



Institute of Actuaries of Australia

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Whiplash claimants health outcomes and cost pre and post the 1999 NSW CTP legislative reforms

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Background and methodology

1999 NSW CTP reforms

- Removal of financial compensation for 'pain and suffering'
- Earlier acceptance of compensation claims and access to early treatment
- Introduction of clinical guidelines for treatment of WAD injuries
- Fixed legal costs for motor accident matters unless solicitor and claimant contract out these fees

Study hypotheses (null)

- The health outcomes of people with a WAD injury before the enactment of the MVACA (1999) are the same as those for people injured after legislative change
- The cost-effectiveness, expressed as a cost per good health outcome, for people with whiplash are the same as those for people injured after legislative change

Methodological approach

- Three cohorts:
 - 1999 (before the legislative change)
 - Interviewed at 2 yrs
 - 2001 (shortly after legislative change)
 - Interviewed at 3 months, 6 months and 2 years
 - 2003 (several years after legislative change)
 - Interviewed at 3 months, 6 months and 2 years
- Health outcome measures: CWOM, FRI, SF-36
- Data at 30 June 2006 for the cost analysis

Health outcome measures

Health outcome tool	Number of items	Dimensions measured	Scoring
SF-36 Medical Outcomes Study Short Form 36	36	<ul style="list-style-type: none"> A multi-purpose short-form health survey measuring an eight scale profile of scores as well as evaluating physical and mental health. Comparative to Australian normative data. 	0-100 (lower scores indicating poorer health)
FRI Functional Rating Index	10	<ul style="list-style-type: none"> Quantifies state of pain and dysfunction of the spinal musculoskeletal system Combines the concepts of the Oswestry low back disability questionnaire and the Neck Disability Index. 	0-100 (scores ≤ 25 indicating recovery)
CWOM Core Whiplash Outcome Measure	6	<ul style="list-style-type: none"> Measures pain, function, well-being, disability (work and social) and satisfaction with care. 	-5 to +5 (higher scores indicate greater recovery)

Health outcome findings

Long term health outcomes

- FRI and Pain measures

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

- The % of participants recovered at 2 years was significantly higher for the 2001 and 2003 cohorts compared to the 1999 cohort
- The % of participants reporting ‘mild or less’ pain was significantly higher for the 2001 and 2003 cohorts compared to the 1999 cohort

Long term health outcomes

- SF-36 measure

- Mean physical health scores (age-adjusted) were significantly greater for the 2001 and 2003 compared to the 1999 cohort
- There was no statistical differences between the mental health component scores between the cohorts

- CWOM measure:

- Significantly better health outcomes for the 2001 and 2003 cohorts compared to the 1999 cohort

CWOM items at 2 years	1999	2001	2003
Global perceived change in whiplash symptoms (indicating recovery)	21.7%	30.6%	42.2%

- Increasing proportion of participants recovered across the cohorts

Conclusions – long term health outcomes

- After change in legislation, designed to reduce compensation and to encourage early treatment, recovery from whiplash improved
- The legislative change had a beneficial effect on disability, pain and global recovery
- Compensation schemes should be carefully designed to support recovery and minimise adverse health outcomes
- Design of compensation schemes should be undertaken with the understanding that the scheme structure may have substantial effects on the long term health of injured people.

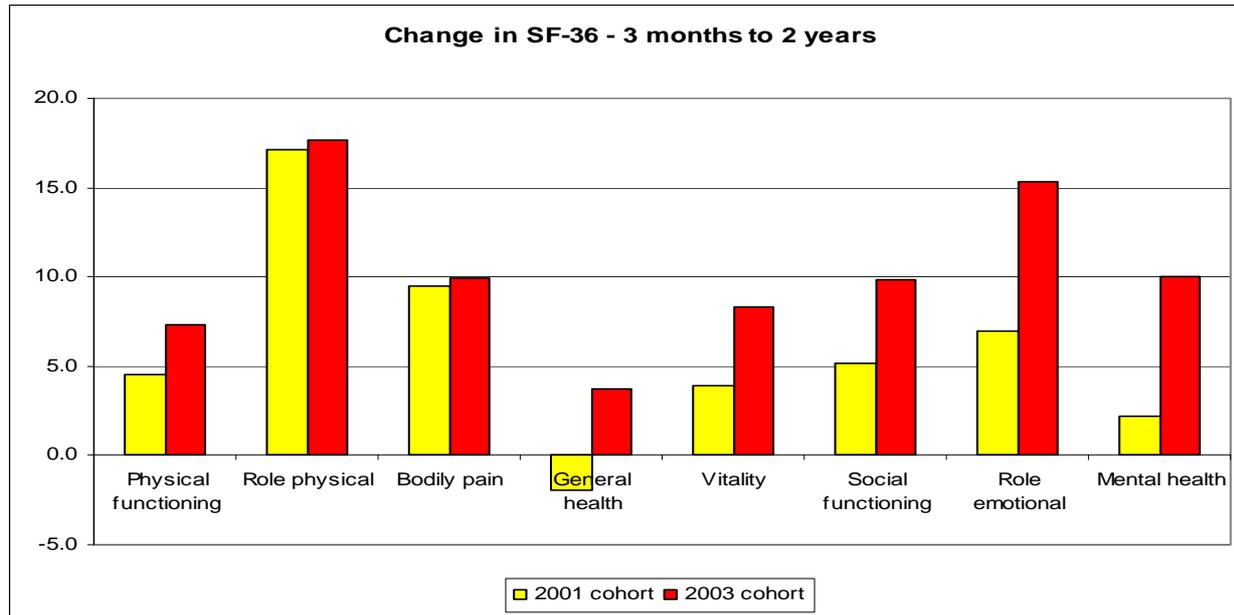
Prospective health outcomes

- FRI

% of claimants recovered based on the FRI	3 mths	6 mths	2 yrs
2001 cohort	33.6%	38.8%	51.7%
2003 cohort	35.5%	37.6%	49.2%
Comparison between 2001 and 2003 cohorts (p-value)	0.063	0.78	0.65

- % of claimants recovered increased significantly over time for both cohorts
- The Global Perceived Effect (as measured by the CWOM) did not change over time for the 2001 cohort, however, it improved over time for the 2003 cohort

Prospective health outcomes



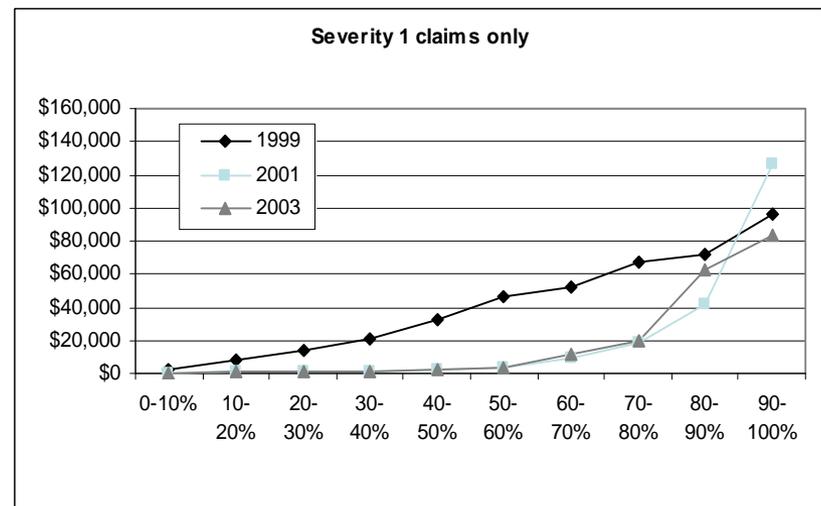
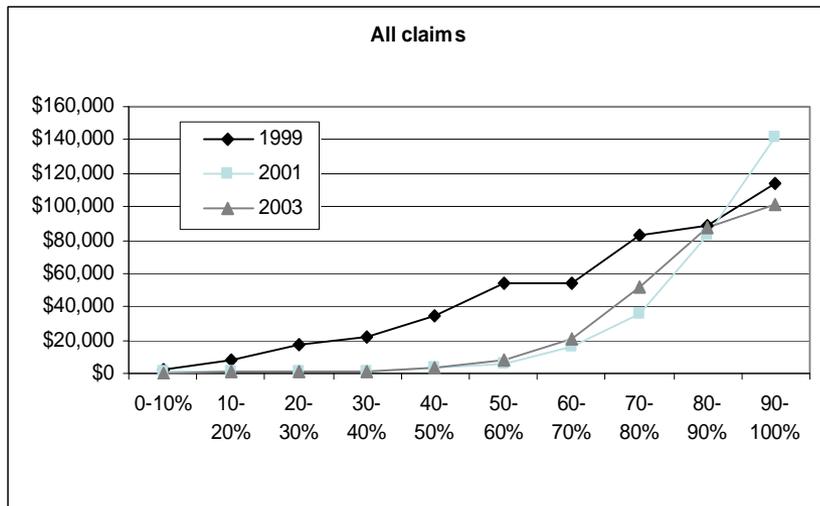
- 2001 cohort: significant improvement in role physical and bodily pain
- 2003 cohort: significant improvement in physical functioning, role physical, bodily pain, vitality, social functioning, role emotional and mental health

Conclusions – prospective health outcomes

- On some measures the 2003 cohort had better health outcomes than the 2001 cohort. This could be due to:
 - Improved claims management and improved practitioner management potentially due to the release of guidelines
 - Wider influence of evidence based practice across musculoskeletal health care
 - Exposure to consumer guidelines
- Non-recovery was highly associated with initial levels of disability
 - Directing appropriate management to this group would therefore be the next step in improving health outcomes for people with WAD

Cost analysis

Total payments per claim by finalisation band



Note: the case estimates on the 2003 cohort are not reliable as they are underdeveloped

- Overall the average claim size (including case estimates on unfinalised claims) for the 2001 cohort was significantly less than for the 1999 cohort (\$47,800 to \$28,000 - \$19,000 saving)
 - This was driven largely by reduced legal and non-economic loss payments
- The average claim size significantly reduced post the legislative changes for the small, quick to finalise claims
- For the large, slow to finalise claims, the average claim size was higher post the legislative change. This was driven by higher medical and economic loss payments.

Finalisation rates

Cohort	Number of months since the accident									
	3 mths	6 mths	12 mths	18 mths	24 mths	30 mths	36 mths	42 mths	48 mths	54 mths
1999	0.44%	2.76%	17.44%	32.30%	50.00%	57.38%	68.86%	77.05%	85.85%	91.01%
2001	2.46%	14.27%	42.81%	57.43%	66.43%	71.57%	77.78%	82.11%	87.49%	92.28%
2003	4.62%	17.80%	44.41%	54.88%	63.34%	70.23%				

- At 12 months only 17% of claims were finalised in the 1999 cohort and approximately 43% were finalised in the 2001 and 2003 cohorts
- At 24 months 50% of claims were finalised in the 1999 cohort compared with approximately 65% in the 2001 and 2003 cohorts

Medical payment pattern

Medical	3 mths	6 mths	12 mths	18 mths	24 mths	30 mths	36 mths	42 mths	48 mths	54 mths
1999	20	534	937	870	803	646	629	775	823	342
2001	115	424	710	423	402	322	464	424	717	465
2003	152	520	703	561	543					
2001 Cohort as a % of the 1999 Cohort	563.4%	181.7%	75.8%	48.6%	50.0%	49.9%	73.8%	54.8%	87.2%	135.9%
2003 Cohort as a % of the 1999 Cohort	746.3%	222.6%	75.1%	64.5%	67.7%					

- Earlier access to treatment was achieved as seen by the larger payments per claim in the first six months since the date of accident

Legislative change indicators

Process factor – mean (SD) †	1999	2001	2003	Significance
Time to notification of claim	3.3 (0.2)	2.9 (0.5)	1.7 (0.2)	P<0.001
Time to admit liability	7.4 (0.5)	4.6 (0.6)	4.4 (0.4)	P<0.001

† Measured in months

- Time to notification of the claim, and time to admit liability, were both significantly reduced after the change in legislation and were then stable between 2001 and 2003.

Conclusions – cost analysis

- Overall the pattern of costs changed to reflect the intention of the legislative changes
 - Earlier access to treatment
 - Reduced legal fees and non-economic loss payments
- Small claims finalised faster after the introduction of the new legislation
- The legislative changes were also effective in reducing the average claim size of the smaller claims that finalise relatively quickly, yielding substantial savings to the Scheme due to their high frequency
- For large, slow to finalise claims there was evidence of higher payments after the legislative change, where restrictions on payments did not exist

Summary of findings

Health outcomes

- Respondents who reported WAD after legislative change experienced significantly better health outcomes
- Compared with the 1999 cohort, the 2001 and 2003 cohorts reported:
 - a significantly higher rate of recovery at two years
 - a significantly better physical health related quality of life
 - no significant difference in mental health related quality of life

Health outcomes continued

- On some measures the 2003 cohort had better health outcomes than the 2001 cohort
 - Improved claim management and improved practitioner management potentially due to the release of patient guidelines
 - Wider influence of evidence based practice across musculoskeletal health care
 - Release of consumer guidelines which were assumed to be seen more so by the 2003 cohort than the 2001 cohort
- The study has shown that a significant increase in recovery was achieved. A substantial proportion nevertheless remained unchanged.
 - Non-recovery was associated with higher initial levels of disability
 - Directing appropriate management to this group would therefore be the next step in improving health outcomes for people with whiplash

Cost analysis and overall

- Cost analysis
 - The pattern of costs changed to reflect earlier access to treatment and improved recovery.
 - Medical payments were higher in the first six months post injury
 - The average cost of WAD claims was lower post the legislative change
- Overall
 - Overall this study has shown a significant improvement in disability, pain and physical functioning after legislative change
 - In addition to improved health outcomes the cost of WAD claims were also reduced
 - Design of compensation schemes should be undertaken with the understanding that the structure of the scheme may have substantial effects on the long term health of those suffering WAD injuries

Questions??