atwork

Sharing knowledge about workplace health

www.iwh.on.ca

Issue 53 • Summer 2008

Massage relieves, but does not cure, chronic low-back pain

Current trends suggest massage has become a popular treatment option for chronic low-back pain. Massage, among the earliest known tools for treating pain, can promote muscle relaxation, improved circulation and general feelings of well-being. And it doesn't involve surgery or prescription pill bottles. Massage feels great. But is it a cure?

Probably not – but it is effective at reducing pain and improving function, says Dr. Andrea Furlan, who is the evidence-based practice coordinator at the Institute for Work & Health. Furlan has published a new systematic review that looks at the effectiveness of massage versus other non-surgical therapies for non-specific chronic low-back pain. This type of back pain lasts for more than three months.

The review, published in the January 2008 edition of *The Spine Journal*, showed that massage was most effective when combined with education and exercise, and when administered by a licensed therapist. The review considered four high-quality studies published between 2003 and 2006. There was also some evidence that acupressure was better than massage, though this requires further investigation. Acupressure is a technique that involves putting physical pressure on acupuncture points rather than using needles.

"Massage is not a miracle intervention," Furlan said. "Massage was found to decrease pain and increase function." It did not, however, appear to provide a cure for chronic pain.

Part of the challenge with assessing treatments for chronic low-back pain is in the diagnosis. "We still have wide variation in the way that we diagnose this kind of pain," Furlan explained. "If we knew for certain that a patient was suffering from a muscle spasm, for example, then massage would be an excellent intervention. But it can be difficult to be that specific. The results of our review were most likely diluted by differences in diagnoses."

Furlan adds that the therapeutic effects of massage should not be discounted. Soft-tissue massage does help with pain management, mainly through mental and physical relaxation. Previous studies have shown that the initial cost of massage therapy – close to $75 per hour – is offset by reduced spending on subsequent visits to health-care providers, pain medications, and other back-care services. Patient satisfaction is invariably high.

"Massage is a pleasant, hands-on therapy with multiple benefits to the patient," Furlan said. "We see improvements in function, pain, quality of sleep and muscle relaxation. Plus, patients almost always leave with the sense of having been treated well." ✪

In this issue

INSTITUTE FOR WORK & HEALTH
INSTITUT DE RECHERCHE SUR LE TRAVAIL ET LA SANTÉ

Research Excellence Advancing Employee Health

In Brief ...

Massage, combined with exercise and education, improves function and decreases pain in patients with chronic low-back pain.

Watch for our new look!

Communications staff at IWH have been busy developing a new visual identity – including a new logo – across the Institute. The fall edition of *At Work* will feature a sleeker design and other new elements.

At Work is published by the ***Institute for Work & Health***
481 University Ave., Suite 800, Toronto, ON Canada M5G 2E9
To be notified by e-mail when a new issue of *At Work* is published and available on our website, send your e-mail address to atwork@iwh.on.ca. *Our website address is www.iwh.on.ca*
Director, Knowledge Transfer & Exchange: **Jane Gibson**
Editor: **Katherine Russo**
Layout & Design: **Philip Kiff**
Contributors: **Caroline Dickie, Anita Dubey, Philip Kiff**
Issue #53 Summer 2008 ISSN # 1261-5148

The Institute for Work & Health operates with the support of the Ontario Workplace Safety and Insurance Board.

WSIB Workplace Safety & Insurance Board
CSPAAT Commission de la sécurité professionnelle et de l'assurance contre les accidents du travail

What researchers mean by …

sample size and power

Few of us read research reports with an eye to critiquing the methodology. The results are the main attraction, the reason for reading in the first place. But researchers spend much of their time planning how their studies will be carried out. Shouldn't we pay more attention to their concerns about research methods? As a researcher will tell you, a study's results are only as good as its design. **Sample size** is a key element of study design.

What is sample size and why is it important?

Sample size refers to the number of participants or observations included in a study. This number is usually represented by *n*. The size of a sample influences two statistical properties: 1) the precision of our estimates and 2) the power of the study to draw conclusions.

To use an example, we might choose to compare the performance of marathon runners who eat oatmeal for breakfast to the performance of those who do not. Since it would be impossible to track the dietary habits of every marathon runner in the world, we have little choice but to focus on a sample of that larger population. This might mean selecting only 100 runners for our study. The sample size in this scenario is 100.

The study's findings could describe the population of all runners based on the information obtained from the sample of 100 runners. No matter how careful we are about choosing our 100 runners, there will be some margin of error in the study results. This is because we haven't talked to everyone in our population of interest. We can't be absolutely precise about how eating oatmeal affects running performance because it would be impossible to look at every instance in which these two activities coincide. This measure of error is known as sampling error and influences the precision of our description of the population of all runners.

Sampling error, though unavoidable, is influenced by the size of the sample. Larger samples tend to be associated with a smaller margin of error. This makes sense. To get an accurate picture of the effects of eating oatmeal on running performance, we need plenty of examples to look at and compare.

However, there is a point at which increasing sample size no longer affects the sampling error. This phenomenon is known as the law of diminishing returns.

What about power?

Clearly, determining the right sample size is crucial for strong research design. But what about power?

Power refers to the probability of finding a statistically significant result (*read about significance in* At Work, *spring 2005*). In our study of marathon runners, power is the probability of finding a difference in running performance that is related to eating oatmeal.

We calculate power by specifying two alternative scenarios. The first, called the null hypothesis, is one that says there is no difference in performance between marathon runners who eat oatmeal and those who do not.

The second is the alternative hypothesis. This is often the anticipated outcome of the study. In our example, it might be that eating oatmeal results in consistently better performance.

The power equation uses these two alternatives so that the study can find out the answer to the research question. As researchers, we want to know if our study of marathoners can detect the difference between oatmeal having no impact on running performance (the null hypothesis) and oatmeal having a considerable impact on running performance (the alternative hypothesis).

Often researchers will begin a study by asking what sample size is necessary to produce a desirable power. This process is known as *a priori* power analysis. It shows nicely how sample size and power are inter-related. A larger sample size gives more power.

While the particulars of calculating sample size and power are best left to the experts, even the most mathematically-challenged of us can benefit from understanding a little bit about study design. The next time you read a research report, take a look at the methodology. You never know. It just might change the way you read the results. ✪

Disability income security programs are poorly coordinated

Canadian workers with disabilities face a patchwork of income security benefit programs – and many working-age disabled Canadians receive no income security benefits at all, according to a study by Institute for Work & Health researchers. Income security benefits provide financial support to those who cannot work.

About five per cent of working-age Canadians received disability benefits in 2001 totaling $13 billion (*see table below*). Among Canadians aged 55 to 64, one in 10 received a disability benefit. Plus the study found that about 386,000 working-age Canadians with a disability, who were not in the labour force, did not receive any income security benefits.

A Canadian who is disabled can receive benefits from a number of sources, including the Canadian Pension Plan Disability Benefit Program, a provincial social assistance plan, a workers' compensation agency, or a disability plan through an employer.

However, each program has different rules to determine who is eligible. A person might be able to receive benefits with one program and not another. The amount received could vary greatly, depending on the plan.

"Disability income security programs in Canada are poorly coordinated, benefit amounts differ substantially between programs, and there appears to be significant inconsistencies in program coverage," says Institute President Dr. Cameron Mustard, the lead author.

> *"Disability income security programs in Canada are poorly coordinated, benefit amounts differ substantially between programs, and there appears to be significant inconsistencies in program coverage."*
>
> *- Dr. Cameron Mustard, IWH President*

"There are benefit payers across federal and provincial jurisdictions. Unfortunately, there is no authority responsible for ensuring that income security programs and plans for disabled Canadian workers are coordinated."

Here's an example of the differences in coverage. Three separate motor vehicle collisions result in identical spinal cord injuries to the three drivers. Each driver is permanently disabled as a result of these injuries:

- a male self-employed construction worker driving to his worksite
- a male insurance company manager with 10 years of employment tenure
- a male commercial truck driver.

What might happen to these workers' income? The self-employed construction worker might receive disability benefits from his motor vehicle insurance plan or the Canada Pension Plan. The insurance company manager would likely be insured by an employment-based disability plan provided by a private insurance company. The truck driver would potentially collect workers' compensation.

However, each program has different benefit provisions. Each worker's income security benefits, as a proportion of their earnings before injury, will likely be different.

"The current system leads to inequities in access and in the benefit amounts received," notes Mustard. The study is available on the Institute's website as Working Paper #339: *Disability Income Security Benefits for Working-Age Canadians* (*see www.iwh.on.ca/products/wp.php*).

These findings are based on two Statistics Canada surveys: the annual Survey of Labour and Income Dynamics (SLID) and the Participation and Activity Limitation Survey (PALS) in which Canadians with disabilities are interviewed every five years. ✪

For more information about this research, please contact Dr. Cameron Mustard at cmustard@iwh.on.ca.

In Brief ...

About 386,000 working-age Canadians with a disability and who were not in the labour force did not receive any income security benefits.

Disability benefits for Canadian workers aged 15-64 in 2001

	Canadian Pension Plan disability benefits	Provincial social assistance plans	Provincial workers' compensation agencies[1]	Employment-based disability plans
Number of people receiving benefits	279,000	351,000	130,000	166,000
Rate of people receiving disability benefits (per 1,000 workers)	15.5	19.5	7.2	8.6
Amount paid	$2.4 billion	$3.4 billion	$2.3 billion	$4.4 billion
Average benefit amount (per year)	$8,767	$9,796	$17,734	$26,900

[1] Claimants receiving benefits for 12 weeks or longer

Grant Round-up

In addition to the Institute's core funding from the Ontario Workplace Safety and Insurance Board, Institute scientists receive peer-reviewed grants and awards from funding agencies. This list reflects grants received from July of 2007 to June of 2008.

Scientist	Project	Funder	Dates	Amount
Benjamin Amick	A RCT of the effectiveness of two office ergonomic training approaches for seated environments: comparing an in-person to computer-based training.	WSIB RAC[1]	2008-2010	$235,047
Philip Bigelow	Development of an Ontario-wide survey to study factors impacting the health and safety of truck drivers in Ontario.	WSIB RAC	2008-2009	$29,905
Curtis Breslin	Bridging the safety gap for vulnerable young workers using employment centres.	WSIB RAC	2007-2008	$60,000
Renée-Louise Franche	Exploring multi-morbidity: Identifying the most prevalent persistent health conditions, their co-occurrence, and their relationship with work absence and work limitations in health-care workers.	CREIDO[2]	2007-2008	$10,000
Renée-Louise Franche	Integrated workplace cohort on the prevention of work disability.	FRSQ[3]	2008-2009	$10,000
Renée-Louise Franche	Multi-morbidity, depression and pain as risk factors for prolonged work absence and significant work limitations in Canadian nurses.	WSIB RAC	2008-2010	$120,628
Sheilah Hogg-Johnson	Characterizing outcomes used for low-back pain in the literature: Is the recurrent/episodic nature accounted for?	CREIDO	2007-2008	$9,990
Sheilah Hogg-Johnson	The problem of claims persistency – what is driving increases in persistent and locked-in claims?	WSIB RAC	2008-2010	$182,584
Agnieszka Kosny	Workers' compensation and occupational health & safety coverage in non-profit organizations.	NNEWH[4]	2007-2008	$19,000
Agnieszka Kosny	Immigrant workers' experiences after work-related injury and illness.	WSIB RAC	2007-2009	$164,971
Ellen MacEachen	An ethnographic study of process and experience with labour market re-entry.	WSIB RAC	2007-2009	$140,605
Ellen MacEachen	Groundwork for an injured workers and mental health intervention study.	CREIDO	2007-2008	$9,573
Ellen MacEachen	Development of a green light and red flag toolkit for persistent claims.	WSIB RAC	2007-2008	$39,916
Cameron Mustard	Mortality by occupation in Canada: A ten year follow-up of a 15% sample of the 1991 census.	WSIB RAC	2007-2009	$224,300
Peter Smith	Examining changes in injuries submitted as no-lost-time claims in Ontario between 1991-2005.	WSIB RAC	2007-2009	$204,650
Ivan Steenstra	The sensory feedback mouse study: pilot study of a randomized controlled trial of the effectiveness of sensory feedback in VDU workers.	CRE-MSD[5]	2008-2009	$10,000
Emile Tompa	Economic evaluation workbook for workplace parties in the health-care sector.	WorkSafeBC WCB of Nova Scotia[6] Saskatchewan WCB[7]	2008-2009	$50,000
Emile Tompa	Economic evaluation workbook for workplace parties & systems partners.	WSIB RAC	2008-2009	$40,000
Emile Tompa	The behavioural incentives of experience rating: an investigation into the health and safety consequences of the new experimental experience rating program in Ontario.	WSIB RAC	2008-2010	$122,016
Emile Tompa, Mark Pagell	The safety case for business: a multi-stakeholder examination of best practices and health and safety outcomes.	WSIB RAC	2008-2010	$387,500
Dwayne Van Eerd	Refining exposure measurements in VDU workers: Comparison of four methods.	CRE-MSD	2007-2008	$10,000
Richard Wells, Benjamin Amick	The prevalence of hand disorders amongst hand held device users and their relationship to patterns of device usage.	OERC[8]	2008-2009	$23,720

1 WSIB RAC: Workplace Safety and Insurance Board Research Advisory Council
2 CREIDO: Centre of Research Expertise in Improved Disability Outcomes
3 FRSQ: Fonds de la recherche en santé du Québec
4 NNEWH: National Network on Environments & Women's Health
5 CRE-MSD: Centre of Research Expertise for the Prevention of Musculoskeletal Disorders
6 WCB of Nova Scotia: Workers' Compensation Board of Nova Scotia
7 Saskatchewan WCB: Saskatchewan Workers' Compensation Board
8 OERC: Office Ergonomics Research Committee

New Mustard Fellow plans to study prevention efforts, media campaigns

Liz Mansfield has conducted research in the areas of health and safety in small workplaces, injured workers, media prevention campaigns and young worker safety.

She now hopes to expand her experiences in occupational health and safety (OHS) research here at the Institute. Mansfield has been awarded the Mustard Fellowship in Work and Health. Her two-year term begins in September of 2008.

Mansfield is a qualitative researcher, who uses techniques such as in-depth interviews and observation to understand workplace health issues.

"The Institute provides a wonderful opportunity to engage in qualitative studies in OHS, to participate in multidisciplinary projects and to build upon my research interest in media campaigns. I look forward to contributing to, and learning from, the talented and innovative IWH research community," says Mansfield.

Mansfield is completing her PhD thesis in the social and behavioural sciences program in the department of public health sciences at the University of Toronto.

Her thesis is a case study of a campaign that focuses on true accounts of serious workplace injuries and deaths. This collaborative campaign involves multiple stakeholders. "I'm exploring how stakeholder dynamics may shape public awareness campaigns and influence prevention efforts."

Liz Mansfield

Before she embarked on her PhD studies, Mansfield coordinated a research project that evaluated an injury prevention program for young students. This multi-year project involved more than 50,000 students and spanned across 22 school boards.

"This project was a real eye-opener for me because of the complexity of implementing a research design in so many diverse communities, and the importance of building relations with safety organizations at the local level," she says.

More recently, Mansfield was a research associate on a study of front-line work with small businesses at the Workplace Safety and Insurance Board. The study involved Institute Adjunct Senior Scientist Dr. Joan Eakin and Scientist Dr. Ellen MacEachen.

When she begins her appointment at the Institute, Mansfield hopes to work on research projects such as how organizations – like health and safety associations – view prevention efforts and how they get their messages out to their clients. Additionally, she'd like to work on research related to occupational health social marketing campaigns and aspects of preventing workplace injuries and illness, particularly in small businesses. ✪

IWH News

Institute scientists publish book

How do you analyze the economic costs and consequences of a workplace intervention? A new collection of writings edited by Dr. Emile Tompa, Dr. Anthony J. Culyer and Roman Dolinschi aims to answer that question, among others. Published by Oxford University Press, their book, *Economic Evaluation of Interventions for Occupational Health and Safety: Developing Good Practice*, will be available in the United Kingdom in August. It will be released in North America later in the fall.

WorkCongress9 comes to Toronto

The 9th International WorkCongress will be held from November 9 to 11, 2009 at the Metro Toronto Convention Centre. This international event attracts policy-makers, professionals, business leaders, employers, labour leaders and scientific experts to discuss challenges in the prevention of work-related injury and in the management of illness and disability in injured workers.

WorkCongress9 will be hosted by the Ontario Workplace Safety and Insurance Board (WSIB) in association with the Institute for Work & Health. The 2009 conference theme is, "Workers' compensation in the changing world of work: protecting health, reducing disability, ensuring sustainability."

For more information visit www.workcongress2009.com

Nachemson Lectureship awarded

Dr. Thomas Wickizer will deliver the Institute's annual 2008 Nachemson Lecture on October 22, on the topic, *Quality improvement in health-care services for injured workers: bridging the quality chasm.*

Over the past 15 years, Wickizer and colleagues in Washington State have conducted a series of innovative studies on providing health-care services for disabled workers.

In his talk, Wickizer will share insights from this research and discuss the implications for the organization and delivery of health services to injured workers. Wickizer is professor of health services, school of public health, at the University of Washington in Seattle.

Visit the IWH website at www.iwh.on.ca for more information.

New Chair for the IWH SAC

The Scientific Advisory Committee (SAC) met with Institute scientists and staff for two days in May. An independent body of international experts, the SAC advises the Institute on the direction, scope and focus of its research.

Dr. Clyde Hertzman, the SAC's chair since 2002, stepped down from the committee after this meeting. Dr. Barbara Silverstein succeeds Hertzman as chair. She is the Research Director of the SHARP (Safety and Health Assessment and Research for Prevention) program for the state of Washington.

infocus

Immigrant workers experience different health and safety issues

If you live and work in a Canadian city, you likely interact with people who were born in other countries. It's not only the largest centres such as Toronto – where nearly every second person is an immigrant – that attract newcomers. Even in smaller cities such as Windsor, Calgary, Winnipeg and Kitchener, between 20 and 25 per cent of residents were born elsewhere, according to Canada's 2006 Census.

Yet, immigrants often experience poorer conditions when they go off to work compared with their neighbours who were born in Canada, even years after settling here. These findings emerged from two new studies by researchers at the Institute for Work & Health (IWH). The topic is growing increasingly relevant, as each year more than 225,000 new immigrants arrive in Canada and more than half of them are skilled workers.

"Most studies on immigrant workers have focused on their income," says Scientist Dr. Peter Smith, the lead researcher of both studies. "But from a population health point of view, we need to look at working conditions in addition to earnings that can affect immigrants' physical and mental health."

Overall working conditions worse

In their first study, Smith and co-author Dr. Cameron Mustard, IWH president, compared a dozen different work conditions between immigrants and Canadian-born workers.

"We found that immigrants with five or fewer years in Canada are more likely to have higher qualifications than their jobs require, to have physically demanding jobs, and to work fewer hours than they want to," says Smith. Some immigrants fare worse in these situations: those from a visible minority, whose mother tongue is not English, or whose advanced degrees are from outside Canada.

Results from this study were presented at Statistics Canada's Socio-economic Conference in May, 2008. The findings were based on interviews with more than 76,000 workers, from four waves of Statistics Canada's Survey of Labour and Income Dynamics (SLID) between 1993 and 2002.

From the survey, the researchers looked at a dozen factors that could affect health or safety. Among the conditions they studied were workers' skills and responsibilities (Were they supervisors? Were they overqualified?), the type of work (Was the job physically demanding or did it require no special skills?), the amount of work (Did they work full-time, hold multiple jobs or report underemployment?), and any protections that were part of their workplace (Was it unionized? Did they have non-wage employment benefits?).

In each case, they compared the situation reported by Canadian-born workers with immigrants at different stages after their arrival to Canada – in the first five years, from six to 10 years, from 11 to 20 years and from 21 years or more.

Immigrants often experience poorer conditions when they go off to work compared with their neighbours who were born in Canada, even years after settling here.

They found that the most recent immigrants, in their first five years, are also less likely to have supervisory responsibilities, to be unionized or have non-wage employment benefits.

The situation improves for those who have been in Canada between six and 10 years, but they are still 40 per cent more likely to be underemployed than Canadian-born workers. And even up to 20 years later, immigrants are less likely to receive non-wage benefits or be unionized.

What are the health implications of these differences?

"Being overqualified for your job, for instance, is associated with declines in health," notes Smith. Limited access to non-wage benefits, such as disability insurance, may result in financial insecurity if a person is unable to work.

Medically treated injury rates double in men

Recent immigrant men are twice as likely to sustain workplace injuries that require medical care compared with Canadian-born men, according to the researchers' other study.

Immigrant workers: The first five years

Compared to Canadian-born workers, immigrants in the first five years are:

- 30 per cent less likely to work full-time
- 65 per cent less likely to have non-wage employment benefits
- 40 per cent more likely to be overqualified for their jobs
- more than twice as likely to be working part-time, but wanting to work full-time

Immigrant men are twice as likely to have work-related injuries requiring medical care compared with Canadian-born men.

An immigrant who has a degree from outside Canada is more than twice as likely to:

- work in physically demanding jobs
- work in an unskilled job
- be overqualified

Immigrants with degrees from Canada had no higher risk for these factors.

This study was published in *Occupational and Environmental Medicine* in July. Researchers analyzed information from more than 97,000 workers in the Canadian Community Health Survey (CCHS) in 2003 and 2005.

Why is this rate so much higher in recent immigrant men? One explanation might be that they have more severe work injuries, possibly because they work in more hazardous settings, the researchers suggest. But there is a lack of information on immigrants' work hazards, injury risks or injuries that did not require medical attention, which would help confirm this explanation.

"It is surprising that we know so little about this issue, given that immigrants will account for all labour force growth in Canada over the next five to six years," says Smith. "Currently, provincial workers' compensation agencies don't collect information on the immigrant status of injured workers, and the surveys we looked at were not designed specifically to answer these questions."

To answer some of the questions raised by these findings, Smith and colleagues are examining the Longitudinal Survey of Immigrants to Canada, which tracks more than 7,000 immigrants during their first four years in Canada. The IWH research done to date is also helping target the next series of questions that need to be answered.

Both of these studies were funded by the Workplace Safety and Insurance Board's Research Advisory Council.

Students examine OHS issues

In 2006, two of the Institute's Syme Fellowships were awarded to doctoral students examining issues among temporary foreign workers and immigrant workers. Janet McLaughlin and Stephanie Premji are in the final stages of their PhD studies.

Each year, about 20,000 Mexican and Caribbean workers are part of Canada's Seasonal Agricultural Worker Program. This program offers employment income for these workers, plus it provides a reliable source of labour for employers during the annual crop season.

University of Toronto student Janet McLaughlin discovered that these workers face challenges if they are injured during their temporary stays in Canada, which sometimes have serious implications for both their health and their families' well-being.

As a medical anthropology student, McLaughlin immersed herself in lives of temporary foreign workers. She spent

(continued on page 8)

Stories of injured immigrants

Dealing with a workplace injury can be challenging for any worker.

For an immigrant worker who doesn't speak English well and who doesn't understand the nuances of the mainstream culture, there may be extra difficulties. Associate Scientist Dr. Agnieszka Kosny made this observation during another study of injured workers, some of whom were immigrants.

This led Kosny to head up a new study to look at the experiences of injured immigrants, in more depth. This two-year study, which received funding from the Workplace Safety and Insurance Board's (WSIB) Research Advisory Council, is currently underway and also involves Scientists Dr. Ellen MacEachen and Dr. Peter Smith. The researchers will speak to injured immigrant workers who have been in Canada since 1990.

"We will be looking at their experiences after an injury, including the circumstances around the injury," says Kosny. Researchers will probe workers' knowledge of their right to file workers' compensation claims and of their experiences with the compensation system in general.

To date, the researchers have interviewed service providers who deal with injured immigrant workers, in legal clinics and health-care settings, and from unions in industries with many immigrants.

Over the summer, they will be identifying and interviewing two groups of injured immigrants: those who have not filed a claim and those who have had contact with the WSIB. The research team is recruiting participants by advertising in Chinese and Punjabi and with the help of community-based organizations.

The study also has an advisory committee with representatives from injured worker groups, the WSIB, the Joint Centre of Excellence for Research on Immigration and Settlement (CERIS), as well as physicians and two injured immigrant workers.

From interviews with service providers, a number of issues have already emerged. For instance, says Kosny, although many immigrants come to Canada under the skilled worker category, they and their families may still experience language barriers.

When injured, some workers may not understand the need to document everything for a compensation claim nor have the language skills to do so. Translation services, while helpful, may add a layer of complexity to the compensation process. Service providers have also reported that many immigrants use temporary agencies to find work. This has implications on occupational health and safety that the researchers plan to explore.

Immigrant workers experience different health and safety issues (continued from page 7)

several summers living in the fertile Niagara Region of Ontario, where she made contact with hundreds of migrant workers, including contact with injured workers. From these connections, she spent two winters in Mexico and Jamaica, to study the effects of the injuries on workers' families and community.

She identified several key health problems. One was symptoms often associated with pesticide exposure, such as skin rashes, red or blurry vision, throat irritations and breathing problems. Another was back pain and other musculoskeletal problems from repeated, heavy work.

While the Seasonal Agricultural Worker Program offers benefits because workers are eligible for Canadian health care and workers' compensation, in practice she found they were not always able to access these benefits for a number of reasons.

Under-reporting was common. "The fear of being fired and sent home the next day is the main reason for under-reporting – they desperately need the income," says McLaughlin, who saw such situations. "I was stunned to hear the kind of pain they worked through." Workers fear they might not be eligible to return to the program if they are fired.

She also spoke to more than 60 government officials, health-care providers and employers, using semi-structured interviews. Many physicians were not aware that temporary foreign workers were eligible for workers' compensation. There were also language barriers during treatment.

Back in their home countries, she saw workers who had been so badly injured they could not work, who had not received therapy or compensation. "In some cases, their children would have to be pulled out of school to work," she says.

Workers do need this program, she points out, so one solution to encourage injury reporting might be a process in which workers can appeal if they are fired, and find a job with another employer.

"The program works well overall and there are many good employers and healthy workers who return year after year to work," notes McLaughlin. "But we can do better to protect those who experience problems."

Language, ethnic status can be issues

Imagine that you are being trained in the safe use of a piece of machinery at work – but you don't speak the same language as the person training you.

This is one of the ways that language can affect immigrants' health and safety in their jobs.

Stephanie Premji, a PhD student at the University of Quebec at Montreal, sought to explore how certain characteristics of immigrants' realities, such as their language skills or ethnic backgrounds, influence workplace safety issues. To find some answers, she did interviews with 25 immigrant garment workers in a Montreal factory.

> *"Sometimes the trainer and the trainee didn't speak the same language."*
>
> *- Stephanie Premji, PhD student, University of Quebec at Montreal*

Premji was also interested in how these issues played out on a broader scale. Do immigrants and non-immigrant minorities work in industries with a higher risk of injury, for instance? For this part of her PhD, she examined compensation claim information from Quebec's workers' compensation board (CSST) between 2000 and 2002, as well as Canadian 2001 Census data.

From her interviews at the garment factory, Premji found that occupational health and safety was affected in complex ways by language and other factors.

For instance, if workers needed a workstation adjustment or a piece of safety equipment, it was difficult for them to ask if they didn't speak English or French fluently. But also, often, they simply weren't aware that they could make such requests.

The lack of fluency also limited the possibility of building relationships with colleagues to deal with OHS issues, she says. And she did find that language affected safety training.

"Sometimes the trainer and the trainee didn't speak the same language," she says. In such cases, hand signs were used to teach safety.

Premji also found that ethnic origin affected how work was done. A worker handing out fabric bundles would give the "easy" bundles – the smaller, lighter ones – to others from the same ethnic group.

The workers' overall situation was also important. Some were working two or three jobs to make ends meet or send money to their families in their home countries, or taking English or French courses in their spare time – all of which contributed to fatigue on the job.

The other part of her research, examining compensation and Census information, also yielded some interesting findings.

Visible minorities in Montreal are more likely to work in jobs where the risk of lost-time compensation claims is higher, according to her research. This finding was also true of immigrant women. However, it doesn't mean that these groups have more injuries, she says. Within specific jobs and tasks, there are factors that may influence their risk of injury.

Non-immigrants and non-visible minorities were less likely to work in such industries.

Premji will defend her thesis in August. In the late fall she will begin a post-doctorate at the University of California in San Francisco, under the supervision of Dr. Niklas Krause, who is on IWH's Scientific Advisory Committee. ✪