

outwork

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IWH study in construction sector suggests unionized firms are safer

First industry-wide study in Ontario by Institute for Work & Health finds unionized construction workers report more claims overall but fewer claims that result in time off work

It's a question that has come up over the years: are unionized workplaces safer? In a new groundbreaking study, Institute for Work & Health (IWH) researchers found unionized construction workers were, overall, more likely to file work-related injury claims than their non-unionized counterparts. However, they were less likely to file lost-time claims (i.e. claims that resulted in missed days of work).

The study was published online in September as an open-access paper by the *Journal of Occupational and Environmental Medicine* (doi: 10.1097/JOM.0000000000000562).

The study finds rates of lost-time claims at unionized construction workplaces in Ontario were 14 per cent lower than at non-unionized workplaces. When taking into account all types of injury claims filed with Ontario's Workplace Safety and Insurance Board (WSIB), unionized workers were 13 per cent more likely to make a claim.

Claims that did not result in time off, known as no-lost-time claims, accounted for this difference; these claims were 28 per cent higher at unionized workplaces.

"These findings suggest that unionized workers may be more likely to report injuries, including injuries that don't require time off work, at workplaces where managers and supervisors are committed to safety," says IWH Senior Scientist Dr. Ben Amick, co-lead investigator on the study.

While unionized workers may be more inclined to make work-related injury claims, these findings suggest that their claims are less likely to be of a serious nature, he adds.

"The lower rates of lost-time claims might also suggest that unionized workplaces are safer," says Associate Scientific Director Dr. Sheilah Hogg-Johnson and project co-lead.

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IWH updates

Registration for PREMUS 2016 now open

On June 20-23, 2016, the Institute for Work & Health (IWH) will welcome scientists, students, practitioners in occupational health and safety, ergonomists, epidemiologists, industrial engineers, clinicians and policy-makers to the 9th International Scientific Conference on the Prevention of Work-Related Musculoskeletal Disorders (PREMUS 2016). Come hear the latest and most innovative research from around the world on the economic burden and epidemiology of work-related musculoskeletal disorders (MSDs). Learn about state-of-the-art interventions at work. Build connections for future collaborations, and more. To register, go to: <http://premus2016.iwh.on.ca>.

IWH's current adjunct and former scientist receives global health award

Congratulations to **Dr. Donald Cole** for being named recipient of the Vic Neufeld Mentorship Award in Global Health Research. Dr. Cole is an adjunct scientist and former senior scientist at IWH, and currently a professor in the Divisions of Clinical Public Health and Epidemiology at the University of Toronto's Dalla Lana School of Public Health. The award, given by the Canadian Coalition for Global Health Research, is intended to recognize those who have provided exemplary mentorship to new and developing global health researchers. To see a summary of his research projects at IWH, go to: www.iwh.on.ca/researchers/donald-c-cole.

IWH plenaries now available as live stream

Throughout the year, IWH holds plenaries where scientists from across Canada and around the globe present their research on work and health. IWH plenaries are typically held on Tuesdays at 11 a.m. at 481 University Ave. in Toronto. For those unable to make it in person, there's now a live stream option. To find out more, go to: www.iwh.on.ca/plenaries.

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WHAT RESEARCHERS MEAN BY...

Primary and secondary data*

Primary data and secondary data are two types of data, each with pros and cons, each requiring different kinds of skills, resources

What does each and every research project need to get results? Data – or information – to help answer questions, understand a specific issue or test a hypothesis.

Researchers in the health and social sciences can obtain their data by getting it directly from the subjects they're interested in. This data they collect is called **primary data**. Another type of data that may help researchers is the data that has already been gathered by someone else. This is called **secondary data**.

What are the advantages of using these two types of data? Which tends to take longer to process and which is more expensive? This column will help to explain the differences between primary and secondary data.

Primary data

An advantage of using primary data is that researchers are collecting information for the specific purposes of their study. In essence, the questions the researchers ask are tailored to elicit the data that will help them with their study. Researchers collect the data themselves, using surveys, interviews and direct observations.

In the field of workplace health research, for example, direct observations may involve a researcher watching people at work. The researcher could count and code the number of times she sees practices or behaviours relevant to her interest—e.g. instances of improper lifting posture or the number of hostile or disrespectful interactions workers engage in with clients and customers over a period of time.

To take another example, let's say a research team wants to find out about workers' experiences in return to work after a work-related injury. Part of the research may involve interviewing workers by telephone about how long they were off work and about their experiences with the return-to-work process. The workers' answers—considered primary data—will provide the researchers with specific information about the return-to-work process; e.g. they may learn about the frequency of

work accommodation offers, and the reasons some workers refused such offers.

Secondary data

There are several types of secondary data. They can include information from the national population census and other government information collected by Statistics Canada. One type of secondary data that's used increasingly is administrative data. This term refers to data that is collected routinely as part of the day-to-day operations of an organization, institution or agency. There are any number of examples: motor vehicle registrations, hospital intake and discharge records, workers' compensation claims records, and more.

Compared to primary data, secondary data tends to be readily available and inexpensive to obtain. In addition, administrative data tends to have large samples, because the data collection is comprehensive and routine. What's more, administrative data (and many types of secondary data) are collected over a long period. That allows researchers to detect change over time.

Going back to the return-to-work study mentioned above, the researchers could also examine secondary data in addition to the information provided by their primary data (i.e. survey results). They could look at workers' compensation lost-time claims data to determine the amount of time workers were receiving wage replacement benefits. With a combination of these two data sources, the researchers may be able to determine which factors predict a shorter work absence among injured workers. This information could then help improve return to work for other injured workers.

The type of data researchers choose can depend on many things including the research question, their budget, their skills and available resources. Based on these and other factors, they may choose to use primary data, secondary data—or both.

*This is an update of a 2008 article.

Distinct types of OHS vulnerability seen in young, temporary, small business employees

Tool developed by IWH measures three types of vulnerability to workplace health and safety risk

Young workers, temporary workers and small business employees are often called vulnerable workers, but a new study from the Institute for Work & Health (IWH) has found that they are not all vulnerable to work injury and illness in the same ways.

The study used a new occupational health and safety (OHS) vulnerability questionnaire developed by the Institute. The 27-item measure asks respondents about their exposure to workplace hazards and the presence of three types of protection: (1) workplace policies and procedures; (2) worker awareness of OHS hazards, rights and responsibilities; and (3) worker empowerment to participate in injury prevention. The tool considers workers to be vulnerable to injury and illness when they're exposed to hazards at work and inadequate protection in at least one of the three areas.

"The underlying idea of the tool is that workers are vulnerable only if they're exposed to hazards. But vulnerability is more than just being exposed to hazards alone," says Dr. Peter Smith, an IWH senior scientist and the lead researcher on the team that developed the measure.

"Hazards are an intrinsic part of the work in many industries and occupations. It's when workers are exposed to hazards and also lack one of these other types of protection that they become vulnerable," he adds.

This gives rise to three types of vulnerability, as assessed by the tool: **policy and procedure vulnerability** (exposure to hazards and inadequate policies and procedures); **awareness vulnerability** (exposure to hazards and low awareness of OHS rights and responsibilities); and **empowerment vulnerability** (exposure to hazards and lack of empowerment to participate in injury prevention).

Using this measure on a sample of 1,835 workers in Ontario and British Columbia, the latest research found the following:

- Compared to workers 45 to 54 years of age, workers younger than 35 had an increased probability of experiencing all three types of vulnerability.
- People in temporary contracts were more likely to experience vulnerability with respect to awareness and empowerment, but not policies and procedures.
- Employees working in small businesses (with five to 19 employees) were more likely than workers from large businesses (with 500-plus employees) to experience policy and procedure and awareness vulnerability, but not empowerment vulnerability.



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"With this tool, we were able to assess whether different groups of 'vulnerable' workers were vulnerable in the same ways," says Morgan Lay, a research associate at IWH and author of the study, which was published online in October as an open-access paper by the *American Journal of Industrial Medicine* (doi:10.1002/ajim.22535).

More than a third of respondents experienced some kind of vulnerability, Lay says. She also points to the following findings about the three types of vulnerability:

- Policy and procedure vulnerability was the most common, with 27 per cent of the workers experiencing this type. Empowerment vulnerability was seen in 22

per cent of the workers, and awareness vulnerability in 14 per cent.

- Policy and procedure vulnerability was more than three times higher among employees in very small workplaces (those with five to 19 employees) than among employees at large firms (500 employees or more). This type of vulnerability was 1.8 times higher among workers under 35 years of age compared to those 45-54 years old.
- Awareness vulnerability was 2.5 times higher for those born outside Canada than for those born in Canada. Temporary workers were 1.9 times more likely than people in permanent jobs to experience awareness vulnerability. People working for small (20 to 99 employees) and very small (five to 19) employers were both 1.8 times more likely to experience this type of vulnerability than large organizations.
- Empowerment vulnerability was 1.6 times more likely among temporary workers than permanent employees, and 1.4 times more likely among workers under 35 years of age than those 45-54 years old. "To date much of the targeting of vulnerable workers has focused on specific groups such as young workers, new workers or immigrants," says Lay. "What our tool adds is information on the source of vulnerability, what types of targeted changes could be made, and if these needed changes are different across groups."

The team is now working on linking scores on this tool to injury rates. If that research bears fruit, this 27-item measure has the potential to become a leading indicator tool for use at both the workplace and systems levels, says Smith.

To find out more about the tool, or to access the questionnaire and the scoring instructions, go to: www.iwh.on.ca/at-work/80/what-makes-workers-vulnerable. The journal article on the tool development is available as an open-access paper in *Accident Analysis & Prevention* (doi:10.1016/j.aap.2015.06.004). ❖

Research key to finding way forward during WSIB reform: Nachemson speaker

Former Workplace Safety and Insurance Board executive reflects on value of research in policy-making

Evidence-based policy, when informed by user practice and the context in which it is being applied, can generate outstanding results and make a big difference in the lives of the people affected.

This was the take-away message of former Workplace Safety and Insurance Board (WSIB) executive Judy Geary, who was this year's guest speaker at the Institute for Work & Health (IWH)'s annual Alf Nachemson Memorial Lecture.

"When policy is formed using evidence—the best-available quality evidence—it is simply better than policy and practice that is designed or delivered based on ideology, opinion or personal experience," said Geary to the 100-plus people at the lecture, which took place in late October in Toronto. Geary went on to illustrate this through her story of significant policy reforms at the WSIB in which research and researchers played an important role.

Diagnosing a performance decline

In the mid-2000s, Geary was called on to oversee the development of new case management and vocational rehabilitation policies and practices at WSIB. The impetus was to help bring an end to a period of deteriorating performance. Determined to get it right, Geary and her team "set aside [their] own perceived wisdom" and, instead, turned to "the best knowledge" they could find from around the world to fix their problems.

And there were problems. Injury rates were declining, yet fewer injured workers were returning to work, permanent impairments were on the rise, and health-care and vocational rehabilitation costs were increasing.

"Between the years 1998 and 2008, almost every key indicator at WSIB went downhill," said Geary. "Outcomes were deteriorating, year over year, for 10 solid years."

Geary and her team first turned to research to help understand the drivers behind these problems. "One of the most important things we did... was to work with IWH to learn why this was happening," said



Judy Geary

Geary. "We gave IWH every piece of data we had that we thought could be helpful." The IWH study pointed to a number of issues. Legislative changes in 1998 led to the Board providing "less and definitely inadequate" onsite support to injured workers and employers in the return-to-work process. Injured workers were getting a lot of health care—"round after round of assessment and treatment"—often to very little effect. And WSIB's incentive programs were creating "a perverse incentive" for employers to sever their employment relationship with injured workers, thus putting them into retraining programs.

'Screwing up the courage'

Knowing where the problems lay, Geary and her team turned to research again to help point to the best solutions. After canvassing and synthesizing the existing literature on disability prevention and return to work as best they could, they invited some of the researchers they had been reading about to help with the redesign of services.

"This was probably our stroke of genius," said Geary. "We actually screwed up our courage, picked up the phone and [asked researchers if they were] willing to come and help us do this work." Several researchers from IWH were among those invited.

"We were a bit nervous because none of us had PhDs. Would we be able to talk to them? Would they think we were stupid?" Geary admitted. "But they were so gracious, and so excited to be brought in to talk about their research and how we might be able to apply it in our environment."

Geary and her team met with the researchers regularly, and also phoned and e-mailed them between meetings to ask for advice. They asked questions of the researchers such as: What works? What has a good possibility of working if we're not really sure it works? Is it worth us trying it? How should we do it? Is our way of thinking about how to do it likely to work? Does it align with the evidence you have?

Geary and her team also invited researchers into the WSIB to study its practices. "It took a lot of courage, because we knew they were going to find things that would make us uncomfortable," said Geary. "In the long run, it worked out really well."

The WSIB made substantial changes to its case management, vocational rehabilitation and health-care programs. Examples include offering return-to-work (RTW) coordination services to workplaces through RTW specialists; speeding up decisions about claims eligibility; and bringing vocational rehabilitation services back inside the Board. (A fuller description of the changes made can be found on IWH's webpage of impact case studies: www.iwh.on.ca/impact.)

These changes, Geary reported, have resulted in big improvements in outcomes related to both the well-being of injured workers and costs. Evidence-based policy and practice in the human services sector, including workers' compensation, just makes sense, Geary concluded.

"If you've got good, sound evidence of what works, why would you not adopt it and adapt it to your practice?" she said. "It can make a big difference to peoples' lives."

Listen to the full lecture on IWH's YouTube channel: www.youtube.com/watch?v=VrV2oVEM9zE. ■

Injured shift workers report poorer health outcomes than injured day workers: study

IWH study finds people who work shifts no more likely to leave job, despite poorer health two years after injury

Research evidence has been accumulating on the adverse health consequences of night, evening and rotating shift work. Now new research is suggesting that, not only are shift workers at greater risk of work injury, they are more likely to have a harder time recovering should an injury occur.

A study by the Institute for Work & Health (IWH) compared the health outcomes of injured workers in standard day shifts with those of injured workers in non-standard shifts. The study by Dr. Imelda Wong found injured workers in non-standard shifts reported poorer health scores two years after an injury. However, it also found that injured shift workers were not more likely than injured day workers to leave their jobs or change out of their shifts.

“What the findings suggest is recovering from a work-related injury might be more difficult for people doing shift work,” says Wong, holder of the Institute’s Mustard Fellowship in Work and Health 2013-2015. “But despite these difficulties, injured shift workers remain employed in their shifts.”

Wong’s study was published in the November 2015 issue of *Journal of Occupational and Environmental Medicine* (doi:10.1097/JOM.0000000000000551).

Health survey data used

The study used data from Statistics Canada’s National Population Health Survey (NPHS), which followed a representative sample of adult Canadians every two years from 1994 to 2010, surveying them about a number of health issues. Of the 17,730 individuals in the sample, the research team found 1,650 individuals who (a) were between 16 and 65 years old, (b) earned a wage or salary, and (c) had experienced an injury at work severe enough that their normal activities were limited. The team matched each of these injured workers with

four uninjured people, for a total count of 9,540 participants.

The team used NPHS survey results during the year of work injury to determine a number of baseline characteristics of the injured workers and their non-injured controls.



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These characteristics included health scores, which were calculated based on self-reported levels of impairment along a broad spectrum including vision, hearing, speech, mobility, dexterity (use of hands and fingers), cognition (memory and thinking), emotion, and pain and discomfort. Importantly, the characteristics also included shift schedules, which were broken down into two groups: regular daytime shifts and non-standard shifts (i.e. night, evening or rotating shifts).

The research team then examined the survey responses of the injured workers and their controls two years after the injury. In particular, they looked at respondents’ health scores, as well as whether or not they were working a different shift schedule or had left the labour force.

The researchers found that, as has been shown in previous research, people working non-standard shifts reported more work injuries (34 per cent) compared to people

working daytime shifts only (25 per cent).

The researchers also found that, after taking age, gender, education and physical job demands into account, workers in non-standard shifts who had been injured on the job had poorer self-reported health scores two years later than workers in standard shifts who had also been injured. They also reported poorer health scores than non-injured workers doing shift or regular daytime work.

However, injured shift workers were not more likely to change their shift schedules or to leave the labour force than injured workers doing regular daytime shifts.

“There’s a good-news-bad-news story in these findings,” says Wong. “The good news is the ability of shift workers to stay employed isn’t jeopardized by injury—any more so than standard

daytime workers.” On the other hand, she notes, the health scores of these shift workers do decline after the injury, which means that they’re showing up at work in poorer states of health.

“The implication may be that additional resources may be needed to assist shift workers after an injury,” Wong says.

Wong shares these and other findings from her shift work studies in a video recently released by IWH. To see it, go to IWH’s YouTube channel at: www.youtube.com/watch?v=wSTN0twNeP8&feature=youtu.be. ■

Find it at
www.iwh.on.ca

Interested in more research on shift work? It’s all in one place on our topic page: www.iwh.on.ca/shift-work.

Qualitative systematic review highlights new regulatory, implementation issues in OHS

Implementing OHS laws and regulations can be challenging in complex, non-standard world of work

It's one thing to draft and pass laws and regulations to protect the health and safety of workers. It's another to implement and enforce these laws and regulations on the ground.

With the growth of non-standard work, ever more complex contracts and the outsourcing of work through global supply chains, considerable challenges arise in the implementation and enforcement of occupational health and safety (OHS) laws and regulations. How do authorities assign OHS responsibilities when traditional employer-employee relationships are no longer the prevailing norm? How do they address workplace mental health issues when they are difficult to attribute to the workplace?

This is one of several themes to come out of a systematic review of qualitative studies on OHS legislation and regulatory enforcement, a first of its kind. Led by University of Waterloo Associate Professor Dr. Ellen MacEachen, who conducted this review while she was a senior scientist at the Institute for Work & Health (IWH), the review team scanned the qualitative research literature for studies around the world on the topic.

The team ended up with 14 studies that were of medium or high quality. The themes discussed in the review ran the gamut, from inspectors' training and resources to workers' participation in the enforcement process. The findings were reported in an article published online in October by the *Scandinavian Journal of Work, Environment and Health* (doi:10.5271/sjweh.3529).

Psychological hazards, non-standard contracts among emerging issues

One of the themes that emerged from the review relates to the challenges of drafting and implementing OHS laws for today's complex work environments. It can be especially difficult to implement laws to

address newly understood hazards such as psychological harassment, bullying or other workplace practices that can be harmful to mental health. Even in jurisdictions that explicitly require employers to prevent psychosocial hazards, there is still considerable leeway in interpreting exactly what those hazards are.

"There's a grey zone between labour relations and health and safety. It can be hard for inspectors to manage that," says MacEachen, who is also an adjunct scientist



Dr. Ellen MacEachen

at IWH. "It may be that psychological hazards are more complex to prosecute or require evidence that is more challenging to gather. It may also be that authorities have not yet caught up with these

newly understood hazards in terms of the training and resources they need to provide to inspectors." Complex terms of employment, which have increasingly displaced traditional, full-time employer-employee relationships, also pose challenges for regulators. Whether on-call or casual work, temporary agency placements or subcontracts parceled out to self-employed or independent contractors, these non-standard contracts have resulted in complicated lines of responsibility for workplace health and safety.

For example, employment through temporary agencies often involves a three-way relationship between the worker, the temp agency and the client employer. The result can be confusion and misattribution of accountability when injuries occur.

In some jurisdictions, lawmakers recognize that OHS responsibility has to be

broadened to include designers, manufacturers, suppliers and importers of equipment and material. However, one study has found that, despite laws specifying the duties of these "upstream" parties, holding them accountable can be a very complex legal undertaking. As a result, inspectors may often remain focused on the direct employer.

Inspectors' resources among other themes

The review also explored a few other themes. One was the making of OHS laws—how the drafting of laws can sometimes be reactive to crises such as workplace tragedies or influenced by the interests of powerful stakeholders. Another theme was the limitations of, and assumptions behind, the idea prevailing in some jurisdictions that employers and workers have the same interests, and that punitive approaches such as fines should only be saved for egregious instances. Yet another theme related to the work of inspectors—the ambiguous frameworks within which they sometimes do their jobs, and the training and resources they need to carry out their work.

Overall, the systematic review shone a light on a range of issues faced by regulators across many jurisdictions. The review was undertaken in tandem with an IWH systematic review of the quantitative literature on the effectiveness of OHS regulation and enforcement (see the Summer 2015 issue of *At Work*).

"This review shows how the design and implementation of OHS legislation are based on more than scientific evidence," says MacEachen. "They are based on assumptions about how employers and workers behave, as well as assumptions about how inspectors are trained and resourced. And they are shaped by broad political and economic conditions."

For more on the latest systematic review, listen to MacEachen's September 2015 plenary at: www.iwh.on.ca/plenaries/2015-sep-08. 📌

Users of IWH's participatory ergonomics guide report better awareness of key steps

Evaluation study finds high interest in participatory ergonomics, but little opportunity for implementation

Evidence over recent years has shown that workplace ergonomics interventions can be effective if they engage workers to identify hazards and come up with solutions.

This approach, called “participatory ergonomics,” is based on the idea that, when workers, supervisors and other workplace parties jointly identify and solve ergonomics issues in the workplace, musculoskeletal disorder (MSD) prevention programs are more likely to succeed.

For participatory ergonomics (PE) to work, a number of components have to be in place. These components were identified in a 2008 systematic review by the Institute for Work & Health (IWH). Then, with input from occupational health and safety (OHS) practitioners, findings were summarized in a PE guide entitled, *Reducing MSD Hazards in the Workplace: A Guide to Successful Participatory Ergonomics Programs*.

In a new survey study of more than 500 OHS practitioners in B.C. about their use of the guide, IWH Associate Scientist Dwayne Van Eerd found a high level of interest in implementing participatory ergonomics, but little time to use the guide to do so. However, for those who did use the guide, many reported using it for training. Also, an encouraging number reported greater awareness of participatory ergonomics components.

“This study showed that there was great interest in an evidence-based tool on how to initiate a PE program,” says Van Eerd, whose study was published in September in the online issue of *Ergonomics* (doi:10.1080/00140139.2015.1088073). “Respondents reported increased awareness of key components necessary to implement PE, but they also let us know that finding time to use the guide was a challenge.”

Evaluating uptake

The PE guide is a short, 12-page booklet that outlines six essential components of

SIX PROGRAM COMPONENTS

The six key steps to a participatory ergonomics program are:

- create PE teams with appropriate members;
- involve a PE champion to guide and monitor the process;
- provide training;
- involve the right people from the workplace in the overall PE process;
- define team members' responsibilities; and
- make decisions using group consultation.

For a copy of the PE Guide, go to: www.iwh.on.ca/pe-guide.

PE (see box above), illustrating each with a short example. In this study, Van Eerd's team set out to understand whether the PE guide was used, and how, in busy workplaces or practices. “We had engaged OHS stakeholders in the development of the tool, in the hope that the tool would be useful to practitioners,” he adds. “In this evaluation study, we wanted to understand how the guide was used, to help inform our future work developing OHS tools.”

This evaluation study was done over a 15-month period in British Columbia, with recruiting help from WorkSafeBC and several professional associations in the province. Everyone who downloaded the guide from the WorkSafeBC website during the recruiting period was invited to take part. Of the more-than-500 people who agreed, the vast majority (84 per cent) had an occupational health and safety role. About half had health and safety in their title; about 16 per cent had human resources in their title.

In a series of follow-up surveys, sent out between one and nine months after people downloaded the guide, Van Eerd's team found between 40 to 50 per cent of

respondents said they used the guide. Of these, most said they shared the guide with others or used it in training.

Many respondents who used the guide said they were aware of the implementation barriers listed in it. This was the case in all surveys—from 61 per cent at the one-month follow-up to 40 per cent at the nine-month follow-up. The level of awareness about each of the six key components of PE varied from about one-fifth to three-fifths of responses.

“It was interesting to see how often people reported using the guide for training purposes in workplaces,” says Van Eerd. “The respondents appeared to be knowledgeable about PE.”

About four in 10 of the sample reported an initial interest in implementing PE. While few reported actually implementing such a program during the study period, there were reports of integrating the guide into an existing PE program or into a current OHS practice. The team found other encouraging indications that respondents were on their way to creating a PE program. In addition to the high levels of respondents using the guide for training, between 10 to 30 per cent reported acting on the other key steps of participatory ergonomics, such as identifying a champion or making decisions through group consultations.

“Despite the challenges of finding time, respondents reported sharing and integrating the elements described in the guide into existing practices,” says Van Eerd. “They also reported taking new actions related to defining team responsibilities and, most often, for training activities.” While the team had hoped to see the guide being used for implementation, he adds, “we also didn't expect that to happen in a relatively short survey timeline.”

Overall, this study shows that short, evidence-based tools such as the PE guide are an important way to overcome the perennial lack-of-time challenge, says Van Eerd. The team will next study the implementation process to identify other barriers that need to be addressed in the guide. ■

AT WORK

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Lower lost-time claims at unionized firms suggest a “union safety effect”

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“It could be they do a better job educating workers, in part through apprenticeship training. They may have more effective health and safety programs and practices. They may give workers more voice to influence the health and safety of their work environments, and to report not only injuries, but also near-misses,” she adds.

Studies comparing unionized and non-unionized workplaces are very difficult to do because of a lack of data. To examine whether unionized workplaces are safer, one would need data from all union-certified employers, as well as all non-unionized workplaces. Including just a sample in either category would raise questions about selection bias (for example, an over-representation of firms with untypically good or untypically bad health and safety records).

The involvement of the study funder, the Ontario Construction Secretariat (OCS), helped overcome this barrier. Comprising 25 building trade unions and employers in the province’s industrial, commercial and institutional (ICI) construction sector, the OCS gave the research team access to a very comprehensive database of unionized firms in this sector. To ensure research independence, the OCS agreed that study results would be published, whatever the outcome.

The team used WSIB data to compile a full list of construction firms in the ICI sector. The painstaking portion of this research involved linking the OCS and WSIB datasets to determine which of these firms were unionized and which were not. All companies with at least two employees during the study’s seven-year window were included. Any company that had only one full-time employee or fewer the entire seven years had to be removed, as these companies were likely owner-operator businesses.

The final sample from the seven years included 5,800 unionized firms employing 720,000 full-time equivalent workers and 39,000 non-unionized firms employing 810,000. Because the unionized firms tended to be larger on average than the non-unionized firms (hence, more likely to

have more resources for health and safety), the researchers took firm size into account when reporting their findings. They also took into account industry subgroup (because of the different hazard levels linked to different types of work in each subgroup), and postal area (because of regional variations in safety culture) and business complexity as defined by the number of industry subgroups a company worked in (for the same reason that size was taken into account).

After these influences were taken into account, the findings showed that:

- total claim rates were 13 per cent higher at unionized firms;
- no-lost-time claim rates were 28 per cent higher at unionized firms;
- lost-time claim rates were 14 per cent lower at unionized firms; and
- claim rates for musculoskeletal injuries were eight per cent lower at unionized firms.

Rates of critical injury claims, a type of lost-time claim for severe injuries like amputations, burns, blindness, etc., were 29 per cent lower at unionized firms when taking regional variation, business complexity and industry subgroup into account. Due to the small number of critical injuries, however, the researchers could not account for firm size when looking at critical injury rates.

What might be an explanation for this “union safety effect”—this apparent link between union certification status and safety outcome? In addition to the possible reasons above, “it may be that unionized workers are older and more experienced, or maybe unionized firms have less turnover,” says Hogg-Johnson.

“We can only speculate on the reasons,” adds Amick. “But we’re now examining the organizational policies and practices at unionized construction firms. This research hasn’t been done before, and we hope it will help us understand how construction workplaces are different, and what role unions play in producing safety outcomes.” ■