

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	The incidence and impact of recurrent workplace injury and disease. A cohort study of WorkSafe Victoria, Australia compensation claims
AUTHORS	Ruseckaite, Rasa; Collie, Alex

VERSION 1 - REVIEW

REVIEWER	Jeremy Beach Associate Professor, Division of Preventive Medicine, Department of Medicine University of Alberta, Canada. Competing interests - none
REVIEW RETURNED	27-Dec-2012

THE STUDY	<p>One or two typographical errors were noted. For example, page 8, para 2, line 1 in the section on work disability. It currently reads 'Males incurred for 45,570 (38.7%) years of...' - the 'for' should be omitted.</p> <p>The authors give relatively little information about the data handling part of their methods although a reference is given. I think it would be useful for readers to have some information in this manuscript so they can see for example, what proportion of claims data were incomplete and could not be utilised, or for what proportion the injury or condition was missing. Information such as the number of diagnostic codes available and utilised in the data would also be useful to the reader without having to seek out another reference.</p> <p>I answered 'no' to last question 'Do any supplemental documents e.g. a CONSORT checklist, contain information that should be better reported in the manuscript, or raise questions about the work?' as this appears to be the answer when the manuscript is satisfactory. Please let me know if this is incorrect.</p>
GENERAL COMMENTS	<p>This is a well written and interesting paper. It addresses an important opportunity for prevention of injury and illness and so is of importance. I have made some suggestions for the authors below.</p> <p>1. It would be helpful for the authors to define 'recurrent' as applied in this study. It is not clear if it is a second or subsequent workers' compensation claim for the same injury or condition, or if it can be a second or subsequent claim for an unrelated condition. Both likely offer some prospects for secondary prevention, but the former probably the greater, and may be what most readers will intuitively understand by the term recurrent. If the authors have reported the latter, it would be of interest to know what proportion of 'recurrent' claims were for the same injury or condition, and which for a</p>

	<p>different injury or condition. This should also be discussed in the paper as it may effect the secondary prevention measures available. If the authors are identifying a recurrence of the initial condition then the emphasis may fall on treating this, whereas if they are identifying a different injury or condition secondary prevention may be focussed on workplace or individual characteristics putting the worker at risk. In addition, the authors don't define any time interval between the first and subsequent claims. I'm not sure readers would consider a second claim 13 years after an initial claim as a recurrence. This should be clarified.</p> <p>2. It would be helpful for the authors to suggest some illustrative examples of the types of secondary prevention measures they envisage being useful. Many readers may be unfamiliar with what the types of changes they may be suggesting.</p> <p>3. Administrative databases can be prone to errors in data collection. I think this needs to be more fully discussed in the strengths and weaknesses section of the discussion. Errors in diagnostic codes may have arisen, and if they are defining recurrent in terms of the same injury or condition this may be important. Other parts of the data may also have contained errors but this is not currently reported or discussed.</p> <p>4. A workers' compensation claim may be ended for reasons other than the worker returning to work. For example retirement, starting maternity leave, emigration. I'm not sure if it is possible for the authors to identify the proportion of claims that ended for other than return to work but this likely needs including in the discussion.</p> <p>5. In table 1 one of the rows is labelled 'Income replacement +/- medical expenses'. I'm not sure what the '+/-' refers to - were the data incomplete? This should be clarified in a footnote or in the text, or in the table itself.</p> <p>6. I'd like to see an analysis of the proportion of initial and recurrent claims by age category. This may well have an impact on 'recurrent' claims and if the data were available would add to the paper.</p>
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REVIEWER	Dr. Christopher McLeod Assistant Professor The University of British Columbia Canada
REVIEW RETURNED	26-Jan-2013

THE STUDY	<p>The analysis is conducted appropriate for a ecological rate-ratio study. The analysis could be improved through age-standardizing the rates which would be possible if the denominator labour force survey data is available in age groups. Age adjusting the rates would remove age-related trends from the analysis. If age grouped denominators are not available this could be noted as a potential source of bias.</p> <p>More detail on the of the work disability measure is needed, in particular detail on how construction of full-time equivalents summary measure. The authors should consider presenting the median (in addition to mean) as work disability is highly skewed.</p>
RESULTS & CONCLUSIONS	<p>I'd prefer to see the inclusion of rates in Table 1 in addition to the row and column percent.</p> <p>The results from Figure 2 show different patterns for men and women for recurrent claims. Discussion could be improved by commenting on the gender differences.</p>

	Strengths and limitations of the study are well characterized.
GENERAL COMMENTS	The study, while descriptive, is a contribution in this area as it is among the first to examine recurrent workers' compensation claims using population-based administrative data.

VERSION 1 – AUTHOR RESPONSE

RESPONSES TO THE COMMENTS OF ASSOCIATE PROFESSOR JEREMY BEACH

One or two typographical errors were noted. For example, page 8, para 2, line 1 in the section on work disability. It currently reads 'Males incurred for 45,570 (38.7%) years of...' - the 'for' should be omitted.

In response to this comment, the above mentioned typographical errors have now been fixed.

The authors give relatively little information about the data handling part of their methods although a reference is given. I think it would be useful for readers to have some information in this manuscript so they can see for example, what proportion of claims data were incomplete and could not be utilised, or for what proportion the injury or condition was missing. Information such as the number of diagnostic codes available and utilised in the data would also be useful to the reader without having to seek out another reference.

The reviewer raised a valid comment. The data used in this analysis had a quality check before the analysis. All the claim data required for this study was available and complete. The only missing information was gender of some participants, which is reported in the Table 1. More information on the coding of the data now is provided in the manuscript, "Compensation Database" section.

1. It would be helpful for the authors to define 'recurrent' as applied in this study. It is not clear if it is a second or subsequent workers' compensation claim for the same injury or condition, or if it can be a second or subsequent claim for an unrelated condition. Both likely offer some prospects for secondary prevention, but the former probably the greater, and may be what most readers will intuitively understand by the term recurrent. If the authors have reported the latter, it would be of interest to know what proportion of 'recurrent' claims were for the same injury or condition, and which for a different injury or condition. This should also be discussed in the paper as it may effect the secondary prevention measures available. If the authors are identifying a recurrence of the initial condition then the emphasis may fall on treating this, whereas if they are identifying a different injury or condition secondary prevention may be focussed on workplace or individual characteristics putting the worker at risk. In addition, the authors don't define any time interval between the first and subsequent claims. I'm not sure readers would consider a second claim 13 years after an initial claim as a recurrence. This should be clarified.

Thank you for this comment. The goal of the current study was to identify and describe the incidence, impact and work disability of any recurrent workplace injury and disease regardless the time between them; therefore the type and nature of the injuries were not discussed in this manuscript. This information is available in a couple of our previously published papers on repeat workers' compensation claims, risk factors, costs and work disability. These papers summarize and discuss the time between the initial and repeat claims, describe type of the first and recurrent injuries/diseases as well as workers' occupation, industry and workplace type.

We have now provided a more detailed definition of a subsequent claim in the "Data Analysis" section and also addressed this issue in the "Conclusions and policy implications".

2. It would be helpful for the authors to suggest some illustrative examples of the types of secondary prevention measures they envisage being useful. Many readers may be unfamiliar with what the types of changes they may be suggesting.

Some of the examples of the types of secondary prevention have already been discussed in the final paragraph of the article previously; however now we added some additional suggestions (please see the beginning of the last paragraph of the manuscript).

3. Administrative databases can be prone to errors in data collection. I think these needs to be more fully discussed in the strengths and weaknesses section of the discussion. Errors in diagnostic codes may have arisen, and if they are defining recurrent in terms of the same injury or condition this may be important. Other parts of the data may also have contained errors but this is not currently reported or discussed.

This is valid comment and now has been addressed in the Discussion section, “Strengths and weaknesses of the study”.

4. A workers' compensation claim may be ended for reasons other than the worker returning to work. For example retirement, starting maternity leave, emigration. I'm not sure if it is possible for the authors to identify the proportion of claims that ended for other than return to work but this likely needs including in the discussion.

Thank you for this comment. We do not have information on claimants' return to work as these dates are not recorded consistently by the compensation authority, particularly for periods before the year 2004/5; however the quality of this information is improving every year and we might be able to address this question better in the future studies. This limitation now has been considered and added to the Discussion, “Strengths and weaknesses of the study”.

5. In table 1 one of the rows is labelled 'Income replacement +/- medical expenses'. I'm not sure what the '+/-' refers to - were the data incomplete? This should be clarified in a footnote or in the text, or in the table itself.

This now has been fixed and the explanatory note is added to the table. “Income replacement +/- medical expenses” refers to those claimants who claimed not only for income replacement, but also and/or for any medical expenses.

6. I'd like to see an analysis of the proportion of initial and recurrent claims by age category. This may well have an impact on 'recurrent' claims and if the data were available would add to the paper.

Table 1 and 2 now has been expanded and the detailed information on age categories is provided. The regression models used in the data analysis have been also fully adjusted for age and gender differences. Age category information has now been added to the tables, it is addressed in the “Results” and the “Discussion”.

RESPONSES TO THE COMMENTS OF DR CHRISTOPHER MCLEOD

The analysis is conducted appropriate for a ecological rate-ratio study. The analysis could be improved through age-standardizing the rates which would be possible if the denominator labour force survey data is available in age groups. Age adjusting the rates would remove age-related trends from the analysis. If age grouped denominators are not available this could be noted as a potential source of bias.

This is a very good feedback and it was also provided by the other reviewer. It has now been addressed and information on age groups have been added to the Table 1 and Table 2, as well as addressed in the text and discussion.

More detail on the work disability measure is needed, in particular detail on how construction of full-time equivalents summary measure. The authors should consider presenting the median (in addition to mean) as work disability is highly skewed.

This comment has now been addressed by modifying Table 2. The table has now been split into two parts. Table A summarizes a total work disability, expressed in years and Table B illustrates average work disability, expressed in days. In addition to the mean and SD we also present median and IQR values.

I'd prefer to see the inclusion of rates in Table 1 in addition to the row and column percent.

Table 1 has now been amended and the rates are now included into the Table 1. Please note, that the rates are calculated for the claimants, not claims. This is also explained in the footnote.

The results from Figure 2 show different patterns for men and women for recurrent claims. Discussion could be improved by commenting on the gender differences.

Thank you for this comment. A possible explanation to why different patterns exists for men and women for recurrent events is that less women return to work after the initial injury, which might occur to the mental stress, depressive symptoms and vulnerability at work. This possibility has now been added to the "Discussion".