Reviewer’s report

Title: A population-based study of the volume of ambulatory and surgical services provided by orthopedic surgeons for musculoskeletal conditions

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Reviewer: Kelli Dominick

Reviewer’s report:

This manuscript presents data on the total volume of services provided by orthopedic surgeons in Ontario, as well as a breakdown of surgical versus ambulatory care services. This is an interesting paper that shows the high volume of non-surgical visits provided by orthopedic surgeons, raising the question of whether and how some of these services may be provided by other types of health care providers (considering the likely increasing problem of a shortage of orthopedic surgeons given the demand). The study and data are relatively straightforward. My specific recommendations are as follows:

Major Compulsory Revisions

Abstract
1. The background section would be improved if it included some description of the problem of ortho surgeon shortage and why these analyses are important. Also, “in the context of services provided for all conditions” is a bit vague and could be misleading (i.e., you are not looking at ALL health conditions – just musculoskeletal).
2. Methods could be improved with more of a description of what was examined – i.e., total volume of services, hospital vs. amb care, according to type of condition, etc.
3. Results – 3rd sentence could be removed – first 1 sentences really cover this.
4. Results - 4th sentence– does this refer to amb care of all visits?
5. Conclusion – 1st sentence may be improved by removing “as well as surgical care” – or make some other change to emphasize that large volume of amb care services performed.

Introduction
1. First paragraph, last sentence – phrase about cost of injury is a bit unclear & makes the sentence confusing.
2. Last paragraph, second sentence – long & could be shortened / clarified.

Methods
1. First paragraph – it is stated that the claims for 2005/2006 can be “considered to be representative of the total population.” I am not familiar with whether there are waiting lists / times for visits to orthopedic surgeons in the Canadian
healthcare system. If so, this should at least be mentioned in the discussion section, as this means that the total volume of services is representative of what orthopedic surgeons are currently doing, but not the total “need”. If this is the case, it further emphasizes the need for augmenting ortho care with other health professionals who may be able to fill some of the amb care needs.

2. How were the specific health conditions for each of 4 diagnostic groups chosen. If this was done by authors’ consensus / expert opinion, that’s fine, but should be mentioned.

3. I also think that it would be useful for readers to be able to see the health conditions included. If allowed by the journal, consider an online appendix including this.

4. In general more details could be provided regarding the analyses – i.e., analyses were done according to age x gender x diagnostic group categories.

5. It should be noted that when calculating the # of encounters for a given diagnostic group, this was based on the # of visits including an ICD-9 code within that grouping (if that is indeed the case). It should also be mentioned somewhere that the # of visits in each of these categories is not necessarily per-condition or injury. In other words, in estimating the # of visits for people with an injury or related condition, it’s possible that this included more than 1 injury per person. Or someone may have multiple diagnoses in the arthritis category. This is how I’m assuming the analyses were done…this could be clarified.

Results

1. Should the 2nd paragraph have a heading of Ambulatory Care Encounters, or something like that?

2. When describing the analyses of amb care encounters according to gender / condition, state that these were results of the Poisson regression models (if that is the case) and whether comparisons were statistically significant in each comparison described.

3. Last paragraph – Is the 1st p-value from a Poisson model, and does it refer to the age or sex parameter?

4. In Figure 1, is “Trauma” the “Injury and Related” category?

Discussion

1. Overall I think the discussion can be shortened a bit. Some sentences / paragraphs include similar information / themes.

2. 6th paragraph, 1st sentence is a bit long & could be shortened or separated.

Level of interest: An article of importance in its field

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.