3 Outcomes of OHS

Key points

- In 2007-08, there were 232 compensated work-related fatalities in Australia or 2.4 compensated fatalities for every 100 000 employees. The highest fatality rates were recorded by the Northern Territory, Commonwealth and Queensland.
- In the same year, for every 1000 people employed in Australia there were 14 serious workers' compensation injury claims. Work-related injury and disease rates were relatively high for Seacare, Queensland and Tasmania.
- Workers' compensation data in 2007-08 show that workers were at highest risk from injury or illness in Transport and storage; Agriculture, forestry and fishing; Manufacturing; and Construction.
- At the jurisdictional level, industries with a high risk of work-related injury and disease included:
  - Agriculture, forestry and fishing in the Northern Territory and Queensland
  - Manufacturing in Queensland
  - Construction in Queensland and the ACT
  - Transport and storage in Queensland and Tasmania
  - Mining in New South Wales and Tasmania.
- Trend data indicate the Commonwealth and Victoria have achieved the lowest injury rates in recent years.
- Outcomes have been improving in all jurisdictions, with serious claim rates declining significantly for Seacare, the Commonwealth, South Australia and the ACT.
- By industry, significant improvement in serious claim rates were recorded for:
  - Mining in the Northern Territory, New South Wales, South Australia and Queensland
  - Construction in the ACT, Tasmania, South Australia and New South Wales
  - Transport and Storage for Seacare and South Australia
  - Wholesale trade in the ACT
  - Manufacturing in South Australia
  - Agriculture, forestry and fishing in Tasmania.
- While this information cannot help to judge the effectiveness of a particular regulation, let alone particular aspects of a regulation, it provides a broad context for benchmarking different approaches to occupational health and safety regulation.

Occupational health and safety (OHS) regulation exists to reduce workplace injury and its impact on individuals, families, the community, and economy. Outcome measurement may provide a systematic way of monitoring and evaluating the overall effectiveness of regulation. Measuring outcomes may show not only where regulations are being successful but also where they are being less effective. Thus, measuring outcomes can potentially offer findings that governments, regulators and businesses can use to adapt, improve, and become more effective at managing and implementing regulation. While a full analysis of the effectiveness of the overall OHS regulatory regime is outside the scope of this study, broad-based outcomes data (such as the incidence of workplace injury, disease and death across jurisdictions) is used to identify differences in OHS outcomes between jurisdictions and industries, and indicate trends over time.

This chapter presents a range of OHS indicators from various sources including workers' compensation statistics, the ABS work-related injury survey and a survey of small and medium businesses conducted by Sensis Pty Ltd on behalf of the Commission. In doing so, the chapter draws attention to a number of limitations associated with OHS outcome indicators. Of particular importance, OHS outcome data tend to be under-reported. For example, work-related injury and illness, measured using workers' compensation data, includes only those covered by workers' compensation. It does not include injured employees who did not claim compensation, the self employed or employees of companies that self insure. Outcome indicators may also underestimate long latency occupational diseases such as musculoskeletal disorders and cancers which can be difficult to attribute to work.

3.1 Work-related injury and illness

Most attempts to measure outcomes from OHS focus on the incidence of work-related injury, illness and death. Work-related injury and illness has a significant impact on individuals, families, the community and economy (box 3.1).

At a jurisdictional level, differences in industrial structure can affect aggregate outcomes. However, OHS outcome indicators are generally broadly based, that is they are provided at either the aggregate state/territory level or the two digit ANZSIC level by jurisdiction. At this level, the data are often not sufficiently disaggregated to allow consistent performance comparisons across jurisdictions and there are often gaps in industry survey data for some of the smaller jurisdictions. Because of the limited availability of robust outcomes data at a disaggregated level, the Commission does not attempt to attribute causation for any differences in OHS outcomes between jurisdictions.

Box 3.1 The cost of work-related injury and illness

Cost to employees

For employees, the cost of a workplace injury is not only the pain and suffering incurred from the injury (and in some cases long-term health issues) but also the cost of non-compensated medical expenses and the loss of any current and future earnings for both the sufferers and carers.

Cost to employers and industry

Workers' compensation premiums are paid by employers to fund financial support for injured workers. Employers of injured workers may face significant costs including closure as the incident is investigated, a short term loss in output until the worker returns or is replaced, and a longer term loss in productivity and potential output. Other costs incurred by employers include costs associated with recruitment and training of new staff, legal costs, and fines and penalties associated with prosecution.

Cost to government and the community

The government and community bear a number of costs associated with work-related injury and illness. These include the cost of Medicare rebates for medical expenses incurred by injured workers, the cost of providing social welfare programs for injured or incapacitated workers, costs in administering compensation schemes and investigating accidents, and a potential loss of output and revenue.

Quantifying the cost of work-related injury and illness

The most recent estimate by the Australian Safety and Compensation Council (2009) found the total economic cost of work-related injury and illness for the 2005-06 financial year to be $57.5 billion, representing 5.9 per cent of GDP. Injuries (as distinct from disease) accounted for the majority of this cost — $38.3 billion or 67 per cent of the total economic cost.

This was a significant increase in costs as a proportion of GDP from the previous estimate in 2000-01 which was 5 per cent. The ASCC attributed most of this increase to growth in average weekly earnings (which grew 66 per cent over this period) relative to GDP (which grew 40 per cent).

Further, the ASCC found that workers bear much of the cost of workplace injury and illness. In 2005-06 the ASCC estimated that:

- under four per cent ($2.2 billion) of the total cost was borne by employers
- 49 per cent ($28.2 billion) was borne by workers and their families
- 47 per cent ($27.1 billion) was borne by the community.

Source: ASCC (2009).

3.2 A snapshot of OHS outcomes data

Workers' compensation statistics

The most comprehensive source of information measuring OHS outcomes are workers' compensation data. Workers' compensation data are published annually by industry and cause of injury in the Australian Safety and Compensation Council's *Compendium of Workers' Compensation Statistics.* A comparison of workers' compensation data in all Australian states and territories and New Zealand is published in the Workplace Relations Ministers' Council's *Comparative Performance Monitoring Report*. Each state and territory also gave permission for Safe Work Australia to provide unpublished workers' compensation data to the Commission for use in this report.

Work-related fatalities and injuries, sourced from workers' compensation statistics, are key outcome indicators for OHS. Other indicators include workers' compensation premiums, time lost from work and the cause of work-related injury. An overview of workers' compensation statistics by jurisdiction is presented in table 3.1.

Table 3.1 **Workers' compensation claims[a] — 2007-08p**
Summary statistics

	Compensated fatalities number (rate)[b]	*Incidence rate serious claims per 1000 workers*	*Frequency rate serious claims per million hours worked*	*Standardised average premium rate % of payroll*
Cwlth	19 (5.2)	5.9	3.3	1.2
NSW	42 (1.4)	14.1	8.3	1.9
Vic	44 (1.8)	10.2	6.2	1.4
Qld	79 (4.4)	18.2	10.9	1.1
SA	8 (1.1)	13.7	8.3	2.8
WA	21 (2.1)	12.9	7.4	1.3
Tas	7 (3.4)	16.1	10.1	1.5
NT	10 (9.4)	13.3	7.4	1.8
ACT priv.	0 (0.0)	11.6	7.3	2.2
ACT Govt.	0 (0.0)	13.9	8.9	na
Seacare	0 (0.0)	22.4	4.3	4.7
Australia	**232 (2.4)**	**13.5**	**8.0**	**1.6**

p preliminary data. [a] Claims data Includes all workers' compensation claims involving temporary incapacity of one or more weeks plus all claims for fatality and permanent incapacity. [b] Compensated fatalities per 100 000 employees.

Source: Data provided by Safe Work Australia with permission from state and territory governments.

The data have a number of limitations including:

- they are not indicative of the actual level and rate of work-related injury and illness in the community as they include only those workers covered by workers' compensation
- the data reflect worker injury and under-report the incidence of disease
- timing issues as there can be significant lags between when injuries occur and when compensation is made (and therefore reported)
- the data are based on accepted workers' compensation claims, so they can vary according to the eligibility and scheme rules associated with each jurisdiction's workers' compensation scheme. For example, some jurisdictions place a time limit on the provision of benefits, whereas others, such as the Commonwealth, do not. Those jurisdictions with a time limit will always appear to have fewer long-term claims than those jurisdictions which do not apply a limit.

Work-related fatalities

In 2007-08, there were 232 compensated work-related fatalities or 2.4 compensated fatalities for every 100 000 employees. The highest fatality rates were recorded in the Northern Territory (10 fatalities or 9.4 fatalities per 100 000 employed), by the Commonwealth (19 fatalities or 5.2 fatalities per 100 000 employed) and in Queensland (79 deaths or 4.4 fatalities per 100 000 employed) (table 3.1). However, fatality results can vary dramatically from one year to the next and no general conclusions can be based on any single year's outcomes; see section 3.3 for data on outcome trends over time.

Compensated fatalities provide the most recent information on work-related fatalities, however, its coverage is not complete (box 3.2).

Incidence and frequency of serious injury and disease

The standard workers' compensation outcome measure for work-related injury and disease is the incidence rate of serious claims which is defined as the number of accepted workers' compensation claims for temporary incapacity involving one or more weeks off work plus all claims for a fatality or permanent incapacity.

In 2007-08, for every 1000 people employed in Australia there were 14 serious workers' compensation claims. At the jurisdictional level, claims were relatively high for Seacare (22 serious claims per 1000 workers), Queensland (18 serious claims) and Tasmania (16 serious claims).

Box 3.2 **Measuring work-related fatalities**

Three data sets are available on work-related fatalities in Australia — compensated fatalities, notified fatalities and traumatic injury fatalities. ***Compensated fatalities*** is not a comprehensive measure of work-related fatalities because not all work-related fatalities are compensated. Uncompensated fatalities are captured in ***notified fatalities*** — work-related injury fatalities which are notified to state and territory OHS authorities under their relevant OHS legislation. Notified fatalities are known to undercount the number of work-related deaths that occur as a result of vehicle accidents on public roads as, in several jurisdictions, these are notified and investigated by the police rather than by the OHS authority. Compensated and notified fatalities cannot be combined as a measure of total work-related fatalities because of double counting. For example, some notified fatalities are also compensated.

The most comprehensive statistics compiled by Safe Work Australia on work-related fatalities are ***traumatic injury fatalities***. The data are compiled using workers' compensation statistics, notified fatalities and the national coroner's information system. This measure includes all those killed while working for an income, as well as work-related vehicle accidents that occur on public roads. The measure does not include those injured or killed while travelling to or from work or bystanders who are not working but are killed as a result of someone else's work activity. While this data is the most comprehensive, it is not the most recent indicator of work-related fatalities. The latest traumatic injury fatality data available is for 2006-07.

The table below compares the three fatality series. In 2006-07 there were 295 traumatic injury fatalities compared with 260 compensated fatalities and 149 notified fatalities.

Compensated, notified and traumatic fatalities 2006-07

	Compensated		*Notified*		*Traumatic*	
	No.	*Rate*[a]	*No.*	*Rate*[a]	*No.*	*Rate*[a]
Cwlth	14	4.4	8	2.5	0	0.0
NSW	52	1.7	37	1.1	101	3.0
Vic	66	2.8	31	1.3	66	2.6
Qld	88	5.0	27	1.3	62	2.9
SA	9	1.3	5	0.5	12	1.1
WA	24	2.4	21	2.8	37	4.9
Tas	4	2.0	6	2.7	12	5.3
NT	2	2.0	3	2.8	3	2.8
ACT priv.	1	0.8	na	na	2	1.0
ACT Govt.	0	0.0	na	na	0	0.0
Seacare	0	0.0	na	na	0	0.0
Other	0	0.0	11	na	0	0.0
Australia	**260**	**2.7**	**149**	**1.4**	**295**	**2.8**

[a] Fatalities per 100 000 employees.

Source: Data provided by Safe Work Australia with permission from state and territory governments.

The lowest injury rates in 2007-08 were recorded for workers covered by Comcare (6 serious claims per 1000 people employed) and in Victoria (10 serious claims per 1000 people employed) (table 3.1).

To allow for differences in the number of hours worked across industries, serious claims can also be expressed in terms of frequency. In 2007-08, for every million hours worked in Australia there were 8 serious workers' compensation claims. Queensland (11 serious claims for every million hours worked) and Tasmania (10 serious claims for every million hours worked) had the highest frequency rate of serious claims.

The frequency rate of serious claims for Seacare (significantly below the national average) appears to be inconsistent with its incidence rate (significantly higher than the national average). This is because hours worked (and hours covered by workers' compensation) are recorded by Seacare claimants as time at sea (24 hours a day) rather than time spent working at sea. As a result, the recorded number of hours worked by Seacare claimants are significantly higher than the number of hours worked by claimants in other industries. Frequency rates for Seacare are therefore not comparable with estimates in other jurisdictions and industries.

Leaving Seacare data aside, the lowest number of serious claims, as a proportion of hours worked, were recorded for the Commonwealth (3 serious claims per million hours worked) and Victoria (6 serious claims per million hours worked) (table 3.1).

Workers' compensation premiums

Workers' compensation premiums are paid by employers (other than self insurers) to fund financial and medical support for injured workers. In 2007-08 the standardised average premium rate in Australia was 1.6 per cent of payroll. Seacare (4.7 per cent) and South Australia (2.8 per cent) recorded the highest premium rates. In contrast, Queensland (1.1 per cent) and the Commonwealth (1.2 per cent) recorded the lowest premium rates (table 3.1).

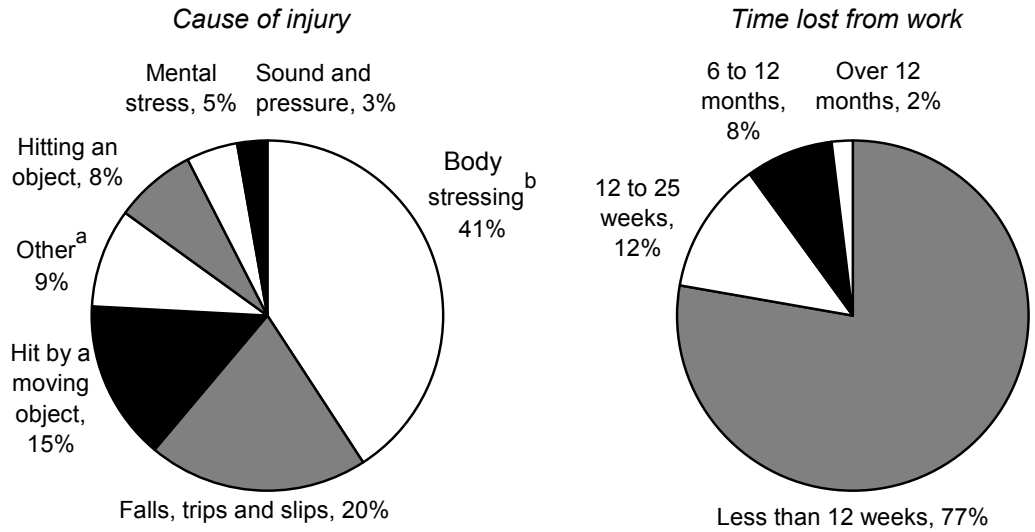
It might be expected that workers' compensation premiums in jurisdictions with more effective regulations would be lower due to the lower probability of workplace accidents. However, as discussed in appendix C, many other factors also determine premiums. It is therefore problematic to use premium data as a basis for comparing differences in OHS outcomes or risks. For example, table 3.1 shows that Queensland has a relatively high incidence and frequency rate of injury but also has the lowest premium rate, thereby suggesting that risk of injury is not the predominant driver of premium rates in Queensland.

Cause of work-related injury

Other OHS outcomes data sourced from workers' compensation statistics include the mechanism or cause of injury and time lost from work.

In 2007-08, over 40 per cent of serious workers' compensation claims in Australia were caused by body stressing. A significant number of serious claims were also recorded by workers involved in falls, trips and slips (20 per cent) and workers being hit by a moving object (15 per cent). Over three quarters of serious claims (77 per cent) resulted in absence from work of less than 12 weeks and very few serious claims (2 per cent) resulted in absences of 12 months or more (figure 3.1). These trends are broadly consistent across jurisdictions.

Figure 3.1 **Cause of injury/disease and time lost from work — 2007-08p Percentage of serious claims**



p preliminary data. **a** Other includes heat, radiation and electricity, chemicals, biological factors and not stated. **b** Body stressing includes muscular stress caused by lifting, pushing, pulling, carrying or putting down objects, as well as injuries caused by bending, twisting, reaching, turning, working in cramped conditions and repetitive movement.

Data source: Data provided by Safe Work Australia with permission from state and territory governments.

Outcomes by industry

At a jurisdictional level, differences in industrial structure can affect aggregate outcomes. Tables 3.2 and 3.3 present national, state and territory injury and disease incidence rates and compensated fatality rates by industry in order to examine how OHS outcomes differ for the same industry in different jurisdictions.

In 2007-08, serious claim rates were highest for Transport and storage (24.4 serious claims per 1 000 employed); Agriculture, forestry and fishing (24.3 serious claims

per 1000 employed); Manufacturing (24.1 serious claims per 1000 employed); Construction (21.6 serious claims per 1000 employed); and Mining (17.9 serious claims per 1000 employed). In contrast, service sector industries such as Finance and insurance, Communications, Education and Electricity, gas and water supply recorded very few serious claims (table 3.2).

Table 3.2 **Incidence rate of injury/disease — 2007-08p**

Serious claims per 1000 workers

	Cwlth	*NSW*	*Vic*	*Qld*	*SA*	*WA*	*Tas*	*NT*	*ACT priv.*	*ACT Govt*	*Sea-care*	***Total***
Ag, forestry/fishing	na	28.0	13.8	34.5	16.7	26.8	23.7	66.8[a]	np	na	na	**24.3**
Mining	na	26.7	10.1	19.1	11.3	16.0	25.2	9.6	np	na	na	**17.9**
Manufacturing	9.2	24.3	18.1	34.1	24.9	25.1	25.9	22.6	25.1	na	na	**24.1**
Electric/gas/water	na	13.0	3.7	8.0	4.4	7.5	7.5	22.0[a]	11.7[a]	15.0	na	**8.1**
Construction	6.0	21.8	15.5	26.6	23.6	24.2	23.7	17.2	25.2	na	na	**21.6**
Wholesale trade	na	15.3	12.8	22.1	14.7	13.9	14.8	25.0[a]	14.9	na	na	**15.5**
Retail trade	na	8.6	6.0	10.5	7.9	9.3	8.7	8.5	14.0	na	na	**8.4**
Accom/cafes etc.	na	15.1	4.8	14.4	10.5	10.5	8.5	11.2	12.0	na	na	**11.6**
Transport/storage	7.6	25.3	25.5	28.1	23.9	20.7	26.4	17.2	15.4	na	22.4	**24.4**
Communications	8.0	10.1	0.8	7.7	np	4.7	20.1[a]	np	7.0[a]	na	na	**7.1**
Finance/insurance	1.7	3.6	2.6	4.0	2.2	1.5	3.4	np	5.7[a]	na	na	**2.9**
Property/business	4.5	8.5	3.9	19.1	12.4	5.0	12.7	23.7	6.2	na	na	**8.8**
Govt and defence	5.2	16.2	8.1	18.1	8.4	2.5	22.7	4.4	3.2	15.6	na	**10.3**
Education	4.1	11.6	6.0	7.4	6.1	6.7	8.4	8.9	2.0	11.2	na	**8.1**
Health/community	9.1	13.7	11.7	17.9	15.8	14.2	20.2	12.6	16.5	15.5	na	**14.4**
Cultural/recreation	21.0	9.2	10.8	10.7	7.2	12.1	7.7	8.2	2.7	na	na	**10.2**
Personal & other	15.0	13.4	13.6	18.7	13.1	14.1	20.2	11.3	8.7	na	na	**14.5**
Total	**5.9**	**14.1**	**10.2**	**18.2**	**13.7**	**12.9**	**16.1**	**13.3**	**11.6**	**13.9**	**22.4**	**13.5**

p preliminary data. **na** not applicable. **np** data could not be provided because of confidentiality concerns. **a** Relative standard error greater than 25 percent.

Source: Data provided by Safe Work Australia with permission from state and territory governments.

In the same year, industries with the highest compensated fatality rates were Transport and storage (68 fatalities or 15 fatalities per 100 000 employees); Agriculture, forestry and fishing (22 fatalities or 13 fatalities per 100 000 employees); and Construction (37 fatalities or 6 fatalities per 100 000 employees) – reflecting the high risk nature of work in these industries. In comparison, service sector industries such as Health and community services; Education; and Finance and insurance had very few compensated fatalities (table 3.3).

Table 3.3 **Compensated fatalities, jurisdiction[a] and industry, 2007-08p**

Incidence — fatalities per 100 000 employees

	Cwlth	*NSW*	*Vic*	*Qld*	*SA*	*WA*	*Tas*	*NT*	***Total***
Agriculture, forestry & fishing	na	9.1	14.7	13.2	4.1	13.0	9.4	140.5	**12.6**
Mining	na	0.0	0.0	5.5	21.3	5.4	0.0	0.0	**5.0**
Manufacturing	0.0	2.6	2.2	3.5	0.0	4.4	0.0	0.0	**2.5**
Electricity, gas & water	0.0	0.0	0.0	10.8	0.0	0.0	0.0	0.0	**2.3**
Construction	69.1	3.4	3.1	9.8	5.3	3.7	17.5	11.8	**5.6**
Wholesale trade	na	0.0	1.5	2.9	0.0	2.4	12	0.0	**1.4**
Retail trade	na	0.4	0.3	0.7	0.0	0.7	0.0	0.0	**0.4**
Accom, cafes & restaurants	0.0	0.5	0.0	0.9	0.0	0	0	0.0	**0.4**
Transport & storage	0.0	5.1	15.1	40.2	8.3	9.3	11.7	28.3	**15.1**
Communication services	3.7	0.0	0.0	6.5	0.0	0.0	0.0	0.0	**2.3**
Finance & insurance	6.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	**1.3**
Property & business services	0.0	1.5	1.2	2.1	1.3	1.5	0.0	24.5	**1.6**
Govt. admin. & defence	3.4	2.0	1.6	0.0	0.0	0.0	10.3	7.4	**2.0**
Education	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	**0.2**
Health & community services	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	**0.2**
Cultural & rec. services	0.0	2.7	1.3	0.0	0.0	0.0	0.0	28.9	**1.5**
Personal & other services	51.0	0.9	2.4	3.1	0.0	0.0	0.0	0.0	**2.6**
Total	**5.2**	**1.4**	**1.8**	**4.4**	**1.1**	**2.1**	**3.4**	**9.4**	**2.4**

p preliminary data. **na** not applicable. **a** No compensated fatalities were recorded in the ACT and for Seacare.

Source: Data provided by Safe Work Australia with permission from state and territory governments.

A number of differences in OHS outcomes can be observed across industries at the state and territory level.

- In New South Wales, serious claim rates in the mining sector stand out. In 2007-08 there were 27 serious injury claims per thousand workers in the mining sector compared with 18 claims per thousand workers nationally. New South Wales also recorded the highest serious claim rates in Education and Accommodation, cafes and restaurants.
- Victoria achieved the lowest serious claim rates in many industries in 2007-08 including Agriculture, forestry and fishing; Electricity, gas and water; Wholesale and Retail trade; Accommodation, cafes and restaurants; Communication services; and Property and business services.
- Across most industries in Queensland, serious claim rates were higher than the national average. For example, Queensland recorded the highest serious claim rate in Manufacturing — 34 serious claims per thousand workers in 2007-08 compared with a national average of 24 claims per thousand workers. Queensland also recorded the highest serious claim rates in Transport and storage, and Construction.

- In South Australia, serious claim rates across most industries were around the national average. In particular, South Australia achieved relatively low serious claim rates in Mining, Electricity, gas and water and Finance and insurance.
- Western Australia achieved relatively low serious claim rates in a number of sectors including Wholesale trade, Communications, Finance and insurance and Government administration and defence.
- Tasmania recorded the highest serious claim rates in a number of service sectors including Communications services, Government administration and defence, Health and community services and Personal and other services. Tasmania also recorded relatively high serious claim rates in Mining and Transport and storage.
- The Northern Territory recorded the highest serious claim rates in Agriculture, forestry and fishing; Electricity, gas and water; Wholesale trade; and Property and business services. In particular, serious claim rates in Agriculture, forestry and fishing sector were significantly higher than the national average — 67 serious claims per 1000 workers compared with 25 claims per 1000 workers. However, the Northern Territory also recorded relatively low serious claim rates in a number of service sectors including Government administration and defence, Health and community services, Cultural and recreational services and Personal and other services.
- In 2007-08 the ACT recorded the highest serious claim rates in Retail trade and Finance and insurance, as well as relatively high claim rates in Construction. In the government sector, the ACT also recorded one of the highest rates of serious claims in Education. In contrast, the ACT recorded low serious claim rates in Transport and storage, private education and Cultural and recreational services (table 3.2).

Disparities in serious claim rates across jurisdictions become even more evident at lower levels of industry aggregation. For example, box 3.3 presents a disaggregated look at the incidence of injury and disease for the Transport and storage sector.

Participants in this study also commented that injury risks within the mining sector can be highly variable and that higher claim rates in the mining industry in New South Wales (where underground coal mining is prevalent) may be at least partly explained by the high risk nature of underground mining relative to open cut mining. While mining claims data are not available at a disaggregated level because of confidentiality concerns, data published in the annual *Safety Performance* reports by the Minerals Council of Australia support this view. In 2006-07, there were 19 lost time injuries per million hours worked from underground mining in Australia compared with 5 lost time injuries per million hours worked in open cut coal mining (Minerals Council of Australia 2008).

Box 3.3 **Disaggregating industry data: Transport and storage**

In 2007-08 there were 24 serious claims per 1000 workers in the Transport and storage sector in Australia. Within this sector incidence rates ranged from 11 serious claims per 1000 workers in services to air transport to 41 serious claims per 1000 workers in services to water transport (table below).

At the jurisdictional level disparities in injury incidence are even more apparent. For example, in 2007-08 in the Transport and storage sector Victoria recorded 26 serious claims per 1000 workers. However, within this sector injury rates ranged from 10 serious claims per 1000 workers in services to air transport to 65 serious claims per 1000 workers in rail transport. Similarly in South Australia, Transport and storage incidence rates averaged 24 serious claims per 1000 workers but ranged from 4 serious claims per 1000 workers in services to air transport to 50 serious claims per 1000 workers in services to water transport.

Moreover, in 2007-08 Queensland had the highest claim rate for Transport and storage at the aggregate level (28 serious claims per 1000 workers compared with the national average of 24 serious claims per 1000 workers). At a more disaggregated level the data showed that while Queensland had the highest claim rates for road freight transport (45 serious claims per 1000 workers compared with the national average of 34 serious claims per 1000 workers) it also had one of the lowest incidence rates for storage (11 serious claims per 1000 workers compared with the national average of 24 serious claims per 1000 workers) (table below).

Therefore at the aggregate (Transport and storage) level the data is unable to identify which individual industries are achieving good outcomes or which industries may be underperforming.

Transport and storage: incidence of injury

Serious claims per 1000 workers, 2007-08p

	Cwlth	*NSW*	*Vic*	*Qld*	*SA*	*WA*	*Tas*	*NT*	*ACT priv.*	*Sea-care*	***Total***
Road freight transport	7.1	29.6	32.8	45.1	34.2	31.9	37.1	18.8	22.6		**34.0**
Road passenger transport		26.2	12.2	23.9	13.8	12.8	26.3	5.3	10.4		**19.5**
Rail transport	11.3	34.5	64.8	21.8	15.2	23.4		np	np		**30.0**
Water transport		15.5	3.3	19.2	4.1	4.6	2.3	23.6		22.4	**15.3**
Air and space transport		17.7	15.5	29.4	17.6	16.9	6.7	12.9	27.1		**19.4**
Other transport	8.2	np	np		np	24.2			np		**24.5**
Services to road transport		48.5	16.2	np	np	30.7		np			**37.2**
Services to water transport		45.3	48.3	36.4	50.3	27.5	41.1	92.1	np		**41.2**
Services to air transport	3.4	16.4	10.1	12.5	3.5	21.8	np	5.0	10.7		**10.6**
Other services to transport		9.7	12.0	20.3	16.4	12.6	33.5	14.4	18.6		**13.3**
Storage		30.3	29.6	11.2	18.0	12.6	18.4	0.0	40.4		**24.2**
Total	**7.6**	**25.3**	**25.5**	**28.1**	**23.9**	**20.7**	**26.4**	**17.2**	**15.4**	**22.4**	**24.4**

p preliminary data. **np** data could not be provided because of confidentiality concerns.

Source: Data provided by Safe Work Australia with permission from state and territory governments.

However, for many sectors such as construction and mining it is not possible to report injury incidence rates at lower levels of industry by jurisdiction because of small injury numbers resulting in confidentiality and accuracy concerns. For this reason the Commission has not been able to attribute causation for differences in serious claim rates across jurisdictions.

ABS work-related injuries survey

The ABS work-related injuries and illness data are collected as part of the ABS Multi-Purpose Household Survey. It is a periodic survey and was last collected in 2005-06. The ABS survey measures both uncompensated and compensated work-related injuries.

The results of the ABS work-related injuries survey show that the majority of work-related injury or illness is not captured by workers' compensation statistics. In 2005-06, of those who experienced a work-related injury or illness (in the previous 12 months) 31 per cent received workers' compensation. However, that said, almost two thirds (65 per cent) of workers who reported an injury in the survey stated that they did not apply for workers' compensation because the injury or illness was minor and they did not consider it necessary.

Therefore, unlike the workers' compensation data reported earlier (which defined injury as serious claims involving one or more weeks off work) ABS data includes both major and minor injuries and illness, some of which required no time off work. Further, ABS work-related injury and illness data also include injuries sustained by self employed persons, such as farmers, who are not covered by workers' compensation. Clearly, the work-related injury and illness rates reported by ABS are higher and are not directly comparable with workers' compensation data.

The ABS work-related injuries survey found that in 2005-06, of the 10.8 million people employed, 6.4 per cent (or 64 per 1000 employed) experienced a work-related injury or illness. This injury or illness rate was highest in Queensland (7.1 per cent) and lowest in Victoria (5.4 per cent) (table 3.4).

The survey found that most injuries and illnesses in 2005-06 occurred in Retail trade (16 per cent); Manufacturing (14 per cent); and Health and community services (12 per cent). However, as a proportion of employment, injury and illness rates were highest in Agriculture, forestry and fishing (10.9 per cent); Manufacturing (8.7 per cent); Construction and Mining (each 8.6 per cent) and Transport and storage (8.5 per cent). These higher risk industries tend to be associated with labour intensive manual work. Conversely, relatively low rates of work-related injury or illness were recorded in the services sector — including

Finance and insurance (1.9 per cent); Property and business services (3.6 per cent); and Communication services (3.7 per cent) (table 3.5). These rankings are similar to those based on serious injury claims from workers' compensation statistics.

Table 3.4 **Work-related injuries and illnesses — 2005-06**

	Number of persons ('000) with an injury	*Injury rate %*
NSW	240.3	6.8
Vic	143.2	5.4
Qld	154.0	7.1
SA	49.1	6.2
WA	68.5	6.1
Tas	15.3	6.4
NT	6.1	6.9
ACT	13.1	6.9
Total	689.5	**6.4**

Source: ABS (*Work-Related Injuries* Cat. no. 6324.0).

Table 3.5 **Work related injury — 2005-06**

	% injuries	*Injury rate per persons employed*[a]
Agriculture, forestry and fishing	6.0	10.9
Mining	1.7	8.6
Manufacturing	13.8	8.7
Electricity, gas and water	0.7	6.5
Construction	11.0	8.6
Wholesale trade	3.2	5.7
Retail trade	15.8	7.4
Accommodation, cafes and restaurants	5.0	7.7
Transport and Storage	5.7	8.5
Communication Services	1.1	3.7
Finance and Insurance	1.0	1.9
Property and business services	6.3	3.6
Government administration and defence	5.1	7.2
Education	5.3	5.2
Health and community services	11.5	7.7
Cultural and recreational services	2.6	6.4
Personal and other services	4.2	7.3
Total	**100.0**	**6.9**

a These injury rates are calculated by ABS by dividing the number of injured workers by the number of persons employed at the time of interview and differs from the injury rates in table 3.4 which are calculated as the percentage of injured workers divided by the number of people who worked some time in the last 12 months (including those who were unemployed or not in the labour force at the time of the interview).

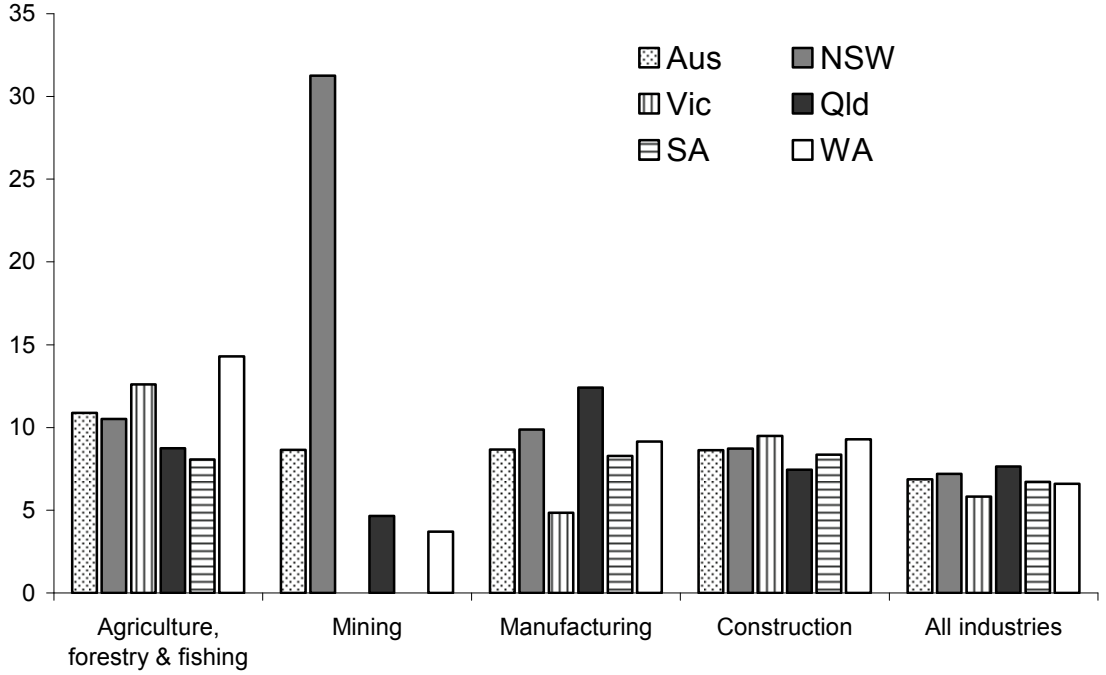
Source: ABS (*Work-Related Injuries,* Cat. no. 6324.0).

At the jurisdictional level, compared with the Australian average, reported injury and illness rates were found to be high in Mining in New South Wales, Manufacturing in Queensland, Agriculture, forestry and fishing in Western Australia and Construction in Victoria (figure 3.2).

The ABS work-related injury and illness survey also collects information on the nature of the injury or illness. In 2005-06 the most common types of injuries or illnesses sustained (across all industries) were sprains or strains (30 per cent), cuts and open wounds (19 per cent) and chronic joint or muscle conditions (19 per cent). These were most likely to be caused by lifting or pulling an object (32 per cent) or being hit or cut (30 per cent) (table 3.6).

Figure 3.2 **Work related injury by industry and state[a,b] — 2005-06**

Per cent of employment



a ABS were unable to provide data for all individual industries by state because of high standard errors. Estimates for Agriculture, forestry and fishing; Mining in New South Wales and Western Australia and Construction in South Australia have relative standard errors between 25 per cent and 50 per cent and the estimate for Mining in Queensland has a standard error exceeding 50 per cent. The ABS advises that these estimates need to be treated with caution. **b** Injury rates are calculated by the ABS by dividing the number of injured workers by the number of persons employed at the time of interview and differs from the injury rates in table 3.4 which are calculated as the number of injured workers divided by the number of people who worked some time in the last 12 months (including those who were unemployed or not in the labour force at the time of the interview).

Data source: ABS (*Work-Related Injuries,* Cat. no. 6324.0, unpublished data).

Table 3.6 **Type of injury, and cause of injury — 2005-06**

Type of injury or illness	*%*	*How the injury or illness occurred*	*%*
Fracture	6.4	Lifting, pulling or pushing an object	31.7
Chronic joint or muscle condition	18.6	Repetitive movement	8.2
Sprain/strain	30.1	Prolonged standing or working in a cramped or unchanging position	1.9
Cut/open wound	19.2		
Crushing, internal organ injury or amputation	4.0	Vehicle accident	3.6
Superficial injury	7.5	Hitting or being hit or cut by an object	26.6
Stress or other mental condition	4.5	Fall or slip on same level	8.6
Other	9.7	Fall from height	4.3
		Exposure to mental stress	5.0
		Contact with chemical or substance	4.6
		Other	5.6
Total	**100**	**Total**	**100**

Source: ABS (*Work-Related Injuries,* Cat. no. 6324.0).

Survey of small and medium enterprises

The quarterly Sensis Business Index is an ongoing series of surveys tracking the confidence and behaviour of Australia's small and medium enterprises (SMEs). The Commission contracted Sensis Pty Ltd to include questions relating to OHS in their June 2009 survey. Three questions were asked regarding work-related injury:

- has your businesses had a work-related injury in the last 12 months?
- if so what was the type of injury?
- what was the extent of injury?

Further details about the survey can be found in Appendix B.

Unlike workers' compensation data and the ABS work-related injuries data which record information about work-injury from employees, Sensis Pty Ltd data are based on responses from SMEs. Injury rates from the survey reflect the percentage of businesses which reported an injury in the previous 12 months rather than the number of injuries per persons employed. While injury rates from the survey cannot be compared with workers' compensation or ABS injury rates, the data provide a useful source of information on the prevalence of injury amongst SMEs in Australia.

In June 2009, of the 1802 businesses surveyed, just over 20 per cent reported a work-related injury in the previous 12 months. The majority of injuries were reported as being minor in nature:

- of the 372 SMEs that reported a work injury, 85 per cent stated that the injury was minor and there was no disruption to work
- 9 per cent of SMEs that reported a work injury said that it was an injury that resulted in lost production due to a shut down while the cause of the accident was investigated
- 6 per cent SMEs reported a major work injury that resulted in significant lost production while OHS practices were changed to prevent future accidents.

In relation to the type of injury sustained, a large proportion of SMEs (88 per cent) stated that the injury was physical. About 2.5 per cent reported that the injury was related to harassment; 5 per cent stated that the injury was psychological and 3.5 per cent reported that the injury sustained was both physical and psychological.

The highest injury rate was recorded in New South Wales where almost 30 per cent of businesses reported a work-related injury. Injury rates were also relatively high in Victoria and Western Australia — over 20 per cent of businesses in these jurisdictions reported a work-related injury. The lowest injury rate (around 14 per cent) was recorded in Tasmania (table 3.7).

Table 3.7 **SMEs reporting injury by state**
12 months to May 2009

	Number of businesses	*Number of businesses reporting injury*	*Injury rate*
NSW	300	87	29.0
Vic	300	64	21.3
Qld	300	55	18.3
SA	225	42	18.7
WA	224	46	20.5
Tas	151	21	13.9
NT	151	28	18.5
ACT	151	29	19.2
Total	**1 802**	**372**	**20.6**

Source: Sensis Survey of SMEs (2009 unpublished).

By industry, the highest injury rates were recorded by SMEs in Manufacturing where over 32 per cent of businesses reported a work-related injury. SMEs in Construction (29 per cent); Transport and storage (24 per cent); and Health and community services (23 per cent) also reported relatively high injury rates. In

contrast, SMEs in Financial services (7 per cent) and Communication, property and business services (13 per cent) reported relatively low injury rates (table 3.8). These findings are consistent with those presented earlier based on serious injury claims from workers' compensation and the ABS work-related injury survey (table 3.9).

Table 3.8 SMEs reporting injury by industry

12 months to May 2009

	Number of businesses	*Number of businesses reporting injury*	*Injury rate*
Manufacturing	260	85	32.7
Building/Construction	220	63	28.6
Wholesale trade	152	30	19.7
Retail trade	295	54	18.3
Transport/Storage	99	24	24.2
Communication, property and business services	317	42	13.3
Finance and Insurance	87	6	6.9
Health and Community services	96	22	22.9
Cultural, recreational and personal services	137	22	16.1
Accommodation, cafes and restaurants	139	24	17.3
Total	**1 802**	**372**	**20.6**

Source: Sensis Survey of SMEs (2009 unpublished).

Table 3.9 Highest and lowest injury rates by industry

A comparison of data sources

Workers' compensation — serious claims per 1000 workers, 2007-08		*ABS — work-related injuries per persons employed, 2005-06*		*Sensis survey of SMEs — % of businesses reporting injury, previous 12 months to May 2009*	
Highest injury rates					
Transport/storage	(24.4)	Agriculture[a]	(10.9)	Manufacturing	(32.7)
Agriculture[a]	(24.3)	Manufacturing	(8.7)	Construction	(28.6)
Manufacturing	(24.1)	Construction	(8.6)	Transport/storage	(24.2)
Construction	(21.6)	Mining	(8.6)	Health/community	(22.9)
Mining	(17.9)	Transport/storage	(8.5)		
All industries	**(13.5)**	**All industries**	**(6.9)**	**All industries**	**(20.6)**
Lowest injury rates					
Finance/insurance	(2.9)	Finance/insurance	(1.9)	Finance/insurance	(6.9)
Communications	(7.1)	Property/business	(3.6)	Communications/property/business	(13.3)
Education	(8.1)	Communications	(3.7)	Cultural/recreation/personal	(16.1)
Electricity/gas/water	(8.1)	Education	(5.2)	Accommodation/cafes/restaurants	(17.3)
Retail trade	(8.4)	Wholesale trade	(5.7)		
All industries	**(13.5)**	**All industries**	**(6.9)**	**All industries**	**(20.6)**

[a] Agriculture includes forestry and fishing.

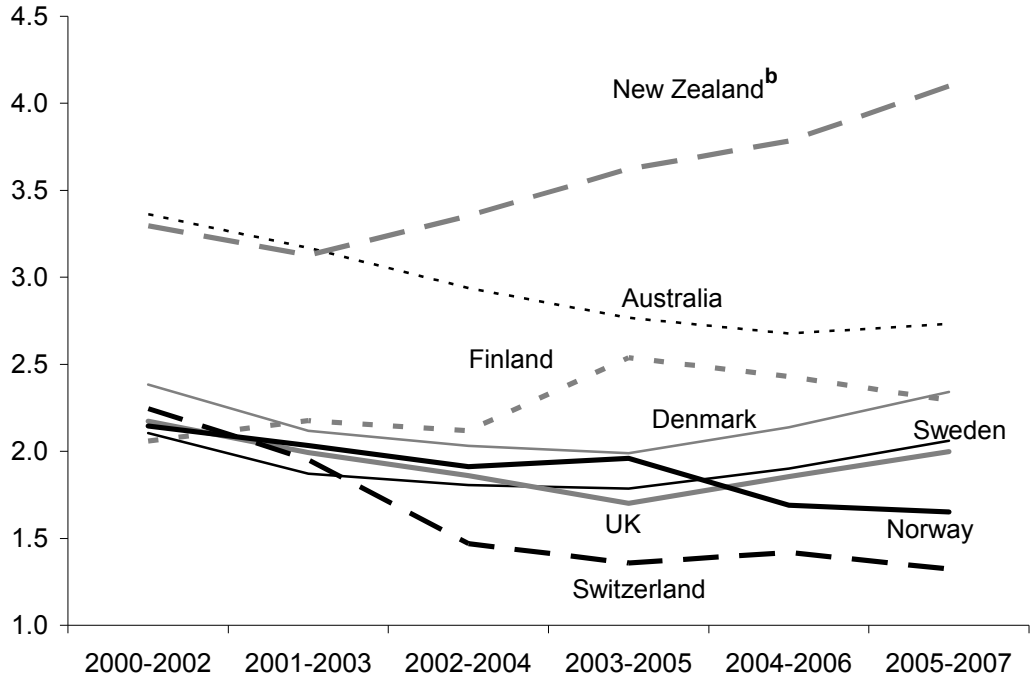
Source: Tables 3.2, 3.5 and 3.8.

3.3 OHS outcomes over time

Governments and regulators monitor and target changes in OHS outcomes over time in order to become more effective at managing OHS regulation and improve outcomes. Since 2002, Australian Governments have been targeting improvements in OHS outcomes through the National OHS Strategy (box 3.4).

Internationally, data published by the WRMC illustrates that Australia currently ranks in seventh place among the best OHS performing countries in the world (in terms of work-related injury fatality rates), behind Switzerland, Sweden, the United Kingdom, Denmark, Norway and Finland. Of greater significance, since 2001 Australia's work-related fatality rate has generally decreased at a faster rate than the best performing countries in the world (figure 3.3).

Figure 3.3 **International comparison, best performing OHS countries**
Fatalities per 100 000 employees[a]



[a] Data were standardised against Australia to take account of different industry mixes and a three year average was used to remove some volatility associated with the small numbers. Safe Work Australia notes that while the methodology has attempted to address concerns associated with comparing different data sets across countries some issues have not been fully resolved and may impact on the final results. [b] Preliminary data for 2006-2008 shows a significant improvement in outcomes data in New Zealand.

Data source: Data provided by Safe Work Australia with permission from state and territory governments.

Box 3.4 **Outcome targets: the National OHS Strategy**

As outlined in chapter 1 (box 1.2), Australian states and territories have agreed to the following national OHS targets:

- a reduction in the incidence of work-related fatalities by at least 20 per cent by 30 June 2012 (with an interim target of a 10 per cent reduction by 30 June 2007)
- a reduction in the incidence of workplace injury by at least 40 per cent by 30 June 2012 (with an interim target of a 20 per cent reduction by 30 June 2007).

Progress on the National Strategy is reported in the WRMC's *Comparative Performance Monitoring Report*. It is important to note that the strategy uses a standard definition of *serious* claims due to injury or musculoskeletal disorders to monitor changes in the incidence rate of workplace fatalities and injuries. As a consequence the following data are not directly comparable with the measure of claims (which includes all injury and disease) used in the chapter.

Between 2002-03 and 2006-07, Australia recorded a 17 per cent decline in the incidence of injury and musculoskeletal claims — just short of the interim target of a 20 per cent reduction. New South Wales (down 27 per cent), Seacare (25 per cent), the Commonwealth (24 per cent) and South Australia (22 per cent) exceeded the interim national target. Despite recording declines in injury rates, Victoria (down 18 per cent), the Northern Territory (8 per cent), Queensland (4 per cent), Tasmania and Western Australia (both 3 per cent) did not achieve the 20 per cent reduction target while the ACT recorded no change in injury outcomes (see table below).

The interim fatality target at the national level was achieved. The incidence of compensated fatalities from injuries and musculoskeletal disorders in Australia decreased by 16 per cent between 2002-03 and 2006-07, exceeding the 10 per cent target. Fatality data was not reported by jurisdiction because of its volatility.

National strategy injury targets and interim results

Incidence rates and percentage improvement in injury rates

	Base period (2000-01 to 2002-03) claims per 1000 employees	*2006-07 interim target claims per 1000 employees*	*2006-07 claims per 1000 employees*	*Improvement %*	*2011-12 target claims per 1000 employees*
Cwlth	8.8	7.0	6.7	23.9	5.3
NSW	17.1	13.7	12.5	26.9	10.3
Vic	11.3	9.0	9.3	17.7	6.8
Qld	16.6	13.3	15.9	4.2	10.0
SA	18.3	14.6	14.3	21.9	11.0
WA	12.5	10.0	12.1	3.2	7.5
Tas	16.2	13.0	15.7	3.1	9.7
NT	12.4	9.9	11.4	8.1	7.4
ACT	11.4	9.1	11.4	0.0	6.8
Seacare	36.3	29.0	27.1	25.3	21.8
Aus	**14.8**	**11.8**	**12.3**	**16.9**	**8.9**

Source: WRMC (2008b and 2009d).

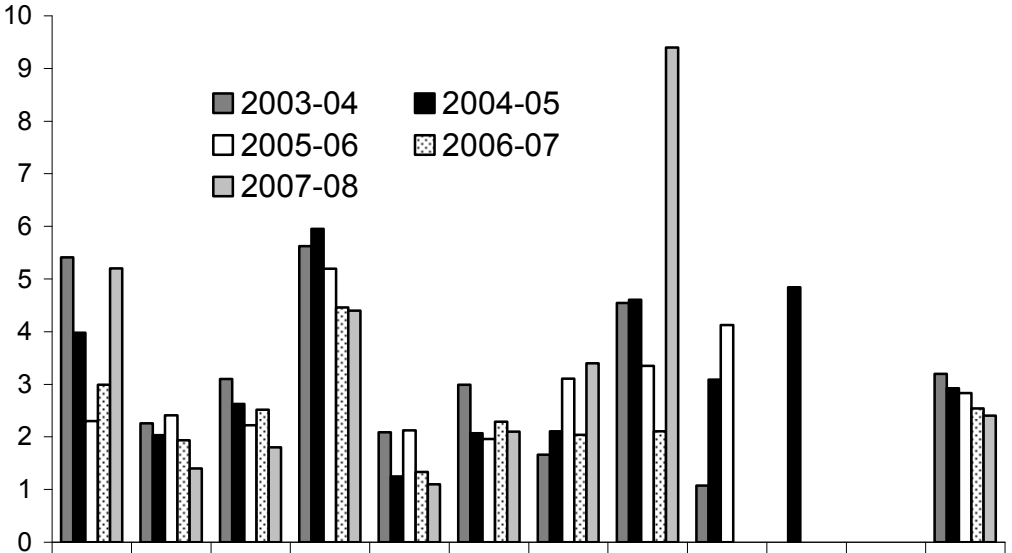
At the jurisdictional level in Australia, compensated fatality rates have been volatile in recent years. For example, in 2007-08 the compensated fatality rate in the

Northern Territory increased to over 9 claims per 100 000 employed compared with 2 claims per 100 000 employed in the previous year.

No compensated fatalities were recorded for Seacare between 2003-04 and 2007-08 and the ACT in 2006-07 and 2007-08. Aside from Seacare and the ACT, the lowest compensated fatality rates over the five year period were observed in South Australia and New South Wales. In contrast, in Queensland and the Northern Territory compensated fatality rates were significantly higher than the national average over the same period (figure 3.4).

Figure 3.4 **Compensated fatality rates by state — 2003-04 to 2007-08p**

Compensated fatalities per 100 000 employed



	Cwlth	NSW	Vic	Qld	SA	WA	Tas	NT	ACT priv.	ACT Govt.	Sea-care	Aus
2003-04	5.4	2.3	3.1	5.6	2.1	3.0	1.7	4.5	1.1	0.0	0.0	3.2
2004-05	4.0	2.0	2.6	6.0	1.3	2.1	2.1	4.6	3.1	4.8	0.0	2.9
2005-06	2.3	2.4	2.2	5.2	2.1	2.0	3.1	3.4	4.1	0.0	0.0	2.8
2006-07	3.0	1.9	2.5	4.5	1.3	2.3	2.0	2.1	0.0	0.0	0.0	2.5
2007-08	5.2	1.4	1.8	4.4	1.1	2.1	3.4	9.4	0.0	0.0	0.0	2.4

p preliminary data for 2007-08.

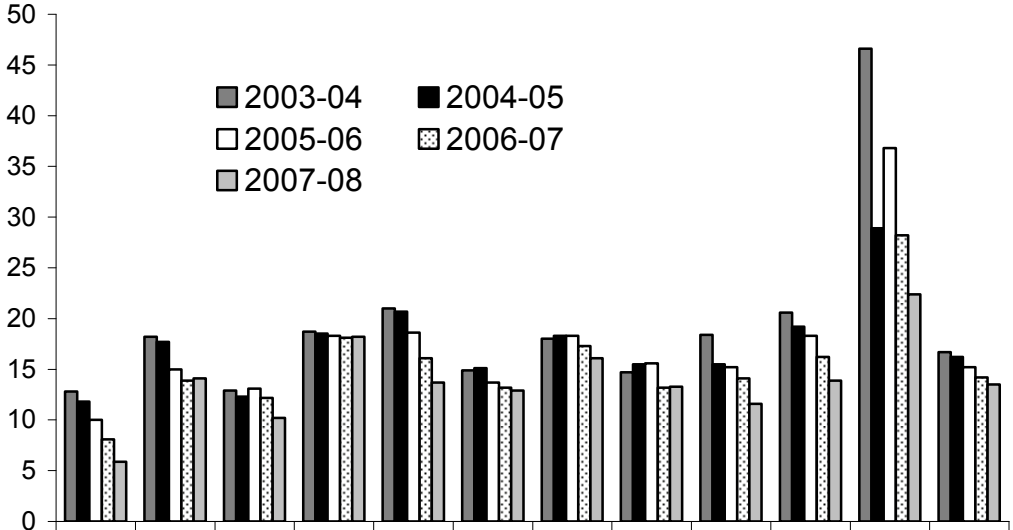
Data source: Data provided by Safe Work Australia with permission from state and territory governments.

Work related fatalities are a key OHS outcome indicator, however, they can be highly volatile over time because of the low probability of a fatality occurring. A major incident can have a significant influence on the data for a particular year. Trends in the incidence and frequency of work-related injury provide more consistent indicators of the change in OHS outcomes over time.

Between 2003-04 and 2007-08, the incidence rate of serious injury and disease in Australia fell 3.2 percentage points (from 16.7 serious claims per 1000 workers in 2003-04 to 13.5 serious claims per 1000 workers in 2007-08) or by 19 per cent. The lowest serious claim rates during this period were achieved by the Commonwealth and Victoria, while the average serious claim rates over the period were highest for Seacare, Queensland, South Australia and Tasmania (figure 3.5).

Figure 3.5 **Incidence of injury/disease, by state — 2003-04 to 2007-08p**

Serious claims per 1000 workers



	Cwlth	NSW	Vic	Qld	SA	WA	Tas	NT	ACT priv.	ACT Govt.	Sea-care	Aus
2003-04	12.8	18.2	12.9	18.7	21	14.9	18	14.7	18.4	20.6	46.6	16.7
2004-05	11.8	17.7	12.3	18.5	20.7	15.1	18.3	15.5	15.5	19.2	28.9	16.2
2005-06	10	15	13.1	18.3	18.6	13.7	18.3	15.6	15.2	18.3	36.8	15.2
2006-07	8.1	13.9	12.2	18.1	16.1	13.2	17.3	13.2	14.1	16.2	28.2	14.2
2007-08	5.9	14.1	10.2	18.2	13.7	12.9	16.1	13.3	11.6	13.9	22.4	13.5

p preliminary data for 2007-08.

Data source: Data provided by Safe Work Australia with permission from state and territory governments.

Reductions in the incidence of injury and disease were observed in all jurisdictions between 2003-04 and 2007-08. Seacare and the Commonwealth experienced the largest declines (both falling by over 50 per cent). In the case of Seacare the fall was from a very high base and the data is subject to extreme annual volatility. The rate of serious claims in South Australia and the ACT (private and public sectors) also declined significantly over the five year period (falling by over 30 per cent in each jurisdiction) while in New South Wales and Victoria the serious claim rate fell over 20 per cent.

In the other states and territories, reductions in the incidence of injury and disease recorded between 2003-04 and 2007-08 were less significant:

- Queensland (3 per cent fall) and Tasmania (11 per cent fall) recorded the smallest reductions
- in the Northern Territory the incidence of serious claims increased between and 2003-04 and 2005-06 before declining in 2006-07. Overall, the serious claim rate in the Northern Territory fell 10 per cent between 2003-04 and 2007-08
- similarly, in Western Australia serious claim rates increased between 2003-04 and 2004-05 before declining in each subsequent year. Overall, the serious claim rate in Western Australia fell by 13 per cent between 2003-04 and 2007-08 (figure 3.5).

Between 2003-04 and 2007-08, every broadly defined (two digit ANZSIC) industry also recorded improvement in the incidence of injury and disease. In percentage terms, the biggest improvements were recorded in Mining; Communication services; Finance and insurance; and Electricity, gas and water supply. Reductions in injury rates were less significant in Wholesale trade; Agriculture, forestry and fishing; and Property and business services (table 3.10).

Table 3.10 **Incidence rate of injury/disease, by industry — 2003-04 to 2007-08p**

Serious claims per 1000 workers

	2003-04	*2004-05*	*2005-06*	*2006-07*	*2007-08*	*change (%)*
Agriculture, forestry & fishing	27.3	26.5	25.9	25.3	24.3	-11.0
Mining	26.2	24.2	19.1	19.0	17.9	-31.7
Manufacturing	29.3	29.1	28.8	27.6	24.1	-17.7
Electricity, gas & water supply	11.0	12.0	8.3	9.1	8.1	-26.4
Construction	28.2	26.4	25.0	22.1	21.6	-23.4
Wholesale trade	16.1	16.8	17.7	15.5	15.5	-3.7
Retail trade	10.8	10.0	9.4	9.2	8.4	-22.2
Accommodation cafes/restaurants	14.4	13.2	13.3	12.4	11.6	-19.4
Transport & storage	30.5	28.4	27.6	25.7	24.4	-20.0
Communication services	10.4	9.4	8.2	7.2	7.1	-31.7
Finance & insurance	4.2	3.7	3.5	3.1	2.9	-31.0
Property & business services	10.1	10.3	9.1	7.6	8.8	-12.9
Government admin. & defence	12.8	12.2	10.8	10.8	10.3	-19.5
Education	9.9	10.0	9.1	9.0	8.1	-18.2
Health & community services	18.6	18.4	16.2	15.2	14.4	-22.6
Cultural & recreational services	12.1	11.0	10.9	9.7	10.2	-15.7
Personal & other services	19.2	18.9	17.1	16.1	14.5	-24.5
Total	**16.7**	**16.2**	**15.2**	**14.2**	**13.5**	**-19.2**

p preliminary data for 2007-08.

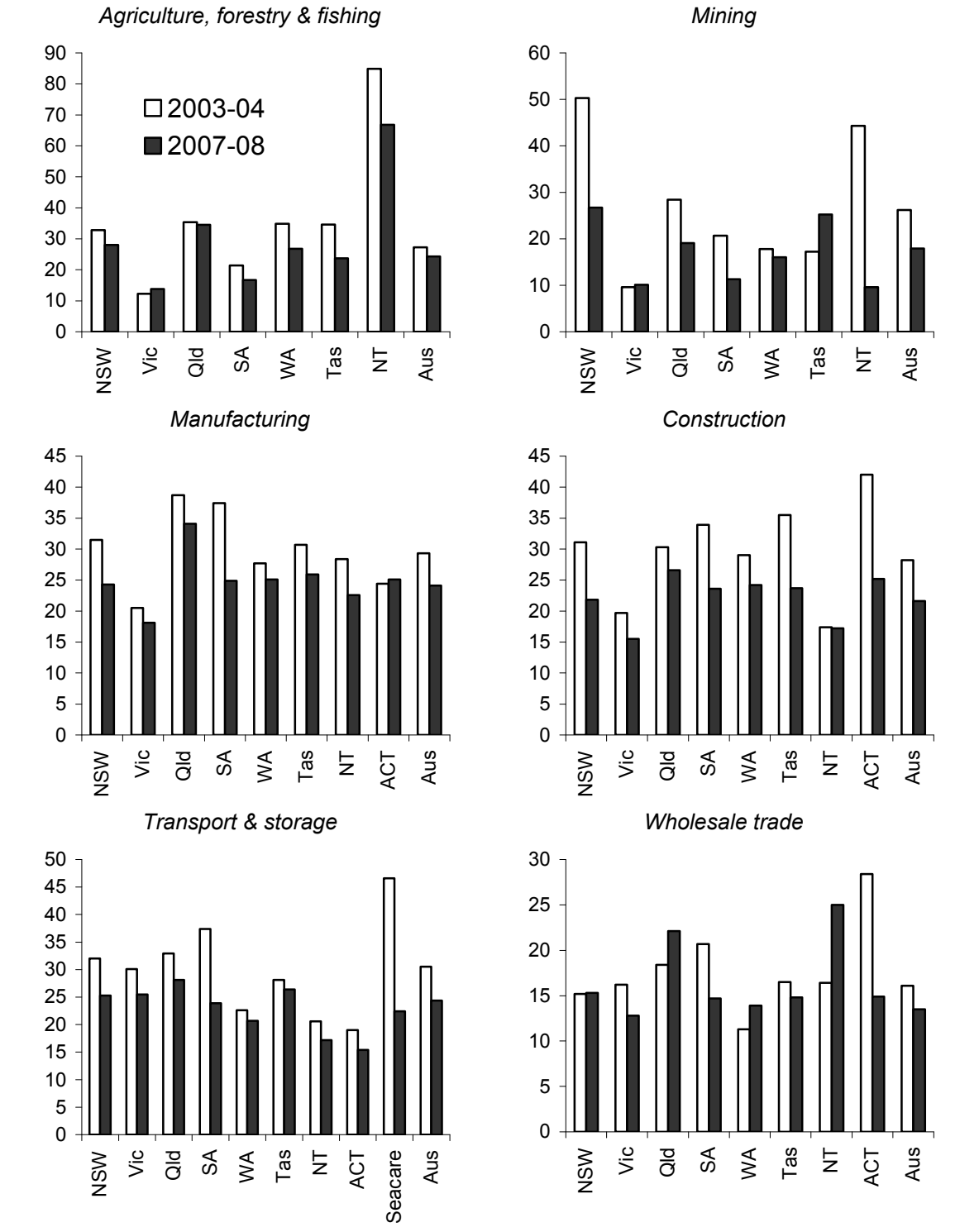
Source: Data provided by Safe Work Australia with permission from state and territory governments.

At the jurisdictional level, there have been a number of changes in OHS outcomes across industries in recent years. Figure 3.6 shows a jurisdictional breakdown of the incidence of work injury and disease for industry sectors with relatively high claim rates — Agriculture, forestry and fishing; Mining; Manufacturing; Construction; Transport and storage; and Wholesale trade.

- In New South Wales, with the exception of Wholesale trade, serious claim rates have fallen by over 15 per cent in each of these high risk industries. In particular, the serious claim rate in Mining has fallen significantly (albeit from a high base), falling 47 per cent between 2003-04 and 2007-08. Serious claim rates in Construction also fell considerably over this period (30 per cent).
- In Victoria, there has been a small increase in the incidence of serious claims in Agriculture, forestry and fishing and Mining and a 20 per cent fall in serious claim rates in both Construction; and Wholesale trade.
- In Queensland, falling serious claim rates have been observed in Mining; Agriculture, forestry and fishing; Manufacturing; Construction; and Transport and storage. Of particular significance is a fall in the serious claim rate in Mining of 33 per cent. However, over the five year period serious claim rates in Wholesale trade have increased 20 per cent.
- In South Australia, serious claim rates have fallen considerably in the selected high risk industries. Of most significance is a 45 per cent fall in serious claim rates in Mining and over 30 per cent falls in serious claim rates for Transport and storage; Manufacturing; and Construction.
- In Western Australia, improvements in the incidence of serious claims were recorded in all of the selected high risk industries with the exception of Wholesale trade which increased 23 per cent over the period. Of most significance, the serious claim rate fell 23 per cent in Agriculture, forestry and fishing and 17 per cent in Construction.
- In Tasmania, serious claim rates recorded in Construction fell significantly (33 per cent). Declines were also recorded for Agriculture, forestry and fishing; Manufacturing; Construction; and Wholesale trade. However, in the Mining sector claim rates increased 47 per cent over the period.
- In the Northern Territory, serious claim rates in Mining fell significantly (78 per cent). Claim rates in Agriculture, forestry and fishing; Manufacturing; and Transport and storage also declined. However, in Wholesale trade serious claim rates increased 52 per cent between 2003-04 and 2007-08.
- In the ACT, serious claim rates for Wholesale trade (48 per cent decline); Construction (40 per cent decline); and Transport and storage (19 per cent decline) have fallen significantly since 2003-04. In contrast, over the same period, serious injury rates in Manufacturing increased marginally (figure 3.6).

Figure 3.6 **Incidence rate of injury/disease, selected industries — 2003-04 and 2007-08p**

Serious claims per 1000 workers



p preliminary data for 2007-08.

Data source: Data provided by Safe Work Australia with permission from state and territory governments.

3.4 Outcomes and regulation

It is difficult to draw conclusions on the performance of OHS regulation from outcomes data.

Firstly, there are data limitations. OHS outcome indicators:

- tend to be under-reported. Work-related injury and illness, measured using workers' compensation data, includes only those covered by workers' compensation. It does not include the self employed or employees of companies that self insure. Further, outcome indicators underestimate long latency occupational diseases such as musculoskeletal disorders and cancers which can be difficult to attribute to work
- are subject to random variation making it difficult to identify trends over short time periods. In particular, fatalities have a low probability of occurring and a major incident can have a significant influence on the data
- are lagging, generally reflecting the outcomes of past OHS practices because there is often a time lag before OHS outcomes data reflects changes in regulation
- at an aggregate level, can be affected by differences in industrial structure such that it is difficult to judge (using outcomes data alone) whether differences across jurisdictions are the result of poor performance or reflect differences in risks across industries.

Secondly, notwithstanding data limitations, it is usually difficult to link changes in outcomes with particular regulatory changes. Even attributing better or worse performance to whole regulatory regimes is dubious. Knowing what would have happened in the absence of OHS regulation (the counterfactual) and isolating the impact of that regulation from other non-regulatory determinants of OHS outcomes is problematic. For example, it is difficult to assess the impact of regulation against non-regulatory factors such as a company's individual effort to manage OHS in order to maintain a productive working environment. Further, outcomes based on workers' compensation data are sensitive to policy and administrative changes to the scheme and it is difficult to ascertain whether fluctuation in claims data are the result of regulatory change or changes in the propensity of individuals to claim compensation. Regulatory arrangements can also influence the reporting of outcomes, as distinct from the underlying patterns.

Finally, outcome indicators largely measure negative performance. For example, it can be argued that outcome indicators give no information about how well the most serious safety hazards are being managed. Indeed, it is not unusual that investigations into a fatality or serious injury reveal that the company had a good record prior to a particular incident.

Outcome indicators are most useful at providing the regulator with an indication of where remaining risks are the highest, and where regulation may need to be more focussed. For example, workers' compensation data in 2007-08 found that:

- serious claim rates are relatively high for Seacare, Queensland, and Tasmania
- body stressing and falls, trips and slips account for the majority of claims
- by industry, the highest work-related injury and disease risks occur in Transport and storage; Agriculture, forestry and fishing; Manufacturing; and Construction
- at the jurisdictional level, industries with a relatively high risk of work-related injury and disease include:
  - Agriculture, forestry and fishing in the Northern Territory and Queensland
  - Manufacturing in Queensland
  - Construction in Queensland and the ACT
  - Transport and storage in Queensland, and Tasmania
  - Mining in New South Wales and Tasmania.

Conversely, outcome indicators can provide information on where the remaining risks of injury are relatively low. For example, workers' compensation data in 2007-08 identified low serious claim rates for the Commonwealth and Victoria and in service sector industries including Finance and insurance; Communication services; Education; and Electricity, gas and water supply.

Outcome indicators are also useful at identifying broad trends in OHS over time. Overall, the Commonwealth and Victoria have achieved the lowest serious claim rates in recent years, as evidenced by workers' compensation data between 2003-04 and 2007-08. Over the same period, average serious claim rates were highest for Seacare, Queensland, South Australia and Tasmania.

Importantly, in all jurisdictions outcomes in OHS have been improving and in some areas there has been a significant improvement. For example, between 2003-04 and 2007-08 serious claim rates fell over 50 per cent for Seacare and the Commonwealth and over 20 per cent in South Australia, the ACT, New South Wales and Victoria. Further, by industry, serious claim rates in Mining; Communications services; Finance and insurance; and Electricity, gas and water supply fell by over 25 per cent in Australia over the same period.

At the jurisdictional level significant improvement in injury rates was recorded in a number of industries including:

- Mining in the Northern Territory, New South Wales, South Australia and Queensland
- Construction in the ACT, Tasmania, South Australia and New South Wales
- Transport and storage for Seacare and South Australia
- Wholesale trade in the ACT
- Manufacturing in South Australia
- Agriculture, forestry and fishing in Tasmania.

In each of these industries serious claim rates improved at least 30 per cent between 2003-04 and 2007-08. Further, very few of the high risk industries (figure 3.6) recorded increases in incidence rates at the jurisdictional level over this period. Between 2003-04 and 2007-08 the most significant increases in serious claim rates were recorded in Mining in Tasmania and Wholesale trade in the Northern Territory, Western Australia and Queensland.

This information does not usually help to judge the effectiveness of a particular regulation, let alone particular aspects of a regulation. However, when used in conjunction with indicators of the current regulatory environment (such as the number of inspectors, number of OHS inspections conducted and percentage of sub-standard conditions identified) it provides a broad context for benchmarking different approaches to OHS regulation.