| **Article details: 2021-0005** |
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| **Title** | Changes in family medicine visits after the onset of the COVID-19 pandemic in Ontario: a retrospective cohort study |
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| **Reviewer 1** | David Snadden |
| **Institution** | University of British Columbia Faculty of Medicine, Family Practice |
| **General comments (author response in bold)** | Thank you for giving me an opportunity to read your work. I found this to be an interesting well written paper particularly in the context of the current pandemic. The background and rationale to the study is well explained and the research question is clear. The design is appropriate, and the methods are described in sufficient detail. A very large cohort is included and the description of this is clear to the reader, including the way data is gathered and used in the UTOPIAN network. The results are clear and do provide some reassurance that socially disadvantaged groups have not been disadvantaged by the pandemic when part of the UTOPIAN networks. The interpretation of the results is supported by the data. The data tables are clear and the supplementary files contain a lot of data for those interested, including coloured graphs. The limitations section is well written and covered all the limitations I could think of and included mention of difficulties in transferability of the results to jurisdictions with different health care systems. This study is one that has been used to illustrate the effects of the pandemic on health care access and as such has little other literature available to it to widen its context. It is particularly helpful in showing what is known in the practice of current health care, but for which there is little published data yet, namely the move to more virtual access in primary care and the information that may reduce concerns that certain patient groups would be able to access care less. It does occur to me that this particular cohort of patients is embedded in a defined network with a common EMR and presumably have access to continuity of providers – this is mentioned in the limitations – but it raises some other questions in terms of the impact of relational continuity during a pandemic and what happens when patients are not part of a network like UTOPIAN. These reflections are not criticisms of this article but to highlight areas worthy of further research. One other area for research may be to repeat this study once the current pandemic is under control to see how much virtual care is used then as many think virtual care is here to stay in one form or another. |

We thank the reviewer for his enthusiastic feedback about our manuscript.

We would like to advise that our data is from 3 different EMR vendors that are the market leaders in Ontario and not from a common EMR.

Ongoing evaluation of virtual care patterns are of interest and will be subject
for future study.

| Reviewer 2 | Thomas Piggott |
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| Institution | McMaster University, Hamilton, Ont. |

General comments (author response in bold)
Hello, thank you for the opportunity to review this very interesting and important paper.

I suggest that this needs only minor revisions. It is methodologically strong, and the figures to complement the analysis are informative. I would suggest consideration of the following items.

**We thank the reviewer for his positive comments about our manuscript.**

1 - Please acknowledge and describe ecological level of analysis and fallacy as it pertains to the paper’s measures (pg 12/13).

**We have revised our discussion of the study’s limitations to address the implications of using neighbourhood level rather than individual level measures of income, socioeconomic status, and ethnicity.**

2 - Tie back in, and incorporate more discussion on equity in access to services in lower SES groups through phone/virtual visits. This to me is the most interesting plausible conclusion to the increase in low SES visits in 2020 vs 2019; and it suggests that continuing and improving phone/virtual visit access post-pandemic is a critical equity measure. Incorporate into discussion and conclusion paragraph. Reference literature relevant to this subject.

The idea that access to phone/virtual visits is a critical equity measure is an interesting one, that has been discussed in the literature both before and during the COVID-19 pandemic. We have expanded our discussion of these issues in the manuscript.

We have also revised our presentation of the results to more clearly emphasize the distinction between our main outcome measures: number of patients accessing care, and total number of visits. Although the total number of visits decreased less among low SES patients during the pandemic, relative to higher SES patients, decreases in the number of patients accessing care were equal across SES groups. Thus, the pandemic and corresponding shift to virtual care may have increased the number of visits per patient, but it has not increased the number of patients who are accessing care. We have revised our manuscript to make this point clearer.

3 - Were diagnostic codes available in the database for your extraction? This would be helpful in assessing changes in the nature of visits over time. However, with hundreds of possible diagnostic codes, this was outside the scope of the current paper and examining changes in diagnostic codes is subject for future study.

We agree that diagnostic codes would be helpful in assessing changes in the nature of visits over time. However, with hundreds of possible diagnostic codes, this was outside the scope of the current paper and examining changes in diagnostic codes is subject for future study.

4 - Were there differences in visit volume based on the explanatory variables explored for different types of fee codes? E.g. K - codes. An exploration of this, perhaps in a focused sensitivity analysis could be helpful to ascertain type and nature of service provided.

**We appreciate the reviewer’s interest in the type and nature of service provided; however, we found it was not possible to accurately equate all the**
service codes used before and after the onset of the COVID-19 pandemic. The K080, K081, and K082 codes introduced for virtual visits during the COVID-19 pandemic provide far less detail than the 35 service codes used for family physician visits prior to the pandemic. A virtual equivalent of each service code was not created during the pandemic. Since the K080, K081, and K082 codes were not introduced until March 14, 2020, it is not possible to estimate year over year change in the use of these codes. An intermediate assessment was the most common service billed both before the pandemic (64% A007) and during the pandemic (49.5% K081 and 9.5% A007).