

12th Accident Compensation Seminar 2009 Rising to the Challenge

Melbourne 22nd – 24th November 2009



Institute of Actuaries of Australia



Improving Health for People with Compensable Injuries

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Summary

- Definitions
- Two stories
- Hypothesis 1 – People with compensable injuries have worse health (than people without comp.)
- Hypothesis 2 – Worse health is due to complex factors that are hard to understand
- Hypothesis 3 – Changing compensation schemes can improve health
- Next steps
- Conclusion



Definitions

Compensation

Provision of statutory benefits to people who are injured

Health

A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (World Health Organisation 1948)

The absence of significant pain, disability, or disease



Mr Smith*

- Motorcycle crash, age 25, severe musculoskeletal and abdominal injuries
- Prolonged recovery
- Supportive employer with return to work following modified duties at 6 months
- Charged with negligent riding, pleaded guilty, no penalty recorded
- Durable return to work with slightly modified duties

* Focus group participant – name changed



Mr Jones*

- Motorcycle crash, age 22, severe musculoskeletal injuries
- Prolonged recovery
- Supportive employer with return to work following modified duties at 2 years
- Unhappy with service from one medical group
- CTP and WC claims, lawyer involved, multiple medicolegal assessments
- Unhappy with claims process, recently settled after four years
- “Could go into the legal profession with everything have learnt, and go into insurance and save insurers lots of money by closing up all the loopholes”



Hypothesis 1- People with compensable injuries have worse health (than people without compensation)

- Faculty Occup Med 2001
- Harris 2005
- Gabbe 2007
- Harris 2009
- TRACsa 2008



“There is good evidence that people with ...[compensable injuries] have poorer health outcomes than people with similar injuries but are not involved in the compensation process”. (AFOM 2001)

Available from:
<http://www.racp.edu.au/page/health-policy-and-advocacy/occupational-medicine>

Compensable Injuries and Health Outcomes





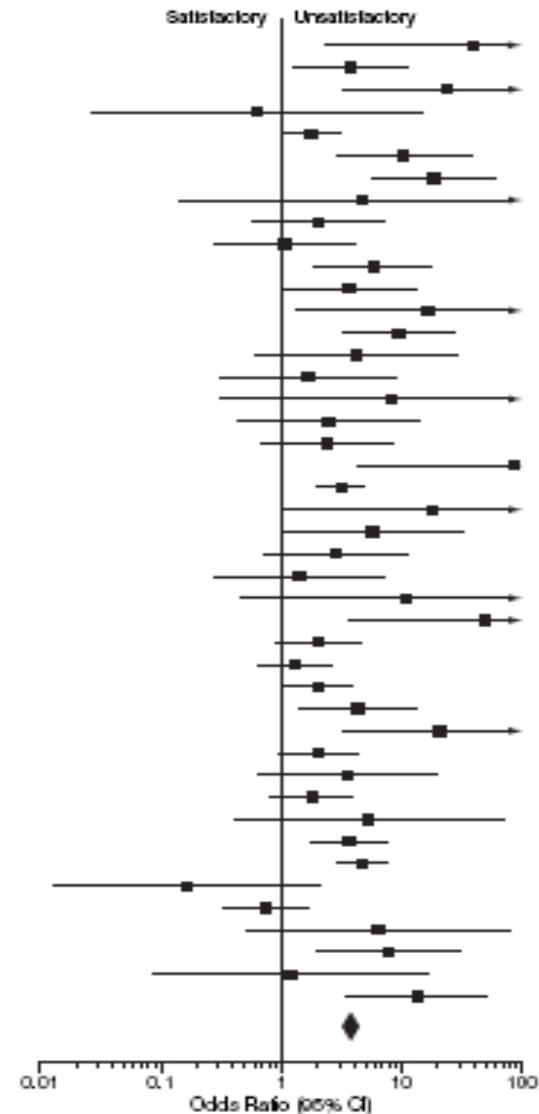
Harris 2005

Objective: To investigate the association between compensation status and outcome after surgery

211 studies included

Results: Odds ratio for unsatisfactory outcome in compensated cases 3.8

Harris et al. JAMA 2005;293:1644





Gabbe 2007

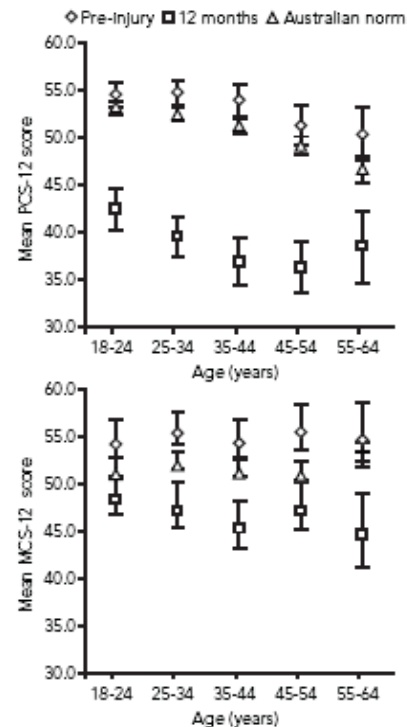
Objective: To determine the relationship between compensable status and long term outcomes after orthopaedic trauma, in Victoria

Results: Odds ratio 2.0 for physical score, and 1.6 for mental score, of the SF-12

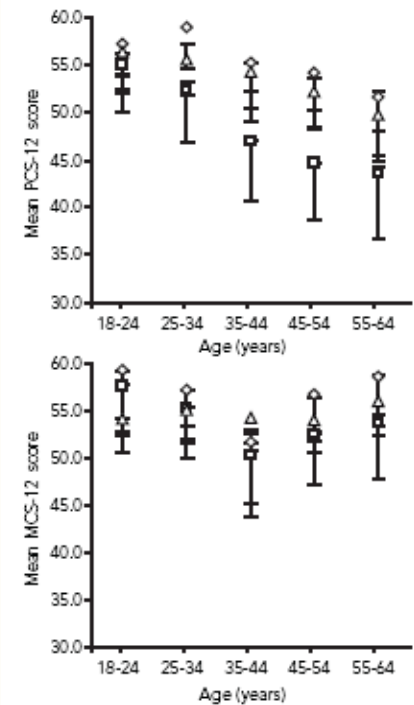
Gabbe et al. Med J Aust
2007;187:14

3 Mean (95% CI) SF-12 physical (PCS-12) and mental (MCS-12) summary scores

Transport Accident Commission compensable patients



Non-compensable patients



SF-12 = 12-Item Short Form Health Survey. ◆



Harris 2009

Objective: To determine whether there is an association between compensation factors and health care utilisation following major trauma

Results: Health care utilisation was significantly higher for patients engaging the services of a lawyer - odds ratio, 3.3

Harris et al. Med J Aust 2009;190:619

3 Final logistic regression model of predictors of health care utilisation

Variable	AOR (95% CI)	P
Head injury	0.52 (0.33–0.83)	0.006
Time since injury	0.99 (0.97–1.00)	0.02
Currently unemployed	1.91 (1.19–3.06)	0.008
Engaged a lawyer	3.28 (1.98–5.46)	< 0.001
History of chronic illness	3.33 (2.02–5.50)	< 0.001

AOR = adjusted odds ratio.



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- “The relevance of compensation factors in predicting outcome in whiplash is conflicting.”
- “There is conflicting evidence regarding whether pursuing compensation and/or consulting a lawyer is associated with ongoing pain or disability after whiplash” (Yes – 2 cohorts, No – 5 cohorts)

TRACsa 2008 Clinical Guidelines ... Available from:
http://www.tracsa.org.au/resources-whiplashassociated_disorders_information_for_health_practitioners

Clinical guidelines for
best practice management
of acute and chronic
whiplash-associated disorders

Commissioned by the South Australian
Centre for Trauma and Injury Recovery (TRACsa)

tracsa
Trauma and Injury Recovery

November 2008





Conclusion – Hypothesis 1

- Strong, but not overwhelming evidence, that involvement in compensation is associated with poorer health status
- Note that “association” is not necessarily the same as “causation”



Hypothesis 2 Worse health is due to complex factors that are hard to understand

- Using whiplash as an example
- Kamper 2008
- A classification that might help with understanding of the factors
- An example of the complexity



Kamper 2008

Objective: To describe the course of recovery, pain and disability symptoms and also to assess the influence of different prognostic factors on outcome in whiplash

Method: Systematic Review - 67 articles included

Conclusion: data regarding prognostic factors were difficult to interpret

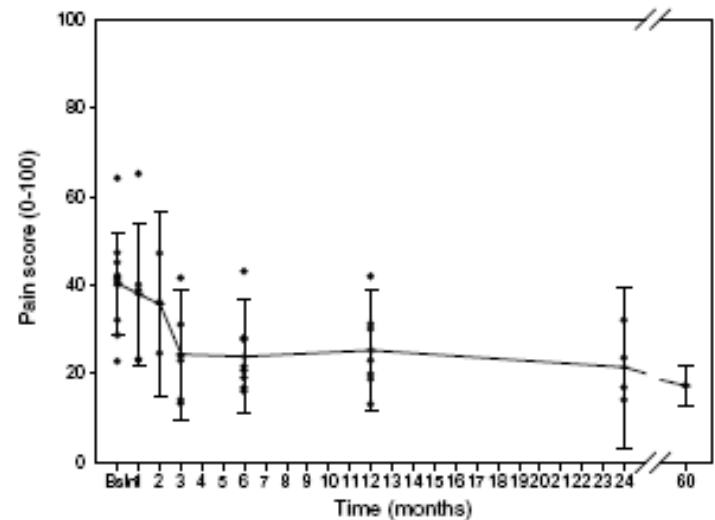


Fig. 3. Variance-weighted mean pain score out of 100 with 95% confidence intervals versus time for all cohorts (includes 44 data points from 14 cohorts). NB: 60 month mean and confidence interval from a single cohort.

Kamper et al. Pain
2008;138:617–629



Kamper 2008 – Prognostic factors

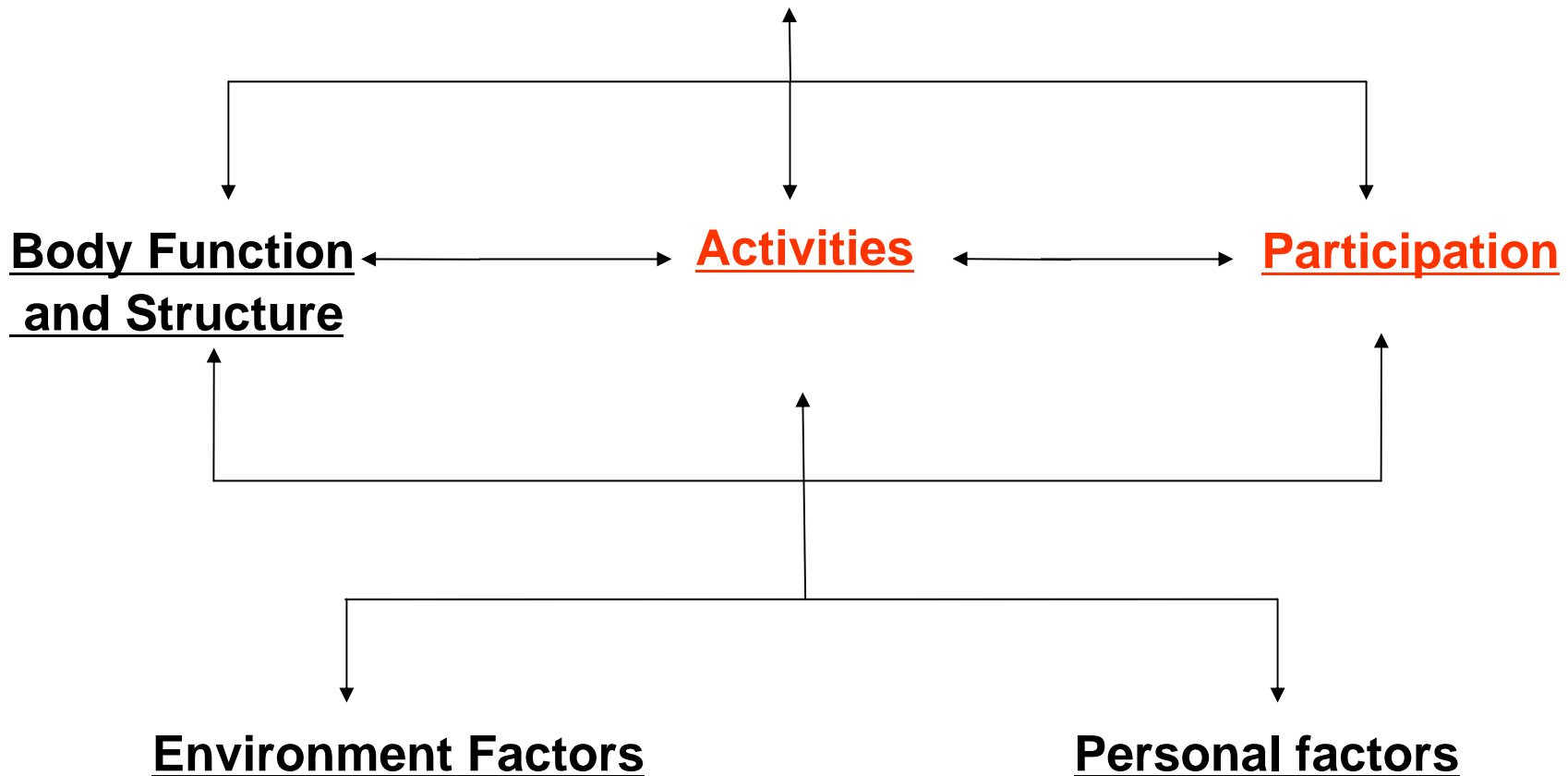
- Symptoms - pain* and disability*
- Radiological
- Psychological – distress*, personality, coping*, PTSD, catastrophizing
- Socio-demographic – gender*, age, education*
- Crash related*
- Body function*
- Prior condition*
- Other – weight, height, [compensation]

* = significant association

Kamper et al. Pain 2008;138:617–629



Health Condition
(disorder or disease)



International Classification of Functioning,
Disability and Health (ICF, 2001)



Classifying Factors

Health condition

- Primary injury
- Secondary injuries
- Injury type and location, eg fracture
- Depression, anxiety, PTSD, Insomnia
- Radiological
- Pain – intensity / other factors (characteristics)

Impairment

- Reduced movement
- Other - cold sensitivity, altered muscle recruitment, joint position error

Environmental factors

- Compensation status – no / yes / eligible but no claim / denied by insurer
- Scheme factors
- Crash-related

Personal factors

- Female gender
- Older age
- Lower education
- Socioeconomic status
- Occupation
- Employment – nature and extent
- Income
- Somatisation
- Catastrophizing
- Helplessness
- Fear avoidance
- Other coping strategies
- Other personality factors

Prior / concurrent condition

- Prior health status
- Prior neck pain or headache
- Other injuries

Other

- BMI / Height / Weight
- Smoking
- Alcohol intake



Classifying Factors – Environmental factors in more detail

Scheme factors

- Scheme design and operation: fault / no fault / hybrid
- early notification
- non economic loss thresholds and amounts
- economic loss structure and amounts
- level of disputes
- guidelines clinical practice and industry
- lawyer activity
- medical and rehabilitation industry
- case / claims management arrangements.

Compensation status – no / yes / eligible but no claim / denied by insurer

Crash-related

- Direction of impact
- Higher speed of vehicles
- Head rest in place
- Seating position, driver
- Rotated head position
- No seatbelt used
- Stationary or moving
- Other person / family - injured / killed



Littleton 2010

Objective: To describe very early post injury characteristics of people who do and don't claim compensation after motor vehicle crashes

Method: Cohort of people in MVAs with initial interview mean 7 days after injury. Analysis in three groups – no compensable, compensable but did not claim, compensable and claimed

Results: People who were compensable and did not claim were different to people who did claim – better current health and less disability

Interpretation: People who claim compensation are not be typical of all injured people

Littleton et al. 2010, in preparation



Conclusion – Hypothesis 2

- Predictors of poorer health outcome in compensation settings are:
 - complex
 - arise from multiple domains
 - interact with each other
 - and are unlikely to be fully understood for a long time



Hypothesis 3 Changing compensation schemes can improve health

- McDermott (1993)
- Cassidy (2000)
- Cameron (2008) and Johnson (2010)

- A classification that might help understand which schemes are better for health



McDermott 1993

Objective: To document reduction in whiplash after change in new motor vehicle accident legislation in Victoria

Method: Monitored whiplash and other claims pre and post Victorian CTP changes in 1987

Results: Large decrease in whiplash claims in absolute numbers (sixfold decline) and as a percentage of all injuries (twofold decline)

Interpretation: Suggests that fewer people had problems from whiplash after legislative change

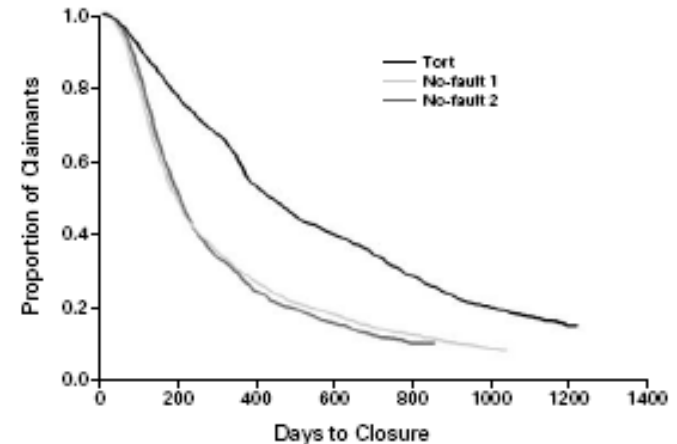
McDermott FT. Med J Aust
1993;158:720



Cassidy 2000

Objective: Studied change in compensation for traffic injuries in Saskatchewan (to a no-fault system). To determine this change was associated with improved recovery after whiplash

Conclusion: Change associated with a decreased incidence and improved prognosis of whiplash



Tort	2377	1831	1251	938	669	468	30
No-fault 1	1525	736	403	267	186	40	0
No-fault 2	1496	757	358	229	48	0	0

Figure 1. Kaplan-Meier Estimates of the Time to Closure for 5398 Whiplash Claims. Data were censored as of November 1, 1997. No-fault 1 denotes the first six months of the no-fault system, and No-fault 2 the second six months of the no-fault system. The numbers of open claims at each point in time are shown below the graph.

Interpretation: Does claim closure equal recovery?

Cassidy et al. N Engl J Med 2000;342:1179-86



Cameron 2008

Objective: Studied the 1999 change in compensation for traffic injuries in NSW. To determine this change was associated with improved recovery after whiplash

Results and conclusion: Health status of people with whiplash improved after legislative change

Cohort	% Recovered	% Reporting Less Pain
1999	38.0%	44.2%
2001	52.0%	56.5%
2003	49.0%	56.8%

Interpretation: Legislative change had a surprisingly large effect on health

Cameron et al. Spine 2008;33:250-4



Johnson 2010

Objective: To determine the incremental cost effectiveness ratio of the 1999 NSW legislative change with reference to whiplash

Results and conclusion: The legislative change was highly cost effective

Comparison	Average Medical Paid to Date at 2 years
1999 and 2001	Save \$18,000 per quality adjusted life year
1999 and 2003	Spend \$5,600 per quality adjusted life year

Interpretation: Legislative change was surprisingly cost effective – it improved health and cost less (initially)

Johnson et al. 2010, in preparation



Scheme rating for health outcomes

NB: not experimentally verified

Score:

• fault / no fault / hybrid,	0	2	1
• early notification n / y	0	1	
• non economic loss thresholds low / high	0	2	
• economic loss structure and amounts generous / little	0	2	
• level of disputes high / low	0	2	
• guidelines clinical practice and industry n / y	0	1	
• lawyer activity high / low	0	3	
• medical and rehabilitation industry high / low	0	1	
• case / claims management arrangements poor / good	0	1	

Scale range 0 to 15

A scheme rated at 15 is likely, on average, to be associated with good health outcomes (and ? lower cost)

A scheme rated at 0 is likely, on average, to be associated with poorer health outcomes (and ? higher cost)



Conclusion – Hypothesis 3

- Compensation scheme design influences health (positively and negatively)
- Preliminary evidence shows that changes to compensation schemes can improve health
- Analysis of schemes will suggest targets for scheme change with reference to improved health



Next Steps

- Agreement on how to assess health in compensation settings – quality of life (health related), disability / work, ? symptoms
- Comparative studies of health in different schemes
- Interdisciplinary research
- Academic focus - Institute for Safety, Compensation and Recovery Research (Monash), John Walsh Institute (Sydney)
- Prospective research studies, particularly with reference to scheme re-design



Conclusion

- Is feasible to improve health for people with compensable injuries
- Complex area with strongly held (and polarised) views
- Need science, not opinion, to improve health
- Many scheme factors are potentially changeable for health benefit

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Questions / Comments

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