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at work

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Workers doing vigorous, tiring activity all day no healthier than those who are least active

A study by IWH finds six patterns of daily movement among Canadians, all but one associated with lower heart risks when compared to the most sedentary

Which of the following workers have a healthier heart? The desk-bound office worker who bikes to work and jogs at night? The health-care worker who constantly shifts gears between light duties and highly physical tasks? Or the construction worker whose job is strenuous from the beginning to end of a shift?

A study by the Institute for Work & Health (IWH) explored these questions using, for the first time, a large and nationally representative sample of Canadian workers and minute-to-minute activity tracker data.

It found Canadian workers' physical activity habits generally fall into one of six patterns. Not surprisingly, one of the largest groups of workers, making up 31 per cent of the sample of 8,909 participants, are those with low physical activity. These might be, for example, people who commute mostly by car, get up from their desks just to go to the water cooler, and do only light activity such as short walks and household chores in their off-hours.

Compared to this group—let's call them the sedentaries as a shorthand—almost all other groups have better heart health down the road. Whether they're fitness buffs or only on the move mainly for work, almost all workers who do various levels of moderate or intense physical activity throughout the week have lower risks of cardiovascular diseases 10 years later.

Almost all. The study team found one group of Canadian workers who have no better heart-health outcomes despite engaging in vigorous levels of physical activity for much of the work day.

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Study participants wanted I: New participants for next round of future-of-work surveys

A team led by Institute for Work & Health (IWH) Scientist **Dr. Arif Jetha** is inviting you to share your ideas in a study exploring how the future of work will affect young people with disabilities. In 2021, participants across Canada identified six key challenges expected to impact the future employment of young workers with disabilities. Participants also recommended supports to protect these young workers in the face of these challenges. (Read the summary report to learn more about what participants had to say: **www.iwh.on.ca/scientific-reports/strategies-to-ensure-young-persons-with-disabilities-are-included-in-future-of-work**.) In a fresh round of surveys, new participants are invited to weigh in on the implications of these six factors and rank the supports that were recommended earlier. To take part, go to: **https://iwhca.ca1.qualtrics.com/jfe/form/SV_e5oOnaQAn7q31Ii**

Study participants wanted II: More men for study to test new work support planning tool

A research team at IWH, led by Senior Scientist **Dr. Monique Gignac**, is currently testing a tool that has been developed to help workers with a physical or mental health condition identify the work supports and accommodations they need. The team on this project, called Accommodating and Communicating about Episodic Disabilities or ACED, is still looking for more men to take part in the study. If you live in Canada, have a chronic health condition or disability, work at least 20 hours in a paid job, and are interested in learning about different types of work supports, the research team needs your help. Find out more: **https://aced.iwh.on.ca/get-involved**

IWH awards Syme Fellowships

The Institute for Work & Health (IWH) has awarded the 2022-2023 S. Leonard Syme Fellowships to three young researchers at the master's or doctoral level who are studying work and health:

Pamela Hopwood, a PhD student in the School of Public Health Sciences at the University of Waterloo. Her research focuses on feminized care work on digital platforms.

Tauhid Hossain Khan, a PhD student also in the School of Public Health Sciences at the University of Waterloo. His research focuses on how self-employed workers navigate work, injury and illness.

Geneviève Jessiman-Perreault, a PhD student in the Dalla Lana School of Public Health at the University of Toronto. Her work examines the role of gendered work, personal health and organizational factors on the need, access and use of mental health services.

What Research Can Do

IWH model influences other research orgs' approach to measuring impact

Organizations doing research on work and health should care whether their work has an impact on efforts to prevent work injury and illness, improve recovery and return to work following injury and illness, and ensure the sustainable employment of people with chronic illnesses and disabilities. Understanding this, the Institute for Work & Health (IWH) developed a Research Impact Model (IWH-RIM) in 2010 to guide its thinking about, and documentation of, impact.

The model has resonated with other organizations doing research on work-related health and safety. Several have used the model to help them develop their own methods for assessing the impact of their work and, in some cases, to help guide their approach to knowledge transfer and exchange (KTE). Below are a few snapshots of such uses.

Model for Australia's ISCRR

In 2018, Australia's Institute for Safety, Compensation and Recovery Research (ISCRR) and WorkSafe developed a research impact framework based on the IWH-RIM. Like the IWH-RIM, the ISCRR framework focuses on impact at three levels: research dissemination and diffusion, informing decision making, and contributing to societal change.

"Early in our work to develop a research impact framework, we identified the IWH Research Impact Model as a helpful starting point," says Samantha Barker, ISCRR's director. "We spoke with key staff at IWH about the model, and the framework we developed is quite close to the IWH approach. We are glad to have had the assistance of IWH in this important work."

During 2019 and 2020, the framework was piloted on 17 projects. According to an article describing the pilot, projects with strong stakeholder engagement from the outset had stronger indicators of impact. This is consistent with IWH's experience and with the research evidence on factors affecting uptake of research findings.

Influence on Denmark's NFA

Denmark's National Research Center for the Working Environment (Nationale Forkningscenter for Arbejdsmiljo or NFA) is a research institute affiliated with the Danish Ministry of Employment. It developed a logic model to inform its understanding of the mechanisms through which impact occurs. This model was influenced by the IWH-RIM. For example, like the IWH-RIM, the NFA's logic model differentiates among immediate, intermediate and end outcomes. The NFA's work also echoes IWH's use of impact case studies, which is among the ways that the NFA documents impact.

"The IWH model was an inspiration for our own efforts to develop a framework to understand and assess impact," says NFA Chief Consultant Dr. Ole Henning Sørensen.

"It has also been very helpful to the NFA in the design of our mechanisms for engaging with our stakeholders," adds Senior Researcher Dr. Johnny Dyreborg.

Adaptation by NIOSH research centre

The Center for Work, Health & Well-being is one of ten Centers of Excellence funded by the National Institute for Occupational Safety and Health (NIOSH) in the United States to conduct research on the concepts of Total Worker Health®. The Center engages with stakeholders who have the capacity to influence or implement policies and practices affecting worker health, safety and well-being. To guide its interactions with these stakeholders, the Center developed an outreach logic model, which was adapted from the IWH-RIM.

"The IWH Research Impact Model provided a valuable conceptual framework as we developed the Center's Outreach Core Logic Model," says Dr. Jack Dennerlein, associate director of the Center. "It helped us think about the different ways in which our work can have an impact on key users of our research, how we can measure impact, and how we engage with our partners. Unlike traditional linear models, the IWH-RIM builds in feedback from partners, reflecting a commitment to knowledge transfer and exchange throughout the research process."

This column is based on an IWH impact case study, published in August 2022, available at: **www.iwh.on.ca/impact-case-studies**.

IWH estimates point to positive return on OHS investment in three Ontario sectors

The Institute's method to estimate the ROI of occupational health and safety spending includes intangible benefits

While employer expenditures on occupational health and safety (OHS) in Canada can be substantial, the financial benefits of these expenditures are not well understood. To learn more about the range of financial returns on employers' investments in the prevention of work-related injury and illness, the Institute for Work & Health (IWH) conducted a study estimating the financial benefits that may be realized by Ontario employers who are strong OHS performers.

The study found positive returns for strong OHS performers in the three Ontario sectors it examined: manufacturing, construction and transportation. The findings were based on a set of plausible assumptions used by the study team—a crucial one being an estimate of the intangible benefits of strong health and safety performance.

"As part of the study, we asked employers how important the intangible benefits of OHS are. That is, if they've worked really hard to have first-in-class policies and practices to prevent work-related injuries and illnesses, do they believe that investment pays them back in terms of employee satisfaction and morale, quality of work or corporate reputation? They all said yes," says Dr. Cameron Mustard, the study lead and former senior scientist and president at IWH. "Some told us those are the real payback."

Incorporating that feedback into its set of plausible assumptions, the team found that, for every dollar spent on worker health and safety, manufacturing employers in Ontario with strong OHS performance get back an average of $1.24. Those in construction get back $1.34, and those in transportation recoup $2.14 in benefits.

"The estimates in this study are, we think, conservative and consistent with the range of estimates available from research in this field over the past decade," says Mustard. He notes that, to determine savings realized because of injuries that didn't happen, the team compared the incidence rate of lost-time claims among the high OHS performers included in the study against the averages in their respective sectors. Had the team compared them to the lost-time claim rates of the poorest performers in their sectors—say, the bottom 25 per cent—the ROI would have been higher, he adds.

A summary of this research is available in an IWH Issue Briefing, published in May 2022 (see: www.iwh.on.ca/summaries/issue-briefing/estimating-financial-return-on-employers-investments-in-prevention-of-work-injuries-in-ontario).

How the study was done

This study builds on a 2017 project, also led by Mustard, that estimated average OHS expenditures by Ontario employers, based on information provided by 334 organizations. Through in-depth interviews with a person knowledgeable about OHS at each organization, the research team focused on how much participating organizations spent on: 1) organizational management and supervision; 2) staff training in OHS; 3) personal protective equipment; 4) professional services provided by external organizations; and 5) share of new capital investment attributed to improved OHS performance. Based on these interviews, the study team arrived at average estimates of OHS investment per employee, per year, in each of 17 Ontario sectors.

In this new study, the team used claims records from Ontario's Workplace Safety and Insurance Board (WSIB) to identify organizations in the three targeted sectors with incidences of work-related injury and illness that were at least 60 per cent lower than the average of their rate group. For each employer identified—289 in manufacturing, 88 in construction and 56 in transportation—the team applied an estimate of OHS expenditures, based on the 2017 study.

The team also calculated the number of claims averted at each participating employer by comparing its actual lost-time claims with the average lost-time incidence of its rate group. To estimate the tangible costs of each averted claim, the team used a formula developed by the WSIB, combined with an estimate of indirect costs experienced by the employer. These averted costs were defined as tangible financial benefits.

The team also estimated and included the financial value of intangible benefits—an innovative feature of the study. It recognizes that employers with strong OHS performance may realize intangible financial benefits arising from improved employee retention and morale, improved production quality and strengthened corporate reputation. The research team applied a plausible assumption that intangible benefits equalled tangible benefits in its calculation of the overall financial return.

Throughout the research process, the team consulted with representatives of leading employers to get feedback on the method. "The feedback we heard was that intangible benefits were substantial, and likely higher than what we estimated," says Dr. Basak Yanar, an IWH associate scientist and member of the research team.

"An estimate of the return-on-investment in occupational health and safety is not a figure that many individual organizations can easily come up with on their own," says Mustard. "OHS practitioners and leaders already know the importance of such investment. With these estimates of OHS ROI in three Ontario sectors, we hope we can help them show the value of such investment and further make the business case for OHS expenditures."

New initiative 'skills up' employers to hire, promote, support workers with disabilities

Social innovation lab at McMaster and IWH focuses on innovations that build up employers' capacity to employ persons with disabilities

Given the many demonstrated benefits of work—especially on health, well-being and financial security—it's troubling that persons with disabilities still face significant barriers to employment and productive careers.

Persons with disabilities face substantially lower employment levels—57 per cent compared to 75 per cent among the general working-age population. If working, they also earn considerably less than the Canadian average—$34,000 versus $40,000 in 2017.

To date, efforts to improve the labour-force participation and employment rates of persons with disabilities have focused on equipping individuals with the resources and skills to make them job-ready. Little attention has been given to building up the capacity of employers and workplaces to be better able to tap into the talent pool of persons with disabilities, which is sometimes described as "disability confidence."

Now, a six-year initiative supported by the federal government's New Frontiers in Research Fund (NFRF) Transformation Stream is being launched to flip conventional inclusion approaches on their heads. Called Inclusive Design for Employment Access (IDEA), the initiative is a social innovation laboratory that focuses on "skilling up" employers and workplaces to be better at recruiting, hiring, accommodating, training and promoting persons with disabilities.

"Barriers to employment of persons with disabilities represent a significant waste of human capital for Canadian society at large, especially considering that one in five individuals in Canada identify as having a disability," says Dr. Emile Tompa, a senior scientist at the Institute for Work & Health (IWH), executive director of IDEA, and co-lead of the Workplace Systems hub within the initiative.

"Our IDEA is focused on transforming workplaces and labour markets so that there is equality of opportunity in careers, jobs and work for persons with and without disabilities. And our approach is focused on building employer capacity to be disability confident," Tompa adds.

For decades, researchers and practitioners have worked hard to help persons with disabilities get jobs, and numerous approaches have been studied. "Yet, we have not been very successful at moving the dial on employment opportunities for persons with disabilities," says Dr. Rebecca Gewurtz, associate professor at McMaster University, director of IDEA, and co-lead of the Employment Support Systems hub. "Skilling up workers, which is the approach that has been taken to date, only gets you so far."

Dr. Emile Tompa

Dr. Rebecca Gewurtz

Improvement in employment outcomes has been largely in entry-level jobs. "We need to tackle barriers to career advancement that still remain for workers with disabilities," comments Dr. Dan Samosh, assistant professor at Queen's University and co-lead of the Transitions to Work and Career Development hub. To that end, adds Dr. Arif Jetha, a scientist at IWH and also co-lead of the Transitions to Work and Career Development hub: "We need to support persons with disabilities throughout the employment journey—from internships and part-time placements while in secondary and post-secondary education through to rewarding careers in industry and elsewhere."

A lot of work has gone into addressing the barriers that are individual and person-centred, says Dr. Mahadeo Sukhai, vice-president, research and international affairs and chief accessibility officer at the Canadian National Institute for the Blind, and co-lead of the Inclusive Environmental Design hub within IDEA. "The real question is: how do we address systemic barriers, so that inclusion is built into the system from the get-go, and not just added as an afterthought?"

Emerging technical systems and practices offer both new opportunities and ways of working, but they also create new risks and barriers to access, says Dr. Jutta Treviranus, professor at OCAD University and co-lead of the Disruptive Technologies and the Future of Work hub. "Inclusive design optimizes the potential of human diversity in the workplace and the full participation of people with previously excluded perspectives and experiences," she adds.

Focusing on skilling up workplaces is the logical next step, says IDEA's engagement lead, Alec Farquhar, a senior policy specialist with an extensive career in the public sector, most recently as director of the Ontario Office of the Worker Adviser.

"When I think about capacity building, I think of a whole range of human resources engagement with persons with disabilities that an employer needs to be able to support—for example, advertising a job, recruiting, onboarding, training, accommodating a disability, mentoring and providing career support, dealing with crises when someone's disabilities or health conditions flare up, and dealing with the impact of aging." says Farquhar.

"It's across this range of interactions that employers may be uncertain about how to build up the capacity to address them," he adds.

Reflecting on his time as a manager, he adds, "disability management was a constant challenge. And it was frustrating the way we were managing each case separately and not learning much from one case to the next. And the systems we had were not sufficient to allow us to be more strategic, more proactive and more inclusive."

Social innovation lab

Using a social innovation lab structure, the IDEA initiative is designed to enable teams of researchers and partner representatives to work in tandem and address multiple barriers to employment of persons with disabilities at the same time. (The five hubs, again, are: 1) Workplace Systems and Partnerships, 2) Employment Support Systems, 3) Transitions to Work and Career Development, 4) Inclusive Environmental Design, and 5) Disruptive Technologies and the Future of Work.)

"The hubs will work in parallel with lots of overlap, in a coordinated and comprehensive manner," says Tompa. "This social innovation lab structure allows us to simultaneously address the multitude of issues that need to be tackled in order for us to see progress and build more inclusive workplaces." The hubs were developed through extensive consultation with partners and collaborators over a two-year period. Each hub is co-led by a research co-applicant and a collaborator from the disability support/advocacy, labour, employer or policy stakeholder community.

"We have an outstanding roster of partners representing disability communities, labour organizations, employers, service providers and policy-makers who are ready to make effective and evidence-informed change," says Gewurtz. "They will help open doors for us in workplaces. They have passion, experience and networks that are ripe for this transformative initiative."

Five-step signature methodology

Projects undertaken in each hub will follow a five-step signature methodology, which includes: 1) rapid synthesis of existing knowledge and approaches, 2) stakeholder consultations and experience mapping, 3) rapid prototyping through co-design, 4) implementation and evaluation at the local level, and 5) scaling up local innovations with ongoing evaluation.

The methodology was designed for hubs to, as a start, identify innovative approaches through environmental scans and literature syntheses, then contextualize findings via stakeholder consultations.

"These first two steps comprise an approach being spearheaded by IWH, one that builds on our experience conducting evidence syntheses of peer-reviewed literature and working with stakeholders to contextualize findings," says Emma Irvin, director of research operations at IWH. "With IDEA, we will use this methodology to build capacity in the research community to conduct knowledge syntheses, which we see is an important step in the knowledge-to-action process."

The third through fifth steps involve co-designing rapid prototypes through meetings involving interdisciplinary teams, then implementing and evaluating the prototypes. "We will then roll these innovations out to workplaces across Canada through our linkages with industry, unions and major employer associations. That's the big vision," notes Farquhar.

The involvement of persons with disabilities across the hubs and at all steps of project development is crucial to this initiative—in keeping with the principle, "Nothing about us without us," says Sukhai.

The IDEA team has already invited persons with disabilities and employers to let the team know about initiatives that have worked well in certain contexts and can potentially be adopted by others. "We hope stakeholders will take a critical look at what innovative employers have done and use the co-design method to develop and pilot initiatives at their own workplaces," says Farquhar.

Farquhar is optimistic about the initiative's ability to attract stakeholders. Referring to a study by Tompa that estimated that the cost of excluding persons with disabilities from full participation in society amounted to $338 billion in calendar year 2017, or 17 per cent of the Canadian GDP, he adds: "Every employer has a version of that number. For most stakeholders, it's not hard to see the costs—both human and economic—of letting things stay the same." ✚

Study finds workers who engage in vigorous activity during the work day have similar heart health as sedentary workers

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This study adds to a growing body of research on what's called the "physical activity paradox," says Biswas, who presented the study at an IWH Speaker Series webinar in June 2022 (see www.iwh.on.ca/events/speaker-series/2022-jun-14). "Physically demanding work with very little rest is not giving workers the benefits that they might think are associated with physical activity," he adds. "If you're doing high levels of physical activity at work and putting your body through a lot of strain, that's not health promoting."

Drawing on activity tracker data

In this study, Biswas and team set out to first understand how Canadians actually move, rather than relying on what people report in surveys about how much they move (which can be more inaccurate). The team drew on an existing, nationally representative dataset from Statistics Canada's Canadian Health Measures Survey (CHMS). In this survey, conducted over five cycles between 2007 and 2017, participants were asked to wear an accelerometer on their right hip during waking hours for seven consecutive days.

Survey participants also agreed to have their clinical data collected, including data from blood and urine samples submitted at testing centres. With this clinical data, the team calculated participants' risk of cardiovascular disease over 10 years, using a well-tested formula developed by the American College of Cardiology/American Heart Association Task Force on Practical Guidelines. Finally, participants were also asked to complete a household survey covering a range of questions on lifestyle and health behaviours.

The team focused only on CHMS participants aged 18 to 65 who were working—and who had neither a pre-existing heart disease nor a health condition that would prevent them from physical activity. Using accelerometer data, the team sorted the sample of 8,909 participants into clusters of people who had similar activity patterns throughout the day. They found six patterns, in varying group sizes.

Six profiles

The six groups of workers, characterized by similar physical activity patterns, are:

1. The sedentaries (2,898 workers)
This group engages in low or light activity all through the day, both during at-work and off-work hours. Some office workers might be among this group. (Note, though, that the study did not specifically ask about respondents' occupations, so job examples are only conjecture). Workers in this group are the least likely to use active modes of transportation. They also report low levels of recreational physical activity.


Dr. Aviroop Biswas

2. The steady movers (3,219 workers)
This group has moderate activity levels throughout the day, followed by light activity during the evening hours. They may include workers who are constantly on their feet at work, such as sales associates. They report low levels of physical activity for recreation. Compared to the sedentaries, they have a 14 per cent lower risk of heart disease over 10 years.

3. The dynamic movers (1,194 workers)
This group alternates between light activity and moderate activity throughout the day. They are the second most active group when it comes to recreational activities, though they report low levels of active transportation. This group may include early childhood educators or health-care workers whose work day can be a mix of low activity and bursts of physical movement. Compared to sedentaries, this group has a 27 per cent lower risk of heart disease over 10 years.

4. The physical workers (713 workers)
This group engages in vigorous physical activity—activity that makes one sweat and breathe hard—and sustains it throughout most of their daytime hours. Construction workers may be among this group. This group's risk of heart disease does not differ from from that of the sedentaries in a statistically significant way.

5. The night shifters (225 workers)
This group stays moderately active from midday through to midnight. Grocery clerks stocking shelves into the late evening may be among this group. With an average age of 34, workers in this group are the youngest of the six; they are also the ones most active in their commutes. This group's risk of heart disease is 33 per cent lower than that of the sedentaries.

6. The exercisers (750 workers)
This group spends parts of the work day doing light or moderate activity, but also engages in vigorous physical activity at the start of the day, around noon, and again in the late afternoon and early evening. Members of this group may include office executives with high flexibility and job control. This group has the highest level of recreational physical activity (in both time spent and prevalence). It also has the largest percentage of participants using physically active modes of transportation. Of the six groups, these exercisers have the highest income and tie for the highest level of education. This group has 42 per cent lower risk of heart disease compared to the sedentaries.

Limitations of the study

Biswas cautions that the survey did not directly ask participants about when they were at work, so the activity patterns described above were inferred from the time-of-day information (about 80 per cent of study participants said they had a standard nine-to-five work schedule). He notes, as well, a second limitation associated with the kind of movement captured by accelerometer devices.

"Even if they give more precise estimates of physical activity over a continuous day and week, because accelerometer devices are worn on the hip, they may not capture things that people do with their arms, or when they bend down to lift, push and pull—things that are associated with physically demanding jobs. As a result, we're not likely to capture that information very well," says Biswas.

Although the CHMS survey sample was designed to reflect the demographic makeup of the Canadian population at large, the sample is likely skewed towards participants who have the resources and flexibility to take part in such an onerous study (one involving daily visits to a testing centre over a week). As a result, participants may be more motivated by health and fitness than average Canadians.

Besides the implication of the study findings for people in physically demanding work—i.e. the lack of heart-health benefits from manual labour—Biswas also highlights a potential positive for people who move moderately throughout the day. "It can be very hard for many people to meet the physical activity guidelines [of 150 to 300 minutes of moderate intensity a week]," he says. "Based on what we actually saw in our sample, it seems that there's a sizable proportion of people doing moderate levels of activity—and getting heart-health benefits."

Biswas encourages people who find physical activity guidelines daunting to think of ways they can do moderate activity throughout the day. "To me, that's the key takeaway from this study. Moderate activity doesn't always have to be exercise. It can be taking brisk walks, mowing the lawn or cleaning windows—things that people have to do anyway. If people think about the health benefit of doing more moderate activity in a day, this might be a more feasible target to focus on," he says. ■

Grant round-up: Exploring the impact of AI, recovery after COVID, and more

A snapshot of some of the studies underway at IWH, thanks to new external grant awards

At the Institute for Work & Health (IWH), scientists continue to respond to emerging work and health research questions and identify new opportunities to help users of research integrate evidence into their practice. Below is a snapshot of just a few of many the studies underway, with support from external grants awarded between September 2021 and June 2022.

Exploring the impact of artificial intelligence on health and safety and worker inequities

Advances in artificial intelligence (AI) are transforming workplaces—and how and to what extent are some of the most crucial questions facing policy-makers, employers and workers. Many economists consider this technology to have the potential to upend current work practices not unlike the advent of electricity, the steam engine or personal computers. In a pair of studies, IWH Scientist Dr. Arif Jetha is leading research teams that are examining the potential impact of AI in two contexts: 1) Ontario's occupational health and safety (OHS) system more narrowly; and 2) worker inequity in the Canadian labour force more generally.

In the first study, funded by Ontario's Workplace Safety and Insurance Board (WSIB), Jetha's research team is outlining the different uses of AI in OHS. Potential examples include AI-enhanced wearables that monitor a worker's movement or physical environment for injury prevention purposes, and apps designed to detect signals of psychosocial hazards in employee email and text correspondence. Through focus groups with OHS system stakeholders, it is also evaluating the suitability of these AI applications in the prevention of work-related injury and promotion of recovery and return to work in Ontario, and the potential ethical and other implications of their use.

"This study is one of the first to comprehensively examine and categorize different AI applications and their implications for OHS and work disability management," says Jetha. "We hope to help stakeholders in Ontario's OHS system better understand the strengths and weaknesses of various AI applications, and to help build awareness among workers and organized labour representatives about the potential implications of AI applications for workers, based on their work environments and job characteristics."

The second study—on the impact of AI on worker inequities—is a three-year partnership development grant funded by the Social Sciences and Humanities Research Council. This study is laying a lot of the groundwork for future research on the labour force effects of AI. The study objectives include:

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INSTITUTE FOR WORK & HEALTH
400 University Avenue, Suite 1800
Toronto, Ontario M5G 1S5
Phone: 416.927.2027 Fax: 416.927.4167
Email: atwork@iwh.on.ca

MISSION
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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Study of return to work and recovery after COVID among newly funded IWH projects

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developing a framework for understanding how workplace AI applications affect working conditions and contribute to worker inequities; developing a process to estimate and identify the segments of the Canadian workforce that stand to be most affected by AI; reviewing existing public policies and programs to determine the extent to which they address the growing application of AI and support workers who are most vulnerable; and building a knowledge base and research capacity to engage in ongoing research at the nexus between work, equity and AI.

"This is a novel area of research, and an important part of this project will be agenda-setting," says Jetha. "Our aim is to offer recommendations for future research directions that will help stakeholders better understand the impact AI applications can have on workers and to innovate strategies to address emerging worker vulnerabilities."

Understanding the long-term outcomes of workers with COVID-19 claims

By early 2022, Ontario's WSIB had accepted more than 31,000 workers' compensation claims related to COVID-19. What are the long-term health and labour market outcomes of workers who made these claims? How well do they recover physically? How do they fare mentally? And what is the process by which they return to the workplace where their infection occurred?

In a study funded by the Canadian Institutes of Health Research (CIHR), Dr. Peter Smith, IWH senior scientist and president, is leading a team to answer these questions and more. The team is collecting survey data about 18 months after study participants' initial COVID-19 work absence, and will use this information to examine claimants' experiences and outcomes such as depression, anxiety, physical function, self-rated health and return-to-work status.

"We are interested in comparing the experiences of workers with work-related COVID claims with those of workers with other types of compensation claims," says Smith. "Findings from this project will provide a much-needed knowledge base for workplaces and workers' compensation agencies to better understand and address the impacts of COVID-19 among workers in Canada."

Building health-care providers' capacity to treat first responders using the ECHO model

Public safety workers such as paramedics, firefighters, police officers, and border services and corrections personnel experience mental health symptoms at higher rates than the general working population. Health-care providers who treat these workers understand that work-related traumatic exposures can be an important factor driving mental health difficulties in this worker population. What can be overlooked, however, are the other sources of workplace strain.

These include working conditions such as work hours and staffing structures, organizational culture, and negative public perception and scrutiny. "We know about the stigma around mental health issues and the reluctance to seek help among public safety workers and first responders. It's critical that, when they do reach out for help, their health-care providers understand the unique characteristics of their jobs and work culture," says Dr. Andrea Furlan, a scientist at IWH.

That's why she and Dr. Nadia Aleem of the Centre for Addiction and Mental Health are leading a new Project ECHO (Extension for Community Health-care Outcomes) telementoring pilot. Hosted by IWH, this ECHO is focusing on Ontario health-care providers who support or treat public safety workers with a work-related injury or illness. Funded by WSIB, it follows on the heels of another ECHO pilot at IWH that focused on occupational and environmental medicine, which Furlan also co-led.

"There is no Project ECHO with this focus anywhere in the world," says Furlan. "It is our hope that this model will have long-term impact in improving health providers' confidence and competence in working with public safety workers in their recovery and return to work." ✚