How modified work affects disability management outcomes in long-term care

There is some evidence that modified work for injured workers in Ontario’s long-term care sector was associated with a lower burden of disability, according to an Institute for Work & Health (IWH) study.

In other words, the researchers found that a greater amount of modified work days lowered the number of disability days. Disability days were estimated as the sum of days of wage replacement benefits plus the number of days of modified work reported by the facility administrators.

The health-care sector has one of the highest rates of lost-time claims in Ontario. Nearly 60,000 health-care providers in Ontario work in more than 600 licensed long-term care facilities. The risk of work-related disability for these providers is high. Heavy workloads and the physical demands of patient lifting and repositioning can create health problems for caregivers.

Previous published research shows that organizational commitment to preventing disability, early offers of workplace accommodation of modified work, and communication during a worker’s disability episode may shorten or prevent absence.

The IWH study examined the differences in modified work and disability management outcomes – such as number of disability days or disability compensation expenditures – in the long-term care sector.

Led by IWH President and Senior Scientist Dr. Cameron Mustard, the research team published the study’s results in the May 2010 issue of *Journal of Occupational Rehabilitation* (e-pub ahead of print: DOI 10.1007/s10926-010-9248-2). Data for this study was collected in the course of the Ontario Patient Lift Evaluation Study (OPLES), which measured the process of adopting patient lift equipment in the long-term care sector.

The researchers collected information about disability and modified work arrangements from a sample of 32 licensed long-term care facilities for two consecutive years, 2005 and 2006. The study continued on back page
IWH announces board appointments

The Institute welcomes two new board members.

Jane Davis is a director of the Deposit Insurance Corporation of Ontario. She is a senior risk management professional with extensive knowledge of the regulatory environment in the brokerage, mutual fund and private banking businesses. Dev Chopra is executive vice president of corporate services and redevelopment at the Centre for Addiction and Mental Health (CAMH). He is responsible for all business functions at CAMH including finance, human resources and information management. Rosemary McCarney, president of Plan Canada, retired from the board in September 2010 following three consecutive terms of service on the Institute’s Board of Directors.

Syme Fellowships awarded

The S. Leonard Syme Training Fellowships support research trainees at the master’s or doctoral level. Here are the 2010 recipients:

Naoko Hawkins is a PhD student in the department of sociology at the University of Toronto. Her doctoral research examines the health of immigrant workers.

Shafiq Shah is pursuing his PhD at McMaster University. He is developing and examining knowledge transfer resources for community nurses to reduce work-related musculoskeletal injuries.

Two staff members awarded fellowships

PhD Student Andrea Chambers has been offered a three-year PhD fellowship from the Canadian Institutes of Health Research (CIHR) called the Frederick Banting and Charles Best Canada Graduate Scholarship Doctoral Award. Chambers is in the health and behavioural science PhD program in the Dalla Lana School of Public Health at the University of Toronto.

Brendan Smith has been offered a one-year Ontario Graduate Scholarship (OGS) fellowship and a one-year stipend from the CIHR Strategic Training Program in Public Health Policy, based at the University of Toronto. Smith is completing a PhD in epidemiology at the Dalla Lana School of Public Health. Both Chambers and Smith are employed as research associates at the Institute for Work & Health.

Two new studies launched

A number of studies have been initiated by the Institute for Work & Health in 2010. Here are two of our new projects:

Senior Scientist Dr. Sheilah Hogg-Johnson will lead a study that examines the different ways in which firms have been identified for targeted occupational health and safety interventions.

Scientist Dr. Agnieszka Kosny will lead a study of the challenges that co-workers face when an injured colleague returns to work on modified duties.

WHAT RESEARCHERS MEAN BY...

Probability

If The Weather Network informs you that the probability of precipitation is 80 per cent for the day, it might prompt you to carry an umbrella.

We often use probability assessments informally in our daily lives to plan or make decisions. Formal probability theory is a fundamental tool used by researchers, health-care providers, insurance companies, stockbrokers and many others to make decisions in contexts of uncertainty.

Probability provides information about the likelihood that something will happen. Meteorologists, for instance, use weather patterns to predict the probability of rain. In epidemiology, probability theory is used to understand the relationship between exposures and the risk of health effects.

Let’s start with a simple, classic example to illustrate probability: the toss of a coin. You know intuitively that there is a 50 per cent chance of getting heads, and 50 per cent chance of getting tails. If you want to actually do the math to calculate the probability of a head, here’s the basic formula:

Count the number of times that the event will happen – in this case, there’s just one chance of a head appearing, so it’s 1. Divide this by the total number of possible outcomes. With a coin, it’s either heads or tails – which is 2 outcomes. So the probability of getting heads is 1 divided by 2, or 50 per cent.

Yet you could toss a coin 10 times and get seven heads and three tails, which is 70 per cent heads and 30 per cent tails. With this small number of repetitions, you can’t determine the probability accurately. However, if you toss that coin 1,000 times or more – which a few people have done* – you will eventually begin to see that 50-50 breakdown.

This illustrates another important point about probability. It depends on the outcome or event happening over a large number of repetitions, or with a large number of people.

There are many examples of how probability is used throughout society. One common measure is the probability of developing cancer. According to the Canadian Cancer Society, 40 per cent of Canadian women and 45 per cent of men will have a diagnosis of an incident of cancer during their lifetimes. These probabilities are based on calculations from 2009 cancer statistics across the country.

While this broad information can be useful for those who plan, deliver or research health-care services, more detailed information is even more helpful. Researchers can also determine the probability of acquiring specific types of cancers at specific ages. They can also consider individual factors, which are important, too. If you have family members with breast cancer, your risk increases. If you smoke, your probability of getting lung cancer increases (smoking is estimated to account for between 88 and 90 per cent of lung cancer cases. The risk is significantly lower in never-smokers: about one per cent). These types of risk factors can be incorporated into probability calculations as well.

Another application of probability is with car insurance. Companies base your insurance premiums on your probability of having a car accident. To do this, they use information on the frequency of having a car accident by gender, age, type of car and number of kilometres driven each year to estimate an individual person’s probability (or risk) of a motor vehicle accident.

Probability can fall anywhere from 0 to 1, where 1 means there’s 100 per cent certainty that the event will occur. Zero means it will not. So on a day in which the probability of precipitation was forecast at 80 per cent, but skies were sunny all day, you also have to consider that there was a 20 per cent chance that it wouldn’t rain. Still, you made a wise decision to take an umbrella based on the probability you were given.

*An English statistician tossed a coin 24,000 times around 1900. A total of 12,012 heads came up. During World War 2, an imprisoned South African mathematician tossed a coin 10,000 times and got 5,067 heads.

The Institute for Work & Health (IWH) has been providing research expertise to a Ministry of Labour panel tasked with reviewing Ontario’s health and safety prevention and enforcement system.

Led by Tony Dean, former secretary of cabinet and head of the Ontario Public Service, the Expert Advisory Panel includes nine members from organized labour, the employer community and independent experts. IWH Senior Scientist Dr. Ron Saunders has supported the work of the Panel secretariat in the role of scientific officer.

The panel has been examining best practices, both nationally and internationally, and will consider a number of issues including:

- the roles and responsibilities of the system partners
- the impact of the underground economy on workplace health and safety
- the protection of vulnerable workers
- the use of incentives to motivate superior health and safety performance
- linking procurement of goods and services to health and safety performance
- the role of joint health and safety committees
- the impact of advancements in technology/innovation on health and safety
- mandatory entry-level health and safety training.

To support the panel’s work, IWH prepared reports on the organization of occupational health and safety services in seven jurisdictions, including three Canadian provinces, an Australian state, the United Kingdom, Germany and New Zealand. Four of these schemes, including Ontario, have the responsibility for occupational health and safety shared between two or more authorities. Three of these schemes have a single authority for occupational health and safety. The reports are available at www.iwh.on.ca/interjurisdictional-review

Eight working groups have been created to examine specific issues identified by the panel. Among these are groups focusing on the roles and responsibilities of system partners, vulnerable workers, the internal responsibility system, training, and data and performance measurement.

“My main role has been to connect IWH researchers with working groups where there was research of relevance,” says Saunders. To that end, IWH scientists have presented study findings on immigrant workers (Dr. Agnieszka Kosny, Dr. Peter Smith), incentives (Dr. Emile Tompa), leading indicators (Dr. Ben Amick) and OHS training (Dr. Lynda Robson). Saunders also participated as a member of the working group on vulnerable workers, and Smith was a member of the working group on data and performance measurement.

A special subcommittee of the panel was established to look at prevention of injury and illness in small businesses. Saunders provided the subcommittee with some background data on the small business sector and an overview of findings from IWH’s recent systematic review on health and safety in small businesses, led by Dr. Ellen MacEachen and Dr. Curtis Breslin.

The panel members bring diverse expertise to the table, with research playing a prominent role. In addition to leading labour and employer representatives, Adjunct Scientist Dr. Joan Eakin and IWH Board Member Carolyn Tuohy are panel members.

The working groups have reported their findings to the panel. Over the fall, the panel has begun to review these reports as well as the results of consultations. Panel members will discuss recommendations in time for Dean to submit the report to Minister of Labour Peter Fonseca in December.

What’s new at www.iwh.on.ca

The Institute for Work & Health’s (IWH) 2009 annual report, Solutions, is now online. Download the report to learn more about the Institute’s systematic review program and the evidence it has contributed to the work-health field.

www.iwh.on.ca/annual-report

Our engaging IWH plenary series is now under way for the fall season. Check the plenary page regularly to find out about upcoming talks by scientists about their latest research.

www.iwh.on.ca/plenaries

New Research Highlights summarizing published research by IWH scientists are now online. The latest batch includes studies on: examining OHS and workers’ compensation in non-profit organizations, reducing musculoskeletal symptoms in health-care workers, looking at the association between occupation and risk of suicide among working Canadians and much more.

www.iwh.on.ca/research-highlights

Systematic review team receives funding renewal

The 13 academic groups that comprise Cochrane Canada recently received notice of renewal of funding with the announcement of a five-year operating grant of $9.6 million from the Canadian Institutes of Health Research. Part of these funds will go to the Cochrane Back Review Group, which is administered by IWH. This funding commitment will help the Back Review Group to continue to conduct systematic reviews of effective methods for the diagnosis and treatment of neck and back disorders.
The Institute for Work & Health (originally named the Ontario Workers’ Compensation Institute) was established in 1990. It occupied part of a floor in a high-rise building and had only a handful of employees.

Talented researchers soon filled the Institute’s halls and many students – including several from across the country and overseas – came for specialized training in understanding issues affecting the world of work and health.

Twenty years later, the Institute for Work & Health’s two floors of offices are within arm’s reach of provincial legislature at Queen’s Park, the University of Toronto and major research hospitals in Toronto. Today, staff from many disciplines and professional backgrounds work together to help find solutions to help protect and improve the health of working people.

The need for a workplace health research centre

So how did the Institute for Work & Health come to be? In the late 1980s, two leaders from the then-known Ontario Workers’ Compensation Board (now the Workplace Safety and Insurance Board, or WSIB) identified the need for a workplace health research centre. Dr. Robert Elgie, the chair of the board of directors and Dr. Alan Wolfson, the president of the board, anticipated the value of having access to high quality research evidence concerning the effectiveness of therapies for the treatment of work-related musculoskeletal injuries in the workplace, and examining labour market experiences that influence the health of the Canadian labour force.

Key Institute expansions

During IWH’s first five years, its research program would expand to include understanding physical and psychosocial factors that may cause non-traumatic musculoskeletal injuries in the workplace, and examining labour market experiences that influence the health of the Canadian labour force.

Three large-scale research projects launched

In IWH’s early years, the three senior scientists who were brought on board to lead research projects knew they had to launch ambitious, large studies to make the Institute’s mark. Over the next year, the scientists – Drs. John Frank, Claire Bombardier and Harry Shannon – along with other researchers, began to construct what was one of the largest and most complex occupational health research projects in Canada at the time. The Ontario Universities Low-back Pain Study examined which factors contributed to low-back pain reports in workers at an auto assembly plant. “This study was one of the most in-depth and sophisticated studies ever done on the biomechanical and psychosocial factors affecting back injuries,” says Dr. John Frank, the Institute’s first scientific director.

In 1994, Institute researchers launched a study of the factors affecting the length of a person’s disability following sprains and strains. This was the first clinical study to identify workers soon after their injury and follow them through their treatment and recovery. It was called the Early Claimant Cohort (ECC) study. The researchers found that there were no health-related or return-to-work advantages from a treatment program emphasizing early and intensive therapy compared with usual care.

A major six-year study involving Institute researchers showed that an ergonomic program could reduce frequent and severe pain among office workers with repetitive strain injury. (These injuries are also known as musculoskeletal disorders or MSDs.) Additionally, the study showed that management practices were as important as workstation set-up in influencing these injuries.

These three large-scale projects successfully established and maintained the
Institute’s reputation as a credible work-health research centre.

In 2000, the Institute implemented an evidence-based strategy for knowledge transfer and exchange (KTE), which would help put research findings into the hands of those who could use them. The KTE program has made major strides in involving stakeholders in the IWH research process. Additionally, the KTE team helps to extract key messages from research results and offers strategies to scientists to “transfer” a study’s findings more broadly. KTE efforts have made IWH a leader in this emerging field.

Systematic Review Program receives funds

Since early on in the Institute’s history, researchers have conducted systematic reviews (in-depth search and analysis of existing scientific literature) on specific topics related to work and health. Since 1996, IWH has been the home to the Cochrane Back Review Group, which is part of the international Cochrane Collaboration.

In 2005 – thanks to important multi-year funding from the WSIB – the Institute’s Prevention Reviews Program was established. More than one dozen reviews on the prevention of workplace injury and illness were conducted and various evidence-based guides were created that were based on the results from some of the systematic reviews.

More notable milestones and projects

Within the past 10 years, the Institute has continued to refresh and re-energize the occupational health and safety research landscape.

Several qualitative researchers joined the Institute to explore certain social and work situations that may be challenging to measure and quantify. Qualitative researchers were integral to many IWH projects including the return-to-work systematic review, research on young workers, studies of long-duration claims and vocational rehabilitation and several immigrant workers’ studies.

In 2006, a group of IWH scientists formed a unique research alliance with injured workers to examine the long-term impact of work injury. This group – now called the Research Action Alliance on the Consequences of Work Injury – received a major grant of $1 million from the Community-University Research Alliance program of the Social Science and Humanities Research Council.

Support

Statisticians are vital to the majority of research projects at IWH. Statisticians use their skills and expertise to help design, carry out and interpret studies. Although some IWH projects use data sets from the WSIB, members of the statistics team are creating new and novel ways to use other data sets and resources from agencies such as Statistics Canada.

Today the Institute for Work & Health is proud to be considered a world leader in work-health research.

NACHEMSON LECTURE

MARK YOUR CALENDARS

The Institute for Work & Health is pleased to announce that Dr. Terrence Sullivan, CEO of Cancer Care Ontario (CCO), will deliver this year’s Alf Nachemson Memorial Lecture. The lecture takes place on Thursday, November 18 in Toronto.

CCO has been a leader in quality improvements in the past 10 years, using several strategies to improve the performance of cancer services. These strategies include reviewing the performance of each regional cancer centre and working with the centres’ leaders to address problems.

From his perspective as the leader of a health-care commissioning agency with a core commitment to quality improvement, Sullivan will speak on lessons learned and possible considerations for the commissioning of health services more broadly.

The Alf Nachemson Memorial Lecture was established in 2002 to honour Dr. Nachemson’s significant contribution to the use of research evidence in clinical decision-making.

2010 ALF NACHEMSON MEMORIAL LECTURE

Dr. Terrence Sullivan

Improving quality and performance in health services: Reflections from Cancer Care Ontario

THURSDAY, NOVEMBER 18
5:30 p.m. – 7:30 p.m.
Design Exchange, 2nd Floor
234 Bay Street, Toronto

To find out more or to register for this free lecture, visit: www.iwh.on.ca/nachemson-lecture
Sally (a pseudonym) was laid off from her administrative position at a London, Ontario-based investment firm in November of 2008. Although she had several years of experience in her field, she was unable to find a permanent full-time job. Instead, she found temporary reception work.

“I went on many interviews and noticed that most companies were offering only temporary placements,” says Sally, who has been in her current position for just over one year.

Sally’s experience is borne out by a noticeable trend in employment statistics. According to Statistics Canada, between October 2008 and October 2009, the number of permanent employees in Canada declined by 3.8 per cent, while the number of temporary employees (individuals in jobs that may have an end date or a specific term) increased by 0.7 per cent. The number of employees with temporary jobs rose to 13 per cent in 2007 from 11 per cent in 1997.

For more than eight years, Institute for Work & Health (IWH) researchers have explored the impact of temporary employment and other non-standard work forms and arrangements on worker health. With temporary employment on the rise in Canada, IWH scientists are looking into several aspects of how temporary jobs relate to health and safety.

IWH Scientist Dr. Emile Tompa, along with IWH Post-doctoral Fellow Dr. Heather Scott-Marshall and Research Analyst Miao Fang, recently published two studies that examined the impact of temporary employment on sickness absences of more than one week. In other words, were temporary workers more or less likely to take time off for a serious health condition?

Workers in temporary positions may be more likely to experience negative health effects for a variety of reasons. These include higher physical health risks due to riskier job assignments and insufficient occupational health and safety training, psychosocial stress related to job insecurity, and low income which can lead to poor living conditions or inadequate nutrition, says Tompa, a labour and health economist. Published research shows that temporary workers may be more likely to be exposed to more hazardous jobs and have higher levels of work injury than permanent workers.

Why temporary workers?

In the short-term, it may appear to be financially worthwhile for firms to hire workers on a temporary basis. “Today, some firms may be reluctant to hire full-time permanent workers because it can be expensive and restricting,” says Tompa. “Firms that rely on ad hoc staffing – such as temporary workers – have greater flexibility to increase or decrease their workforce as needed in line with market demands.”

Temporary workers’ absence patterns examined

In the first study published in the December, 2008 edition of *Occupational and Environmental Medicine* (vol. 65: pp. 801-807), the research team analyzed data from Statistics Canada’s *Survey of Labour and Income Dynamics* (SLID). The researchers looked at work situations and work-related sickness absences of 4,777 workers from 2000 to 2003. The SLID asks questions on up to six jobs per year, as well as on income sources and amounts, health information and sickness absences lasting for one week or more. The SLID also asks questions about the nature of the employment contract for each job, specifically whether the job is permanent or temporary.

The study analyzed the time from the start of a job to the first work-related sickness absence lasting seven days or longer. While focusing on the impact of temporary employment on the probability of sickness absence, the researchers also accounted for items such as the workers’ length of employment, job characteristics, health and other factors.

“We found that workers in temporary jobs were just as likely as permanent employees to be absent due to a work-related illness or injury,” says Scott-Marshall. This was surprising, since the literature suggests that workers in temporary jobs are more likely to experience a work-related injury. In addition, workers with job tenure of four to six months were 64 per cent less likely to have an absence than those with longer tenures, suggesting workers in temporary employment may have less access to short-term absence benefits.
Experiencing all-cause absence

The research team took this study one step further: they looked at the impact of temporary employment on all sickness absences, regardless of whether or not they were work-related. In this study, no distinction was made about the cause of the illness or injury because workers may not be able to directly attribute their sickness as being work-related, even though they recall being absent for one week or more.

“For this study, we had a sample of 5,307 individuals who experienced 9,574 distinct jobs,” says Fang. About 40 per cent of the job episodes (“or 635 absences”) had a sickness absence of one week or more in this sample. The research team also controlled for factors such as job tenure, prior health status and individual characteristics such as gender and age.

Among the results of this study – to be published in an upcoming edition of Work (in press) – researchers found that workers in temporary jobs were 37 per cent less likely to be absent due to all-cause sickness compared to those with permanent positions. Workers with tenure of one to three months were 27 per cent less likely to take an absence than workers with longer job tenure.

Social protection is key

In both studies, the researchers also included two other measures related to social protection: union membership and firm size. Union membership can offer some protection from health risks such as improving access to health and safety training, plus it can provide better job security and higher wages and benefits.

The results from the all-cause absence study suggest that workers with a union membership had a 40 per cent higher probability of being absent than those without a union membership. This suggests that having social protection makes it possible to take time off to recover from a sickness.

Firm size noted

“We controlled for firm size since we thought that workers in larger firms would be less likely to have an absence because large firms may have more standardized and well-developed human resource practices and perhaps more formalized health and safety training programs and thus lower levels of health risk exposures,” says Tompa. But the researchers found that those who worked in large firms were equally as likely to have an absence as those in small firms (those with less than 20 people). As the researchers note, if workers don’t have social protections in place – such as a permanent job contract or union membership – it may prevent them from taking sick leave, even in the case of serious health concerns that would normally require an absence of one week or more.

As expected, those in manual jobs were 39 per cent more likely to be absent than those in non-manual jobs, according to the all-cause study’s results. Individuals in manual jobs are generally exposed to higher levels of physical health risks because of the nature of their work.

“Surprising” finding about concurrent jobs

By contrast, people who held more than one job at the same time had fewer absences. “I was very surprised by this finding. I expected to see an increase in absences for these individuals,” Scott-Marshall notes. “It may be that individuals that hold...

Understand OHS issues in temporary work agencies

Temporary work agencies have become an important part of the dynamic labour market. Temporary workers can offer organizations a certain flexibility that can accommodate quick changes in line with market demands, while reaping cost savings in labour and other expenses.

Temporary work includes seasonal, casual and term or contract work. In Ontario, there are more than 700,000 temporary workers, with a portion employed by the more than 1,300 temporary work agencies.

Led by Institute for Work & Health Scientist Dr. Ellen MacEachen, a team of researchers is conducting a qualitative study to examine how temporary work agencies manage injury prevention and return to work. In particular, the team is exploring the unique three-way employment relationship among the temporary worker, agency and client employer that can present challenges. The study is funded by the Workplace Safety and Insurance Board’s Research Advisory Council.

The research team is interviewing key people – including temporary workers, workplace managers, agency personnel and “key informants” (people who have direct experience and deep knowledge of the temporary work agency sector) – to understand the complex world of these agencies.

Although this study is still ongoing, some preliminary findings may point to certain challenges that may have implications for temporary workers’ health and safety.

For instance, the research team sought to understand why workers seek temporary agency work. Among the reasons, some workers found work through a temporary agency to keep busy or to have flexible employment. Other workers went to agencies because they needed immediate work for financial reasons or had an employment background that was not attractive to regular employers. For example, recent immigrants whose past job experience was not recognized by Canadian employers used temporary work agencies to find work.

The research team continues to investigate and understand how the agencies work. The final results of the study will be available in 2012.
How modified work affects disability outcomes... continued from front page

used information provided by facilities and administrative records from the Ontario Workplace Safety and Insurance Board (WSIB) to estimate total disability days and disability compensation expenditures per 100 full-time staff.

The study estimated that the average annual number of disability days for work-related conditions in long-term care facilities was 922 per 100 full-time equivalent workers in 2005 (889 disability days per 100 full-time equivalent workers in 2006). Disability compensation expenditures, combining wage replacement benefits provided by the WSIB and wage payments received from employers in the course of modified work duties, averaged $75,332 per 100 full-time staff in 2005 and $64,619 in 2006.

The study tested several hypotheses related to disability management outcomes. One was that facilities that adopt modified work practices will have more no-time-loss claims relative to time-loss claims. Another hypothesis was that facilities that offered modified work arrangements would have lower compensation expenditures per 100 full-time equivalents.

First, the researchers found some evidence that facilities that adopted modified work practices had a higher ratio of no-time-loss claims relative to time-loss claims. Another hypothesis was that facilities that offered modified work arrangements would have lower compensation expenditures per 100 full-time equivalents.

Investigating temporary employment in Canada... continued from page 7

multiple jobs don’t or can’t take time off. They may have greater work engagement for a variety of reasons or are more resilient to adverse health exposures.”

Future research

The research team hopes to explore in more detail the health impacts of temporary employment. “There is quite a bit of variability in the nature of temporary employment," says Scott-Marshall. “We’d like to explore this to further enhance our knowledge of the impact of temporary employment on health.”

The information from these studies can help to identify employment situations with inadequate social protection. The researchers note that having the ability to take time off work to recover from a serious illness may have important implications for the long-run health of the individual worker affected, as well as the workforce at large. In addition, having an understanding of the employment situations where there are greater health risk exposures can provide insight into where to direct health and safety resources.

Although holding a temporary job was a new experience for Sally, in the long run things worked out for her. She went back to school part-time to gain more education, and her current employer gave her the flexibility to complete her studies. “My company helped me while I was in school, but the company didn’t need to hire a full-time employee when the markets were not doing well," she says. Others may not fare so well, and may continue to work in temporary jobs for long periods of time.