

Reviewer Comments

Article ID 2021-0307

Article Title: Physician home visits in Ontario: a cross-sectional analysis of patient characteristics and post-visit health care utilization

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Reviewer: Christopher Frank – Medicine, Queen's University, Kingston, Ont.

Comments to the Author

Thanks, as someone who does home visits for geriatric and palliative care patients, I found the paper interesting and relevant. This holds true for policy implications as well as clinical interest.

Thank you, it is always nice to hear positive comments.

I have a few minor comments and questions:

1) Small question- the bonus is given to those with “highest” volumes of PC visits. What is being compared here- I think readers might be interested to know the threshold or what is criteria for the bonus (could be done with few additional words I would assume)

Thank you very much for this point. We have included the bonus thresholds in Appendix Tables 1A and 1B, and refer them in methods (p.4).

2) Home visits include retirement homes I believe and are a clinical site where increasingly frail people live- were the numbers of RH visits identifiable? Residents would be people who would likely fit the bill for frail but could also be a setting to see lots of people and bill for home visits in an efficient manner?

This is a great point, thank you. Unfortunately, we can't identify retirement home residents from our administrative data sources at this time. Retirement homes may also provide private pay support services, which residents may choose over publicly-funded homecare services. We have added this to the limitations section (p.13): *“we could not identify receipt of private homecare, or support by unpaid caregivers. This may include some residents of retirement home facilities, who may opt to pay for on-site support services privately, instead of using publicly-funded homecare. As a result, the other patient category will contain some functionally dependent individuals.”*

3) It took me a while to figure out Appendix Figure 1, and why only the first visit was used. I then realized it was for patient-level analysis. I suggest being clearer in title of App Figure 1 so people realize it is for this specific focus of analysis (I can be a bit thick with Methods reviews but suspect others will need to ponder the flow chart)

Thank you for this, we have revised the title and the figure itself to emphasize this point.

4) I do home PC visits covering call for my academic group, which is separate from the patients' listed primary care provider. I also do geriatric care as consultant, not listed or functioning as a primary care provider. Recognizing this is a common PC model (less so for Care of the Elderly), how would this type of visit affected the results?

Both types of visits-palliative care and geriatric, were included in this study. We did not restrict included visits according to the type of provider. Visits were identified as palliative based on the presence of key palliative billing codes. So as long as palliative billing codes (either the assessment code itself, or palliative home visit premium codes, or any of the other codes listed in Appendix Table 3) were used, we categorized the visit as palliative. A geriatric home visit may be categorized as homecare recipient, so long as the patient was receiving homecare. Otherwise, it would be categorized as "other."

5) You make the reasonable comparison to walk in clinics but the parallel issue of virtual visits from private companies is an issue in Canada too. I am not sure if there is a reference to cite but it is a topic of concern to the CFPC etc not just in US.

Yes thank you for raising this issue, which we agree is an extremely important one. We have added virtual clinics to the discussion in consideration of what changes may have happened after the onset of COVID-19 (p.12): *"Since the rise of COVID-19, direct-to-consumer telemedicine, as well as virtual visits with one's usual provider, may have partly replaced physician home visits."*

6) You write, "Our findings will inform payment models and regulatory frameworks to support the provision of high-quality physician home visits to those who are most likely to benefit." I think it would be great for readers to see briefly what policy suggestions you have arising from your knowledge of the issue?

Thank you for this point. The most apparent policy change is to limit home visit premium codes to those for palliative or homebound patients - this change was made in 2019, however it is possible that physician respond by simply labelling more patients as "homebound." One possible additional policy tool would be to link home visit billing to palliative care training or homecare rosters. We have added this to the discussion on page 13: *"Additional policy changes to target home visits to needy populations might include linking home visit remuneration to palliative care training or homecare rosters, while ensuring access for those who rely on unpaid or private homecare supports. "*

7) My own experience is that home visits tend to be helpful only if correlated with good supports and coordinated care beyond the physicians visit. Can any comments be made in this paper to inform policy development based on the outcomes found? Not sure if there is an extrapolation possible but would appreciate your consideration on this, as the act of home visit is less important than the goals it achieve. The Other visits may very well avoid an ER visit for a minor issue (which is likely cost-effective) but expensive admission (and remaining "in place") is a primary end-goal of home visits and requires more system-based support to be effective. We are spending lots of money, are there

signals we are getting benefits beyond convenience? How might you recommend policy makers measure this when changing the funding/policy?

We thank you for this point, with which we agree. A lot could be said here, however we are constrained by the word count and this may be beyond the scope of the present study. If you feel this is essential and would support a word count expansion to include it, we would be happy to do so.

8) Appendix Table 2- the pronouncement of death code is way more commonly used in PC population than general home care population in general care. Can you clarify why it was listed for Other or Homecare groups not Palliative?

Thank you for point this out. We categorized this as “not palliative” on the basis that the code itself was not specifically labelled for palliative use. However, we do agree with your point, and so we have moved this code to the palliative category (Appendix Table 3)- as a result all our numbers have shifted slightly toward more palliative visits.

Reviewer: Patrick Quail – Integrated, Facilitated, Supportive Living, Alberta Health Services

Comments to the Author

1) You make the assertion that 'other' home visits are of less value. This may be true but not based on your findings alone. What of issues of access, continuity with the health care system, patients unattached to a primary care provider, patient and family satisfaction etc. If anything, according to your findings, this 2012 billing change has improved access to all three groups most especially the palliative group.

Thank you for this point. We have addressed these in the discussion (page 11): *“On-demand physician home visits, marketed in urban areas, come at the cost of relational and informational discontinuity with the usual primary care provider. Whether because of a lack of attachment to a primary care provider, insufficient after-hours access to their usual provider, or a desire for convenience, this trade-off may be acceptable to patients.(43) We found that a greater proportion of the other group were immigrants, which could reflect the urban setting where on-demand home visit services are offered. Alternatively, this may suggest that broad availability of physician home visits contributes to equity of access for those with inflexible work hours or caregiving responsibilities. Notably, many other home visit recipients lacked a usual provider of primary care- physician home visit companies may offer low-barrier medical care to those who otherwise might present to an emergency department.”*

2) Need better definition around palliative and home-bound. Also the statement 'high quality physician home visit to those most likely to benefit' is both fanciful and vague. Are all palliative and home-bound visits of high quality? Where are the findings to support this?

We appreciate that our definitions are certainly not perfect, and we remain open to suggestions of how these can be improved. Although we recently used homecare data to identify homebound patients (Lapointe-Shaw L et al. J Am Geriatr Soc. 2021; 1- 11. doi:10.1111/jgs.17501), this definition could only be applied to those who had a recent long-stay

homecare assessment completed (results in Table 2). In this study, we further opted to broaden the group of “possibly homebound” to all those receiving homecare.

We have also deleted “high-quality” from the aforementioned sentence, it now reads (p.13): *“Our findings will inform payment models and regulatory frameworks to support the provision of physician home visits to those who are most likely to benefit.”*

Reviewer: Mariella Ferreyra — Family Medicine, University of Ottawa, Ottawa, Ont.

Comments to the Author

This was a very interesting manuscript to review and certainly contains information I would be keen to read. I agree that while further research is needed (especially now with the new variable which is Covid), this paper sheds light on the importance of targeting policy tools towards those with a higher need for home visits.

Thank you for these comments, we appreciate them.

Technical (minor) comments:

1) On pg 9 line 38, please state what the % of 413,057 is to provide consistency to the sentence: “From 2014 to 2018, 413,057 patients received at least one physician home visit - 17.4% received two, and 31.8% received more than two over the following year.”

Thank you for this point. We have added the total number for the other groups. The 413,057 is actually 100% of the patient-level group- this is the total N in the patient cohort. We have clarified this on page 8: *“From 2014 to 2018, 413,057 patients received at least one physician home visit - of this number, 17.4% (n=71,963) received two, and 31.8% (n=131,338) received more than two over the following year.”*

2) P. 11 line 13, I would recommend being consistent with the reporting of the p values in the results section.

Thank you for this. In response to other feedback, we have changed from reporting p-values to pairwise standardized mean differences (SMD, in tables 1-4)..

3) pg. 12, line 54: “After 2012, both homecare service recipients and "other" home visits began a steady rise in annual volume. In contrast, physician home visits were recently declining in British Columbia, Canada and Switzerland”. This phrase seems to randomly bring in Switzerland and sounds off without the prior context of what the situation is in other countries. The grouping of BC with Switzerland seems somewhat out of place. It makes sense to say how Ontario compares to BC but to randomly compare it to Switzerland seems off. The next sentence discussing the status of European countries and the US does seem appropriate.

Thank you for this point, we agree that it sounded a little funny. To address this while also being parsimonious with the word count, we have deleted the sentence completely. It now reads (page 12): *“After 2012, both homecare recipients and other home visits began a steady rise in annual volume. Still, this may not be enough to meet the needs of the growing homebound population.(45) European countries have much higher rates of home visit provision than North*

America - whereas over 60% of primary care physicians surveyed in the U.K., Netherlands and Switzerland reported commonly providing home visits, this was only 19% in Canada, and 6% in the U.S.(46)”

4) Please be consistent with the quotes. If it is being used throughout the paper for “other”, consider using it for “palliative” and “home care” as well.

Thank you for this point. We have removed the quotes from “other”, except where it is first mentioned.

5) Please reword this sentence: “Homecare service recipients and the "other" group were more likely to live in low-income neighborhoods (lowest quintile 25.1% and 24.2% compared to 21.2%, $p < 0.001$), however the "other" group and the palliative group included more patients from high income neighborhoods (20.8% and 19.4% compared to 15.9%, $p < 0.001$)”- pg. 10, line 19. While you come to it again later in the discussion, it is worded in a confusing way in the results section.

Thank you for this point, we agree that it sounds confusing. The results have changed since the previous version, and this sentence no longer appears.

Major Comments:

6) Were results adjusted for concentration of physicians in urban vs rural settings? (i.e. to account for possibility of a rural physician conducting more home visits than an urban ones and for different reasons as well)

They were not, and we agree that this may be an important factor in shifting the distribution of other patient characteristics. To account for this, we added a subgroup analysis for rural residents (Table 3). We also contrast findings in this subgroup in the text results (page 10): *“Differences between palliative, homecare and other groups were similar in direction to those observed in the larger cohort, but the magnitude of the difference was attenuated. For example, although other recipients were younger, the difference compared to palliative and homecare groups was less than in the broader cohort. A similar pattern was observed for pre- and post- home visit healthcare utilization. Notably, 62.2% of other home visits were with the patient’s enrolled primary care physician or another physician in the same group, whereas this number was only 27.5% in the overall cohort.”*

And in the discussion (page 11): *“Rural patients had lower volumes of other visits, and the other visits they did have were more often with their own physician. On-demand physician home visits, marketed in urban areas, come at the cost of relational and informational discontinuity with the usual primary care provider.”*

7) For comparison, it would be useful to list the most common diagnoses in the other 2 groups as well. pg. 10, line 45

Thank you for this suggestion, we have added them to Appendix Tables 5 & 6, as well as the results text on page 9: *“The most common diagnoses in the palliative group were lung cancer (13.6%), “other malignant neoplasm” (7.0%), and dementia (4.4%)- 7 of the top 10 diagnoses*

were cancer-related (Appendix Table 5). The most common diagnoses in the homecare recipient group were dementia (10.5%), heart failure (3.7%) and hypertension (3.5%-Appendix Table 6). These were acute nasopharyngitis (14.5%), acute bronchitis (4.7%) and mental health conditions (4.3%) in the other group (Appendix Table 7).”

8) It would be useful to briefly clarify for the reader how the statistical analysis done to compare the 3 groups across the multiple variables was achieved with the Kruskal–Wallis test in order to determine which of the sample pairs are significantly different. Were sample contrasts between individual sample pairs conducted after the fact? If it was not necessary, please explain why.

Thank you for this point. Kruskal-Wallis was used to compare counts for the variable “Repeat home visits in subsequent year.” However, now we have replace all comparisons with pairwise standardized mean differences (SMD), as suggested by the statistical editor.

9) It is rather unfortunate that this study and its conclusions take place prior to the onset of Covid-19. Due to the pandemic and the significant shift to virtual care, of which a component is sure to remain post-pandemic, it will be difficult to further assess the impact of the physician fee schedule change as likely those who were accessing home visits out of convenience may now opt to do so virtually. While I can appreciate it is impossible to incorporate this variable into the study, it would be nice to see a bit more mention of this in either the discussion or the conclusion section to further increase the study’s relevance to current times.

This is an excellent point, with which we agree wholeheartedly. We have added this point to the discussion (page 12): “... *the interpretation of any subsequent changes in visit volumes will be confounded by the onset of the COVID-19 pandemic -- in spring 2020, physician home visits had dropped by 60% compared to the previous year.(48) Since the rise of COVID-19, direct-to-consumer telemedicine, as well as virtual visits with one’s usual provider, may have partly replaced physician home visits. It will be essential to examine how and whether physician home visits rebound, to evaluate the effect of the 2019 fee schedule change and to ensure that the needs of Ontario’s growing homebound population are met.*”