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Workers' compensation claims among nurses and ambulance officers in Australia, 2008/09 to 2013/14

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Further information

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Background and Objective

The Health and Community Services sector is one of the largest industry segments in the Australian labour market, employing approximately 1.57 million people (14% of the labour force) in 2011-12 (Safe Work Australia, 2013). This sector is among the highest risk industry categories for work-related injury and illness in Australia, with an incidence of serious injury 14% higher than all other industries combined (Safe Work Australia, 2013). Consequently, Safe Work Australia has designated Healthcare and Social Assistance as one of its priority industries for Occupational Health and Safety (OHS) prevention activities.

Workers within the sector face some unique risks to their health and well-being. The European Agency for Safety and Health at Work has identified the following main risk factors in the healthcare sector (EU-OSHA, 2016):

- Musculoskeletal loads (poor posture, heavy loads such as lifting patients)
- Biological agents (viruses, micro-organisms)
- Chemical substances (anaesthetic agents, antibiotics, disinfectants)
- Radiological hazards
- Changing shifts and conditions of work including night work
- Violence from members of the public
- Accidents at work including falls, cuts, needle sticks
- Other factors contributing to stress such as exposure to traumatic situations, the organisation of work, and relationships with co-workers.

Recently there has been a focus on exposure to workplace violence in a number of jurisdictions nationally and internationally, including Victoria (VAGO, 2015), as well as Ontario and British Columbia in Canada (Ontario Ministry of Labour, 2015). This follows increasing recognition that healthcare workers may be at increased risk of injury / illness arising from violent incidents, and that some healthcare settings are associated with increased risk of violence (e.g., emergency department, psychiatric hospitals).

In Australia, healthcare is organised primarily at the level of states and territories. Although receiving substantial federal funding, state and territory governments are

responsible for the operation and administration of public healthcare systems including public hospitals and ambulance services. Occupational health and safety, and workers compensation, are also predominantly organised at a state and territory level. There is substantial variability between states with regards to compensation system policy and practice (Safe Work Australia, 2015), and these are likely to have a substantial impact on outcomes for workers (Collie et al, in press). Despite ongoing attempts at policy harmonisation (Safe Work Australia, 2011), OHS policy and practice also varies substantially between jurisdictions, between industries, and between employers. This variability creates an environment in which there may be substantial differences between states and territories in exposure to risk, work-related injury and illness, and the incidence and outcomes of workers compensation claims for health sector workers.

This short report seeks to:

1. Characterise the incidence, nature and outcomes of work-related injury in nurses and ambulance officers in Australia.

2. Compare the incidence and outcomes of work-related injury to nurses and ambulance officers between Australian states and territories.

3. Describe the incidence, nature and outcomes of compensable work injury claims arising from occupational violence in Australian nurses and ambulance officers.

The analyses use data from the ComPARE study dataset held by the Institute for Safety Compensation and Recovery Research (ISCRR). ComPARE is a project established by ISCRR with the support of Safe Work Australia and the Australian workers' compensation authorities. More information can be found here:

http://www.iscrr.com.au/recovery-and-return-to-work/factors-affecting-return-to-work/comparing-compensation-policies

This report is one of numerous reports arising from the ComPARE project. Readers are encouraged to view the website for further information on the overarching project, its objectives and findings to date.

Data Selection and Analyses

The ComPARE dataset contains claim level information for an 11-year period between the 2003/4 to 2013/14 financial years. This data was restricted to accepted claims among 15 to 80 year-olds between the 2009 and 2014 financial years (note that all years refer to the last year of the financial year, e.g., 2009 refers to 2008/2009). The restriction in date range was to ensure that all jurisdictions had adopted the latest data coding standards – enabling more accurate case selection and comparison between jurisdictions.

Cases were selected based on the injured workers occupation (according to the Australian New Zealand Standard Classification of Occupations – ABS, 2013) and the industry of the workplace (according to the Australian New Zealand Standard Industrial Classification – ABS, 2013). Cases were selected for inclusion only if their industry of workplace was coded as:

- 8401 – Hospital (Except Psychiatric Hospitals)
- 8402 – Psychiatric Hospitals
- 8601 – Aged Care Residential Services
- 8591 – Ambulance Services
- 8609 – Other Residential Care Services or
- 8599 – Other Health Care Services N.E.C.

And their occupation was coded as one of the following:

- 2543 – Nurse Managers
- 2544 – Registered Nurses
- 4114 – Enrolled and Mothercraft Nurses
- 4111 – Ambulance Officers and Paramedics

ASNZCO codes 2543, 2544, and 4114 were grouped into one category: ‘Nurses’. Those with code 4111 will herein be referred to as ‘Ambulance officers’.

Data from the 2011 census (approximate mid-point of the study period) was used to calculate the total number of nurses and ambulance officers employed in Australia

during the study period. This was used in calculations to estimate rates of injury per 1000 workers.

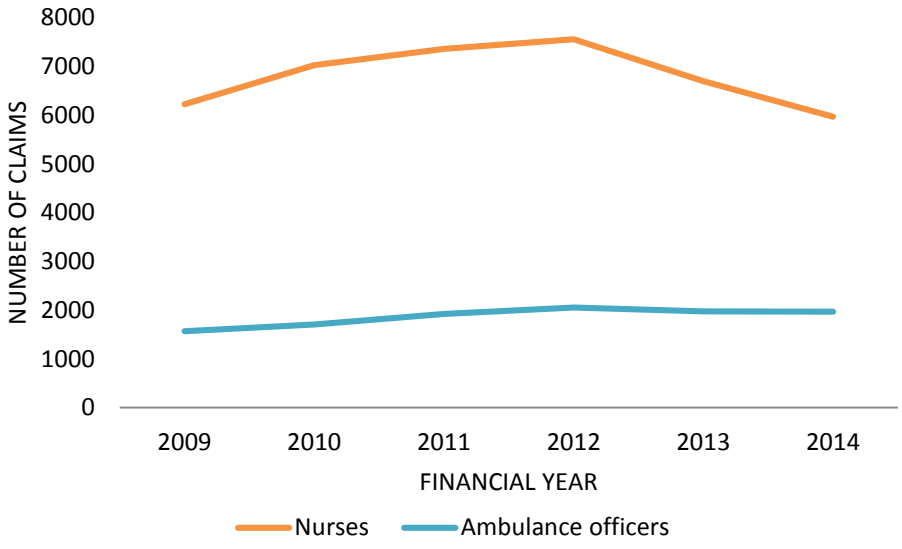
A number of descriptive analyses were conducted. These included calculating numbers and rates of accepted claims per 1000 workers, across the nation and between jurisdictions. The number and percentage of accepted claims by nature of injury and body region were calculated, as were the median durations of time lost from work by jurisdiction. Injuries were coded using the Type of Occurrence Classification System (TOOCS) version 3 (ASCC, 2008).

Results

ALL CLAIMS

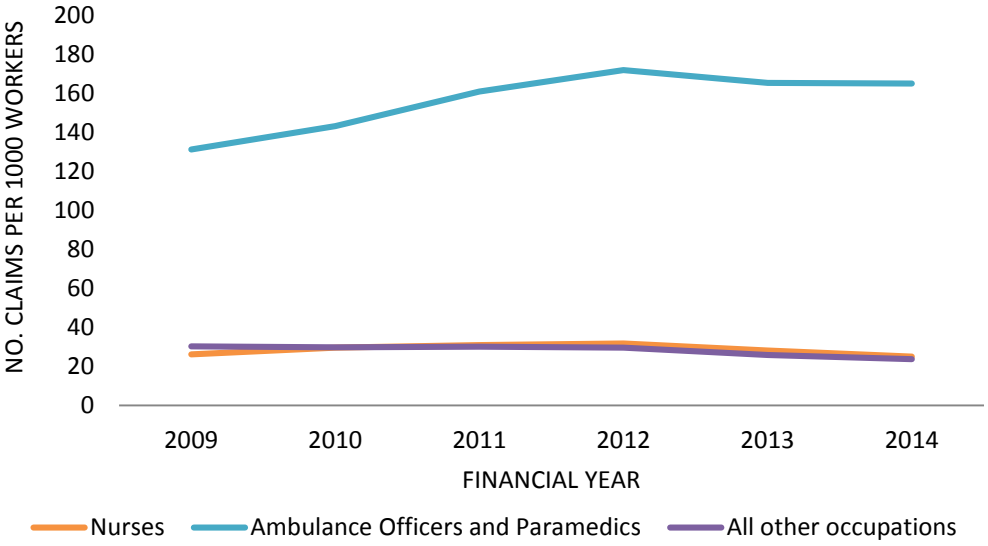
In the six year period 2009 to 2014, there were 52,064 accepted claims for work-related injury among nurses and ambulance officers (3% of all claims) across Australia. More than three-quarters were female (77.2%) and the median age of workers was 45 years (IQR: 35-53). Figure 1 shows the number of claims for each year in each occupation and Figure 2 compares the rate of claims per 1000 workers.

Figure 1: The number of accepted claims for all injury in each occupation over the six year period



Nurses recorded the largest volume of claims of the two occupation groups, with 6,231 being accepted in 2009 rising to 7561 in 2012 before dropping to 5973 in 2014. The number of claims in ambulance officers was 1567 in 2009, rising to 1970 in 2014.

Figure 2: The rate of claims for all injury per 1000 workers comparing nurses, ambulance officers and all other occupations over the six year period



Note: denominator data was taken from the 2011 census (the midpoint of the time period)

Amongst ambulance officers, the rate of accepted claims per 1000 workers increased from 131/1000 in 2009 to a peak of 172 per 1000 workers in 2012 and remained steady at 165 in 2014 (Figure 2). The corresponding rate in nurses over the time period were 26/1000 workers in 2009, 32/1000 workers in 2012 and 25/1000 workers in 2014. The rate of claims in ambulance officers is approximately 4 to 7 times that of all other workers (non-healthcare), while the rate of claims among nurses is similar to that of all other workers (Figure 2).

When separated by type of workplace, nurses in hospital and health care services had 39 accepted workers' compensation claims per 1000 workers. The rate of claims among nurses who worked in the aged and residential care sector was lower with a rate of 32 claims per 1000 workers.

The number of claims of nurses and ambulance officers in each Australian jurisdiction, as well as the rate of claims per 1000 workers is detailed in Table 1.

There was substantial variability between jurisdictions, with the highest rate of claims for both occupations recorded in New South Wales. For nurses, Western Australia, South Australia and Tasmania recorded the next highest rate of claims. For nurses, Western Australia, South Australia and Tasmania recorded the next highest rate of claims. For ambulance officers, Western Australia, Tasmania and Victoria recorded the next highest rate of accepted claims. It should be noted that there are substantial variations in claim acceptance policy between jurisdictions which significantly affects these rates (for example employer excess period of 10 days in some jurisdictions – Collie et al, in press).

Table 1: The number of claims and rate of claims per 1000 workers in each jurisdiction

		Nurses		Ambulance officers	
		N	Rate of claims per 1000 workers	N	Rate of claims per 1000 workers
2009 - 2014	New South Wales	16777	38.6	4321	199.9
	Victoria	6273	16.6	3364	174.7
	Queensland	6772	24.0	1580	91.9
	South Australia	4522	34.7	657	120.1
	Western Australia	4515	34.4	906	193.3
	Tasmania	1099	30.5	310	174.5
	Northern Territory	250	17.8	46	57.6
	Australian Capital Territory	226	12.0	*	*
	Comcare	433	N/A	13	N/A
	Australia	40867	28.7	11197	156.3

** Note: No claims for Ambulance officers in ACT over the entire time period. Prior to 2011, there were no recorded claims coded to 'Nurse Managers' or 'Ambulance Officers' occupations in SA. Comcare does not have denominator data. Denominator data for all other states and territories was taken from the 2011 census.*

Injury type and injured body region

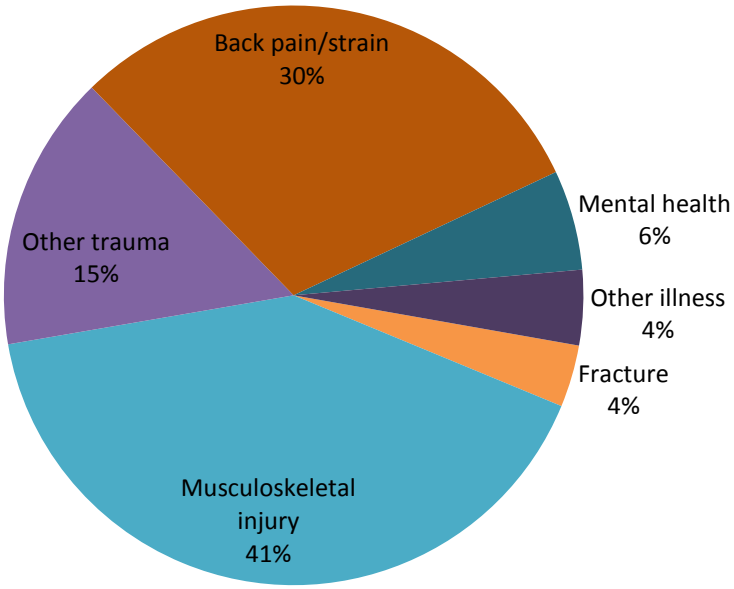
Body stressing injuries were most common across both groups of occupations. Among nurses, body stressing injuries accounted for 46.4% of all claims, and 59.2% of all claims from ambulance officers, whereas it only accounted for 35.7% for all other occupations. Injuries due to falls and assaults were also common (Table 2).

Table 2: The five most common mechanisms of injury for nurses, ambulance officers, and for all other occupations

		N	%
Nurses	Muscular stress while handling objects other	10534	25.8
	Falls on the same level	6158	15.1
	Muscular stress lifting, carry, putting down object	5340	13.1
	Being assaulted by a person or persons	3042	7.4
	Muscular stress with no objects being handled	2396	5.9
	Other mechanism of injury	13397	32.8
Ambulance officers	Muscular stress lifting, carry, putting down object	4171	37.3
	Muscular stress while handling objects other	1817	16.2
	Falls on the same level	738	6.6
	Muscular stress with no objects being handled	498	4.4
	Vehicle accident	459	4.1
	Other mechanism of injury	3514	31.4
All other occupations	Muscular stress lifting, carry, putting down object	242244	14.6
	Muscular stress while handling objects other	219080	13.2
	Falls on the same level	215561	13.0
	Being hit by moving objects	121505	7.3
	Hitting stationary objects	92147	5.5
	Other mechanism of injury	773979	46.5

Figure 3 shows the proportion of each broad injury group of all accepted injury claims from nurses and ambulance officers. Musculoskeletal injuries were the most common, followed by back pain/strain.

Figure 3: The proportion of each broad group of all injuries among nurses and ambulance officers in Australia



Soft tissue injuries were the most common across both occupation types and traumatic injuries were also common (Table 3). The top 5 body sites injured are the same for both nurses and ambulance officers.

Table 3: The ten most common types of injuries and affected body regions among nurses and ambulance officers

		Nature of injury			Body region	
		N	%		N	%
Nurses	Soft tissue injuries due to trauma or unknown mechanisms with insufficient information to code elsewhere	9967	24.4	Lower back	8447	20.7
	Traumatic strain of muscles and tendons - muscle/tendon trauma - not elsewhere classified	4297	10.5	Shoulder	4866	11.9
	Contusion, bruising, crushing and traumatic soft tissue injury, not elsewhere classified	3002	7.3	Knee	2923	7.2
	Trauma to joints and ligaments, not elsewhere classified	2573	6.3	Psychological system	2212	5.4
	Traumatic tear of muscles	2511	6.1	Back - unspecified	2016	4.9
	Back pain, strain (non-traumatic), lumbago, sciatica	1916	4.7	Wrist	1576	3.9
	Other fractures, not elsewhere classified	1479	3.6	Fingers	1383	3.4
	Traumatic joint, ligament injury, not elsewhere classified	1454	3.6	Ankle	1348	3.3
	Trauma to muscles and tendons, not elsewhere classified	1397	3.4	Neck bones, muscles and tendons	1223	3.0
	Medical sharp/needle-stick puncture	938	2.3	Hands	929	2.3
	Other injury	11333	27.7	Other body region	13944	34.1
	Total	40867	100.0	Total	40867	100.0
Ambulance officers	Soft tissue injuries due to trauma or unknown mechanisms with insufficient information to code elsewhere	2435	21.7	Lower back	3023	27.0
	Back pain, strain (non-traumatic), lumbago, sciatica	1447	12.9	Shoulder	1241	11.1
	Traumatic strain of muscles and tendons - muscle/tendon trauma - not elsewhere classified	1078	9.6	Knee	743	6.6
	Trauma to joints and ligaments, not elsewhere classified	796	7.1	Psychological system	733	6.5
	Traumatic tear of muscles	574	5.1	Back - unspecified	611	5.5
	Trauma to muscles and tendons, not elsewhere classified	430	3.8	Upper back	325	2.9
	Contusion, bruising, crushing and traumatic soft tissue injury, not elsewhere classified	417	3.7	Ankle	313	2.8
	Reaction to stressors - other, multiple or not specified	356	3.2	Neck bones, muscles and tendons	296	2.6
	Traumatic joint, ligament injury, not elsewhere classified	332	3.0	Wrist	275	2.5
	Laceration or open wound not involving traumatic amputation	263	2.3	Fingers	269	2.4
	Other injury	3069	27.4	Other body region	3368	30.1
	Total	11197	100.0	Total	11197	100.0

Time lost to injury

The duration of time lost following injury was calculated as the median number of cumulative weeks for which compensation was paid, for all accepted time loss claims. Figure 4 shows that nurses have the highest median number of weeks' time lost to injury than both ambulance officers and all other occupations, although there is substantial variability in all categories. Table 4 compares duration of time loss between jurisdictions.

Note: only time loss claims were included in these analyses. 75% of claims from nurses resulted in time loss, 73% from ambulance officers, and 61% from all other occupations.

Figure 4: Median and interquartile range of compensated time loss for all injury in weeks by occupation in Australia

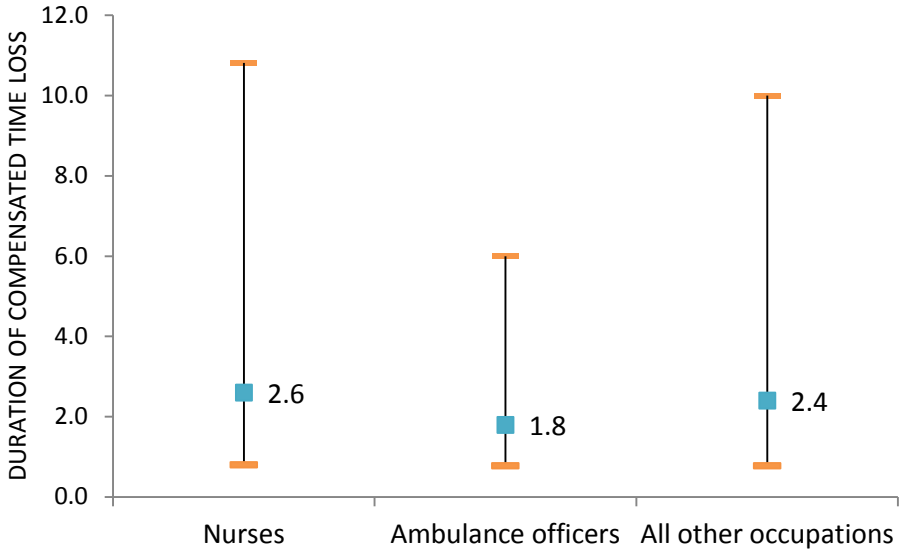


Table 4: The median and interquartile range of compensated time loss for all injury in weeks by occupation comparing jurisdictions

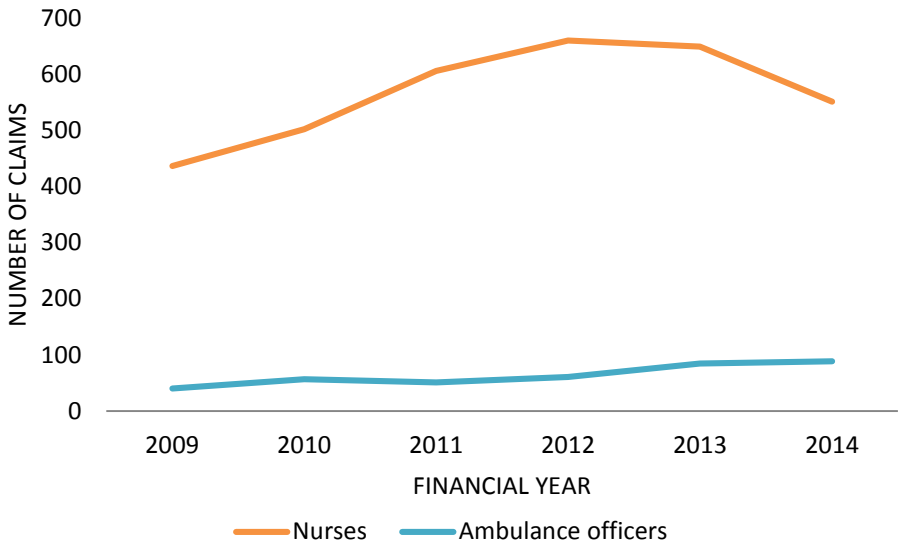
	Nurses	Ambulance officers	All other occupations
New South Wales	2.0 (0.7-7.6)	2.0 (0.9-6.9)	1.9 (0.6-7.6)
Victoria	6.4 (1.2-20.6)	1.7 (0.9-7.0)	6.4 (1.4-24.4)
Queensland	2.4 (0.8-10.0)	1.4 (0.7-4.4)	2.0 (0.6-7.4)
South Australia	2.1 (0.8-8.3)	1.2 (0.4-3.5)	3.3 (0.9-12.6)
Western Australia	3.5 (1.0-16.6)	1.7 (0.6-5.3)	2.2 (0.7-10.2)
Tasmania	2.6 (0.9-8.5)	2.7 (1.0-6.4)	2.8 (1.0-8.7)
Northern Territory	2.4 (1.0-12.0)	2.4 (1.0-5.2)	3.6 (1.2-12.0)
Australian Capital Territory	2.3 (0.9-6.2)	N/A	2.2 (0.7-8.9)
Comcare	5.7 (1.2-24.7)	6.0 (1.3-21.3)	2.7 (0.7-11.4)

OCCUPATIONAL VIOLENCE-RELATED CLAIMS

Accepted workers compensation claims for occupational violence were identified in the dataset by the TOOCS version 3 codes ‘29’ (being assaulted by a person or persons) and ‘82’ (exposure to workplace or occupational violence).

There were 3,793 accepted compensation claims for occupational violence-related injury among nurses and ambulance officers (average of approximately 632 per year), representing 7.3% of all accepted claims in these workers. The median age of claimants was 45 years (IQR 35-53). The majority of accepted occupational violence-related claims were in nurses (n=3410, 89.9%) (Figure 5). Almost three-quarters of occupational violence-related claims from nurses were to females (72.6%), whereas sixty percent of ambulance officers with accepted occupational violence-related claims were male.

Figure 5: The number of accepted occupational violence-related claims for occupational violence for nurses and ambulance officers over the time period



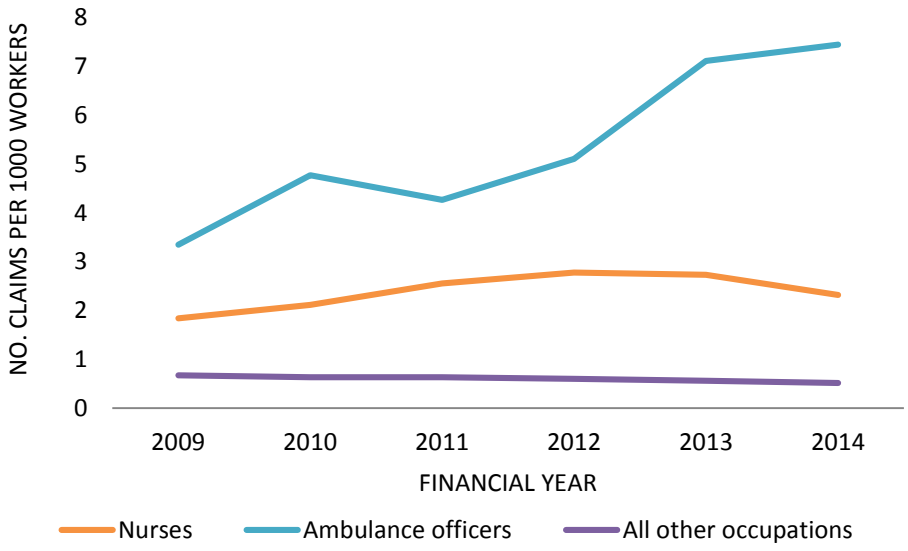
The rate of occupational violence-related claims per 1000 workers between occupations is shown in Figure 6. This includes comparison to the rate of occupational violence-related claims among all other occupations. Ambulance officers were between 5 to 14 times more likely to make a workers compensation claim for injury resulting from occupational violence than all other workers. The rate

of occupational violence claims in ambulance officers more than doubled in the 6 year period of the study, rising from 3.3/1000 workers in 2009 to 7.5/1000 workers in 2014. Nurses were 3-5 times more likely than other workers to make a claim for injury resulting from occupational violence, however the rate of claims among nurses remained relatively stable over the study period.

Nurses working in hospitals and health care services had 3.4 accepted occupational violence-related workers' compensation claims for every 1000 workers, whereas those working in aged and residential care were fewer with 2.2 claims per 1000 workers.

The number of claims of nurses and ambulance officers in each Australian jurisdiction, as well as the rate of claims per 1000 workers is detailed in Table 5. There is a high degree of variability between jurisdictions, particularly among ambulance officers. This is due to the small number of claims in most jurisdictions, and so these results should be interpreted with caution and should not be considered accurate indicators of performance differences between jurisdictions.

Figure 6: The rate of occupational violence-related claims per 1000 workers comparing nurses, ambulance officers and all other occupations



Note: denominator data was taken from the 2011 census (the midpoint of the time period)

Table 5: The number and rate per 1000 workers of occupational violence claims in each jurisdiction

		Nurses		Ambulance officers	
		N	Rate of claims per 1000 workers	N	Rate of claims per 1000 workers
2009 - 2014	New South Wales	1211	2.8	212	9.8
	Victoria	639	1.7	65	3.4
	Queensland	483	1.7	18	1.0
	South Australia	414	3.2	25	4.6
	Western Australia	532	4.1	48	10.2
	Tasmania	52	1.4	9	*
	Northern Territory	36	2.6	5	*
	Australian Capital Territory	3	*	*	*
	Comcare	40	N/A	1	N/A
	Australia	3410	2.4	383	5.3

** Note: No claims for Ambulance officers in ACT over the entire time period. Prior to 2011, there were no recorded claims coded to 'Nurse Managers' or 'Ambulance Officers' occupations in SA. Comcare does not have denominator data. Denominator data for all other states and territories was taken from the 2011 census. Rates were not calculated for jurisdictions with fewer than 10 claims for either occupation category.*

Injury type and injured body region

Traumatic injuries featured prominently among both nurses and ambulance officers. Injury to the psychological system was most common in both occupations. The most common types of injuries and affected body regions sustained by the claimants are summarised in Table 6.

Table 6: The ten most common types of injury and affected body regions among nurses and ambulance officers injured due to occupational violence

		Nature of injury			Body region	
		N	%		N	%
Nurses	Contusion, bruising, crushing and traumatic soft tissue injury, NEC	755	22.1	Psychological system	499	14.6
	Soft tissue injuries due to trauma or unknown mechanisms with insufficient information to code elsewhere	685	20.1	Shoulder	310	9.1
	Laceration or open wound not involving traumatic amputation	204	6.0	Face, NEC	299	8.8
	Other reaction to stressors	196	5.7	Wrist	165	4.8
	Trauma to joints and ligaments, NEC	160	4.7	Neck bones, muscles and tendons	144	4.2
	Traumatic strain of muscles and tendons - muscle/tendon trauma - NEC	152	4.5	Lower back	127	3.7
	Reaction to stressors - other, multiple or not specified	133	3.9	Forearm	92	2.7
	Other fractures, NEC	116	3.4	Other specified multiple locations	91	2.7
	Traumatic tear of muscles	98	2.9	Cranium	87	2.6
	Post-traumatic stress disorder	95	2.8	Fingers	79	2.3
	Other injury	816	23.9	Other body region	1517	44.5
	Total	3410	100.0	Total	3410	100.0
Ambulance officers	Soft tissue injuries due to trauma or unknown mechanisms with insufficient information to code elsewhere	82	21.4	Psychological system	70	18.3
	Contusion, bruising, crushing and traumatic soft tissue injury, NEC	71	18.5	Face, NEC	41	10.7
	Laceration or open wound not involving traumatic amputation	42	11.0	Forearm	29	7.6
	Reaction to stressors - other, multiple or not specified	27	7.0	Shoulder	21	5.5
	Other reaction to stressors	23	6.0	Wrist	14	3.7
	Superficial injury	19	5.0	Other specified multiple locations	14	3.7
	Trauma to joints and ligaments, NEC	17	4.4	Hands	11	2.9
	Post-traumatic stress disorder	13	3.4	Fingers	11	2.9
	Other fractures, NEC	10	2.6	Lower back	9	2.3
	Traumatic tear of muscles	10	2.6	Chest muscles	9	2.3
	Traumatic strain of muscles and tendons - muscle/tendon trauma - NEC	10	2.6	Thumb	9	2.3
	Other injury	59	15.4	Other body region	145	37.9
	Total	383	100.0	Total	383	100.0

** NEC = not elsewhere classified*

Time lost to injury

Whilst nurses and ambulance officers had a higher rate of accepted claims for occupational violence-related injury, their median time lost was lower than claimants from all other occupations (Figure 7). There was substantial variability within the occupation categories in the duration of time lost. Table 7 compares duration of time loss between jurisdictions for occupational violence claims.

Note: only time loss claims were included in these analysis. 77% of claims from nurses resulted in time loss, 61% from ambulance officers, and 67% from all other occupations.

Figure 7: Median and interquartile range of compensated time loss for occupational violence-related injury in weeks by occupation

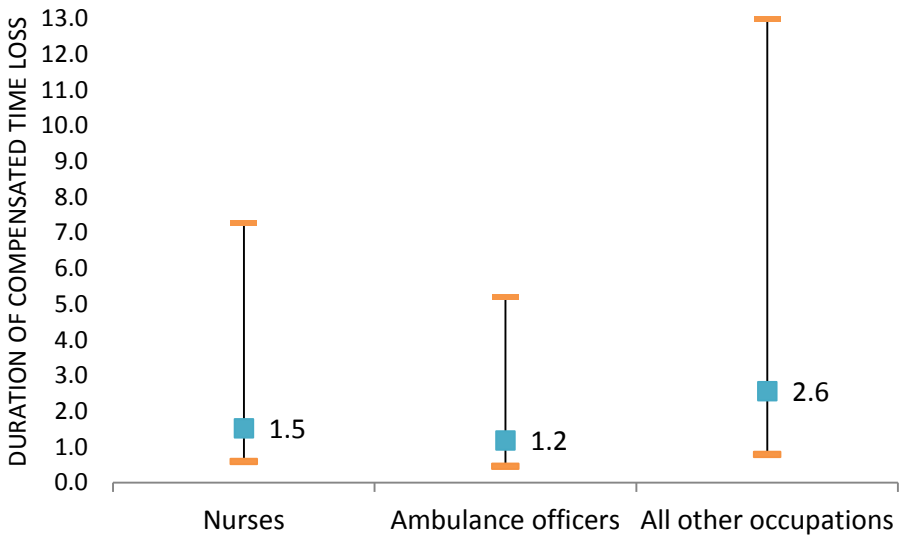


Table 7: The median and interquartile range of compensated time loss for occupational violence claims in weeks by occupation comparing jurisdictions

	Nurses	Ambulance officers	All other occupations
New South Wales	1.2 (0.5-5.0)	1.3 (0.4-5.2)	2.4 (0.8-12.8)
Victoria	2.2 (0.7-10.6)	0.9 (0.5-2.4)	3.4 (0.8-17.4)
Queensland	2.0 (0.6-8.8)	0.8 (0.4-5.9)	2.0 (0.7-10.0)
South Australia	1.5 (0.6-5.6)	1.1 (0.4-2.2)	3.1 (0.8-15.8)
Western Australia	1.6 (0.6-10.0)	2.9 (0.4-11.1)	2.2 (0.7-12.6)
Tasmania	2.0 (0.8-9.6)	*	3.7 (1.0-11.2)
Northern Territory	1.6 (0.6-7.6)	*	2.8 (0.8-11.3)
Australian Capital Territory	*	N/A	3.0 (0.8-14.3)
Comcare	2.2 (1.0-8.3)	*	6.5 (1.4-27.4)

** Time loss was not provided for jurisdictions with fewer than 10 claims for either occupation category.*

Summary and Conclusion

Being employed as an Ambulance Officer is associated with a substantially greater risk of making a compensation claim for work-related injury than among other occupations in Australia, with a rate 4 to 7 times the rate of accepted claims from all other occupations. Nurses have similar rates of accepted work injury claims than all other occupations combined. Both the number and rate of injury varies substantially between states and territories of Australia.

The most common mechanisms of injury broadly reflect those observed in other occupations and include manual handling and falls and other muscular stress mechanisms. However, unique in the top five mechanisms for nurses was 'being assaulted by a person or persons' and for ambulance officers 'vehicle accidents'.

The median time lost due to injury was equivalent between nurses and other occupations, and slightly lower in ambulance officers. However, there was substantial variation between jurisdictions.

Both nurses and ambulance officers were at an even greater risk than other workers for injury claims resulting from occupational violence. Ambulance officers were between 5 to 14 times more likely to make a workers' compensation claim for injury resulting from occupational violence than all other workers, and the rate of violence-related claims more than doubled in the study period. Nurses were 3-5 times more likely than other workers to make a claim for injury resulting from occupational violence. Median time lost due to injury for both occupations was lower than for violence-related claims among all other occupations. The rate of injury varies substantially between states and territories of Australia.

These findings confirm that some health care sector workers are at increased risk of work-related injury than other Australian workers both generally and for injuries resulting from violence specifically. The data also confirm that there are substantial jurisdictional differences in both the number and rate of injury claims, and the duration of time lost to injury, in nurses and ambulance officers. The data are likely to underestimate the true extent of both injury and violence-related injury in the sector, as not all injuries are eligible for workers' compensation, and a proportion of workers

choose not to make claims for injuries that may be eligible (Safe Work Australia, 2009). This is consistent with findings that health sector workers under-report violent incidents occurring at work (Arnetz et al, 2015). Developing and/or analysing other relevant data sources, such as population-based hospital incident management systems (e.g., Arnetz et al, 2011), will be necessary to establish the full extent of OHS risk in health sector workers.

These findings demonstrate that nurses and ambulance officers are at increased risk for injury in the workplace, compared with other Australian workers. This was most evident for the ambulance cohort, but was also observed for nurses in cases of injury resulting from occupational violence. Healthcare personnel such as nurses and ambulance officers should be considered at higher risk for workplace injury and illness. Occupation specific work health and safety programs are already in place in many Australian industries, including the healthcare sector. This analyses suggests that these may need to be revisited to assess their effectiveness in preventing injury, including injury resulting from occupational violence.

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