

otvwork

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Online office ergonomics training program now available from IWH

IWH's *eOfficeErgo: Ergonomics e-Learning for Office Workers* is an evidence-based training program that leads to healthy computing practices and postures among office workers

A new online office ergonomics training program is now available for use by organizations of all sizes in all sectors. Studies have shown that the program leads to healthy computing work habits among office workers.

A joint initiative of the Institute for Work & Health (IWH) and the Public Services Health & Safety Association (PSHSA), *eOfficeErgo: Ergonomics e-Learning for Office Workers* was launched at the end of February, in time for International Repetitive Strain Injury (RSI) Awareness Day.

The program is designed so that participants can learn at their own pace and in their own environment. The program consists of nine modules and takes about 90 minutes to complete. By the end of the training, learners will be able to:

- discuss the hazards associated with computer work;
- explain the importance of varying their work posture;
- determine the key factors in maximizing their "comfort zone";

- evaluate their office work environment; and
- apply ergonomics strategies to the arrangement of their work environment.

"With the growth in office environments and the large number of people working mainly at their desks with computers, helping workplaces prevent musculoskeletal injuries among office workers is of increasing importance," says Monica Szabo, PSHSA's executive director of government and public safety. "This program can help managers and workers understand the issues around these injuries and how to minimize risk."

Standard compliant and usability tested

The program began as an in-person training program, developed in the early 2000s by IWH in partnership with the U.S.-based Liberty Mutual Research Institute for Safety. In 2010-2011, an international

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IWH welcomes new Board chair

The Institute for Work & Health (IWH) is pleased to announce that **Kevin Wilson** is the new chair of the Institute's Board of Directors. Wilson is the former assistant deputy minister of policy and dispute resolution services at the Ontario Ministry of Labour. He succeeds **Jerry Garcia**, who served as chair since September 2013.

Surveying OHS practitioners, advocates and others on communication preferences

IWH wants to hear from you and other practitioners, advocates and stakeholders in the field of occupational health and safety (OHS) about your preferences and practices for receiving OHS information. IWH's knowledge transfer and exchange team is conducting a survey to find out what forms of communication work best for getting information about research findings, tools and products into the hands of stakeholders. Where do you like to learn about new information: websites, e-mail, social media? What formats do you prefer: newsletters, one-page summaries, infographics? Please let us know. The short survey—it only takes five minutes to complete—is open until May 22, 2015. To access it, go to: <http://bit.ly/19VDamQ>.

Summer Program on Aging 2015 builds research capacity on aging workforce issues

In partnership with the Canadian Institutes of Health Research (CIHR)'s Institute of Aging (IA), Institute of Gender and Health (IGH) and Institute of Musculoskeletal Health and Arthritis (IMHA), IWH is hosting an advanced training program on health, wellness and the participation of older adults in the world of work. This is the focus of a new large-scale CIHR strategic initiative on work and health and is an area in which building the future community of scientists is a strong priority. The program will be held June 1-5 in Toronto.

Missed an IWH plenary? Watch it online

Did you know our plenaries are available online as slidecasts? IWH plenaries, held most Tuesdays from September to June, bring scientists from across Canada and around the world to share research findings or discuss ongoing projects. If you're interested but unable to attend, check out IWH's plenaries page for slidecasts. Go to: www.iwh.on.ca/plenaries

WHAT RESEARCHERS MEAN BY...

Primary, Secondary and Tertiary Prevention

Primary, secondary and tertiary prevention are three terms that map out the range of interventions available to health experts

Prevention includes a wide range of activities — known as “interventions” — aimed at reducing risks or threats to health. You may have heard researchers and health experts talk about three categories of prevention: primary, secondary and tertiary. What do they mean by these terms?

Primary prevention aims to prevent disease or injury before it ever occurs. This is done by preventing exposures to hazards that cause disease or injury, altering unhealthy or unsafe behaviours that can lead to disease or injury, and increasing resistance to disease or injury should exposure occur. Examples include:

- legislation and enforcement to ban or control the use of hazardous products (e.g. asbestos) or to mandate safe and healthy practices (e.g. use of seatbelts and bike helmets)
- education about healthy and safe habits (e.g. eating well, exercising regularly, not smoking)
- immunization against infectious diseases.

Secondary prevention aims to reduce the impact of a disease or injury that has already occurred. This is done by detecting and treating disease or injury as soon as possible to halt or slow its progress, encouraging personal strategies to prevent reinjury or recurrence, and implementing programs to return people to their original health and function to prevent long-term problems. Examples include:

- regular exams and screening tests to detect disease in its earliest stages (e.g. mammograms to detect breast cancer)
- daily, low-dose aspirins and/or diet and exercise programs to prevent further heart attacks or strokes
- suitably modified work so injured or ill workers can return safely to their jobs.

Tertiary prevention aims to soften the impact of an ongoing illness or injury that has lasting effects. This is done by helping people manage long-term, often-complex health problems and injuries (e.g. chronic diseases, permanent impairments) in order to improve as much as possible their ability to function,

their quality of life and their life expectancy. Examples include:

- cardiac or stroke rehabilitation programs, chronic disease management programs (e.g. for diabetes, arthritis, depression, etc.)
- support groups that allow members to share strategies for living well
- vocational rehabilitation programs to re-train workers for new jobs when they have recovered as much as possible.

Going “upstream”

To help explain the difference, take this example. Let's say you are the mayor of a town near a swimming hole used by kids and adults alike. One summer, you learn that citizens are developing serious and persistent rashes after swimming as a result of a chemical irritant in the river. You decide to take action.

If you approach the company upstream that is discharging the chemical into the river and make it stop, you are engaging in primary prevention. You are removing the hazardous exposure and preventing rashes in the first place.

If you ask lifeguards to check swimmers as they get out of the river to look for signs of a rash that can then be treated right away, you are engaging in secondary prevention. You are not preventing rashes, but you are reducing their impact by treating them early so swimmers can regain their health and go about their everyday lives as soon as possible.

If you set up programs and support groups that teach people how to live with their persistent rashes, you are engaging in tertiary prevention. You are not preventing rashes or dealing with them right away, but you are softening their impact by helping people live with their rashes as best as possible.

For many health problems, a combination of primary, secondary and tertiary interventions are needed to achieve a meaningful degree of prevention and protection. However, as this example shows, prevention experts say that the further “upstream” one is from a negative health outcome, the likelier it is that any intervention will be effective. +

IWH research on vulnerable workers leads to tool for measuring risk factors

29-item survey gauges vulnerability via workplace hazards, policies, procedures and worker awareness

Joe is a 17-year-old who carts heavy boxes from delivery trucks to the basement of the local retail store where he works part-time. Aranja, 57, arrived in Canada three years ago and has found a job as a home-care worker. Henry, 36, takes whatever manual jobs he can get through the temporary work agency he has signed up with.

Each one of these workers is called “vulnerable”—a term being used increasingly in occupational health and safety (OHS) to describe those at a greater risk of work injury. Yet, as the situations of Joe, Aranja and Henry show, the term can refer to very different types of workers.

So what exactly makes these workers vulnerable? Are they the same factors across all groups of workers, or do different groups face different risk factors? Institute for Work & Health (IWH) Scientist Dr. Peter Smith set out to help answer these questions. His research resulted in a new 29-item questionnaire that measures the extent to which workers are at increased risk of work-related injury and illness. Smith shared the questionnaire and related research findings at a plenary held at the Institute earlier this year, now posted as a slidecast: www.iwh.on.ca/plenaries/2015-jan-20.

“Using this measure, we can learn more about the patterns of different types of vulnerability across the labour market, which can inform the development of more appropriately tailored primary prevention interventions,” says Smith. “Measuring factors that place workers at increased risk of injury is a more proactive approach to injury prevention than waiting for injuries to occur and then taking action.”

Four dimensions of vulnerability

Protecting vulnerable workers is a priority within Ontario’s health and safety prevention system. It was a key theme in the December 2010 report of Ontario’s Expert

Advisory Panel on Occupational Health and Safety. In the wake of that report, the Ministry of Labour established a Vulnerable Workers Task Group to provide advice on how to better protect vulnerable workers.

The current use of the term “vulnerable workers” brings to mind certain demographics of workers (e.g. new immigrants, young workers) or particular types of work (e.g. work in small business, temporary work). This use is problematic, says Smith. It implies that OHS vulnerability is innate to certain types of work or workers, suggests that OHS vulnerability can’t be changed, and fails to acknowledge that broader factors can play a role.

To address these problems, Smith and his team examined OHS vulnerability through four dimensions that can lead to an increased risk of injury:

- the hazards workers face;
- the workplace- or organizational-level protection they’re offered in the form of policies and practices;
- their awareness of their health and safety rights and responsibilities; and
- the extent to which they’re empowered to take part in work-related injury prevention and to refuse unsafe work.

Finding the right questions

Using these dimensions, the research team defined vulnerability as arising when workers are exposed to hazards *in combination* with inadequate workplace policies and procedures *and/or* low OHS awareness *and/or* a workplace culture that discourages workers’ participation in injury prevention. Turning to the literature, Smith and his team came

up with a list of 97 potential questions covering the four dimensions. Then, thanks to feedback from focus groups held in Ontario and in the state of Victoria, Australia (where this study was partly funded), the team further reduced the number of questions to 64.

The team then conducted a pilot survey with 328 respondents in Ontario and British Columbia, as well as a follow-up survey of 62 of these respondents. The process identified questions that did not have a high response rate, a high test-retest reliability (i.e. questions were not answered the same way even

though nothing had in fact changed), or high correlation with similar items. These questions were removed, leaving 29 items in the final survey.

Using this measure, Smith and his team examined whether groups labelled as “vulnerable” are vulnerable

in similar ways. They found that, while some groups are vulnerable across all dimensions (e.g. young workers), other groups like workers in small businesses and newcomers are more vulnerable in some dimensions than others.

For example, workers in small businesses are more likely to be exposed to workplace hazards and inadequate workplace policies and procedures. But they are not more likely to be exposed to cultures that discourage worker participation.

“A measure like ours can be used both at one point in time to measure vulnerability in the labour force, and over time to measure changes in vulnerability before and after a program is introduced,” says Smith. With respect to the latter, Smith recently received a grant to use the measure to examine changes in OHS vulnerability in Ontario associated with the introduction in July 2014 of mandatory awareness training for all workers and supervisors in the province. ➤



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IWH research plays key role in shaping WSIB policies that led to better outcomes

New case studies describe how Institute findings on return to work, recovery and retraining were ‘formative’ in changes at Ontario’s workers’ compensation board

The hope of many researchers when embarking on a project is that their findings support the development of improved policy and practice. Even more rewarding is when their research leads to better outcomes as a result of such changes.

In the field of occupational health and safety, measures of positive outcomes might include lower injury rates, reduced duration or cost of claims, and improvements in workforce health. However, such societal-level impact can be difficult to pinpoint. That’s because the process by which research evidence results in broader change can be diffuse, often taking many years.

At the Institute for Work & Health (IWH), researchers work with the knowledge transfer and exchange team to track and report on the uptake and use of its research by stakeholders within the health and safety system. One way to gauge impact is through case studies, which tell the story of how research informed the activities of particular stakeholders.

In the case studies below, the impact of research was seen many years after the research projects had wrapped up. These projects resulted in policy changes at the Workplace Safety and Insurance Board (WSIB), Ontario’s workers’ compensation agency. Several years after these changes took place, positive outcomes began to be seen.

A new case management model

For a decade, from 1999 to 2009, the proportion of disability episodes of long duration compensated by the WSIB steadily went up. This was a serious problem, given that injured or ill workers experience profound emotional, physical and economic losses when their recovery and return to work is delayed. As Judy Geary, the WSIB’s former vice-president of program develop-

ment, put it, “this led to longer claim durations, higher costs and dissatisfied stakeholders.”

To turn this trend around, the WSIB introduced a new case management focus for the delivery of services to injured workers and their employers, with an emphasis on improving return-to-work (RTW) outcomes. Called the New Service Delivery Model (NSDM), it incorporated procedures based on the evidence available, and IWH research played a pivotal role.

In particular, IWH research on return to work, recovery, claim complexity and interventions was “quite formative in WSIB’s thinking,” said Geary when IWH first contacted her about the model. “Indeed, researchers from IWH met regularly with WSIB staff during the design and development of the model to offer advice about the appropriate use of research evidence.”

The WSIB’s new model, introduced in the fall of 2008 and into the spring of 2009, includes a number of features that Geary traced back to IWH research. For example:

- The model adopted a **case management framework**, in which a case manager assesses very early in the life of a claim the degree of WSIB involvement needed to ensure an injured worker’s return to work.
- A new role was created, the **RTW specialist**, for the case manager to call in when an injured worker and workplace are



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having difficulty developing an RTW plan. “The IWH research leading to the ‘Seven Principles for Successful Return to Work’ showed that RTW co-ordination is key,” said Geary. “The RTW specialist was created directly as a result of that research.”

- The new model was designed to enable **timely first decisions** so that an injured worker quickly learns if his or her claim for workers’ compensation benefits has been accepted. “Research shows a long delay results in poorer outcomes,” said Geary. “So we put a lot of effort into re-engineering the process to enable timely first decisions.”

The NSDM has had a marked impact on improving RTW outcomes. According to the WSIB report, *2012-2016 Strategic Plan: Measuring Results: Q1 2013*, by early 2013, 90 per cent of all claim eligibility decisions for Schedule 1 injured workers were being made within two weeks. This was an improvement from 2008 when only 65 per cent of decisions about a claim took two weeks or less. As well, the percentage of workers still on workers’ compensation

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benefits after 12 months dropped to 3.9 per cent, down from 8.9 per cent in 2009.

A new reintegration program

Around this same period, in November 2010, the WSIB also introduced a new vocational rehabilitation program for injured workers called the Work Reintegration Program (WRP). This was partly in response to research at IWH in the years between 2007 and 2009 showing how the existing vocational rehabilitation program for injured workers, called Labour Market Re-entry (LMR), was not working as intended.

At the time, the Board's vocational retraining program offered through LMR was geared to workers who were injured at work and could not return to their former workplace, usually because they had suffered a permanent impairment. The function of placing workers in vocational retraining programs was outsourced to seven firms, whose case managers priced, designed and oversaw an individual worker's program. Through these programs, workers often ended up at private training schools throughout the province.

Using qualitative research methods, an IWH research team identified a number of problems with the program. When the WRP phased out the use of external LMR service providers and brought case management back inside the Board, Geary traced a number of the new program's features to IWH's research. They include:

- **more opportunities for choice.** Injured workers were given more chances to make their own decisions about their occupation, the nature of their retraining (on-the-job versus school) and, if an academic route is chosen, what type of school they attend. This was directly related to the finding that injured workers felt they were put on treadmills of training programs that they didn't want to be on, but had to stay on in order to maintain their workers' compensation benefits.
- **more retraining pathways.** IWH's research

showed that offering just one pathway—the academic route—was a bad fit for many injured workers. Therefore, the new program allowed for other options, such as on-the-job training

- **access to community colleges.** The problems at private training schools noted by the research—e.g. pushing workers through their programs too quickly, inflating marks to make their own success rates look good—led the WSIB to build alliances with the province's community colleges and give injured workers the option of attending these schools if they prefer.
- **placement services.** The research emphasized that injured workers faced a lot of barriers and stigma as they searched for work. Therefore, the WSIB decided to offer 12 weeks of placement services through contracted providers to those not returning to their old employer.
- **part-time work.** The research showed that the all-or-nothing approach of LMR—full-time work or none at all—did not fit the needs of workers who wanted to work but could only manage limited hours. WRP opened up the possibility of part-time employment.

In the report, *2012-2016 Strategic Plan: Measuring Results: Q1 2013*, the WSIB noted that the Work Reintegration Program resulted in better outcomes, lower costs and higher customer satisfaction levels. According to the report, in the first two years of the new program, 69 per cent of workers who completed their program returned to work, compared to 36 per cent of workers in 2009 under LMR. As well, WRP costs in 2012 were \$91 million—down \$77 million from the \$168 million it cost for LMR and related services in 2009. Finally, injured worker satisfaction rates with the new program increased to 85 per cent, up considerably from the 49 per cent of injured workers satisfied with LMR services.

These two case studies are among several new case studies on the impact of IWH research. For more, go to: www.iwh.on.ca/impact. 📍

In just over a year, the Institute for Work & Health (IWH) is hosting PREMUS 2016, the Ninth International Scientific Conference on the Prevention of Work-Related Musculoskeletal Disorders.

On June 20-23, 2016, come join world-renowned researchers and hear about policies, programs and practices that have been shown to help prevent work-related musculoskeletal disorders (MSDs). Learn about trends, innovations and emerging issues in the field of work-related MSDs. Network with the best and brightest in MSD research and explore collaborations for future projects.

The overarching theme of this conference is "Preventing Work-Related MSDs in a Global Economy," in recognition that it takes collective knowledge around the world to successfully describe, measure, manage and prevent work-related MSDs.

The conference sessions will focus on eight major themes:

1. Field evaluations of MSD prevention policies, programs and practices
2. Economic burden of work-related MSDs
3. Epidemiology of work-related MSDs
4. Biology of work-related MSDs
5. Measuring exposures in a new world of work
6. Management of work-related MSDs and sustainable employment
7. Health disparities and globalization
8. Emerging issues in the prevention and management of work-related MSDs.

The conference website is now up at: premus2016.iwh.on.ca. You can sign up for conference updates on the website. Note that the call for abstracts for presentations and posters, as well as registration information, will be posted on the website on May 15, 2015. 📍

Workers' compensation systems vary greatly in their medical assessment practices

Differences in use of medical assessments may point to solutions to common challenges, IWH study suggests

Although most workers' compensation boards set out procedures for independent assessments by medical professionals as part of the administration and management of work-related injury claims, how these assessments are carried out varies greatly.

In a study of 14 jurisdictions in Canada, Australia and New Zealand, Institute for Work & Health (IWH) Scientist Dr. Agnieszka Kosny, along with colleagues at Monash University in Australia, found considerable differences in how workers' compensation boards (WCBs) use assessments, recruit and retain medical assessors, and perform quality control. The range of practices is rather surprising, she notes, given that WCBs are fairly similar in function and purpose.

Nevertheless, Kosny found some common challenges across the jurisdictions, and she believes their differences could point to ways to overcome them—if they shared their experiences.

“Because the jurisdictions are so different in the way they use independent medical assessments, they could learn a lot from each other,” says Kosny. “Depending on their context and their needs, they could potentially learn ways to do medical assessments that are less intrusive or less costly, for example. But my impression is the different jurisdictions currently don't talk much to each other about these issues.”

Kosny shared the results of her study on independent medical assessments (IMAs) at a plenary hosted by the Institute earlier this year. A slidecast of that presentation is now available at: www.iwh.on.ca/plenaries/2015-jan-13.

Public perception a common concern

The purpose of Kosny's study was to understand the role and function of IMAs across a number of different systems. IMAs generally involve health-care professionals providing

their opinions on injured workers' levels of disability or impairment, independent of the opinions of workers' treating health-care providers.

“The organization that funded the study, the Accident Compensation Corporation (ACC) in New Zealand, had identified a number of issues with IMAs in its own system,” Kosny says. “It wanted to understand how other compensation boards dealt with similar issues.”



Dr. Agnieszka Kosny

To undertake her study, Kosny reviewed publicly available material on IMAs in each jurisdiction and interviewed a senior health-care or policy advisor in each of the 14 participating boards (the boards are not named to protect the anonymity of those interviewed).

Kosny's study gave rise to a number of key findings:

The term means different things in different jurisdictions. In some, IMAs are done in-house by health professionals who are independent from the treating physician. In others, they are collaborative assessments in which health-care providers from different disciplines hold ongoing discussions about cases. In some boards, the term is used for paper-based reviews of claims, a process which may take place without the injured worker knowing.

WCBs use independent medical assessments for four main purposes. These are: to explore reasons for unexpected delays in recovery and return to work; to make a permanent impairment determination; to help resolve medical disputes (e.g. about treatment paths or experimental therapies);

and to determine liability or to establish grounds for reductions in benefits.

A disjuncture exists between publicly available information on IMAs and how they are actually carried out. There are differences between the information publicly available on IMAs (e.g. on websites) and how IMAs are carried out in practice, as described by the study participants. “This could be quite confusing to injured workers, when they find information on how the process is supposed to unfold and then experience something different,” Kosny notes.

The challenges faced by WCBs cluster around common themes. Many boards struggle with recruiting medical professionals to act as assessors, as the administrative burden involved can be high. The scarcity of assessors is a particular concern in rural and remote areas; it often means workers making compensation claims have to travel long distances to be assessed. As well, jurisdictions with too few assessors sometimes find higher levels of mistrust among workers, who perceive that the assessors on the roster are biased in favour of the boards.

Recruitment issues also play into a second challenge faced by many boards, which is that of quality assurance. “This is a common challenge,” says Kosny. “When there are too few assessors, it can be more difficult for WCBs to institute quality assurance practices.” Many of the boards in the study do not monitor quality systematically, according to Kosny. Even when rigorous processes are in place, such as the case at two boards in the study, the focus of the reviews is on the quality of the report, not on the quality of the medical opinion.

Although small, Kosny's study suggests a need for further research into medical assessments. “Medical assessments are important to individual workers, so questions about the professionals who are recruited as assessors, how their work is monitored and how injured workers experience different types of IMAs are very important,” she says. “Yet there is little research on these topics.” ❖

Practitioners in workplace health and safety value research in decisions but lack for time

IWH study suggests OHS professionals would welcome a one-stop shop to find lay-friendly research

As an occupational health and safety (OHS) professional trusted by his organization to provide sound advice and implement effective OHS programs, Andy sees the value of research to inform his thinking.

He makes time to look for research when approaching a decision. He looks at multiple sources, often from a variety of disciplines, and usually has a good idea of which sources to trust. He's not shy about sharing what he finds with his peers. Overall, Andy is confident in his ability to find research and assess its quality. For him, having the skills and the time to use research enhances his credibility: he doesn't want to be seen as talking off the top of his head when he offers a recommendation at his workplace.

That's a picture of how some OHS professionals integrate health and safety research into their day-to-day work. The picture emerged from a study conducted by the Institute for Work & Health (IWH) on research use in OHS in Ontario. Findings were presented at an IWH plenary in February, now available as a slidecast: www.iwh.on.ca/plenaries/2015-feb-17.

"The findings are very positive," says Dwayne Van Eerd, IWH scientist and lead researcher of the study. "The study participants told us research use is important and that they have the skills and motivation to find and evaluate research. However, they also said they lack the time to do it well."

Van Eerd notes that many respondents said they are adept at using research. "I don't know if it has been sufficiently acknowledged that those in the OHS profession have the skills to use research and see the value in doing so," he says.

For academics producing OHS research, the takeaway message from the study is the importance of making their research accessible. "A majority of OHS professionals in our study said they want to find research in plain language, and preferably from a single



Photo ©iStockphoto.com/endopack

place," says Van Eerd. "The idea of a 'one-stop shop' came up a lot."

Four areas of research use

Van Eerd's survey was sent out to about 700 OHS professionals, and 236 (or 34 per cent) took part. The team probed the survey findings further via interviews with six people and focus groups with another seven.

The study participants were all people whose job titles or responsibilities included OHS or disability management functions. About half described their roles as providing consultation or advice to organizations. All were working in the province of Ontario. "We can assume that those who responded represent the segment of the profession who are already interested in and motivated by this topic," says Van Eerd.

The study focused on four areas of research use: finding/acquiring, assessing, adapting and applying evidence.

When **acquiring evidence**, respondents said they have the skills and incentives to use research but not enough time to search for it. When looking for research, they consistently turn to peer-reviewed literature, grey literature such as trade magazine articles and conference papers, electronic databases such as PubMed and Medline, websites and peer networks. On top of multiple sources, they also look for current research across different disciplines. Many said they lack the time and would prefer to

find research evidence all in one place.

When it comes to **assessing evidence**, seven in 10 said they can relate and compare research findings. In interviews, participants spoke of the need for the most recent evidence.

When **adapting evidence**, many respondents felt they can recommend action based on what they find, but fewer reported having the skills or time to present or distil research findings. The challenge they face, according to the study, is how to tailor findings to their specific situation. "The questions they need to answer are often specific, adapting the evidence to those specific needs can sometimes be a challenge," says Van Eerd.

When it comes to **applying evidence**, a majority of respondents said research use is a priority and the culture of their workplace supports it. When applying research, they need to think about the audience, which is where concise, plain-language summaries come in handy. Some also talked about finding ways to present research through relatable stories, because that helps their audiences remember the message.

Overall, a strong theme emerging from the interviews and focus groups is the value of credible research to support change or decision-making processes. Many spoke of having to draw on their own experiences and expertise to assess the credibility of both the source of a study and its findings. That reliance on personal expertise, says Van Eerd, is in line with evidence-based practice.

"People sometimes talk about the challenge they face when there aren't enough studies done on an intervention or when the studies have contradictory findings. I tell them they can only rely on the best available evidence at that point, in conjunction with their own expertise," says Van Eerd. "That reflects the original definition of evidence-based practice—which is the integration of the latest research findings with individual experience and expertise." ■

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The Institute for Work & Health promotes, protects and improves the safety and health of working people by conducting actionable research that is valued by employers, workers and policy-makers.

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Online program shown to be as effective as in-person training

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scientific panel of academic and practicing ergonomists reviewed the content to ensure it complied with current scientific findings and international standards, including the Canadian Standards Association's CSA-Z412-00 (R2011): *Guideline on Office Ergonomics*.

Experts in e-learning at the Centre for Addiction and Mental Health (CAMH) in Toronto then worked with IWH to turn the in-person training into an engaging online program. The program was tested for usability at the University of Waterloo and by employee focus groups at CAMH. This input was instrumental to improving the ease of navigating the training and the types of feedback trainees receive during the e-learning (e.g. frequency of quizzes).

One of the most memorable learning moments for the IWH team was at this stage, when the team was still getting used to designing for an online format. Going through the initial script and storyboards for the online program, the team didn't want to leave anything out.

"We were very vocal about making sure all the knowledge that might get passed on in a classroom would be available to workers sitting at their desk, learning this material on their own," says team member Trevor King, ergonomist and knowledge transfer and exchange associate at IWH. "But that resulted in information and text overload."

King credits the e-learning expert at CAMH, who patiently steered him and his IWH colleagues toward the realization that they could convey quite a lot of information using dynamic features in the e-learning format. "Wrapping our heads around this took a while," says King. "But once we saw the first concept modules, we began to understand this more. We had to experience it to understand it."

In the end, not much appeared to be lost in translation. In a study conducted at five workplaces, involving 400 office workers, the e-learning version was found to deliver similar benefits as an in-person training

program. Both types of learning were also tested against a control group who did not receive training. Those who were trained had better scores on ergonomics knowledge, confidence in their ability to assess and adjust their workstation (self-efficacy), postural risk, and workstation configurations and adjustments. The study also found that improved outcomes were sustained even longer when either the in-person or online training was followed up with group sessions in which learners discussed the lessons and conducted assessments on each other.

Though new to workplaces, *eOfficeErgo* (or an early version of it) is already being offered to all employees at CAMH, where a pilot study also resulted in positive findings. The program is now one of the first resources given to staff who encounter issues with their workstations. The e-learning has not only been well-received by staff, it has also resulted in real benefits for the organization, according to Cheryl Peever, formerly of CAMH's health and safety team. Thanks to this tool, more employees have been able to solve their issues by using the resource modules, and this has reduced the number of full ergonomics assessments needed, Peever said.

Three formats available

The online program is available in three formats: a free web-based version, a free SCORM-compliant version that organizations can incorporate into their Learning Management System, and a SCORM-compliant version that, for a nominal fee, allows managers to track information such as who has completed the training and when. To access any one of these three versions, go to: www.iwh.on.ca/eOfficeErgo.

To watch a video preview of the course, go to: www.youtube.com/watch?v=QEf8JLVNvNM. To view a presentation about the study comparing e-learning, in-person learning and enhanced forms of either format, go to: www.iwh.on.ca/how-to-make-office-ergonomics-training-more-effective-findings-from-a-field-trial. ■