Reviewer's report

Title: Periodic health visits by primary care practice model, a population-based study using health administrative data.

Version: 0 Date: 15 Sep 2018

Reviewer: Cindy Lam

Reviewer's report:

Thank you for the opportunity to review this manuscript that explores the association between primary care service payment models and the annual rates of periodic health examination. You concluded that fee-for-service models were associated with more periodic health examinations for adults without co-morbidities that is not evidence-based. You did point out the limitation of your study being cross-sectional and not considering PCP characteristics and other practice characteristics.

An exploration on how service payment model affects practice behavior and service uptake is important because it may inform policy to drive doctor and patient behavior although the findings are not surprising. This study has the strength of a very large sample and almost universal inclusion of the whole population in one large province in Canada. However, the literature review, data analysis and discussion are rather brief, which do not provide a sufficient objective information to inform policy or practice. I would like to point out that the effect on payment model on primary care service delivery is complex which does not only affect PCP behaviour but it can also affect patient behavior. Furthermore, the specific incentive/ bonus/ performance indicators in non fee for service models greatly affect service provision.

I hope you will consider the following revision:-

1. Title: Delete the last statement "Using enrollment models to understand the provision of evidence-based practice" because this was not achieved in this cross-sectional study that cannot provide the details on the reason for the periodic health examination.

2. Introduction
   a. Please provide a more in-depth literature review on the conceptualization of how payment method can and may affect service delivery and PCP behavior.
   b. Please provide a more detailed explanation on the primary care system of the study setting, especially in relation to the changes/reforms in 2013. Please clarify the recommendations for periodic health exam for individuals with or without co-morbidity by the Canadian guidelines/Task Force in 2014.
c. Please provide a table showing the details on the distribution of the payment by components so readers outside Ontario can appreciated how they might affect the provision of periodic health examination, e.g. is population coverage of periodic health examination an indicator for bonus?

d. Please state your hypothesis on how payment system may be associated with periodic health examination rate for individuals with and without morbidity in the study setting.

3. Methods

a. Please provide more details on who and how the data were extracted, and how data quality was assured. Is it possible to also examine data on co-morbidity in the years 2014 and 2015 to find out whether the "healthy" individuals were really healthy and whether these examinations might have detected diseases?

b. Please clarify whether each PCP belongs to only one payment model, and whether the PCP of patients assigned to the traditional fee-for-service model overlap with PCP who are also paid by other payment models.

c. Please clarify what is the meaning of "OHIP was used to define periodic ..." (line 124, p.7). Please define the "No PCP" group.

d. Please carry out a regression analysis of factors associated with periodic health examination among individuals who did not have any co-morbidity, to find out whether there is any difference from those found for the whole population.

4. Results

a. The findings on relatively lower rates of periodic health examination among patients with co-morbidities associated with the "family health team", "primarily capitation" and "salaried" models deserve more attention.

b. Please present regression results by morbidity subgroups.

5. Discussion

a. The statement that "However, we have shown provision of the periodic health visit ... may be more related to financial incentive than to a desire to provide quality care..." (line 169-172, p.9) is very strong, and not substantiated by the limited results that did not explore or adjust any PCP factors.

b. The results of the relatively low rates of periodic health examination among individuals with co-morbidity among patients managed in non fee-for-service payment models deserve more discussion, and why were there marked differences in rates among them.

c. The possibility of the payment model hindering PCP from providing periodic health examination to those who may benefit from them deserves more discussion.

d. Please explain why PCP characteristics could not be included in the analysis in this study.
6. Conclusion: The statement "Primary care ..... remuneration as a hindrance for delivery of evidence-based care" is very strong, and not fully substantiated by the results. The last statement in the conclusion is mainly speculation. Please revise both.

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

No

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.

No

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.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

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