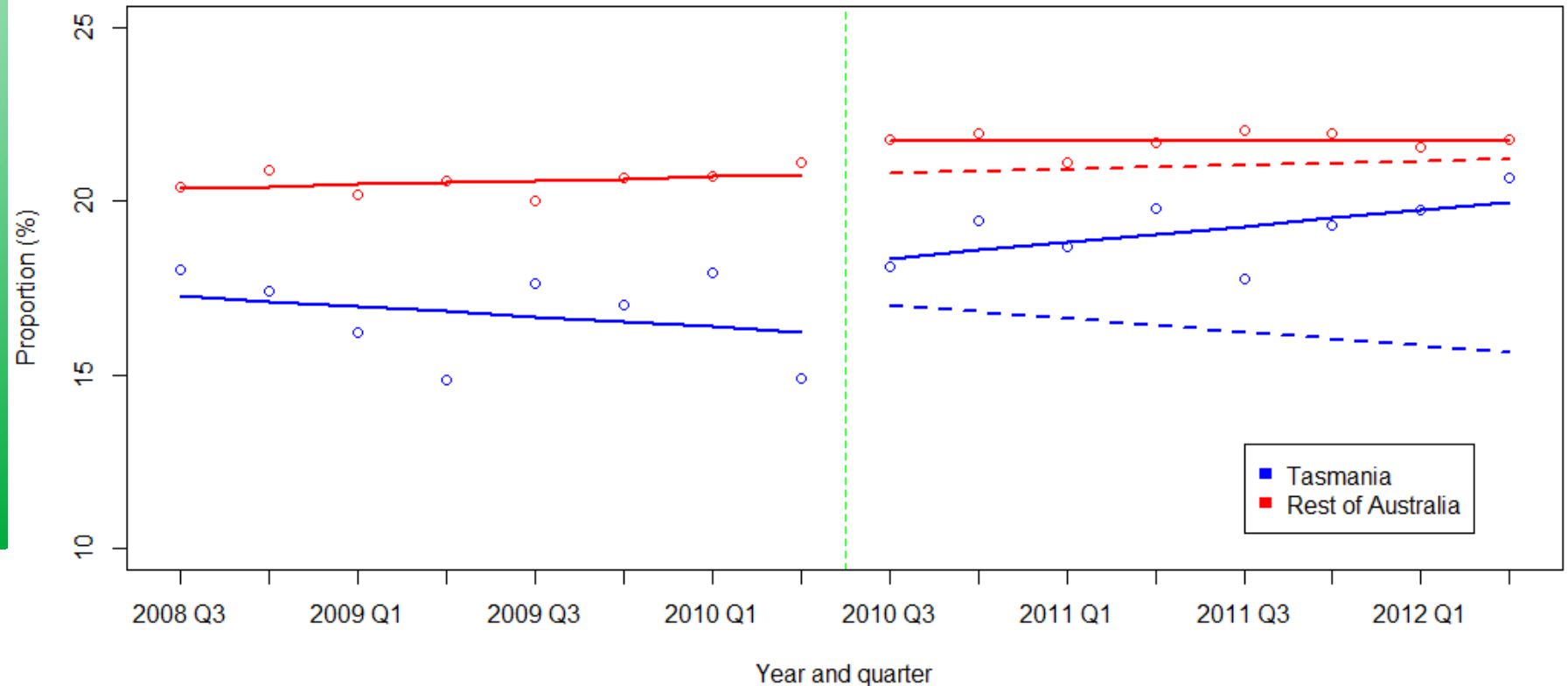
So what about the % of claims reaching 13 weeks?

% OF CLAIMS REACHING 13 WEEKS

Over long-term, increase in % reaching 13 weeks in time loss (approaching significance, $p = 0.067$).

Suggests delayed and increased step-down removed incentive for claimants to leave scheme around time their benefits would have been cut under previous step-down system.

Proportion of those receiving benefits at 13 weeks in Tasmania compared to the Rest of Australia



- Goal of Tasmania's legislative amendments was to reduce time loss
 - Did not work
 - In some cases may have had opposite effect:
 - Long-term increases in duration
 - Probably more claims reaching 13 weeks duration
- *Why* did it not succeed?
 - Competing incentives
 - RTW Injury Management Model: more intervention, delivered earlier
 - Delayed and increased step-down
 - Possible effects late in process (in unintended direction)
 - May be due to other factors
 - Effects too weak to detect? No effects?

TWO POLICY STUDIES: WHAT ARE THE LESSONS?

- Policy impact is complex
- Determining effects is not straightforward
- Robust analyses \neq easy answers
 - What do we do with this information?
- But...we can get insight into how they work and a more nuanced understanding of how to maximise positive impact and minimise negative consequences

WHAT'S NEXT?

- NSW's 2012 workers' compensation reforms
 - Number of claims, covered workers, time loss duration, claim processing times
 - Were there varying effects among different groups?
 - Disease claims, travel claims, and mental health conditions
 - Specific occupations excluded: firefighters, police, ambulance officers, coal miners
- Victoria raised the maximum wage replacement *cap* on 5 April 2010
 - *Cap* affects higher earners, while *rate* affects lower earners, who haven't previously been focus of research
 - Questions: how did this affect claiming behaviours?
 - Were there more claims?
 - Did claimants take more time off work?
 - How did this affect less visible claims (mental health and musculoskeletal) compared to other injuries?

Thank you!

Please feel free to make contact
with our research group or view our
website.



www.monash.edu.au/med/iwhgroup



med-IWHGroup@monash.edu