



Institute of Actuaries of Australia

# XVth GENERAL INSURANCE SEMINAR

*Evolution of the Industry*

## **The impact of scheme design on financial and health outcomes: building the evidence base**

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# Contents

- Introduction
- Costing outcomes
- General Conclusions



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## What is 'whiplash' ?

- It is what happens when someone's head moves forwards and then backwards quickly
- The movement may cause injury to the neck
- Whiplash is almost exclusively caused by motor vehicle crashes
- Neck pain is the main symptom
- Other symptoms may occur



## What is WAD ?

- WAD stands for Whiplash-Associated Disorders
- It covers a range of neck problems resulting from the whiplash motion of the crash
- Severity varies from very mild to severe
- Prevalence of WAD is substantial
- Extent of recovery varies but there is often prolonged pain
- What contributes to prevalence and recovery from WAD is controversial



## Legislative changes in NSW (from October 1999)

- New threshold for Non-Economic Loss (Impairment > 10%)
- Early notification and treatment process designed to allow claimants access to early treatment
  - Particularly aimed at claimants with soft tissue injuries (such as WAD)
- Earlier acceptance of compensation claims (decision within 3 months)
- Development of guidelines on the clinical management of WAD injuries and an accompanying education program



## Legislative changes in NSW (from October 1999)

- Establishment of the Claims Assessment and Resolution Service (CARS)
- Establishment of the Medical Assessment Service (MAS)
- Limits to legal costs



## Primary Hypotheses of Study

- People sustaining WAD after the change in legislation would have reduced long term disability and improved quality of life when compared to a group sustaining injuries prior to the changes;
- The pattern of costs would change to reflect earlier access to treatment and that better recovery would be reflected in reduced total costs to the scheme.





# The Present Study

- Health outcome follow-up data:
  - 2 years post injury for the 1999 cohort
  - 3 months, 6 months and 2 years post injury for the 2001 cohort
  - 3 months, 6 months for the 2003 cohort (Follow-up data at 2 years will occur)



# Contents

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# Data Availability for the WAD Cohorts

<b>Cohort</b>	<b>3 months</b>	<b>6 months</b>	<b>12 months</b>	<b>24 months</b>	<b>36 months</b>
<b>1999</b>	✓	✓	✓	✓	✓
<b>2001 Wave 1</b>	✓	✓	✓	✓	✓
<b>2001 Wave 2</b>	✓	✓	✓	✓	✓
<b>2003 Wave 1</b>	✓	✓	✓	✗	✗
<b>2003 Wave 2</b>	✓	✓	✓	✗	✗
<b>2003 Wave 3</b>	✓	✓	✗	✗	✗

- Data is at 31 December 2004
- Delays mimic the periods at which the interviews are conducted



# Background

- Types of Claims:
  - ANF Only Claim
  - Converted Claim
  - Direct Claim
- Development Time vs. Operational Time

WAD Cohort	Cumulative finalisation rates				
	3 month	6 month	12 month	24 month	36 month
1999	0.44%	2.73%	17.43%	49.83%	68.50%
2001	0.80%	6.38%	22.79%	54.67%	70.77%
2003	1.52%	7.58%	27.41%		



## PPCI – Total Payments

WAD Cohort	PPCI (\$)					
	3 months	6 months	12 months	24 months	36 months	To date
1999	36	432	2,447	10,776	21,131	40,702
2001	166	839	2,153	4,898	9,644	12,048
2003	207	1,079	1,514			3,008
2001 Cohort as a % of the 1999 Cohort	460.3%	194.1%	88.0%	45.5%	45.6%	
2003 Cohort as a % of the 1999 Cohort	574.6%	249.6%	61.9%			

- 2001 and 2003 compared to 1999:
  - Higher average payments in the earlier development periods
  - Lower average payments in the later development periods

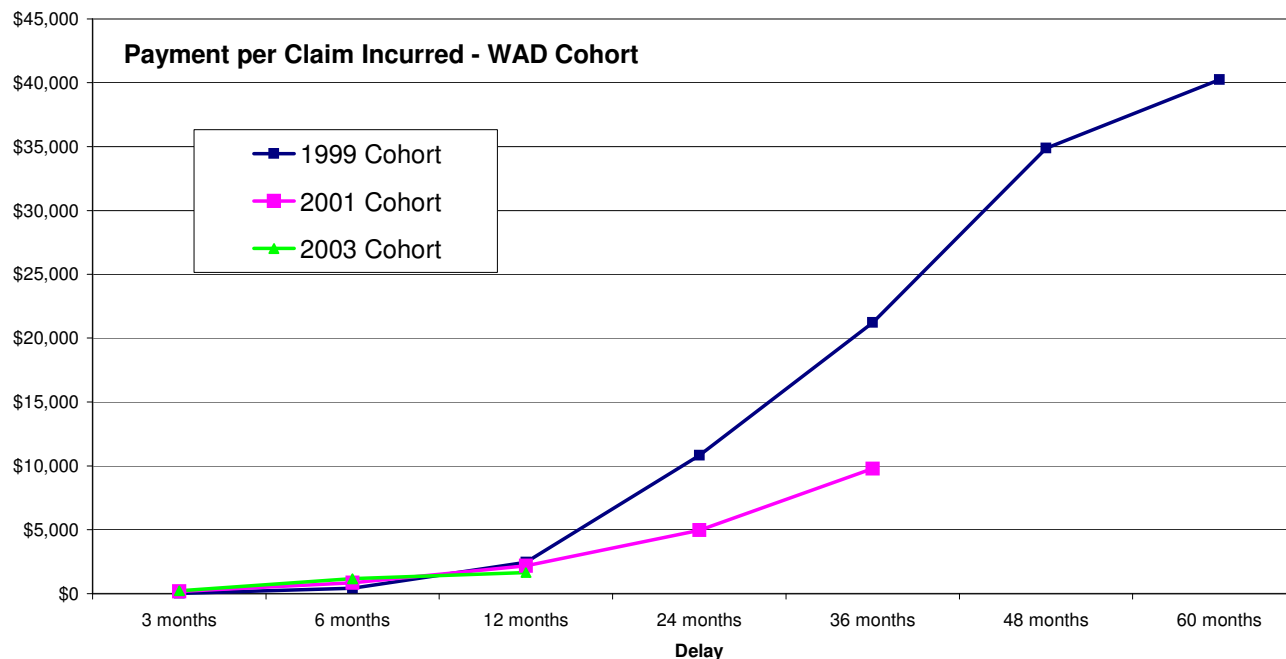


# Breakdown by Payment Type - Summary

<b>WAD Cohort</b>	<b>Payment Per Claim Incurred (\$)</b>				
	<b>3 months</b>	<b>6 months</b>	<b>12 months</b>	<b>24 months</b>	<b>36 months</b>
<b><i>Medical Payments</i></b>					
2001 Cohort as a % of the 1999 Cohort	616.8%	255.9%	134.7%	95.4%	92.5%
2003 Cohort as a % of the 1999 Cohort	795.2%	324.3%	90.5%		
<b><i>Legal Payments</i></b>					
2001 Cohort as a % of the 1999 Cohort	196.2%	108.4%	65.6%	32.9%	29.7%
2003 Cohort as a % of the 1999 Cohort	363.0%	151.3%	45.6%		
<b><i>Non Economic Loss Payments</i></b>					
2001 Cohort as a % of the 1999 Cohort	537.5%	221.0%	99.3%	61.4%	68.4%
2003 Cohort as a % of the 1999 Cohort	218.8%	244.1%	90.4%		
<b><i>Non Economic Loss Payments</i></b>					
2001 Cohort as a % of the 1999 Cohort		0.0%	5.1%	4.6%	11.6%
2003 Cohort as a % of the 1999 Cohort		0.0%	1.7%		



# Reduced Total Costs to the Scheme?



- The new payment pattern post reforms implies that the average cost per claim will possibly be less than pre reforms
- Potential change in the order of finalisations



# Analysis Including ANF Only Claims

Cohort	Cumulative proportion of claims finalised				
	3 month	6 month	12 month	24 month	36 month
1999	0.44%	2.74%	17.51%	50.05%	68.79%
2001	2.43%	14.12%	42.82%	66.77%	78.57%
2003	4.97%	18.91%	48.18%		

- Inclusion of ANF Only Claims increases the finalisation rates for the 2001 and 2003 cohorts
- ANF Only claims represent 27% of total claims





# Medical Payments – ANF Only Claims Included

Cohort	PPCI (\$)					
	3 months	6 months	12 months	24 months	36 months	To date
1999	18	228	1,066	2,566	3,707	5,649
2001	103	482	1,117	1,853	2,565	2,875
2003	131	579	722			1,362
2001 Cohort as a % of the 1999 Cohort	560.9%	211.3%	104.8%	72.2%	69.2%	
2003 Cohort as a % of the 1999 Cohort	717.5%	253.9%	67.7%			

- Consistent with the analysis that excludes ANF only claims
- Result distorted as the finalisation pattern is not constant across the cohorts



# Medical Payments – Operational Time – ANF Only claims included

Cohort	PPCI (\$)				
	0.44%	2.74%	17.51%	50.05%	68.79%
1999	18	228	1,066	2,566	3,707
2001	19	113	557	1,339	1,975
2003	12	61	580		
2001 Cohort as a % of the 1999 Cohort	102.0%	49.5%	52.2%	52.2%	53.3%
2003 Cohort as a % of the 1999 Cohort	63.9%	26.7%	54.4%		

- Decreasing average payment trend for the 2001 cohort when compared to the 1999 cohort
- Less clear for the 2003 cohort



# Conclusions

- The pattern of costs has potentially changed to reflect the legislative changes
  - A significant proportion of payments have occurred in the earlier development periods
  - Potentially reduced total cost to the scheme
- Claims are finalising at a faster rate when the ANF claims are included

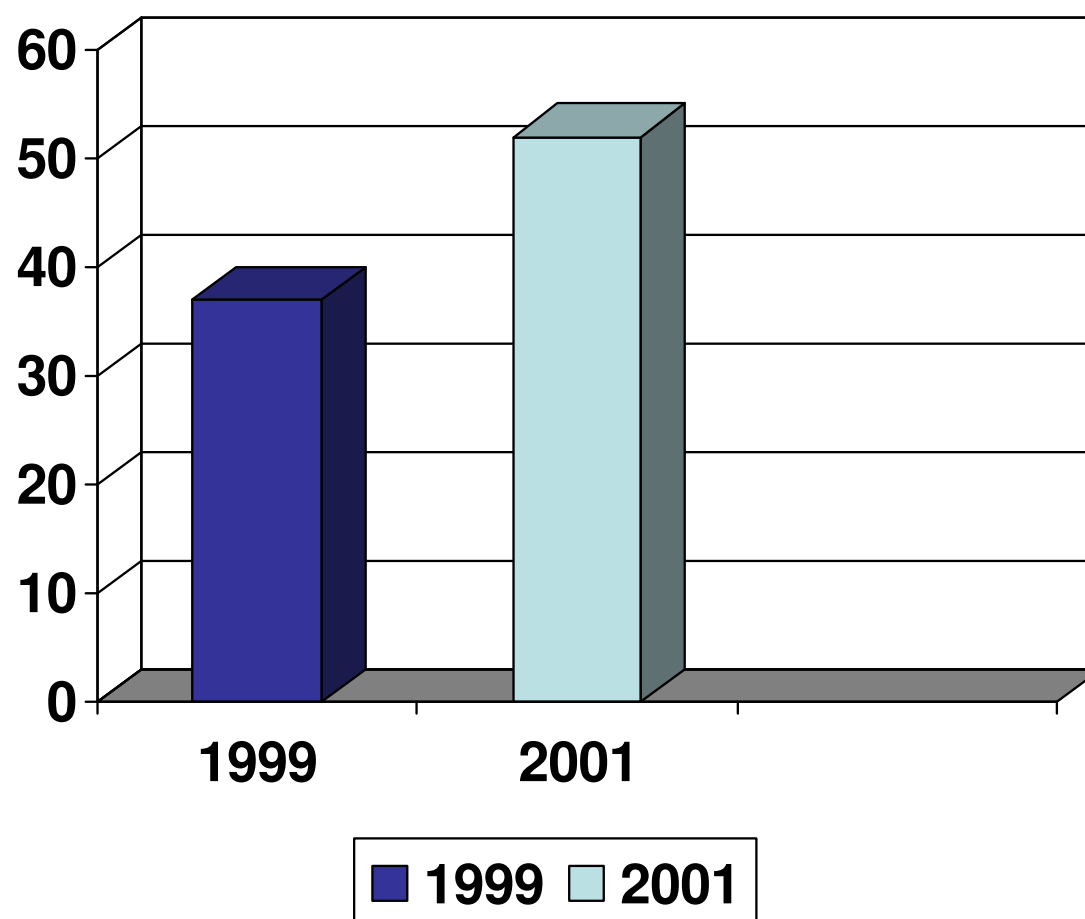


# Contents

- Introduction
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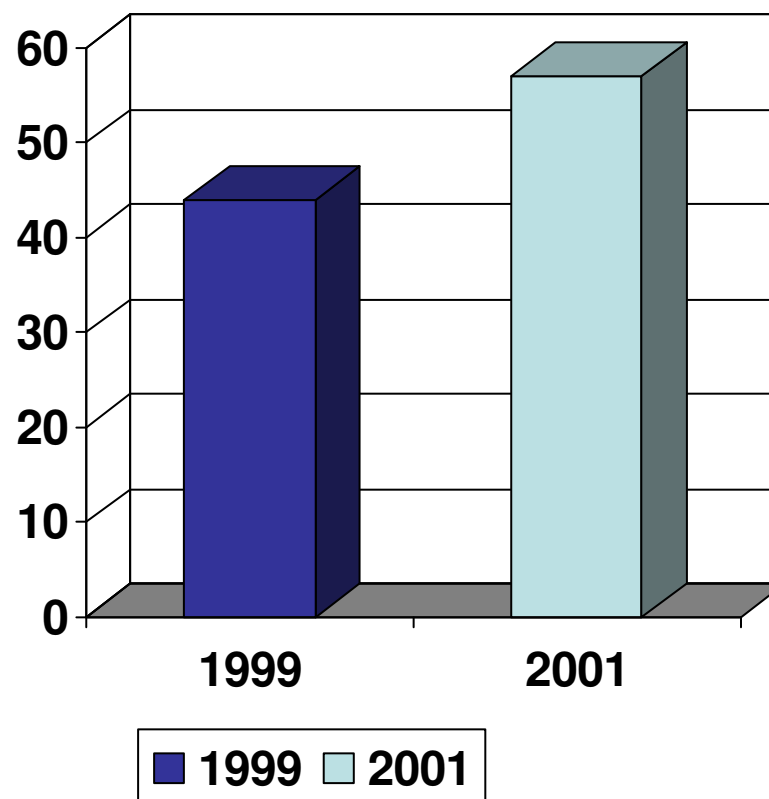


## Health Outcomes - Percentage of people with whiplash recovered two years after injury



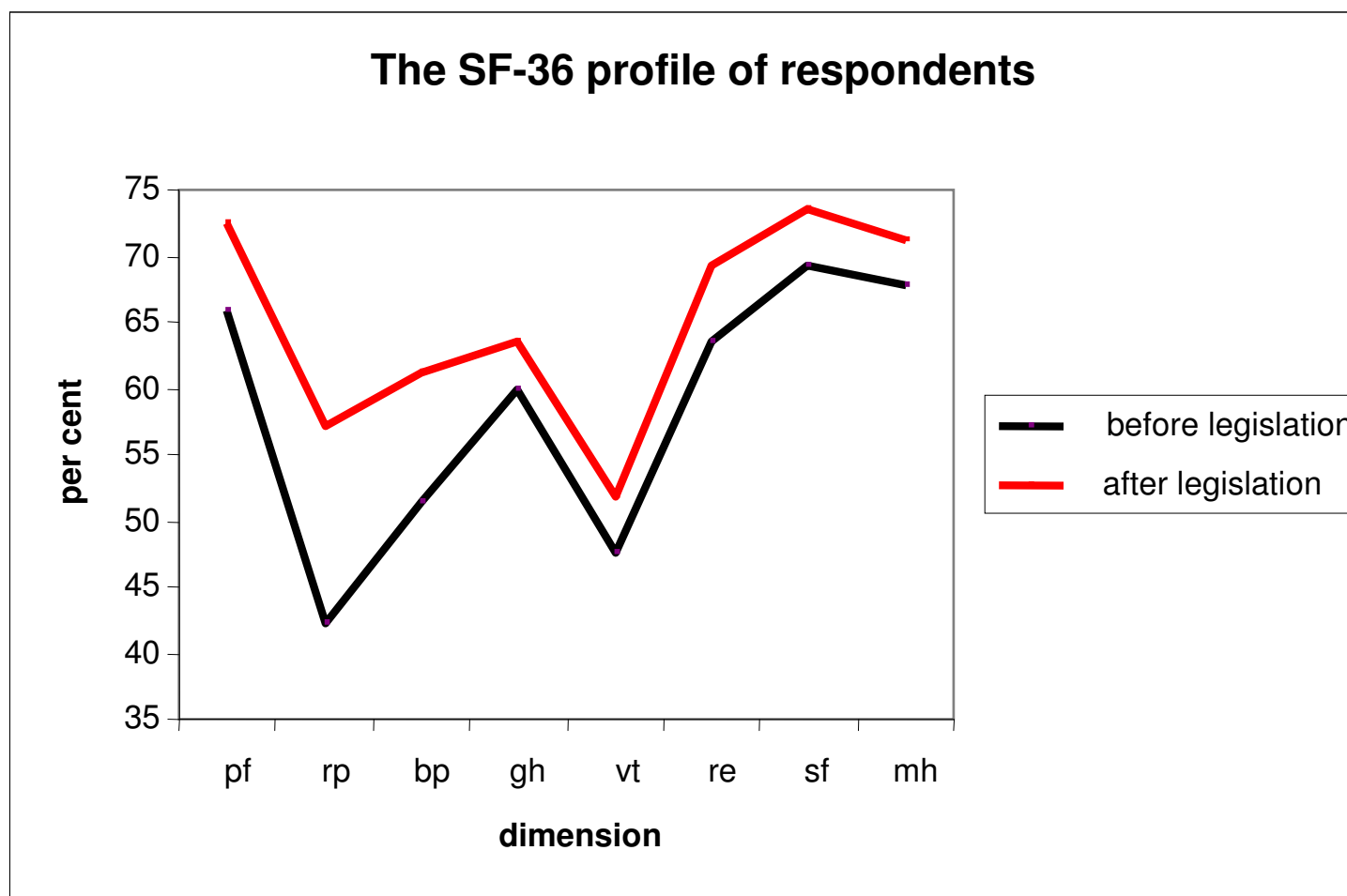


## Health Outcomes - Percentage of people with whiplash reporting non significant pain two years after injury





## Health outcomes – SSF-36 Scores for the Cohorts





# Implications

- Lots of research:
  - Compensable vs. non-compensable
- A significant evidence gap: specific features of compensation which are influential?
- This study showed structure and design influence both health outcomes and costs for the scheme
- The results reflect and strengthen previous findings