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Title	Intensity of outpatient physician care in the last year of life: a population-based descriptive study
Authors	Michelle Howard MSc PhD, Abe Hafid MPH, Sarina R. Isenberg MA PhD, Amy T. Hsu PhD, Mary Scott BA, Katrin Conen MD, Colleen Webber PhD, Susan E. Bronskill MSc PhD, James Downar MD MHSc, Peter Tanuseputro MHSc MD
Reviewer 1	Name withheld
Institution	Canada
General comments (author response in bold)	<p>My only substantive critique is that I recommend adding more (e.g. in the Limitations) about the possible impact on the results of not taking into account:</p> <ul style="list-style-type: none"> <li>i) 'management fee codes' (p 6, line 30),</li> <li>ii) nursing home residency, and</li> <li>iii) inpatient days in hospital (so would be very unlikely to have an outpatient visit when an inpatient)</li> </ul> <p>in outpatient counts reported in the Results.</p> <p><b>Response:</b> Thank you for this suggestion, in response to earlier similar comments we have addressed i) and ii) in items above. We have also revised the limitations section as follows (Pg 11 para 2):</p> <p style="padding-left: 40px;">We did not include decedents who were institutionalized in the last year of life and results may underestimate the amount of physician care provided to very frail people or those with severe dementia. Decedents who spent lengthy periods of time in hospital may have received fewer outpatient physician encounters, and we did not adjust for this factor.</p> <p>Minor edit: p 4, line 45, should the comma be after 'consent' rather than after 'without'?</p> <p><b>Response:</b> We have made the correction</p>
Reviewer 2	Christopher Frank
Institution	Providence Care Centre. Queen's University, Kingston, Ont.
General comments (author response in bold)	<p>My main concern is the uncertainty of how these results will guide policy makers and leaders. You identified the issues arising from some of the findings but I think the article would be much more relevant if the discussion provided some examples of how clinicians and policy makers and leaders can be make changes based on the findings. I know you mention more research being needed but some examples would be of great interest to readers.</p> <p><b>Response:</b> As suggested, we have added further interpretation and recommendations based on the findings (Pg 11, para 1):</p> <p style="padding-left: 40px;">Our findings have implications for operationalizing Canada's national palliative care framework, which has called for models of care led by primary care providers in a shared-care approach.<sup>51,52</sup> The average number of outpatient specialties involved in care in the last year of life was nearly four, with an average of six different physicians involved. With multiple physicians involved in care, it is possible that continuity of care in the relational sense, could be disrupted. We did not examine the extent of shared care or communication among physicians and the results do not</p>

suggest this is lacking. Our findings do suggest a need for understanding how best to organize care among multiple physicians to meet patients' changing needs over the last year of life.

(Pg 12, para 1):

Those who plan healthcare models of the end-of-life should consider support for family physicians to coordinate care and ways to optimize the complementary roles of different physicians while maintaining adequate continuity for patients.

Intro

The phrase "may not communicate" is a bit unclear (communicate amongst themselves, with patient ovs); this is not a big deal but does relate to the overall intent of the paper

**Response:** Thank you, we have revised this wording.

Methods- no REB needed; thanks for clarifying that

Study was done a few years back- do you think things have things changed in last years (COVID palliative issues excepted!)? for example; a small point but PC now a specialty, although as noted, it was not at the time of the study

**Response:** The study timeframe is dictated by the availability of the cause of death data in the Registrar General Database, which is only available (currently) in ICES to the end of 2017. From 2017 to early 2020 we are not aware of any significant changes in Ontario to the number of palliative care physicians or how they work in outpatient settings that would substantially alter the results. It is conceivable that the initiation of Ontario Health Teams and PC becoming a specialty will alter the way palliative care is delivered in the future in terms of primary care and specialist involvement in end-of-life care.

Readers have to rely on methodology citations (e.g. co-morbidities) but I am uncertain how the frailty stream was defined. In the Supplemental table it includes IHD and dementia (which doesn't actually feature officially in many definitions of frailty but makes sense to be in that list of diagnoses), but falls are in Other and are classic part of "frailty syndrome". Can you clarify how the trajectories were developed?

**Response:** The development of the trajectory definitions have been addressed in responses to previous comments (#5), describing the process of literature review, expert consensus and an empirical data analysis approach to identifying clusters, in order to group conditions according to common healthcare utilization and cost patterns. Since these were developed based on similar utilization patterns to some extent, it may be the case that diseases with similar etiology or presentation are not grouped together.

Likewise the definition of palliative care physician was a bit surprising to me because most people who would label themselves PC doctors would have far more than 10% of their billings as palliative, and family physicians with lots of older patients could, if wise, bill this without calling themselves PC physician. As many PC physicians, by any definition, are family doctors, I assume that all the people identified as palliative care physicians could not also have acted as the subject's family physician?

	<p><b>Response:</b> As per above comments 3 and 9, we have removed the categorization of physicians as palliative-care focused.</p> <p>Were Home visit codes obtainable? The site of encounter would be very interesting from policy/funding point of view, if available.</p> <p><b>Response:</b> We have added this information indicating the mean number of encounters that were physician home visits for each trajectory. (Table 2, Pg 8 para 1):</p> <p style="padding-left: 40px;">The mean numbers among these encounters that took place in the home were 1.4 (SD 4.5, median 0) and 1.0 (SD 2.9, median 0) over the last 12 and three months of life, respectively.</p> <p>A significant portion of people in the frailty trajectory would have died in LTC (a large percentage of death occur in LTC as you know). I can't see this causing a biased sample in the frailty trajectory but wonder if this stream of people</p> <p><b>Response:</b> As above in #5 and #8, we have re-analyzed the data excluding decedents who were in LTC institutions.</p> <p>Results and discussion: sudden death and organ failure- was there overlap in these groups (e.g ESRD/HF cause increased sudden death) and how would these patients be classified?</p> <p><b>Response:</b> Issues that may cause sudden death but pertained to organ diseases such as ESRD and HF would be classified in the organ failure trajectory. The label of sudden death refers to causes that are likely unforeseen, the most common of which were injuries, motor-vehicle accidents, accidental poisoning etc.</p> <p>A small point; Senility is an unusual billing code that I believe is usually used as it is allowed for physicians with Focused practice designation (if Dementia, or the other codes allowed are not appropriate)</p> <p><b>Response:</b> Thank you for noting this, it helps with interpretation.</p>
Reviewer 3	Ruth Lavergne
Institution	Simon Fraser University
General comments (author response in bold)	<p>Access to specialized palliative care varies between urban and rural settings. Did authors consider reporting results further stratified by rural/urban setting?</p> <p><b>Response:</b> We agree this is an important point about access to specialized palliative care services. As we have removed the sub-group of palliative-focused physicians, stratification of results by geography would not be in scope of this paper.</p> <p>Given the high number of consultations with primary care (and palliative care physicians in the case of terminal illness) was there any consideration of exploring continuity of care within these specialties, and perhaps patient characteristics associated with higher continuity? This might more directly inform Canada's palliative care framework and models to optimize the complementary roles of different physicians, as mentioned in the conclusion.</p> <p><b>Response:</b> Thank you for this suggestion. Building on the results of this paper, we are next examining measures of continuity of care as part of this research program.</p>

60% of patients had an encounter with a palliative care physician in the last year of life. Is there information on how this compares to other jurisdictions that may help place findings in context outside Ontario?

**Response:** Since we have removed the palliative care focused group of physicians, we have not addressed this comment.

Results highlight that on average four specialties and six physicians provide care within the last year of life. Authors write that findings have implications for operationalizing Canada's national palliative care framework that has called for models of care led by primary providers in a shared-care approach. More detail about these implications would be helpful for readers not familiar with this framework.

**Response:** This has been addressed above, comment #18.

Based on the title alone I imagined this might be physician-level analysis (among all physicians, which provide care in the last year of life). Since it's patient-level visits mirroring text in the abstract "outpatient physician care among decedents in Ontario" might improve clarity.

**Response:** Thank you for pointing this out, we have implemented this suggestion in the Title.