Reviewer’s report

Title: Chart Validation of an Algorithm for Identifying Hereditary Progressive Muscular Dystrophy in Healthcare Claims

Version: 1 Date: 01 Jul 2019

Reviewer: Kelvin P. Jordan

Reviewer's report:

The description of the selection of patients to study and of the algorithm is now much clearer.

The study results suggest the patients identified by the algorithm do have MD, although the reported PPV is likely to be inflated by lack of blinding. However we still do not know how many patients it may miss. I still think it is a shame that the authors did not also evaluate with review those with just one code for MD. This would have allowed some blinding to the expected status of a patient, and given an indication of the sensitivity of the algorithm (if we assume all "true" cases will have at least one code).

The derived "sensitivity" now quoted in the text of 48% assumes all those with at least one code have MD, and hence suggests the algorithm is missing half the people with MD. However, the derivation of the algorithm and requirement of at least 2 codes implies there will be false positives amongst this wider group and hence I am not sure this reporting of a "sensitivity" is particularly helpful. It may be better to simply state that the algorithm picked up 48% of patients with at least 1 MD code (if I have interpreted correctly) but the sensitivity of the algorithm is unknown and needs to be the next stage of research. I am not sure what the added phrase "...which helped to retain a fairly large number of patients..." when discussing sensitivity means here - I would delete.

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.

No
Are the conclusions drawn adequately supported by the data shown?
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Yes

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I am able to assess the statistics

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