Reviewer's report

Title: Medical Expenditures Associated with Nonfatal Occupational Injuries among Immigrant and U.S.-born Workers

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Reviewer: John D Meyer

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The authors present an interesting set of findings, namely that little difference is evident in the cost of work-related injury between foreign and native-born workers in the US. The results are of interest, although the authors appear to be somewhat uncertain about the ground on which they are treading, and unclear ultimately about the importance of the findings. In reviewing this article I would like to suggest some changes that might assist with the overall evaluation of the findings, and therefore to place the work in a context which might provide more useful information on the injury experience of foreign-born workers in the US.

Major Compulsory Revisions:

1. Fundamentally, the two populations (immigrants and US-born) are treated as essentially similar with respect to comparison of medical costs. This may not be warranted. Although the authors appear to have analysed data pertaining to injury incidence in an earlier paper, an essential comparison is missing here, viz. the question of whether the work-injured populations (immigrants and non-immigrants) are comparable to the working populations of the dataset, and therefore whether the costs that are captured by the dataset for treatment of self-reported work injury can be appropriately compared. This is of particular relevance since it appears that immigrant workers are disproportionately represented in the most hazardous jobs. If, for example, their data indicates that the work-injured immigrant population is proportionately considerably less than the immigrant population that forms the overall dataset, (and by extension, is less than the proportion of native-born work-injured workers) one may surmise that there are more substantial barriers to reporting in this population and that it is likely that the costs evident in the dataset for immigrant workers are a considerable underestimate of the true costs, or that there are other reporting biases operating, despite the apparent equality of costs. I would suggest that this is essential information that should be provided in the analyses before one may consider the conclusions reached in the paper – based on the assumed comparability of the two populations - as valid, as it may introduce a bias that adjustment for the listed covariates cannot overcome.

2. It is unclear, and should be clarified, that in the Tables (2 and 6) what exactly the “adjusted” OR refer to. Are these mutually-adjusted models (ie OR taking into account, and adjusted for, the individual covariates that appear on the left-hand (raw or unadjusted OR) column?) or were other factors used in the adjustment?
This should be explained in the text as well as in an addition to the legend in the Tables.

3. The difference between “office-based” and “outpatient” costs/expenses needs to be explained – it is difficult to understand the difference between these two. Do they relate to physician care versus outpatient services (eg physical therapy) or to other, differing expenditures?

Minor Essential Revisions:

Background:

1. 1st paragraph: the 3rd and 4th sentences are irrelevant and could usefully be excised, they add little to the information already presented.

2. 2nd paragraph: It would be useful to have some specific figures on the proportion of immigrant workers in the US.

Methods (Statistical Analyses):

3. 2nd paragraph: It is overly simplistic to assume that the main decision to use care and report is made by the patient/worker. Please see Azaroff et al Am J Public Health. 2002 92(9):1421-9.

4. 3rd paragraph: Please (briefly) explain why log-transformation “did not work” in this study

Results:

5. 2nd paragraph: there is little reason to reiterate the information available in Tables in the text of the results (beginning with the 3rd sentence of the paragraph). It would be sufficient to translate the data into broader more easily grasped terms (eg by stating that “immigrant workers were younger, less well-educated, more likely to be married, and had a higher proportion living in poverty”)

6. Last paragraph: it should be made clear that the OR for the statistically significant variables were both <1.0; in other words that they were “protective” factors -- associated with a reduced risk for incurring medical expenses.

Table 5 and 6:

7. It is unclear why the cutoffs for poverty level seen here were used – in particular why are strata outlined asymmetrically as <100%, 100-125%, 125-200% etc. these appear to be rather arbitrary cutoffs and the proportion of subjects within them bear this out. Better to use either more even cut-points (eg <100%, 100-150%, 150%-200% etc), or cut-points based on a priori knowledge of the association of various strata with the outcome.

Study Limitations:

8. 1st paragraph: Please comment more completely on the implications of exclusion for those with missing birthplace. Brief analyses should confirm whether their injury experience is similar or different from the included workers.
9. Final paragraph: The increase in out-of-pocket expenses for injuries needs to be commented on further. Workers compensation (WC) should theoretically provide “1st dollar” coverage” so that higher out-of-pocket expenses imply either: 1) not filing a WC claim, or having it rejected, or 2) cost-shifting of injury to private or public insurance, in which case deductible, co-pays, and limits apply and expenses increase.

Discretionary Revisions:

Background:
10. 2nd paragraph: should be “composed”, not “comprised”

Methods (Health Insurance Coverage):
11. Please provide a definition for TRICARE

Table 5:
12. Can a p-value-for-trend across the strata of poverty level be calculated?

Discussion:
13. Part of the 1st paragraph appears to be duplicated across the page – can this be corrected?

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests.