

outwork

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Peer coaching on patient lifts lowers injury, but at a small cost

IWH cost-benefit analysis finds training program nearly cost-neutral while lowering injury rates by a third

A peer-coaching program introduced to help health-care workers use patient lifts resulted in a large drop in injuries related to patient handling—but at a small net cost to the system, an Institute for Work & Health (IWH) study has found.

The program was introduced in British Columbia across 15 long-term care facilities between 2006 and 2011. It led to a 34 per cent reduction in injury rates during the program time period and a 56 per cent drop after the program was over—a benefit of 84 cents for every dollar spent on the program, according to the study.

“Our calculations show that 62 lost-time claims were prevented as a result of this coaching program,” says Dr. Emile Tompa, labour economist and senior scientist at IWH who led the study, published online in December in the journal *Occupational and Environmental Medicine* (doi: 10.1136/oemed-2015-103134). “We also saw that the benefits of reduced injuries lasted even after the

program ended, which reflects the new skills gained as a result of the coaching.”

The benefits that Tompa and his team were able to measure in monetary terms were slightly less than what the program cost. “But the benefits were likely underestimated,” Tompa points out. “We were unable to track and monetize many potential benefits, such as shorter work absences, improved labour relations and better patient care. Had we been able to take those into account, we might have found this program to be cost-beneficial.”

Patient handling is one of the major causes of work-related injuries incurred by caregivers in institutional health-care settings. To reduce the physical demands of patient handling, many jurisdictions in Canada have introduced patient lifts, often along with policies eliminating manual lifting of patients. However, some studies suggest that the purchase of lifting equipment alone is not enough, and

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New Issue Briefing released on adequacy of workers' compensation benefits in Ontario

How well does the current workers' compensation system in Ontario make up for the lost earnings of injured workers with permanent impairments? Institute for Work & Health (IWH) Senior Scientist Dr. Emile Tompa recently updated an analysis of the adequacy of workers' compensation benefits to include 1998 changes to Ontario's workers' compensation program. He followed the wage replacement rates of people with permanent impairments injured in 1998 to 2002 over a 10-year period. An *Issue Briefing* summarizing his updated findings is now available. Find it at: www.iwh.on.ca/issue-briefings.

IWH's 2016 Activity Plan now available

Every year, IWH compiles an activity plan detailing the research projects to be undertaken at the Institute that year. This year's plan includes many activities that support the priorities identified in the Ontario Ministry of Labour's prevention strategy. These include research to describe the circumstances of vulnerable workers, find effective interventions to mitigate the risks of hazardous work, develop leading indicators of workplace occupational health and safety performance, and support workplace practices in the prevention of work disability. To read about IWH research underway in 2016, go to: www.iwh.on.ca/activity-plan.

New case studies tell stories of impact of IWH research

One way for the Institute to track the impact of IWH research on the activities of stakeholders is through case studies. Among the latest case studies is the story of how safety messages in Ontario have undergone a shift in emphasis—from "young workers" to "new workers"—in response to IWH research findings. To read this and the other new case studies, go to: www.iwh.on.ca/impact.

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WHAT RESEARCHERS MEAN BY...

validity and reliability*

Validity and reliability are concepts that capture the measurement properties of a survey, questionnaire or another type of measure

Validity and **reliability** are important concepts in research. The everyday use of these terms provides a sense of what they mean (for example, your opinion is valid; your friends are reliable). In research, however, their use is more complex.

Suppose you hear about a new study showing depression levels among workers declined during an economic downturn. You learn that this study used a new questionnaire to ask workers about their mental health over a number of years. You decide to take a closer look at the strength of this new questionnaire. Was it valid? Was it reliable?

To assess the validity and reliability of a survey or other measure, researchers need to consider a number of things.

Ensuring the validity of measurement

At the outset, researchers need to consider the **face validity** of a questionnaire. That is, to a layperson, does it look like it will measure what it is intended to measure? In our example, would the people administering and taking the questionnaire think it a valid measure of depression? Do the questions and range of response options seem, on their face, appropriate for measuring depression?

Researchers also need to consider the **content validity** of the questionnaire; that is, will it actually measure what it is intended to measure. Researchers often rely on subject-matter experts to help determine this. In our case, the researchers could turn to experts in depression to consider their questions against the known symptoms of depression (e.g. depressed mood, sleeping problems and weight changes).

When questionnaires are measuring something abstract, researchers also need to establish its **construct validity**. This refers to the questionnaire's ability to measure the abstract concept adequately. In this case, the researchers could have given a questionnaire on a similar construct, such as anxiety, to see if the results were related, as one would expect. Or they could have given a questionnaire on a

different construct, such as happiness, to see if the results were the opposite.

It may sometimes be appropriate for researchers to establish **criterion validity**; that is, the extent to which the measurement tool is able to produce accurate findings when compared to a "gold standard." In this case, the gold standard would be clinical diagnoses of depression. The researchers could see how their questionnaire results relate to actual clinical diagnoses of depression among the workers surveyed.

Ensuring the reliability of measurement

Researchers also need to consider the reliability of a questionnaire. Will they get similar results if they repeat their questionnaire soon after and conditions have not changed? In our case, if the questionnaire was administered to the same workers soon after the first one, the researchers would expect to find similar levels of depression. If the levels haven't changed, the "repeatability" of the questionnaire would be high. This is called **test-retest reliability**.

Another aspect of reliability concerns **internal consistency** among the questions. Do similar questions give rise to similar answers? In our example, if two questions are related to amount of sleep, the researchers would expect the responses to be consistent.

Researchers also look at **inter-rater reliability**; that is, would different individuals assessing the same thing score the questionnaire the same way. For example, if two different clinicians administer the depression questionnaire to the same patient, would the resulting scores given by the two be relatively similar?

If our depression researchers were sloppy in ensuring the validity or reliability of their questionnaire, it could affect the believability of their study's overall results. Although you can never prove reliability or validity conclusively, results will be more accurate if the measures in a study are as reliable and valid as possible.

*This is an update of a 2007 article

Study finds COR employers have lower rates of serious injuries than those not in program

IWH researcher finds voluntary audit program effective in identifying safer employers

Companies that sign up for a voluntary occupational health and safety audit commonly known as the Certificate of Recognition (COR) program have lower rates of serious injuries leading to time off work, according to a study by an Institute for Work & Health (IWH) researcher.

The study, conducted by the University of British Columbia (UBC)'s Partnership for Work, Health and Safety, compared injury rates between firms that took part in the province's COR program and those that did not over a period from 2005 to 2012. It found COR firms had on average 12 to 17 per cent lower rates of serious injuries that resulted in time off work. No differences were found between the two groups when it came to injury claims that only resulted in health-care reimbursement (i.e. no-lost-time claims).

"What's interesting is the largest drops in injury rates were found in the most hazardous sectors, which were forestry and construction," notes Dr. Christopher McLeod, IWH associate scientist, and assistant professor and co-director of the partnership at UBC's School of Population and Public Health. His study, commissioned by WorkSafeBC, is available on the Partnership for Work, Health and Safety website: <http://pwhs.ubc.ca/research/policy-and-program-evaluation/certificate-of-recognition-audit-program/>.

McLeod notes that, due to the study design, he cannot say whether firms' participation in the COR program resulted in the lower injury rates.

"What we can say is that the COR audit process is effective at identifying firms with lower work injury risk," he adds. "But to say whether COR is facilitating change or driving the change, we would need a different study design, and that's what we're now laying the groundwork to do."

WorkSafeBC started using the Certificate of Recognition in 2003 as part of a pilot injury and disability prevention program in the construction sector. It was expanded to the oil and gas sector in 2004, and then to all industry sectors in 2006. Under the program, to receive a Certificate of Recognition, employers have to implement an occupational health and safety management system (OHSMS) and pass an audit of their health and safety practices. Employers with a certificate are eligible to receive a

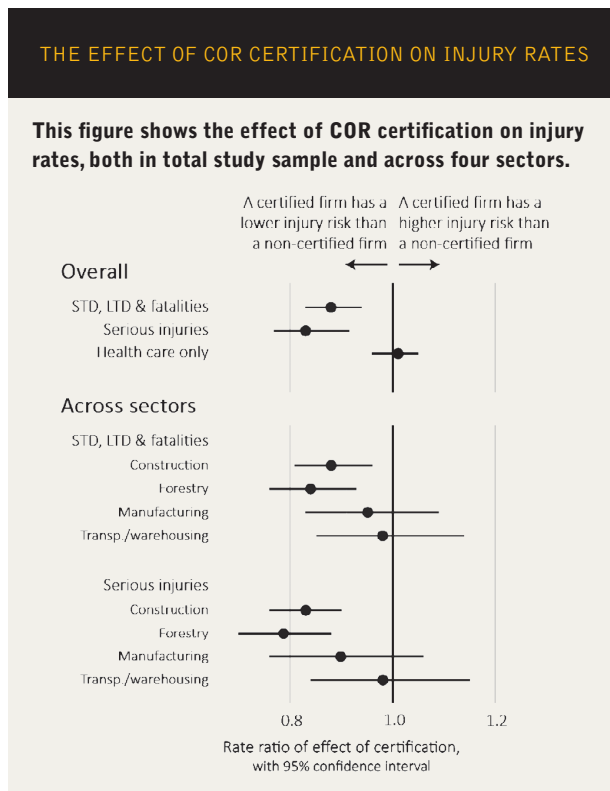
10 per cent rebate on their WorkSafeBC base assessment. (Similar programs have since been introduced in other provinces, including Alberta, Ontario, Manitoba and Saskatchewan.)

For this study, McLeod and his team looked at claims data and firm data from WorkSafeBC. The team defined the intervention cohort as including all firms that became COR certified between 2003 and 2011, resulting in a cohort size of 5,106 COR-certified firms. The control cohort included all firms registered with WorkSafeBC during that period that did not take part in the program; the size of this control group was 205,000 firms.

It's well known that voluntary programs attract certain types of firms and not others. To account for the fact that real differences may exist between COR firms and non-COR firms in how they address health and safety issues, McLeod used what's called a "difference-in-difference" analytical method. That is, he focused on the differences in injury rates between COR and non-COR firms both prior to the program and after the program—particularly the extent to which the difference widened between the two groups over the course of the study period.

Looking at claims data for construction, forestry, manufacturing and transportation/warehousing sectors separately, McLeod found the largest reductions in injury rates (in COR firms relative to non-COR firms) in construction (averaging 12 to 16 per cent lower) and forestry (averaging 16 to 21 per cent lower). In contrast, only small reductions were found in manufacturing and none in transportation/warehousing.

Also, McLeod found little or no reduction when it came to injury claims that involved only health-care reimbursements and no lost time. "That suggests COR-certified firms are better at recognizing and controlling risks that lead to more serious or traumatic injuries, and maybe less so when it comes to more benign risks," says McLeod. ■



DASH developers credit groundwork and ongoing support for measure's 20-year success

In its 20th anniversary year, the DASH Outcome Measure continues to be used in ever broader contexts

Researchers spend a great deal of time thinking about the things they need to measure. While they also need to consider what rulers or instruments to measure with, it has only been in the last decade or so that the research behind such instruments has received the recognition it deserves.

This year, the Institute for Work & Health (IWH) is celebrating a little ruler launched in 1996 to measure disabilities of the upper limb. Developed in collaboration with the American Academy for Orthopedic Surgeons (AAOS), the DASH Outcome Measure has broadened its reach around the world, making an impact in clinical treatment and research well beyond the purposes intended when it was created.

The DASH Outcome Measure (DASH stands for Disabilities of the Arm, Shoulder and Hand) is a 30-item questionnaire that patients complete, scoring their symptoms and disability or physical function across a variety of activities, such as opening a jar, cutting food with a knife or pulling a sweater overhead. A shorter, 11-item version called the *QuickDASH* was released in 2005. Two modules were also created to target specific populations: workers, and high-performance athletes and musicians.

This year, its 20th anniversary, the DASH Outcome Measure is used across the world in 50 languages and dialects. In 2015 alone, there were 13,617 downloads of the DASH questionnaire, 18,338 downloads of its shorter version, and an average of 335 visits a day to the DASH website. In the research literature, the DASH is used in a wide range of studies—from research on work-related musculoskeletal disorders (MSDs) experienced by sign-language interpreters to a quality assessment of trauma care when delivered over the phone to patients in rural Uganda. Although it was originally developed for measuring function during recovery from MSDs of the upper extremities,

the DASH is now also used to measure functional recovery from skin conditions such as burns, neurological and central nervous system disorders such as stroke or brain injury, and cancer treatment-related conditions such as post-mastectomy lymphedema.



Dr. Dorcas Beaton

Dr. Dorcas Beaton, an IWH senior scientist and lead researcher on the DASH, points to a number of factors to explain why the DASH measure has stood the test of time. One is the work at the start to make sure the tool had a strong theoretical foundation. Another is the research, still ongoing, to ensure it has strong measurement properties. Third is the mutual support between the DASH team and its community of stakeholders. “Getting stakeholder input along the way helped us make sure we had a tool that would fit their needs, as well as ours,” says Beaton. “And IWH has continued to support the DASH, with manuals and the website that help people access the information they need.”

Assessing the whole upper limb

The DASH Outcome Measure was created at a time of growing awareness across many different clinical specialties of the value of patient-reported outcomes. For clinicians treating MSDs affecting the arm, hand or shoulder, for example, it was no longer enough just to measure grip strength or range of motion. These clinicians were increasingly recognizing that asking patients about their symptoms and functions, as well as evaluating range of motion etc., would often lead to better identification of the issues important to patients.

Indeed, the shift toward patient-reported outcomes was so big that, by the mid-1990s, clinicians treating this part of the body had 31 different patient-reported measures to choose from—including 17 questionnaires for the shoulder alone. “None of these measures, however, had been developed for the upper extremity as a whole,” says Beaton. Having that many choices was not easy for practitioners. At the clinic where she treated people with brachial plexus injuries needing staged reconstruction, “patients would have to answer four or five different questionnaires at each stage of reconstruction.”

At IWH, other researchers were also looking for a single tool as they embarked on work examining occupational MSDs, a condition that can affect different parts of the body. Beaton and others on the development team, including those at AAOS, decided to create one measure to assess whole upper limb functioning. The wisdom of that decision has borne out over the years.

Because it can measure function and disability among people with any disorder of the upper limb, the DASH proved to have broad clinical application, allowing researchers to compare symptoms and treatments across different conditions and disorders. Carol Kennedy, a research associate at IWH and member of the DASH development team, points to a recent survey of 157 DASH users, in which three in four respondents said they used the DASH for each of the four regions of the limb (hand, wrist, elbow and shoulder). “Of the 31 reviews since 1996, more than half found the DASH a better measure than another joint-specific or disease-specific upper extremity measure,” she says.

Strong measurement properties

The DASH team's effort to make sure the tool has solid measurement properties is another important reason for the broad uptake of the tool, says Dr. Aileen Davis, a senior scientist at the Division of Health Care and

HOW THE DASH IS USED: THREE EXAMPLES

To help us mark the 20th anniversary of the DASH Outcome Measure, users from different parts of the world sent in pictures and stories about the difference the DASH has made to their research and practice. Below are a few examples:

At the King Edward Memorial Hospital and Seth G.S. Medical College in Mumbai, India, senior professor Dr. Chhaya Verma says the DASH helps her drive home “the importance of evidence-based decision-making” among her physiotherapy students as they plan interventions and interpret outcomes. In clinical practice, “we find it to be a very useful tool for assessing the effectiveness of our treatment,” says Verma, adding that it also helps “demonstrate the value of clinicians’ interventions to patients and to society on a larger scale.”

In Sofia, Bulgaria, where the use of patient-reported outcomes is still in its infancy, physiotherapist Johanna Jacobson-Petrov says such a measure for the upper limb doesn’t exist. “I wanted to do clinical research but I had no way of measuring, from our patients’ perspectives, what impact our treatment was having on their levels

of function,” she says. “Surgeons were randomly translating the DASH just for their particular project and then presenting the results. Unfortunately, these results would be invalid since the instrument was not properly translated or adapted to the Bulgarian culture.” That’s why she and a team of hand surgeons at the N.I. Pirogov University Hospital for Emergency Medicine have undertaken that work to translate the DASH for use in Bulgaria.



Professor Chhaya Verma incorporates the DASH Outcome Measure in her physiotherapy lectures at King Edward Memorial Hospital & Seth G.S. Medical College, in Mumbai, India



At Bulgaria’s N.I. Pirogov University Hospital of Emergency Medicine, physical therapist Johanna Jacobson-Petrov (second from left) and her colleagues at the Division of Hand Surgery (pictured here at a team-building retreat) are translating the DASH into Bulgarian.

In Canada, administrative bodies are also requiring clinicians to use the DASH. For example, the Workplace Safety and Insurance Board (WSIB) in Ontario operates a “Program of Care” for workers with shoulder injuries. At two points in the program—initial assessment and discharge—the program requires clinicians to complete, record and submit *QuickDASH* results to the WSIB. WSIB uses these results to measure the success of the Shoulder Program of Care and of the health professionals delivering the program.

The Institute for Work & Health is still collecting stories from DASH users throughout this “DASH *Bash*” anniversary year. Send in your stories by e-mail to: dash@iwh.on.ca. To stay up to date on DASH *Bash* activities, go to: <http://dash.iwh.on.ca>

Outcomes at the Krembil Research Institute in Toronto who also worked on the DASH.

When the DASH was developed, the team looked at the literature to identify items that could be included. “We worked with different patient groups and clinicians to make sure that the items we included were things that were relevant and important,” she says. “We took out duplicates. We also did testing to make sure the tool was easy to use and easy to understand in terms of the wording and structure of the questions.”

This groundwork on the psychometric properties of the tool helped make it a reliable and valid instrument that was sensitive enough to pick up change in patients’ conditions. Of the 11 reviews since 1996 that performed quality appraisal of the DASH, 10 supported the DASH’s measurement properties, notes Kennedy. “Overall, many of these reviews conclude that the DASH is the most

robust and the most commonly used measure,” says Kennedy. “One review said the DASH is the most widely tested instrument in patients with wrist and hand injuries.”

Over the years, the DASH development team at IWH has continued to provide users with information and support on ways to use the DASH, how to administer it, and how to interpret scores. A users’ manual was published in 1999 and updated in 2002 and 2011. An app for iPad was released in 2013 to make it easier for clinicians to administer the test and track scores over repeated uses. And ongoing support is provided to researchers around the world who undertake the translation of the DASH into their languages and dialects or adapt it to their cultural contexts.

“I think the support that we’ve provided users over the years has had something to do with the broad uptake of the measure

around the world,” says Beaton.

The wide adoption of the DASH has been a benefit to researchers, making it easier to pool results across different studies and overcome the challenge of small sample sizes, says Dr. Claire Bombardier, a one-time IWH senior scientist and current adjunct scientist who led the development team in the 1990s. Looking at the years ahead, Bombardier hopes the DASH continues to evolve so it remains a favourite among researchers and clinicians.

“As research evolves and new measurement methods are developed, I hope the DASH will continue to be adopted widely so that we have harmonized methods for collecting data,” she says.

“That’s why it’s so important for us to continue to work closely with stakeholders, so we can make sure the DASH continues to evolve with their needs.” +

Monitoring progress key in implementing return-to-work program: IWH study

Workplace study of innovative return-to-work program highlights progress and opportunities for improvement

With broad support across the workforce for its new comprehensive program for accommodating employees with health impairments, a health-care organization partnered with the Institute for Work & Health (IWH) to identify opportunities to improve return-to-work (RTW) processes and outcomes.

The resulting study suggested enhanced training and communication around such questions as who initiates contact with injured workers, how to communicate to co-workers and what work modification might look like for workers with mental health issues.

Led by former IWH Research Associate Dr. Kathryn Skivington, the study was based on interviews with 30 managers and RTW coordinators within 18 months after the introduction of a new return-to-work program at a large health-care organization employing 4,000 people.

The study found widespread support for the program and the program's innovative inclusion of labour and management representatives in RTW planning. It also noted that differing perspectives and priorities between union representatives and managers were still sometimes present. A paper based on this study has been accepted for publication in the journal *Work*.

"The message here for other organizations introducing or updating RTW programs is that, even with widespread management and labour support for these programs, areas of uncertainty will arise during implementation," says IWH President Dr. Cam Mustard, a senior scientist and co-author on the paper. "Monitoring the implementation process helps identify areas where roles and procedures need to be clarified."

Program shaped by evidence

The health-care organization involved in this study introduced the new RTW program to improve the consistency

of disability case management and accommodation. The new program was comprehensive in that it included all the components identified in a 2012 systematic review by Dr. Ulrik Gensby, currently a visiting scientist at IWH, and in the Institute's *Seven "Principles" for Successful Return to Work*.

One distinctive aspect of the program was the recruitment of union representatives to act as RTW coordinators, such that every returning worker would have a representative from his or her own union to support the development of a return-to-work plan. RTW coordinators worked alongside the organization's occupational health and safety department, which was responsible for managing the RTW process. Some of the RTW coordinators undertook RTW duties in addition to their regular work; others set aside time out of their union work to perform their RTW coordination.

In her paper, Skivington highlights a number of implementation issues described by the managers and RTW coordinators interviewed for the study—the kinds of issues that often pose challenges to RTW processes in other workplaces, as well. For example, some coordinators and managers expressed uncertainty over when to initiate contact with absent workers and who was specifically responsible for it. Some

wondered how to support returning workers without disadvantaging co-workers. Some grappled with the tension between the need to protect injured workers' privacy and the idea that greater communication within a team may facilitate better teamwork.

Supporting the return of workers with mental health conditions was also identified as a challenge. Some felt that they did not have the training to provide the appropriate accommodation for workers with mental health issues, especially those with recurring, episodic problems. "The lack of confidence to deal with mental health issues points to a real need for high quality research on effective RTW practices in mental health disability episodes," says Skivington.

Divergent perspectives remained

Although the program was set up to involve both managers and union representatives in the process of returning people to work, the study found that participants sometimes had divergent views on certain implementation issues. One example was the pressure identified by some managers to stay within budget and maintain quality patient care while accommodating employees with modified duties in their department, whereas some union representatives placed a higher priority on the quality of the accommodation.

"It's in the nature of this collaborative model that there will be times when perspectives of the employer and of the labour union are different, and that's the point," says Mustard. "When those differences arise, they are discussed and resolved in the process of deciding how to best provide accommodation to an employee. Indeed, the process of talking through these issues allows participants to better understand each others' perspectives."

This study is part of a larger evaluation of the new RTW program at the health-care organization, including an analysis of the program's impact on disability days and worker satisfaction with the program. Watch for more in a future issue of *At Work*. ■

Available at
www.iwh.on.ca

Did you know *Seven "Principles" for Successful Return to Work* is one of our most downloaded tools and products? This evidence-based guideline identifies the elements contributing to a successful return to work. Download it at: www.iwh.on.ca/seven-principles-for-rtw.

IWH-OPM follow-up questions now available to help firms act on leading indicator scores

Collaboration of IWH, health and safety associations brings together research and field expertise

Although it can be simple and quick to use, an eight-item health and safety performance measure developed by the Institute for Work & Health (IWH) is backed up by quite a lot of science.

In 2008, a team of partners within Ontario's occupational health and safety (OHS) system set out to answer this question: Can a simple tool be developed to predict a firm's workplace injury experience based on its OHS policies and practices? The team developed an eight-item questionnaire, now called the IWH-Organizational Performance Metric (IWH-OPM), which was administered in 2009 to over 600 workplaces. Studies were carried out to make sure that the questionnaire is not overly repetitive, and that it reliably produces the same scores over repeated measures if nothing has changed. Research was also conducted to find out if questionnaire scores were linked to past and future injury claim rates. (The answer: a tentative "yes".)

Now, to help employers determine how to act on their IWH-OPM scores, a project team has developed a series of follow-up questions for each of the eight items. The development of these questions was informed by both the evidence emerging from the IWH's leading indicators research and the field experience offered by the health and safety associations (HSAs) involved.

"The idea for these follow-up questions came from the health and safety associations that have been our partners on this project," says Dr. Ben Amick, a senior scientist at IWH and lead researcher on the leading indicators project at the Institute.

"These questions are meant to guide organizations toward the next steps they need to take to improve their health and safety performance. They're for the conversations that come after the poor scores. 'So you didn't do well. What's next?'"

Many of the companies taking the IWH-OPM are small businesses, notes Illia

Tchernikov, the occupational health and safety research program lead at the Workplace Safety & Prevention Services (WSPS), one of the HSAs involved in the project. Small businesses might not have the spare resources to hire OHS consultants or purchase training to help them improve.

"What you want to avoid is leaving businesses disappointed or confused by their scores," he adds. "They need some easy-to-use resources to point them in the right direction."

What's more, employers are often reluctant to reach out to health and safety associations for help, adds Henrietta Van hulle, executive director of Health & Community Services at the Public Services Health & Safety Association (PSHSA), another HSA on the project.

"We would like them to come to us, but in reality some employers are not going to," she says. "The follow-up questions are important to help these employers address their health and safety issues on their own."

Informed by case studies

To develop the follow-up questions, the researchers drew partly on the HSAs' input and partly on the case-study research portion of the tool development. This phase of the project was focused on what's called the tool's "construct validity"—whether it measures what it purports to measure. For example, firms with better scores on a given aspect should verifiably have better practices on that aspect; poorer scoring firms should demonstrably have worse practices.

For this analysis, a team led by IWH Research Associate Dr. Basak Yanar recruited five firms from four sectors that had completed the questionnaire. At each firm, the team conducted site visits, interviewed key informants and reviewed OHS documentation. They paid attention to OHS practices such as signage, guarding and use

of personal protective equipment. They observed workplace practices that went beyond OHS, such as the pace of work or co-worker interactions. They also examined company policies as they existed on paper and were applied in documented processes.

"This gathering of qualitative evidence helped the team put together a rich descriptive picture of the OHS practices and policies at the five firms," says IWH Scientist Dr. Lynda Robson, who oversaw the team. When grouping the firms according to how they scored on the OPM (which was administered again at the start of this phase), the team saw differences between firms with high scores and those with so-so scores.

To take OHS culture as an example, the high-scoring firms had strong, positive safety cultures. Safety was clearly stated as a key organizational value, and messages from senior managers reiterated this. In medium-scoring firms, safety programs were aimed more at legislative compliance; there was no unified safety culture across the organization. At one medium-scoring firm, participants voiced the belief that safety was a personal responsibility and if people did their work carefully, they wouldn't be injured.

On this and other concepts covered, these observed differences in OHS practices and policies on the ground helped inform the follow-up questions. The expertise of the HSA representatives also played a part, as did the feedback of a select group of HSA consultants, who were sent a draft of the questions to get their input.

"HSA consultants work with organizations of very different types and sizes, and in very different sectors," says Van hulle. "The benefit of that broad input is that the questions are relevant to any employer, no matter the size, type, sector or subsector."

The IWH-OPM and follow-up questions are available at: www.iwh.on.ca/iwh-opm. A paper authored by Yanar on the case-study phase of the OPM project has been submitted to the journal *Safety Science*. A plenary on that research is also available as a slidecast on IWH's website. ■

AT WORK

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President: Cameron Mustard
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INSTITUTE FOR WORK & HEALTH

481 University Avenue, Suite 800
Toronto, Ontario M5G 2E9
Phone: 416.927.2027 Fax: 416.927.4167
E-mail: atwork@iwh.on.ca

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Net benefit 'likely' if study included better patient care, labour relations

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that training and coaching are key to program effectiveness.

The program at the heart of this study included the training of designated workers as peer coaches at each of the facilities. A training module was developed and evaluated through a pilot study using focus groups.

The training was delivered over five days, with one-day refresher sessions scheduled three months after. Once trained, these designated workers provided both formal and informal coaching to their nursing peers.

Coaches were allowed to dedicate one 7.5-hour shift a week to coaching duties throughout the duration of the program, which varied across the facilities but averaged around two years.

For the study, Tompa's team examined lost-time claims that were attributed to patient handling. Injuries that did not result in time off work (i.e. no-lost-time injuries) were not part of this study.

The researchers also compiled data about the facilities to take into account potentially confounding factors such as staffing levels, number of beds set aside for high-risk patients, number of ceiling and floor lifts per bed, among others. Facilities that had installed the equipment but had not yet introduced the peer-coaching program were used as study controls.

For the cost-benefit analysis, the team relied on both administrative and human resource records and interviews with facility managers. On the cost side, Tompa included the costs of planning and promoting the program, the peer coach training, and time spent coaching (including the time of both the coach and trainee on a weekly basis). On the benefits side, the team calculated the

costs that would have been incurred due to a lost-time injury. These included time spent on claims administration and accommodation expenses, which would have been borne by the employer, as well as health-care expenses and six-month wage replacement benefits that would have been paid by the insurer

(e.g. the workers' compensation board). For the individual worker, the team calculated out-of-pocket costs, based on a study Tompa co-authored that looked at the non-wage losses incurred after a work-related injury.

The analyses suggest that, altogether, the program cost \$894,000 and delivered \$748,000 in benefits—a modest net cost to the system.

"The challenge, though, is that all the costs are borne by the long-term care facilities, and the savings largely go to the insurer or workers' compensation agency," says Tompa. "As a result, the right incentives need to be set up for health-care organizations to support such a program."

Tompa also notes that this cost-benefit analysis is rather conservative in that it does not take into account many benefits, including some that cannot be easily quantified. A potential reduction in no-lost-time claims was not taken into account, nor was a potential decline in number of days off for lost-time claims. The impact of improved care on patient outcomes and the value of improved labour relations as a result of the program were also not included in this analysis.

"And one key value that we could not include was the intrinsic value of improved health-related quality of life for the worker," says Tompa. "If we had included that in our analysis, it would be hard to argue that the benefits did not outweigh the costs." ■



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