

Vulnerable workers and risk of work injury

For many years, the protection of “vulnerable workers” has been a key theme of the Institute for Work & Health (IWH)’s research on the prevention of work injury and illness. In the context of occupational health and safety (OHS), we use the term “vulnerable workers” to refer to workers with an elevated risk of occupational injury or illness.

IWH early research on vulnerable workers

The IWH’s early research on vulnerable workers focused on workers who were in some way “new.” That is, they were:

- new to the labour market (young workers);
- new to their jobs, regardless of age (short-tenure workers); or
- new to Canada (recent immigrants).

One of our first issues of *Issue Briefing* (published in May 2009) summarized the key findings of this research and explored its implications for policy-makers in government and organizations providing health and safety services to employers and workers. The following section provides highlights of that *Issue Briefing*, as well as findings from IWH research since then on these groups of workers.

Young workers

In a 2003 study, Breslin, Koehoorn, Smith and Manno explored the relationship between age and self-reported injury rates, using data on workers’ compensation claims in Ontario between 1993 and 2000. Looking at the incidence of short-term (under one year) claims involving wage replacement, the team found that young adult males (aged 20-24) had the highest injury rates, followed by adolescent and adult males. A 2005 study by Breslin and Smith 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. This study suggested that age was not the driver of higher injury rates.

Over time, the injury rates of younger and older males converged. By 2007, lost-time claims for males were

KEY MESSAGES

- “Vulnerable workers” in the context of occupational health and safety refers to workers with an elevated risk of occupational injury or illness.
- “Newness” (not age) is a key risk factor for occupational injury or illness: workers in the first month on the job have a much higher risk than those employed at a job for more than one year.
- A survey instrument that includes measures of exposure to hazards, OHS policies and procedures, awareness of hazards, rights and responsibilities, and empowerment can be used to measure OHS vulnerability.

approximately the same for all age groups, although a gap (higher rates for men aged 15-19 and 20-24) remained for claims that did not involve time away from work (Breslin, Smith and Moore, 2011).

Workers new to their jobs, regardless of age

Just as IWH research was showing that age was not really a driver of injury risk, a parallel finding began to emerge: being new to the job, regardless of age, has a big impact on the incidence of work-related injury. In a paper published in 2006 evocatively titled “Trial by fire,” Breslin and Smith looked at the relationship between job tenure and workers’ lost-time claim rates in the year 2000, while controlling for age, gender, industrial sector (services or goods oriented) and type of occupation (manual, non-manual or mixed). 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 filing their first workers’ compensation claim.

The key finding of this study was that workers on the job for less than a month had a much higher rate of lost-time claims than those in their job for more than a year. Data subsequently compiled by Morassaei, Breslin, Shen and Smith (2013) for the period 1999-2008 showed that, over the 10-year period, the rate of lost-time claims for workers in the first month on the job consistently remained over three times as high as the rate for those employed at a job for more than one year. Moreover, this relative risk was actually highest among workers over 45 years of age compared to all other age groups. The key risk

factor is newness, not youth (though young people are more likely to be new to the job).

This finding has had considerable impact on policy and practice—and on the language used around OHS—in Ontario. The province’s prevention partners, from the Ministry of Labour to the health and safety associations (HSAs), no longer refer to the issue of “young worker safety” but to the larger issue of “young and new worker safety” or, simply, “new worker safety.” And they often quote the related statistic—that new workers in their first month on the job are three times more likely than experienced workers to be injured.

The “Trial by fire” paper was referenced in the 2010 report to the Ontario Minister of Labour by the Expert Advisory Panel (EAP) on Occupational Health and Safety. One of the EAP’s priority recommendations was to require health and safety awareness training for all new workers. This became mandatory in Ontario when a new training regulation took effect in July 2014.

The special attention to new workers remains strong today at MOL and among many other partners in Ontario’s OHS system, particularly the HSAs.

Recent immigrants

Workers who are recent immigrants are doubly new: they are new to the country (and, accordingly, may face barriers to integration in the labour market arising from language issues as well as lack of recognition of foreign credentials and work experience) and they are often new to their jobs.

In their 2010 paper, “The unequal distribution of occupational health and safety risks among immigrants to Canada compared to Canadian-born labour market participants, 1993 to 2005,” Smith and Mustard used data from the *Survey of Labour and Income Dynamics (SLID)* to investigate the relationship between immigrant status and several variables that had 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 to 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 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 about safe work practices in their mother tongue, and ability to refuse unsafe work.

Several other IWH papers include important research findings regarding immigrants and occupational health and safety. In their 2008 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 report twice the rate of work-related injuries requiring medical attention compared to Canadian-born male workers.

In a 2012 study of immigrant workers’ experiences after a work-related injury, Kosny and her team reported on the experiences of immigrants who had been injured on the job, based on interviews with 28 recent immigrants with work-related injuries, as well as with service providers who worked with immigrant workers. A key finding was that injured immigrant workers had little knowledge about their rights and responsibilities under employment legislation. Even though many workers took language-training classes, attended job-search workshops and/or received materials about coming to Canada, workers consistently reported never receiving any information about employment standards, their OHS rights or the workers’ compensation system during the settlement process. Moreover, in a scan of resources available to newcomers to Canada that focus on employment rights and responsibilities, Kosny and Lifshen (2012) found many resources for newcomers on basic employment standards, but only more limited information on OHS and, especially, workers’ compensation.

Kosny then led the development of a toolkit called *Prevention is the Best Medicine (2011)* to teach newcomers to Ontario about their occupational health and safety and workers’ compensation rights and responsibilities. The toolkit was developed with the help of both a multi-stakeholder advisory committee and a large settlement service organization in Toronto called Skills for Change. It was subsequently adapted by Manitoba’s Workers Compensation Board and Safe Work Manitoba for newcomers to that province.

Recent research on vulnerable workers at IWH

In recent years, research on vulnerable workers at IWH has moved beyond demographic groups to explore issues related to precarious employment, to develop a conceptual framework for studying vulnerability in the OHS context, and to apply that framework to the development and implementation of a survey instrument to measure OHS vulnerability.

Precarious work

In most developed countries, the number of temporary and insecure employment arrangements is on the rise. In a study published in *Work* in 2011, a research team led by Scott-Marshall used SLID data from 1999 to 2004 to examine the effect of precarious employment on worker health. The team selected a sample of 4,491 people who met the following criteria: 25 to 54 years of age, not a full-time student, employed at least nine months of the year, not self-employed, not a manager, and in good, very good or excellent health at the beginning of the year.

The researchers looked at the self-reported health of these people during subsequent years and compared it to those aspects of their work linked to precarious employment. People in part-time or contract work did not report poorer health in subsequent years. However, those exposed to other work characteristics associated with precarious employment—i.e. low pay, no pay increase, substantial unpaid overtime, no pension and manual work—did report poorer general health or functional limitations in subsequent years.

In 2012, MacEachen completed research into how temporary work agencies manage health, safety and return to work (RTW), with a special focus on the situation of low-wage workers. MacEachen and her team interviewed low-wage temp workers, temp agency managers and owners, managers at client employer businesses and related experts to find out how injury prevention and RTW operate in temp agency workplaces. The study found that temp agency workers are less protected than regular workers because of the combination of two things: the structure of injury prevention financial incentives; and the complex working relationship in which temp agency workers find themselves with two employers—the temp agency and the client employer.

This finding contributed to the development of a new provision in the *Workplace Safety and Insurance Act* to allow for a regulation (yet to be completed) to have the experience rating of workers' compensation claims apply to the client employer instead of the temp agency.

OHS vulnerability framework

The protection of vulnerable workers was a key theme of the work of the Expert Advisory Panel on Occupational Health and Safety, which was set up in 2010 by the Ontario Ministry of Labour (MOL) to review the province's workplace health and safety system. The EAP's report, issued in December of that year, defined "vulnerable workers" as those who have "a greater exposure than most workers to conditions hazardous to health or safety and who lack the power to alter those conditions."

An IWH research team led by Smith developed a method for measuring OHS vulnerability that expands on the Panel's definition. The fundamental concept is that vulnerable workers (in

the context of OHS) are those who are more likely than other workers to become injured or ill as a result of their work. This higher risk arises because of greater exposure to occupational hazards, as well as some combination of:

- inadequate workplace policies and procedures to control hazards, encourage communication about OHS or respond to OHS issues, and/or
- lack of worker awareness of hazards and/or of OHS rights and responsibilities, and/or
- a workplace culture that discourages workers from speaking up about OHS concerns.

This framework has been adopted by the MOL. Its *Occupational Health and Safety in Ontario: 2014-15 Annual Report* notes that the Ontario prevention system "is using an evidence-based framework developed by the Institute for Work and Health [emphasis in original] to assess the extent to which workers may be vulnerable to occupational health and safety risks at work."

In 2013, Smith and his team developed a pilot survey based on a systematic search of the scientific literature for existing measures related to this concept of vulnerability, and held discussions with focus groups of workers, employers and policy-makers. This process resulted in a 27-item questionnaire, published in the September 2015 edition of *Accident Analysis & Prevention*, which includes items related to each of the four dimensions of the conceptual framework (hazards, policies and procedures, awareness and empowerment). Vulnerability as measured by the survey (exposure to hazards accompanied by a problem in at least one of the other dimensions) has been found to be associated with self-reported injury rates.

Using this measure on a sample of 1,835 workers in Ontario and British Columbia, Lay, Smith, et al. examined whether groups labelled as "vulnerable" are vulnerable in similar ways. In their 2015 paper, they reported that, while some groups are vulnerable across all dimensions (e.g. young workers), other groups like workers in small businesses and newcomers are more vulnerable in some dimensions than in others. For example, workers in small businesses are more likely to be exposed to workplace hazards and inadequate workplace policies and procedures, but no more likely to be exposed to cultures that discourage worker participation. People in temporary contracts are more likely to experience vulnerability with respect to awareness and empowerment, but not policies and procedures. Such information may be useful for regulatory enforcement strategies.

The survey is now available as a tool called the OHS Vulnerability Measure that can be downloaded from the IWH website. The tool can be used both at one point in time to measure vulnerability in the labour force or in a single workplace, and over time to measure changes in vulnerability before and after a program is introduced. With respect to the latter, Smith

recently received a grant to use the measure to examine changes in OHS vulnerability in Ontario associated with the introduction in July 2014 of mandatory awareness training for all workers and supervisors in the province. That research will be completed early in 2017.

The survey can also be used to examine vulnerability in particular groups, workplaces or sectors. A team led by Kosny recently worked with settlement agencies to administer the OHS vulnerability survey to recent immigrants and will be conducting focus groups with recent immigrants on some of the findings in the survey.

Conclusion

The Institute's early research on worker vulnerability to increased risk of occupational injury or illness focused on young workers, workers new to their jobs and recent immigrants. A key contribution of that research was to show that it is "newness" rather than youth that is associated with a higher risk of injury.

Since then, the IWH's research has focused more on labour force and workplace factors, rather than demographic

factors, as the source of vulnerability. This led to the development of a conceptual framework, adopted by the Ontario Ministry of Labour, that can be used to identify the underlying factors affecting an individual's risk of work injury or illness. The idea is that, in order to have an elevated risk of work injury or illness, workers must have greater exposure to occupational hazards, as well as some combination of:

- inadequate workplace policies and procedures to control hazards, encourage communication about OHS or respond to OHS issues, and/or
- lack of worker awareness of hazards and/or of OHS rights and responsibilities, and/or
- a workplace culture that discourages workers from speaking up about OHS concerns.

A survey instrument based on this framework, called the OHS Vulnerability Measure, is now being used to explore the effects of changes in OHS policy or practice on health and safety vulnerability, and to identify how the nature of vulnerability differs among different groups of workers.

This briefing was prepared by Dr. Ron Saunders, Senior Scientist and Director of Knowledge Transfer & Exchange at the Institute for Work & Health.

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For more information, please contact: info@iwh.on.ca

Institute for Work & Health
481 University Ave., Suite 800
Toronto, ON Canada M5G 2E9

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