

Second WCB Claims: Who Is At Risk?

Nicola M. Cherry, MD, PhD, Fortune Sithole, PhD, Jeremy R. Beach, MD, Igor Burstyn, PhD

ABSTRACT

Objectives: Many workers with one Workers' Compensation Board (WCB) claim make further claims. If the characteristics of the job, initial injury or worker were predictive of an early second claim, interventions at the time of return to work after the first claim might be effective in reducing the burden of work-related injury. This report explores the characteristic of those who make a second claim.

Methods: Records of all Alberta WCB claims from January 1, 1995, to December 31, 2004, for individuals 18 to <66 years old were reviewed. For each individual's first claim, sex and age of claimant, type of injury, type of accident, occupation, industry, an indicator of company size, and industry claim rate were extracted, as well as the date of any second claim. The likelihood of second claim and mean time to second claim were estimated. Multivariate analyses were performed using Cox regression.

Results: 1,047,828 claims were identified from 490,230 individuals. Of these, 49.2% had at least two claims. In the multivariate model a reduced time to second claim was associated with male sex, younger age and some types of injury and accident. Machining trades were at highest risk of early second claim (hazard ratio [HR] 2.54 compared with administration), and of the industry sectors manufacturing was at highest risk (HR 1.37 compared with business, personal and professional services).

Conclusion: Some caution is needed in interpreting these data as they may be affected by under-reporting and job changes between claims. Nonetheless, they suggest that there remains room for interventions to reduce the considerable differences in risk of a second claim among workers, jobs and industries.

Key words: Work-related; occupational; WCB claim; risk factor

La traduction du résumé se trouve à la fin de l'article.

Can J Public Health 2010;101(Suppl.1):S53-S57.

Canadian Workers' Compensation Boards (WCBs) regularly publish analyses of the characteristics of accepted claims, allowing comparisons among Boards, but analyses by worker characteristics, though published for some Boards,¹⁻³ are less standardized. From such analyses we know, for example, that men have a higher rate of claims than women, younger workers than those over 45 years, workers recently hired than those with longer tenure, and those in lower rather than higher paid jobs. The present analysis arose from our observation that many workers with one WCB claim had a further claim during the following months or years. If the characteristics of the job, initial injury and worker were to be predictive of an early second claim, interventions at the time of return to work after the first injury might be effective at reducing the overall burden of work-related injury.

Although factors associated with clustering of injuries within workers have been studied for many years (the seminal study having been published in 1919⁴) most reports have considered workers in single occupations or with one employer. Very few have used WCB records as a source of information. In Canada, musculoskeletal disorders have been examined using records from Ontario's Workplace Safety and Insurance Board to identify a cohort of 632 workers with musculoskeletal claims and to examine recurrence of work absence within 6 months of the initial claim.⁵ In Alberta, Gross and Battié⁶ used WCB data to examine recurrence within one year in 465 claimants after discharge from rehabilitation for compensated low back pain. Here, recurrence included re-opening of the initial claim file, filing of a new claim or re-starting of benefits. Lipscomb et al.⁷ also studied recurrence of back injuries, specifically among carpenters in the State of Washington, using data from the state-run worker's compensation program. No strong predictor

of recurrence was found in the 2,886 claimants in the risk pool for a second event, supporting the need for primary prevention through engineering solutions. The present report uses information, held by Alberta WCB, to determine the characteristics of second claims using an approach similar to that used by Lipscomb and colleagues but not limited to a single trade or type of injury.

METHODS

This study was reviewed and approved by the University of Alberta Health Research Ethics Board.

Data collection and coding

Records of all Alberta WCB claims ($N=1,320,792$) from January 1, 1995, to December 31, 2004, in men and women aged 18 to <66 years were made available. Each record was for a different claim and was identified by a reference number along with, for 86% of claims ($N=1,138,991$), the Personal Health Number (PHN), unique to each Alberta resident. It was noted that, for a proportion of claims, more than one record existed for the same subject on the same day. These duplicates were systematically examined and

Author Affiliations

Community and Occupational Medicine Program, University of Alberta, Edmonton, AB

Correspondence and reprint requests: Dr. Nicola Cherry, University of Alberta, 5-30 University Terrace, 8303-122 St., Edmonton, AB T6G 1K4, Tel: 780-492-1366, E-mail: Nicola.Cherry@ualberta.ca

Acknowledgements: This study is based on data supplied by the Alberta Workers' Compensation Board (WCB). The interpretation and conclusions contained herein are those of the researchers and do not necessarily represent the views of the Alberta WCB. The authors are grateful to the Alberta WCB for providing the data used in preparing this manuscript, and Alberta Health and Wellness for its help with verifying some of the data. Igor Burstyn received salary support from the Alberta Heritage Foundation for Medical Research as a Population Health Investigator.

Conflict of Interest: None to declare.

Table 1. Relation of Sex and Age to Second WCB Claim, Time to Second Claim (days) and Estimated Hazard Ratio (HR) from Cox Regression

	Number of First Claims	Second Claim		Time to Second Claim, N=241,361		Cox Regression, N=163,981*	
		N	%	Mean	SD	HR	95% CI†
Men							
18-24	93,407	53,921	57.7	656	637		
25-34	95,272	55,773	58.5	752	699		
35-44	85,349	46,175	54.1	795	709		
45-54	48,893	22,920	46.9	800	702		
55-65	21,209	7177	33.8	679	610		
Total	344,130	185,966	54.0	738	683	1.40	1.37-1.43
Women							
18-24	31,616	11,121	35.2	671	663		
25-34	35,277	13,976	39.6	775	723		
35-44	40,704	17,043	41.9	806	718		
45-54	28,685	10,581	36.9	804	700		
55-65	9818	2674	27.2	652	576		
Total	14,610	55,395	37.9	763	701	1	
Both							
18-24	125,023	65,042	52.0	658	639	1.64	1.58-1.70
25-34	130,549	69,749	53.4	757	704	1.53	1.48-1.59
35-44	126,053	63,218	50.2	798	711	1.44	1.39-1.49
45-54	77,578	33,501	43.2	802	702	1.31	1.26-1.36
55-65	31,027	9851	31.7	672	601	1	
Total	490,230	241,361	49.2	744	687		

* Adjusted for injury type, accident type, occupation and industry (see Tables 2-5).
 † CI=confidence intervals.

10,725 eliminated, as has been described in an earlier report.⁸ The final dataset contained only one record for any WCB claim on a given date. Finally, the records were linked with Alberta Health and Wellness administrative databases, which allowed confirmation of residence within the province. During this process, the PHN provided by the WCB was verified (using sex, month and year of birth), and 80,438 records with an invalid PHN were discarded, leaving a total of 1,047,828 claims for analysis.

Information on the nature of the incident that triggered the first claim and the resulting injury was included in the WCB dataset as a text file, using standard phrases that could be regrouped to the accident type (eight codes) and injury type (12 codes) used in WCB publications. A 4-digit occupational code had been supplied by the WCB for the work done at the time of the event that triggered the first claim (the injury or the onset of symptoms for a chronic condition). The code was a WCB adaption of the 1980 Standard Occupational Classification⁹ and was recoded for this analysis to occupational order (23 groups). Industry was coded for the analysis to the 2-digit industry sector code developed by the WCB (9 groups). If industry was known, additional information was supplied for all years except 1999. This included a proxy for the size of the company (indicated by the “worker insurable earnings”) and an indication of the degree of hazard in that industry (“industry claim rate”).¹⁰ Thus, for each subject with one or more WCB claims in Alberta between 1995 and 2004, we had information on the first claim that included sex and age, type of injury, type of accident, occupation, industry and, except for claims in 1999, some indication of company size and the hazard associated with being employed in that industry. These data were also known for any subsequent claim, but for this analysis only the date of any second claim was extracted: the outcome of interest was whether or not there had been a second claim and, if so, the period (in days) between the two claims.

Statistical methods

Following tabulation of each factor by the presence or not of a repeat claim and the time to a second claim if one occurred, a survival analysis, using a Cox proportional-hazards model, was carried out to

estimate the effect of the various factors on time to the next claim, with censoring at the earlier of either December 31, 2004, or the 66th birthday. For the types of injury and accident associated with the first claim, the hazard ratio was calculated relative to the most frequently reported response. All analyses were performed in SPSS 14.0.

RESULTS

Of the 1,047,828 non-duplicate claims with a valid PHN there were only 490,230 individual claimants. Of these, 241,361 (49.2%) had at least one further claim, many with multiple claims and a maximum of 45 separate claims during the 10 years under review. Those with the first claim near the start of the 1995-2004 period were at risk for longer than those who entered the cohort later and, as expected, were more likely to have a second claim; two-thirds (67.6%) of those whose first claim was in 1995 had recorded a second claim by December 2004. Age and sex were also associated with having a second claim. In each age group, women were less likely than men to make such a second WCB claim (Table 1, section 1). Among men, those under 35 years of age were most at risk of a second claim, but for women this risk increased in the 35-44 years age group. The rates among both men and women in the oldest group will be biased in this cross-tabulation, which does not allow for the shorter risk period of those who reached 66 years before December 2004.

Information on the type of injury was present for 94.7% of the first claims; second claims were most frequent in those whose previous claim was for a surface wound or bruise and least likely in those for whom the first claim was a neoplasm (Table 2, section 1). Information on the type of accident was present for 70.0% of claims. Second claims were most frequent in those whose initial claim had been attributed to “contact with objects or equipment” and least frequent for transportation accidents and other events/exposures (Table 3, section 1).

A description of the occupation was available for 342,370 (69.8%) of first claims, and of industry sector for 236,215 (48.2%). The chance of a second claim varied quite markedly with occupation, the highest rates occurring in fishing/trapping (75% based on eight first claims, all male), machining trades (67.5%), food processing

Table 2. Relation of Injury Type to Second WCB Claim, Time to Second Claim (days) and Estimated Hazard Ratio (HR) from Cox Regression

	Number of First Claims	Second Claim		Time to Second Claim, N=241,361		Cox Regression, N=163,981*	
		N	%	Mean	SD	HR	95% CI†
Unknown	25,830	12,544	48.6	763	713		
Sprains/strains/tears	160,431	79,585	49.6	745	682	1	
Surface wounds	85,008	47,176	55.5	703	674	1.06	1.03-1.09
Fractures/dislocations	28,714	12,511	43.6	847	714	0.73	0.71-0.75
Open wounds	96,249	46,929	48.8	747	689	0.84	0.82-0.87
Burns	17,459	8492	48.6	749	699	0.88	0.82-0.94
Traumatic injuries	37,177	16,508	44.4	702	652	0.92	0.89-0.95
Systemic diseases	30,856	13,527	43.8	782	711	0.85	0.82-0.87
Infectious parasitic	387	164	42.4	781	742	0.82	0.63-1.08
Neoplasms, tumours	109	8	7.3	905	571	0.06	0.01-0.41
Symptoms, signs, ill-defined conditions	2046	859	42.0	661	630	0.93	0.81-1.08
Multiple diseases	924	461	49.9	890	727	0.81	0.71-0.94
Other diseases/conditions	5040	2597	51.5	845	759	1.03	0.96-1.10
Total	490,230	241,361	49.2	744	687		

* Adjusted for sex, age, accident type, occupation and industry (see Tables 1, 3-5).

† CI=confidence intervals.

Table 3. Relation of Accident Type to Second WCB Claim, Time to Second Claim (days) and Estimated Hazard Ratio (HR) from Cox Regression

	Number of First Claims	Second Claim		Time to Second Claim, N=241,361		Cox Regression, N=163,981*	
		N	%	Mean	SD	HR	95% CI†
Unknown	146,960	66,841	45.5	744	636		
Contact w/objects or equipment	125,646	69,801	55.6	754	702	1	
Bodily reaction/exertion	121,188	60,574	50.0	766	701	0.94	0.91-0.96
Falls	50,171	23,326	46.5	811	711	0.88	0.86-0.91
Exposure to harmful substances	24,745	11,978	48.4	776	724	0.95	0.90-1.00
Transportation accidents	15,290	5925	38.8	827	697	0.71	0.68-0.74
Assaults/violent acts	5674	2688	47.4	731	690	1.01	0.95-1.08
Fires/explosions	547	225	41.1	840	677	0.66	0.55-0.81
Other events/exposures	9	3	33.3	227	140	1.37	0.34-5.50
Total	490,230	214,361	49.2	676	687		

* Adjusted for sex, age, accident type, occupation and industry (see Tables 1, 2, 4, 5).

† CI=confidence intervals.

(60.0%) and chemical processing (59.2%) (Table 4, section 1). Occupations with the highest rates of second claims were very similar for men and women. For men the four occupations with the highest rates were as in Table 4. Among women the highest rates were in machining and food processing, but the small group of women in mining had a higher rate than those in chemical processing. Differences among industry sectors were less marked than by occupation: those with above average rates were manufacturing, processing and packing (57.6%), transportation, communication and utilities (50.9%), and construction (50.8%) (Table 5). Among both men and women the highest rate of second claims was in manufacturing, but for women the next highest rate was in agriculture and for men in wholesale/retail.

The analysis of second claims was taken further by considering the time to the second claim. On average, the second claim occurred slightly more than 2 years after the first (744 days; interquartile range 216-1,074). The mean time varied with each of the factors considered in Tables 1-5; the time between first and second claim is shown in the second section of each of these tables. Men with a second claim had an interval between claims that was, on average, 25 days shorter than that for women. The youngest group of workers, those aged 18-24 years, had the shortest time to the second claim (658 days), but they were followed closely by those aged 55 years or more (672 days), whose time to a second claim was 130 days shorter than that for the group aged 45-54 years. In each age group, except those aged 55 years or greater, men had a shorter interval between the first two claims than women. In these oldest

workers, women had a repeat claim time of 652 days, shorter than for men of the same age and indeed shorter than the time for women aged 18-24 years (671 days).

Time to a second claim was also associated with the type of injury and accident at the first claim. The shortest times were for surface wounds and other traumatic injuries (702 days) and for injuries that resulted from assaults and violent acts (731 days). People working as food processors, in machining trades and in materials handling all had mean repeat times of less than 700 days, mirrored in the short time by those in the manufacturing industry sector (672 days).

These factors were then considered together in a multivariate model in which the time to a second claim (if any) was the outcome variable. The survival analysis served to combine the data shown in sections 1 and 2 of Tables 1-5, those not having a second claim within the period of observation also contributing to the model up to the date of censoring. The analysis only included individuals with data on the four main factors (injury type, accident type, occupation and industry) that were present for 163,981 (33.5%) of the first claims.

The results of the Cox regression are shown in sections 3 of Tables 1-5. They give reassurance that the earlier results were not substantially confounded. Men remained at higher risk in the multivariate model; a steadily decreasing risk with age now became apparent. For type of injury, in comparison with sprains, strains and tears, only surface wounds and bruises had a significantly shorter time to the second claim. For type of accident, in comparison with "contact with objects or equipment" none had a more

Table 4. Relation of Occupation to Second WCB Claim, Time to Second Claim (days) and Estimated Hazard Ratio (HR) from Cox Regression

Major Group	Number of First Claims	Second Claim		Time to Second Claim, N=241,361		Cox Regression, N=163,981*	
		N	%	Mean	SD	HR	95% CI†
Unknown	147,860	74,109	50.1	751	690		
Managers	5778	1235	21.4	770	701	1	
Natural science	4164	1408	33.8	811	729	1.21	1.08-1.36
Social sciences	3625	1288	35.5	716	699	1.77	1.58-1.99
Religion	34	10	29.4	834	703	1.81	0.68-4.85
Teaching	2327	448	19.3	739	708	1.20	1.03-1.40
Medicine/health	18,739	8096	43.2	822	726	2.15	1.95-2.36
Artistic, literary	2004	679	33.9	821	760	1.47	1.27-1.69
Clerical	28,236	11,605	41.1	761	694	1.60	1.46-1.75
Sales	19,190	7249	37.8	774	697	1.49	1.35-1.63
Services	54,840	24,842	45.3	781	705	2.11	1.93-2.30
Farming	4235	1874	44.3	785	701	1.73	1.55-1.94
Fishing/trapping	8	6	75.0	1507	1226	1.97	0.49-7.91
Forestry/logging	1391	708	50.9	869	725	1.67	1.46-1.92
Mining	9839	5450	55.4	774	700	2.07	1.87-2.30
Processing	2331	1381	59.2	720	699	2.07	1.85-2.33
Food/beverage	13,724	8228	60.0	642	652	2.50	2.28-2.75
Machining	19,210	12,971	67.5	664	647	2.54	2.32-2.79
Product fabrication	29,458	16,834	57.1	744	680	2.06	1.88-2.26
Construction	41,997	22,475	53.5	753	680	1.96	1.79-2.15
Transport equipment	27,985	14,623	52.3	787	706	1.98	1.81-2.17
Material handling	20,686	11,490	55.5	690	671	2.14	1.95-2.34
Crafts/equipment operation	2896	1122	38.7	764	703	1.50	1.33-1.70
Occupations not elsewhere classified	29,673	13,230	44.6	644	629	2.04	1.86-2.23
Total	490,230	241,361	49.2	744	687		

* Adjusted for sex, age, accident type, occupation and industry (see Tables 1-3, 5).

† CI=confidence intervals.

rapid second claim: the hazard ratio for assaults/violent acts was very similar to that for “contact”, with fewer second claims but a shorter time between claims. When compared with work in administration, all other occupations were at increased risk of early second claims, and the highest risk (a hazard ratio of 2.54) was seen in machining trades. Among industry sectors, those in manufacturing were at the highest risk (1.37), when compared with business, personal and professional services.

The final stage of the analysis was to examine whether two features of the employer, a proxy for sample size and the industry claim record, would materially change the pattern observed (Tables 1-5). These data were not available for 1999, and the analysis was based on the remaining 146,855 records. There was a significant tendency for a somewhat greater hazard ratio in those employed by large employers and a larger effect of the industry’s claim rate, workers employed in sectors with high rates (determined by 4-digit industry codes) being at higher risk (data not shown). Allowance for these potentially important confounders did not, however, change the earlier pattern of findings by age, sex, injury, accident, occupation or industry (data not shown).

DISCUSSION

Analysis of people with more than one WCB claim in Alberta within the 10-year window (1995-2004) identified a substantial proportion of second – and indeed multiple – claims. Careful inspection of the data and discussion with the Alberta WCB confirmed that these were indeed new incidents rather than a re-opening of the file for a further payment or intervention. Although in this study we cannot investigate the factors associated with a first claim (we do not have the denominators) the factors associated with a second claim appear similar to those shown, in reports from the WCBs, to be associated with all claims. They were more likely to occur in men, in younger workers and in occupations involving manual work. Second claims tended to be more frequent when the first accident was of a com-

mon type (being struck by an object, for example, or from a bodily reaction/exertion) consistent with hazards intrinsic to the job. The similarity between the occupations at high risk for men and women also supports the conclusion that the job itself, and not simply worker characteristics, played an important role in predicting risk. The type of injury associated with second claims less clearly mirrored the frequency in first claims: these were most commonly sprains, strains and tears, but second claims were more likely in those whose first claim had been for a surface wound.

The restriction of this analysis to those with a valid PHN and, for the Cox regression, to those with complete data is a limitation of the study. It introduces a potential for bias and reduces the extent to which the results can be extended to all WCB claimants in Alberta. The more serious, lost time, claims (28.4% of all claims in Alberta in 1999, the mid-point of our data) are probably more likely than claims not involving payments to have had information on all factors needed for the Cox regression. As such it is reassuring that the pattern of risk within factors is not different for this subset of claimants. It is not known whether patterns of second claims vary appreciably in different jurisdictions or how far the results reported here may apply elsewhere. Under-reporting of incidents is believed to be very considerable for WCBs across North America¹¹⁻¹⁴ and may act as a considerable limitation in establishing the importance of factors associated with claims or the effectiveness of interventions.

Further studies of second claims would be strengthened if ways could be found to minimize (or quantify the effects of) under-reporting and to ensure that computerized records of claims are complete. These studies would exclude from the “at risk” cohort those who did not return to work after their first injury.⁷ They should also aim to include information on remedial factors, such as workers’ training, and the safety culture and re-integration practices of the employer. Further, it would be important to record whether the company’s health and safety specialists, government health and safety inspectors or private consultants had intervened

Table 5. Relation of Industry Sector to Second WCB Claim, Time to Second Claim (days) and Estimated Hazard Ratio (HR) from Cox Regression

	Number of First Claims	Second Claim		Time to Second Claim, N=241,361		Cox Regression, N=163,981*	
		N	%	Mean	SD	HR	95% CI†
Unknown	254,015	12,6097	49.6	738	683		
Agriculture/forestry	2540	1187	46.7	844	742	1.09	1.02-1.20
Mining/petroleum	12,175	5759	47.3	772	694	1.10	1.04-1.17
Manufacturing/processing	45,592	26,278	57.6	672	662	1.37	1.32-1.41
Construction	38,545	19,586	50.8	747	673	1.20	1.16-1.25
Transportation	23,014	11,719	50.9	759	693	1.25	1.20-1.30
Wholesale/retail	43,281	20,517	47.4	741	692	1.25	1.20-1.29
Municipal government/education/ health services	38,527	17,252	44.8	817	715	1.23	1.19-1.27
Provincial government	4898	1838	37.5	870	760	0.99	0.93-1.06
Business, personal/professional services	27,643	11,128	40.3	798	718	1	
Total	490,230	241,361	49.2	744	687		

* Adjusted for sex, age, accident type, occupation and industry (see Tables 1-4).
† CI=confidence intervals.

at the workplace after the initial claim and whether the worker changed tasks, jobs or employer between claims. A weakness of the current study is that we do not know whether the second claim took place with the same employer as the first.

The analyses included here suggest that there is still room for interventions to reduce the considerable differences between workers, jobs and industries in which claims occur. The initial claim should, and often may, trigger investigation and remediation of unsafe work practices and an assessment of ways in which an individual worker may benefit from training or workplace redesign suited to their needs. Although in no way do we advocate a return to the concept of "accident proneness", discredited for many years in the prevention of occupational injury¹⁵ (but still not entirely quiescent¹⁶), interventions at the point of the first claim may reduce recurrences and thus the overall injury burden of the working population, in addition to keeping premiums low for responsible employers.

REFERENCES

1. Alberta Employment and Immigration. Occupational Injuries and Diseases in Alberta. Lost-time Claims, Disabling Injury Claims and Claim Rates. Edmonton: Government of Alberta, 2008. Available at: http://employment.alberta.ca/documents/WHS/WHS-PUB-oid_2007.pdf (Accessed February 2, 2009).
2. WorkSafe BC Statistical Services. Statistics 2007. Richmond: WorkSafe BC, 2008. Available at: http://www.worksafebc.com/publications/reports/statistics_reports/assets/pdf/stats2007.pdf (Accessed February 2, 2009).
3. Workplace Safety and Insurance Board of Ontario. Statistical Supplement to the 2007 Annual Report. Toronto: Workplace Safety and Insurance Board, 2009. Available at: [http://www.wsib.on.ca/wsib/wsbobj.nsf/LookupFiles/DownloadableFileStatisticalSupplement07/\\$File/2278A.pdf](http://www.wsib.on.ca/wsib/wsbobj.nsf/LookupFiles/DownloadableFileStatisticalSupplement07/$File/2278A.pdf) (Accessed February 2, 2009).
4. Greenwood M, Woods HM. The Incidence of Industrial Accidents Upon Individuals with Special Reference to Multiple Accidents. London: Industrial Fatigue Research Board. Report no. 4, 1919.
5. Bültmann U, Franche R-L, Hogg-Johnson S, Côté P, Lee H, Severin C, et al. Health status, work limitations, and return-to-work trajectories in injured workers with musculoskeletal disorders. *Qual Life Res* 2007;16:1167-78.
6. Gross DP, Battisti MC. Recovery and recurrence following multidisciplinary rehabilitation in patients with compensated low back pain. *Spine* 2005;30:235-40.
7. Lipscomb HL, Cameron W, Silverstein B. Incident and recurrent work injuries among union carpenters. *Occup Environ Med* 2008;65:827-34.
8. Cherry N, Beach J, Burstyn I, Fan X, Guo N, Kapur N, et al. Data-linkage to estimate the extent and distribution of occupational disease: New onset adult asthma in Alberta, Canada. *Am J Ind Med* 2009;52:831-40.
9. Statistics Canada. Standard Occupational Classification 1980. Ottawa: Minister of Supply and Services Canada, 1981.
10. Alberta Workers' Compensation Board. WCB - Alberta 2007 Premium Rates. Edmonton: Workers' Compensation Board - Alberta, 2006.
11. Biddle J, Roberts K, Rosenmann K, Welch EM. What percentage of workers with work-related illnesses receive Workers' Compensation benefits? *J Occup Environ Med* 1998;40:325-31.
12. Rosenmann KD, Gardiner JC, Wang J, Biddle J, Hogan A, Reilly MJ, et al. Why most workers with occupational repetitive trauma do not file for Workers' Compensation. *J Occup Environ Med* 2000;42:25-34.

13. Shannon HS, Lowe GS. How many injured workers do not file claims for Workers' Compensation benefits? *Am J Ind Med* 2002;42:467-73.
14. Thompson A. The consequences of underreporting of workers' compensation claims. *Can Med Assoc J* 2007;176:342-44.
15. Froggatt P, Smiley JA. The concept of accident proneness: A review. *Br J Ind Med* 1964;21:1-12.
16. Visser E, Pijl YJ, Stolk RP, Neeleman J, Rosmalen JGM. Accident proneness, does it exist? A review and meta-analysis. *Accid Anal Prev* 2007;39:556-64.

RÉSUMÉ

Objectifs : De nombreux travailleurs qui présentent une demande d'indemnisation à la Commission des accidents du travail (CAT) en présentant d'autres par la suite. Si les caractéristiques de l'emploi, de la blessure initiale ou du travailleur permettaient de prédire la présentation précoce d'une deuxième demande, on pourrait peut-être réduire le fardeau des blessures professionnelles en intervenant lors du retour au travail après la première demande. Cet article analyse les caractéristiques des personnes qui font une deuxième demande d'indemnisation.

Méthode : Nous avons examiné les dossiers de toutes les demandes d'indemnisation présentées à la CAT de l'Alberta entre le 1^{er} janvier 1995 et le 31 décembre 2004 par des personnes de 18 à <66 ans. Pour la première demande de chaque personne, nous avons relevé le sexe et l'âge du demandeur, le type de blessure, le type d'accident, la profession, l'industrie, un indicateur de la taille de l'entreprise et le taux de demande dans l'industrie, ainsi que la date de la deuxième demande, le cas échéant. Nous avons estimé la probabilité d'une deuxième demande et le temps moyen écoulé entre la première et la deuxième. Des analyses multivariées ont été effectuées à l'aide du modèle de régression de Cox.

Résultats : Nous avons recensé 1 047 828 demandes d'indemnisation faites par 490 230 personnes. De ces demandeurs, 49,2 % ont présenté au moins deux demandes. Dans le modèle multivarié, une deuxième demande précoce était associée au sexe masculin, à un âge plus jeune et à certains types de blessures et d'accidents. Les métiers de l'usinage présentaient le risque le plus élevé d'une deuxième demande précoce (risque relatif ou ratio de danger - hasard ratio - [HR] de 2,54 comparé aux métiers de l'administration), et parmi les secteurs d'activité, le secteur manufacturier présentait le risque le plus élevé (HR de 1,37 comparé aux secteurs des entreprises, des services personnels et des services professionnels).

Conclusion : La prudence s'impose dans l'interprétation de ces données, car elles pourraient être affectées par une sous-déclaration et par les changements d'emplois d'une demande à l'autre. Néanmoins, elles suggèrent qu'il y a encore matière à intervenir pour réduire les écarts considérables entre les travailleurs, les emplois et les industries en ce qui concerne les risques d'une deuxième demande d'indemnisation.

Mots clés : travail; exposition professionnelle; demandes d'indemnisation des accidents du travail; facteurs de risque