Reviewer’s report

Title: Does the implementation of a care pathway for patients with hip or knee osteoarthritis lead to fewer diagnostic imaging and referrals by general practitioners? A pre-post-implementation study of claims data.

Version: 1 Date: 15 Jul 2019

Reviewer: Gillian Hawker

Reviewer's report:

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Thanks very much for responses to prior questions and concerns. However, I do think a few issues remain and their clarification will improve the quality of the paper. These are as follows:

1. In describing the purpose of the pathway, please indicate which diagnostics you were trying to reduce - perhaps "imaging of the hip/knee" would suffice? Similarly, rather than simply saying consultations, which is vague, perhaps indicate "orthopaedic consultations"

2. In describing the results, instead of reporting whether or not an interaction was significant, it would be better to describe the actual findings - for example, the rate of imaging tests for knee OA declined post pathway intervention in the intervention group but not in the controls, etc.

3. I would recommend that after you present the full name of your pathway, you refer to it thereafter as "the pathway" for brevity

4. Background: I think this could be shortened substantially; in paragraph 2 you appear to be confusing prevalence and incidence - please clarify. Finally, try to make your points succinctly - i think you can reduce the length of the background by half

5. Selection of controls: please clarify what you mean by 'declining' and aging... declining in numbers?

6. It remains unclear to me whether there was only one education meeting or many - it says in the methods that 20% attended the first meeting, but what was the cumulative proportion of GPs that attended a meeting?

7. Outcome measures: as per above, please simplify what your measures were - I understand that the two outcomes were diagnostic imaging and surgeon consultations, but how were these summarized in your analyses? Table 3 i think is the key, but i think the text could be far clearer
and more succinct, which would assist the reader - and how did you go from the data in table 3 to a logistic regression?

8. In review of the patient records, again i am unclear what information was abstracted - please clarify.

The discussion section of the paper is now much improved and addresses many of the issues i have noted above - the language used in the discussion section could replace that earlier in the paper

Tables and Figures:

9. I think Table 1 could be excluded - Table 2 is sufficient and the rationale for selection of control practices can be stated in text

10. Table 3 is really your main results ...I would assume you calculated the difference in differences pre-post pathway implementation for each of imaging and ortho consults?? if so, it would be good to include the statistical results in this table

11. Tables 4 and 5 - as per above, i remain confused re how you got to a logistic regression with a binary outcome, especially in the absence of patient-level data - please clarify

12.

There are a number of editorial blips, which likely occurred as a result of revision, but which require attention.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
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I am able to assess the statistics

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