

DEPARTMENT OF SOCIOLOGY

Telephone 705-748-1011 x 7537

Facsimile 705-748-1213

Otonabee College  
1600 West Bank Drive  
Peterborough Ontario Canada  
K9J 7B8

### **Project Methodology**

## **Health trajectories and health-care utilization among permanently impaired injured workers: initiation of a longitudinal survey**

### **Principal Investigators**

Peri J. Ballantyne,  
Pat \*\*\*\*\*

### **Co-investigators**

Fergal O'Hagan (Meredith post-doctoral fellow)  
Emile Tompa  
Marion Endicott,  
Steve Mantis

### Purpose

In the proposed research, we set out to increase our knowledge of the nature and extent of the health consequences of workplace injury that resulted in permanent impairment, and to document the health care utilization patterns of a representative sample of injured workers with permanent impairments. We reasoned that injured workers with permanent impairments face a significant risk of spiraling physical and mental health declines. Hence, we initiated a longitudinal survey study on this segment of the Ontario injured worker population.

Through the health/health care utilization survey, our aim is to:

- 1) provide a comprehensive profile of the health and social status (marital stability, social ties and support; employment stability, financial security), health care utilization, and self-reported health care deficits of a representative sample of injured workers with permanent impairments resulting from a workplace injury;
- 2) describe how the health and social status, health care utilization, and self-reported health care deficits of this population change over time.
- 3) A third objective of this study is to provide health and health care utilization data in a format that is comparable to existing population health data, enabling comparison of the injured worker population to the general population.

### Survey Content

In the original cross sectional survey, questionnaire items include measures of general mental and physical health, medical diagnoses, health care utilization/health care deficits and the insurance/benefit/funding source of health services sought or received. We also documented employment status, personal/family income and family/marital-status and social status, enabling us to describe relationships among these *social determinants* of health and health status/health care utilization and access.

In the first cross sectional panel of the survey, some historical questions were included (e.g. pre-injury health status, pre-injury employment, occupation, income, marital and family status), allowing the description of social and health changes pre- to post-injury.

Our proposal to collect original health/health care utilization data is necessary since existing surveys covering health (Canadian Community Health Survey, the NPHS), dis/ability (PALs, Health and Activity Limitations

Survey), and employment and income security (Labour Force Survey, Survey of Labour and Income Dynamics, McMaster Employment Strain Survey) do not include sufficient numbers of injured workers to conduct detailed analyses of this population, or comparative analyses of the injured worker population with the general population. The use of items from these existing health and labour market surveys will enable comparability of our descriptive and multivariate analyses of injured workers to broader Canadian populations.

Furthermore, none of the above surveys have detailed questions on the source(s) and costs of health care (out-of-pocket, public insured, private insured, WCB covered). Our study will provide original data addressing access and costs of health care among a vulnerable group – the permanently impaired injured worker.

The complete injured worker health survey (Panel 1) is appended in this website.

### Sampling Frame and Sample

For the purposes of this study, the population of interest is all Ontario injured workers with permanent impairments. The study sample was sought from among all non-economic loss (NEL) recipients provided by the Ontario Workplace Safety and Insurance Board between January 2005 and November 2007. According to documentation of the WSIB, non-economic loss (NEL) benefits are provided to a WSIB injured worker claimant if he/she suffers permanent impairment from a work-related injury or illness. The non-economic loss benefit is provided to compensate for the physical, functional, or psychological loss the impairment causes. This benefit is determined when an individual's condition has reached a point where no further improvement can be expected - hence we selected new NEL recipients rather than new WSIB claimants (<http://www.wsib.on.ca/wsib/wsibsite.nsf/Public/BenefitsNEL>; accessed May 23, 2007) for inclusion in the study. In 2005, 13,834 NEL awards were provided to Ontario injured workers; NEL claimants made up about 1/20 or 5 percent of all new claimants in 2005 (Workplace Safety and Insurance Board, 2005).

A sampling frame of eligible injured workers was identified from administrative files by the WSIB Research and Evaluation Branch. For the purposes of this study, the sampling frame was limited to a) first-time claimants of the WSIB who received a NEL between January 2005 and November 2007; and whose accident occurred between January 2002 to November 2007; b) injured workers who were from 25 to 55 years of age as of July 1, 2007; and c) injured workers who are fluent in English.

From an initial population of 5,165 injured worker claimants whose claim files indicated eligibility, WSIB successfully contacted 2729 (53%) by telephone; 495 of these were determined to be ineligible, for 230 eligibility was not confirmed. This resulted in 2,004 individuals who were confirmed to be eligible upon telephone contact by the WSIB. Of these, 1,503 individuals agreed to be contacted by RAACWI researchers to learn more about participating in the study. The WSIB mailed each of the 1,503 injured workers a detailed information package about the study. This package was prepared by RAACWI researchers, and contacted a short letter explaining the purpose of the study, a detailed information sheet/consent form in duplicate copy, and a copy of the survey questions that participants would be asked if they agreed to become a participant in the study.

Beyond assisting with the identification of and contact information for eligible NEL recipients, and mailing out information package on behalf of RAACWI, the WSIB was otherwise not involved in the recruitment of a final sample or in the collection of data for the RAACWI injured worker health survey.

Recruitment to the study was completed at Trent University. Using the sampling frame of 1503 eligible NEL recipients, we contacted injured workers, reviewed the purpose of the study, answered any questions workers had, and asked about each workers' willingness to participate. We were aiming to recruit 500 workers from the list of 1,503. Recruitment was completed in two phases, between November 2007 and March 2008, when 500 participants had been identified, and some 'top up' recruitment between October 2008 and April 2009, when



individuals who had originally agreed to participate were no longer available by telephone, or when they changed their minds and decided not to participate in the study.

We recognize the limitations of the sampling frame and our sampling strategy. For example, our recruitment strategy is limited to the extent that injured workers with permanent impairments who do not file claims with WSIB, who are denied claims, or who are not deemed eligible for a NEL award will be excluded from the study. Furthermore, non-English speaking injured workers are also excluded. However, there is no means to access a representative sample of non-claimants or denied-claimants, hence recruitment of NEL awardees through the WSIB was pursued.

Further, our final sample was not selected randomly from the sampling frame of 2,004 eligible participants, but instead was based on who we were able to contact by telephone, and their willingness to participate. Table 1 illustrates some general characteristics of the original 2,004 injured workers who were confirmed by the WSIB to meet the eligibility criteria for the study; the 501 from this group who declined to participate in the study at the point of contact by the WSIB, and the 494 who recruited to the sample by RAACWI researchers. We are satisfied that we achieve a very good distribution of NEL recipients, as illustrated by the occupational status, gender and age group variations shown in the table.

	Population N=2004	Refusals N=501	Sample N=494
Occupational Category			
white collar	12.0%	12.0%	20.5%
pink collar	34.0	32.0	38.0
blue collar	54.0	56.0	41.5
Gender			
male	49.0%	45.0%	39.0%
female	51.0	55.0	61.0
Age Group			
25-29	3.5%	3.0%	5.0%
30-39	19.0	16.5	20.0
40-49	38.0	35.0	38.0
50+	39.0	45.0	37.0

Full informed consent procedures were/are being undertaken for the study. The project protocol was first reviewed and approved by the Trent University Research Ethics Board (REB), based on the primary affiliation of the Principal Investigator. The REBs at York University - where primary data collection was undertaken, and McMaster University - where the RAACWI project is managed, also provided review and approval of the study design.

#### Data Collection

Data collection was based on telephone surveys conducted by York University's Institute for Social Research. Data collection was initiated in May 2008 and May 2009 (69% completed between May and August 2008), with a final sample of 494 injured worker participants. The Institute for Social Research provided a complete data file in SPSS format in June 2009.

#### Data Analysis

Data analysis is in progress. Descriptive analyses of health and disability (self reported and formally diagnosed), health care utilization including use of prescription, over-the-counter medicines, natural health products, and other substances/aids and specialized equipment used for the treatment of health problems; and insurance availability and/or out-of-pocket spending for health care will be completed. Statistical comparisons of



groups (i.e. based on broad labour market categories, broad age- and sex-groups; unionized/non-unionized groups, etc.) will be conducted, where appropriate.

Multivariate analysis will be undertaken to assess such issues as the social and economic predictors of stability/change in health status, the relationship between health status/health care utilization and subsequent employment, the levels of use of formal and alternative health care, predictors of out-of-pocket costs, etc.

To date, we have published a short summary of responses to some key survey items (The RAACWI Injured Worker Health Survey Panel 1 (2008-2009) – Overview, available at:

[http://www.consequencesofworkinjury.ca/projects/health/health\\_c7ef6.htm](http://www.consequencesofworkinjury.ca/projects/health/health_c7ef6.htm)

#### The Pharmacy Audit:

To facilitate the collection of accurate and detailed information on injured workers' access to and use of medical drugs, a minor survey entailing a drug audit was completed separately from the major survey. Screening for inclusion in the minor survey was based on responses to general questions about the numbers of drugs used, in the major survey. The screen identified 229/494 eligible participants for the pharmacy audit; and ~ 158 (69% of eligible sample) completed the pharmacy audit in the spring/summer 2010).

The sub-survey was designed to include injured workers who, in the major survey, indicated they regularly use four or more medical drugs. The pharmacy survey was conducted via telephone interview. Initially, two pharmacists were consulted around the design of the collection of pharmacy data, and they conducted the first few interviews. The majority of interviews were completed by two non-pharmacist interviewers trained for this purpose. Care was taken to accurately record the names, doses and referral sources of prescribed and over-the-counter medicines, and 'natural' health products used as medicines. A professional pharmacist-researcher is currently involved in organizing and categorizing the pharmacy data for the purposes of analysis and report-writing.

#### Future survey panels

Our aim is to expand the initial cross sectional survey into a longitudinal (panel) survey with the second wave conducted two years post-initial survey (pending successful funding applications). Individual survey questions will be modified to assess change in status, where appropriate, following the design of the longitudinal component of the Statistics Canada's National Population Health Survey (NPHS), and the Survey of Labour and Income Dynamics (SLID). Subsequent waves of the longitudinal survey will be proposed with later funding opportunities. The ultimate intention of the research is to document longitudinal changes in health status/health care utilization and health care access of injured workers with permanent impairments.

#### References

Workplace Safety and Insurance Board (2005). Workplace Safety and Insurance Board Statistical Supplement 2005.

World Health Organization. 2001. "International classification of functioning, disability and health, final draft, full version." Geneva: World Health Organization.



[www.consequencesofworkinjury.ca](http://www.consequencesofworkinjury.ca)