Reviewer’s report

Title: Real-time forecasting of emergency department arrivals using prehospital data

Version: 0 Date: 27 Mar 2019

Reviewer: Martin Nordberg

Reviewer's report:

Thank you for giving me the opportunity to review this interesting article!

There are some remarks I would like to make and questions I would like to have answered:

1. MAPE is an abbreviation for "Mean Absolute Percentage Error", and nothing else

2. I find it difficult to understand the statistical method (I am not a statistician) and would recommend the following to make the method more comprehensible for statistical laymen like myself:
   - A table with the three versions of the models and their respective variables would increase the chance of understanding
   - Consider explaining the method further

3. I do not understand why the year 2017 is chosen as the validation set, and not the last year (365 days) of the set

4. It is not clear what categories of patients are included in the study, I think i understand that ENT, ob/gyn, orthopedic and pediatric are excluded, but what patients are then included?

5. The figures are in color, which makes it difficult to render them in grayscale copies. I would suggest using dashed or dotted lines instead in the diagrams.

6. For the discussion section; what do the authors think of actually putting their model in production? Has this been done before? Are there any evidence that a forecasting model / tool have a positive impact on ED operations?

7. The MAPE is not very good (circa 40 % in mean), what do the authors think about that? Why is is model worse than other models in comparison?

8. I think the manuscript lack a comparison between the proposed model and other models..
With the above stated; interesting manuscript!

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

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

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

**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.

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

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?
6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal

Do you want to get recognition for reviewing this manuscript? Add a record of this review to Publons to track and showcase your reviewing expertise across the world’s journals. Signing up is quick, easy and free!

I