Reviewer’s report

Title: Understanding the importance of key risk factors in predicting chronic bronchitic symptoms using a machine learning approach

Version: 0 Date: 17 Oct 2018

Reviewer: Reviewer 2

Reviewer’s report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses a testable research question(s) (brief or other article types: is there a clear objective)?

Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?

Yes - the approach is appropriate

EXECUTION - Are the experiments and analyses performed with technical rigor to allow confidence in the results?

Yes - experiments and analyses were performed appropriately

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?

Yes - the author's interpretation is reasonable

OVERALL MANUSCRIPT POTENTIAL - Could an appropriately REVISED version of this work represent a technically sound contribution?

Probably - with minor revisions

PEER REVIEWER COMMENTS:
GENERAL COMMENTS: Overall this manuscript was well written. After going through this paper, I thoroughly understood the motivation, methodology, and experiment results.

The authors did a good job in the following aspects:

* Justification of the research motivation
* Presentation of research methods and results
* Discussions as per the results, especially the comments on the drawback of their methodology.

Some possible improvements:

* In the Methods section, it might be good to summarise all the value types and ranges for all risk factors in one table. For example, I'm curious in how the authors evaluated the smoke exposure. Was it evaluated with a value between 1 and 10?
* In the Statistical Analysis section (Line 33, Page 7), it may be better to justify why subgroups are formed for children with and without asthma in that paragraph, though I understand that children with asthma are at the greatest risk of experiencing bronchitic symptoms from the Background section.
* Also in the Statistical Analysis section (Line 24, Page 8), did the authors mean re-train a model by the word "re-fit"?
* In the Results section (Line 46, Page 9), could the authors clarify what metrics were used for tree node splits?

ADDITIONAL REQUESTS/SUGGESTIONS:

Please refer to my answers above

Note: This reviewer report can be downloaded - see attached pdf file.

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?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

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

Acceptable

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