Reviewer’s report

Title: Development of a clinical decision support tool for diagnostic imaging use in patients with low back pain: a study protocol

Version: 0 Date: 11 Sep 2018

Reviewer: Romana Pylypchuk

Reviewer's report:

The paper provides a comprehensive and clear description of a study to develop a clinical decision support tool for diagnostic imaging use in ED patients with LBP. I have just a few minor comments/suggestions.

Missing data are a common problem in observational studies. Would it be possible to describe what steps will be taken to prevent missingness? Also, how will missing values (if any) be handled?

Since quality of data used to develop the clinical decision support tool are crucial, the paper would benefit from adding some info on measures to minimise measurement/recording error.

Also, I wonder if potential implications of using a composite outcome could be discussed. For example, which of the pathologic causes of LBP included in the definition of the outcome are likely to dominate the outcome?

The study population (4,000 ED patients) will constitute a small proportion of the patients who visit EDs for low back pain in Canada. Will the study investigate how representative the consenting patients are of the target population of patients?

Finally, an intention to externally validate the tool is mentioned in the Background section, yet no further information was provided in Methods or Discussion.
Level of interest
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An article of importance in its field

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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