

"Newness" and the risk of occupational injury

Research evidence has been emerging that the risk of occupational injury is elevated among workers who are new to their jobs and in firms that are newly established. Recent research at the Institute for Work & Health (IWH) reinforces concerns about "newness" and workplace injury. Several aspects of newness have been examined:

- young workers — new to the labour market;
- short-tenure workers — new to their jobs, regardless of age;
- recent immigrants — new to Canada; and
- new firms.

This Issue Briefing summarizes the key findings of this research. It also explores the implications of these findings for policy-makers in government and in organizations providing health and safety services to employers and workers.

1. Young workers — new to the labour market

Many studies have found that adolescent and young adult workers are more likely to be injured on the job than older adults. However, there has been some debate as to whether this higher risk of injury is because of factors directly related to age (such as immaturity, reluctance to ask questions of supervisors) or whether it is because young workers are more likely to be employed in riskier jobs (such as jobs that require heavy lifting).

A 2005 study by Curtis Breslin and Peter Smith of the IWH used data from the Canadian Community Health Survey to examine the relationship between age and the rate (per hour worked) of on-the-job injuries requiring medical attention, while controlling for type of occupation and the degree of physical exertion required by the job.

The results showed that **young male workers experienced a higher rate of injury, but that much of this elevated injury risk came from the fact that they were more likely than older men to be in high risk occupations** and/or in jobs involving a relatively high degree of physical effort. Adjusting for these job characteristics reduced the risk of injury among males aged 15-19 by 50 per cent compared with male workers aged 35 or older. For

KEY MESSAGES

New to labour market

Young men experience a higher rate of work-related injury than other workers, but much of this increased injury risk comes from the fact that they are more likely to be:

- new in their jobs;
- in high risk occupations; and/or
- in jobs involving a relatively high degree of physical effort.

New to job

Workers who have been on the job for less than a month have much higher injury rates than more experienced workers.

New to Canada

Recent immigrants are more likely than Canadian-born workers to be in physically demanding occupations. Those whose highest educational credential is from outside of Canada are more likely to be overqualified for their jobs.

New firms

New firms experience a higher rate of workers' compensation claims than other firms.

men aged 20-24, adjustment for job characteristics reduced the injury rate by 40 per cent. Although men aged 15-24 still displayed an elevated risk of injury after adjustment, it appears that job characteristics played a significant role in elevating the risk of injury among this age group.

Another factor (which could not be included in this study) that may help explain the higher injury rates for young workers is their relatively high concentration in small firms. These firms may have more limited knowledge/resources regarding occupational health and safety than larger firms.

Breslin and Smith also looked at how the type of work injury requiring medical attention varied by age group. For both male and female workers aged 15-19, 47 per cent of work injuries were in the category "cuts/punctures/scrapes/bruises/blisters," which represented just 24 per cent of injuries for those aged 35-plus. The work injuries of older adults, both men and women, were more heavily concentrated in the category of "dislocations/sprains and strains."

While Breslin and Smith explored the relationship between age and self-reported injury rates, another IWH paper (by

Breslin, Koehoorn, Smith, and Manno, 2003) used data on workers' compensation claims in Ontario between 1993 and 2000 to examine this relationship. Specifically, Breslin *et al.* looked at the incidence of short-term (under one year) claims involving wage replacement, using data on number of workers and work hours by age from the Labour Force Survey to calculate the denominators of the injury rate statistics. Their findings were similar to those just described: young adult males aged 20-24 had the highest injury rates, followed by adolescent and adult males. However, recent Ontario data show that, by 2007, lost-time claims for males were approximately the same for all age groups, although a gap remained for claims that did not involve time away from work, with higher rates for men aged 15-19 and 20-24.

2. Workers new to their jobs, regardless of age

We have seen that young male workers have higher injury rates than older men, even after taking into account differences in job characteristics. Is this because of factors associated with youth, such as immaturity, or because young workers are more likely than others to be new to their jobs and unfamiliar with the hazards associated with them? This question is at the heart of a more recent paper by Curtis Breslin and Peter Smith of the IWH (published in 2006).

In this study, Breslin and Smith looked at the effect of job tenure on injury claim rates, while controlling for age, gender, industrial sector (services or goods-oriented) and type of occupation (manual, non-manual or mixed). They used Ontario workers' compensation lost-time claims data for 2000, with data from the Labour Force Survey again used to determine denominators for the claim rates. To deal with the possibility that a previous injury in a different job might increase the chances of injury in a new job, Breslin and Smith focused on workers with a first workers' compensation claim.

The key finding of their study was that **workers on the job for less than a month had four times as many claims as those who held their current job for more than a year.** (Note: data compiled by Breslin and Smith show that this ratio has declined somewhat since the year 2000, but remained high in 2007: a relative claim rate of 3.14 for short-tenure workers.) When the analysis was broken down by gender, the effects of short tenure were greater for men than women: the claim rate for men in their first month on the job was five times that of men with more than a year's tenure; for women, the figure was 3.3 times — still a very large effect. Claim rates dropped sharply as new workers gained experience on the job: the claim rate for those in their second month was just over half the rate of those in their first month on the job (but still double that of workers with over a year's tenure).

Working in a manual occupation also had a large and significant effect on lost-time claim rates — more so than the effect of age. Breslin and Smith found that age still mattered even after adjusting for job tenure — teenagers and young adults had higher claim rates than others — but the impact of age was sharply reduced once the adjustment for job tenure was made.

Despite legal requirements in Canadian provinces for employers to provide health and safety training to their employees, it appears that most new workers do not receive such training. In a recent study using data from the Workplace and Employee Survey, Peter Smith and Cameron Mustard examined the prevalence of health and safety training reported by **workers in their first 12 months of employment. Over 75 per cent of these employees indicated that they had not received such training.** Moreover, there was no evidence of greater provision of health and safety training in higher risk (manual) occupations or to young workers.

3. Recent immigrants

Workers who are recent immigrants are doubly new: they are new to the country (and may face barriers to integration in the labour market arising from language issues, as well as from a lack of recognition of foreign credentials and work experience) and they are new to their jobs. There have been several recent studies by IWH researchers on issues related to the experience of immigrant workers in Canada regarding occupational health and safety.

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In their paper “The unequal distribution of occupational health and safety risks among immigrants to Canada compared to Canadian-born labour market participants, 1993 to 2005,” Peter Smith and Cameron Mustard used data from the Survey of Labour and Income Dynamics (SLID) to investigate the relationship between immigrant status and several variables that have been found in other research to be associated with increased risk of work-related injury. They focused on the prime working age population: people aged 25-64 who were employed for at least one week in the previous 12 months.

The key findings were as follows.

- Recent immigrants (up to 10 years in Canada) were more likely than Canadian-born workers to be in physically demanding occupations and in small workplaces (less than 20 employees).

- Workers with a non-English or non-French mother tongue or whose highest educational credential was not from Canada had a higher probability than other workers of being in a physically demanding job.
- Immigrants in their first five years in Canada were more likely to be in temporary jobs.

These findings all point to higher injury risks for immigrants, particularly recent immigrants and those whose mother tongue is not English or French. The language issue also heightens concerns about immigrants' knowledge of their rights, access to information on safe work practices in their mother tongue, and ability to refuse unsafe work.

There are several other recent IWH papers with important research findings regarding immigrants and occupational health and safety.

- In the paper “Comparing the risk of work-related injuries between immigrant and Canadian-born labour market participants,” Smith and Mustard, using data from the 2003 and 2005 Canadian Community Health Surveys, found that male immigrants in their first five years in Canada reported twice the rate of work-related injuries requiring medical attention compared to Canadian-born male workers.
- Another paper used SLID to explore underemployment — a situation in which current employment does not match expectations in relation to hours of work or the use of skills — among immigrants to Canada. Smith and Mustard found that recent immigrants whose highest educational credential was from outside of Canada were more likely to be overqualified for their jobs. Recent immigrants were also twice as likely to be working fewer hours than they would like, or fewer weeks per year than they would like. All these labour market conditions may result in a willingness to take on more risky tasks at work, increasing health and safety risks.
- Smith, Chen and Mustard, using data from the Longitudinal Survey of Immigrants to Canada, found that recent immigrants with poor language skills (self-assessed), with lower levels of education, and/or who arrived as refugees were more likely than other immigrants to be employed in occupations with greater physical demands than the jobs they held before coming to Canada. To the extent that lack of previous experience in a physically demanding job heightens the risks of injury associated with such jobs, these findings suggest that immigrants with poor language skills, relatively low education, and/or refugee status are particularly vulnerable to workplace conditions that might increase their risk of injury. Research currently underway at the Institute for Work & Health is exploring the difficulties faced by immigrant workers in Toronto after a work-related injury, such as barriers in reporting injuries and navigating the compensation system.

4. New firms

A recent study by Emile Tompa and Miao Fang of the IWH examined the effect of experience rating and several other variables on workers' compensation claim rates in Ontario (claims in a calendar year divided by the estimated number of full-time-equivalent workers).

Using data for individual firms participating in the experience rating program during 1998-2002, Tompa and Fang looked at factors explaining the total claim rate, the lost-time claim rate and no-lost-time claim rate. The explanatory factors included:

- whether or not the firm opened in the current or previous year;
- large changes in the firm's full-time equivalent (FTE) count compared to the previous year (specifically, growth of over 25 per cent, downsizing of over 25 per cent, and no FTEs previous year — the latter allowing for intermittent firms, namely those who had been established before the previous year, but had no FTEs that year);
- the group premium rate for the industry to which the firm belonged, as an indication of the risk of injury associated with the industry; and
- the experience rating factor of the firm (firms with lower than expected claim costs for their industry receive a rebate, while those with higher than expected claims pay a surcharge).

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The study's findings regarding new firms reinforced concerns about “newness” and the risk of occupational injury: new firms opening in the previous or current year had a 25 per cent higher total claim rate than other firms, after adjusting for the impact of the other explanatory variables. In addition, firms that had experienced high growth had total claim rates about eight per cent higher than firms without substantial change in FTEs. As both new and rapidly growing firms would have many new employees, these findings are broadly consistent with the results reported earlier about short tenure and injury risk. Moreover, as Tompa and Fang noted, the need for training new workers in occupational health and safety may be difficult for a firm to manage if it has many new workers within a short period of time.

Policy implications

The findings of this series of studies reinforce concerns about elevated risk of occupational injury associated with “newness”: workers who are new to the labour market (youth, recent immigrants) or new to their jobs (short-tenure workers) and firms that have been recently established. The findings regarding Ontario workers who have been in their job for less than one month are particularly striking: they had four times as many lost-time workers’ compensation claims as those who have held their current job for more than a year. Short tenure also contributes to the higher rates of injury observed for young workers and in new firms.

The research suggests changes to policy and practice to address the elevated risk of injury associated with newness, as follows.

- Governments should evaluate the effectiveness and coverage of existing school-based and workplace-based **occupational health and safety training for young workers**, and then consider changes to curriculum and/or regulatory requirements based on the results of that evaluation.
- Governments, workers’ compensation agencies, occupational health and safety service providers, employer associations and labour groups all could take steps to create **more awareness among employers and front-line supervisors of the risks regarding new workers**.
- Government inspectors and employers should pay special attention to the **hazards that new workers face**, particularly in manual occupations. Government inspectors

should also pay special attention to **employer compliance with their obligations to provide occupational health and safety training** to their employees.

- In July 2007, the government of British Columbia put in place a requirement that employers provide **young (aged 15-24) or new workers with health and safety orientation and training before they start working**. (WorkSafeBC, 2007). The impact of this initiative should be evaluated. Depending on the results, other provinces may wish to emulate it.
- Before they immigrate, the federal government should provide immigrants with information in their mother tongue about occupational health and safety and worker rights that apply generally across the country. Each province should provide province-specific **information packages for immigrants on occupational health and safety and workers’ compensation** and make them available through immigrant settlement agencies. This is especially important for immigrants with poor language skills, relatively low educational attainment and/or refugee status.
- Some ministries of labour currently guide their inspection plans in part by a risk assessment based on past performance of firms in occupational health and safety. The research suggests that these inspection plans should also build in **visits to new firms, particularly those in high risk industries, and to firms that are expanding quickly**. Similarly, workers’ compensation authorities may wish to consider providing an **orientation to new firms on their responsibilities** to prevent occupational injury or illness and on the prevention services available to help them.

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WorkSafeBC. WorkSafeBC gives young or new workers more protection today. Available at http://www.worksafebc.com/news_room/news_releases/2007/new_07_07_26.asp.



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