Author's response to reviews

Title: Who gets a family physician through centralized waiting lists?

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Author's response to reviews: see over
Dear Editors,

We wish to thank Dr. Erin Strumpf for her second review of our paper. We hope we have adequately responded to each comment (previous and new ones). We have reproduced the reviewer’s comments below in normal font, with our responses in bold. Also, we used a professional language editing service.

Kind regards,

Mylaine Breton

Reviewer:

Numbered comments refer to my previous review, any new comments are lettered.

1. Instances of inappropriate causal language still appear: “analyze their impacts on stimulating family physicians’…” (5); “The new financial incentives led to a marked increase…” (16) are at least two examples. Please review the text carefully and make the necessary changes.

We have paid special attention to avoiding inappropriate causal language. We found 3 uses of the term “impact”. We carefully revised the sentences to show more clearly that we analyzed the change in the number of family physicians’ patient enrolments after the introduction of financial incentives.

5. Despite some clarifications that you added, this is still confusing. I am trying to understand how many observations you have in the dataset, that is, how many rows. You state in several places that the data are aggregated across the entire province (i.e., you don’t observe any characteristics of individual patients) so that certainly means you do not have a database where n=494,199. You also don’t have (I don’t think) a database where n=87 GACOs, if the data are aggregated across these regions. You should remove all instances of n=494,199 and n=87. You can say that the database reflects the 494,199 patients enrolled in 87 GACOs across the province, but saying “n=” means that you have that many observations, which I’m pretty sure is not correct. You should also change “…based on the entire data set of a population of almost 500,000 persons…” on page 19, as it is also misleading. This is related to comment #6, where I asked about the level of analysis, which I meant to connote the level of the observations. I understand that what you see in your data is the aggregate number of patients referred, but for what geographic/time/patient category unit? Is it QC per 25 days per vulnerable vs. not vulnerable, suggesting about 1*65*2=130 observations?
As suggested, we have rephrased the sentence to better reflect that we did not aggregate data but used provincial data. We no longer refer to n (as means) for the total of patients. “The provincial database includes the 494,697 patients enrolled with family physicians through 87 GACOs across the province over the five-year period under study. This database excludes one region with six GACOS using another database.”

On page 19, we also changed the sentence; “Using a longitudinal study design based on a provincial dataset covering a five-year period, our analysis enabled us to draw some important conclusions regarding physician behaviours.”

The level of analysis is the period of time (13 periods per year over a five year period = 65 time periods).

8. Table 1 is still inadequate. That the numbers are (I think) means with confidence intervals in parentheses is not specified anywhere. The Ns provided in the table suggest you have a database with 74017 + 33083 + 116119 + 271478 = 494697 observations. Is this correct?? Based on my comments under #5, I don’t think it is and needs to be corrected. I don’t know what “mixed regression models for repeated measures” means. “Mixed model” is too vague and needs to be more specific (linear, logistic, Poisson,…?).

As suggested, we have modified Table 1. For each of the three patient characteristics under study, we clarified the total number of patients before and after and the means per period before and after; we deleted the difference estimates, which do not report supplementary information. We also added a row to show the number of patients before and after, without distribution in the three categories under study. The total provided for each characteristic represents the sum of patients in all periods before and after. For example, for vulnerability characteristics, the table shows 74,017 vulnerable patients before, 116,119 vulnerable patients after, 33,083 non-vulnerable patients before, and 271,478 non-vulnerable patients after, for a total of 494,697 patients enrolled with a family physician over a five year period. We used repeated measures to control for the differences between periods and because the numbers of periods we compared were not equal before and after the change in financial incentives. We used a linear mixed regression model, which is a parametric linear model appropriate for non-independent data.
9. I don’t understand your response to this comment. Your response refers to alpha=0.05 whereas my question was about the p<0.001. In any case, it is still not clear in the main text whether this p-value refers to the change for non-vulnerable patients, the change for vulnerable patients, both, or something else altogether.

As per the classic convention, we used alpha = 0.05 to determine whether the p-value was significant. The p-value refers to the difference in the situations before and after the change in financial incentives for patients with the same characteristics. For example, looking at non-vulnerable patients, a mean of 703 patients per period were enrolled with a family physician before and a mean of 15,082 patients per period were enrolled after. We conducted linear mixed regression to compare before and after, and p-value < 0.001 means the difference was highly significant.

A. “All provincial data analyzed were anonymized.” This is a strange comment, as it implies that you have individual-level data where ID numbers, names, or other identifying information has been removed. But this is not the case, and in fact you have aggregated data at the provincial level. Wouldn’t it be more appropriate to say “All data analyzed are aggregated to the provincial level”? Similarly, “the profiles of patients are based on standard inclusion criteria” is also somewhat awkward, as you haven’t discussed inclusion criteria anywhere else in the paper.

We deleted the sentence “all provincial data analyzed were anonymized” because it was confusing. However, we used provincial data that was aggregated from GACOs. Also, we changed the sentence about the profiles of patients being based on standard inclusion criteria; referring to inclusion criteria was an error. Our intention was to convey that patient profiles were based on standard definitions of vulnerability. We have revised the text accordingly: “…the patient profiles are based on a standard definition of vulnerability (presence of at least one vulnerability code based on a list of 19 diagnoses). It will be interesting to do further analyses on various clienteles, such as patients with mental health problems, and to analyze differences in relation to numbers of vulnerability codes. That information is present in the local databases of GACOs but not aggregated at the provincial level.”

B. “Regressing the number of patients referred for indicators of vulnerability….” The word “for” should be replaced with “on”. As suggested, we have changed the wording (on).

C. “There was no control…” should read “There were no control variables…” or alternatively the regressions could be described as univariate.
As suggested, we have changed the wording (there were no control variables).

D. There is virtually no explanation or discussion of the results in Table 1. The statistical significance of changes is not the only important thing, since even very, very small changes can be statistically significant. The actual magnitudes of the changes are also crucial to report and discuss. Please add a few sentences to explain what we see in Table 1. I also don’t understand what “Alpha = .05” means in this context.

As suggested, we have described Table 1 in the results section. This information is essential and describes the magnitude of the change more clearly.
The comment on alpha is answered at comment 9 above.

E. Each of the 3 figures shows the trends in the number of patients referred, while the text discusses the trends in terms of percentages. While I find the percentages helpful in understanding what’s going on, they also obscure the fact that the overall numbers of patients referred are increasing over time. I think it would be helpful to add a sentence or two for each figure that describes what we see in the graphs in terms of raw numbers, before presenting the percentage results.

This comment is similar to comment D. We have presented the number of patients (Table 1 results) in the Results section.

F. “They also raise important questions about the organization of the healthcare system…” (14). I’m not sure what you’re alluding to here. I suggest you be more specific or remove this allusion.

We decided to delete the sentence because the paper is not developing constructive recommendations for improving the organization of the healthcare system.

G. “The GACO policy may be seen as an opportunity to formally enroll patients that have been followed through GACOs.” (16) This phrasing is difficult to follow. I suggest “The GACO policy may be seen as an opportunity to formally enroll patients who were already being followed without formal enrollment.”

Thank you for this recommendation. We have changed the sentence along the lines suggested.

H. Regarding what you call physicians’ “preference” for enrolling non-vulnerable patients: This is not really evidenced by the fact that they enroll more non-vulnerable than vulnerable patients in the “after” period, since it’s perfectly feasible that non-vulnerable patients are much more prevalent in the pool of unattached patients. The stronger evidence comes from the switch from the before to after periods in the shares of vulnerable and non-vulnerable patients
enrolled. It is of course still possible that the mix of these groups in the population of unattached patients changed markedly at the same time, but this is pretty hard to believe. If you explained this a little more thoroughly (on pages 16-17, for example), I think you would make your case stronger.

We have expanded on the argument by pointing out the paradoxical and even incompatible objectives of the GACO.

I. The “forbidding self-referral” section title is awkward, given that you don’t really address this at all in the three-sentence section that follows. Maybe it’s worth discussing what has been done in this respect in QC and what you expect to see from that policy change?

As suggested, we have described what has been done by the Quebec government to address the problem of self-referrals.