

# otwork

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## IWH work on provincial review supports new mining safety culture and systems audit tool

The Internal Responsibility System Climate Assessment and Audit Tool (IRS CAAT), developed by IWH and Workplace Safety North, is now being piloted in Ontario's mining operations

One of the core ideas underpinning Ontario's occupational health and safety (OHS) system is that workers have a right to participate in decisions that affect their health and safety.

That idea, part of the "internal responsibility system" (IRS), is why the province's OHS legislation provides for worker participation through joint health and safety committees. It's also why the law protects worker rights such as the right to know about hazards, the right to participate in identifying and solving health and safety problems, and the right to refuse unsafe work.

But concerns about the integrity of the internal responsibility system in underground mining became a focus during the 2014 Mining Health, Safety and Prevention Review, called by Ontario's Minister of Labour. When the review wrapped up in 2015, one of its recommendations was for the employer group, the Ontario Mining Association, to "work with labour representatives to develop an

Internal Responsibility System best practice guideline as an industry benchmark." The guideline would be endorsed by the association for implementation by its members, the review suggested.

As a member of the review's advisory group, Institute for Work & Health (IWH) President and Senior Scientist Dr. Cameron Mustard helped develop a series of best practice statements describing what an effective IRS looks like. And responding to this recommendation, he led a research team at IWH to help the health and safety association Workplace Safety North (WSN) create a questionnaire based on these statements.

The result of this work is an assessment method called the Internal Responsibility System Climate Assessment and Audit Tool (IRS CAAT), which mining operations can use to measure how well their IRS is working.

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## IWH's Scientific Advisory Committee welcomes two new members

The Institute for Work & Health welcomes two new members to its Scientific Advisory Committee (SAC). This body of international experts on work health research meets once a year to advise the Institute on the direction, scope and focus of its research. Joining the committee this year are **Dr. Ute Bültmann** and **Dr. Laura Punnett**.

Bültmann is a professor of work and health and the program leader of public health research in the Department of Health Sciences, Community and Occupational Medicine, at the University of Groningen's Medical Centre in the Netherlands. Punnett is co-director of the Center for Public Health in the New England Workplace (CPH-NEW) at the University of Massachusetts at Lowell. She is also a senior associate at the university's Center for Work and Women and one of the founders of the university's Department of Work Environment.

The Institute warmly thanks outgoing SAC members **Dr. Eira Viikari-Juntura**, **Dr. Margaret Whitehead**, and **Dr. Andrew Hale**, whom they replace.

## IWH also welcomes new members to the KTE Advisory Committee

The Institute also welcomes three new members to the Knowledge Transfer and Exchange Advisory Committee. They are: **Randy Robinson**, Supervisor, Communications and Campaigns, at the Ontario Public Service Employees Union; **Kathryn Parker**, Senior Director, Academic Affairs and Co-Lead, at the Centre for Leadership in Innovation at Holland Bloorview; and **Rhoda Reardon**, a former member of IWH's KTE group during its early days and former manager at the College of Physicians and Surgeons of Ontario. These three new members replace **Peter Birt**, **David Clements** and **David Phipps**, who for many years offered the Institute invaluable advice on knowledge transfer and exchange methods and trends.

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WHAT RESEARCHERS MEAN BY...

# bias (part 2)

## Two types of bias — recall and surveillance bias — point to the difficulties researchers face when collecting data for their studies

In an earlier column (published in the Summer 2007 issue of *At Work*), we touched on bias as a flaw in the way a study is designed or carried out. It's the kind of flaw that would systematically skew the findings and lead to certain outcomes being more likely than others. When reading or reviewing a study, researchers have to be on alert for biases. There are many different types. They can exist at any phase of the study. To add to the examples already covered in the first column, here are a couple more—both having to do with the collection of data.

**Recall bias:** Sometimes studies rely on participants' recollection of something that took place in the past. With these types of study, the potential for faulty recall is always a concern. Whether it's a nutrition study that asks participants to write down all that they ate a week ago, or a child development survey that asks respondents whether their parents spanked them when they were young, the chances are high that participants do not perfectly remember what actually occurred.

However, imperfect recall only becomes a potential bias when it systematically skews the results in one direction over another. Here's an example. Suppose you're doing research on the effects of a chemical spill that took place two summers ago. You want to learn the spill's effects on the health of the people who lived nearby. For study participants, you would recruit people living within a certain distance from that chemical spill. You would ask them about their exposure to the spill at the time (by breathing in the toxic fumes, for example), about their health levels then and their health levels now.

As you would expect, people who have developed health problems after that chemical spill might be more likely to remember their exposure to the spill in great detail. That might be especially the case if they've already reached the conclusion that the spill was the cause of their health problems. In contrast, people who did not go on to develop health problems might be more likely to downplay their exposure. They might have been exposed to the fumes, but because no bad health outcomes followed, over

time, they might have forgotten about that exposure.

Both scenarios are a problem for the researcher. To be able to determine the health effects of the chemical spill, the researcher needs to know accurately who was exposed and who would go on to develop problems. If people with health problems down the road overstate their exposure, and if people who aren't negatively affected underestimate theirs, then the study results would be skewed. They would overestimate the health impact of the chemical spill exposure beyond what might actually be the case.

**Surveillance bias:** Let's stay with the example of the chemical spill for a bit longer. Suppose right after the spill, you recruited everyone who was exposed and created a cohort that you could follow over time. This type of study design, called a cohort study, does have the advantage of helping you avoid recall bias. However, the people in your cohort are also understandably worried about their health because of the spill. They will likely go to the doctor more frequently, react more quickly to worrying signs or symptoms, be more proactive in getting medical exams and diagnostic tests. If you then compare their health with that of the general population, you might find higher rates of illnesses and conditions. But that could be because members of this cohort are more vigilant about their health.

The term surveillance bias refers to the idea that the closer you pay attention to something, the more things you'll find. People who have a certain exposure or a certain outcome will typically get, or receive, more attention than others. In this example, it's the affected individuals who are responsible for the greater scrutiny of their health status. But you can probably think of many examples where it's an institution, a system or an authority body that is responsible for the increased surveillance. For example, when you have a government campaign to crack down on a certain practice, you'll likely find that the practice will appear at first to be increasing in prevalence. However, that could just be due to the increased attention on that practice.

# Long-term care home sees safety culture change after participatory ergonomics study

## Involving front-line staff has helped residential home find lasting and low-cost solutions to injury hazards

The health-care sector accounts for the second highest number of lost-time injuries in Ontario and, within this sector, long-term care homes are among the workplaces with the highest injury rates.

At the Newmarket, Ont.-based Southlake Residential Care Village, a long-term care facility employing 300, the 2011 stats on time loss due to injuries were startling.

“It was more than the equivalent of a full-time position,” says executive director Anne Deelstra. That was why the facility wanted to take part in a 2013 study by the Institute for Work & Health (IWH) and Public Services Health and Safety Association (PSHSA), aimed at preventing musculoskeletal disorders (MSDs) and slips, trips and falls.

“We jumped on board immediately,” says Donald Squires, environmental manager and co-chair of Southlake’s joint health and safety committee (JHSC).

The program, called Employees Participating in Change (EPIC), used a participatory ergonomics approach to identify and control hazards. The central concept of participatory ergonomics is that the knowledge and experience of those directly affected—the front-line staff—can be valuable. Front-line workers can often provide more information than a trained expert (such as an ergonomist) can when it comes to the social and organizational factors that need to be addressed alongside the physical hazards.

As part of the 12-month program, Southlake and two other participating workplaces each formed a steering committee and a change team made up of front-line workers, supervisors and managers. In the first two months of the study, team members received training about the hazards and the participatory ergonomics method. During the remaining 10 months, the team met monthly to prioritize which hazards it needed to address. The idea was to work through as many of the prioritized hazards as it could.

All the while, a research team led by IWH Associate Scientist Dr. Dwayne Van Eerd evaluated the process of implementing these changes. Using focus groups and interviews, as well as injury and lost-time data, the researchers sought to understand what factors helped or hindered implementation of participatory ergonomics at the worksites. (A paper on this study is expected to be published in the months ahead.)

### JHSC members helped get buy-in

At Southlake, a staff-wide survey was conducted to determine the top hazards and to invite ideas on how to control them. The dietary department and two nursing units were seeing higher rates of injuries, so they were chosen to take part in the study.

“At first it was hard for me to get buy-in from the front-line staff,” says Squires. These kinds of initiatives always take time. The pace of work at Southlake, as at other long-term care homes, doesn’t offer much room for new initiatives, he explains.

But when the change team, made up of JHSC worker members, started promoting the project, “it sparked a huge interest from the staff,” he says. “Once they saw that it was a participatory approach, they wanted in.”

A key concern for front-line staff was the motivation behind the initiative, says Squires. “Once they realized that we were there not to discipline them for not following safe work practices, but to get their ideas about how they could do their jobs better and safer, then we got the buy-in,” he says.

The change team didn’t ask front-line workers to come to the monthly meetings to offer input, says Squires. “Instead, the change team took the message out to their co-workers. They went out to the floor and talked to them, peer to peer.”

For the most part, the solutions were small and low cost. For example, the team learned that nursing staff were getting hurt

when transporting residents in and out of the spa area for bathing or showering. To hold the door open as they pushed wheelchairs through the doorway, workers were putting their bodies in awkward postures.

The simple fix that front-line staff came up with for that practice? Doorstops (with approval from the fire department).

Another example: as part of their routine, housekeeping and dietary staff were emptying smaller garbage bins into large containers outside. Those large containers had high openings, so staff had to lift the small bins over their shoulders, resulting in injuries in the shoulder, arm and back. “A low-cost fix for that was to ask the garbage company to use containers with lower openings, so staff didn’t have to lift the garbage over their shoulders,” adds Squires.

The change team also came up with some new procedures that continue to this day. When conducting health and safety inspections, for example, staff now use a job observation form to check off the safe work practices that they see, especially for jobs that are more likely to cause injuries. Unsafe practices are caught early and corrected.

The participatory approach is still used today. Asking front-line staff for input on what the hazards are and how to reduce or eliminate them remains a standing item at the monthly JHSC meetings.

“It has changed the entire safety culture,” says Deelstra. “We are not seeing the same injuries as before. And if we do see one or two every once in a while, they are not as severe.” The organization has also seen a marked drop in lost-time hours, which now amount to just a few days a year, she adds.

“Since the program, I’ve noticed that staff in all departments are reporting hazards more,” says Squires. Not only that, they’re reporting them as they arise, instead of waiting to report them at the monthly JHSC meetings, at which point it can sometimes be too late, he adds.

“And the people who report hazards—they now watch for them to be corrected. And that’s a huge shift in the safety culture.” ■

# New World Health Organization guidelines on rehabilitation tap into Institute synthesis

## IWH systematic review team provided evidence to inform WHO's new roadmap for improving integration of people with disabilities and disabling health conditions

According to 2011 data, one in seven people around the world lives with a disability. Eighty per cent of these individuals live in a low- or middle-income country where rehabilitation services—services to help them function to the best of their ability—are wanting or even non-existent.

That's why strengthening rehabilitation is emerging as a key challenge facing health systems in the 21st century, according to the World Health Organization (WHO). In February, the global body released its report, *Rehabilitation in health systems*, to help member countries develop and improve rehabilitation services within existing health services. Five of the nine recommendations contained in the report relied on evidence provided by a research team at the Institute for Work & Health (IWH).

### Questions for a systematic review

Aimed primarily at low- and middle-income countries, the guidelines in the report set out evidence-based recommendations to help government leaders and health policy-makers develop or extend rehabilitation services and deliver them equitably at all levels of health systems.

Rehabilitation, as defined by the WHO, refers to the measures that help individuals with a disability or a disabling health condition achieve and maintain optimum functioning in interaction with their environments. Rehabilitation is instrumental in allowing people with functional limitations to remain in or return to their home or community, live independently, and participate in education, work and civic life.

The role of the IWH team, headed by Scientist Dr. Andrea Furlan, was to provide a synthesis of the available research evidence on a host of questions.

For example, should rehabilitation services be integrated into the health system or into the social or welfare system



Photo ©Photoshare/Ghanshyam Kahar

A man with disabilities performs tailoring work at a Gujarat government department in India.

or equivalent? Should a multi-disciplinary rehabilitation workforce be available, or should a single profession such as physiotherapists deliver rehabilitation? Should rehabilitation services be available in both community and hospital settings, or should they be available only in one or the other?

Using a framework that IWH has developed and used over many years in its systematic review program, the team searched the scientific and “grey” (i.e. not peer-reviewed) literature for studies that addressed these and several other questions.

The search had to be systematic—and broad—to make sure no relevant studies were left out. The team then went through the results to filter out studies that were duplicates or not relevant. Studies were excluded if the study population (for example,

infants) or the health conditions studied (for example, obesity or addiction) were outside the parameters of the guideline questions.

After that came the time-consuming work of assessing the studies for quality. Were the studies subject to risk of bias (for example, lack of true randomization in a randomized controlled trial)? Did the team find too much variation or inconsistency in results? Could findings from the studies be applied to population groups beyond the study sample? These were just a few of the many questions the team considered at this stage.

The Institute's depth of experience in these methods was a big reason why the team could pull off a project on this scale, says Furlan. “We had to search the literature and review every single study available



up to a certain date on any kind of rehabilitation, for any health condition—physical and mental, and across different phases of the condition—and in any context or setting,” she notes. The total number of studies was well above 8,000, which the team had to get through over a period of about four months.

### Differing perspectives

The team faced more than just workload pressures, notes Emma Irvin, director of research operations and lead of the Institute’s systematic review group. “We were very conscious of the fact that we were in our office on Toronto’s University Avenue, across the street from a major rehabilitation hospital, in a country that has many rehab centres, and that provides health care to its citizens. That’s not the reality in many parts of the world.”

To Furlan’s credit, Irvin adds, a few researchers from low- and middle-income countries had been recruited into the team, providing important perspectives at all stages of the project. For example, while screening the search results for relevance, the team had a robust debate about whether to include studies about rehabilitation after cancer, Irvin recalls.

“I pushed to include people with cancer, because I felt quite strongly that the movement around cancer and chronic disease is gaining acceptance worldwide,” says Irvin. But some of the team members, including a physiatrist from Colombia, said the team should leave out this disease.

“From this physiatrist’s perspective, if people have cancer, they’re dying. They’re palliative. They’re not going to be rehabilitated. And we understand that perspective,” she adds. In the end, the team did include

cancer survivors, recognizing that, in many parts of the world, people are showing up at rehabilitation centres to try to regain function after losing body parts to the disease.

Another challenge that the team faced was the preponderance of literature from high-income and developed countries, says Irvin. “The reality is, the developed world was writing the articles. Getting the grants to do an intervention study in the developed world is already very challenging, but when you’re in low- and middle-income countries, it’s even more so. You can argue there was a publication bias to a certain degree,” says Irvin.

To address this challenge, the group that developed the recommendations consulted more than just the evidence from the systematic review. They also considered indirect evidence, including evidence provided by members of the Guideline Development Group. Further, the group broadened the appraisal method to also consider the values, preferences, acceptability and feasibility of outcomes and interventions as they developed the recommendations.

The result of this work is a quality document that Furlan hopes will have a far-reaching impact in offering guidance to countries around the world on how to improve the lives of people with disabilities and health conditions.

“This could affect one billion people,” she says. “It might take 25 to 30 years for these recommendations to be implemented, but the world would be a better place if these people have the rehabilitation services to enable them to participate in life, in the workforce, in leisure activities—and to be productive members of society.”

She adds that the project was an important achievement for the IWH team. “Having the systematic review program in existence these many years at IWH has resulted in an in-house expertise that enables projects such as these,” says Furlan. “We have shown through this project and others that IWH is able to deliver high quality research in a timely fashion to any interested party that needs it.” ■

## A ROADMAP FOR STRENGTHENING REHABILITATION IN HEALTH SYSTEMS

The World Health Organization’s *Rehabilitation in health systems* provides a framework for strengthening health systems to develop, expand and improve the quality of rehabilitation services—particularly in the low- and middle-income countries around the world where 80 per cent of people with disabilities and disabling health conditions reside. Below are the nine recommendations set out in the report. The first five are informed by IWH’s literature synthesis.

**Recommendation 1:** Rehabilitation services should be integrated in health systems.

**Recommendation 2:** Rehabilitation services should be integrated into and between primary, secondary and tertiary levels of health systems.

**Recommendation 3:** A multi-disciplinary rehabilitation workforce should be available.

**Recommendation 4:** Both community and hospital rehabilitation services should be available.

**Recommendation 5:** Hospitals should include specialized rehabilitation units for inpatients with complex needs.

**Recommendation 6:** Financial resources should be allocated to rehabilitation services to implement and sustain the recommendations on service.

**Recommendation 7:** Where health insurance exists or is to become available, it should cover rehabilitation services.

**Good practice statements** on assistive products:

- Financing and procurement policies should ensure that assistive products are available to everyone who needs them.
- Adequate training should be offered to users to whom assistive products are provided.

The report can be found at: [www.who.int/disabilities/rehabilitation\\_health\\_systems](http://www.who.int/disabilities/rehabilitation_health_systems)

# Researcher on health risks of sedentary life shifts focus to workplace interventions

## Q&A with 2017 Mustard Post-Doctoral Fellow on his recent and new research on prolonged sitting

The health risk of sitting too long has become a topic of great interest in recent years. In the workplace setting, it's now increasingly common to see programs that use standing desks or time-tracking devices to encourage office workers to sit less. All the while, questions remain about what the evidence has to say about the effectiveness of strategies to reduce sitting time.

A new researcher at the Institute for Work & Health (IWH) hopes to answer some of these questions. Dr. Aviroop Biswas, who joined the Institute this spring as the 2017 Mustard Post-Doctoral Fellow, helped uncover the extent to which sedentary lifestyles are associated with health risks. A meta-analysis that he published in the *Annals of Internal Medicine* in 2015 (doi: 10.7326/M14-1651) was named one of the most influential articles that year by the American Heart Association's Council on Lifestyle and Cardiometabolic Health. He shares what he has learned and where his research takes him next in this Q&A.

**Q:** You published a meta-analysis a couple of years ago that generated quite a lot of media coverage. Can you explain what you set out to find in this paper?

**A:** When we began this research, the knowledge at the time was that sitting for long periods was associated with a lot of health risks. But there was nothing that really consolidated the literature to quantify the independent association between prolonged sedentary time and health outcomes.

Our paper was the first meta-analysis to focus on the association between sedentary time and health outcomes, while adjusting for the effects of physical activity. What made our study unique was that we looked at the risk for two groups of people. One group was the "active couch potatoes"—people who exercised and met their recommended 150 minutes of moderate-intensity physical activity a week, but

otherwise sat a lot for the rest of the day. The other group was people who didn't exercise enough and were very sedentary.

**Q:** What did you find?

**A:** When we adjusted for the effects of physical activity across all the papers looking at adult populations, we found that prolonged sedentary time was associated with a 91 per cent increased risk for Type 2 diabetes. We saw increased risks for mortality from all causes, for cardiovascular diseases, for deaths from cardiovascular diseases. We also saw increased risks for both incidence of, and deaths from, certain types of cancer—particularly those associated with reproductive and metabolic health.

The higher risks I've just mentioned were found when comparing people who sat the most in a day with those who sat the least. We used that method because the studies in the review all defined their study groups and comparison groups differently.

To also understand how exercise affected these risks, we compared the highly sedentary people who didn't exercise enough and the people who were highly sedentary but who also exercised. As I mentioned, this second group of people also sat many hours in the office or in front of the TV, but they also met the exercise guidelines of 150 minutes of moderate-intensity exercise a week. For this group, the risk for mortality from all causes was 30 per cent lower than for those who didn't exercise enough. This suggested that exercise seems to have protective benefits.

**Q:** What might explain this link?

**A:** We're still at the early stages of understanding this, so by no means is this the definitive answer. But one main hypothesis among researchers is that a sedentary lifestyle makes our body's metabolic system less efficient. Sitting for long periods means that we use less of our skeletal muscles

associated with our posture. The associated metabolic pathways, which are linked to the firing of our skeletal muscles helping us to regulate blood sugar, store fat and so on, aren't as active and so the pathways become less efficient.

So what do you do? You would want to keep those muscles firing as much as possible by breaking up your sitting time. Breaking up your sitting boosts your metabolic system. Take standing breaks, walking breaks, and move around as much as you can.

### SETTING THE RECORD STRAIGHT

Dr. Avi Biswas's article in the *Annals of Internal Medicine* on the health effects of prolonged sitting generated quite a lot of media attention. Unfortunately, some of the coverage misrepresented the findings.

With headlines such as, "Excessive sitting is deadly, even with regular exercise, Toronto researchers say" or "Even with exercise, excessive sitting linked to premature death," a number of articles gave the impression that physical activity has no benefit.

However, Biswas's meta-analysis did find protective effects of exercise.

In summary, the research team found:

- Prolonged sitting was linked to a 91 per cent increase in risk of Type 2 diabetes.
- Prolonged sitting was also linked with 15 per cent higher risks of cardiovascular diseases and associated deaths. It was also linked to 13 per cent higher risks of cancer and cancer deaths—specifically cancers of the breast, colon, uterus lining and ovarian epithelial cells.
- From the studies that looked at the relationship between physical activity and sedentary time on deaths from all causes, people who were highly sedentary faced a 46 per cent higher risk of dying early compared to people who were not sedentary.
- Those same studies showed people who were highly sedentary but who otherwise met the exercise guidelines of 150 minutes a week had a 30 per cent lower risk of dying than people who didn't exercise enough.

# External grants support range of Institute projects

**Q:** Where is there still debate among researchers?

**A:** There's a big debate on what people should do to reduce the risks of a sedentary lifestyle. While some researchers recommend breaking up sitting with standing or light movement, another study I conducted found that intensity makes a difference. Calisthenics and walking around the office for a few minutes every hour seem to give a greater metabolic boost over a shorter period of time than just using a standing desk for long periods. Exercising regularly seems to give the biggest boost, and might even completely reduce the risks of sedentary behaviour if you do enough of it. Hence, some researchers (me included) still believe that any recommendation should focus on promoting regular exercise first.

**Q:** Where is your research taking you next?

**A:** My doctoral research focused on strategies to reduce sedentary behaviour for patients undergoing lifestyle-based rehabilitation after a cardiac event. During that time I found that people commonly spend a lot of their day at work, and work is where they do most of their sitting. Addressing the dearth of recommendations to reduce sitting at work is something I'm very interested in. I'm also looking to explore the intersection between the workplace environment, worker lifestyles and the prevention of illness and injury.

**Q:** What was it like to see so much media coverage for your research?

**A:** It was a very pleasant surprise, especially as it happened during my graduate studies. Not all the coverage was entirely reflective of our findings, however. Several media sources reported that the risks from sitting are great no matter how much exercise we do. I believe they misinterpreted our independent analysis of the effects of prolonged sedentary behaviour. Instead, the message should have been more optimistic—that regular exercise has protective benefits over the risks from sitting. Examples such as these made me realize the importance of clearly communicating research findings to the public. 📌

## New research at IWH explores violence prevention, risks of drug use, disclosure of needs and more

As workplaces constantly evolve, new questions emerge about work-related injury and disability prevention. At the Institute for Work & Health (IWH), external grants play a big part in supporting research on these questions. The following are just a few examples of new projects under way, thanks to these grants.

### Violence prevention in health care

Violence and aggression toward health-care workers has been recognized as a significant health and safety concern. Since 2010, legislation in Ontario has required employers to adopt measures to reduce the risk of workplace violence.

In a two-year study funded by the Ontario Ministry of Labour's Applied Research Initiative, IWH Scientist Dr. Agnieszka Kosny is leading a team to examine the implementation of violence prevention policy at four to six acute-care hospitals.

"Our goal is to examine the measures organizations use to address workplace violence and understand how they have played out in practice," says Kosny. "We also want to identify the contextual factors that help or hinder implementation, and learn from stakeholders about challenges in preventing violence in this sector."

### Risks associated with psychoactive drugs

Prescription opioids, sedatives for sleep disorders, medication to control anxiety, recreational cannabis and medical marijuana: these psychoactive drugs act on the central nervous system and can have adverse effects such as drowsiness, dizziness, and cognitive and psychomotor impairments such as decreased concentration and reaction time.

With the use of these substances on the rise, workplaces are concerned about the risk of workplace injury. In a systematic

review funded by WorkSafeBC, IWH Post-Doctoral Fellow Nancy Carnide and Scientist Dr. Andrea Furlan are leading a team to synthesize the available research on certain central nervous system agents (as these drugs are known) and workplace injury and death.

"To the extent that data is available, we'll also look at the influence of specific characteristics of drug use, such as dose, duration and purpose of use," says Carnide. "We also hope to tease out whether certain occupational or demographic groups experience higher risks than others."

### Older workers and their communication of accommodation needs

Helping baby boomers stay in the workforce is an important strategy for supporting their financial security and maintaining labour force growth. "However, there's research suggesting that older workers are concerned about communicating their needs to others," says IWH Senior Scientist and Associate Research Director Dr. Monique Gignac. "Disclosure can enable support and build intimacy and trust, but it may also lead to stigma, lost opportunities and even discrimination."

In a three-year project supported by a Social Sciences and Humanities Research Council (SSHRC) Insight Grant, Gignac is leading a team to study the relationships between disclosure, accommodation and work outcomes. She is interested in why older workers choose to communicate their needs for accommodation, support or training. She hopes to understand the factors that relate to disclosure, and the characteristics of disclosure that are linked with offers of support.

For the full list of grants awarded to IWH from July 2015 to March 2017, go to: [www.iwh.on.ca/grant-round-up](http://www.iwh.on.ca/grant-round-up). 📌

## AT WORK

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# Best practices turned into audit tool in response to review body's advice

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“(It) provides insight into an organization’s health and safety ecosystem, looking at the interdependence between the system and the culture,” says Mike Parent, director of mining at WSN. “This insight provides an organization with relevant information and a roadmap to tactically develop objectives to improve its health and safety performance.”

The work that led to this questionnaire offers a positive example of collaboration across the system—one that integrates research and front-line experience—to produce a practical tool, says Mustard.

“Although we didn’t bring to this review an expertise in health and safety in mining, I think the review felt it was good practice to have access to an impartial research perspective as a source of advice on how research methods might support the work of the advisory group,” he adds. “The development of this tool in response to the recommendations was a natural extension of that research contribution.”

The Mining Health, Safety and Prevention Review was launched following the deaths of two workers in a Sudbury mine. During public consultations held in northern Ontario, the review heard about IRS shortcomings in the industry. Labour groups, in particular, drove home the point that worker safety concerns were often ignored.

That feedback elevated the internal responsibility system as an area of focus for the review—alongside other topics such as ground control hazards, water management hazards, emergency response, and worker training and labour supply challenges. As the working group on this topic examined ways to strengthen the IRS, the employer and labour representatives disagreed about whether roles and responsibilities in the IRS should be spelled out. They did agree, however, with Mustard’s proposal to develop a series of best practice statements that describe what an effective internal responsibility system would look like.

The drafting of these statements drew on review consultations, academic publications, 25 interviews with subject-matter experts, and documents prepared by standards or regulatory authorities. The statements were grouped under four headings: (1) management practice; (2) worker representation and participation; (3) clear standards; and (4) effective enforcement.

To create an IRS assessment tool, an IWH team worked with WSN to turn the best practice statements into questions. Three different versions of each question were developed to elicit the perspectives of workers, supervisors and senior managers.

Once the questionnaire was ready to be tested for its measurement properties, WSN took charge of recruitment. It invited four mining operations to take part, resulting in a sample of about 1,900 respondents. The IWH team then conducted the statistical analysis of the responses.

It found important score differences between the four mining operations. In addition, the mining operation with the most positive IRS scores had the lowest frequency of lost-time and no-lost time workers’ compensation claims. An overview of the findings was presented in April at WSN’s 19th Annual Mining Health and Safety Conference in Sudbury, Ont.

The tool is now being piloted by WSN to provide mining operations with a snapshot of how their IRS is functioning. (See [www.workplacesafetynorth.ca/news/news-post/new-tool-measures-workplace-safety-systems-and-culture](http://www.workplacesafetynorth.ca/news/news-post/new-tool-measures-workplace-safety-systems-and-culture).)

WSN’s Parent credits the joint efforts of many different stakeholders for the final product. “The IRS CAAT initiative, which will help make workplaces safer, would not exist today without the collaborative partnerships between the Institute for Work & Health and Workplace Safety North, and the support of organized labour and the Ontario mining industry,” he says.

For more on the IRS CAAT, see Mustard’s presentation on the tool at: [www.iwh.on.ca/other-reports](http://www.iwh.on.ca/other-reports). ■