

Institute of Actuaries of Australia

## Comparison Across CTP Schemes in Australasia

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## **Abstract**

This paper compares premiums and the cost of compensation in various CTP schemes throughout Australasia. Each jurisdiction is unique, and comparisons can be dangerous. However, we do it anyway.

*Keywords: Compulsory Third Party, Motor Vehicle, Compensation, Cost Comparison*

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## **Summary**

### **Introduction**

Plenty of focus has been given to differences between schemes in these types of scheme comparisons. While we acknowledge that many differences do exist, there are also some remarkable similarities which we point out in this paper.

We have reviewed each scheme in Australia and New Zealand in relation to premium rates. Further details were provided by New South Wales, Queensland, Western Australia, South Australia, Tasmania and New Zealand with which we have used in more detailed comparisons.

The premiums, claims and other expenses compared in this paper have been normalised for average weekly earnings (AWE) differences between the schemes.

The observations in this paper suggest similarities exist between the schemes at a macro level in that:

- premium rates tend to move towards and maintain similar levels over time
- the distribution of compensation by head of damage and across injuries is reasonably similar between schemes
- the expenses in aggregate are similar between schemes.

Of course the above comments do not suggest that active management of scheme costs is not required; more that overall scheme costs, the split between compensation and expenses and the distribution of compensation payments can be managed equally successfully in a variety of business models.

### **Acknowledgements**

Thanks to the schemes for allowing the use of their data and providing other assistance. Thanks also to Kane Boulton, Alysha Nickerson and Jenita Wijaya for their help in preparation of this paper. Estelle Pearson provided peer review and plenty of constructive advice on how to improve the paper. My next paper will be so much the better for Estelle's input.

### **Summary of Findings**

Average premium rates have varied quite a bit historically. However, when expressed as a proportion of AWE the rates seem to track between 40% and 50%. When rates have been outside of this range scheme intervention occurs which acts to bring them back. Western Australia and New Zealand may be considered outliers here with rates consistently below 40% of AWE.

Road casualty trends throughout Australia have been similar with all states and territories experiencing lower rates in recent years. The exception here is Queensland where 'serious' road

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casualty rates have not decreased (but total casualties have). Serious casualties have also been quite stable (i.e. not reducing) in New Zealand.

Claim frequency has fallen in all jurisdictions somewhat in line with casualty reductions except for Queensland where frequency has fallen despite serious casualties holding up and New Zealand where both casualties and claim frequency remained fairly static.

It appears that the balance of costs has changed in NSW and Qld such that lower claim frequency has resulted in a higher proportion of claim payments awarded to those more seriously injured.

The distribution of incurred cost by injury type for NSW and SA is also similar. Based on paid to date for more mature accident years, the proportion of cost for New Zealand (no fault based) may not be too different the common law jurisdictions of Australia.

There are some significant differences between schemes in the in the distribution of claims costs by head of damage. Although for the more serious cases there is reasonable similarity in the proportion of the total costs related to the total of medical/hospital and care between the jurisdictions.

Where we were able to determine expenses in premiums the level of expenses are also similar between jurisdictions mostly between at between 7% and 9% (of AWE) with WA a little lower at 5%.

At least in very broad terms, relative to the AWE of the jurisdiction:

- premiums tend to hover around the same rate
- total claims costs are very roughly distributed in a similar way by injury (severity and type)
- the mix of claims costs by head of damage is not wildly different across jurisdictions
- total expenses are similar between jurisdictions as well.

At a more detailed level there are very significant differences in the schemes throughout Australasia. However, it seems that despite difference, reasonably stable premiums and some similarities in the compensation has been achieved by the schemes.

### 1. Introduction

Our study observes the cost of compensation for injuries arising in each of New Zealand, the six states of Australia and the two mainland territories of Australia. Detailed information was provided for the schemes operating in:

- New South Wales
- Queensland
- South Australia
- Western Australia
- New Zealand.

For other schemes we have commented on publicly available information.

In much of this paper we present scheme statistics relative to the average weekly earnings of the particular jurisdiction and year(s) in question. The claims costs are the sum of the actual payments made to date and the estimated cost of outstanding claims, using the undiscounted actuarial valuation of the outstanding claims where available. We have not applied our own inflation or discounting to these payments or estimates. We analyse similarities and differences in the schemes by examining:

- Incidence of motor vehicle claims (by injury)
- Propensity of injured people to utilize the compensation system
- Amounts paid in compensation to injured people
- Proportion of claims receiving particular types of compensation
- Distribution of compensation by cost component
- Average cost to scheme of other expenses, including plaintiff legal and defendant legal costs (where applicable), claim investigation costs, claims handling expenses and general administration costs
- Sufficiency of historical premiums collected to cover claims and other scheme expenses in aggregate.

## 2. Legislation Summary

This section summarises the schemes and relevant recent changes in legislation of each of the jurisdictions that are considered in detail in this report.

### 2.1 New South Wales

SCHEME: Motor Accidents Authority (MAA)  
DESCRIPTION: Common Law with Statutory Limits  
LEGISLATION: Motor Accidents Compensation Act 1999

#### RECENT CHANGES IN LEGISLATION

- Motor Accidents (Lifetime Care & Support) Act 2006
- Motor Accidents Compensation Amendment Act 2006.

### 2.2 Queensland

SCHEME: Motor Accidents Insurance Commission (MAIC)  
DESCRIPTION: Common Law  
LEGISLATION: Motor Accidents Insurance Act 1994

#### RECENT CHANGES IN LEGISLATION

- Motor Accident Insurance Amendment Act 2000
- Personal Injuries Proceedings Act 2002
- Civil Liability Act 2003.

### 2.3 South Australia

SCHEME: Motor Accident Commission (MAC)  
DESCRIPTION: Common Law with Statutory Limits  
LEGISLATION: Motor Vehicles Act 1959

#### RECENT CHANGES IN LEGISLATION

- 2002 general damages limits related to an injury scale.

### 2.4 Tasmania

SCHEME: Motor Accidents Insurance Board (MAIB)  
DESCRIPTION: No Fault with Common Law Rights  
LEGISLATION: Motor Accidents (Liabilities and Compensation) Act 1973 (MA Act)

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### RECENT CHANGES IN LEGISLATION

- Civil Liability Act 2002:
  - Interacts with the MA Act to impose restrictions on the Common Law damages available to people injured in motor vehicle accidents.
- MA Act Amendments
  - Increased maximum amount payable for combined medical and disability benefits.
  - Increased death benefits.
  - Increased housekeeping allowance and allowance period.

### 2.5 New Zealand

SCHEME: Accident Compensation Corporation (ACC)  
DESCRIPTION: 24 Hour No Fault Personal Accident Insurance  
LEGISLATION: Injury Prevention, Rehabilitation, & Compensation Act 2001

#### RECENT CHANGES

- Pay-as-you go prior to 1 July 1999. Fully funded after that date
- There have been no major changes since the introduction of the 2001 Act.

### 2.6 Western Australia

SCHEME: Insurance Commission of Western Australia (ICWA)  
DESCRIPTION: Common Law with Statutory Limits  
LEGISLATION: Motor Vehicle (Third Party Insurance) Act 1943

#### RECENT CHANGES IN LEGISLATION

- Motor Vehicle (Third Party Insurance) Amendment Act 1994
  - Introduced a threshold for general damages.



## Comparison Across CTP Schemes in Australasia

### 3. Premiums

This section provides a summary of premium rates. We include some observations on:

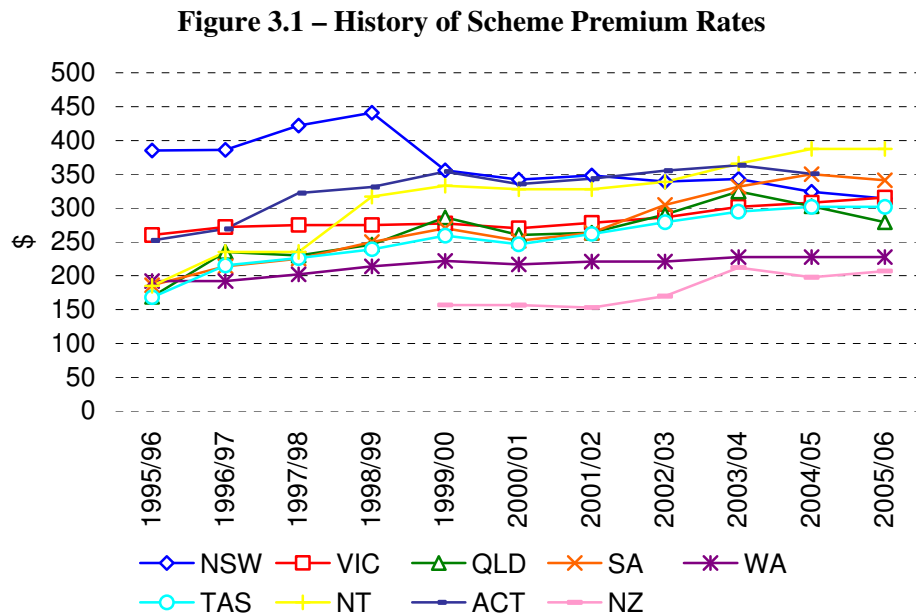
- Average metro car premium rates
- Overall average scheme premium rates.

#### 3.1 Average Metro Car Premium Rates

Motor vehicle bodily injury compensation schemes combine the, not insignificant, difficulties of estimating:

- the numbers and nature of injuries arising each year (very low claim volumes in comparison to some other classes of insurance)
- the ultimate medical and other costs associated with these injuries
- the behaviour of claimants in pursuing compensation
- the impact of legal representation
- uncertain impacts of legislation changes.

The following figure shows the actual historical premium for each jurisdiction for a standard car in the metropolitan area (if premiums differ by geographic location).

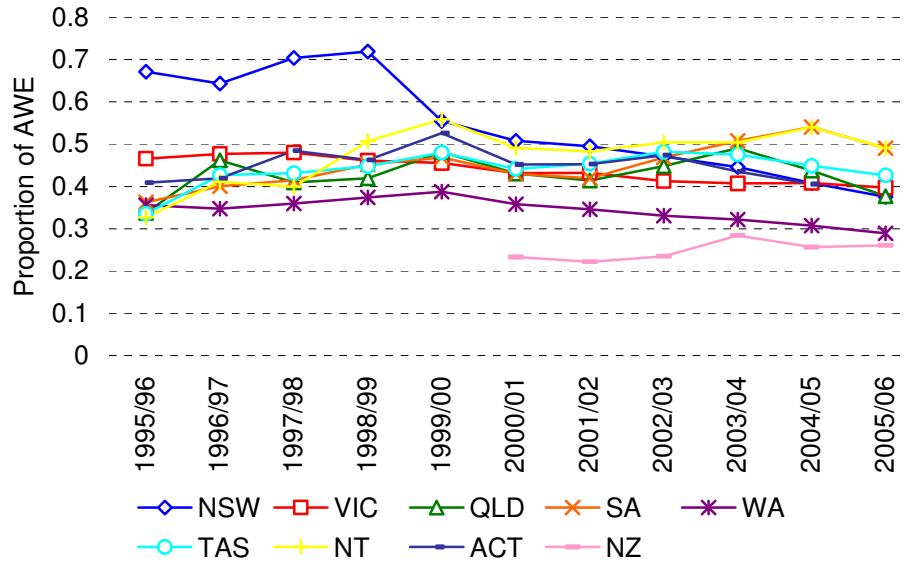


In order to normalise between jurisdictions, premiums expressed as a proportion of the average weekly earnings in the state, territory or country are shown in the next figure. Given the potential

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for significant instability in the claims costs associated with this class of insurance/compensation, premium rates have been remarkably stable.

**Figure 3.2 – History of Scheme Premium Rates % AWE**



In summary the figure shows that:

- with the exception of WA and NZ recent premium rates are broadly equal to 40% to 50% of average weekly earnings
- WA and NZ are a little lower than 30% of average weekly earnings
- ACT, NSW, Vic, Qld and Tasmania around 40%
- SA and NT around 50%
- NSW rates were clearly above the others prior to 2000 but are now very much in line.

Other observations on premium rates are as follows.

NSW rates peaked at 72% of AWE in 1998/99. The sharp and sustained reduction in premium rates is a direct impact of the MACA amendments in 1999.

Victorian premiums were essentially flat during the three years from 1995/96 to 1997/98. Since that time the premium rate has gradually come down by an average of about 1% (of AWE) per year. No major legislation changes have been introduced in Victoria since the mid 80s. This legislation stability may have contributed to premium stability.

Qld premiums have ranged mostly between 40% and 50% of AWE. Prior to the Civil Liability Act premiums peaked at 49% and have in the next two year reduced to 38% of AWE. Aside from NSW this is the biggest real premium reduction in such a short time period.

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South Australian premiums have also been very stable. However, unlike other premiums, the predominant trend has been to higher premiums over the last ten years (although the 2005/06 premium suggests this may not continue).

WA shows a pattern of a gradual increase up to 1999/00 followed by a slight but steady premium rate decrease.

Since 1996/97 rates in Tasmania have remained in a 5% band between 43% and 48% with the most recent premium at the lower end of the range.

NT premiums increased up to the 1999/00 year peaking at 56%. Rates since have been quite stable at around 50% of AWE.

Premiums in the ACT in 1995/96 were 41% of AWE and returned to 41% in 04/05. In between rates increased and peaked at 53% in 1999/00.

NZ premiums jumped up to 28% from 23% of AWE in 2003/04 and subsequently fell back to 23% over the next three years.

**Each jurisdiction has achieved a reasonably stable premium over the last 10 years. The range of scheme models adopted is broad, ranging from modified Common Law underwritten in the private sector to Government monopoly No Fault cover. Despite this the premium charged is quite similar for each when expressed as a fraction of average weekly earnings.**

**Clearly the compensation model in each jurisdiction is tailored to achieve an “affordable” CTP premium. In some cases clear interventions (eg. MACA 1999) have been introduced in order to achieve this.**

## Comparison Across CTP Schemes in Australasia

### 4. Scheme Statistics

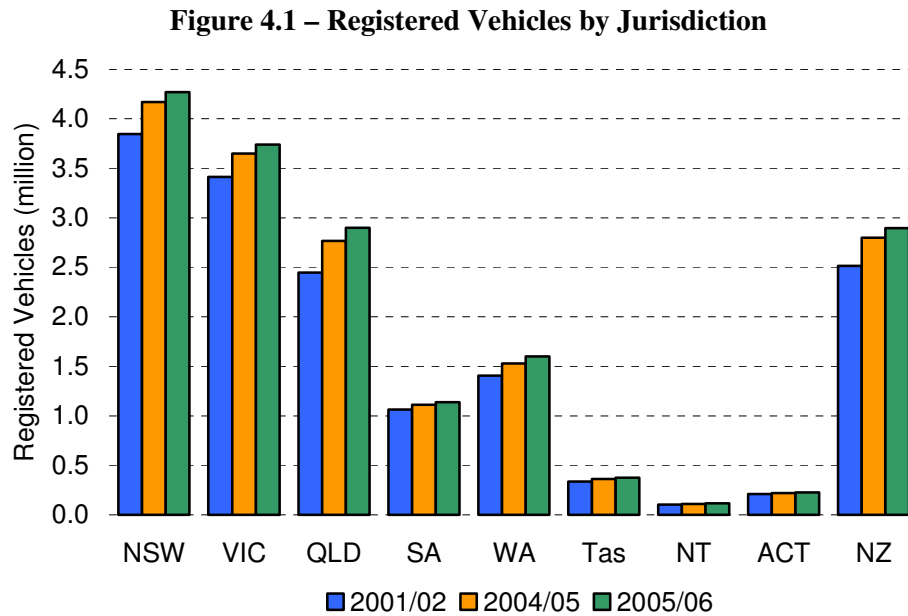
#### 4.1 Introduction

This section summarises some macro scheme information:

- the number of registered vehicles in each scheme
- the number of claims
- the number of road casualties
- the number of road fatalities
- scheme utilisation.

#### 4.2 Registered Vehicles

Figure 4.1 shows the number of registered vehicles in each jurisdiction, as at 2002, 2005 and 2006.

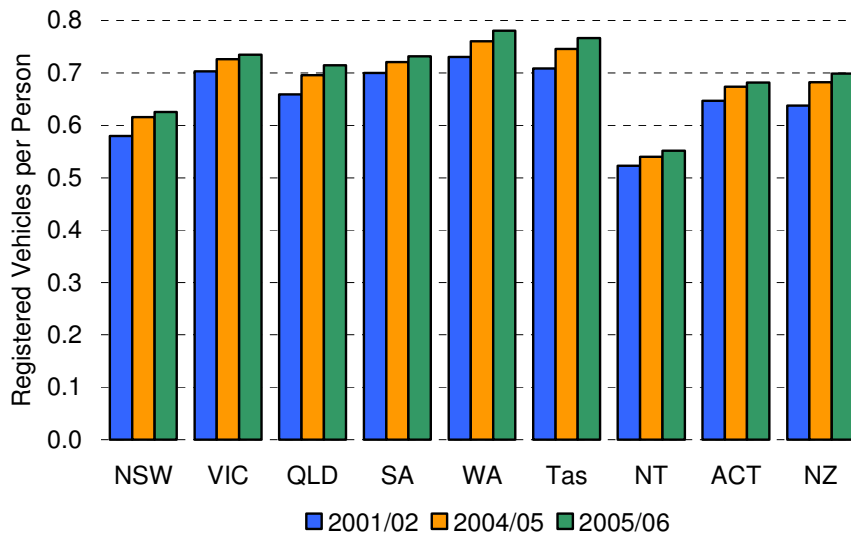


Source: ABS 9309.0 for Australian jurisdictions, ACC for NZ.

This shows that each jurisdiction has experienced an increase in the number of registered vehicles over the period measured. The figure below shows the number of registered vehicles per person in each jurisdiction.

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**Figure 4.2 – Registered Vehicles per Head of Population by Jurisdiction**



Every jurisdiction has experienced an increase in the number of vehicles per person. This is thought to be a combination of:

- an increasing proportion of the population in the age group able to drive legally
- an increase in the number of multiple car households.

In 2006, there were on average between 0.65 and 0.70 vehicles per person across most jurisdictions except NT and NSW are a bit lower at 0.52 and 0.58 vehicles per person respectively.

We would expect claim frequency to be inversely proportionate to the number of vehicles per person. Of course there are many other factors at work that could influence this measure.

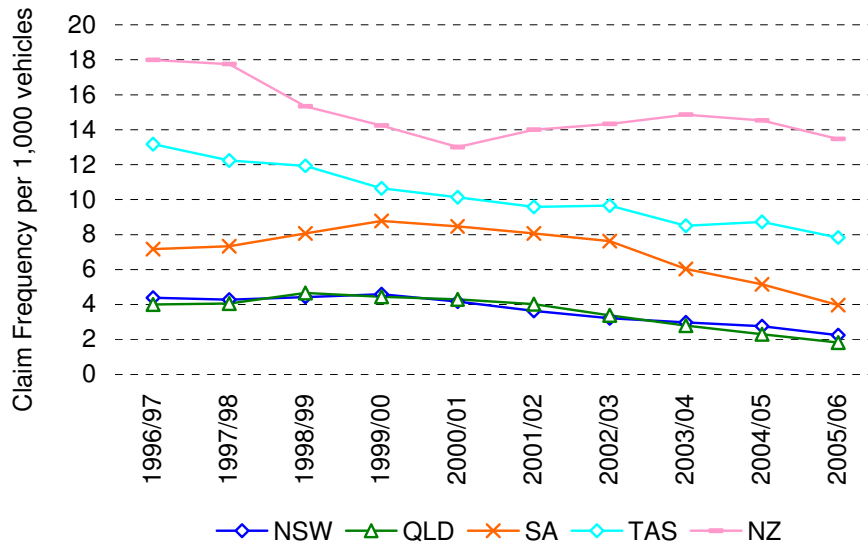
### 4.3 Claim Frequency

For five of the jurisdictions we examined the components of premium more closely. Claim frequencies for these jurisdictions are shown in this section.

The following figure shows the number of claims for every 1,000 registered vehicles. Frequency is shown for the 10 accident years ending June 1997 to 2006.

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**Figure 4.3 – Claim Frequency per 1,000 Registered Motor Vehicles**



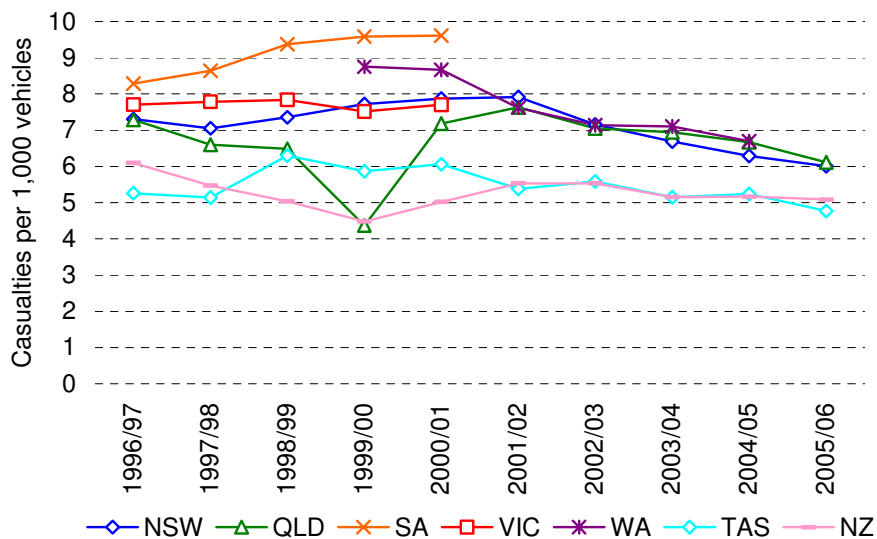
There is a clear distinction between the Common Law schemes of NSW, Queensland and South Australia and the No Fault Government monopolies of New Zealand and Tasmania. Note that the claim frequency for New Zealand ‘entitlement claims’ is around 2.4 per 1,000 vehicles for 2005/06.

Also, each jurisdiction has a lower claim frequency in 2005/06 compared with ten years earlier.

### 4.4 Road Casualties

The number of casualties from road accidents is obviously a key driver of the cost of a CTP scheme. Figure 4.4 shows the rate of road casualties (including fatalities) per registered vehicle by jurisdiction. (Note that the information was not readily available for each jurisdiction).

**Figure 4.4 – Road Casualties per 1,000 Registered Motor Vehicles**



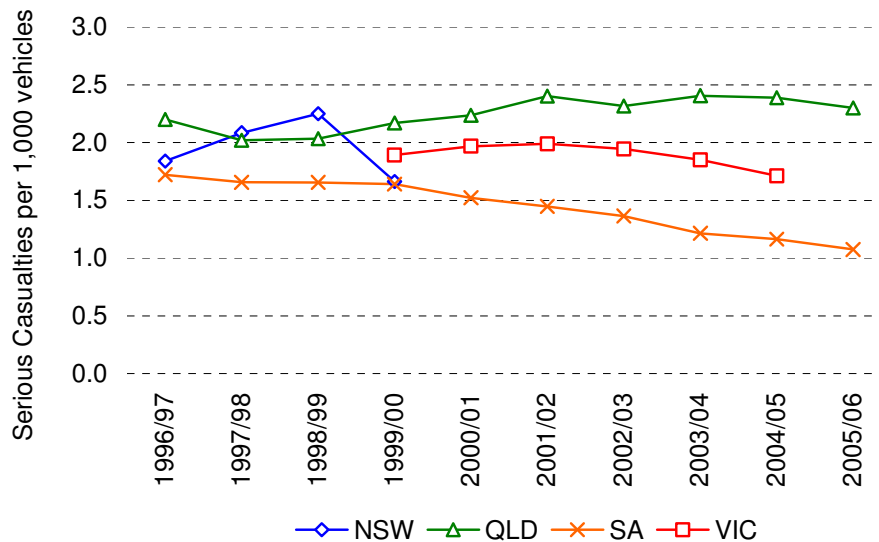
## Comparison Across CTP Schemes in Australasia

Since 2002, the rate of road casualties has shown a downward trend in the jurisdictions for which data was available. Furthermore, since that date, the rate is remarkably consistent across three of the jurisdictions shown (NSW, Qld and WA).

Clearly the decrease in scheme's claim frequency is at least partially influenced by overall casualty rate reductions.

Some jurisdictions have more complete information regarding 'serious road casualties'. The following chart shows these statistics.

**Figure 4.5 – Serious Road Casualties per 1,000 Registered Motor Vehicles**



Any decreasing trend in the rates of serious casualties is a far more recent phenomenon for Qld. Victoria and particularly South Australia have experienced longer term serious casualty rate reductions.

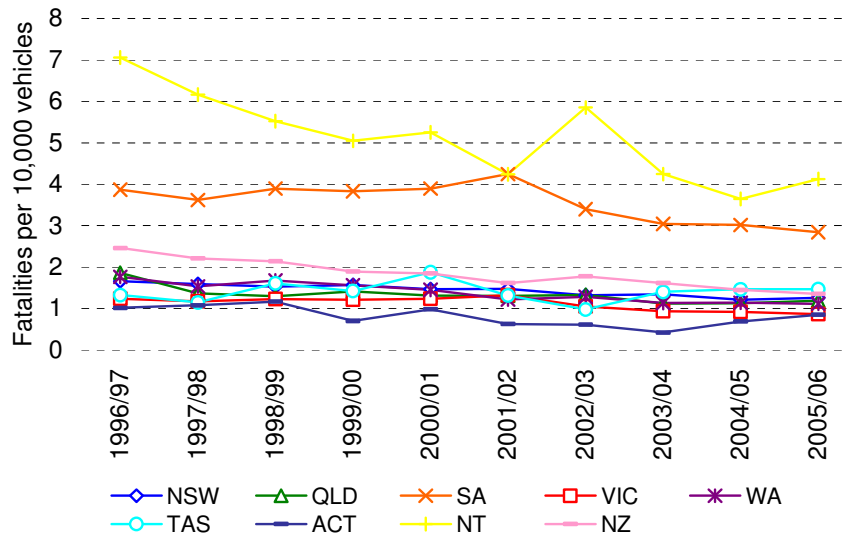
Qld is the only jurisdiction in which we have complete series for casualties and serious casualties. Since serious casualties have not followed the longer term downward trend in this state does this mean that claim frequency reductions are related to lower "non-serious" road casualties?

### 4.5 Road Fatalities

The figure below shows the number of fatalities per 10,000 registered motor vehicles for each jurisdiction.

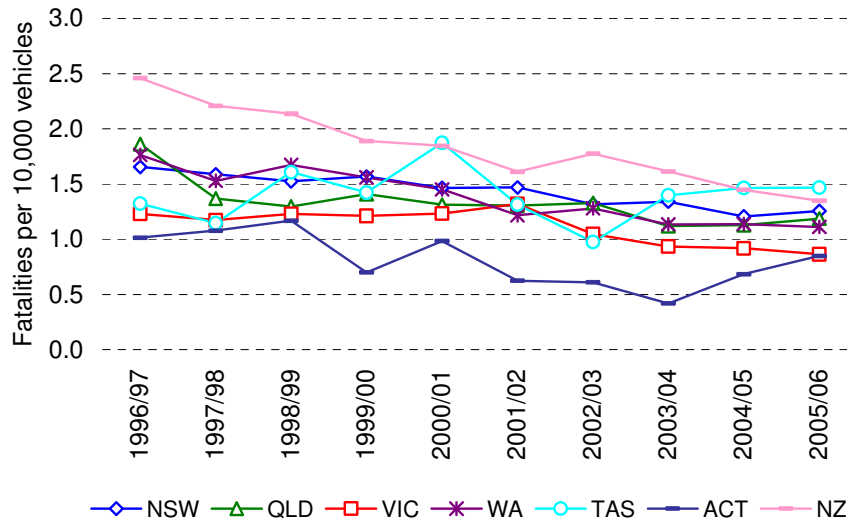
## Comparison Across CTP Schemes in Australasia

**Figure 4.6 – Fatalities per 10,000 Registered Motor Vehicles**



The NT and SA have experienced much higher (though falling) fatality rates compared to the other jurisdictions. The experience for these two jurisdictions is excluded from the figure below.

**Figure 4.7 – Fatalities per 10,000 Registered Motor Vehicles**



Despite annual fluctuations, this shows that each jurisdiction has experienced some improvement in the rate of fatalities.

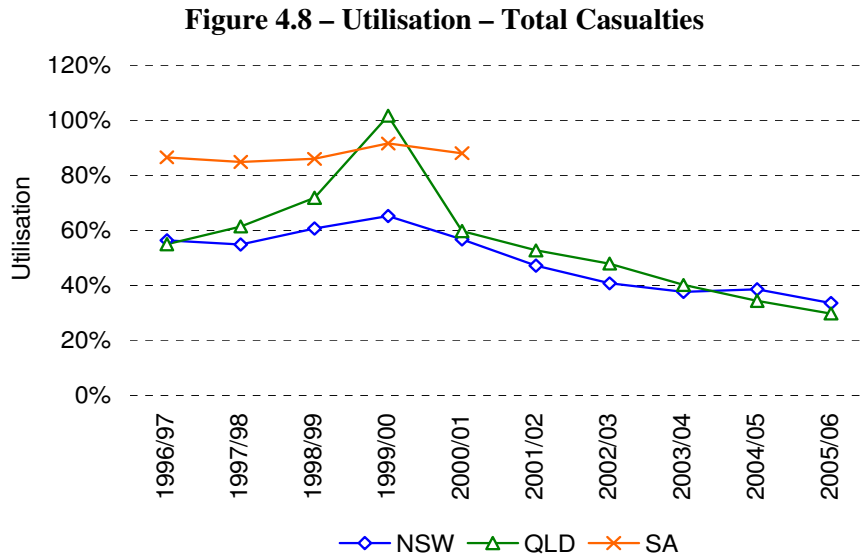
### 4.6 Utilisation

Utilisation is the extent to which road casualties lead to a claim. The definition of a road casualty and the scheme coverage will necessarily mean that direct comparisons are dangerous, however, the relative change in utilisation within a jurisdiction can be interesting.



### Comparison Across CTP Schemes in Australasia

The following figure shows claims as a proportion of total casualties for NSW and Qld (and SA where available).



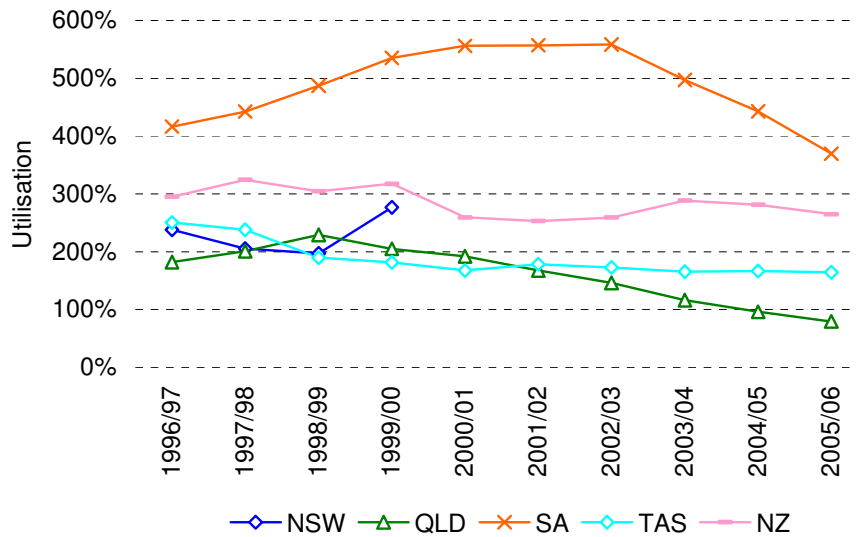
The peak in Qld leading up to the 2000 amendments is apparent. Since then there has been a sharp drop off in 2001 and then persistent decline up to 2006. Interestingly the Civil Liability Act 2003 has not changed the trajectory of the decreasing utilisation noticeably.

Utilisation was a little volatile leading up to the Motor Accidents Compensation Act (MACA) in NSW. Since its introduction, utilisation has declined very consistently with the trend seen in Qld.

New Zealand, Queensland, South Australia and Tasmania produce ‘serious casualty’ statistics (the NSW series stops after 1999/00). The following chart shows claim utilisation as a function of serious casualties.

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Figure 4.9 – Utilisation – Serious Casualties



While the proportion is much higher for utilisation per serious casualty, the shape for Qld is similar to the utilisation per total casualty. Utilisation in South Australia increased up to 2003 and then dropped quite sharply. Since 1999, Tasmanian utilisation has remained remarkably flat. New Zealand utilisation has been quite flat throughout the 10 years shown.

**Road casualties have almost uniformly reduced across jurisdictions. In general claim frequency has also come down and at a faster rate than road casualties. The lower claim frequency reduction is then a combination of lower frequency plus other factors.**

## 5. Overall Claims Costs

### 5.1 Introduction

We have examined the total claims costs for NSW, Qld, NZ, SA, Tas and WA for historical accident years. The total expected claims cost is represented by:

- for NSW and Qld, historical payments to December 2006 plus insurer case estimates as at December 2006
- for NZ, Tasmania, SA and WA, historical payments to December 2006 plus inflated actuarial estimates of outstanding claims as at December 2006.

There are a number of problems in using the above representations of claims costs including:

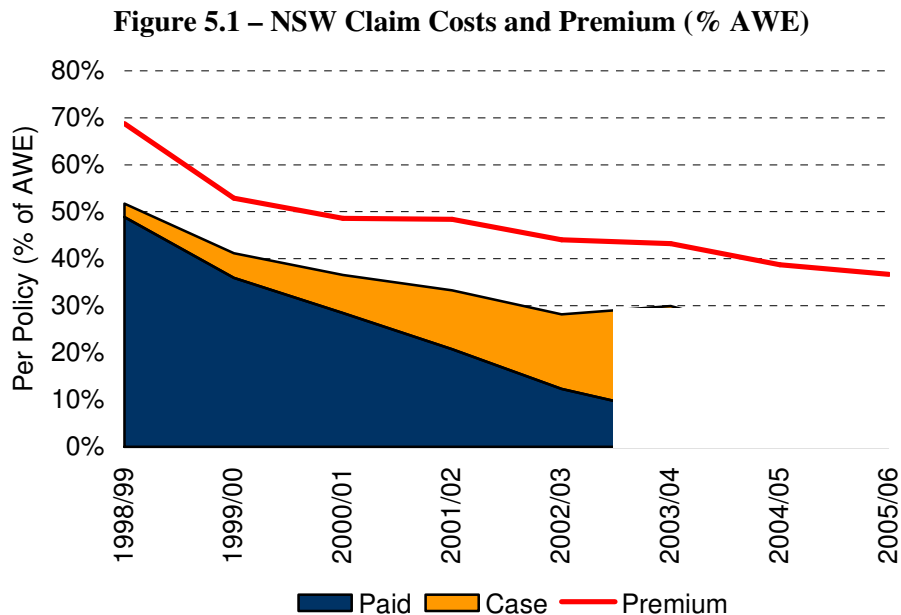
- future development of insurer case estimates
- the affect of inflation on the value attached to long term annuity like payments in the non fault jurisdictions.

However,

As was the case for historical premium in Section 3, we have expressed these costs per vehicle and as a proportion of the jurisdictions average weekly earnings.

### 5.2 New South Wales

Figure 5.1 shows the paid and incurred positions by accident year, relative to the premium charged for NSW.



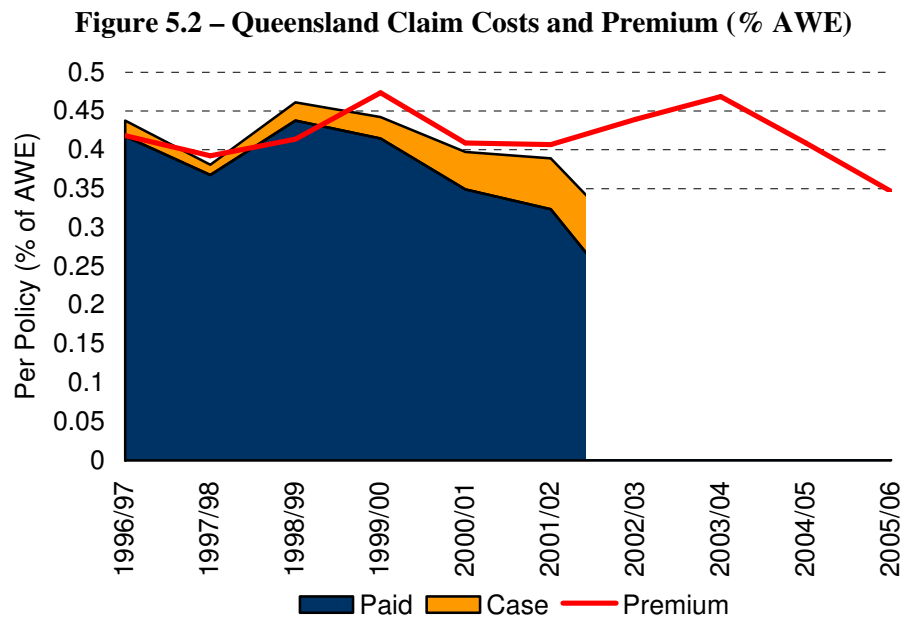
## Comparison Across CTP Schemes in Australasia

We have shown the years in which we do not expect much, if any, further case estimate development.

From 1999/00 onward, the premium rate has almost mirrored the expected claims costs with possibly a small widening of the gap between claims and premiums leading up to 2002/03. The most recent years have a certain amount of uncertainty and expected future case estimate development. Premiums have come down in line with an expectation that the incurred cost is still reducing.

### 5.3 Queensland

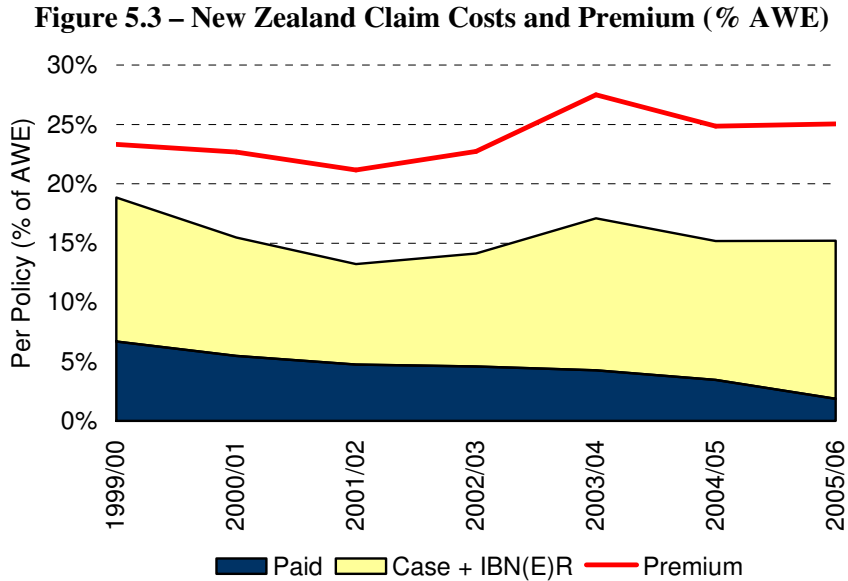
Figure 5.2 shows the paid and incurred positions by accident year, relative to the premium charged for Queensland.



The incurred cost of claims in Queensland decreased marginally following the 2000 amendments. It is far too early to know the ultimate cost of claims under the post CLA (2003). However, it is expected that the ultimate cost is now lower than pre CLA and premiums over the last two years have responded to this.

5.4 New Zealand

shows the paid and estimated ultimate claims cost positions by accident year, relative to the premium charged for New Zealand.



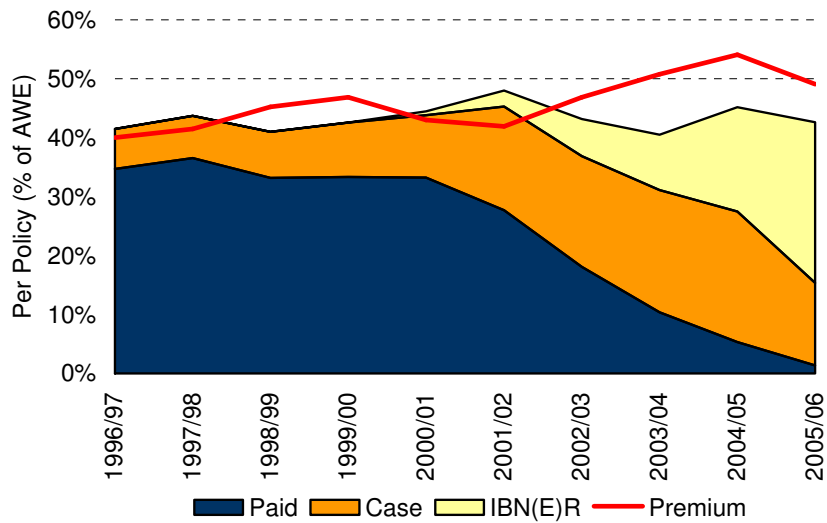
The estimates of ultimate claims cost for New Zealand include the undiscounted actuarial central estimate. Given the significant amount still outstanding for even the older years shown and the close links between actuarial input for premiums and reserving, it perhaps is not surprising that claims and premiums essentially move together in New Zealand. The premium rate includes a component to post fund the pay-as-you-go liabilities and increase scheme funding level. In 2005/06 this pre-1999 claims levy was around 10% of AWE. Removing this levy reduces premiums for 2005/06 to be equal to the expected claims cost.

5.5 South Australia

The following figure shows the total undiscounted claims cost separated into past payments, case estimates and IBN(E)R for South Australia. The overall average premium is also shown.

## Comparison Across CTP Schemes in Australasia

**Figure 5.4 – South Australian Claim Costs and Premium (% AWE)**



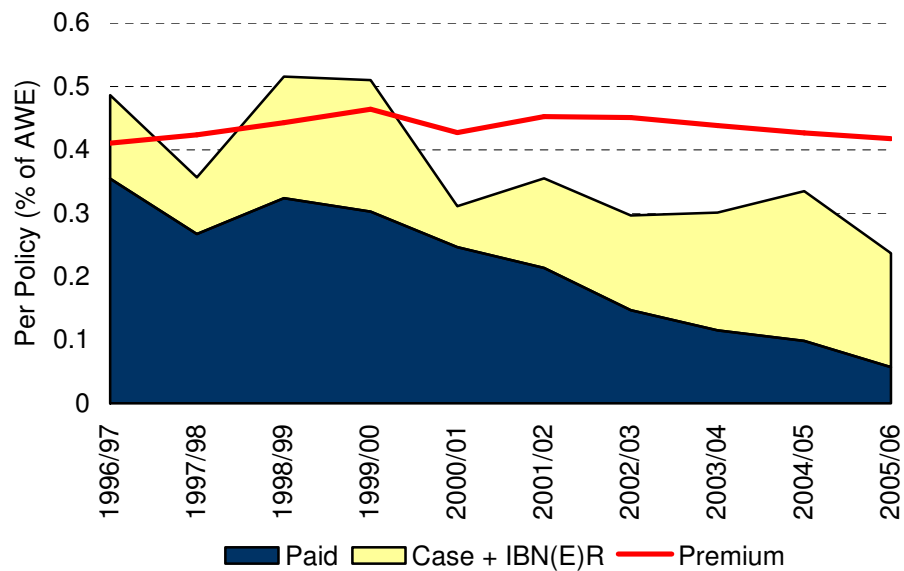
Incurred cost (payments plus case estimates) are trending down in recent years, however, when Incurred But Not (Enough) Reported - IBN(E)R - is added claims costs are reasonably stable.

There is a slight reduction in the claims cost after 2001/02. Given the significant IBN(E)R the most recent years may ultimately turn out differently to the picture above.

### 5.6 Tasmania

Figure 5.5 shows the paid and incurred positions by accident year, relative to the premium charged for Tasmania.

**Figure 5.5 – Tasmania Claim Costs and Premium (% AWE)**

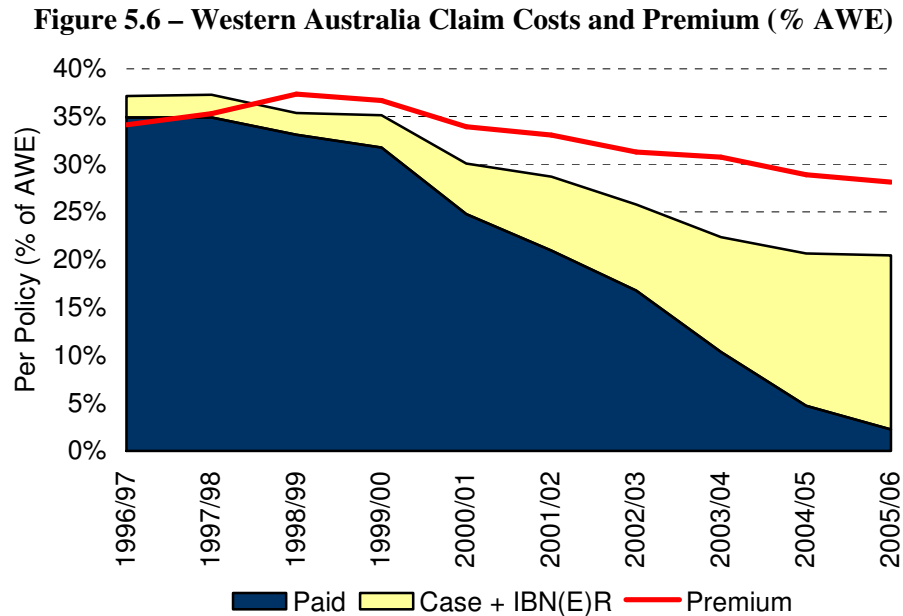


## Comparison Across CTP Schemes in Australasia

While premiums in Tasmania have been very stable, there was some volatility in claims cost evident between 1996/97 and 2000/01. The actual numbers of future care claim in each year can have a significant impact on the overall cost of claims for that year. Since 2000/01 claims cost has been more stable.

### 5.7 Western Australia

shows the paid and estimated ultimate cost positions by accident year, relative to the premium charged.



WA claims costs show a similar trend to many other states. Costs have followed casualty rates down and premium rates have followed.

**The claims cost per vehicle (expressed as a proportion of AWE) are lower for all jurisdictions in the most recent periods. This trend is impacting on the premium rates being charged.**

**Only South Australia shows a longer term upward trend in claims cost. However, the recent years are very uncertain and the most recent premium rate has also come down.**

Generally speaking the adequacy of premium rates to cover claims (i.e. the claims cost compared with premiums in this section) have improved in the recent years. The level of profitability between schemes is difficult to infer because of the differing impacts of case development, expenses and investment returns.

## Comparison Across CTP Schemes in Australasia

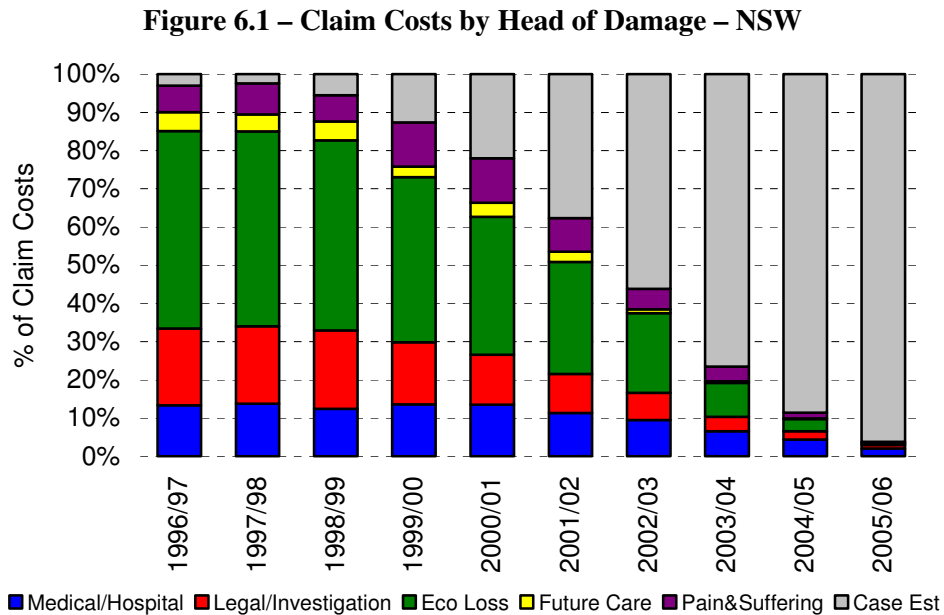
### 6. Components of Claims (HOD)

#### 6.1 Introduction

For NSW, Qld, New Zealand and South Australia we received information on historical payments (and incurred cost for NZ and SA) by broad head of damage.

#### 6.2 New South Wales

The following figure shows the proportion of total incurred spilt by head of damage.



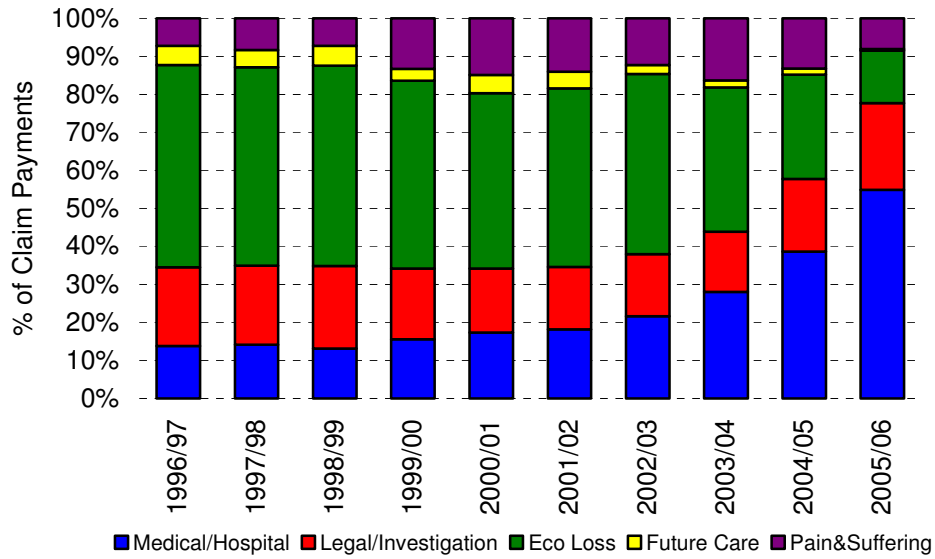
Medical & Hospital expenses are generally paid more quickly and we can see that the proportion paid to date of the total incurred increased for this head of damage between 1999 and 2001. Perhaps this is an indication that the total incurred cost decrease over this time period is related to other heads of damage.

The figure below shows the proportion by head of damage for payments to date only.



## Comparison Across CTP Schemes in Australasia

**Figure 6.2 – Claim Payments by Head of Damage – NSW**

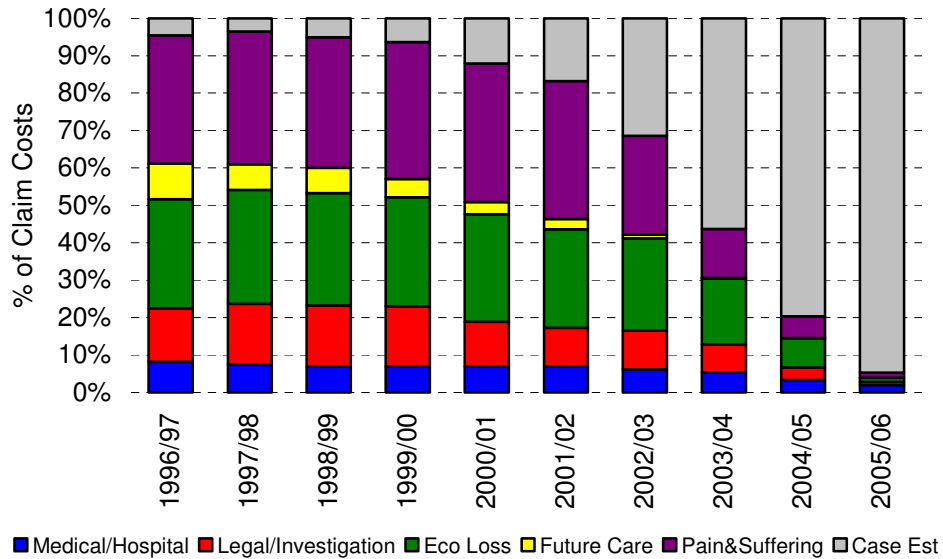


The shape associated with the payments by head of damage is related to the order in which complex versus simple claims are finalised. The more complex cases with relatively higher economic loss are finalised later than simpler cases where medical expenses are a greater proportion of the total.

### 6.3 Queensland

The following figure shows the proportion of total claims cost incurred by accident year. Paid to date is separated by head of damage.

**Figure 6.3 – Claim Costs by Head of Damage – Qld**

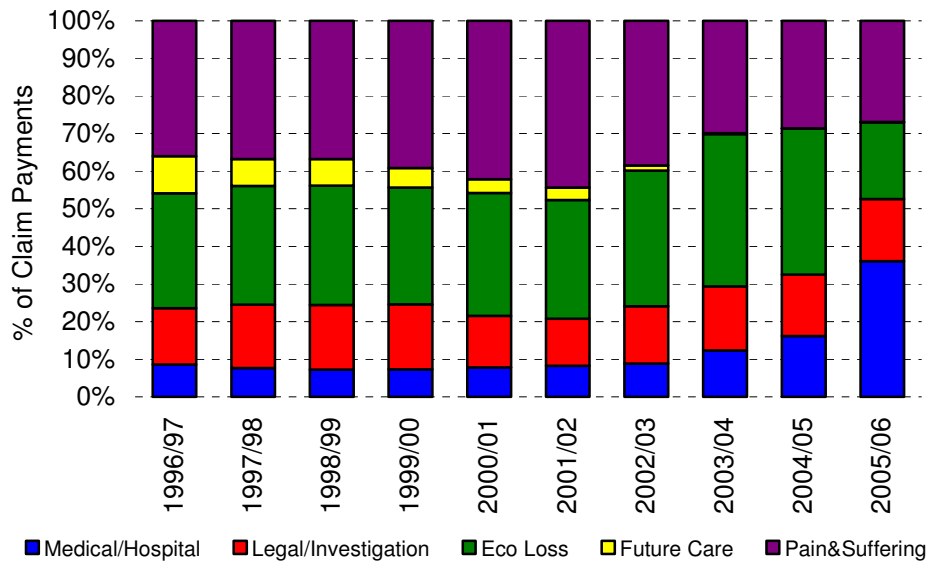


### Comparison Across CTP Schemes in Australasia

Generally the proportion paid for the same accident year is slightly higher in Qld than in NSW. A smaller proportion in economic loss and a greater proportion in pain & suffering in Qld compared with NSW reflects some difference in the benefit regimes between the schemes.

The figure below shows the proportion by head of damage of payments made to date by accident year.

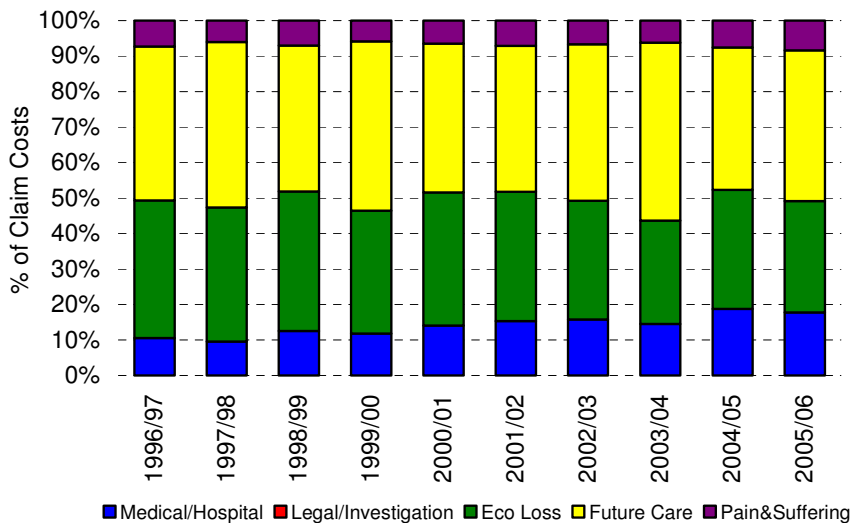
**Figure 6.4 – Claim Payments by Head of Damage – Qld**



### 6.4 New Zealand

The first things to notice about the breakdown of claims incurred by accident year are the relatively higher proportion in “future care” and the total absence of legal & investigations.

**Figure 6.5 – Claim Costs by Head of Damage – NZ**



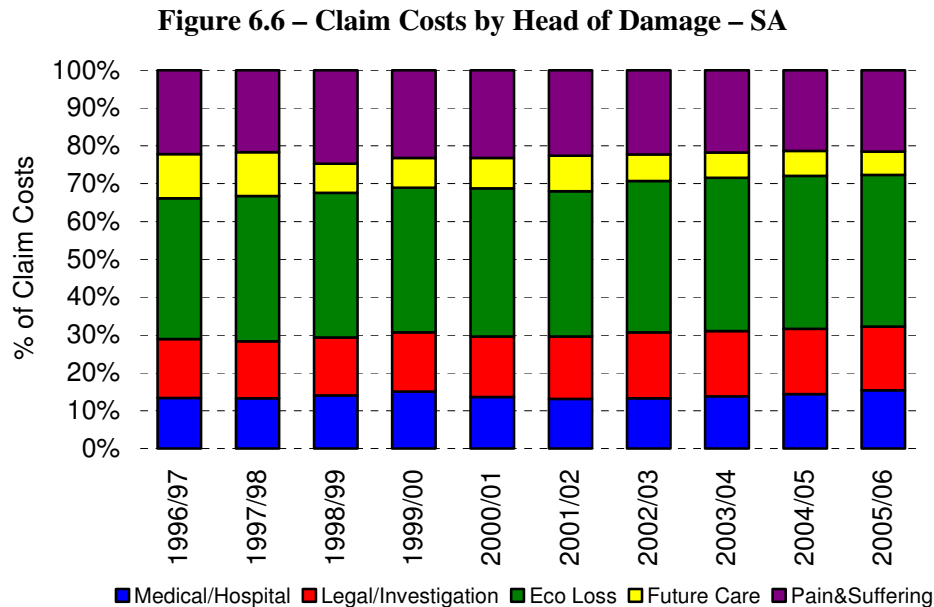
## Comparison Across CTP Schemes in Australasia

The future care component above does include social rehabilitation for non-serious injuries; however, this is less than 5% of future care.

Medical & hospital costs are around 10% to 15% of the total which is consistent with the earlier years shown for NSW and Qld.

### 6.5 South Australia

The figure below shows the components of the claims cost in the SA scheme.



The above incurred costs are similar in proportion to those in the NSW scheme. The SA scheme has a slightly lower proportion in economic loss and slightly higher in pain & suffering.

**For each of the jurisdictions the proportion of total costs in medical & hospital are similar (slightly lower in Qld). Significant differences exist in the mix of other heads of damage.**

**There may be a relationship between pain & suffering and total claims cost. Generally, where total claims cost (from Section 5) is a greater proportion of the premium a higher component of claims cost is in respect of pain & suffering.**

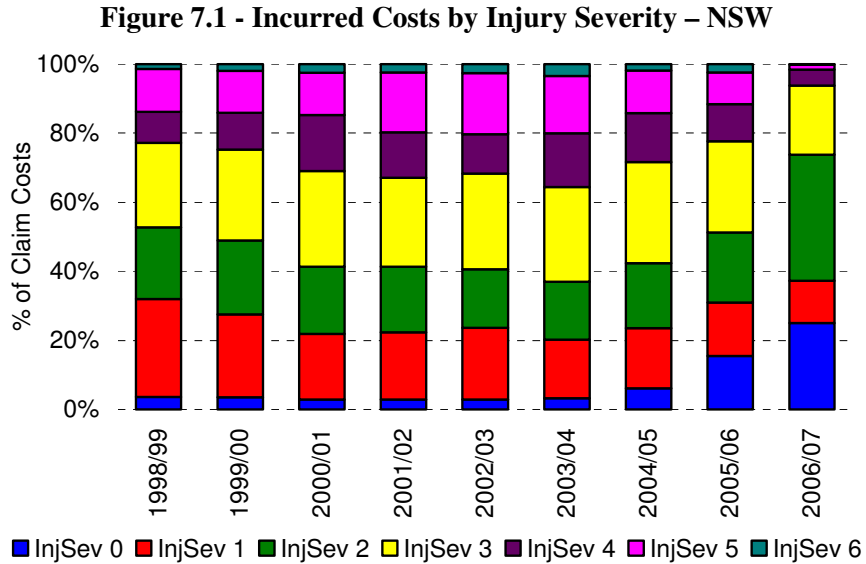
## Comparison Across CTP Schemes in Australasia

### 7. Claims Cost by Injury Severity

This section analyses the incurred cost experience of each accident year by injury severity. Only NSW and Queensland attribute a severity (0 to 6) to claims.

#### 7.1 New South Wales

The following figure shows the incurred cost by injury severity for NSW.

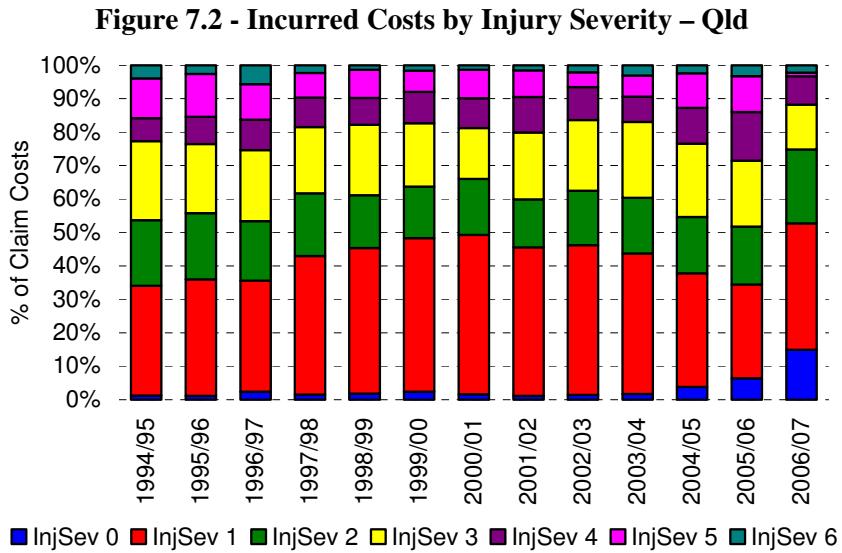


The proportion in severity 1 decreased in 2000 and again in 2001. Severity 5 claims in 2002 and later years are a higher proportion of the total. The proportion of severity 0 claims increases from 2005 onwards making it difficult to draw conclusions on the recent mix of claims by severity.

## Comparison Across CTP Schemes in Australasia

### 7.2 Queensland

The following figure shows the incurred cost by injury severity for Queensland.



Severity 1 claims increased (as a proportion of total) up to 2001. There has been a reduction since, although, some severity changes are expected for the 2005 and later years.

**Severity one claims have decreased (as a proportion of total claims) in both Qld and NSW.**

## 8. Claims Experience by Injury Type

### 8.1 Introduction

There are dangers in comparing claims information by injury type given:

- Some free format collection of data making aggregation difficult
- Varying levels of sophistication of injury coding making direct comparison difficult
- Incomplete coding
- Multiple numbers of injuries captured.

Despite these difficulties we have attempted to produce information by injury. Given the difficulties, the injury groups are quite broad in nature. The groups reviewed are:

- Fatalities
- Traumatic brain injury
- Head injuries (but without brain injury)
- Quadriplegia
- Paraplegia
- Other.

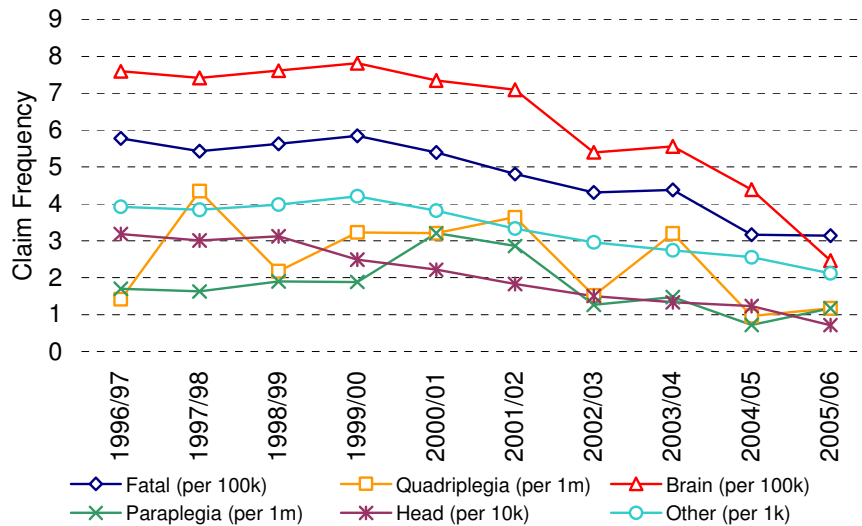
The injury groups examined are more serious in nature than average.

### 8.2 New South Wales

The following chart shows the claim frequency by each injury group (note that the denominator varies by injury type).

## Comparison Across CTP Schemes in Australasia

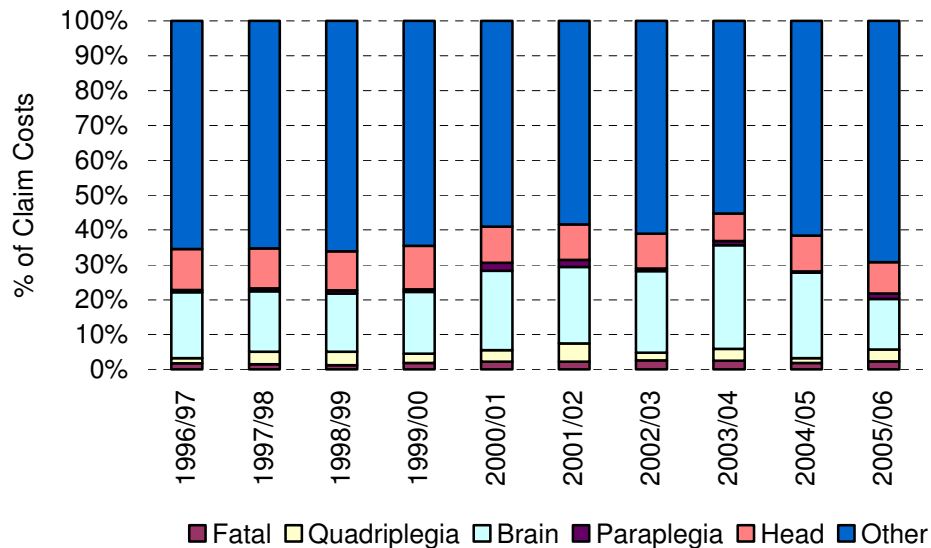
### Figure 8.1 - Claim Frequency by Injury Type



There is a trend toward lower claim frequency in all injuries. The “other” group is essentially the majority of claims (90% to 94% of the total) so it is not surprising that this group mirrors the total claim frequency seen in section 4. Road casualties are lower, and utilisation is reducing which is seen to be having an impact on all injury severities. The trend in relation to spinal cord injuries seems to be downward but perhaps not at the same rate as for other injuries. The sharp dips in relation to brain injuries at 2003 could be a coding change. The further drops in 2005 and 2006 are likely to change as injury codes settle down.

The following figure shows the proportion of incurred cost by each injury type.

### Figure 8.2 – Distribution of Compensation by Injury Type



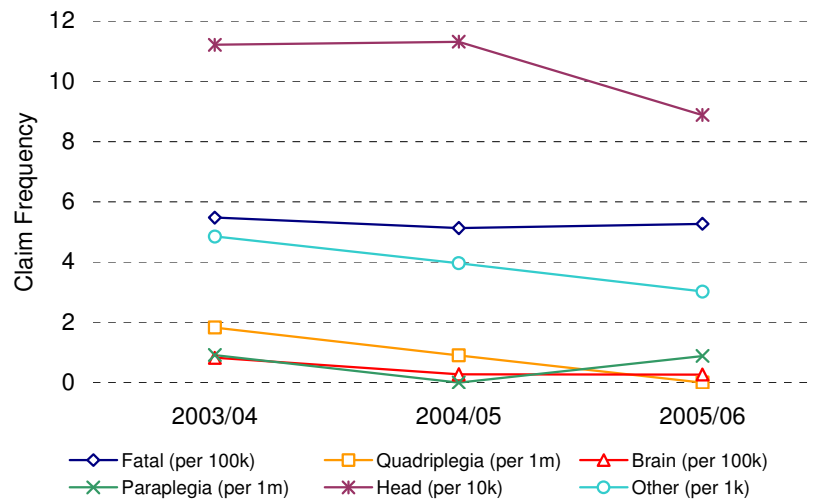
### Comparison Across CTP Schemes in Australasia

There appears to be a step down in the proportion of incurred cost associated with “other” claims in 2001 (from 65% to 60%). The very recent years are subject to injury recoding IBNR and case estimate development and so increasing proportion of costs for “other” claims in 2005 and 2006 may be impacted by injury coding.

### 8.3 South Australia

A significant proportion of the SA claims were not coded with injury descriptions until 2004. However, spinal cord injuries have coding attached throughout the 10 years.

**Figure 8.3 - Claim Frequency by Injury Type**



There is natural variability in the rates of spinal cord claims which have fluctuated between zero and 2 claims per one million vehicles (slightly lower than NSW and Qld experience). There does not appear to be a clear trend in these claims one way or the other.

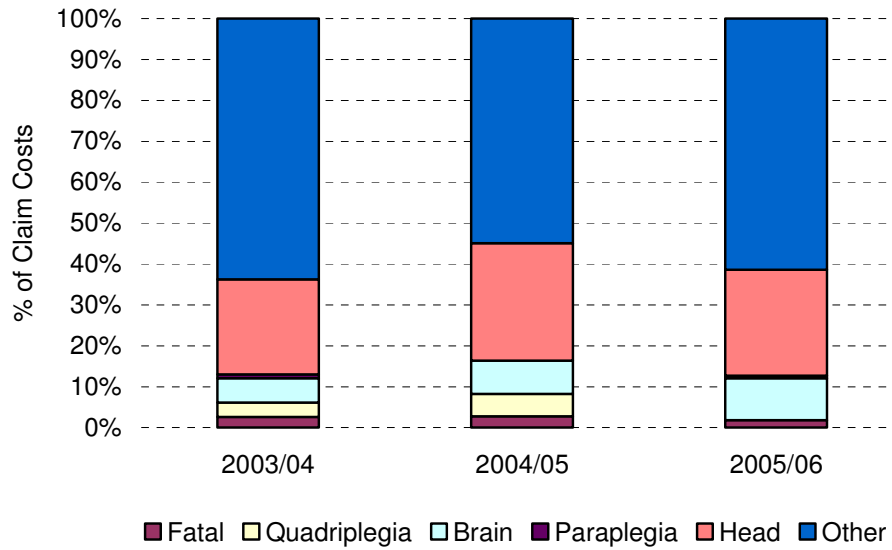
“Other” claims have decreased over the three years shown above. The short history available makes it difficult to conclude on the mix by injury type as trends are not observable and injury coding may still be changing for the years shown.

The figure below shows the incurred cost split for the 2004, 2005 and 2006 years.



## Comparison Across CTP Schemes in Australasia

**Figure 8.4 – Distribution of Compensation by Injury Type**

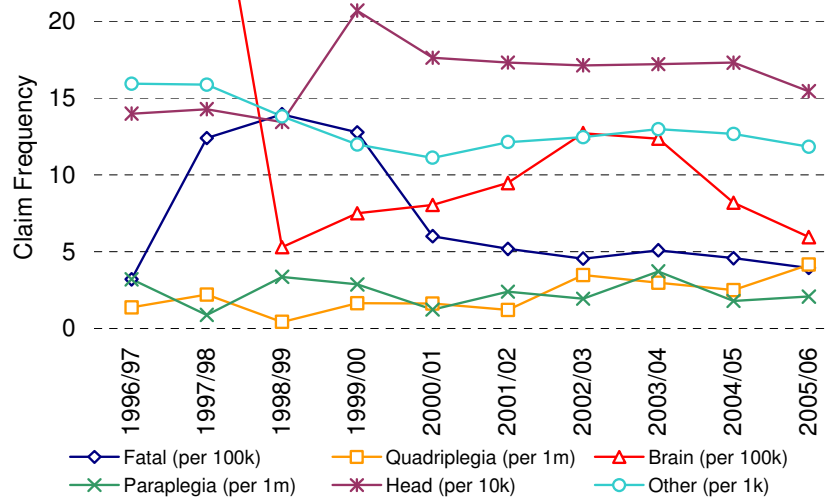


Like NSW, around 60% of costs relate to “other” claims (noting that coding for the SA years may still be changing).

### 8.4 New Zealand

The following chart shows the frequency by injury type for NZ.

**Figure 8.5 - Claim Frequency by Injury Type**



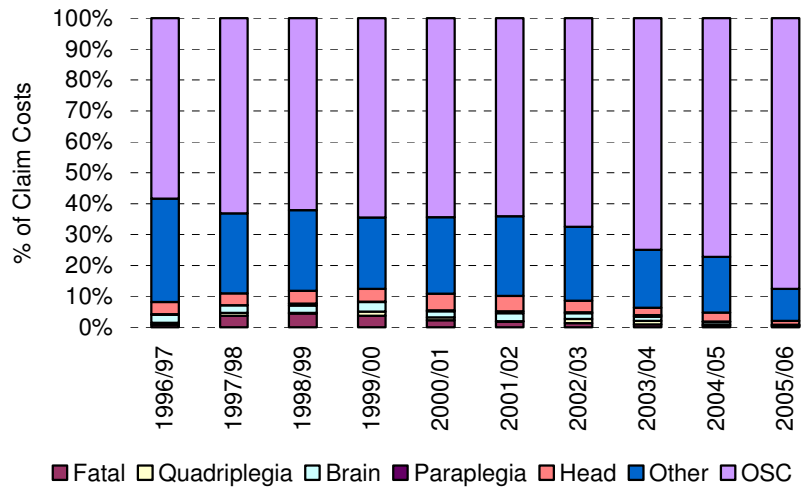
Brain injuries increased during 1999 to 2003 and have subsequently fallen. Fatal claims fell dramatically over the period 1999 to 2001 and have steadily fallen since then. Spinal cord injuries

### Comparison Across CTP Schemes in Australasia

have been relatively flat over the 10 years shown (a slight upward trend in quadriplegic injuries perhaps).

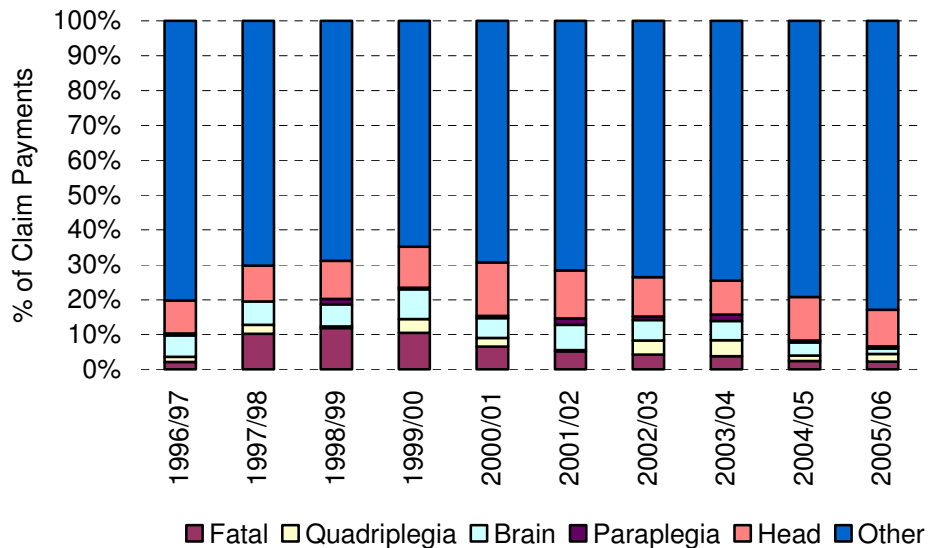
The following table shows the proportion of incurred cost (by injury for paid to date but actuarial estimate not separated by injury).

**Figure 8.6 – Distribution of Compensation by Injury Type**



When we look at paid to date only we can see that payments to “other” claims represents around 70% of the costs.

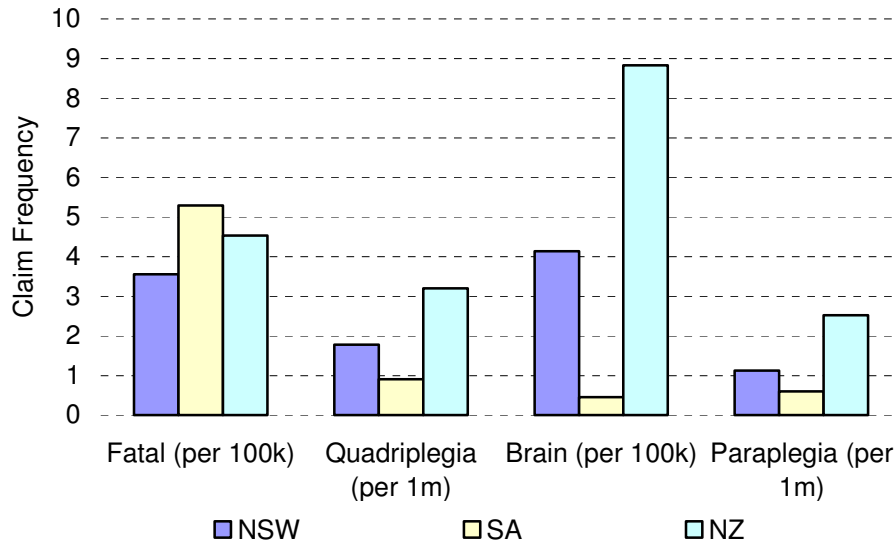
**Figure 8.7 – Distribution of Claim Payments by Injury Types**



8.5 Summary

The following figure shows a comparison between NSW, SA and NZ claim frequencies by injury type. The average of 2004, 2005 and 2006 rates are shown – noting that some recoding is still possible for these years.

Figure 8.8 - Claim Frequency by Injury Type



While the road death rate is similar for NSW and NZ, the fatal claims are higher for NZ (noting that the NZ scheme is no fault). The fatal claim rate for SA is higher than for NSW though not to the same extent as the road deaths would suggest.

Spinal cord injuries (paraplegia plus quadriplegia) are higher in NZ (no fault) than for the other (common law) jurisdictions.

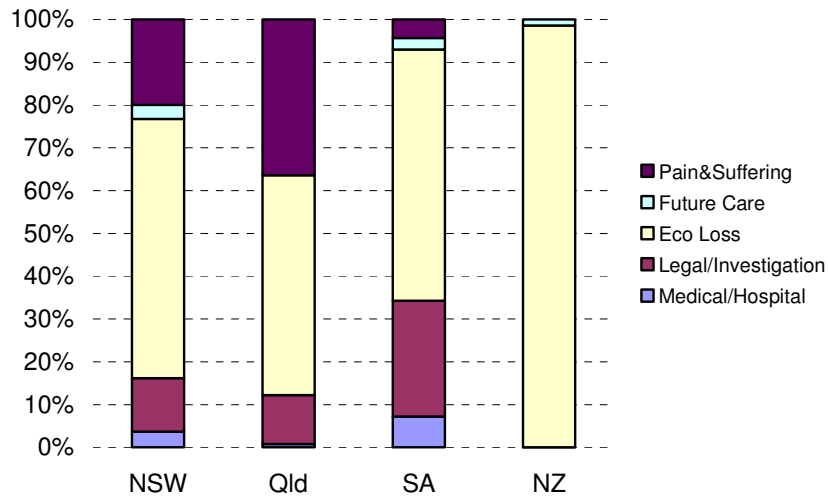
Brain injuries are significantly different between each jurisdiction, although, this is likely to reflect differences in the descriptions used and boundaries between traumatic brain injury and other head injuries.

**Claim rates are higher for brain and spinal cord injuries in NZ compared with NSW and SA. Future care also forms a larger component of the compensation provided to brain and spinal claims in NZ compared to NSW and SA.**

### 9. HOD and Injury Type

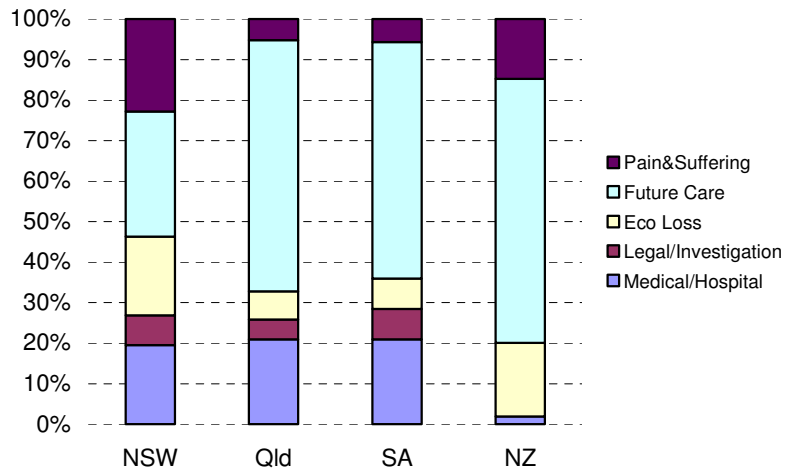
The following figures show the proportion of compensation by head of damage for each injury type. The split is based on claim payments to date but limited to older accident years. (SA is based on all years and is an incurred rather than payments split.) Some level of care is required in making these direct comparisons due to injury coding.

**Figure 9.1 – Fatal Injury by HOD**



Qld has a lower proportion in economic loss and higher in pain & suffering than NSW which is similar to the overall picture. South Australia has relatively higher proportion in legal and investigation than both NSW and Qld and lower proportion in pain & suffering. We have grouped all death benefits in with economic loss and this is seen clearly in the NZ data.

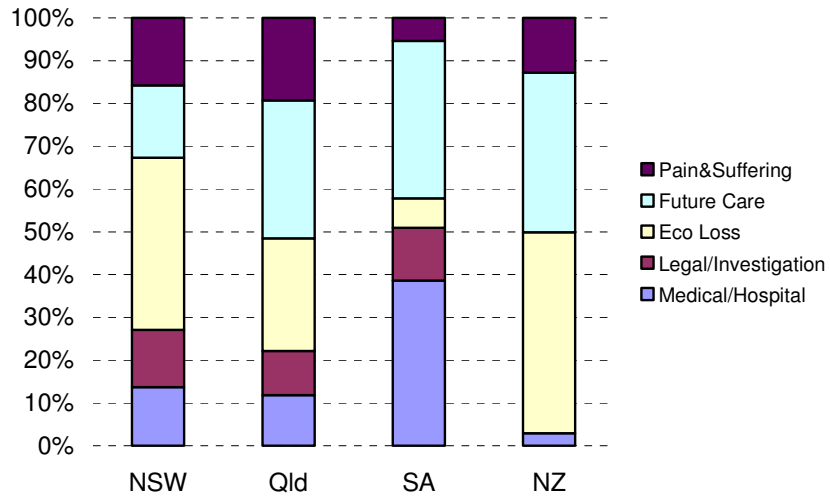
**Figure 9.2 – Quadriplegia Injury by HOD**



### Comparison Across CTP Schemes in Australasia

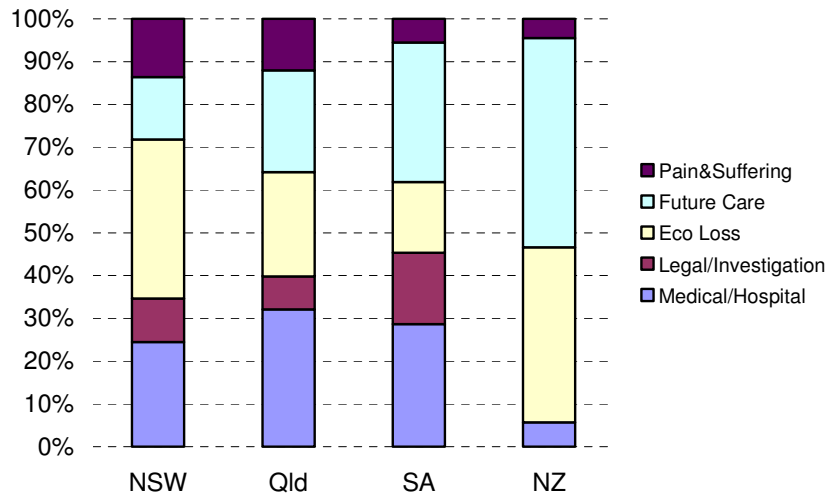
Each of the schemes reviewed has a reasonably similar split by head of damage for claims with quadriplegia. The lower medical costs in NZ seem to be replaced by higher future care costs. In NSW a lower proportion in future care is replaced by higher economic loss and pain and suffering components of the compensation.

**Figure 9.3 – Brain Injury by HOD**



There are significant differences in the claim frequency of brain injuries between schemes. So while some similarities exist between the split by head of damage perhaps we should make too much of this.

**Figure 9.4 – Paraplegia Injury by HOD**



### **Comparison Across CTP Schemes in Australasia**

Costs are remarkably similar for the three common law jurisdictions. Again the lower medical costs in NZ probably are as a result of coding between medical and future care. The larger economic loss component of compensation in NZ may reflect that payments for future care are on going and expected to increase more so than perhaps for the common law jurisdictions where future care is paid essentially in one lump.

**Broadly speaking, medical/hospital plus future care tends to be a similar proportion of the compensation across the schemes for the more severe injuries. Perhaps NSW has a little less in these heads of damage than the others.**

## 10. Expenses

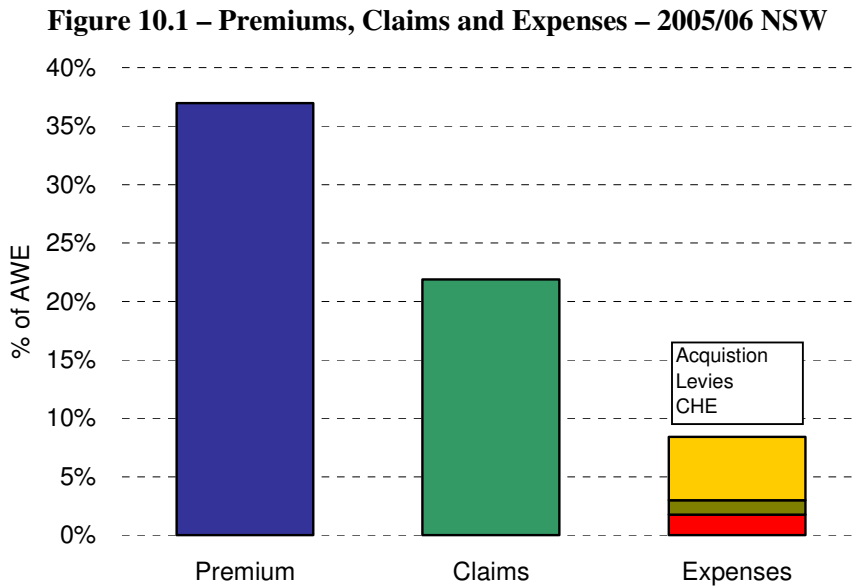
We have incorporated, where possible, expense allocations for each jurisdiction's premium. The broad components of expenses that we have reviewed are:

- acquisition costs (including net cost of reinsurance)
- general operating expenses (including claims handling)
- scheme specific levies
- other expenses.

However, the expenses are categorised according each scheme's publicised information. Premium and claims information are also shown the figures below. Note that we have not considered the impact of IBNR (if applicable) and investment income and so direct comparisons between schemes are not possible.

### 10.1 New South Wales

The figure below shows the average premium and expense amounts for the 2005/06 accident year, expressed as a percentage of AWE. Note that the claim amounts shown are incurred cost amounts and do not include any IBN(E)R.

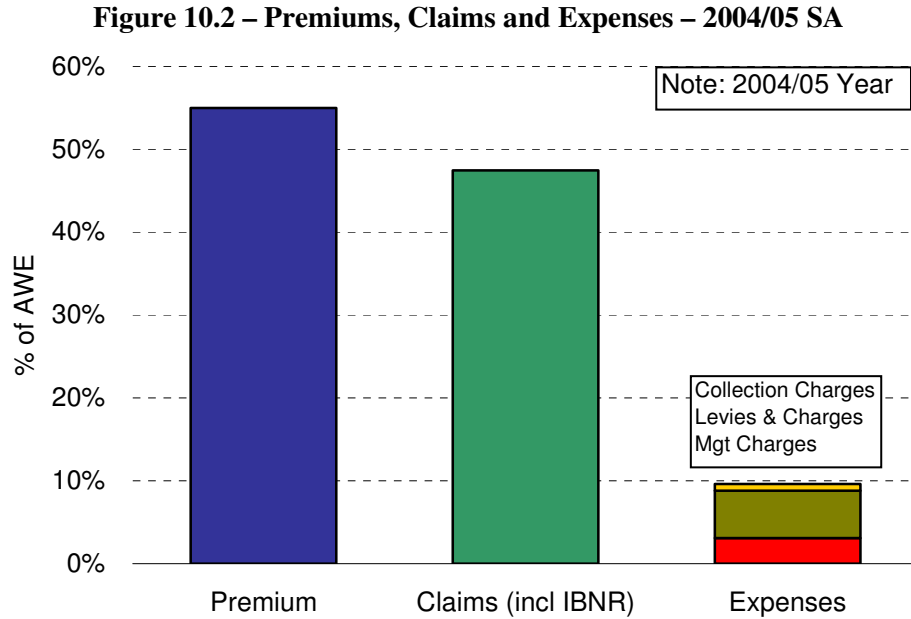


## Comparison Across CTP Schemes in Australasia

### 10.2 South Australia

Figure 10.2 shows premium, claims and expense information for South Australia. Note that:

- the claims amount includes an allowance for IBN(E)R
- the figures are for the 2004/05 year, as average premium information for the 2005/06 year was unavailable.



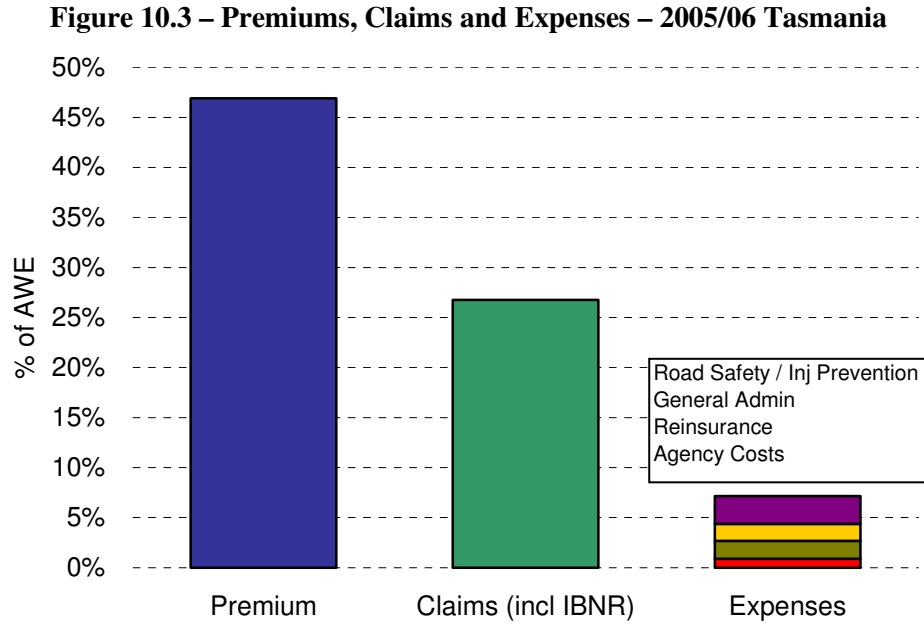
This shows that in the SA scheme, non-claim expenses are a similar proportion of premium as for the NSW scheme. Claims are a much higher proportion, but the claim data includes IBN(E)R.



## Comparison Across CTP Schemes in Australasia

### 10.3 Tasmania

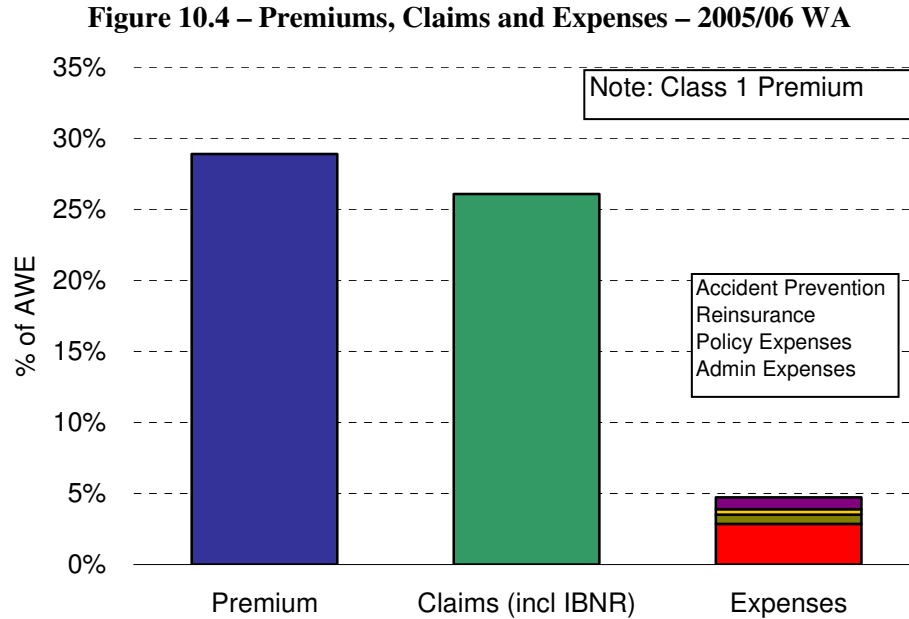
shows premium, claims and expense information for Tasmania. Note that the claims amount includes the actuarial estimate of future (undiscounted) claims payments.



## Comparison Across CTP Schemes in Australasia

### 10.4 Western Australia

The figure below shows premium, claims and expense information for Western Australia. Note that the claims amount includes the actuarial estimate of future (undiscounted) claims payments.



### 10.5 Summary

The components of the expenses included in each jurisdiction are quite different. However, the end cost to the consumer is similar. Expressed as a proportion of AWE, the total expenses in the charts above are:

- 8% in NSW
- 9% in SA
- 7% in Tasmania
- 5% in WA

NSW, SA and Tasmania are not dissimilar. WA is a little lower.

When expressed as a proportion of premium the expenses become:

- 23% in NSW
- 18% in SA
- 15% in Tasmania
- 16% in WA

Expressed this way SA, Tasmania and WA are similar with NSW a little higher.