Reviewer's report

Title: Future requirements for and supply of ophthalmologists for an aging population in Singapore

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Reviewer: Lorne Bellan

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I think you have written a very interesting paper.

Major Compulsory Revision

1. The first column in table 3 represents the baseline number of visits in 2010. The values for all different scenarios in that column should be the same since this was the starting point.

2. I have a problem with Figure 1A and Table 3. The blue bar graph in Figure 1A should match the first column in Table 3 since they are both describing the measured number of visits in 2010 and yet it appears that the bar plot in Figure 1A is closer to 510,000 than 538,019. Finally the bar graphs of total visits that have actually been measured in Table 1A show only a minor increase in visits from 2010 to 2011, then a drop in 2012 so that the net increase in visits from 2010 to 2012 is at most 30,000 visits which would represent around a 6% increase. The model based business as usual in Table 3 projects that there will be a 63% increase between 2010 and 2015. It is hard to believe that you have experienced a recorded 6% increase in the first 2 years of the model and yet will predict that there will be a 57% increase in visits in the next 3 years. Something is not right.

Minor Essential Revision

1. You state: "Some ophthalmologists transition from the public to the private practice sector." I think you need to give at least some rough estimate as to what the split is in time between ophthalmologists in the public versus the private sector and comment on past trends and if there are any checks and balances on this. Otherwise it is hard to tell if your projections about numbers of ophthalmologists are reasonable if there is a potentially major variable that is known but has not been accounted for.

2. In some countries the scope of practice for optometrists is expanding which has implications for health human resources projections. Can you comment on whether the role of optometrists in Singapore is expanding and whether that is going to affect your projections.

3. You state: "The change in the number of ophthalmologists is a result of new
 hires and attrition, which is a blended value of retirements, deaths and resignations.". Can you comment on whether there is ever any immigration or emigration of ophthalmologists?

4. You state: "For the behavior test, shows simulated behavior compared to available time series data of selected variables". You seem to be missing a noun before the word shows.

5. You state: "It is assumed that higher educational attainment causes care seeking to increase among individuals with eye condition not seeking care." This sentence appears to be self-contradictory and should be reworded.

Discretionary Revisions

1. You state: "The completion of treatment is applicable only to cataracts, myopia and refractive error, with estimated treatment duration at the public specialist eye care centers of three, one and two years respectively". I don't understand why you say myopia and refractive error treatment can be completed. Usually these people end up having ongoing eye examinations for the rest of their life. Are they completed because the ophthalmologist performed refractive surgery and now they are being followed by an optometrist and that doesn't count in your statistics?

2. In North America there is also a trend for younger generation physicians to intentionally work fewer hours and have more home time. Is this phenomenon happening with younger workers in Singapore?

3. You state: "The future ophthalmologist requirement is determined herein by total demand/utilization and the estimated workload per ophthalmologist." There is some elasticity in demand/utilization in the medical system. There usually is some arbitrariness in this so that more new patients could be fit in if follow up visits were booked further apart (e.g. bringing someone back in 6 months instead of 4 months, or not booking a routine follow up but leaving it up to the patient to book a visit if they still perceive that they are having problems.

4. Given that the principle problem that is leading to your increase in demand is the aging of the population it is very surprising to me that AMD has a growth rate so much below glaucoma, cataract and ERM in Table 2.

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.
Declaration of competing interests:

I declare that I have no competing interests