

WORK-RELATED INJURIES AND FATALITIES IN CONSTRUCTION, AUSTRALIA, 2003 TO 2013



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Safe Work Australia

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AND FATALITIES
IN CONSTRUCTION,
AUSTRALIA, 2003 TO 2013**

June 2015



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Summary of Findings

Over the 3-year period 2009-10 to 2011-12 the typical cost of a serious claim in the construction industry was \$10 200 ... [Table 26](#)

The median compensation payment per **serious claim** over the period 2009-10 to 2011-12



In 2011-12 a typical serious claim in the construction industry involved 6.4 weeks off work. The amount of time off work has increased 39% since 2003-04.... [Figure 8](#)



6.4 weeks

– the typical amount of time off work.

Over the 11 year period 2003 to 2013 there were 401 work-related fatalities in the construction industry – an average of 36 every year... [Page 14](#)

An average of **36** fatalities every year



Over the 11 years from 2003 to 2013 the fatality rate has decreased 68% from 5.71 per 100 000 workers to 1.85... [Figure 3](#)

68%

decrease in the fatality rate over 11 years



Fractures were responsible for almost one-third of construction worker injuries requiring hospitalisation... [Table 38.](#)

30%

of injuries requiring hospitalisation were for fractures.



Introduction

The construction industry engages workers involved with:

- the construction of new buildings or structures
- additions and alterations to existing structures
- demolition or wrecking of existing buildings or structures
- installation, maintenance and repair of existing structures, and
- site preparation activities.

Each of these activities presents its own risks and hazards. To manage the hazards in this and other industries, Safe Work Australia developed the model Work Health and Safety Act and Regulations in 2011. At the date of this publication the model WHS laws have not been implemented in Victoria or Western Australia. Western Australia however is currently consulting on options for implementing elements of the model.

In addition, Codes of Practice and other guidance material have been developed to provide more detailed information for employers and workers on working more safely. These documents can be accessed via the Safe Work Australia website (www.swa.gov.au).

The construction industry has been identified as a priority industry in the *Australian Work Health and Safety Strategy 2012–2022*. National targets under the Strategy are to reduce the incidence of serious injury by at least 30 percent by 2022 and to reduce the number of work-related fatalities due to injury by at least 20 percent. The construction industry will play an important role in meeting these targets.

This report presents data from a range of sources in an attempt to identify possible areas for prevention efforts.

Worker profile in construction

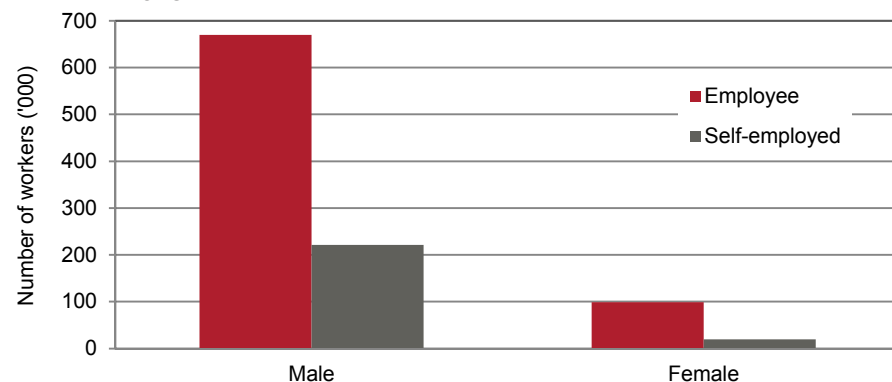
The construction industry employed 1.03 million workers in 2013, 9% of the Australian workforce. While the total Australian workforce grew 23% over the past decade, the construction industry grew by 37%.

Worker profile by sex

The construction industry is mainly comprised of male workers. In 2013, 88% of workers were male, the same proportion it was a decade ago.

In 2013, 25% of male workers were self-employed and 75% were employees while for females the proportions were 17% and 83% respectively (Figure 1).

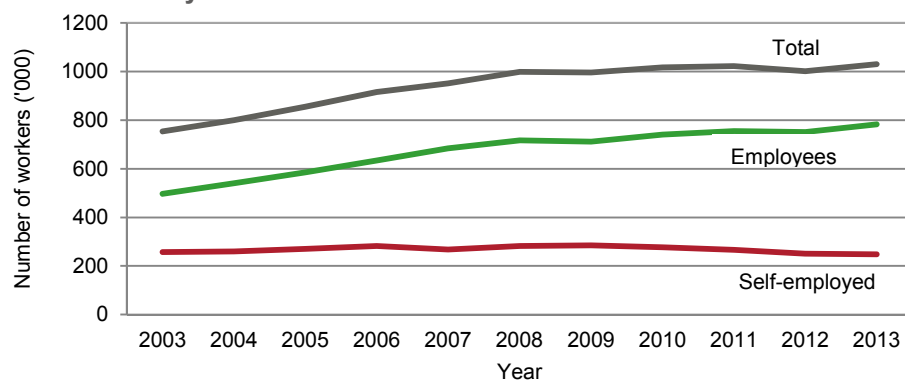
Figure 1: Construction workers: number by employment status and sex, 2013



Worker profile by employment status

Within the construction industry 24% of workers are self-employed. Figure 2 shows the proportion of self-employed workers has remained relatively stable over the past decade with the growth in employment coming from the employee sector. The number of employees has grown 58% from 496 000 employees in 2003 to 783 000 in 2013.

Figure 2: Construction workers: number by employment status and year^a



^a Employment status is derived from the ABS Labour Force Survey and applies ABS definitions for employees and self-employed.

Worker profile by industry sector

The construction industry can be split into various sectors using the Australian Bureau of Statistics' (ABS) *Australian and New Zealand Standard Industry Classification*. Table 1 shows all sectors of the construction industry grew over the 2003–2013 period with the greatest percentage increase recorded by the heavy & civil engineering construction sector (68%). The construction services sub-division accounted for 70% of the growth in employment over the 11 years.

Table 1: Construction workers: number and percentage by industry sector, 2003 and 2013

Industry sub-division and group	No. of workers		% change 2003 to 2013	Contribution to growth
	2003	2013		
Construction services	518 000	712 000	37%	70%
Building installation services*	164 000	259 000	58%	34%
Building completion services**	163 000	198 000	21%	13%
Other construction services	73 000	102 000	40%	10%
Building structure services	82 000	93 000	13%	4%
Land development & site preparation services	36 000	59 000	64%	8%
Building construction	188 000	239 000	27%	18%
Heavy & civil engineering construction	47 000	79 000	68%	12%
Total	753 000	1 030 000	37%	100%

* Includes Plumbing, Electrical, Air Conditioning and Heating, Fire and Security Alarm Installation, and Other Building Installation Services.

** Includes Plastering and Ceiling, Carpentry, Tiling and Carpeting, Painting and Decorating, and Glazing Services.

Industry sector by employment status

Table 2 shows there are different proportions of self-employed workers in each of the construction industry sub-divisions. There are very few self-employed workers in heavy & civil engineering construction and hence robust labour force estimates for self-employed workers in this subdivision are not available. The construction services sub-division accounted for 85% of self-employed workers in 2013. The actual number of self-employed workers in this sector has increased only marginally over the 11 years.

Table 2: Construction workers: percentage by employment status and industry sub-division, 2003 and 2013

Industry sub-division	2003			2013		
	Employee	Self-employed	Total	Employee	Self-employed	Total
Number of workers						
Construction services	310 000	209 000	518 000	499 000	211 000	710 000
Building construction	142 000	46 000	188 000	206 000	35 000	240 000
Heavy & civil engineering construction	44 000	3 000	47 000	78 000	2 000	79 000
Total	497 000	257 000	754 000	783 000	248 000	1 030 000
Percentage						
Industry sub-division	2003			2013		
	Employee	Self-employed	Total	Employee	Self-employed	Total
Construction services	60%	40%	100%	70%	30%	100%
Building construction	76%	24%	100%	86%	14%	100%
Heavy & civil engineering construction	94%	6%	100%	98%	2%	100%
Total	66%	34%	100%	76%	24%	100%

Worker profile by age

Table 3 shows the increase in employment has been reflected across all age groups with the 65 years & over age group recording the largest percentage increase (167%) followed by the 55–64 years age group (69%). Despite these large increases these age groups only accounted for 2% and 12% of construction workers in 2013 respectively.

The age group with the highest proportion of workers (26%) is the 25–34 years age group. The number of workers in this age group increased 40% over the 2003 to 2013 period.

Table 3: Construction workers: number and percentage by age group, 2003 and 2013

Age group	No. of workers		% of industry		% change 2003 to 2013
	2003	2013	2003	2013	
Under 25 years	130 000	176 000	17%	17%	35%
25 – 34 years	191 000	267 000	25%	26%	40%
35 – 44 years	196 000	236 000	26%	23%	20%
45 – 54 years	153 000	201 000	20%	20%	31%
55 – 64 years	74 000	125 000	10%	12%	69%
65 years & over	9 000	24 000	1%	2%	167%
Total	753 000	1 030 000	100%	100%	37%

Age by employment status

Table 4 shows self-employed workers have an older age profile than employees. In 2013, 21% of employees were aged less than 25 years but the proportion for self-employed workers was just 6%. At the other end of the age scale, 19% of self-employed workers were aged 55–64 years compared to 10% of employees.

Table 4: Construction workers: percentage by age group and employment status, 2003 and 2013

Age group	2003		2013	
	Employees	Self-employed	Employees	Self-employed
Under 25 years	23%	6%	21%	6%
25 – 34 years	26%	25%	27%	23%
35 – 44 years	24%	31%	22%	24%
45 – 54 years	19%	23%	18%	23%
55 – 64 years	8%	13%	10%	19%
65 years & over	1%	2%	2%	4%
Total	100%	100%	100%	100%

Worker profile by state or territory

All states and territories recorded increases in the number of construction workers over the 2003–13 period. Table 5 shows the Northern Territory recorded the greatest percentage increase (114%) with the number of workers in the construction industry more than doubling from 7 000 in 2003 to 15 000 in 2013. This number represents 1% of construction workers nationally.

Table 5: Construction workers: number and percentage by state or territory, 2003 and 2013

State/territory	No. of workers		% of industry		% change 2003 to 2013
	2003	2013	2003	2013	
New South Wales	255 000	285 000	34%	28%	12%
Victoria	180 000	250 000	24%	24%	39%
Queensland	156 000	241 000	21%	23%	54%
Western Australia	82 000	139 000	11%	13%	70%
South Australia	50 000	69 000	7%	7%	38%
Tasmania	12 000	18 000	2%	2%	50%
Northern Territory	7 000	15 000	1%	1%	114%
Australian Capital Territory	10 000	14 000	1%	1%	40%
Total	753 000	1 030 000	100%	100%	37%

There was also a difference in the proportion of workers in each state or territory who were self-employed. South Australia and Tasmania have the highest proportions of all the states and territories that are self-employed. Table 6 shows overall the proportion of construction workers who are employees has increased by 15% between 2003 and 2013.

Table 6: Construction workers: percentage by state or territory and employment status, 2003 and 2013

State/territory	2003		2013	
	Employee	Self-employed	Employee	Self-employed
New South Wales	68%	32%	75%	25%
Victoria	69%	31%	76%	24%
Queensland	64%	36%	78%	22%
South Australia	59%	41%	70%	30%
Western Australia	62%	38%	78%	22%
Tasmania	59%	41%	70%	30%
Northern Territory	66%	34%	80%	20%
Australian Capital Territory	62%	38%	83%	17%
Total	66%	34%	76%	24%

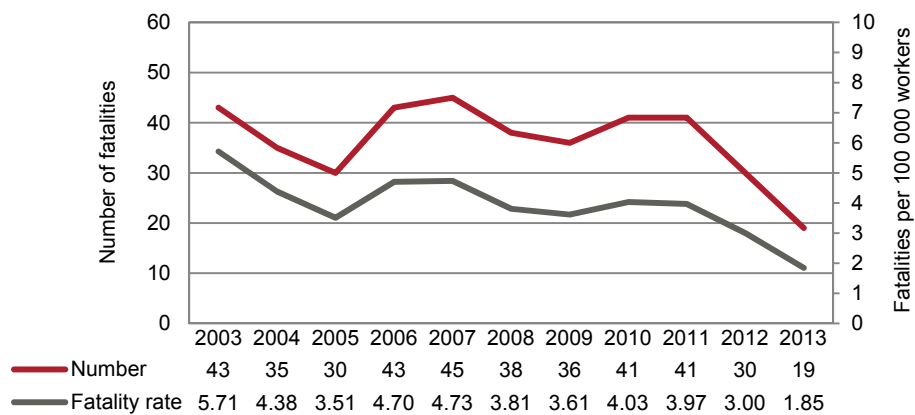
Worker fatalities in construction

Construction workers accounted for 15% of all workers killed

Over the period 2003 to 2013, 401 workers employed in the construction industry died from injuries sustained at work. This equates to 36 workers per year and is 15% of all worker fatalities. All but four of these workers were men.

Figure 3 shows there has been a downward trend in both the number of fatalities and the fatality rate though the figures are quite volatile. These data show 2013 recorded the lowest number of fatalities in the time series. The 19 fatalities recorded in 2013 is 37% lower than in 2012 when 30 fatalities were recorded and 59% lower than the series high of 46 fatalities recorded in 2007.

Figure 3: Worker fatalities in the construction industry: number and fatality rate, 2003 to 2013



Fatalities by industry sector

Figure 4 shows over the 2003–13 period, 69% of fatalities in the construction industry involved workers in the construction services industry sub-division. The remainder involved workers in heavy & civil engineering construction (19%) and building construction (12%).

Figure 4: Worker fatalities in the construction industry: number by industry sub-division, 2003 to 2013

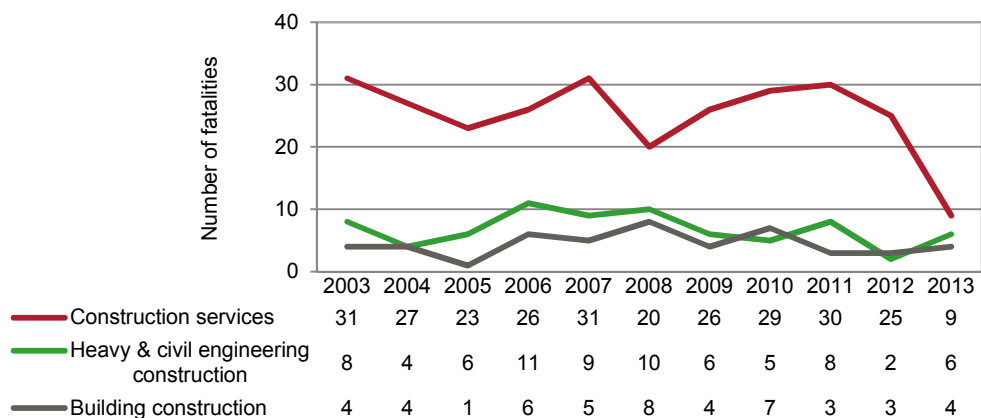


Table 7 shows despite the relatively high number of fatalities in the construction services sector, the higher employment in this sector means that its fatality rate is only slightly above the industry as a whole.

Table 7: Worker fatalities in the construction industry: number and fatality rate by industry sectors, 2003–07 and 2009–13

Industry sector	No. of fatalities		Fatality rate		
	2003–07	2009–13	2003–07	2009–13	% chg
Construction services	138	119	4.69	3.38	-28%
Building installation services	44	43	4.75	3.42	-28%
Land development & site preparation services	34	28	15.32	9.94	-35%
Building completion services	13	22	1.43	2.20	54%
Building structure services	30	13	6.67	2.73	-59%
Other construction services	17	13	3.96	2.59	-35%
Building construction	20	21	1.89	1.76	-7%
Heavy & civil engineering construction	38	27	13.76	7.35	-47%
Total	196	167	4.59	3.29	-28%

The only industry sub-division to record an increase in fatality rate was the building completion services sector, which increased 54% from 1.43 fatalities per 100 000 workers to 2.20. Despite this increase the fatality rate is below most other sectors.

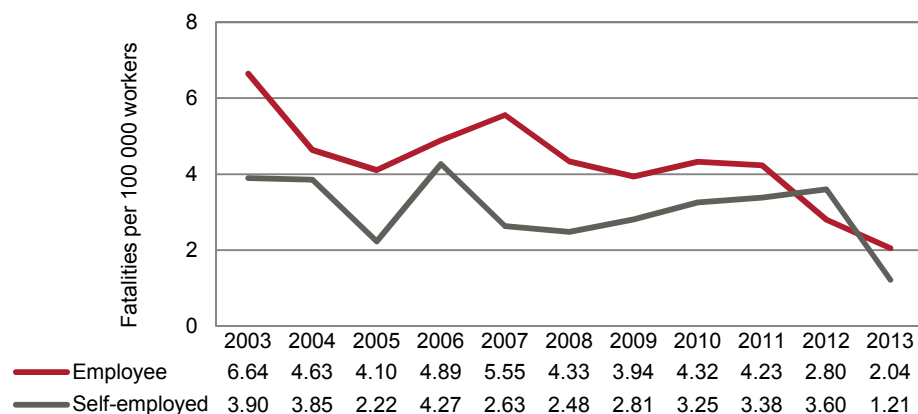
Fatalities by employment status

Employees have a fatality rate 37% higher than self-employed workers

Over the 2003–13 period 77% of the fatalities in the construction industry involved employees with the remainder self-employed workers. The 311 deaths of employees in the construction industry over the 2003–13 period equates to a fatality rate of 4.20 fatalities per 100 000 employees. This is 37% higher than the fatality rate for self-employed workers of 3.06 fatalities per 100 000 self-employed workers over the 2003–13 period.

Figure 5 shows the fatality rate for employees in the construction industry was higher than the rate for self-employed workers in all years except in 2012.

Figure 5: Worker fatalities in the construction industry: fatality rate by employment status, 2003 to 2013



This difference in fatality rates may be due to the different types of work undertaken by self-employed workers compared with employees. As was shown in Table 2, self-employed workers were more likely to be working in the services sector of the industry.

Table 8 shows employees recorded higher fatality rates than self-employed workers in the construction services sector for both periods of time, although the difference in fatality rates between the two employment status types narrowed.

Table 8: Worker fatalities in the construction industry: number and fatality rate by industry sub-division and employment status, 2003–07 and 2009–13

Industry sector	Number of fatalities					
	2003–07			2009–13		
	Employee	Self-employed	Total	Employee	Self-employed	Total
Construction services	98	40	138	87	32	119
Heavy & civil engineering construction	36	2	38	25	2	27
Building construction	17	3	20	17	4	21
Total	151	45	196	129	38	167

Industry sector	Fatality rate (fatalities per 100 000 workers)					
	2003–07			2009–13		
	Employee	Self-employed	Total	Employee	Self-employed	Total
Construction services	5.35	3.62	4.70	3.67	2.82	3.40
Heavy & civil engineering construction	13.83	11.49	13.68	7.03	13.89	7.30
Building construction	2.01	1.41	1.89	1.67	2.29	1.76
Total	6.67	3.37	4.59	3.45	2.87	3.29

Fatalities by age group

Workers aged 65 years & over had the highest fatality rates

Table 9 shows the lowest fatality rates were recorded by the 35–44 years age group with fatality rates increasing for workers both younger and older than this age group. Over the 2009–13 period the 35–44 years age group recorded 1.77 fatalities per 100 000 workers which was nearly half the industry rate (3.29).

Table 9: Worker fatalities in the construction industry: number and fatality rate by age group, 2003–07 and 2009–13

Age group	No. of fatalities		Fatality rate (fatalities per 100 000 workers)		
	2003–07	2009–13	2003–07	2009–13	% change
Under 25 years	31	28	4.13	3.10	-25%
25 – 34 years	36	23	3.37	1.84	-45%
35 – 44 years	34	21	3.19	1.77	-45%
45 – 54 years	42	36	4.84	3.56	-27%
55 – 64 years	37	36	8.03	5.84	-27%
65 years & over	16	23	26.69	21.63	-19%
Total	196	167	4.59	3.29	-28%

The highest fatality rate over the 2009–13 period was recorded by the 65 years and over age group. This age group accounted for 14% of fatalities in the 2009–13 period but had only 2% of workers. This resulted in a fatality rate of 21.63 fatalities per 100 000 workers, which is more than six times the industry rate over the same period.

Age by employment status

The age profile of fatalities among employees is younger than the age profile for fatalities among self-employed workers. Table 10 shows 20% of fatalities among employees involved workers aged less than 25 years while for self-employed workers this age group accounted for just 4% of fatalities. In contrast, 81% of self-employed fatalities involved workers aged 45 years or over. This is nearly double the percentage this age group represents for employees (44%).

Self-employed workers had lower fatality rates than employees for all age groups except the 65 years & over group. Over the 2003–13 period, 23 self-employed workers aged 65 years & over were killed.

The lowest fatality rate for self-employed workers was recorded by the 25–35 years age group. Over the 2003–13 period just three self-employed workers of this age were killed resulting in a fatality rate of 0.45 fatalities per 100 000 self-employed workers.

Table 10: Worker fatalities in the construction industry: number, percentage and fatality rate by age group and employment status, 2003 to 2013 combined

Age group	Fatalities		Workers		Fatality rate (fatalities per 100 000 workers)	
	Employee	Self-employed	Employee	Self-employed	Employee	Self-employed
Under 25 years	20%	4%	23%	6%	3.65	2.29
25 – 34 years	21%	3%	26%	23%	3.38	0.45
35 – 44 years	16%	12%	22%	28%	3.02	1.32
45 – 54 years	20%	26%	18%	24%	4.63	3.21
55 – 64 years	17%	29%	10%	16%	7.22	5.47
65 years & over	7%	26%	1%	3%	21.10	27.25
Total	100%	100%	100%	100%	4.20	3.05

Fatalities by state or territory of death

Table 11 shows all states and territories recorded falls in the fatality rate between the 2003–07 and 2009–13 period except for South Australia and Tasmania. Due to the different number of workers in each state or territory, fatality rates are a better means of comparison.

Table 11: Worker fatalities in the construction industry: number and fatality rate by state or territory of death, 2003–07 and 2009–13 (sorted by fatality rate in 2009–13)

State or territory	No. of fatalities		Fatality rate (fatalities per 100 000 workers)		
	2003–07	2009–13	2003–07	2009–13	% change
Northern Territory	5	4	12.47	6.30	-49%
South Australia	10	14	3.83	4.11	7%
Tasmania	6	8	7.86	8.31	6%
Queensland	49	45	5.02	3.82	-24%
New South Wales	64	47	4.70	3.24	-31%
Australian Capital Territory	3	2	5.15	2.94	-43%
Victoria	40	32	3.96	2.61	-34%
Western Australia	19	15	3.89	2.30	41%
Total	196	167	4.59	3.29	-28%

Fatalities by mechanism of incident

Table 12 shows how the fatalities occurred. These data show there has been no notable improvement in the number of fatalities within any of the main mechanisms of incident. Around one-quarter (28%) of fatalities in the construction industry over the 2003–13 period involved falls from a height.

Table 12: Worker fatalities in the construction industry: number by mechanism of incident, 2003 to 2013

Year	Mechanism of incident							Total
	Falls from a height	Vehicle collision	Contact with electricity	Being hit by moving objects	Being hit by falling objects	Trapped between or in equipment	Other	
2003	14	5	9	8	4	1	2	43
2004	11	7	6	4	3	3	1	35
2005	7	6	6	4	1	2	4	30
2006	16	7	7	3	6	2	2	43
2007	10	10	5	7	1	1	11	45
2008	11	4	5	7	5	2	4	38
2009	8	3	7	3	6	4	5	36
2010	9	9	4	4	5	6	4	41
2011	9	10	6	2	7	6	1	41
2012	12	3	3	4	4	2	2	30
2013	5	1	3	2	4	2	2	19
Total	112	65	61	48	46	31	38	401
% of Total	28%	16%	15%	12%	11%	8%	9%	100%

Of the 112 fatalities due to falls from a height, 40 involved ladders, mobile ramps & stairways, & scaffolding, 32 involved a fall from a roof and 17 involved buildings under construction or demolition.

State/territory by mechanism of incident

There are some differences in the pattern of mechanisms of incident by state. Table 13 shows that New South Wales has a higher percentage of falls from a height fatalities in the construction industry than the other states but a lower percentage due to being hit by moving objects.

Western Australia has a considerably smaller percentage of construction fatalities due to vehicle collision but has the highest percentage due to being hit by moving objects.

Data are not shown for the Northern Territory or the Australian Capital Territory due to the small numbers involved.

Table 13: Worker fatalities in the construction industry: number and percentage by mechanism of incident and state or territory^a of death, 2003 to 2013 combined

Number of fatalities							
Mechanism of incident	New South Wales	Victoria	Queensland	Western Australia	South Australia	Tasmania	Australia
Falls from a height	42	23	23	9	7	3	112
Vehicle collision	19	15	19	2	4	4	65
Contact with electricity	20	9	20	5	2	1	61
Being hit by moving objects	8	9	15	9	4	3	48
Being hit by falling objects	14	9	14	5	1	2	46
Other mechanisms	16	14	20	7	9	1	69
Total	119	79	111	37	27	14	401

Percentage							
Mechanism of incident	New South Wales	Victoria	Queensland	Western Australia	South Australia	Tasmania	Australia
Falls from a height	35%	29%	21%	24%	26%	21%	28%
Vehicle collision	16%	19%	17%	5%	15%	29%	16%
Contact with electricity	17%	11%	18%	14%	7%	7%	15%
Being hit by moving objects	7%	11%	14%	24%	15%	21%	12%
Being hit by falling objects	12%	11%	13%	14%	4%	14%	11%
Other mechanisms	13%	18%	18%	19%	33%	7%	17%
Total	100%	100%	100%	100%	100%	100%	100%

^a Data are not shown for the Northern Territory or the Australian Capital Territory due to the small numbers involved.

Figure 6 shows the impact of taking into account the number of workers in each state. These data indicate that construction workers in New South Wales had a fatality rate due to falls from a height 45% higher than Victoria and 41% higher than in Queensland.

Fatality rates for other states and mechanisms have not been shown due to the small numbers involved.

Figure 6: Worker fatalities in the construction industry: fatality rates for selected states and mechanisms, 2003 to 2013 combined



Fatalities by breakdown agency

The breakdown agency describes the object or substance that led to the most serious injury. Table 14 shows the breakdown agency associated with the highest number of fatalities is mobile plant & transport, which accounted for 37% of fatalities in the construction industry over the 2003–13 period. Vehicle collisions involving trucks, semi-trailers, lorries and cars, station wagons, vans, utilities accounted for 51 of the 148 fatalities in this category. Hit by moving object, of which many involved trucks and cars, accounted for a further 24 fatalities.

Natural and man-made structures come under the environmental agencies group, with 53 of the 85 fatalities in this category due to falls from a height from buildings & other structures.

Within the machinery & (mainly) fixed plant category 40 of the 76 fatalities were due to contact with electricity while working on electrical installations.

Fatalities involving non-powered handtools, appliances & equipment were due to falls from a height from ladders or scaffolding in 39 of the 55 cases.

Table 14: Worker fatalities in the construction industry: number and percentage by breakdown agency and mechanism of incident, 2003 to 2013 combined

Breakdown agency/Mechanism of incident	No. of fatalities	% of total
Mobile plant & transport	148	37%
Trucks, semi-trailers, lorries	42	10%
<i>Vehicle collision</i>	19	5%
<i>Hit by moving object</i>	13	3%
Cars, station wagons, vans, utilities	38	9%
<i>Vehicle collision</i>	32	8%
Self-propelled plant	36	9%
<i>Hit by moving object</i>	11	3%
<i>Rollover of non-road vehicle</i>	9	2%
<i>Being hit by falling objects</i>	7	2%
Environmental agencies	85	21%
Buildings & other structures	61	15%
<i>Falls from a height</i>	53	13%
Machinery & (mainly) fixed plant	76	19%
Electrical installation	40	10%
<i>Contact with electricity</i>	40	10%
Conveyors & lifting plant	25	6%
<i>Being hit by falling objects</i>	9	2%
Non-powered handtools, appliances & equipment	55	14%
Ladders	28	7%
<i>Falls from a height</i>	27	7%
Scaffolding	16	4%
<i>Falls from a height</i>	12	3%
Other agencies	37	9%
<i>Being hit by falling objects</i>	13	3%
Total	401	100%

State by breakdown agency

There is greater consistency in the pattern of breakdown agency by state than was seen with mechanism of incident. Table 15 shows broadly similar percentages of fatalities across the states were associated with key breakdown agencies (see Table 14).

Consistent with New South Wales recording the highest percentage of fatalities due to falls from a height (Table 13), it recorded the highest percentage of fatalities associated with building & other structures and scaffolding and the second highest percentage associated with ladders. The percentage of fatalities associated with ladders showed great variability across the states ranging from 2% in Queensland to 15% in South Australia.

Table 15: Worker fatalities in the construction industry: number and percentage by breakdown agency and state or territory of death, 2003 to 2013 combined

Number of fatalities							
Breakdown agency	New South Wales	Victoria	Queensland	Western Australia	South Australia	Tasmania	Australia
Buildings & other structures	20	13	16	5	3	2	61
Trucks, semi-trailers, lorries	12	10	12	2	2	3	42
Electrical installation	15	6	11	3	2	1	40
Cars, station wagons, vans, utilities	12	8	9	3	3	1	38
Self-propelled plant	10	3	13	6	4	0	36
Ladders	13	7	2	1	4	1	28
Conveyors and lifting plant	4	7	8	3	2	1	25
Scaffolding	8	1	5	2	0	0	16
Other agencies	25	24	35	12	7	5	115
Total	119	79	111	37	27	14	401

Percentage							
Breakdown agency	New South Wales	Victoria	Queensland	Western Australia	South Australia	Tasmania	Australia
Buildings & other structures	17%	16%	14%	14%	11%	14%	15%
Trucks, semi-trailers, lorries	10%	13%	11%	5%	7%	21%	10%
Electrical installation	13%	8%	10%	8%	7%	7%	10%
Cars, station wagons, vans, utilities	10%	10%	8%	8%	11%	7%	9%
Self-propelled plant	8%	4%	12%	16%	15%	0%	9%
Ladders	11%	9%	2%	3%	15%	7%	7%
Conveyors and lifting plant	3%	9%	7%	8%	7%	7%	6%
Scaffolding	7%	1%	5%	5%	0%	0%	4%
Other agencies	21%	30%	32%	32%	26%	36%	29%
Total	100%	100%	100%	100%	100%	100%	100%

Fatalities by occupation

Nearly half (46%) of the worker fatalities in the construction industry involved people working as technicians & trade workers. This was followed by labourers (28%) and machinery operators & drivers (21%). There were 22 fatalities over the 11 years that did not involve workers in these three occupations.

Table 16 shows that in 2013, nine technicians & trade workers were killed. This is down from 13 in the previous year and is nearly one-third of the number killed in 2006 (25 fatalities). Similarly, the labourers occupation group recorded a fall from the previous year. The seven labourers killed in 2013 is the lowest number in this occupation group since 2004 when seven workers were also killed and is less than half the series high of 17 fatalities which was recorded in 2003.

It is not possible to calculate fatality rates for these occupation groups within the construction industry as the number of workers in each group is not known. Despite the high number of fatalities among technicians & trade workers, it is possible this occupation group may have a lower fatality rate than the other occupation groups due to its higher employment.

Table 16: Worker fatalities in the construction industry: number by occupation, 2003 to 2013

Year	Occupation of worker					Total
	Technicians & trades workers	Labourers	Machinery operators & drivers	Managers	Other occupations	
2003	17	17	9	0	0	43
2004	19	7	8	1	0	35
2005	11	9	7	2	1	30
2006	25	8	6	1	3	43
2007	22	9	11	2	1	45
2008	17	13	5	3	0	38
2009	16	8	10	2	0	36
2010	17	12	12	0	0	41
2011	18	9	11	1	2	41
2012	13	13	2	2	0	30
2013	9	7	2	1	0	19
Total	184	112	83	15	7	401
% of Total	46%	28%	21%	4%	2%	100%

Occupations with high numbers of fatalities were Electricians, Building & plumbing labourers and Bricklayers

Table 17 shows the number of fatalities by more detailed occupation groups and mechanism of incident. These data show that some occupations have higher numbers of fatalities due to specific mechanisms than other occupations.

The occupations with the highest numbers of fatalities were electricians (54 fatalities), building & plumbing labourers (41), bricklayers, carpenters & joiners (39) and earthmoving plant operators (38).

Table 17: Worker fatalities in the construction industry: number by occupation and mechanism of incident, 2003 to 2013 combined

Occupation	Mechanism of incident						Total	% of total
	Falls from height	Contact with electricity	Vehicle collision	Being hit by moving objects	Being hit by falling objects	Other mechanisms		
Technicians & trades workers	68	49	19	9	16	23	184	46%
Electricians	12	30	7	2	0	3	54	13%
Bricklayers, carpenters & joiners	17	5	3	2	6	6	39	10%
Glaziers, plasterers & tilers	13	2	1	1	2	2	21	5%
Plumbers	8	5	2	1	2	3	21	5%
Painting trades workers	12	2	1	1	0	3	19	5%
Electronics & telecommunications trades workers	3	4	2	1	0	2	12	3%
Labourers	39	11	12	18	16	16	112	28%
Building & plumbing labourers	18	4	3	3	9	4	41	10%
Structural steel construction workers	6	0	2	0	3	2	13	3%
Concreters	3	0	2	2	2	2	11	3%
Traffic control labourers	0	0	0	11	0	0	11	3%
Machinery operators & drivers	2	1	22	18	11	29	83	21%
Earthmoving plant operators	1	1	14	8	5	9	38	9%
Truck drivers	0	0	9	7	6	1	23	6%
Machine & stationary plant operators	1	1	2	2	2	6	14	3%
Managers	2	0	7	3	3	0	15	4%
Other occupations	1	0	5	0	0	1	7	2%
Total	112	61	65	48	46	69	401	100%

Fatalities at construction worksites

Of the 401 construction workers who were killed while working over the 2003–13 period, 60 were not working on a construction site at the time of the incident. In addition, there were 39 workers who died on construction sites that were employed by a non-construction employer (Table 18).

Table 18: Worker fatalities associated with construction: number by type of employer, 2003 to 2013

Year	Construction worker not working on construction site	Construction worker working on construction site	Non-construction worker working on construction site	Total
2003	5	38	4	47
2004	3	32	2	37
2005	9	21	3	33
2006	4	39	5	48
2007	7	38	8	53
2008	2	36	3	41
2009	7	29	1	37
2010	6	35	4	45
2011	9	32	3	44
2012	5	25	4	34
2013	3	16	2	21
Total	60	341	39	440

Non-construction workers working at construction sites

Of the 39 non-construction workers killed on construction worksites, 10 were employed within the transport, postal & warehousing industry, of which six were truck drivers.

There were eight workers employed with the public administration & safety industry, of which four were road traffic controllers. There were six workers employed by the rental, hiring and real estate services sector killed while on construction sites and five employed by manufacturing companies.

Of the 39 non-construction worker fatalities 16 were the result of being hit by moving objects, of which 10 involved trucks. Falls from a height and being hit by falling objects resulted in five fatalities each.

Machinery operators & drivers accounted for 15 of the 39 workers, of which eight were truck drivers and four were earthmoving plant operators.

Construction workers working at other sites

Of the 60 construction workers who were working at other sites, 14 were at accommodation & food services establishments where eight died following contact with electricity and five died due to falls from a height. There were 10 fatalities involving construction workers at manufacturing workplaces where four died following contact with electricity and two died due to falls from a height. Other worksites included retail trade (7), mining (5) and electricity, gas, water & waste services (5). In total, 24 construction workers died at non-construction worksites from contact with electricity, 14 died due to falls from a height and seven died from being hit by moving objects.

One-third (20) of these workers were electricians, five were painters, four were plumbers. The remaining were mostly general labourers.

One-quarter of these workers were self-employed and the remainder were employees. This is similar to the split in employment status for all construction workers.

Work-related injuries

The ABS surveys workers every four years on whether they had incurred a work-related injury in the previous year. The latest Work-related Injury Survey (WRIS) was conducted for the 2013–14 year however results from the survey are not yet available for an analysis of the construction industry.

The previous WRIS survey for the 2009–10 year showed 57 000 construction workers had incurred an injury at work. This equates to 156 construction workers being injured each day or 5.9% of all construction workers. This is a similar proportion to the proportion of workers across all industries who had incurred a work-related injury in that year (5.7%). Almost all of the injuries (98%) were recorded by male workers.

Time off work

More than one-third (37%) of the injuries in the construction industry involved no time off work. This is a lower proportion than for all workers (45%). For all the other time lost categories, the construction industry had higher proportions than the all industries average suggesting that injuries in the construction industry are more severe. It is of particular note that the construction industry has four times the all industries proportion of workers who had not returned to work following their injuries (12% compared with 3%).

Table 19: Work-related injuries: Proportion for the construction industry and all industries, 2009–10

Days absent from work	Construction	All industries
No time off	37%	45%
Part of a day	10%	7%
1 – 4 days	13%	22%
5 – 10 days	14%	11%
11 days or more	15%	13%
Had not returned to work since illness or injury occurred	12%	3%
Total	100%	100%

Injuries by age

Table 20 shows the profile of serious claims by age is broadly similar to the profile of employees by age. The slight differences result in incidence rates of injury ranging from 58.6 injuries per 1000 workers aged 25–34 years to 73.5 for workers aged 35–44 years.

Table 20: Work-related injuries in the construction industry: Proportion of claims, workers and incidence rate, 2009–10

Age group	% of injuries	% of workers	Incidence rate (injuries per 1000 workers)
Less than 25 years	19%	17%	67.3
25–34 years	23%	23%	58.6
35–44 years	28%	23%	73.5
45–54 years	22%	21%	62.2
Total (incl over 55 years)	100%	100%	59.2

Type of injury

Table 21 shows the types of injuries incurred by construction workers was different to the pattern for all workers. In the construction industry 31% of injuries involved cut or open wound which is nearly twice the proportion for all workers (16%). This was followed by sprain or strain (21%) and chronic joint or muscle condition (16%).

Table 21: Work-related injuries: Proportion for the construction industry and all industries by type of injury, 2009–10

Most recent work-related injury	Construction	All industries
Cut/open wound	31%	16%
Sprain/strain	21%	30%
Chronic joint or muscle condition	16%	18%
Fracture	10%	7%
Other type of injury	22%	29%
Total	100%	100%

Injuries by employment status

Table 22 shows employees of construction companies had a 52% higher incidence rate of injury compared with self-employed workers (employers/own account workers) in the construction industry. This proportion was similar to the all industries proportion in which employees had an injury rate 71% higher than self-employed workers.

Table 22: Work-related injuries: Proportion for the construction industry and all industries by employment status, 2009–10

Status in employment of job	Construction	All industries
Employees	65.4	60.8
Employers/own account workers	42.9	35.5
Total	59.2	57.9

How the injury occurred

Table 23 shows around one-third (31%) of the injuries incurred in the construction industry were the result of hitting or being hit by an object and a further one-third (30%) from lifting, pushing or pulling an object. Falls accounted for 22% of injuries. These percentages are all higher than the all industries percentages.

Table 23: Work-related injuries: Proportion for the construction industry and all industries by type of injury, 2009–10

How injury occurred	Construction	All industries
Hitting or being hit by an object	31%	24%
Lifting, pushing or pulling object	30%	27%
Falls	22%	17%
Other	48%	55%
Total	100%	100%

Injuries by workers' compensation status

Table 24 shows 65% of construction workers did not apply for workers' compensation following an injury at work. Some of this is explained by the fact that within the construction industry 24% of workers are self-employed and hence not eligible for workers' compensation. Workers generally do not apply for workers' compensation when their time lost is low. Table 19 showed 47% of injuries involved no time off work or less than one day.

Table 24: Work-related injuries: Proportion for the construction industry and all industries by workers' compensation status, 2009–10

Workers' compensation status	Construction	All industries
Did not apply for workers' compensation	65%	59%
Applied for workers' compensation	35%	41%
Total	100%	100%

Worker's compensation claims

Numbers and incidence rates

156 Construction workers injured each day

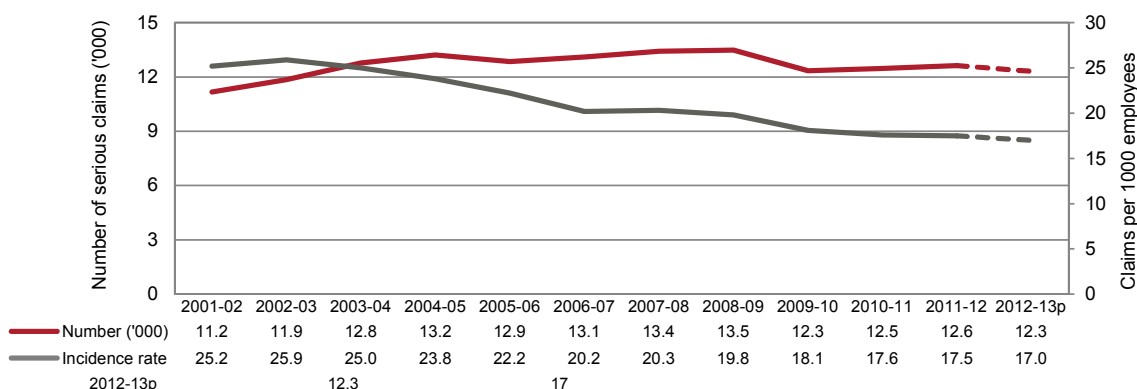
35 employees in the Construction industry are injured each day and need one or more weeks off work

Workers' compensation is available to employees of businesses who are injured or contract an illness while at work. Workers' compensation is generally not available to self-employed workers. In 2013, 76% of construction workers were classed as employees. The data in this section relate to employees with a serious workers' compensation claim. The data should not be used to represent the whole of the construction industry as self-employed workers work in different areas to employees and are exposed to different risks.

A serious claim is one where a compensation payment for one or more weeks off work was made. In 2011–12, 12 600 employees made a serious workers' compensation claim.

Over the period from 2001–02 to 2011–12 the number of employees covered for workers' compensation in the construction industry grew 62% while the number of serious claims grew 13%. This resulted in a 31% fall in the incidence rate of serious claims from 25.2 serious claims per 1000 employees in 2001–02 to 17.5 in 2011–12 (Figure 7). The preliminary data for 2012–13 (denoted by the letter 'p' and is shown as a broken line in figures throughout this report) indicates a continuing decline (17.0).

Figure 7: Serious claims in the construction industry: number and incidence rate, 2001–02 to 2012–13



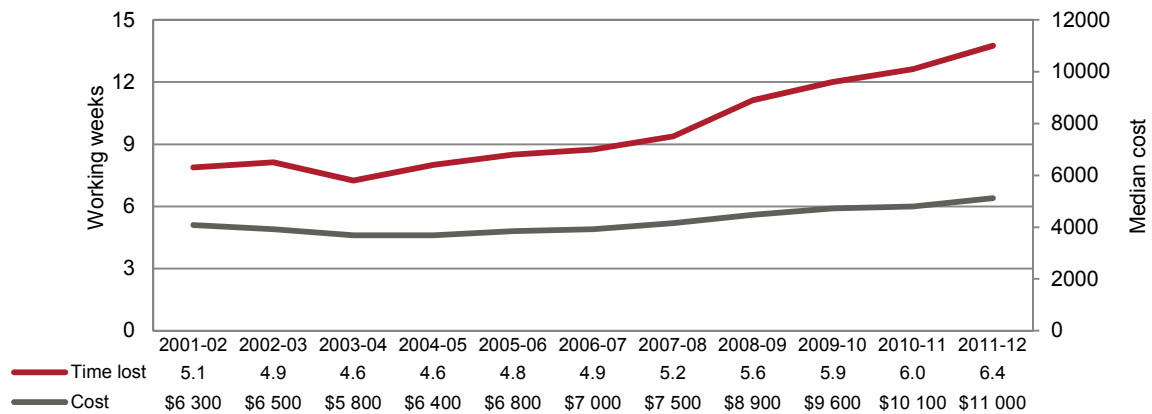
Typical costs and time off work

A typical claim involved 6.4 weeks off work

In 2011–12 a typical serious claim in the construction industry involved 6.4 working weeks off work and a median compensation payment of \$11 000. Medians for the preliminary year are not reported because some claims remain open and the time lost and associated payments can increase.

Median compensation payments are affected by the amount of time off work, the wages or salary of the injured employee and the cost of medical treatment and rehabilitation. Figure 8 shows the amount of time off work has been increasing steadily since 2003–04 when a typical claim involved 4.6 weeks off work. Since 2003–04 the amount of time off work following a work-related injury or illness has increased 39%.

Figure 8: Serious claims in the construction industry: median time off from work and median compensation paid per claim, 2001–02 to 2011–12



12% of injured Construction workers never return to work following their injury

Table 25 shows half (49%) the serious claims over the 2010–12 period involved between one and five weeks off work and these claims typically involved \$3400 each in compensation paid. The median compensation payments rise significantly with longer periods of time off work.

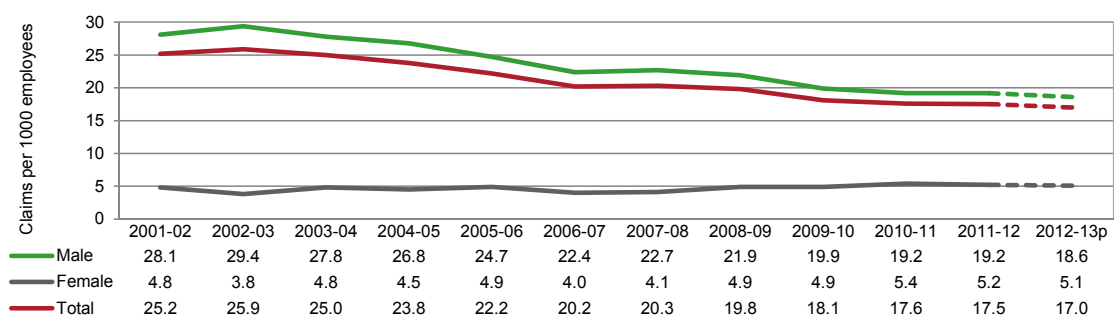
Table 25: Serious claims in the construction industry: number and percentage of claims and median compensation paid by duration of absence, 2009–10 to 2011–12 combined

Duration of absence	No. of claims	%	Median compensation paid
1 to 5 weeks	18 320	49%	\$3 400
6 to 11 weeks	6 610	18%	\$12 700
12 to 25 weeks	5 195	14%	\$27 600
26 to 51 weeks	2 920	8%	\$57 300
52 weeks & over	4 395	12%	\$126 400
Total	37 440	100%	\$10 200

Claims by sex

Over the 2001–02 to 2012–13p period, males accounted for 97% of serious workers’ compensation claims but accounted for 88% of employees covered by workers’ compensation. This results in male employees having a higher incidence rate than female employees. Figure 9 shows incidence rates for males are similar to the rates for the whole industry because they account for nearly all the serious claims. This difference in male and female incidence rates may be due to the different types of work undertaken by females compared with males in the construction industry.

Figure 9: Serious claims in the construction industry: incidence rates by sex, 2001–02 to 2012–13p

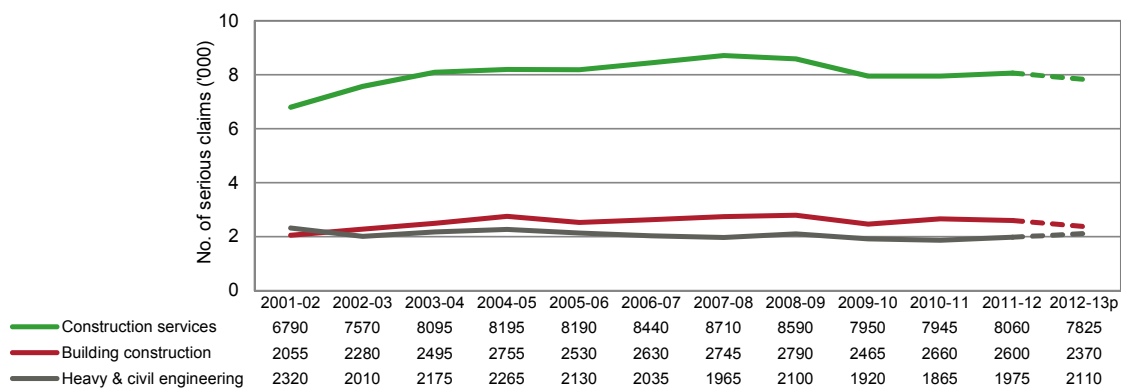


Claims by industry sector

Of the three sub-divisions in the construction industry, the construction services sub-division accounted for 64% of serious claims over the 2002–13 period.

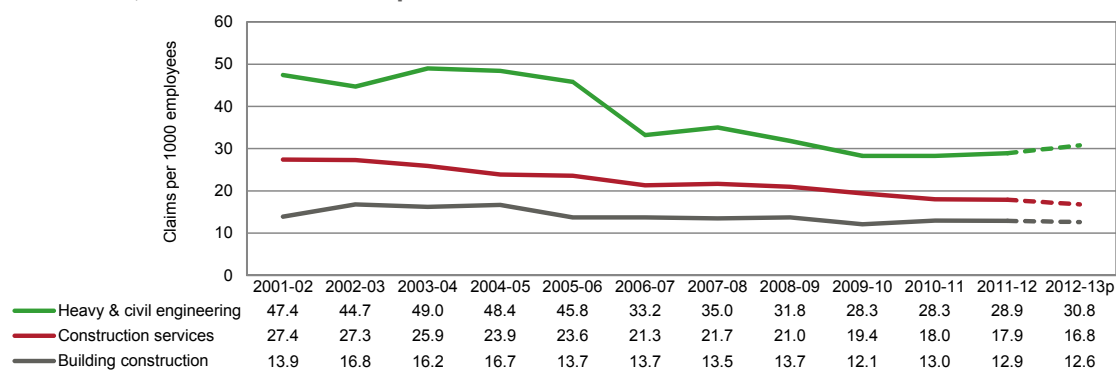
Figure 10 shows the number of serious claims have remained relatively stable over the 2001–02 to 2012–13p period.

Figure 10: Serious claims in the construction industry: number by industry subdivisions, 2001–02 to 2012–13p



The highest incidence rates of serious claims were recorded by the heavy & civil engineering construction sector. Figure 11 shows the rates for this sector decreased substantially over the 2000–01 to 2006–07 period due mainly to an increase in employment.

Figure 11: Serious claims in the construction industry: incidence rates by industry subdivisions, 2001–02 to 2012–13p



While the heavy & civil engineering construction sector recorded the greatest percentage fall out of the three sub-divisions, the overall fall for the construction industry was due to the fall in incidence rates for the construction services sector which had the highest number of claims and the highest number of employees.

Claims by age

Table 26 shows the profile of serious claims by age is similar to the profile of employees by age. For the youngest workers the proportion they represent of serious claims is slightly lower than the proportion they represent of employees. While for the older age groups the proportion they represent of the serious claims is slightly higher than the proportion they represent of employees.

Incidence rates of injury increased with age

These differences result in the incidence rates of serious claims increasing with age from 15.4 serious claims per 1000 employees for employees aged less than 25 years to 21.7 serious claims per 1000 employees for employees aged 55 years and over. These data show that younger workers have less time off work following an injury and subsequently the median compensation paid per claim is lower. Median time lost and median compensation paid are not reported for 2012-13 preliminary data so Table 26 is limited to data up to 2011-12.

Table 26: Serious claims in the construction industry: percentage of claims and employees, incidence rates, median time lost and median compensation paid by age group, 2009–10 to 2011–12 combined

Age group	% of claims	% of employees	Incidence rate (claims per 1000 employees)	Median time lost (weeks)	Median cost
Less than 25 years	21%	23%	15.4	4.0	\$5 000
25–34 years	24%	27%	16.3	5.4	\$9 000
35–44 years	23%	22%	18.8	7.0	\$12 500
45–54 years	19%	18%	19.2	7.8	\$14 600
55 years & over	13%	10%	21.7	9.6	\$18 300
Total	100%	100%	17.7	6.0	\$10 200

Claims by jurisdiction

There are nine Australian jurisdictions providing workers' compensation claims information to Safe Work Australia for the construction industry. The Commonwealth includes Australian Government employees as well as Australian Capital Territory Government employees. Data for the other jurisdictions include relevant state and local government employees.

The ACT recorded the highest incidence rate of injury

Table 27 shows the highest incidence rate for the construction industry was recorded by the Australian Capital Territory private sector scheme with 26.9 serious claims per 1000 employees. The lowest rate was recorded by the Commonwealth (12.5) which covers very few construction workers for workers' compensation.

Table 27: Serious claims in the construction industry: incidence rates by jurisdiction, 2009–10 to 2012–12 combined

Jurisdiction	% of serious claims	% of employees	Incidence rate (claims per 1000 employees)
New South Wales	28%	28%	17.5
Queensland	23%	20%	20.3
Victoria	20%	26%	13.2
Western Australia	15%	13%	20.1
South Australia	6%	7%	16.8
ACT Private Sector	3%	2%	26.9
Tasmania	2%	2%	21.2
Northern Territory	1%	1%	15.4
Commonwealth	1%	1%	12.5
Total	100%	100%	17.4

Claims by occupation

Half of the claims for serious injury involved Technicians and trade workers

Half the injured workers in the construction industry were employed as technicians & trades workers at the time of their injury. Within this occupation group, the workers with most injuries were bricklayers, carpenters & joiners who accounted for 15% of the injuries incurred by all construction workers.

The proportion of serious claims which each of the occupation groups represent are similar to those shown for fatalities (Table 16) except for machinery operations & drivers who accounted for 21% of fatalities and 11% of serious claims. This may be an indication of the greater likelihood of a fatality when using machinery.

Table 28: Serious claims in the construction industry: number and percentage by occupation of injured worker, 2010–11 to 2012–13p combined

Occupation	No. of serious claims	%
Technicians and Trades Workers	18 480	49%
Construction Trades Workers	11 405	30%
<i>Bricklayers, and Carpenters and Joiners</i>	5 535	15%
<i>Plumbers</i>	2 945	8%
<i>Glaziers, Plasterers and Tilers</i>	1 965	5%
<i>Floor Finishers and Painting Trades Workers</i>	955	3%
Electrotechnology and Telecommunications Trades Workers	3 450	9%
<i>Electricians</i>	2 525	7%
Labourers	11 985	32%
Construction and Mining Labourers	6 460	17%
Machinery Operators and Drivers	4 210	11%
Mobile Plant Operators	1 465	4%
Road and Rail Drivers	1 295	3%
Truck Drivers	1 185	3%
<i>Machine and Stationary Plant Operators</i>	1 270	3%
Managers	985	3%
Professionals	710	2%
Clerical and Administrative Workers	530	1%
Community and Personal Service Workers	305	1%
Sales Workers	140	0%
Grand Total	37 415	100%

Claims by nature of injury/disease

Half of the injuries involved injuries to joints, muscles or tendons

The types of injuries and diseases for which claims were lodged over the 2010–11 to 2012–13p period are shown in Table 29. These data show that 80% of claims were for injuries and 20% for diseases.

Over half of the claims for injury and 42% of all construction industry claims involved traumatic joint/ligament & muscle/tendon injury. Most of the disease claims were for musculoskeletal & connective tissue diseases which accounted for just 13% of all serious claims in the construction industry. These musculoskeletal diseases arise out of repetitive movements over time.

Table 29: Serious claims in the construction industry: number and percentage by nature of injury/disease, 2010–11 to 2012–13p combined

Nature of injury/disease	No. of serious claims	%
Injuries	30 070	80%
Traumatic joint/ligament & muscle/tendon injury	15 710	42%
Residual soft tissue disorders	5 880	16%
Trauma to joints & ligaments	3 960	11%
Trauma to muscles & tendons	5 875	16%
Wounds, lacerations, amputations & internal organ damage	7 765	21%
Laceration or open wound	5 085	14%
Contusion, bruising & superficial crushing	2 175	6%
Fractures	4 810	13%
Other injuries	1 785	5%
Diseases & conditions	7 345	20%
Musculoskeletal & connective tissue diseases	4 715	13%
Spinal vertebrae & intervertebral disc diseases	2 345	6%
<i>Back pain, lumbago, & sciatica</i>	1 280	3%
<i>Disc displacement, prolapse, degeneration or hernia</i>	925	2%
Diseases of the muscle, tendon & related tissue	1 150	3%
Digestive system diseases (e.g. hernias)	1 295	3%
Other diseases	1 335	4%
Total	37 415	100%

Claims by location of injury

The part of the body most often injured was the lower back

The bodily location of the injury associated with the highest numbers of serious claims are shown in Table 30. These data show the part of the body most often injured while working in the construction industry was the lower back, which accounted for 15% of serious claims.

Table 30: Serious claims in the construction industry: number and percentage by location of injury, 2010–11 to 2012–13p combined

Location of injury	No. of serious claims	%
Lower back	5 610	15%
Fingers & thumb	4 355	12%
Knee	4 240	11%
Shoulder	3 300	9%
Ankle	2 365	6%
Back - other than lower	2 085	6%
Hand	1 895	5%
Wrist	1 540	4%
Abdominal muscles and tendons	1 430	4%
Foot And Toes	1 390	4%
Lower leg	1 185	3%
Foot	1 175	3%

Claims by breakdown agency

Over the three years 2010–11 to 2012–13p, 24% of the claims involved non-powered handtools, appliances & equipment. Table 31 shows ladders, mobile ramps & stairways and scaffolding accounted for more than one-third of compensated claims involving non-powered handtools, appliances & equipment.

Table 31: Serious claims in the construction industry: number and percentage by breakdown agency, 2010–11 to 2012–13p combined

Breakdown agency	No. of serious claims	%
Non-powered handtools, appliances & equipment	9 115	24%
<i>Ladders, mobile ramps & stairways, and scaffolding</i>	3 160	8%
<i>Fastening, packing and packaging equipment</i>	1 535	4%
Materials & substances	8 235	22%
Environmental agencies	6 680	18%
Mobile plant & transport	3 765	10%
Machinery & (mainly) fixed plant	2 475	7%
Powered equipment, tools & appliances	1 965	5%
Animal, human & biological agencies	860	2%
Chemicals & chemical products	290	1%
Other & unspecified agencies	4 035	11%
Total	37 415	100%

Claims by mechanism of incident

Table 32 shows body stressing accounted for 36% of serious claims in the construction industry over the period 2010–11 to 2012–13p followed by falls, trips & slips of a person with 28%.

Table 32: Serious claims in the construction industry: percentage by mechanism of incident, 2010–11 to 2012–13p combined

Location of injury	No. of serious claims	%
Body stressing	13 640	36%
Falls, trips & slips of a person	10 375	28%
Being hit by moving objects	6 430	17%
Hitting objects with a part of the body	3 655	10%
Vehicle incidents & other	1 975	5%
Mental stress	520	1%
Heat, electricity & other environmental factors	400	1%
Chemicals & other substances	330	1%
Biological factors	55	0%
Sound & pressure	30	0%
Total	37 415	100%

Mechanism by time lost and cost

Mental stress resulted in the longest period of time off work

While body stressing accounts for the highest number of serious claims in the construction industry, claims for mental stress have the highest median time lost from work. Table 33 shows over the three-year period, an employee who sustained an injury as a result of mental stress typically had 17.2 weeks off work.

Table 33: Serious claims in the construction industry: median time off work (weeks) by mechanism of incident, 2010–11 to 2012–13p combined

Year	2010–11	2011–12	2012–13p	Total
Mental stress	16.4	18.4	16.5	17.2
Sound & pressure	4.9	9.0	17.2	9.0
Falls, trips & slips of a person	8.0	8.2	8.3	8.2
Vehicle incidents & other	6.8	9.6	8.6	8.0
Body stressing	6.9	7.2	7.4	7.2
Biological factors	4.0	4.9	3.8	4.7
Being hit by moving objects	4.4	4.4	4.9	4.6
Hitting objects with a part of the body	3.4	3.2	3.9	3.6
Heat, electricity & other environmental factors	2.8	3.0	3.2	3.0
Chemicals & other substances	2.5	3.0	3.0	3.0
Total	6.0	6.4	6.6	6.4

Mechanism by sex

Table 34 shows male and female construction workers had similar proportions of serious claims as a result of body stressing and falls, trips & slips of a person but females had a lower proportion of serious claims due to being hit by objects and hitting objects with a part of the body.

Table 34: Serious claims in the construction industry: percentage by mechanism of incident and sex, 2010–11 to 2012–13p combined

Mechanism of incident	Male	Female	Total
Body stressing	36%	35%	36%
Falls, trips & slips of a person	28%	31%	28%
Being hit by moving objects	17%	11%	17%
Hitting objects with a part of the body	10%	4%	10%
Vehicle incidents & other	5%	6%	5%
Mental stress	1%	11%	1%
Other mechanisms	2%	2%	2%
Total	100%	100%	100%

While the total number of serious claims due to mental stress was relatively low over the 2010–11 to 2012–13 period (1% of all serious claims in the construction industry), 11% of serious claims from female construction workers were due to this mechanism.

Mechanism by age

Younger workers are more likely to be hit by an object than older workers

There are some age related differences in the way construction workers are injured. Table 35 shows that older workers have a greater proportion of claims as a result of body stressing and falls, trips & slips of a person whereas younger workers have greater proportions of claims as a result of being hit by objects and hitting objects with a part of the body.

Table 35: Serious claims in the construction industry: percentage by mechanism of incident and age group, 2010–11 to 2012–13p combined

Age group	Mechanism of incident					Total
	Body Stressing	Falls, trips & slips of a person	Being hit by moving objects	Hitting objects with a part of the body	Other mechanisms	
Less than 25 years	26%	26%	25%	16%	8%	100%
25–34 years	36%	26%	18%	11%	8%	100%
35–44 years	41%	27%	15%	8%	9%	100%
45–54 years	41%	29%	13%	7%	9%	100%
55 years & over	38%	33%	13%	6%	8%	100%
Total	36%	28%	17%	10%	9%	100%

Mechanism by jurisdiction

The pattern across the jurisdictions of serious claims by mechanism is similar except for the Northern Territory. Table 36 shows over the 2010–11 to 2012–13 period, the Northern Territory had the highest proportion of serious claims for being hit by objects (23%) and hitting with a part of the body (13%) but the lowest proportion for body stressing (32%) and falls, trips & slips (21%).

Table 36: Serious claims in the construction industry: percentage by mechanism of incident and jurisdiction, 2010–11 to 2012–13p combined

Jurisdiction	Mechanism of incident					Total
	Body Stressing	Falls, trips & slips of a person	Being hit by objects	Hitting objects with a part of the body	Other mechanisms	
New South Wales	34%	28%	17%	11%	10%	100%
Queensland	36%	26%	14%	12%	12%	100%
Victoria	39%	30%	18%	6%	7%	100%
Western Australia	37%	28%	21%	9%	5%	100%
South Australia	42%	26%	15%	6%	10%	100%
Tasmania	36%	27%	18%	12%	6%	100%
ACT Private Sector	37%	30%	16%	11%	6%	100%
Northern Territory	32%	21%	23%	13%	11%	100%
Commonwealth	38%	29%	17%	6%	6%	100%
Total	36%	28%	17%	10%	9%	100%

Hospitalisation of construction workers

Over the three-year period July 2006 to June 2009, there were 8300 work-related hospitalisations where the industry sector of the worker was recorded as construction. However, since industry sector was not recorded for 39% of hospitalisations for a work-related injury, the number of hospitalisations recorded against the construction industry may be understated.

The following section reproduces data shown in the publication *Work-related injuries resulting in hospitalisation, July 2006 to June 2009* published in February 2013.

These data are of people that were known to be hospitalised for an injury sustained while working for income in the construction sector. For brevity this group is referred to as 'construction hospitalisations' in the following discussion.

Causes of injury

Table 37 shows the broad causes of injury among construction hospitalisations and the more common underlying categories. Nearly two-thirds (62%) of construction hospitalisations were the result of exposure to inanimate mechanical forces: a broad group covering a variety of causes.

Table 37: Construction work-related hospitalisations July 2006 to June 2009: percentage of hospitalisations by cause of injury

Cause of injury	Percentage
Exposure to inanimate mechanical forces	62%
Contact with other & unspecified machinery	15%
Contact with woodworking & forming machinery	8%
Contact with metalworking machinery	3%
Contact with earthmoving, scraping & other excavating machinery	1%
Contact with other powered hand tools & household machinery	10%
Struck by thrown, projected or falling object	9%
Foreign body or object entering through skin	7%
Caught, crushed, jammed or pinched in or between objects	6%
Striking against or struck by other objects	3%
Contact with non-powered hand tool	3%
Falls	24%
Fall from, out of or through building or structure	8%
Fall from roof	4%
Fall from, out of or through other specified building or structure	2%
Fall through roof	1%
Fall from, out of or through unspecified building or structure	1%
Fall on & from ladder	6%
Fall on & from scaffolding	4%
Other fall from one level to another	3%
Fall on same level	3%
Fall on & from stairs & steps	1%
Over-exertion, travel & privation	3%
Transport accidents	3%
Other causes of injury	8%
Total	100%

Note: Detailed sub-categories are only shown for the largest groups so the sub-categories do not necessarily sum to the percentage shown at the broad level.

Type of injury and bodily location

The most commonly specified type of injury sustained by construction workers hospitalised because of a work-related injury was fracture, which were responsible for 30% of construction hospitalisations over the period June 2006 to July 2009. Other common types of injury were open wound (23%) and injuries to muscle & tendons (14%).

The most common bodily location of injury was the wrist & hand, which accounted for 43% of construction hospitalisations.

Table 38 shows a breakdown of the type of injury by the bodily location of the injury.

Table 38: Construction work-related hospitalisations July 2006 to June 2009: percentage of hospitalisations by type of injury and bodily location

Type of injury and bodily location	Total
Fracture	30%
Wrist & hand	10%
Knee & lower leg	5%
Trunk	4%
Elbow & forearm	4%
Ankle & foot	3%
Open wound	23%
Wrist & hand	13%
Knee & lower leg	4%
Head (excluding eye)	2%
Muscle & tendon	14%
Wrist & hand	8%
Elbow & forearm	2%
Shoulder & arms	2%
Amputation	5%
Wrist & hand	5%
Nerve & spinal cord	4%
Wrist & hand	3%
Superficial	3%
Dislocation	3%
Knee & lower leg	2%
Intracranial	3%
Head (excluding eye)	3%
Eye injury	2%
Other injury	13%
Total	100%

Note: Detailed sub-categories are only shown for the largest groups so the sub-categories do not necessarily sum to the percentage shown at the broad level.

Glossary

Age	For fatalities, the age of the worker is the age at date of death. For workers' compensation claims, it is the age of the employee at the time of injury or the date when the disease was first reported to their employer.
Being hit by moving objects	Part of the Mechanism classification used to describe the action of an object hitting a person. This includes pedestrians hit by vehicles as well as being hit by other moving equipment or objects.
Breakdown agency	The object, substance or circumstance principally involved in, or most closely associated with, the events that culminated in the most serious injury or disease.
Bystander fatality	<p>The death of a person who dies from injuries sustained as a result of another person's work activity and who was not engaged in a work activity of their own at the time of the injury.</p> <p>A traffic incident death is only classified as a bystander fatality when attributable to someone else's work activity. Typically, this means the driver of a work vehicle is at fault. Cases where fault could not be determined with sufficient confidence are excluded.</p>
Employee	<p>The ABS defines employee as 'a person who works for a public or private employer and receives remuneration in wages, salary, a retainer fee from their employer while working on a commission basis, tips, piece-rates, or payment in kind; or a person who operates his or her own incorporated enterprise with or without hiring employees' (ABS 2007).</p> <p>In calculating incidence rates on workers' compensation claims, Safe Work Australia uses an estimate of the number of jobs worked by employees. Employees with more than one job (multiple jobholders) face exposures to distinct risks of injury and disease in each separate job. The ABS therefore supplies Safe Work Australia with derived estimates of employee jobs for use as the denominators in calculating incidence rates. The employee count is an estimate of how many jobs were worked by people classified as an employee in their main job on average over the reference period.</p>
Incidence rate	<p>The number of serious claims per thousand employees calculated using the following formula:</p> $\frac{\text{Number of serious claims}}{\text{Number of employees}} \times 1000$
Industry	A grouping of businesses that carry out similar economic activities. Fatalities data in this publication have been

	<p>coded to the Australian and New Zealand Standard Industrial Classification (ANZSIC) 2006 (ABS cat. no. 1292.0) and unless specified are shown at the industry division level.</p>
Industry of employer	The industry that directly employed the worker.
Industry of workplace	The industry in which the worker or bystander is engaged with at the time of the fatal incident.
Injury	A condition coded to 'External Causes of morbidity and mortality' and 'Injury, poisoning and certain other consequences of external causes' in the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM).
Location of injury	The part of the body most seriously affected by the most serious injury or disease incurred by the employee.
Mechanism of incident	The action, exposure or event that best describes the circumstances that resulted in the most serious injury.
Median	<p>The central value of all observations in the population ranked from smallest to largest for the relevant property. In other words, one half of the observations are higher than the median and one half lower. For even numbers of observations, the median is the average of the two middle values.</p> <p>Because a small number of uncharacteristically long absences or high payments can skew the average (mean), in this publication, median payment and median time lost from work of serious workers' compensation claims approximate to a 'typical' claim.</p>
Nature of injury/disease	The Nature of injury or disease classification provides the framework for coding the most serious injury or disease sustained or suffered by the worker.
Occupation	A set of jobs with similar sets of tasks. Fatalities data in this publication have been coded to the Australian and New Zealand Standard Classification of Occupations (ANZSCO) (ABS cat. no. 1220.0) First edition and unless specified are shown at the major group level.
Payment	Payments include compensation paid to claimants for: benefits paid to a worker or the worker's surviving dependents; outlays for goods and services such as medical treatment, funeral expenses, rehabilitation services; non-compensation payments such as legal costs, transport and interpreter services; and common law settlements, which may incorporate estimates of future liability and indirect costs such as loss of productivity.
Public road incident	A collision on a public road between any vehicle or self-propelled plant and anything else including a pedestrian. Incidents involving vehicles at worksites or on private roads are excluded. Public road incidents can be due to a

	<p>Vehicle incident (crash) or being hit by a vehicle (which is included in the Mechanism of Being hit by moving object). Vehicles that are caught in bushfires while on public roads are not included as no collision occurred.</p>
Serious claim	<p>A workers' compensation claim for an incapacity requiring an absence from work of one working week or more, lodged in the reference year, and accepted for compensation by the jurisdiction by the date the data are extracted for publication. Claims in receipt of common law payments are also included.</p> <p>Claims arising from a journey to or from work or during a recess period are not compensable in all jurisdictions, and are excluded from the analysis in this publication.</p>
Time lost	<p>The number of compensated hours an employee was absent from work.</p>
Truck	<p>A general definition of a truck has been applied in this publication. The Australian Road Deaths Database applies a restriction to those vehicles 4.5 tonne and over, however delivery trucks that may not be this gross mass are also included in this analysis. Trucks also include cement mixers, mobile garbage compactors, street sweepers and crane trucks.</p>
Type of occurrence classification system (TOOCS)	<p>A suite of four classifications to code the way an injury occurred, comprising:</p> <ul style="list-style-type: none"> • the Nature of injury/disease classification • the Bodily location of injury/disease classification • the Mechanism of incident classification, and • the Breakdown Agency of injury/disease classification. <p>Version 3.1 is used for coding the data presented in this report. Fatalities are only coded by Mechanism and Agency.</p>
Vehicle incident	<p>Part of the Mechanism of incident classification which identifies if the fatality occurred due to a vehicle crash and the occupant of the vehicle is killed. Vehicle crashes that occur on public roads are further classified as a Traffic incident. Vehicle incidents do not include people hit by a vehicle, which are coded to Being hit by moving object. Vehicles not only include cars and trucks but also include other motorised equipment such as aircraft, boats, loaders, tractors and quad bikes.</p>
Worker fatality	<p>The death of a person who dies from injuries sustained while at work, including those workers whose injury was caused by another's work activity.</p>
Working week	<p>The number of working weeks lost is calculated by dividing the amount of time lost by the hours usually worked per week by the employee. Claims requiring one working week or more of time off are classified as serious claims (see Serious claim).</p>

Explanatory Notes - Fatalities

Inclusions

This report covers fatalities due to work-related injuries and explicitly excludes deaths attributable to disease and other natural causes. Among conditions specifically included as injuries are those arising from poisonous plants and animals, environmental conditions (e.g. frostbite), allergic reactions, and embolisms. Heart attacks and strokes are regarded as natural causes of death, but where available information shows that a work-related injury directly triggers a fatal heart attack or stroke, the fatality is included.

Worker fatalities

All identified cases of persons who die from injuries sustained while they are working are included in this report. For this purpose, 'working' includes travelling from one workplace to another. So a trades worker or professional killed driving from one job or client to the next counts as a worker fatality. Similarly, a worker killed in an air crash on their way to a conference would be a worker fatality.

The number of worker fatalities shown in this report is considered reliable. However, some fatalities, particularly those related to traffic incidents, may be missed due to the way these deaths are identified. The information in the National Coronial Information System (NCIS) relies heavily on information collected by the police and the police report may not include sufficient information to identify whether or not the deceased was working at the time of the incident.

Bystander fatalities

Deaths of people in the general public are included in this collection if the actions of a worker directly contributed to the death of the person. Under this definition an 'at fault' rule is applied. Information from a variety of sources including police reports is used to determine whether or not the bystander's action directly contributed to their own death. If the bystander's actions directly contributed to the death then the death is considered to be a 'bystander fault' death and is not included in the database. The most common example of this is when a non-working person drives their car into the path of a truck and is killed.

There are many difficulties in identifying bystander fatalities within the databases used in this study – bystanders cannot seek compensation through workers' compensation; notifications depend on the work health and safety legislation of the jurisdiction; and they are only identified in the coronial database when sufficiently detailed information on the circumstances of all parties to the death is available. Most of the bystander fatalities in this report were identified by examining NCIS records involving heavy or light commercial vehicles as these are relatively few and can be manually checked. However, due to the higher number of deaths involving cars, it is not feasible to perform individual checks and a bystander death is not likely to be identified unless the NCIS record is marked as work-related or media has alerted the project to a possible work-related

bystander death. Estimates of bystander fatalities in this collection should therefore be regarded as an undercount and movements over time interpreted with caution.

Deaths resulting from criminal activity

Persons sustaining fatal injuries as a result of someone else's criminal activity are included in this collection if the decedent was at work at the time of the incident. Where the criminal activity is incidental to legitimate work activity, for example, where a worker dies of an injury sustained while under the influence of legal or illegal substances, the fatality is also included. Non-working persons fatally injured in an incident involving criminals and law enforcement officers or security officers are included as Bystanders. In the case of a bystander who is killed while the police are pursuing a vehicle for a traffic or other violation the death will be included regardless of whether they were hit by the police car or the offender's car.

Classification of fatalities

Persons who die of injuries sustained while they are working are included among worker fatalities even when the cause of the injury is another person's work activity.

Exclusions

Deaths due to natural causes

Natural causes include heart attacks, strokes and where death is a natural progression from a disease. In NCIS a death is classed as Natural causes when the person did not die from external causes. An external cause death is defined as any death that resulted directly or indirectly from environmental events or circumstances that caused injury, poisoning and other adverse effects (WHO, 1992).

Deaths due to complications of surgical and medical care

Although the death of a patient who dies as a result of medical negligence or malpractice is in principle a bystander fatality, deaths arising from such iatrogenic injuries are specifically excluded from this collection.

Deaths of persons undertaking criminal activity

Persons fatally injured while undertaking criminal activities, such as gaining illegal entry into a building or work site or crashing a car while evading a police pursuit are excluded from this collection.

Suicide

Deaths resulting from self-harm are excluded because it is difficult to assess the extent of the connection between work and a decision to take one's own life.

Data sources

This study uses information from three datasets:

- the National Data Set for Compensation-based Statistics (NDS)
- the Notifiable Fatalities Collection (NFC), and
- the National Coronial Information System (NCIS).

The individual case records from each of the datasets are compared so that duplicates can be removed. Generally date of death and sex are used for initial matching as these data are available for most cases. Date of birth is also used to match records between the NDS and NCIS with age used from the NFC. Other data items used for matching are industry and occupation of the deceased and the coding of the incident in the NDS with narratives in the NFC and NCIS. Each of these datasets has limitations, so all three datasets are needed to estimate the total number of work-related fatalities that occur each year.

The National Data Set for Compensation-based Statistics (NDS)

The scope of the NDS is all accepted workers' compensation claims made by or for an employee (other than an employee of the defence forces). The NDS is compiled annually by Safe Work Australia from data supplied by the state, territory and Australian Government workers' compensation authorities. The NDS has consistent data from 2000–01 onwards.

Notifiable Fatalities Collection (NFC)

Since 1 July 2003, Safe Work Australia has maintained a database of work-related injury fatalities notified to work health and safety authorities in each jurisdiction under their work health and safety legislation. There are 13 work health and safety jurisdictions in Australia that report to Safe Work Australia: each of the eight states and territories; the Commonwealth (Comcare); the mining sectors in New South Wales, Queensland and Western Australia; and the National Offshore Petroleum Safety and Environmental Management Authority.

Prior to 1 January 2012 there was limited coverage of transport-related fatalities in the NFC because these deaths were generally only notified to and investigated by the police, road traffic authority or, in the case of plane crashes and marine fatalities, by Commonwealth agencies. Following the introduction of model Work Health and Safety legislation this project was reviewed and from 1 January 2012 improvements in the reporting of fatalities has occurred particularly in relation to work-related road fatalities.

National Coronial Information System (NCIS)

The NCIS was officially launched in July 2000 and is a national internet-based data storage and retrieval system of coronial cases in Australia. Each state and territory in Australia has a licence agreement with the Victorian Department of Justice permitting the transfer of coronial information for storage and dissemination via the NCIS.

Identification of work-related fatalities in the NCIS

It is necessary to examine all NCIS records that have the potential to be work-related because the work-related flag may not be finalised until the case is closed. For this project all records notified during the reference period are extracted from NCIS. From this list, deaths are excluded that do not match the scope criteria such as intentional injuries and deaths from natural causes. The remaining cases are then examined more closely. In particular, all deaths that are coded as work-related or where the activity is coded as paid work are reviewed. In addition, all deaths that involve a heavy or light commercial vehicle, aircraft or occurred at a farm, industrial or commercial workplace are reviewed.

At the end of this process there are still a number of fatalities where cause of death and other information is not yet coded. These records are monitored to ensure all work-related fatalities are identified. Therefore updates to historical numbers may be evident in future releases.

Other data sources

The media and accident investigation reports from the Australian Transport Safety Bureau relating to plane crashes, train crashes and maritime incidents are used to supplement information found in each of the datasets.

Explanatory notes - Work-Related Injuries Survey

The work-related injuries statistics were compiled from data collected in the Multipurpose Household Survey (MPHS) that was conducted throughout Australia in the 2009–10 financial year as a supplement to the ABS monthly Labour Force Survey (LFS).

The publication *Labour Force, Australia* (cat. no. 6202.0) contains information about survey design, scope, coverage and population benchmarks relevant to the monthly LFS, which also applies to the MPHS. It also contains definitions of demographic and labour force characteristics, and information about telephone interviewing relevant to both the monthly LFS and MPHS.

Collection Methodology

ABS interviewers conducted personal interviews by either telephone or at selected dwellings during the 2009–10 financial year. Each month a sample of approximately 1300 dwellings were selected for the main MPHS sample, and approximately 1300 to 1400 additional dwellings were selected for the extra MPHS sample. In these dwellings, after the LFS had been fully completed for each person in the household, a usual resident aged 15 years and over was selected at random and asked the additional MPHS questions in a personal interview. Information for this survey was collected using Computer Assisted Interviewing (CAI), whereby responses are recorded directly onto an electronic questionnaire in a notebook computer.

Scope

The scope of the LFS is restricted to people aged 15 years and over and excludes the following:

- members of the permanent defence forces;
- certain diplomatic personnel of overseas governments, customarily excluded from census and estimated population counts;
- overseas residents in Australia; and
- members of non-Australian defence forces (and their dependants).

In addition the 2009–10 MPHS excluded the following:

- people living in very remote parts of Australia; and
- people living in non-private dwellings such as hotels, university residences, students at boarding schools, patients in hospitals, residents of homes (e.g. retirement homes, homes for people with disabilities), and inmates of prisons.

The 2009–10 MPHS was conducted in both urban and rural areas in all states and territories, but excluded people living in very remote parts of Australia. The exclusion of these people will have only a minor impact on any aggregate estimates that are produced for individual states and territories, except the Northern Territory where such people account for around 23% of the population.

Sample size

The initial total sample for the Work-Related Injuries topic included in the MPHS 2009–10 consisted of approximately 38 655 private dwelling households, which is approximately double the standard MPHS sample. Of the 32 760 private dwelling households that remained in the survey after sample loss (e.g. households with LFS non-response, no residents in scope for the LFS or work-related injuries topic, vacant or derelict dwellings and dwellings under construction), approximately 88% were fully responding to the MPHS. The number of completed interviews obtained from these private dwelling households (after taking into account the scope, coverage and sub-sampling exclusions) was 28 554 (14 205 for the main sample and 14 349 for the extra sample).

Estimation methods

Weighting is the process of adjusting results from a sample survey to infer results for the total in scope population. To do this, a ‘weight’ is allocated to each sample unit, which, for the MPHS, can either be a person or a household. The weight is a value which indicates how many population units are represented by the sample unit. The first step in calculating weights for each unit is to assign an initial weight, which is the inverse of the probability of being selected in the survey. The initial weights are then calibrated to align with independent estimates of the population of interest, referred to as ‘benchmarks’. Weights are calibrated against population benchmarks to ensure that the survey estimates conform to the independently estimated distribution of the population rather than the distribution within the sample itself.

The survey was benchmarked to the estimated civilian population aged 15 years and over living in private dwellings in each state and territory, excluding the scope exclusions listed above. The process of weighting ensures that the survey estimates conform to person benchmarks by state, part of state, age and sex, and to household benchmarks by state, part of state and household composition. These benchmarks are produced from estimates of the resident population derived independently of the survey.

Explanatory Notes - Workers' compensation data

Scope and coverage

The workers' compensation data presented in this publication are compiled annually from serious claims made under the state, territory and Commonwealth Government workers' compensation Acts. The data shown for the 2011–12 financial year refer to all accepted claims for which payments were made (apart from payments for goods and services, such as medical treatment) lodged from 1 July 2010 to 30 June 2012, extracted as at 30 November 2012. The data do not include claims for work-related fatalities.

The statistics in this report do not cover all cases of occupational injuries and diseases for the following reasons:

- Occupational injuries and diseases involving temporary incapacity and resulting in an absence from work of less than one usual working week are excluded.
- Claims arising from a journey to or from work or during recess period are excluded.
- Workers' compensation schemes do not generally provide coverage to self-employed workers, resulting in an understatement of the number of work-related injuries and diseases of workers employed in industries where self-employed workers are common. This includes the construction industry. Estimates of jobs and hours used as denominators in calculating incidence and frequency rates include only those worked by employees eligible for workers' compensation.

Time lost from work

Time lost figures shown in this publication are measured in working weeks lost from work and exclude estimates of future absences.

Time lost from work comprises the total period of time for which compensation was paid — the time lost is not necessarily continuous, and may occur over a number of separate periods. Where an employee returns to work on a part-time basis they may continue to receive pro-rata payments and the total number of hours for which compensation has been paid is included in calculating time lost.

Payments

Median payments are rounded to the nearest \$100 in this publication. Medians are used in preference to averages because a few long-term claims involving large compensation payments can skew the average. It is not possible to calculate total payments by multiplying the median payment by the number of claims.

The calculation of median payments excludes serious claims where only payments for goods and services, such as medical treatment, have been compensated.

Industry classification

The industry shown in this publication for workers' compensation claims is the industry of the establishment that formally employs the claimant, classified to the Australian and New Zealand Standard Industrial Classification (ANZSIC), 1993 edition (ABS Cat. No. 1292.0).

Type of occurrence data

Details of the 'description of the occurrence' reported on the workers' compensation claim have been reported using the Type of Occurrence Classification System, Second Edition, (May 2002) (TOOCS2.1).

The five variables used to describe the type of occurrence are:

- Nature of Injury or Disease
- Bodily Location of Injury or Disease
- Mechanism of Injury or Disease
- Breakdown Agency of Injury or Disease
- Agency of Injury and Disease

See the Glossary for the definitions of these variables.

Confidentiality

Claim numbers in this publication are rounded to the nearest 5. This helps protect confidential information about employers and employees. Due to rounding, differences may appear between the reported totals and the sum of the row or column values. Rates and proportions are calculated on unrounded claim numbers.

Time series analysis

When analysing trends over time, consideration needs to be given to legislative changes that may have been made within certain jurisdictions during the period being investigated. The current workers' compensation arrangements can be found in the following report published on the Safe Work Australia website: Comparison of workers' compensation arrangements, Australia & New Zealand.

More information on how the workers' compensation data are compiled can be found in the publication Australian Workers' Compensation Statistics.

Explanatory Notes - Hospitalisation data

The data on hospital separations used in this report were provided by the Australian Institute of Health and Welfare (AIHW), from the National Hospital Morbidity Database (NHMD).

The formal term for a hospitalisation is a 'Separation', defined by the AIHW as a " formal, or statistical process, by which an episode of care for an admitted patient ceases". This is usually a discharge home, but is sometimes a transfer to another health care facility or death. This report studied separations that occurred during the three year period 1 July 2006 to 30 June 2009.

Since some patients may have had more than one episode of hospitalisation over the period the count of hospitalisations is not a count of individuals. Hospitalisation data in this report is based on the "Principal diagnosis" which is the diagnosis established after study to be chiefly responsible for occasioning an episode of admitted patient care.

The prime selection criterion for the inclusion of a hospital separation in this report was the recording of the activity at the time of injury as While working for income (ICD-10-AM code U73.0): defined as including paid work (manual or professional), transportation (time) to and from such activities, and work for salary, bonus and other types of income. Records were then further restricted to those for Injury, poisoning and certain other consequences of external causes (S00-T98).

The population group of separations was then further refined by excluding:

- patients aged under 15 years
- separations where the patient was discharged to another acute hospital, and
- separations where the injury was due to complications of surgical or medical care.

Diagnoses and external causes of injury for hospitalisations were recorded using the the International Statistical Classification of Diseases and Related health Problems, Tenth Revision, Australian Modification (ICD-10-AM). This system comprises classifications of diseases and external causes of injuries and poisoning, based on the World Health Organization's version of ICD-10. The ICD-10-AM classification is hierarchical, with 20 summary disease chapters that are divided into a large number of more specific disease groupings (represented by 3-character codes).

External causes of morbidity and mortality (U50–Y98)

These codes allow identification of:

- work-related injuries and in some cases the specific industry in which the patient was working when injured
- the cause of the injury the patient sustained, such as a fall or a traffic incident, and
- the place of occurrence of the injury (where specified).

The Type of injury and Bodily location categories used in this report are based on aggregation of various Injury, poisoning and certain other consequences of external causes (S00-T98) codes into simplified groups. These recodes are listed in detail in a previous report (ASCC, 2007) available on the Safe Work Australia website.

Data limitations

This report includes data from all hospitals that contributed to the NHMD during the period 1 July 2006 to 30 June 2009. This includes nearly all public and private hospitals in Australia that provide acute care services.

This report examines the circumstances of workers who sustained an injury that required a stay in hospital. They can be considered a “serious injury” subset of workers who were injured since the injury required a stay in hospital. However, it is important to bear in mind that there may be a larger group of injured workers who received medical attention from a general practice clinic or a hospital casualty ward whose injuries are not recorded in these statistics.

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