

## Peer Review File

Article information: <http://dx.doi.org/10.21037/atm-20-2939>

**Note: The texts in the manuscript were in blue. The revised parts were marked with underlines.**

### Reviewer Comments

#### Comment 1:

This is a very well written manuscript, very informative article informing the policy making for addressing the increasing demand for the eye care services.

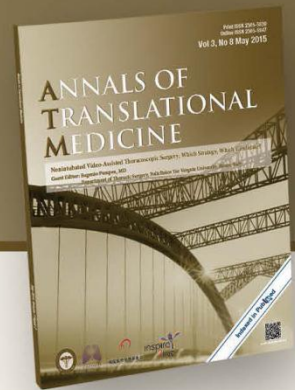
I have mentioned two doubtful points (see below), based on which I recommended Minor Review. If the second point is the requirement of the journal I have no hesitation for the acceptance of the article.

**Overview:** The authors have exported eight million outpatient visit records over ten years from the electronic health record system of Zhongshan Ophthalmic Center in China. They have analysed total visits to all levels of medical institutions, and revisit intervals to assess the stickiness of patient demand. They found the visits to medical institutions continuously increased. Increasing patient visits and corresponding supplementation of doctors broke the supply-demand balance. They also considered temporal aspect with uneven distributions over cycles of weeks and years, referred to as Monday peaks and vacation peaks. Sub-departments of ophthalmology had diverse growth speeds and proportions of flowing demand. Patients presented higher stickiness with shorter revisit intervals, and non-locals had higher stickiness than local patients. They concluded that growth patterns of demand for eye care indicate potential challenges for ophthalmologists at the hospital level, including regular workload peaks, a wider range of patients with diverse cultural backgrounds, and higher stickiness of patients.

Overall, this is a very well written manuscript informing the policy making and the need to improve the human resource to address the increasing demand for eye care services.

#### Reply1:

We thank the reviewer for his/her comments on the quality of our work content.



**Changes in the text:** None.

## **Comment 2:**

### **Abstract:**

Line (L) 49: Please specify the term non-local. What jurisdiction have you followed, municipality or wider geographical? Or national versus international patients? There is also mention of it in L91, but still not clear about the term non-local.

Finally, I got the answer to this only when I read the result section Lines 205 – 206. You may need to clear about the term non-local at the start.

Q. Was there any proportion of international patients availing treatment during the study period?

## **Reply 2:**

Thanks for your comment. As advised, we have added the definition of non-local patients at the 2<sup>nd</sup> paragraph of Abstract (Line 51-52), 3<sup>rd</sup> paragraph of Introduction (Line 103-104), Figure 4 legend (Line 622 & Line 647) of manuscript to avoid confusion.

And we also thank for mentioning the proportions of international patients. We did not include them for several reasons. First, the number of records is quite few and is not comparable with patients in China. Second, the factors influencing their visiting behavior are more complicated than Chinese patients'. Third, most of international patients wrote down their living address in China instead of their original address in their country, which made us hard to trace back. We hope that you are satisfied with our explanation.

## **Changes in the text:**

2<sup>nd</sup> paragraph of Abstract (Line 51-52):

[Revisit intervals were analysed to assess the stickiness of patient demand. The proportions of non-local patients \(from cities other than Guangzhou in Guangdong Province, or from Provinces other than Guangdong Province in China\) were analysed to assess flowing demand liquidity.](#)

3<sup>rd</sup> paragraph of Introduction (Line 103-104):

[Geographically, we identified the proportions of non-local patients \(from cities other than Guangzhou in Guangdong Province, or from Provinces other than Guangdong Province in China\) and measured flowing demand liquidity at both the provincial and national levels.](#)

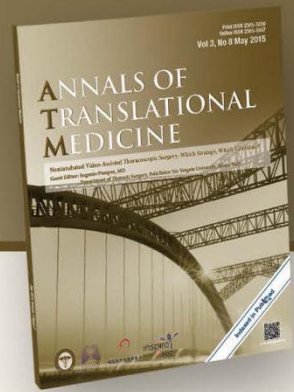


Figure 4 legend (Line 622 & Line 647):

a:

Non-local patients from other cities other than Guangzhou in GD Province visited ZOC more frequently than local patients in GZ City each year after 2010 (Wilcoxon rank-sum test: \*\* P <0.01, \* P <0.05).

b:

Non-local patients from other provinces other than GD Province in China visited ZOC more frequently than local patients in GD Province each year after 2010 (Wilcoxon rank-sum test: \*\* P <0.01, \* P <0.05).

### **Comment 3:**

#### **Text:**

L302-308: In this paragraph, you have indicated sort of concluding remarks, and again you have a separate Conclusions below. It is a bit confusing. If it is the requirement of the journal, I am happy with it.

### **Reply 3:**

Thanks for your comment. After discussion, the authors decided to delete the concluding remarks in this paragraph and keep the separate Conclusion part for conciseness. We hope that you are happy with it.

### **Changes in the text:**

5<sup>th</sup> paragraph of Discussion (Line 327):

~~In conclusion, this study depicted the temporal and geographical features and the growth pattern of the medical demand distribution for eye care, as well as the challenges these changes bring into the era of exploding healthcare demand.~~ Prospective studies for precisely predicting demand growth and optimizing the allocation of medical resources on the supply side based on our findings will help reduce the supply and demand imbalance and improve the quality and safety of ophthalmology outpatients.