



# Australian Social Trends June 2011

## Work and Health

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# Work and Health

The impact of work on people's health is complex and multi-faceted. Evidence suggests that work can be beneficial for people's physical and emotional wellbeing, quite apart from the financial rewards associated with employment.<sup>1</sup> Yet there are also aspects of work that can pose risks to workers' health and safety.

Along with the effect on individuals' health and wellbeing, workplace injuries have an economic impact on the broader community in the form of medical and legal expenses, as well as the costs associated with retraining, and loss of productivity and morale among co-workers. Safe Work Australia has estimated the cost of work-related injuries as \$57.5 billion dollars in 2005–06, or 5.9% of Australia's gross domestic product.<sup>2</sup>

This article explores the relationship between work and health through data on work-related injuries and fatalities. While this data illustrates the direct impact that work can have on employees' health, there is also evidence that the physical and psychosocial aspects of work, though more subtle and gradual, can nonetheless have a significant impact on health over the longer-term.<sup>3, 4</sup> For example, recent evidence suggests that even seemingly innocuous aspects of some jobs such as long periods of sitting down can increase the risk of heart disease, diabetes and premature mortality.<sup>5</sup>

## Work and general health

Self-assessed health is considered a good proxy indicator of the overall health of a population. Research has shown that self-assessed health is

## Data sources and definitions

This article draws on data from the ABS 2007–08 National Health Survey, and the work-related injuries topic of the ABS 2009–10 Multipurpose Household Survey (MPHS). The MPHS collected information on the most recent work-related injury experienced by people aged 15 years and over, (excluding those living in Very Remote areas) who worked at some time during the 12 months to June 2010.

A *work-related injury* is any injury, illness or disease which first occurred in the 12 months prior to interview, where a person suffered either physically or mentally from a condition that arose out of, or in the course of employment. Included are work-related injuries that occurred while commuting to and from work, outside of work but while on duty, or during work breaks. Injuries suffered by workers residing as patients in hospital at the time of interview were not included, while injuries that resulted in death prior to data collection were not measurable.

Types of injuries or illnesses and how these occurred have been classified based on the *Types of Occurrences Classification System*.<sup>6</sup>

The *injury rate* for all employed persons and for those by sex and age are calculated by dividing the number of injured workers by the number of people employed (in that group) at any time in the 12 months to June 2010. Injury rates for all other groups (e.g. industry and occupation) are calculated by dividing the number of injured workers by the number of people employed (in that group) at the time of interview.

In this article, *white collar* workers include Managers, Professionals, Community and Personal Service Workers, Clerical and Administrative Workers, and Sales Workers as defined in the [Australian and New Zealand Standard Classification of Occupations](#) (ANZSCO) major occupation groups. *Blue collar* workers are those categorised in ANZSCO as Technicians and Trades Workers, Machinery Operators and Drivers, and Labourers.

## Self-assessed health status(a) by labour force status – 2007-08



(a) People aged 15 years and over.

Source: ABS 2007–08 National Health Survey

a strong predictor of mortality and morbidity, and provides an insight into how people perceive their own health.<sup>7</sup>

In 2007–08, over half (56%) of the Australian population aged 15 years and over rated their own health as excellent or very good. A further 29% rated their health as good, while 15% rated their health as fair or poor. Women were slightly more likely than men to rate their health as excellent or very good (57% compared with 55%). These figures have remained steady since the previous survey in 2004–05.

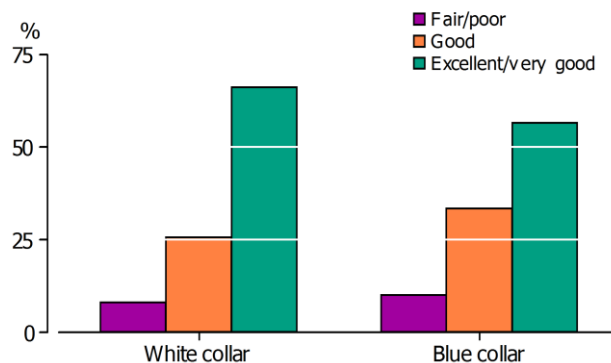
People in paid work tend to rate their health as better than people who are outside the workforce. In 2007–08, almost two-thirds (63%) of Australians in employment rated their own

health as excellent or very good, and only 9% as fair or poor. Of those who were unemployed, half (50%) rated their health as excellent or very good, and 18% as fair or poor. Of those people not in the labour force, 42% rated their health as excellent or very good, while 28% considered their health to be fair or poor. This pattern was similar for men and women, though the difference in self-assessed health between those in and out of the workforce was more pronounced for men.

In considering the relationship between health and labour force status, it should be noted that poor health is the reason why many people are not in the labour force. Furthermore, people are more likely to experience poor health as they age, particularly later in life when many people are retired from paid work. Indeed, the proportion of people who rated their health as excellent or very good in 2007–08 declined with age (from 67% of people aged 15–24 years to 36% of people aged 65 years and over). However, the disparities in self-assessed health between those in and out of the workforce were still evident, even when controlling for the effects of age.

Among employed people, self-assessed health varied considerably according to the type of work they did. After controlling for the effects of different age profiles, blue collar workers were 16% less likely than white collar workers to rate their own health as excellent or very good. Professionals had the highest levels of self-assessed health with 70% rating their health as excellent or very good. High proportions of Clerical and Administrative Workers (67%) and Community and Personal Service Workers (65%) also rated their health as excellent or very good. By contrast, only half (50%) of Machinery Operators and Drivers, and 54% of Labourers rated their health as excellent or very good.

### Self-assessed health(a)(b) by white collar/blue collar occupation – 2007-08



(a) Employed people aged 15 years and over.

(b) Age standardised to the employed population aged 15 years and over.

Source: ABS 2007-08 National Health Survey

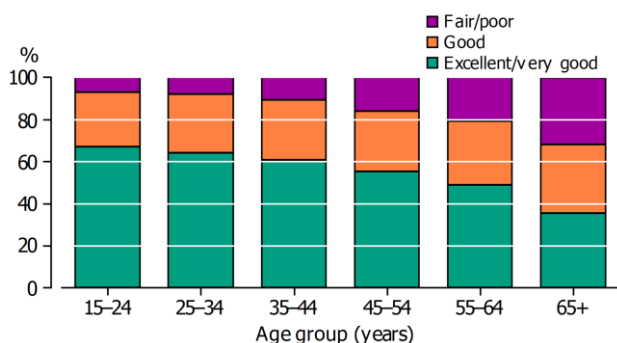
### Work-related injuries

Along with the positive effect that work can have on individuals' health and sense of wellbeing, people also encounter risks to their health and safety in the workplace. Of the 12 million people who were employed at some time during the 2009–10 financial year, 5.3% (640,700 people) experienced at least one work-related injury or illness.

The work-related injury rate in 2009–10 was 53 injuries per 1,000 people employed, down from a rate of 64 per 1,000 in 2005–06. The fall in the overall work-related injury rate since 2005–06 was driven by a reduction among men (from 74 to 55 per 1,000), while the rate among women remained steady (at 51 per 1,000).

Men accounted for 56% of people who experienced a work-related injury in 2009–10 (356,500 men compared with 284,300 women). While the rate of work-related injuries was similar for men and women, the higher number of work-related injuries among men was largely due to the fact that men made up more than half (54%) of those who were employed at some time during the year.

### Self-assessed health(a) by age – 2007-08



(a) People aged 15 years and over.

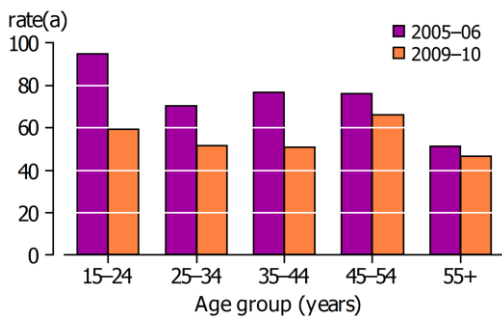
Source: ABS 2007-08 National Health Survey

### ...by age

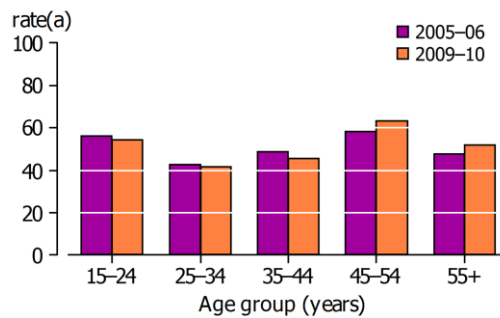
Workplace injury rates vary across age groups. In 2009–10, the injury rate for men was similar across the age groups from 15 to 44 years (between 59 and 51 injuries per 1,000 workers). The injury rate was high among men aged 45–54 years (at 66 per 1,000), and was lower among men aged 55 years and over (at 47 per 1,000). Among women, the injury rate among those aged between 25 and 44 years (44 per 1,000) was lower than among those aged 45 years and over (59 per 1,000).

## Work-related injury rates by age and sex

### MALES



### FEMALES



(a) Injuries per 1,000 workers.

Source: ABS 2009-10 Multipurpose Household Survey

The fall in injury rate for men between 2005-06 and 2009-10 was evident across those aged between 15 and 44 years, but was particularly marked among men aged 15-24 years (from 95 to 59 per 1,000 workers).<sup>8</sup> There was little change in the injury rates for women across the age groups.

### ...by occupation and industry

The types of risks to which people are exposed in the workplace vary considerably according to the type of job they do and the industry in which they work. The risks associated with different work environments are reflected in the rates and types of injuries across occupation and industry groups.

In 2009-10, the highest rates of injuries were found among the more manual, blue collar occupations groups such as Labourers (88 per 1,000), Machinery Operators and Drivers (86), and Technicians and Trades Workers (78). There was also a high injury rate among the white collar occupation group, Community and Personal Service Workers (84). The lowest injury rates were among the white collar

occupation groups such as Clerical and Administrative Workers (32 per 1,000), Professionals (42) and Managers (45).

Men make up the majority of workers in the blue collar occupation groups with high workplace injury rates (i.e. Labourers, Machinery Operators and Drivers, Technicians and Trades Workers). Women, on the other hand, predominate in many of the white collar occupation groups with lower workplace injury rates (i.e. Clerical and Administrative Workers, Sales Workers). Women who worked in the blue collar occupations were just as likely to suffer a work-related injury as men were. However, among some white collar workers (i.e. Managers, Sales Workers, and Professionals), the rate of work-related injuries was considerably higher among women than men, with women in these occupations reporting high rates of chronic joint or muscle conditions.

The work-related injury rates indicate that workers in some industries face greater risks than others. Some of the highest rates of workplace injuries in 2009-10 were found among the Accommodation and Food Services (84 injuries per 1,000), Agriculture, Forestry and Fishing (77), and Arts and Recreational Services (77) industries. People working in other industries including the Professional, Scientific and Technical Services industry (24 injuries per 1,000) faced comparatively lower risks.

## Work-related injury rates by occupation group(a) – 2009-10



(a) Occupation data are classified according to the ANZSCO - [Australian and New Zealand Standard Classification of Occupations, First Edition, 2006](#) (cat. no. 1220.0).

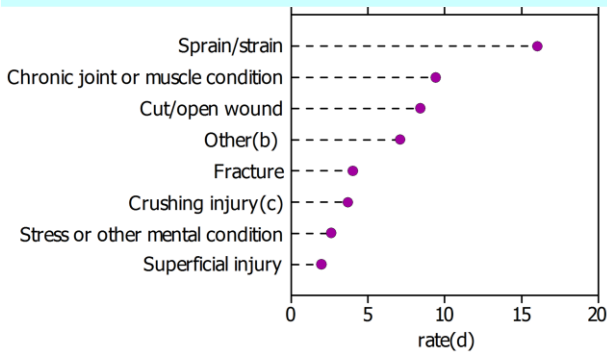
(b) Injuries per 1,000 workers.

Source: ABS 2009-10 Multipurpose Household Survey

## Type of injury

There is a wide variety in the type and severity of injuries suffered in the workplace, ranging from fractures and crushing injuries resulting in internal organ damage, to minor cuts and strains. Of the most recent workplace injury suffered in 2009-10, around one-third of those reported were sprains or strains. This was the most common type reported by men (17 per 1,000 workers) and women (15 per 1,000) alike. Other common types of workplace injuries included chronic joint or muscle conditions (9 per 1,000 persons employed) along with cuts or open wounds (8 per 1,000 persons employed).

### Type of injury suffered(a) – 2009-10



- (a) Most recent injury during the 12 months to June 2010.
- (b) Includes burns.
- (c) Includes injuries resulting in internal organ damage.
- (d) Injuries per 1,000 workers

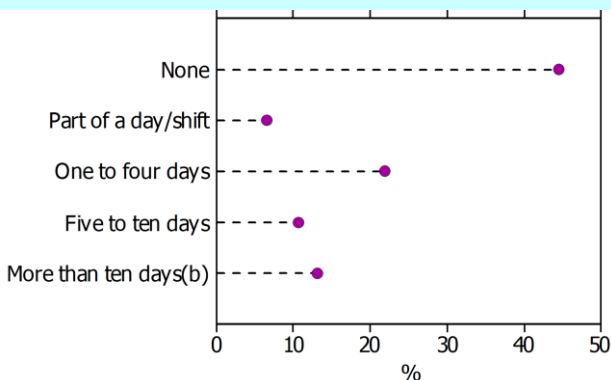
Source: ABS 2009-10 Multipurpose Household Survey

The type of injuries suffered also varied according to occupation. The rate of sprains and strain injuries was considerably higher among blue collar workers (24 per 1,000 persons employed) than white collar workers (15 per 1,000). Blue collar workers were also more likely than white collar workers to suffer chronic joint or muscle conditions (14 per 1,000 compared with 9 per 1,000) and cuts or open wounds (19 per 1,000 compared with 5 per 1,000).

### Time off work

Apart from the obvious health impacts, work-related injuries also have a significant effect on workers and businesses due to the time spent off work. Almost half (44%) of people who suffered a work-related injury in 2009-10, however, did not miss any work due to their most recent work-related injury, while 7% missed only part of a shift or day's work. Around one in five (22%) missed between one and four day's work, and 27% (or 172,900 people) missed five or more days. The

### Time off work due to work-related injury(a) – 2009-10



- (a) Most recent injury during the 12 months to June 2010.
- (b) Includes those who are yet to return to work.

Source: ABS 2009-10 Multipurpose Household Survey

### Workers' compensation

According to data from Safe Work Australia, there were 134,800 serious workers' compensation claims in Australia in 2007-08. This equates to an incidence rate of 13.8 serious claims per 1,000 employed people. Men lodged two-thirds of all serious claims with an incidence rate of 17.8 serious claims per 1,000 employed people, almost double the rate among women (9.4 claims per 1,000 employed people). The incidence rate of serious claims declined 15% between 2003-04 and 2007-08 for both men and women.

Despite having a lower incidence rate than men, women spent more time off work due to serious claims. In 2007-08 the median time lost from work for a serious claim was 4.8 weeks for women and 3.6 weeks for men. The time lost due to serious claims increased from a median of 3.6 weeks to 4.0 weeks from 2003-04 to 2007-08. At the same time, the average payment for serious claims increased from \$5,500 to \$6,900, with the average payment for men in 2007-08 slightly higher than that for women (\$7,000 compared with \$6,700).<sup>9</sup>

Not all work-related injuries result in serious workers' compensation claims. Indeed, comparison of compensation claims with the data from the ABS 2005-06 Multipurpose Household Survey indicates that serious workers' compensation claims represents only one in five work-related injuries. Despite this, the decline in serious workers' compensation claims is broadly consistent with ABS data on work-related injuries. However, while the decline in the rate of work-related injuries has been apparent only for men, the rate of serious workers' compensation claims has declined for men and women alike.

distribution of time spent away from work following a work-related injury was similar for both men and women, and across the age groups.

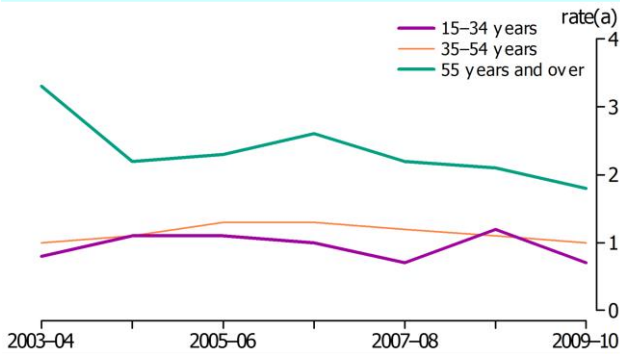
The time people were absent due to their most recent workplace injury differed according to the type of injury suffered. The longest absences were associated with stress and fractures. More than half (55%) of people who suffered stress or other mental conditions were absent from work for five days or more. Similarly, 53% of workers who suffered fractures were away from work for five days or more.

Cuts and open wounds, and crushing injuries were associated with relatively short absences from work. More than half of those who suffered a cut or open wound (56%), or a crushing injury (57%) did not miss any work due to their injury.

### Workplace fatalities

While the majority of work-related injuries are minor, resulting in little or no time off work, there are rare occasions when they result in death. The Australian Government's [National OHS Strategy 2002-2012](#) set targets to lower the incidence of fatalities by 20% over the decade to 2012. Data from Safe Work Australia indicates

## Workplace fatality rates by age



(a) Fatalities per 100,000 workers.

Source: Safe Work Australia, [Notified Fatalities Statistical Report 2009-10](#)

that the number of fatalities had fallen by 10% (to 134) over the five years to 2007-08. The number of work-related deaths rose sharply in 2008-09 (to 151) before falling again in 2009-10 (to 111 deaths). By 2009-10, the overall workplace fatality rate had fallen to a low of 1.0 per 100,000 workers.

The increase in workplace fatalities in 2008-09 was driven by an increase in deaths among people aged 15-24 years, with the fatality rate increasing from 0.7 per 100,000 workers in 2007-08 to 1.2 in 2008-09.

Of the 111 people who died in workplace incidents in 2009-10, the vast majority (95%) were men. Twenty-nine of the people who died were workers aged 15-34 years, 49 were aged 35-54 years, and 33 were aged 55 years and over. The fatality rate among workers in 2009-10 increased with age, from 0.7 per 100,000 workers aged 15-34 years, to 1.0 among 35-54 year olds, and 1.8 among workers aged 55 years and over. Though the fatality rate among workers aged 55 years and over has been trending downwards in recent years it is still more than double that of younger workers.

As with work-related injuries, fatalities were concentrated among particular industries and occupation groups, reflecting the relatively dangerous and hazardous working conditions experienced in some sectors. In 2009-10, around 80% of workplace fatalities occurred in the goods producing industries including Construction (28 deaths), Agriculture, Forestry and Fishing (26), Manufacturing (15), Transport and Storage (14) and Mining (6). Since the total number of fatalities is influenced by the number of people working in each industry, a better comparison can be gained by looking at the relative fatality rates. The highest fatality rate in 2009-10 was in the Agriculture, Forestry and Fishing industry (6.9 fatalities per 100,000 workers). This was almost double the rate in the Mining industry (3.5), and almost three times that in the Construction (2.8), and Transport

## Workplace fatalities

Data on workplace fatalities are sourced from Safe Work Australia's [Notified Fatalities Statistical Report 2009-10](#).

**Workplace fatalities** includes workers (both employees and self-employed) who suffer a fatal injury at work. It includes deaths notified to workplace health and safety authorities and generally does not include work-related deaths due to traffic accidents on public roads.

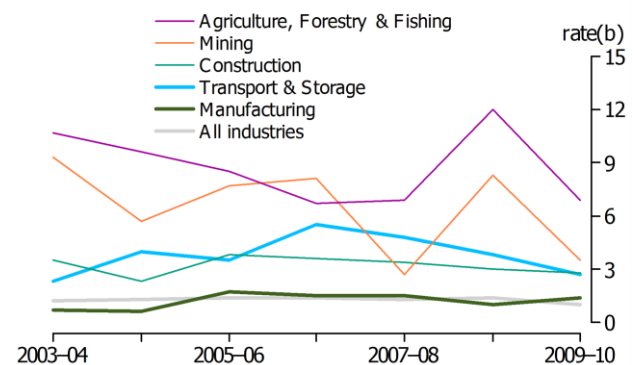
It also excludes bystanders (i.e. passers-by or visitors to workplaces) who suffered a fatal injury as a result of another person's work activity.

The **workplace fatality rate** is the number of workplace fatalities per 100,000 people employed on average over the 12-month period.

and Storage (2.7) industries. Though a large number of fatalities occurred in the Manufacturing industry, the fatality rate was on par with the average across all sectors. There have been fluctuations in the fatality rate across these industries over recent years, with a large spike in 2007-08 in the Agriculture, Fishing and Forestry, and Mining sectors, followed by a continuation of the long-term downward trend.

Workplace fatalities were more common among those who worked in blue collar occupations. In 2009-10, almost three-quarters of those who died in workplace accidents worked as either Intermediate Production and Transport Workers (36 deaths), Tradespersons and Related Workers (23), or Labourers and Related Workers (21). The most common cause of fatalities in 2009-10 were vehicle incidents (23 deaths), followed by falls from a height (18), being hit by moving objects (17), and being hit by falling objects (17). These were consistently the most common causes of workplace deaths, accounting for around two-thirds of all workplace fatalities since 2003-04.

## Workplace fatality rates by selected industries(a)



(a) Industry data are classified according to the [Australian and New Zealand Standard Industrial Classification, 1993](#) (cat. no. 1292.0).

(b) Fatalities per 100,000 workers.

Source: Safe Work Australia, [Notified Fatalities Statistical Report 2009-10](#)

## Occupational disease indicators

Establishing a causal link between occupational factors and long-term health conditions is difficult given that many such health conditions have multiple causes and often involve long latency periods.<sup>10</sup> For example, mesothelioma, a usually fatal cancer, typically occurs 20 to 40 years after exposure to asbestos.

While taking these caveats into account, Safe Work Australia publishes *Occupational Disease Indicators* in order to monitor trends in occupational disease. The indicators present information on eight disease groups, primarily based on workers' compensation claims data.

Over the period from 2000–01 to 2007–08, the indicators show falls in the rates of five of the eight disease categories: musculoskeletal disorders, mental disorder, infectious and parasitic diseases, contact dermatitis, and cardiovascular disease. Rates for the other three categories, noise-induced hearing loss, respiratory diseases, and occupational cancers, either remained stable or showed no clear trend over the period.<sup>11</sup>

### Occupational disease indicators(a)

Disease	2000-01	2007-08
Musculoskeletal disorders	14,380	11,207
Mental disorders	1,111	839
Noise-induced hearing loss	490	469
Infectious and parasitic diseases	86	66
Respiratory diseases	143	95
Contact dermatitis	155	116
Cardiovascular disease	48	30
Occupational cancers	34	37

(a) Claims per million employees

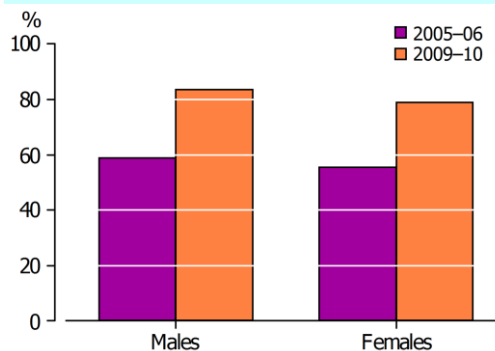
Source: Unpublished data from Safe Work Australia

## OHS training

One of the key planks in efforts to reduce the number of injuries and deaths in the workplace is adequate training in occupational health and safety (OHS). Indeed, part of the Australian Government's *National OHS Strategy 2002–2012* is to raise awareness of the importance of OHS programs, and encourage excellence in OHS practices.<sup>12</sup> Of the 640,700 people who experienced a workplace injury during 2009–10, the vast majority (82%) had received formal OHS training in their job prior to the injury. This represents a considerable increase since 2005–06 when only 58% of injured workers had received formal OHS training.

Of all people who were employed at some time during the 2009–10 financial year, 70% had received formal OHS training in their current job. The proportion of men who had received OHS training (73%) was slightly higher than the proportion of women (66%). Workers aged 55 years and over were slightly less likely to have undertaken OHS training than their younger counterparts (61% compared with 70%).

## Proportion of injured workers(a) who received formal OHS training



(a) Who had suffered a work-related injury at some time in the 12 months to June 2010.

Source: ABS 2009-10 Multipurpose Household Survey

The prevalence of OHS training across occupations tends to reflect the relative risks. OHS training was more common among the occupations with the highest rates of workplace injuries such as Technicians and Trades Workers (79%), Community and Personal Service Workers (78%), and Machinery Operators and Drivers (76%). The rate of formal OHS training was lower among lower skilled white collar occupations including Clerical and Administrative Workers (63%) and Sales Workers (66%). Men were more likely than women to receive OHS training across both white and blue collar occupation groups, indicating that even within occupation groups, men are more likely to do the kind of work for which OHS training is deemed important.

There were particularly high rates of OHS training in the Mining Sector (93%), along with the Electricity, Gas, Water and Waste Services industry (87%), Public Administration and Safety (84%) and Health Care and Social Assistance (84%) industries. The proportion of people in the Agriculture, Forestry and Fishing industry who had had formal OHS training was very low (54%), despite the relatively high injury rate. This may be due to the high proportion of self-employed people working in the sector, and could indicate that much of the OHS training in this sector is conducted on an informal basis.

## Looking ahead

Over the past two decades successive governments at both the federal and state/territory level have made concerted efforts to reduce rates of workplace injuries and fatalities. The Australian Government's *National OHS Strategy 2002–2012* aimed to raise awareness of the importance of OHS, improve collection and analysis of workers' compensation data, and harmonise the states and territories' work health and safety legislation.<sup>12</sup> Initial indications suggest that the



focus on OHS may be paying dividends with increased rates of OHS training, and declining rates of both workplace fatalities and injuries. These trends will need to continue in coming years to meet the reduction targets.

## Endnotes

1. Butterworth P, Leach LS, Strazdins L, Olesen SC, Rodgers B, and Broon DH, 2011, *The psychosocial quality of work determines whether employment has benefits for mental health: results from a longitudinal national household panel survey*, Occupational and Environmental Medicine, <[www.oem.bmj.com](http://www.oem.bmj.com)>.
2. Safe Work Australia, 2009, *The cost of work-related injury & illness for Australian Employers, Workers and the Community*, <[www.safeworkaustralia.gov.au](http://www.safeworkaustralia.gov.au)>.
3. Warren JR, Hoonakker P, Carayon P, and Brand J, 2004, *Job characteristics as mediators in SES-health relationship*, Social Science & Medicine, 59: 1367-1378.
4. Stansfeld S, and Candy B, 2006, *Psychosocial work environment and mental health: a meta-analytic review*, Scandinavian Journal of Work and Health, 32: 443-462.
5. Hamilton M, Hamilton D, and Zderic T, 2007, *Role of low energy expenditure and sitting in obesity, metabolic syndrome, type 2 diabetes, and cardiovascular disease*, Diabetes, 56: 2655-2667.
6. The *Types of Occurrences Classification System* was developed by the Office of the Australian Safety and Compensation Council, now renamed Work Safe Australia.
7. For more information see ABS, 2004-05, *Self-assessed health in Australia: A snapshot, 2004-05*, cat. no. 4828.0.55.001, <[www.abs.gov.au](http://www.abs.gov.au)>.
8. Though the graph indicates that the injury rate has fallen among men aged 45 years and over, the difference is not statistically significant.
9. For more information see Safe Work Australia, 2011, *Compendium of workers' compensation statistics Australia 2008-09*, <[www.safeworkaustralia.gov.au](http://www.safeworkaustralia.gov.au)>.
10. Safe Work Australia, 2010, *Occupational Disease Indicators*, <[www.safeworkaustralia.gov.au](http://www.safeworkaustralia.gov.au)>.
11. While there was a fall in the rate of workers' compensation claims for respiratory diseases, hospital separation rates remained relatively stable.
12. Safe Work Australia, 2002, *National OHS Strategy 2002-2012*, <[www.safeworkaustralia.gov.au](http://www.safeworkaustralia.gov.au)>.

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