Author's response to reviews

Title: Quality of asthma care under different primary care models in Canada: a population-based study

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Author's response to reviews: see over
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Magdalena Morawska
Executive Editor
BMC Family Practice

Dear Dr. Morawska,

Please accept the enclosed revised manuscript, “Quality of asthma care under different primary care models in Canada: a population-based study” for consideration in BMC Family Practice. The manuscript has been revised to address the concerns of reviewers – response to reviewers can be found on the pages following this letter.

This manuscript is being submitted only to BMC Family Practice and will not be submitted elsewhere while under consideration. The manuscript has not been published, and should it be published in your journal, will not be published elsewhere, either in similar form or verbatim, without permission of the editors.

All authors are responsible for the reported research and submit with confidence this manuscript. All of the authors were involved in the study concept and design. Teresa To was responsible for acquisition of data, and drafting the manuscript. Teresa To, Jun Guan, Andrea Gershon, and Jingqin Zhu were responsible for analysis and interpretation of data. All of the authors revised the manuscript critically for important intellectual content and approved the final version submitted for publication. None of the authors have any competing interest or financial conflicts to disclose

Sincerely yours,

[Signature]

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Response to Reviewers

Editor's comments:

1. The background deserves one or two lines about the challenges that the delivery of care face in nowadays worldwide.

Authors' response: The beginning of the background section has been modified to include this suggestion.

2. Page 7 line 53: 'lower SABA prescription......quality of care' Is there any chance that SABA were not in records as they were obtained over the counter (they are cheap so patients could have bought them without a prescription). If this is possible in your system please added in the limitations if not then there is no reason to reply to this comment.

Authors' response: This is a good point, but SABA cannot be purchased in Ontario, Canada without a prescription, so it is not applicable in our setting.

3. page 14 line 244: 'only half of patients with asthma were diagnosed by spirometry'. the same is clear also by the tables but what about the rest can you please clarify how the diagnosis was made to the rest.

Authors' response: Many physicians may have diagnosed their patients as having asthma based on the symptoms they present, such as wheezing, shortness of breath or cough. This statement has been added to page 7, line 91.

4. In figures you are saying more than 7 years and in the text more than six. Can you please clarify?

Authors' response: To clarify, spirometry was performed on those aged 7 years of age or older. We used both >6 and ≥7 throughout the paper to represent this. For consistency, ≥7 is now used throughout the paper.

Referee 1:

Discretionary Revision: As many readers may not be familiar with the different health care plans available in Canada, for the universality of the publication, it may benefit to add a very short introduction of the different health care systems mentioned in the paper.

Authors' response: The health care models mentioned in the paper are detailed in the methods section (See Predictor variables – primary care practice models on page 8). We have added a link to the Health Force Ontario website for readers who want more specific information about the models (page 9).

Referee 2:

Major compulsory revisions:

1. I have concerns about the diagnosis of asthma and the large number of participants who were older than 65 years and comprised 12.1% of the study. With 50% of the participants being included without spirometry, how was COPD identified? Such a possible large number could produce a type 2 error.
Authors’ response: Our asthma population was identified using an administrative data definition of asthma based on a validated algorithm of at least two primary care visit claims for asthma in two consecutive years and/or at least one hospitalization for asthma. This definition has 84% sensitivity & 77% specificity. COPD was also identified using a validated health administrative definition – individuals were defined as having COPD if they were ≥ 35 years of age and had at least one COPD hospitalization and/or one COPD ambulatory care claim. This definition has demonstrated 85% sensitivity & 78% specificity through a chart re-abstraction study. It is true that some of the asthma cases may also have COPD, i.e. those with asthma and COPD overlap syndrome (ACOS). The reviewer’s point about the potential for misclassification is well taken – spirometry should be done on all patients, however, unfortunately this is often not the case. Patients with COPD only but without any documentation of having asthma were not included in our study. For those with the overlap syndrome, instead of excluding them, we included COPD as a comorbidity and adjusted for it in all our analysis (see page 10 section on covariates and potential confounders).

2. As I am not familiar with the payment system it would be helpful to know something of the monetary return for providing or not providing spirometry.

Authors’ response: While physicians bill the Ontario Health Insurance Plan (OHIP) for spirometry, they only receive a nominal amount in compensation. The eligible claim for administering the spirometry study rendered in a physician’s office or a hospital is $9.30. The eligible claim for interpreting the results is $7.85. As you can see there is no strong financial incentive for physicians to bill for spirometry.