COVERAGE OF WORK-RELATED PROBLEMS BY WORKERS' COMPENSATION IN GENERAL PRACTICE

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ABSTRACT

Background: General Practitioners (GPs) play an important role in the management of work-related injury and illness. Relatively little is known about the coverage of GP treated occupational health conditions through workers' compensation schemes.

Objectives: To compare the proportion and nature of GP treated occupational health problems in Australia claimed through workers' compensation with those not claimed.

Methods: Analysis of all work-related GP encounters among injured workers from the prospective BEACH (Bettering the Evaluation and Care of Health) study dataset between April 2004 and March 2009.

Results: Of all work-related GP encounters 77.4% were claimed through workers' compensation. Problems most commonly managed at claimed encounters were musculoskeletal, followed by skin, psychological and general/unspecified problems. Musculoskeletal problems were the most common work related problems managed at unclaimed encounters; however, they were managed significantly less often. In contrast, psychological, general, circulatory, respiratory, social and ear related problems were managed significantly more often at unclaimed encounters. Encounters occurring in major cities and inner regional areas were significantly more likely to be claimed through workers' compensation than those in outer regional and remote regions.

Conclusions: The type of work-related health problems managed in GP encounters claimed through workers' compensation is different to those not claimed. Unclaimed encounters are more likely to involve psychological and social problems than physical problems. Work-related health problems managed in rural and remote regions are less likely to be claimed. The decision to make a compensation claim may be influenced by factors including the nature of the condition, its severity, jurisdictional eligibility, and the worker's or their GP's awareness of entitlements.

I. BACKGROUND

Work plays an important role in our health and social well-being. There is now substantial evidence that employment is associated with both general health status[1] and facilitates social inclusion.[2],[3] In Australia, as in the United States and Canada, payment for healthcare and income replacement for work-related injuries and illnesses is regulated by a range of state and federal workers' compensation authorities.[4] Provision of a medical certificate is one of the pre-requisites for acceptance of a workers' compensation claim. Only a small proportion of work-related injuries are of sufficient severity to require hospitalisation[5] and thus GPs play a central role in the

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[1] Richard Wilkinson and Michael Marmot (eds), *Social Determinants of Health: The Solid Facts* (World Health Organisation, 2nd ed, 2003).

[2] Gordon Waddell and A Kim Burton, *Is Work Good for Your Health and Well-Being?* (Stationery Office, 2006).

[3] Christina Pantazis, David Gordon and Ruth Levitas (eds): *Poverty and Social Exclusion in Britain: The Millennium Survey* (Policy Press, 2006).

[4] *Comparative Performance Monitoring Report: Comparison of Occupational Health and Safety and Workers' Compensation Schemes in Australia and New Zealand* (Commonwealth of Australia (Safe Work Australia) 11th ed, 2009).

[5] Allard E Dembe et al, 'Inpatient Hospital Care for Work-Related Injuries and Illnesses (2003) 44 *American Journal of Industrial Medicine* 331.

early and ongoing treatment and the co-ordination of care for those with work-related injury and illness.

The most common work-related conditions encountered by GPs are musculoskeletal in nature. For example, Driscoll and Hendrie reported that in the period 1998 to 2000 almost three quarters of work-related GP encounters for injury involved treatment for a musculoskeletal condition. In contrast, only 24% to 33% of hospital emergency department admissions for occupational injury were for musculoskeletal injury. Musculoskeletal disease was also the most common work-related disease, followed by psychological and skin diseases.[6]

Previous studies indicate that a substantial proportion of work-related injury and disease appearing on health datasets do not arise on workers' compensation datasets.[7],[8] In these cases, compensation for medical care is provided by alternative public or private sources. This may reflect regulatory and legislative limits in the types of conditions and treatments covered by workers' compensation schemes. For example, in the state of Victoria in Australia the employer's liability is limited to the first 10 days lost from work that the injured worker misses and also the first $582 in medical expenses (as at August 2010). These and other eligibility conditions differ substantially between workers' compensation jurisdictions.[9] Alternatively, it may reflect a lack of propensity to claim workers' compensation benefits under certain circumstances; for example, where the worker is unaware of their right to claim workers' compensation benefits, where the worker is concerned about their job security or the perception of their injury/illness at work; or where the treating medical practitioner considers it unlikely that the encounter will be covered by workers' compensation.

Relatively little is known about the coverage of GP treated occupational injuries and illnesses by workers' compensation schemes.[10] This study sought to compare the proportion and nature of GP treated occupational health problems in Australia that are claimed through workers' compensation with those not claimed. A second aim was to determine the coverage of GP treated occupational health conditions by workers' compensation schemes between jurisdictions.

II. METHODS

A. *The database*

This is an analysis of data from the BEACH (Bettering the Evaluation and Care of Health) program; a continuous national study of general practice clinical activity in Australia, which began in April 1998. Its methods have been described in detail elsewhere.[11] In summary, each GP, in an ever-changing random sample of approximately 1000 practising GPs per year across Australia, completes details of 100 consecutive GP-patient encounters on standardised paper recording forms. The encounter may involve management of new health problem(s) and/or a follow up for previously managed condition(s).

The provided information recorded includes age, sex, up to three patient reported ''reasons for encounter'' (RFEs), and up to four problems managed at the encounter (recorded by GP as diagnoses or as problem descriptions). The RFEs are the patient's reasons for presenting, in contrast with the GPs ''problems managed'' that describe his/her view of the problems managed, at the highest diagnostic level possible with the evidence available at the time. RFEs and problems managed are classified according to the International Classification of Primary Care, version 2 (ICPC-2).[12]

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[6] Tim R Driscoll and A Leigh Hendrie, 'Surveillance of Work-Related Disorders in Australia Using General Practitioner Data' (2002) 26 *Australian and New Zealand Journal of Public Health* 346.

[7] T Driscoll et al, 'Coverage of Work Related Fatalities in Australia by Compensation and Occupational Health and Safety Agencies' (2003) 60 *Occupational and Environmental Medicine* 195.

[8] Soufiane Boufous and Ann Williamson, 'Work-Related Injury in NSW Hospitalisation and Workers' Compensation Datasets: A Comparative Analysis' (2003) 27 *Australian and New Zeland Journal of Public Health* 352.

[9] *Comparative Performance Monitoring Report*, above n 4, 44.

[10] Janice Charles, Ying Pan and Helena Britt, 'Work Related Encounters in General Practice' (2006) 35 *Australian Family Physician* 938.

[11] Helena Britt et al, 'General Practice Activity in Australia, 2008-09' (Report, General Practice Series No 25, Australian Institute of Health and Welfare, 2009).

[12] *ICPC-2 International Classification of Primary Care* (Oxford University Press, 2nd ed, 1998).

GPs indicate whether, in their opinion, each of the recorded health problems is work-related and record whether the encounter is being claimed through workers' compensation. Using these data, the BEACH database was searched for encounters involving one or more work-related problems. All work-related problems described as a 'health assessment', 'check-up' or 'immunisation / vaccination' were then removed as these are not claimable through workers' compensation in any state. Encounters that did not include any other work-related problems were therefore eliminated from the study group. The remaining encounters were divided into: (1) work-related encounters to be claimed through workers' compensation; and (2) other work-related encounters. BEACH data collected during the 60 month period from April 2004 to March 2009 were analysed.

B. *Statistical methods*

Data were analysed using SAS version 9.13 (SAS Institute, Cary, NC, USA), with the GP encounter being the primary unit of analysis. This was a cluster-based sample with the cluster around the GP. As such the 95% confidence intervals were adjusted and reported for the single stage clustered study design using SAS. Percentages are used to describe the distribution where events can only occur once in a consultation; for example, patient age, gender, state or territory. Work-related problems were analysed at two levels. First, health problems were described at the ICPC 2 chapter level. ICPC chapters correspond approximately to the main body systems, with additional chapters for social and psychological problems. Second, problems were analysed at the individual level using ICPC 2 rubric labels to determine the 10 most common health problems in both groups. For both analyses the number, rate per 100 encounters and the percentage of health problems managed in each group are described. As more than one work related problem can be managed at a single encounter, chi square statistics are not appropriate as they do not allow for the cluster design of the study. Significance of differences was determined by non-overlapping confidence intervals. Chronic health problems were defined according to O'Halloran et al.[13]

III. RESULTS

There were 12,580 work-related GP encounters during the five year study period, representing 2.6% (95% CI: 2.5-2.7) of the 486,400 total encounters recorded in the BEACH database during this period. Simple extrapolation of this result to the average 105 million GP encounters paid through the Australian public health system (Medicare) per annum, plus a further (estimated) 2.5 million encounters paid through other sources (including workers' compensation),[14] suggests that over the study period there were nationally about 2.7 million GP encounters per annum for work-related health problems.

There were 9,743 (77.4%) work-related GP encounters claimed through workers' compensation at which 10,115 work related problems were managed. The remaining 2,837 (22.6%) encounters involving 2,952 work-related problems, were not claimed. Within both groups the majority of patients were male, with more than 80% of patients aged between 25 and 64 years. Most GP encounters were recorded in the most populous states (Victoria, New South Wales, Queensland) with a smaller number in less populous states and the territories (Table 1). The work-related problems at claimed encounters were less likely to be new problems to the patient (20.1%) than those managed at unclaimed encounters (35.9%). In contrast, chronic problems were almost equivalent between claimed (23.8%) and unclaimed encounters (26.4%)

[13] Julie O'Halloran, Graeme C Miller and Helena Britt, 'Defining Chronic Conditions for Primary Care with ICPC-2' (2004) 21 *Family Practice*, 38.
[14] Helena Britt et al, above n 11.

Table 1. Work-related general practice encounters

	Claimed on workers' compensation		Not claimed on workers' compensation	
	Number	**Per cent of encounters (N=9743)**	**Number**	**Per cent of encounters (N=2837)**
General practitioners	3325		1582	
Encounters (row %)	9743	77.4 (76.2-78.7)	2837	22.6 (21.3-23.8)
Gender				
Male patients	5630	58.3 (57.1-59.5)	1589	56.6 (54.5-58.6)
Female patients	4030	41.7 (40.5-42.9)	1220	43.4 (41.4-45.5)
Patient Age Group				
5-14 years	1	0.0 (0.0-0.0)	0	0.0 (0.0-0.0)
15-24 years	890	9.2 (8.6-9.9)	273	9.7 (8.4-11.0)
25-44 years	3950	40.9 (39.8-42.0)	1131	40.3 (38.4-42.1)
45-64 years	4593	47.6 (46.4-48.7)	1251	44.5 (42.6-46.5)
65-74 years	178	1.8 (1.6-2.1)	113	4.0(3.3-4.8)
75+ years	43	0.4 (0.3-0.6)	42	1.5 (1.0-2.0)
State / Territory				
ACT	236	2.5 (1.8-3.2)	58	2.1 (1.3-2.9)
NSW	3651	38.3 (36.2-40.5)	876	31.6 (28.2-35.1)
VIC	2429	25.5 (23.4-27.6)	711	25.7 (22.6-28.7)
QLD	1112	11.7 (10.3-13.0)	544	19.7 (17.1-22.2)
SA	880	9.2 (7.9-10.6)	222	8.0 (6.1-10.0)
WA	767	8.1 (6.9-9.2)	222	8.0 (6.2-9.9)
TAS	278	2.9 (2.2-3.7)	62	2.2 (1.5-3.0)
NT	171	1.8 (1.1-2.5)	73	2.6 (1.5-3.8)
		Per cent of problems managed (N=10115)		**Per cent of problems managed (N=2952)**
Problems Managed				
New problem	2031	20.1 (19.1-21.1)	1059	35.9 (33.6-38.1)
Chronic problem	2412	23.8 (22.9-24.8)	780	26.4 (24.4-28.4)

C. *Problems managed*

The work-related health problems most commonly managed at claimed GP encounters were musculoskeletal (managed at a rate of 69.0 per 100 work related encounters); followed by skin, psychological and general/unspecified problems. Combined, these four ICPC categories accounted for 91.8% of all work-related problems managed. The remaining 8.2% of problems were distributed across 13 categories (Table 2).

Table 2. Problems managed in general practice encounters claimed on workers' compensation and not claimed.

	Claimed on workers' compensation		Not claimed on workers' compensation		
Problem Managed	**Number of encounters**	**Rate per 100 encounters**	**Number of encounters**	**Rate per 100 encounters**	**Per cent unclaimed encounters^**
Musculoskeletal	6723	69.0 (67.8-70.2)	1316	46.4 (43.9-48.9)	16.4
Skin	1188	12.2 (11.4-13.0)	287	10.1 (8.9-11.4)	19.5
Psychological	804	8.3 (7.4-9.1)	616	21.7 (19.2-24.2)	43.4
General & unspecified	572	5.9 (5.3-6.4)	300	10.6 (9.2-12.0)	34.4
Neurological	379	3.9 (3.5-4.3)	95	3.3 (2.7-4.0)	20.0
Eye	138	1.4 (1.1-1.7)	58	2.0 (1.5-2.6)	29.6
Digestive	90	0.9 (0.7-1.1)	44	1.6 (1.1-2.0)	32.8
Circulatory	73	0.7 (0.6-0.9)	48	1.7 (1.2-2.2)	39.7
Respiratory	40	0.4 (0.3-0.5)	78	2.7 (2.0-3.5)	66.1
Endocrine & metabolic	27	0.3 (0.2-0.4)	24	0.8 (0.1-1.6)	47.1
Social	27	0.3 (0.2-0.4)	33	1.2 (0.8-1.6)	55.0
Ear	23	0.2 (0.1-0.3)	33	1.2 (0.8-1.6)	58.9
Urology	13	0.1 (0.1-0.2)	4	0.1 (0.0-0.3)	23.5
Blood	6	0.1 (0.0-0.1)	1	0.0 (0.0-0.0)	14.3
Female genital system	5	0.1 (0.0-0.1)	8	0.3 (0.1-0.5)	61.5
Pregnancy & family planning	4	0.0 (0.0-0.1)	3	0.1 (0.0-0.2)	42.9
Male genital system	3	0.0 (0.0-0.1)	4	0.1 (0.0-0.3)	57.1
Total	**10115**	**103.8 (103.3-104.3)**	**2952**	**104.1 (103.0-105.1)**	**22.6**

Note: 95% confidence intervals are presented for rates. ^Percentage of work-related problems managed at encounters not claimed under a workers' compensation scheme

Table 3. Top ten work-related problems in general practice encounters claimed on workers' compensation and not claimed

Rank	Claimed on workers' compensation			Not claimed on workers' compensation		
	Problem	**Number**	**Rate per 100 encounters**	**Problem**	**Number**	**Rate per 100 encounters**
1	Back complaint	1708	17.5 (16.6-18.4)	Back complaint	363	12.8 (11.4-14.1)
2	Sprain/Strain	1245	12.8 (11.9-13.6)	Acute stress reaction	202	7.1 (5.9-8.3)
3	Injury musculoskeletal NOS	1023	10.5 (9.7-11.3)	Depression	182	6.4 (5.2-7.6)
4	Injury skin, other	443	4.5 (4.1-5.0)	Sprain/Strain	177	6.2 (5.1-7.4)
5	Fracture	404	4.1 (3.7-4.6)	Injury musculoskeletal NOS	143	5.0 (4.2-5.9)
6	Laceration / cut	362	3.7 (3.3-4.1)	Anxiety	132	4.7 (3.7-5.6)
7	Depression	357	3.7 (3.2-4.1)	Fracture	75	2.6 (2.0-3.3)
8	Shoulder syndrome	286	2.9 (2.6-3.3)	Osteoarthritis	66	2.3 (1.8-2.9)
9	Bursitis/tendonitis/synovitis NOS	274	2.8 (2.5-3.2)	Bursitis/tendonitis/synovitis NOS	62	2.2 (1.6-2.7)
10	Acute internal damage knee	248	2.5 (2.2-2.9)	Injury skin, other	60	2.1 (1.6-2.7)
	Total	**6350**	**65.2**	**Total**	**1462**	**51.5**

Note: 95% confidence intervals are presented for rates. NOS = Not elsewhere specified; * = percentage of total problems managed

While musculoskeletal problems were the most common work-related problems managed at unclaimed encounters, they were managed significantly less often (46.4 per 100 of these encounters). The term 'managed' is used here in the broadest sense to mean dealt with, and may include actions of GPs including but not limited to assessment, review, prescribe, counsel, test and refer. Skin problems were also marginally less common at unclaimed encounters (10.1 per 100 encounters compared with 12.2 among claimed encounters). In contrast, some problems were managed more often at unclaimed encounters, including: psychological (21.7 vs.8.3 per 100 encounters), general and unspecified (10.6 vs. 5.9), circulatory (1.7 vs. 0.7), respiratory (2.7 vs. 0.4), endocrine and metabolic (0.8 vs. 0.3), social (1.2 vs. 0.3) and ear (1.2 vs. 0.2 per 100 encounters) related problems.

1. *Musculoskeletal problems*

The rate of musculoskeletal health problems managed was significantly greater at claimed encounters than unclaimed encounters (Table 2). Of the more frequent morbidity groups, the proportion of unclaimed GP encounters was lowest (at 16.4%) where musculoskeletal problems were managed. Seven of the 10 most common health problems managed in the claimed GP encounters, were classified under the broader category of musculoskeletal health problems. While back complaints was the most common problem managed for injured workers with both claimed and unclaimed health problems, the rate per 100 encounters was substantially lower during GP encounters not claimed through workers' compensation (at 12.8 vs. 17.5) (Table 3).

2. *Psychological problems*

Work related psychological problems were almost three times more likely to be managed in the unclaimed GP encounters than in claimed encounters. There were almost equal numbers of psychological problems managed in the unclaimed encounters (43.4%) as in the larger group of claimed encounters. Among those encounters not claimed through workers' compensation, the psychological problems of acute stress, depression and anxiety were the second, third and sixth most commonly managed problems, respectively. In contrast, at claimed GP encounters depression was the only psychological problem to appear in the 10 work-related problems managed. Even so, the management rate of depression was significantly higher at unclaimed GP encounters (6.4 vs. 3.7 per 100 encounters).

3. *Respiratory problems*

Nearly two-thirds of work-related respiratory problems were not claimed through workers' compensation (Table 2), reflecting the fact that respiratory problems were managed nearly seven times more often at the unclaimed encounters than in the claimed encounters. These differences were significant.

D. *Most common work-related problems*

The 10 most commonly managed work-related problems at claimed and unclaimed GP encounters are shown in Table 3. Back complaints were managed most often in both groups, but were significantly more often managed at claimed encounters, as were sprains/strains, non-specific musculoskeletal injury, skin injury and fracture; all of which occurred in the top 10 most common injures for both groups. In contrast, depression was managed significantly less often during encounters claimed through workers' compensation. Further, acute stress reaction and anxiety appeared in the top ten problems managed in unclaimed encounters but not in the top 10 problems managed at claimed encounters.

E. *Workers' compensation coverage by State, Territory and geographic region*

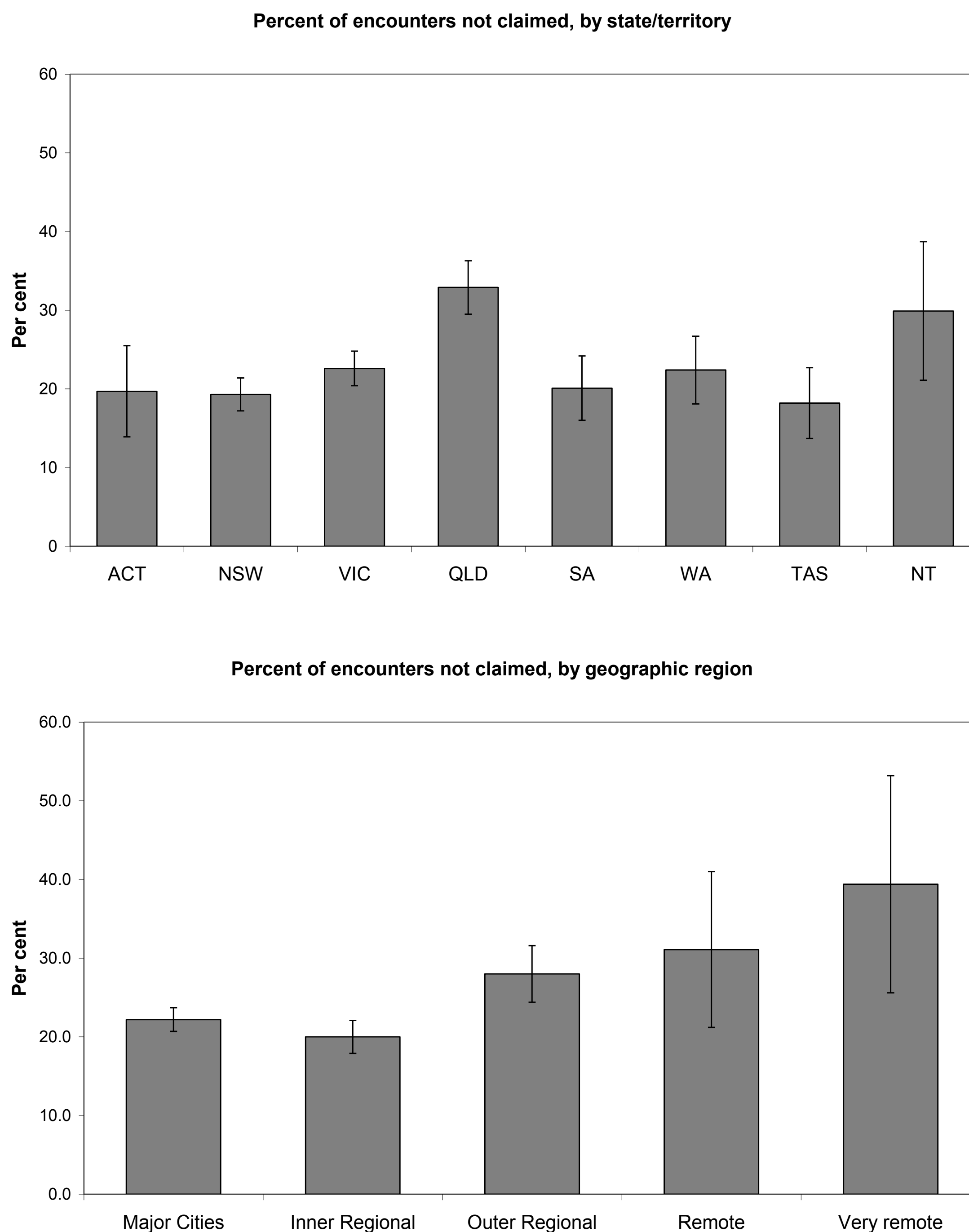
The percentage (and 95% confidence intervals) of unclaimed work-related GP encounters by State, Territory and geographic region is displayed in Figure 1. Queensland and the Northern Territory had the highest proportion unclaimed encounters, at 33% and 30%, respectively. The rate of unclaimed encounters in Queensland was significantly greater than that observed in all

other states and territories, with the exception of the Northern Territory. While the Northern Territory rate of unclaimed encounters was high, wide confidence intervals generated by the small sample size rendered the difference not statistically significant.

States with the highest coverage of claimed GP encounters were Tasmania (18% not claimed), New South Wales (19%) with the remaining states ranging between 20% and 23% unclaimed work-related GP encounters.

Work-related GP encounters occurring in major cities and inner regional areas were significantly more likely to be claimed through workers' compensation than those in outer regional and very remote regions. Thirty-nine per cent of GP encounters in very remote regions were not claimed through workers' compensation, compared with 23% in major cities and 20% in inner regional areas.

Figure 1. Percentage (95% CIs) of GP encounters not claimed on workers' compensation by state or territory (Figure 1A) and geographical region (Figure 1b).



IV. DISCUSSION

A substantial proportion (22.6%) of work-related health problems managed by GPs is not claimed through workers' compensation, and thus would not appear on workers' compensation datasets. This is highly consistent with an earlier report of Australian GP data using the BEACH dataset, where 23% of work-related problems were not claimed through workers' compensation;[15] and with prior investigations of hospitalised work-related injury that identified significant discrepancies between workers' compensation and hospital separation data.[16] Similarly, only 57% of work-related fatalities were included in workers' compensation datasets.[17] Self-report data, collected via the Australian Bureau of Statistics (ABS) work-related injuries survey (WRIS)[18] showed that 62% of surveyed Australians with work-related injury did not apply for workers' compensation, and that this rate was higher among women (67%) than among men (59%).

Work-related encounters not claimed through workers' compensation may be less severe than problems managed at claimed encounters, and thus less likely to meet the regulatory severity thresholds for claim acceptance applied in most workers' compensation jurisdictions; e.g., minimum time away from work, minimum medical expense. This is supported by data from the WRIS, in which 'minor injury only/not considered necessary to claim' was given as the reason for not applying for workers' compensation by 54% of employees with work-related injuries.[19] However, the current findings suggest that the differences between claimed and unclaimed encounters may also relate to the *type* of problem managed, in addition to severity. Specifically, GP encounters claimed through workers' compensation are more likely to involve physically evident conditions such as musculoskeletal injury, and less likely to involve non-physical conditions such as psychological and social problems, than unclaimed encounters.

There are a number of reasons why those with work-related conditions may not apply for workers' compensation.[20] Workers may be *less willing* to claim benefits for psychological and social conditions than for physical conditions; for example, due to the greater potential for a negative reaction in the workplace. Workers and treating medical practitioners may also be *less aware* of their ability to claim workers' compensation benefits for psychological and social conditions than for physical conditions such as back injury. The worker or their treating GP may consider the worker to be ineligible for workers' compensation. Finally, workers may be *less able* to claim benefits for psychological and social conditions than for physical conditions, as some Australian jurisdictions exclude or limit the availability of workers' compensation benefits for psychological injury.[21] For example, a worker experiencing depression may continue to work with that condition and thus not meet the regulatory criteria for acceptance of a workers' compensation claim. It may also be more difficult to demonstrate that work is the cause of a psychological or social condition than it is of a physical condition.

These explanations are supported by data from the 2005-06 WRIS, where nine per cent of those surveyed failed to apply for workers' compensation because they did not think they were eligible;[22] while a further eight per cent listed a potential negative impact on current or future employment as the reason for not applying. Among those whose injuries resulted in time off work, these figures were greater at 18% and 11%, respectively. Finally, five per cent reported that they were not covered by or were not aware of workers' compensation.[23] Other studies have identified certain cohorts of workers who are less likely to apply for workers' compensation, including small business owners, contractors and sub-contractors, self-employed, temporary and casual workers; i.e., the precariously employed.[24,25]

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[15] Janice Charles, Ying Pan and Helena Britt, above n 10, 938, 938.
[16] Helena Britt et al, above n 11.
[17] T Driscoll et al, above n 7, 199.
[18] Australian Bureau of Statistics, *Work-Related Injuries, Australia 2005-06* (2006).
[19] Ibid, 8
[20] Australian Bureau of Statistics, above n 18.
[21] *Comparative Performance Monitoring Report*, above n 4.
[22] Safe Work Australia, *Work-Related Injuries in Australia, 2005-06: Factors Affecting Applications for Workers' Compensation* (2009).
[23] Ibid.
[24] Claire Mayhew and Michael Quinlan, 'The Effects of Changing Patterns of Employment on Reporting Occupational Injuries and Making Worker' [sic] Compensation Claims' (2001) 5 *Safety Science Monitor* 1.

Workers' compensation schemes are complex systems and eligibility for workers' compensation entitlements varies substantially between jurisdictions.[26] Regional differences may also be due to differences in the working population and employment arrangements between States and geographic regions, which may influence the types of problems encountered. For example, in 2005-06 the rate of injuries in the Australian agriculture, forestry and fishing industries (109 per 1000 workers), which are concentrated in regional and rural areas, was 60% higher than the rate for all Australian workers.[27] This is reflected in the current data where significant differences between States and geographic regions were observed, with regard to the proportion of unclaimed GP encounters. A limitation of this study is the reliance on the GP's perception of whether or not a problem is work-related, dependent on the patient's ability or preparedness to communicate it as work-related. Also, there may be cases where patients with work-related problems sought treatment at emergency departments during hours when their GP was not available and these would not be included in this analysis.

Workers' compensation systems are designed to provide income replacement, health and vocational rehabilitation services to enable workers to recover from work-related injury or illness, and to provide an economic 'safety net' during the recovery period. Failure to apply for workers' compensation limits the worker's access to income benefits, health and vocational rehabilitation services. This may lead to longer periods of absenteeism or reduced productivity, which in turn may impact on the long-term health and wellbeing of the worker. It is now known that being out of work can be harmful for health.[28,29] For example, unemployment can lead to higher risk of premature death and heighten the risk of complex chronic co-morbidities.[30] Similarly, prolonged periods of time away from work can lead to or exacerbate mental health problems secondary to physical injury,[31] social isolation, loss of income and increase the burden on healthcare and workers' compensation systems.[32] Appropriate supports provided via the workers' compensation may improve return to work and subsequent health outcomes for the injured workers. Conversely, those failing to claim workers' compensation may be at a disadvantage in terms of their health, economic and social recovery from the work-related injury or condition.

V. CONCLUSIONS

This is one of the first investigations into the nature of GP treated occupational health problems that are claimed and not claimed through workers' compensation. The findings suggest that there is a different mix of health problems managed in claimed and unclaimed GP encounters, and that unclaimed encounters are more likely to involve psychological and social problems than physical problems such as musculoskeletal injury. Thus it seems that the decision to make a workers' compensation claim for a work-related condition may be influenced by a range of factors including the nature of the condition as well as its severity, jurisdictional eligibility and the worker and/or GP's awareness of entitlements.

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[25] Michael Quinlan and Claire Mayhew, 'Precarious Employment and Workers' Compensation' (1999) 22 *International Journal of Law and Psychiatry* 491.

[26] *Comparative Performance Monitoring Report*, above n 4.

[27] Safe Work Australia, *Work-Related injuries in Australia, 2005-06: Agriculture, Forestry and Fishing Industry* (2009), vii.

[28] Gordon Waddell and A Kim Burton, above n 2.

[29] Carol Black, *Working for a Healthier Tomorrow: Review of the Health of Britain's Working Age Population* (Stationery Office, 2008).

[30] Richard Wilkinson and Michael Marmot (eds), above n 1.

[31] Ute Bültmann et al, 'Health Status, Work Limitations, and Return-to-Work Trajectories in Injured Workers with Musculoskeletal Disorders' (2007) 16 *Quality of Life Research* 1167.

[32] Richard Wilkinson and Michael Marmot (eds), above n 1.

AUTHOR CONTRIBUTIONS

Alex Collie conceived the study and drafted the manuscript. Ying Pan conducted the data analysis. Joan Henderson and Helena Britt contributed to data analysis and manuscript preparation. All authors reviewed and approved the final manuscript.