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at work

IN THIS ISSUE

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Leading indicators may pinpoint positive differences in OHS practices

The Institute for Work & Health is currently conducting a number of studies that may provide important insights on "leading indicators." The results from these studies will support efforts to improve the way Ontario firms manage their occupational health and safety programs.

Can you imagine a time when a company could pinpoint and implement tried-and-true occupational health and safety programs, policies and practices that will lead to fewer worker injuries and illnesses?

Institute for Work & Health (IWH) Scientific Director Dr. Benjamin Amick believes that, in the not-too-distant future, firms may be able to take evidence on leading indicators of work injury and illness and implement programs, policies and practices that could markedly reduce work injury rates.

Traditionally, an organization's injury rates are used to help manage occupational health and safety (OHS) performance. This is known as a lagging indicator because the injuries have already occurred. A leading indicator is a measure of an organization's ongoing health and safety initiatives, or of the workplace conditions leading to illness and injuries.

"Our scientists are tackling several major research projects on leading indicators, hoping to glean information that could help firms achieve fewer worker injuries, improve productivity and decrease workers' compensation costs," Amick says. "The research may help firms target resources and interventions to drive down injury rates."

Understanding business objectives and OHS practices

One such project examines how occupational health and safety practices relate to firms' business objectives. IWH Scientist Dr. Emile Tompa and several other IWH researchers have partnered with researchers from York University's Schulich School of Business

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Former SAC chair recognized by CIHR

Dr. Clyde Hertzman has been named Canada's 2010 Health Researcher of the Year, the highest scientific honour from the Canadian Institutes of Health Research (CIHR). This prestigious award recognizes Hertzman's work on early childhood development. His research findings have helped shape national and international policy on youth. A former founding member of the Institute for Work & Health (IWH)'s Scientific Advisory Committee (SAC), Hertzman – director of the Human Early Learning Partnership (HELP) in British Columbia – chaired the SAC from 2002 to 2008.

IWH associate scientist receives several honours

IWH Associate Scientist **Dr. Andrea Furlan** is making room on her mantle for several recent awards. Last fall, Furlan was named the 2011 winner of the Canadian Pain Society (CPS)'s Early Career Award. The award acknowledges Furlan's important contributions to pain research. As part of the honour, she will give the keynote address at the CPS annual conference in April.

Furlan also received the 2010 Graduate Literary Award in Health Sciences Evaluation from the University of Toronto for the paper "Opioids for chronic noncancer pain: a new Canadian practice guideline." It was published in the *Canadian Medical Association Journal* in June of 2010.

Finally, one of Furlan's research papers – co-authored by IWH Research Associate Nancy Carnide – made its way on to the Top 10 AMEDEO Pain list, which is sent to thousands of clinicians around the world. AMEDEO dispatches weekly emails about new scientific publications to health-care professionals. The paper is entitled "Opioids for workers with an acute episode of low-back pain," and can be found online at www.ncbi.nlm.nih.gov/pubmed/20727677.

IWH Board chair appointed to committee

John O'Grady, chair of the IWH's Board of Directors, has been appointed to the advisory committee of the Workplace Safety and Insurance Board (WSIB)'s Funding Review. The year-long Funding Review, announced in September 2010, is chaired by Professor Harry Arthurs, former dean of Osgoode Hall Law School and president-emeritus of York University. The review's mandate is to advise on the WSIB's long-term financial viability, including a plan on how to eliminate the unfunded liability.

WHAT RESEARCHERS MEAN BY...

Sampling

Sampling is an act of generalization that we participate in all the time.

Consider the free samples at your local grocery store. When a representative from the deli offers you a square of pizza, you are being asked to draw conclusions about the taste and value of the product itself. Offering a whole pizza to every customer would be expensive, difficult to coordinate and, in all likelihood, a waste of time and effort. Chosen well, the samples will provide customers with enough information to decide whether a whole pizza is worth purchasing. The sample is a representative part, an extract from which to generalize back to the whole.

Sampling: A scientific process

In practice, identifying a representative part of a subject, event or population of interest is one of the more challenging aspects of study design. Let's say we want to use an in-hospital survey to measure patient satisfaction. How will we select a group of patients to participate in our study?

To begin, we must differentiate between the theoretical population and the accessible population. The first might include any patient who has ever stayed in a hospital overnight. The second is limited to those who stayed in hospital on a specific night. Since we cannot hope to survey every member of the theoretical population, we must identify members of the accessible population to contact. The resulting subset of individuals will be our sampling frame.

However, we have to be cautious about introducing sampling errors and non-sampling errors into the frame. Sampling errors are the differences between the sample and the population being studied. In other words, they're errors that occur because the data is from a part rather than the whole. Non-sampling errors are statistical errors caused by human error. These can include data entry errors or biased questions in a survey. In our hospital survey, those who could not or did not respond to the survey could introduce non-sampling errors.

Probability sampling

Now that we've narrowed our population of interest, we must decide how to select the sample. Probability sampling is one of two primary strategies we might consider. In probability sampling, every member of the sampling frame has the potential to be selected for the study. Selection is random, and the probability of a member being chosen can be calculated. Knowing the probability of selection allows us to generalize to the population.

Non-probability sampling

In non-probability sampling, some members will have a greater chance of being selected than others, while some will have no chance of being selected at all. The probability of a member being chosen cannot be calculated, making it hard for researchers to know how well they have represented the theoretical population. Often researchers will turn to non-probability sampling only when other data collection methods are not possible.

Convenience sampling is a type of non-probability sampling, and it illustrates both the benefits and drawbacks of this approach. In convenience sampling, the most accessible members from the sampling frame are selected. For example, we might find that certain patients completed positive satisfaction surveys one year ago. It would be convenient to survey only those patients who already had a positive hospital experience. Probably they would be more willing to complete our survey. But in choosing only these patients, we must also ask whether it's reasonable to generalize from their experiences.

While all sampling methods are subject to error, researchers must always keep their objective in view: to obtan meaningful information about the theoretical population. Fundamental to this goal is a workable sample.

AT ISSUE:

Income security for persons with disabilities in Canada

A more coordinated and client-oriented approach is needed for disability benefit programs in Canada, according to a new *Issue Briefing* from the Institute for Work & Health (IWH).

Imagine this scene: On a weekday morning in Toronto, three separate motor vehicle accidents result in identical spinal cord injuries to three male drivers.

Each driver is permanently disabled as a result of his injury. One of the men is self-employed; the second is an insurance company manager with 10 years of employment tenure; the third is a commercial truck driver employed by a transportation company.

As the third driver had an injury arising in the course of employment, he would be eligible for workers' compensation benefits. The second driver would very likely have an employment-based long-term disability plan. The first driver would not be eligible for workers' compensation, and may not have a long-term disability plan.

Access to disability income support and to programs that could help them get back to work will be very different among these three workers.

A recent *Issue Briefing* from the Institute for Work & Health examines seven distinct disability benefit programs in Canada and finds that they are not well-coordinated.

"The current array of disability programs is not a system, but a disconnected array of federal, provincial and private programs, some of which pay little or no attention to helping disabled workers reintegrate into the workforce," says John Stapleton, the lead author of the briefing.

The seven programs summarized in the briefing are:

- Canada Pension Plan Disability (CPP-D) and Quebec Pension Plan Disability (QPP-D);
- Employment Insurance sickness benefit;
- veterans' benefits for disability;
- tax measures, specifically the Disability Tax Credit (which includes the Working Income Tax Benefit-Disability) and the Registered Disability Savings Plan;
- provincial social assistance disability benefits;
- provincial workers' compensation benefits; and
- employment-based long-term disability plans.

In 2008-2009, these seven sources provided an estimated $25.7 billion in income benefits or tax credits to people with disabilities in Canada. (The table below shows the breakdown by program.)

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These programs differ in terms of eligibility, disability definitions, benefit generosity, their treatment of benefits from other programs, and their treatment of income from a partial return to work. Therefore, outcomes for workers and their families can vary substantially, depending on program eligibility.

The briefing suggests that improved coherence in disability programs could simplify benefit administration, provide fairer treatment of persons with disabilities, and increase participation in work and/or community activities. A recent Organisation for Economic Cooperation and Development (OECD) report on disability income security programs in Canada comes to similar conclusions.

"We agree with the OECD that ongoing dialogue among key stakeholders is needed to develop a more coordinated, client-oriented approach to disability programs in Canada," says Dr. Cameron Mustard, IWH president.

You can access the *Issue Briefing* and the OECD report by visiting: www.iwh.on.ca/examining-disability-benefits

ESTIMATED DISABILITY BENEFIT EXPENDITURES CANADA, 2008-2009

	$ million
Canada and Quebec Pension Plans disability benefit	$4,100
Employment Insurance sickness benefit	$1,000
Veterans' benefits for disability	$2,000
Tax measures	$435
Provincial workers' compensation benefits	$5,400
Provincial social assistance disability benefits	$8,100
Employment-based long-term disability plans	$4,700
Total	**$25,735**

CANCER CARE ONTARIO:

How research evidence helped improve outcomes

Within the span of 10 years, Cancer Care Ontario (CCO) went from an ailing organization to a leading health-care agency. As former CCO head Dr. Terry Sullivan explained at the 2010 Alf Nachemson Memorial Lecture, much of the turn-around can be attributed to a culture of quality improvement tied to research evidence.

When Terry Sullivan left his job as president of the Institute for Work & Health (IWH) in 2001 to join Cancer Care Ontario, the health-care agency was in political crisis. Two-thirds of cancer patients faced unacceptable delays in treatment, and patients were being sent to U.S. border cities for care. Indeed, on the very day Sullivan took up his new job, the headline story in *The Toronto Star* read: "Cancer agency facing the axe."

As Sullivan put it, "I wondered if I had my brains about me when I decided to move over there." But move he did, and 10 years later, in his seventh year as Cancer Care Ontario's chief executive officer, Sullivan found himself at the helm of a global and national leader in cancer care.

How the agency got from there to here was the subject of Sullivan's talk at the 2010 Alf Nachemson Memorial Lecture, held in mid-November in Toronto. The lectureship is awarded annually by IWH to a person who has integrated research knowledge into decision-making to improve the health of working Canadians.

Clinician practice leaders key to culture of evidence

According to Sullivan, building a culture of quality improvement by bringing research evidence to the front lines – involving clinical practitioners every step of the way – was a key ingredient to the organization's turn-around. "We now have a very strong culture of evidence …," Sullivan said. "There has been a very large investment in the production of systematic reviews, consensus statements and evidence guidance statements for cancer."

The improvement cycle began in 2004, when CCO brought all the practice leaders together to benchmark where the organization stood. "We asked them to draw a picture showing the state of quality in each of the areas we're involved in: surveillance, prevention and screening, radiation therapy/chemotherapy, surgical oncology, palliative care and associated cancer information systems," Sullivan said.

The Cancer Quality Council of Ontario was then set up, populated by people largely external to the organization so that it could report independently to the public – something CCO itself was historically not encouraged to do. To this day, the Quality Council reports annually on 30 to 40 indicators of cancer-system performance.

Based on the identified gaps in knowledge, practice leaders were called upon to produce guidance documents, which were circulated to the specialty and subspecialty practitioners working within each cancer-site community. "It's not medical politics. It's not organized marketing," Sullivan said. "It's practice leaders producing guidance documents in their field of activity.… The guidelines are based on a systematic extraction and summary of the evidence."

Research-based standards improve outcomes

Sullivan provided a number of examples showing how evidence-based standards were implemented to improve outcomes. For instance, in the last two years, CCO has been focusing on multidisciplinary case conferences as the best way to help patients make decisions about their treatment. "There's reasonable evidence that higher quality of care evolves from this," he said.

In the past, Sullivan explained, a patient's treatment might depend on the specialty of the attending clinician. "If you saw a surgeon first, you might be offered surgery. If you saw a radiation oncologist, you might get radiation," he said. "But particularly complex patients need to see a multidisciplinary team to make the best decisions based on a full and complete picture."

Dr. Terry Sullivan

A February 2010 performance report shows that all regions in Ontario have begun conducting multidisciplinary case conferences. About 80 per cent are meeting the specified standards set for such meetings.

In another example, CCO took note of an evidence-informed organizational standard from 2005, which was subsequently published in 2007 in the *Annals of Thoracic Surgery.* The standard suggested surgeons performing lung/thoracic/oesophagal surgeries should be doing at least 150 lung procedures and 20 oesophagectomies a year in order to bring down the high mortality rates associated with these complicated surgeries. The standard also specified surgical criteria, as well as training and practice-setting requirements.

Based on this evidence, CCO went from hospital to hospital and from surgeon to surgeon, to convince them that these surgeries should be performed in designated thoracic surgery centres only. It used a carrot-and-stick approach. The regional consolidation centres received extra money for thoracic/oesophageal surgery; the low-volume centres did not. Ultimately, low-volume hospitals were told that CCO would discount funding

for other procedures if they continued to do thoracic surgery.

Now, only 14 designated hospitals perform these complicated surgeries, down from close to 50. By the end of 2010, 90 per cent of thoracic surgeries were being performed in the designated centres. By the end of 2011, it will be 100 per cent: the last hospital, which had one surgeon doing 20 such surgeries a year, has just agreed to stop performing the surgeries.

"It's been a great triumph because there's a clear volumetric outcome relationship for some of the more complex procedures," Sullivan said. "The same thing is now happening with pancreatic and liver surgeries, which are being consolidated within a small number of hospitals."

Sullivan to leave organization on solid ground

Sullivan, who announced in May 2010 that he is stepping down as president of CCO, is excited about the changes that have taken place at the agency. The once ailing organization is now on solid ground. And that change, he said, is based on some very simple concepts: having clearly identified and accountable leaders; creating a plan that sets specific targets; creating an organization that collects, measures and reports on the attainment of those targets; and, importantly, building a culture of evidence by engaging the front lines – in this case, clinicians – in a very active way in the development of guidance documents.

"Getting the information, driving towards an agenda, managing it and feeding it back – this seems to have utility across the board," said Sullivan. "It has utility in cancer, and I think it has utility in the area of the clinical management of work-related disorders, where you … have to continuously specify the strength of the evidence and make decisions based on that."

To hear an interview with Sullivan or to view his presentation slides, go to www.iwh.on.ca/nachemson-lecture.

Thumbs down: MSK symptoms and hand-held devices

Photo ©iStockphoto.com/manley099

If you use a hand-held device such as a BlackBerry or an iPod, do you experience hand or neck pain? If you answered, "yes," you're likely not alone.

About 85 per cent of people who took part in a small study reported pain in at least one body part, particularly in the hand, neck and shoulder areas.

"This result suggests that hand-held devices may contribute to musculoskeletal symptoms or disorders (MSDs)," says Institute for Work & Health Scientific Director Dr. Benjamin Amick, who co-authored the study along with Dr. Richard Wells, the project's principal investigator, and Sophia Berolo, both of the University of Waterloo. The study's results are published in *Applied Ergonomics* 2010 (doi:10.1016/j.apergo.2010.08.010).

MSDs – pain in the muscles, tendons and other soft tissues – account for more than 40 per cent of all lost-time compensation claims in Ontario. Preventing these conditions can help workplaces to reduce costs and improve productivity.

More than four hours of daily use

Participants in the study completed a questionnaire containing questions about how much time they used a hand-held device each day and any symptoms of pain in the hands, arms, shoulders, upper back and neck. A total of 137 participants – recruited from a university setting – reported using a hand-held device, spending an average of more than four-and-a-half hours every day texting, scheduling, browsing the internet, making phone calls and gaming. The total time spent using a hand-held device on a typical day was "significantly associated with moderate and severe pain in the base of the right thumb, the shoulders and the neck," the study notes.

"The issue stems from the small size of these devices," says Amick. "Users tend to hold them in their fingers and press the tiny keys with their thumbs."

Although these findings are preliminary, Amick and Wells hope to further explore this major issue. "We are concerned about the limited number of well-designed studies available," they note. "Our next step is to look at how hand-held tablets may contribute to musculoskeletal symptoms."

In Brief

Using hand-held devices may contribute to musculoskeletal symptoms or disorders, particularly in the right thumb, shoulders and neck.

Are those who work shifts more at risk of work injury?

The number of Canadians working shifts other than a regular daytime schedule is on the rise. A new study suggests that those who work night or rotating shifts are more at risk of getting injured on the job.

About 25 to 30 per cent of Canadians work shifts, so understanding their work injury risks may help with prevention efforts. Previous published research suggests that shift work can disrupt normal sleep patterns and cause fatigue, which can lead to work injuries.

Additionally, "shift work may have effects on other dimensions of health," notes Institute for Work & Health Adjunct Scientist Dr. Christopher McLeod, one of the study's authors.

To this end, McLeod, along with University of British Columbia (UBC) PhD Candidate Imelda Wong and Occupational Cancer Research Centre Director Dr. Paul Demers, examined data from Statistics Canada's Survey of Labour and Income Dynamics to explore shift work trends and risk of work injury among Canadians over the period 1996 to 2006.

The researchers defined four types of shift work for this study:

- regular daytime schedule;
- regular nights (includes evening and work beginning around midnight);
- rotating shifts; and
- other shifts including split shifts, on-call or irregular schedules.

Shift workers at greater risk of work injury

After controlling for other influences on work injury rates, the researchers found that men working night shifts and women working night or rotating shifts experienced a higher rate of injury than regular daytime workers. "Women who work rotating shifts are more than two times at risk of work injury compared with their day shift counterparts," says McLeod, also a research associate at UBC's Centre for Health Services and Policy Research. "This was a very strong finding."

McLeod notes that women may be more likely to have to juggle everyday tasks such as childcare needs and household responsibilities. The number of women working rotating and night shifts increased by about 95 per cent over the study period, primarily in health care. That's almost twice as much as the 50 per cent increase among men, mainly occurring in the manufacturing sector.

Although the estimated number of work injuries resulting in seven days or more of work absence declined by 15 per cent between 1996 and 2006, the injury rate among night shift workers remained stable.

Future research

McLeod hopes to "focus on certain occupations such as those in the health-care and social services sectors" to gain a better understanding of what factors may contribute to worker injury and shift work. "We are in a 24/7 economy and shift work is not going to go away," says McLeod. "We need to examine the issues to find out how to reduce the risk of injury in shift workers."

The results of the study are published online in the *Scandinavian Journal of Work, Environment and Health* at http://dx.doi.org/10.5271/sjweh.3124

WHAT'S NEW AT WWW.IWH.ON.CA

Read new *Research Highlights* summarizing published IWH research on:

- improving health and safety in small business;
- the most effective workplace interventions for preventing upper extremity musculoskeletal disorders;
- how small businesses implement health and safety processes; and
- cost-effective ergonomic interventions.

www.iwh.on.ca/research-highlights

IWH's winter/spring 2011 plenary season is taking shape, with new speakers and topics being announced weekly. Check the site regularly to find out what new workplace health research findings are being presented:
www.iwh.on.ca/plenaries

A new *Issue Briefing* that describes the sources of disability income security available to Canadians is now online. The briefing – entitled, "A patchwork quilt: Income security for Canadians with disabilities" – also draws attention to the policy challenge of coordinating and aligning both the goals and the administration of disability income security programs in Canada:
www.iwh.on.ca/briefings/a-patchwork-quilt

The final report on a "leading indicators" project that looked at developing a simple tool to predict a firm's workplace injury experience is now available:
www.iwh.on.ca/benchmarking-organizational-leading-indicators

Leading indicators may pinpoint...
continued from page 1

to delve into the relationship between business practices and health and safety practices. How do these priorities interact? Do they conflict? Are they complementary? If a company is only focused on the bottom line, does worker health and safety need to take a back seat?

"We need to understand the nuances of this vital relationship in a firm," says Tompa. "What factors both support the needs of the business and optimize worker health? We hope to find out through this study."

The partnership builds on the strengths of the two institutions. Researchers from the Schulich School of Business bring their expertise in business operation outcomes such as production goals and process. IWH researchers provide evidence-based knowledge in occupational health and safety.

The partners have completed the first phase of the research, which used a case-study approach to develop an understanding of the relationship between operations and health and safety. Ten case studies were conducted, each involving a single facility from the manufacturing, warehouse or transportation sector. At each facility, researchers:

- conducted in-depth interviews with key staff;
- surveyed about 30 workers to measure worker perceptions of safety;
- collected workers' compensation data from 2002 to 2008; and
- toured the worksite to gather additional insights, talking informally with workers and managers while there.

Although the researchers are continuing this study on a larger scale (about 300 companies are lined up to take part in a survey this spring), Tompa notes that some preliminary findings have already surfaced.

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"The initial results are very polarized," he says. "In about 40 per cent of the case studies, when operational needs and health and safety objectives are managed together by one person, there is a strong trend toward doing well on both fronts. However, when companies try to manage these needs separately, there are potential trade-offs – such as getting work done over being safe." This suggests that there can be a synergy between operations and health and safety. Companies can excel in both if the two are managed jointly.

Breaking through from poor to strong OHS performance

Another research project related to leading indicators is exploring what it takes to go from being a poor health and safety performer to a top performer. IWH Associate Scientist Dr. Lynda Robson is interested in describing how large and positive changes in a firm's occupational health outcomes occur.

"When I started at IWH in the late 1990s, my colleagues and I made presentations about the research evidence associating work conditions and health," Robson says. "I could see that both employer and worker representatives accepted this evidence, but they would then ask, 'What should we do?' As a result, workplace researchers at IWH focused more on workplace occupational health and safety interventions, but many of these were found to have small effects." Robson's research interest is focused on firms that accomplished large and positive change.

In a current project named "Breakthrough Change in Workplace OHS Performance," Robson and her team hope to identify critical success factors among firms that have undergone their own breakthrough change. A firm was identified as having undergone breakthrough change – or BTC – if it went from being among the highest 50 per cent (a poorer performer) in its Rate Group to being among the lowest 20 per cent (a higher performer) with respect to its workers' compensation claim rates.

"We know quite a lot about the differences between poor performing and high performing firms at a single point in time," says Robson. "However, we know much less about how the organization changes from being a poor performer to a high performer."

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MISSION
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WSIB Workplace Safety & Insurance Board
CSPAAT Commission de la sécurité professionnelle et de l'assurance contre les accidents du travail

Notes Robson, "If we can learn of factors that contribute to that success and that other firms may be able to adopt, it could lead to more effective prevention of work injuries and illnesses."

In the first phase of the study, Workplace Safety and Insurance Board (WSIB) claim information from firms with 75 or more employees was analyzed to identify firms that had changed. These claim rates were for lost-time and no-lost-time claims each year from 1998 to 2008.

The second phase involves an in-depth case study analysis of BTC firms, looking in detail at how and why their workers' compensation claim rates improved so significantly. About five to 10 people from each firm – from executives to OHS professionals to front-line workers – are being interviewed. The case studies also include a worksite tour and a review of the organization's health and safety documents.

Although the second phase is still underway, Robson can share some preliminary findings from brief interviews with 15 firms. "We observed that the prevention system – namely contact from the Ontario Ministry of Labour, the WSIB or a health and safety association – was involved in motivating or assisting with change in several of these cases," she notes. In particular, contact from these organizations was a signal that the firm wasn't doing well and that changes needed to be made.

Over the next several months, Robson's team will complete four qualitative case studies to pinpoint the factors contributing to the firms' breakthrough change.

"Although we may not uncover a single magic bullet, we could find out that a certain organizational practice or other characteristic may prove to be beneficial for firms to achieve better prevention of work injuries," she says.

Studying OHS practices in 5,000 firms

Finally, another study of leading indicators is one of the largest studies of workplace injury prevention practices ever undertaken in Ontario.

The four sector-based health and safety associations (HSAs) and the Occupational Health Clinics for Ontario Workers are joining forces with the Institute for Work & Health to recruit about 5,000 organizations into the study.

The "5,000 Firms Study," as it's informally known, is looking at how organizations' health, safety and disability policies and practices relate to injuries and illness. The study includes every major sector in Ontario.

"This is a groundbreaking project, which could potentially have huge implications for Ontario's prevention system and beyond," says Amick, the project lead. "A project of this magnitude is only possible with the strong commitment to safety and support for research across the prevention system."

After agreeing to participate, organizations will be asked to fill out a web-based survey, with questions about their safety culture, occupational health and safety management systems, joint health and safety committees, and organizational policies and practices. This survey – which is an outgrowth of the organizational indices project (see *At Work*, Summer 2010, as well as the project's final report at www.iwh.on.ca/benchmarking-organizational-leading-indictors) – will help to identify leading organizational indicators.

Each firm's responses about its management or organizational safety measures will be linked to its claim rate records – with all information being maintained in confidence by IWH. Researchers will be able to see if relationships exist between specific measures and injury or illness claim rates.

Each participating organization will receive a report showing how it compares with other organizations in its sector. Collectively, the information will create a unique knowledge base for Ontario, which can be used as a benchmark by other employers.

In the end, the goal is to have a set of accurate leading indicators that all workplaces can use to assess their health and safety performance. "The leading indicators will provide an excellent opportunity to reduce workplace injury and illness using practices that are based on evidence," Amick notes. "Firms and other stakeholders in OHS can take the information and develop products or services, target scarce resources and interventions, and measure performance."

Watch for more information on the findings from these three important projects in future issues of *At Work*.