

# otwork

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## OHS champion has pivotal role in breakthrough change: study

IWH study of health and safety success stories shines light on the potential of individual change agent to create momentum for safer practices

It's often said in workplace health and safety that change starts at the top. But according to early findings from an Institute for Work & Health (IWH) study, that's not necessarily the case. The study examined four organizations that managed to turn around their poor health and safety record, and one common factor emerging is the pivotal role of the health and safety champion.

That champion may go by different titles—whether “human resources manager” or “health, safety and environment coordinator.” What was consistent was how this person brought occupational health and safety (OHS) knowledge into the organization, helped integrate that knowledge throughout, and fostered positive social dynamics that built collaboration and empowered workers, says IWH Associate Scientist Dr. Lynda Robson, lead researcher on the project named “Breakthrough Change.”

“In the workplaces we studied, there was always one individual we call the knowledge transformation leader,” says Robson in an article

about the study in the Winter 2014 edition of *Contact* (vol. 35, no. 1, pp. 8-9), a newsletter of the Canadian Society of Safety Engineering (CSSE). “This person was the orchestrator of change. He or she applied effective organizational and people skills to transform the OHS knowledge into policies, procedures and practices that ultimately reduced the OHS risks for employees.”

### Participating firms saw claims rates fall over 10 years

To conduct the study, Robson and her team combed through statistics from the Ontario Workplace Safety and Insurance Board between 1998 and 2008. They looked for firms that started out among the 50 per cent with the highest claim rates in their sub-sectors, and ended up among the 20 per cent with the lowest over the 10 years. They did brief interviews to ensure that the firms experienced this change as part of an intentional effort to improve

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### IWH scientist leads innovative care program

**Dr. Andrea Furlan**, a scientist at Toronto Rehabilitation Institute, is co-leading a new innovative program aimed at providing better care for patients with chronic pain. Furlan is also a scientist at the Institute for Work & Health (IWH). Launched by Ontario's Ministry of Health and Long-Term Care on April 8, the Extension for Community Healthcare Outcomes (ECHO) project will connect chronic pain and addiction specialists with primary care providers across the province to support them with training and advice. Furlan, whose work at IWH includes the development of the Opioid Manager, says the initiative will have an impact on how people with chronic pain, including injured workers, will be managed by their primary care providers (including doctors, physician assistants and nurses), especially in underserved regions.

### Injured workers' award goes to IWH scientist

**Dr. Ellen MacEachen**, a senior scientist at IWH, has been named this year's recipient of the Philip Biggin Memorial Award. The award, offered by Injured Worker Outreach Services (IWOS) in partnership with the Workplace Safety and Insurance Board (WSIB) and the Building & Construction Trades Council of Ontario, recognizes individuals and organizations for their exceptional contributions to injured workers in Ontario. The award team cited MacEachen's "scientific studies which have helped the WSIB to make changes." MacEachen received the award on April 30 at an IWOS meeting.

### Learn about IWH activities in 2013 and 2014

Find out more about what the Institute was working on in 2013 in our Accomplishments Report. It's now available on the IWH website at: [www.iwh.on.ca/accomplishments-report](http://www.iwh.on.ca/accomplishments-report). Also, learn what research projects are going on this year at IWH, including the researchers and stakeholders involved and the relevant timelines. That's all in our Activity Plan, also on our site: [www.iwh.on.ca/activity-plan](http://www.iwh.on.ca/activity-plan).



### Don't miss out on our next IWH News

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WHAT RESEARCHERS MEAN BY...

# Selection Bias

## Selection bias is a common type of error where the decision about who to include in a study can throw findings into doubt

Most scientific studies are designed to pinpoint the effect of something—such as the effect of a condition on developing a problem (disease, injury) or the effect of an intervention (treatment, program) on overcoming a problem. Scientists usually determine effect by taking two similar groups—the only difference being the groups' exposure to that condition or intervention—and measuring the difference in outcomes experienced by them.

But what happens when the two groups selected were not similar to begin with? What if key characteristics distinguishing the two might have played a role in producing the different outcomes? That's an example of what's called **selection bias**.

Recall that bias is a type of error that systematically skews results in a certain direction (see [www.iwh.on.ca/wrmb/bias](http://www.iwh.on.ca/wrmb/bias)). Selection bias is a kind of error that occurs when the researcher decides who is going to be studied. It is usually associated with research where the selection of participants isn't random (i.e. with observational studies such as cohort, case-control and cross-sectional studies).

For example, say you want to study the effects of working nights on the incidence of a certain health problem. You collect health information on a group of 9-to-5 workers and a group of workers doing the same kind of work, but at night. You then measure the rates at which members of both groups reported the health problem. You might conclude that night work is associated with an increase in that problem.

The trouble is, the two groups you studied may have been very different to begin with. The people who worked nights may have been less skilled, with fewer employment options. Their lower socioeconomic status would also be linked with more health risks—due to less healthy diets, less time and money for leisure activities and so on. So your finding may not be related to night work at all, but a reflection of the influence of socioeconomic status.

Selection bias also occurs when people volunteer for a study. Those who choose to join (i.e. who self-select into the study) may share a

characteristic that makes them different from non-participants from the get-go. Let's say you want to assess a program for improving the eating habits of shift workers. You put up flyers where many work night shifts and invite them to participate. However, those who sign up may be very different from those who don't. They may be more health conscious to begin with, which is why they are interested in a program to improve eating habits.

If this was the case, it wouldn't be fair to conclude that the program was effective because the health of those who took part in the program was better than the health of those who did not. Due to self-selection, other factors may have affected the health of your study participants more than the program.

Good researchers will look for ways to overcome selection bias in their observational studies. They'll try to make their study representative by including as many people as possible. They will match the people in their study and control groups as closely as possible. They will "adjust" for factors that may affect outcomes. They will talk about selection bias in their reports, and recognize the degree to which their results may apply only to certain groups or in certain circumstances.

Another way researchers try to minimize selection bias is by conducting experimental studies, in which participants are randomly assigned to the study or control groups (i.e. randomized controlled studies or RCTs). However, selection bias can still occur in RCTs. For example, it may be that the pool of people being randomly assigned to the intervention group is not very representative of the wider population. Or it could be the researcher's allocation techniques aren't so random (e.g. when clinicians, often motivated by good intentions, manipulate the allocation method to get their patients in a treatment group instead of the control group).

Often, selection bias is unavoidable. That's why it's important for researchers to examine their study design for this type of bias and find ways to adjust for it, and to acknowledge it in their study report.

# Work-related musculoskeletal disorders on the decline in Ontario

## Province-wide surveillance study using three large data sources finds drop in MSDs from 2004 to 2011

Work-related musculoskeletal disorders appear to be on the decline in Ontario. That's what findings from a comprehensive population-based surveillance study recently done by the Institute for Work & Health (IWH) would suggest.

The study, led by IWH President Dr. Cameron Mustard, tracks the occurrence of work-related musculoskeletal disorders (MSDs) over eight years between 2004 and 2011. It uses three independent population databases to take a count of work-related MSDs as reported by the total number of Ontarians active in the labour force at the time—a sample of about six million.

“What’s important about this study is that it drew on three different data sources,” says Mustard. “And because they vary somewhat in how they define work-related MSDs, there are differences in incidence estimates between the three data sources. But all three show a steady decline.”

This finding supports what several other studies in industrialized countries such as Australia, the Netherlands, the United States and the United Kingdom have found. The study, which has been submitted for publication in the *Scandinavian Journal of Work, Environment and Health*, is the first surveillance study on work-related MSDs done in Canada in recent times.

### Three data sources

One of the sources for the study was the claims records of Ontario’s workers’ compensation agency, the Workplace Safety and Insurance Board, which covers about 90 per cent of Ontario’s workforce. The second source was records of emergency room visits, called the National Ambulatory Care Reporting System (NACRS). Since 2000, the reporting of all emergency department visits to the NACRS has been mandatory in Ontario. Patients who come into the ER with a complaint are typically asked where

the injury occurred. All non-traumatic MSD complaints marked as work-related were included in the study—about one million cases over the eight years.



Dr. Cam Mustard

is given to a sample of all Canadians aged 12 years and over. From this sample, IWH researchers zeroed in on those who were in the labour force (those 15 or older who had worked in the previous 12 months), who reported a repetitive strain injury (RSI) serious enough to limit their normal activities in the previous 12 months, and whose injury was attributed to work exposures.

### Compelling numbers

Mustard’s team found a clear decline in work-related non-traumatic MSDs in all three datasets. Over eight years, the incidence rate declined by 16.2 per cent according to emergency room records, by 48.2 per cent according to lost-time compensation claims and by 40.3 per cent according to the StatsCan surveys.

Mustard cautions that the reductions seen in the three datasets aren’t necessarily proof that the incidence of MSDs are declining—though the numbers make for a compelling case. There are plausible reasons why reporting or diagnostic practices might have changed over time with each of the three sources.

For example, the way workers are accommodated might have changed, leading

to lower instances of disability requiring wage replacement. The drop of MSD cases in the ER records might have been due to more people seeking help for their MSDs at other medical care venues. And the decline in self-reported RSIs seen in the StatsCan surveys might have been due to a change in what people identify as the cause of their RSI.

“These are all possible explanations,” says Mustard. “But to be skeptical of an overall decline in MSDs means that you’d have to believe that all these alternate explanations are occurring at the same time.”

### Mechanization may be a reason

So, if work-related MSDs are indeed declining, what might be the cause? Mustard notes that few Canadian jurisdictions have adopted regulatory standards concerning exposure to adverse biomechanical demands. He also notes that the research literature on the effectiveness of interventions—including work contributed by IWH—is a bit unclear.

Mustard suggests that the constant change and renewal in equipment and machinery that people use at work might have played a role. Think of how work has changed for the people who stock grocery shelves, assemble car parts or do curbside trash collection. There has been an overall reduction in lifting, pulling and reaching work.

“Manual material handling is basically gone in many, many sectors,” he says. “To the extent that this has happened through a deliberate effort to reduce injury risk, we could say that the reduction in injuries reflects prevention efforts.”

He notes, though, that there’s not a lot of human factors research out there to test this observation. “In an ideal world, we would document how new production processes are better than the old processes in terms of biomechanical demands,” says Mustard. “That’s the piece that’s missing. The findings are telling us that something has changed, but we can’t easily document what that was.” ■

# The impact of IWH research in workplaces, in the community and in policy-making

## Case studies help IWH track, and learn from, the way Institute stakeholders put evidence to use

Scientists at the Institute for Work & Health (IWH) strive to produce research that can be put into action. Their aim is to affect how employers and workers understand and use injury prevention measures, or how policy-makers design and implement work injury and disability prevention programs. Below are just a few examples of how IWH research has made a difference in recent years.

### CAMH adopts online ergonomics training

Non-traumatic musculoskeletal disorders (MSDs) account for the largest share of disability compensation claims involving time away from work. At the Centre for Addiction and Mental Health (CAMH), a Toronto-based research centre and teaching hospital employing 2,900, the health and safety team wanted a tool to help reduce the hazards of working at computers for long stretches of time. So they joined efforts with IWH to design, develop and pilot an online office ergonomics training program.

The research team used an in-person curriculum IWH had previously developed with the U.S. Liberty Mutual Research Institute for Safety. It incorporated the latest evidence on ergonomics and complied with instructional standards from CSA Group and the American National Standards Institute. It was also reviewed by office ergonomics experts.

The team then asked learning and industrial design experts at CAMH to turn that content into an online curriculum. They tested it for usability at the University of Waterloo and sought input from focus groups at CAMH. Next, the team pilot-tested it among 72 CAMH employees.

The pilot showed that the program had a positive effect. Those who took it increased their knowledge about the risks of computer work, improved their self-efficacy (i.e. their confidence in their ability to adjust workstations to suit their needs) and made appropriate changes to their workstations.

They also improved their working postures and experienced less pain or discomfort at the end of the day.

In response to these findings, CAMH made the online training available to all staff and added it to the centre's learning management system. The office ergonomics training program is now the first place to which CAMH employees are directed when they have a problem with their work area.



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says Cheryl Peever of Health, Safety and Wellness at CAMH. “Many people are able to solve their issues by using the resource modules, rather than needing a full assessment and new equipment.”

IWH is now working on adapting the program for more widespread use, with funding from the Workplace Safety and Insurance Board (WSIB) Research Advisory Council.

“Our intent is to develop an evidence-based e-learning program that can be used by office workers across Canada to improve their workplaces,” says IWH Senior Scientist Dr. Ben Amick, the team lead. He hopes to roll out this new version to a wider audience some time in 2014.

### Manitoba WCB adapts toolkit for newcomers

A growing body of research is showing that newcomers to Canada need more targeted

information about occupational health and safety (OHS) and workers' compensation, especially about their rights and responsibilities. According to IWH research, while settlement services, language schools and government agencies provide newcomers with information about employment standards (such as minimum wages), not a lot of material is offered about OHS and compensation for work injuries.

In 2011, an IWH team set out to create an information and training module—a toolkit—on workplace rights regarding OHS and workers' compensation in Ontario. The team worked closely with partners, including the Toronto settlement service agency Skills for Change, to develop this toolkit. The final product, called Prevention is the Best Medicine ([www.iwh.on.ca/pbm](http://www.iwh.on.ca/pbm)), included resources for learners, as well as teaching guides and support material for instructors (slides, exercises, case studies, etc.). The goal was to make the toolkit available to settlement agencies to integrate into their language and job search programs.

Interest in the toolkit went beyond provincial boundaries. It was adapted by the Workers Compensation Board of Manitoba for use by that province's settlement service providers and translated into French.

“When we saw the toolkit, we were thrilled about its range of information and the informal knowledge used to get the key points across,” says Geetha Jayasinghe, who works with the Cross Cultural Community Development Program at the Manitoba Federation of Labour's Occupational Health Centre. “Its structure is perfect for using in a classroom, and we are very excited to use it in our workshops with newcomers.”

However, there are still some challenges when it comes to integrating the toolkit into settlement service programming. “The information is important and useful, and people (newcomers) are interested in it,” says Roland Rhooms, director of programs and services at Skills for Change. “The *how* to deliver the information remains the challenge. Teachers and classroom



facilitators don't feel confident about their own knowledge on these topics. The burden on teachers to have to 'ramp' up their own knowledge and fluency on these topics has meant some resistance to incorporating the tools into their lessons."

The same concern was echoed by Christine McKay, a communications officer at the WCB Manitoba. "(We have spoken with) service providers who feel uncertain about presenting this type of information because they feel they need to be 'experts' in the subject matter," she says.

The research team is now working with Skills for Change to assess ways to overcome these barriers. One option is to redesign the toolkit into a stand-alone workshop that could be held a few times a year. Another is to modify the format so newcomers could access the information themselves, instead of having it delivered to them.

### Research confirms Ontario MOL's changing targeting strategy

Research can play an important role in measuring the effectiveness of a policy or program. In the case of an Ontario Ministry of Labour program called the High Risk Firm Initiative, IWH research helped confirm a decision to amend processes to deliver results.



Stills from a video by Workplace Safety and Prevention Services (WSPS) show staff at Skills for Change integrating Prevention is the Best Medicine into their client services (Photos: WSPS)



IWH recently added case studies illustrating the impacts of its research to its website. The case studies here and others are available at: [www.iwh.on.ca/impact](http://www.iwh.on.ca/impact)

According to Sophie Dennis, the Ministry of Labour (MOL)'s assistant deputy minister of operations, IWH research helped highlight the limitations of using workers' compensation claims data as the sole basis for determining where to target OHS enforcement or consultation interventions.

"The Ministry had already begun to move towards using a wider array of information to inform its targeting strategy," says Dennis. "The IWH study confirmed the importance of doing so."

The High Risk Firm Initiative began in 2004 as a program that targets employers with poor health and safety performance for more frequent inspections. In the years the program was in place, ministry inspectors used workers' compensation claims data from the WSIB to identify firms in the worst-ranking two per cent. These would receive four inspections a year from MOL. The next eight per cent were referred to the health and safety association (HSA) for their sector.

These firms could either be approached by the HSA with offers to review their OHS practices or be referred back to the ministry for inspection (at most twice a year). However,

it quickly became clear that the HSAs did not have the resources to approach all the firms assigned to them, which

created an opportunity to compare outcomes between firms that did and firms that didn't receive special attention.

A team led by IWH Senior Scientist Sheilah Hogg-Johnson tapped into WSIB work injury claims and looked for differences in outcomes among three groups: those that received HSA consultations, those that were referred back to the ministry for inspections, and those that received no special attention.

The researchers found that work injury claims measures did not significantly differ among the firms in the two years after the intervention. In both the service and manufacturing sectors, no group differences were observed in overall claim rates, lost-time claim rates, no-lost-time claim rates and the rate of disability days.

There are several possible explanations for this finding. One could be that the firms selected were not at high risk. Of the inspected firms, 60 per cent received no orders; moreover, the orders that were issued typically dealt not with actual hazards but with the way the firms organized OHS. Another reason could have been the study time frame. It may be that two years was not enough time for changes in work injury risk to show up in the stats. A further reason could have been the study's lack of intermediate outcome measures, such as worker knowledge and workplace practices. Had data on such outcomes been available, it might have been possible to identify intermediate impacts of the interventions.

The MOL's Sophie Dennis was briefed in 2011 on the findings. She said the IWH study confirmed the limitations of using workers' compensation claims data as the only basis for targeting interventions—an issue the Ministry had already started to address.

It also highlighted the importance of defining early the measures used to assess the effectiveness of a program.

"The research findings underscored for us the importance of thinking carefully in the design phase of proposed OHS interventions about what outcome measures should be used to shape strategy," adds Dennis.

"We have changed some of our internal processes as a result of this work." +

# Chronic conditions worsen outcomes for injured older workers, but not by much

## Study finds workers with osteoarthritis, diabetes and heart disease take longer to recover from MSDs

Workers with certain chronic conditions may take longer to recover after a work-related musculoskeletal disorder (MSD). The influence of chronic conditions on disability after a work-related injury is the focus of two studies by Institute for Work & Health (IWH) Scientist Dr. Peter Smith.

With the growing number of older people staying at work, understanding the factors linked to their health is taking on a new importance. Older workers are not as prone to injuries as younger workers. But when injured, they tend to need more time to recover and more health-care services. As older workers are also more likely to have pre-existing chronic conditions, Smith wanted to find out if this higher prevalence leads to longer disability durations or more intensive use of health-care services.

He examined the extent to which pre-existing chronic conditions account for age differences in time off work and health-care expenditures following a work-related MSD. These studies were published in recent issues of the *Scandinavian Journal of Work, Environment & Health* (vol. 40, no. 2; doi:10.5271/sjweh.3397) and *Medical Care* (vol. 52, no. 1; doi:10.1097/MLR.0000000000000017).

“If older workers with particular chronic conditions are likely to be away from work longer, or have higher health-care expenditures, then tailored activities could be developed and targeted towards managing work disability in workers with these conditions,” says Smith.

### Women’s worst outcomes seen in middle age

Smith’s work draws on the use of three British Columbia population databases: claims records kept by the province’s workers’ compensation agency (WorkSafeBC), hospital discharge records, and all outpatient medical services provided to people who live in B.C. at least six months a year.

The last two datasets allowed researchers to identify those workers’ compensation claimants who had pre-existing chronic conditions based on their health-care use. The study examined eight conditions, including diabetes, osteoarthritis, coronary heart disease, hypertension, hearing loss, depression, thyroid disorder and rheumatoid arthritis.

The first study looked at the link between older age and number of days workers were off work following an MSD injury. (It counted all days for which wage-replacement payouts were made over a two-year period.) Before accounting for chronic conditions, it found a straightforward link between age and time off for men. The older the male workers, the more days they were off. For women, the number of days peaked among the middle-aged (the 35-to-44 and the

45-54 age groups). Women over 55, in other words, took the same number of days off as women in the 25-to-34 age group.



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Once chronic conditions were taken into account, certain conditions had a greater effect than others on recovery time. This holds true even after factoring in things like previous injuries, parts of body injured, occupational characteristics and so on. For both men and women, diabetes and depression were linked with more days off. Coronary heart disease was associated with more days off for women but not for men. Osteoarthritis was associated with more days off for men but not women.

The team used the same datasets to measure the amount of health-care dollars spent on older workers with an MSD injury—and the role of chronic conditions on that spending. Again, there was a corresponding rise in health spending for men as they aged, but a levelling off for women above 45. In general, average expenditures were higher for MSD claimants with pre-existing conditions. The only exception was for women with hearing conditions, who had slightly less health-care dollars spent on them than women without the condition.

A closer look at the links between chronic conditions, age and health-care spending reveals once again some similarities and some differences between men and women. For both groups, osteoarthritis and coronary heart disease were associated with higher health-care spending for older claimants. However, diabetes played a role in greater health-care spending for men but not women; depression played a role in increased spending for women but not men.

### Other factors may be at play

These studies show that pre-existing chronic conditions such as osteoarthritis, diabetes and heart disease are important factors linking older age to greater disability after a work-related MSD injury. However, the impact of these conditions on age-related differences was relatively small, Smith notes.

“This suggests that there is a lot more to age differences in the consequences of work injury than just pre-existing health factors,” he says. “So while there’s potential benefit to further understanding how some chronic conditions affect work injury outcomes, we might find greater potential savings by better understanding other factors to explain why older workers have worse labour-market and health-care outcomes.”

We reported on a related study by Smith on the relationship between chronic conditions and being out of the labour force. For more on that study, go to: [www.iwh.on.ca/at-work/74/heart-disease-arthritis-diabetes-raise-risk-of-leaving-workforce](http://www.iwh.on.ca/at-work/74/heart-disease-arthritis-diabetes-raise-risk-of-leaving-workforce). ■

# Workers with arthritis struggle to incorporate physical activity: study

## IWH research suggests employers can help workers with arthritis make exercise part of daily routine

Mark, 56, is well aware of the benefits of physical activity for people like him with arthritis. However, as a father, husband and full-time labour relations officer, he rarely has the energy at the end of a work day to devote to exercise.

“I have long hours,” says Mark, who has osteoarthritis. “So it’s sort of playing in that world [of employment] and yet dealing with this [arthritis]. Anyway, with all the stuff that I have to do to keep myself prepped up to go to work every day, I usually come home and sleep—that’s it.”

Mark is typical of the workers with arthritis who took part in focus groups as part of a study led by Dr. Monique Gignac, a senior scientist and associate scientific director at the Institute for Work & Health (IWH). “They pointed to the fatigue that resulted from juggling the demands of arthritis, employment and personal life as an important barrier to physical activity,” says Gignac, also affiliated with the Arthritis Community Research and Evaluation Unit at the Toronto Western Research Institute. “For many, arthritis threatened their ability to hang on to their jobs, so jobs were given priority over exercise when it came time to deciding where to put their energy.”

Gignac’s study looked into the relationships between arthritis, work and personal life roles (see *At Work*, Winter 2013). One of the themes that emerged from that larger study was the role of physical activity in the lives of workers with arthritis. This theme was taken up by Simone Kaptein, a post-doctoral student working with Gignac. She and the study team published the findings on exercise last July (see *Arthritis Care & Research*, Vol. 65, No. 7; doi 10.1002/acr.21957).

### Aware of, but uncertain about, benefits of exercise

Research has shown that people with arthritis who engage in regular physical activity

or exercise report fewer limitations in their day-to-day lives. Yet other studies show that the majority of adults with arthritis are either sedentary or not active enough to positively affect their health.



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As part of the larger study on managing work, life and arthritis, Kaptein and Gignac explored the role of physical activity. They led eight focus groups with 24 women and 16 men, ranging in age from 29 to 72 years. All were currently or recently employed (within the previous two years) and had osteoarthritis or inflammatory arthritis.

Gignac points to a number of key findings with respect to physical activity and work. For one, almost all participants recognized the importance of physical activity to their health, well-being and ability to keep working.

“This is not an awareness problem, but an implementation problem with respect to how to incorporate it in their lives,” Gignac says. “People’s need to juggle various roles often left them in a state of fatigue, in which case physical activity became discretionary compared to essential roles such as work and family.”

Gignac noted with interest that some people tried to incorporate physical activity through work itself.

“Many people valued the physical activity they got in the workplace, as well as active commuting, like walking to work,” she says. “Given the increased focus on how workplaces can help people with arthritis stay on the job, incorporating ways to remain physically active at work may be a novel way for workplaces to improve the quality of life of people with arthritis and help them address their role priorities.”

She’s not saying that employers should give workers with arthritis unlimited hours off during the work day to go to a gym. “It’s about encouraging people to move, like walk from one end of the office to another to deliver documents, or take the stairs from one floor to another to attend a meeting—things like that,” Gignac says.

Despite being aware of the benefits of exercise, many participants remained uncertain about whether physical activity was good or bad for them, especially given the episodic and unpredictable nature of arthritis pain.

“When in pain, they wondered if they should hunker down at their desks and work through it, or try and get some exercise to help alleviate it,” says Gignac. “They just didn’t know if physical activity would make things better or worse, or what activities they should do or for how long.”

Their uncertainty was tied to their fear of jeopardizing their ability to work. “The last thing study participants needed was to have to take time away from their jobs, which was their first priority,” says Gignac.

“We need to find ways to help working adults with arthritis tailor their physical activity in light of changing pain, energy and fears of exacerbating their symptoms.”

The Arthritis Society has resources on exercise and arthritis, including a guide to physical activity and a printable information sheet showing exercises that can easily be done at a desk or during a work break: [www.arthritis.ca/page.aspx?pid=966](http://www.arthritis.ca/page.aspx?pid=966). ■

## AT WORK

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# Statistics, documents and interviews helped form picture of change

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health and safety—not as a result of re-organization or another unrelated reason.

Robson and her team then homed in on four workplaces. They toured the organizations and conducted interviews with about 10 individuals at each. They also drew on a wide range of documentation—from notes of the joint health and safety committees (JHSCs) to Ministry of Labour (MOL) records of orders. The goal was to put together a picture of the health and safety risks at these workplaces and the reasons why claims rates may have declined.

Robson's team found some common elements to these organizations' breakthrough change process. At the start of the change, some type of external influence on the organization (from market pressure to an MOL order) helped bring into alignment three factors: its motivation to take action, new OHS knowledge being brought into the workplace, and a health and safety champion integrating that knowledge.

Once the change process was in place, other common factors came into play, including: positive social dynamics; organizational responsiveness to worker concerns; supportive management; strong employee relations; simultaneous improvement in core operations; relatively low turnover; a responsive maintenance group; and continuous OHS improvement.

## Passion and personal charm

The health and safety champion plays a key role not only in integrating OHS knowledge, but also in fostering the positive social dynamics that help build momentum for change. A good example of such a champion was an OHS co-ordinator identified in the study as Tess. Hired by a metal machinery parts manufacturer employing 200 people, Tess brought to the role both a passion for health and safety and great personal charm.

From her first day on the job, Tess was eager to learn about workers' jobs and the hazards involved. With managers and workers alike, she spent time to explain the rationale for rules, using not just arguments but appeals to emotion.

She had an astute understanding of the process of change. When warned that certain people could be difficult, for example, she made sure to meet them early on and in doing so neutralized their potential opposition. Knowing the value of "early wins," she first tackled the small but visible changes and built worker support for the process.

Another example was a human resources manager at a community agency working with people with disabilities—a man identified as Stan. Staff at the agency credited him for his quiet persistence as well as his ability to communicate the issues. Tapping into the OHS knowledge of a consultant at a health and safety association, one of Ontario's prevention system partners, Stan was also able to win the support of senior managers and involved workers at all levels.

He engaged front-line supervisors and created opportunities for them to discuss draft policies, develop new practices and take on leadership roles through train-the-trainer programs. He involved the worker co-chair of the JHSC early in the process, who in turn played a big role to bring others onside. Their joint commitment to the issue spread to the other JHSC members. As one worker told the researchers, the committee went from being boring and dry to rewarding, as members started to see all that was being accomplished.

Breakthrough change is not a solo act, Robson notes. No one individual can bring about systemic and sustainable change in an organization. As the study reveals, many factors need to align for change to take hold.

However, "what the study shows is that one person, working with others, can build momentum," she adds.

"The health and safety champion may not be able to do it alone, but he or she can help organizations move a long way toward improved health and safety," says Robson.

You can hear Robson talk more about the study at an IWH plenary in Toronto on May 13 ([www.iwh.on.ca/plenaries](http://www.iwh.on.ca/plenaries)), and at the CSSE's 2014 Professional Development Conference in Calgary on September 14-17 ([www.csse.org/annual\\_conference](http://www.csse.org/annual_conference)). ■