Author's response to reviews

Title: Prevalence of claims-based recurrent low back pain in a Canadian population: A secondary analysis of an administrative database.

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Author's response to reviews: see over
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Dr. Shigeyuki Muraki
Associate Editor
BMC Musculoskeletal Disorders

Re: MS# 2193988618886780 "Claim-based recurrent low back pain; a 8-year decrease in prevalence in adults under 65 years of age."

Dear Dr. Muraki:

We are pleased that our manuscript received positive peer reviews supporting its publication in BMC Musculoskeletal Disorders. In the following pages are our point-by-point responses to each of the comments of the reviewers.

Substantial revisions or additions in the text are shown using yellow highlight.

We thank the reviewers for their constructive criticism that has contributed to improving the quality of our manuscript.

Yours sincerely,

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Below, the reviewers’ comments are numbered and shown in italics. Our responses follow each numbered comment and are shown in normal font style.

Reviewer #1.
1. **TITLE, page 1.** It’s true that the “8-year decrease in prevalence in adults under 65 years of age” is probably the most relevant result obtained by the Authors, however is not the unique and in my opinion does not convey to the readers the real intent and complexity of the conducted analysis.

The title has been modified, in accordance with the reviewer’s suggestions. It is now more inclusive of the other analyses and results reported in the manuscript.

2. **KEYWORDS, page 1.** The key words are too generic and at least some fundamental words are missing, e.g. “prevalence”, “recurrent”, “low back pain”, “claim” or “claim-based”.

We had a discussion with a librarian at our faculty of medicine concerning the keywords. We had a preconception that keywords should be different from the title words. In fact, adding keywords different from the title would not necessarily make a difference for MeSH indexation but can increase the chances of finding a paper in a web-based search. This said, there is no clear-cut solution. We thus agree with the reviewer that the fundamental words should appear in the keywords and thus we modified the list.

3. **METHODS, page 5.** The subparagraph “Description of the Québec’s population” is not pertinent to Methods section (apart from the sentence [In this study – 65 years of age.] that could be moved to the next subparagraph) and should be moved to Discussion section where deemed appropriate by the Authors.

As suggested by the reviewer, this information has been moved to the Discussion section. The sentence concerning the population that is “65 years of age” has been moved below the subheading “Study cohort for claims-based recurrent low back pain” in the Methods section.

4. **DISCUSSION, page 10.** I do not understand the sentence [Our data showed that adults – than the retired population.]. The sentence used by the Authors is therefore correct for men but contradictory of the obtained results with respect to women.

We thank the reviewer for raising this issue. The sentence refers to a graph that we decided to remove before submitting the manuscript. The graph showed the prevalence distribution of the whole population but was not as relevant as the distribution graphs for each sex. Therefore, this section has been modified to better reflect the Results section and Figure 2 (Figure 2A-B).

5. **DISCUSSION, page 12.** The sentences [A recent review of Koes – before further investigation
is initiated. are not well related with the previous part of the discussion and furthermore result misleading. Thus authors need to connect and reformulate them clearly.

The discussion concerning the red flags and imaging was indeed misleading and did not reflect what we had in mind. We reformulated the information concerning the non-specific diagnoses, which now is presented under the subheading “Larger proportion of non-specific LBP diagnoses”, taking note of the comments made by the reviewer.

6. MINOR ESSENTIAL REVISIONS.

We have completed the minor essential revisions suggested by the reviewer. The manuscript has been proofread by a member of the American Medical Writers Association and the Editor's Association of Canada.

Reviewer #2. Mentioned that is was an “interesting paper on an important topic”. No modification requested.

Reviewer #3.

1. The study was done based on data base from Quebec, authors started generalizing the results to the Canadian population without explanation or discussion how is there sample is representative to the canadian population.

Quebec is the second most populous province in Canada, following Ontario. Besides the mother tongue of the majority of the population, which is French in Quebec and English in the other provinces, the demographic characteristics of Quebec are similar to the other provinces. In our article, we cite the 2006 census to support this. The external validity of our cohort is also high since our cohort was not selected from a sample of the population but was directly selected from the whole population of Quebec consulting medical services; this information is centralized in an administrative registry. Also, each province has its own health insurance plan; therefore, universal coverage for medical health care services is equally available throughout Canada. If the demographic characteristics are similar and every Canadian has access on a free-basis to the health care system, we can hypothesize that our data should be generalizable. The population was briefly described in the Methods section of the first version. As Reviewer #1 suggested, this information has been moved to the Discussion section. We have added more information in this version.

2. Authors may consider comparing their sample characteristics to the Canadian Health Survey. CHS results are available online or through Statistic Canada.

We carefully considered Reviewer #3’s suggestion to compare the characteristics of the respondents in the Canadian Community Health Survey (CCHS) to the patients of our administrative cohort. We found that it would be too difficult to present that comparison for several reasons. Our study is based on medical services use and includes anybody consulting physicians in the health care system in a recurrent manner. It is highly specific in the sense that
multiple diagnoses are provided by physicians for a low back pain condition and collected in a centralized registry. On the other hand, the CCHS cycle 4.1 (2007-2008) is highly sensitive in the sense that respondents, based on their personal recall, report back problems (no specificity regarding the lumbar region), expected to last or lasted more than 6 months (self-perception), diagnosed by a health professional (could be other than a physician). These two designs both have their strengths, weaknesses and their usefulness for particular applications; however, comparisons of characteristics between both cohorts would not improve, in our opinion, the generalizability. For instance, the prevalence in our cohort in 2007 was 1.3% while in the CCHS cycle 4.1 we found that the prevalence for back pain in Quebec and Canada was 25.2% and 32% respectively.