Reviewer's report

Title: Hospital daily outpatient visits forecasting using a combinatorial model based on ARIMA and SES models

Version: 1 Date: 18 Mar 2017

Reviewer: Zheng Xu

Reviewer's report:

I appreciate and would like to thank the authors for making significant revisions and improvement over the previous version. In my perspective, most of my comments have been well addressed. However, if possible, I hope that the authors can consider more revisions based on the following comments, or at least provide more discussions on the two comments before a fully satisfactory manuscript can be made. Thank you.

On my previous comment 1, Because the authors are writing a outpatient visits prediction paper, the authors need to provide correct calculation about prediction accuracy. My major concern is that the authors are using nearly 1 year data to predict last week, (at most 7 observations in daily time series and at most 1 observation in weekly time series). This is not the correct way to show prediction performance. For example, I can not use the prediction accuracy at 1 time point to argue which method is good. I understand the authors’ argument that SARIMA model need 1 full annual cycle to predict, but in fact it is acceptable to use half year data to make prediction. So I would prefer to see the authors used 6 months or 9 months or 10 months to predict the remaining time series. I can not accept the authors’ use of only 1 observation (weekly) data to argue for which method is good. At least about 2 months data should be leave as the prediction. I can accept the authors to predict each week of last two months based on all observations one week before. Of course, other reasonable discussion is acceptable to me.

On my previous comment 3, Since the author accept the argument that there is data limitation that only 1 hospital 1 year is not good. I prefer the authors try to find at least another comparative time series to show combinatoric method may perform well. If outpatient observations are not available, the authors can use other types of time series or even general time series to provide confirmation evidence that their method is evident. One sentence that analysis on more hospitals is our future study can not fight back the comment that one year one hospital is too small. Of course, I understand that likely the authors have made most possibly the best way based on limited data, so that the author can simply provide another time series, preferably hospital data to illustrate their method more. Of course, some reasonable comments in the discussion is still reluctantly acceptable to me if the authors do not want to use more data.
Because of the word document tracking changes, the authors have made many formulae and symbols, references unreadable. For example, Page 8 Line 47, Page 9 Line 42,43,47,51, but showing "Reference Error". I understand it is just because word software did not update the equation and symbol reference and treat those as minor typos. Please fix those typos in your final version.

In summary, the manuscript was improved significantly and I have only a few comments hoping the authors can revise a little more. Thank you for the significant improvement.

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?
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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