Author's response to reviews

Title: Under the same roof: co-location of practitioners within primary care is associated with the comprehensiveness of care for patients with chronic conditions.

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Author's response to reviews: see over
Thank you to the Editor and to all the reviewers for assessing the paper and for your helpful feedback. **Amended text is in bold in the revised manuscript.**

**Reviewer:** Jacqueline Cumming

The low response rate in both jurisdictions. This is acknowledged as a limitation in the discussion. However the discussion of bias is inadequate. It describes this as "selection" rather than "response" bias. Response bias is not mitigated by the precision. The sample size does not mitigate response bias. What would mitigate this would be evidence that the sample was in some way representative of other practices and participants who declined to participate (for example was the age or gender of respondents, size practice etc similar to those of other practices in Ontario and New Zealand? The findings being congruent with published literature is reassuring but begs the question about what this study adds to that literature given the possible response bias.

Thank you for these comments.

§ **We agree that sample size has no effect on the influence of this bias, and discuss the precision of the estimates only to convey our decision-making process. That is, our attempt to minimize both random and systematic error within our resource constraints.**

§ **With respect to a potential lack of generalisibility, although it may be possible to compare the General Practitioner characteristics with national figures, the respondent in our study is the practice, not the individual who completed the survey on behalf of all the practitioners. At reviewer suggestion, we have attempted to compare practice characteristics with national estimates where able (for example, our exploration of rurality).**

**We have edited the relevant paragraph in the paper to clarify these points. The last paragraph page 11-12 now reads:**
This study has limitations, one of which is its lower response rate. Participation was voluntary, and recruitment was not pursued once more than 220 eligible practices had indicated a willingness to participate (in accordance with the protocol of the wider multi-country study) [28], even though a number of practices did not return surveys that they had agreed to complete. This approach ensured adequate power for the analyses, but may have affected the generalizability of the estimates. There are insufficient supporting data to investigate the representativeness of the samples at this time, so we cannot estimate the impact of potential response bias. That said, there are few scenarios whereby the relationship between the number of co-located disciplines and the provision of specialized chronic care might differ according to a characteristic associated with participation. It is possible that non-respondent practices had (for example) higher numbers of co-located disciplines and fewer specialized clinics for patients with chronic conditions, or fewer co-located disciplines and more disease management programs. However, it is difficult to identify a practice characteristic that would be associated with both non-participation and either of these contradictory findings in sufficient strength to nullify the results observed in the study sample. Additionally, the consistency of our findings with current theory around patient care teams and quality of care for patients with chronic conditions, and their congruence with the published literature supports their internal validity [9, 14, 15]. As such, these findings are informative and helpful in guiding future research in this area.

This study offers several contributions to the published literature. Firstly, the paper gives information about primary care organization in a reasonable sample of General Practices in Ontario and New Zealand. Second, there are few published papers on co-location and chronic care management. This study complements the available research in this area, adding another piece of information to the growing body of evidence around patient care teams. Third, this paper would be the first publication of analyses of the QUALICOPC surveys, which are currently being employed in 34 countries. Of note, the Australian QUALICOPC survey in 2012 had an initial rate of response of only 1%, rising to 3% after a follow up letter, and with multiple approaches they eventually achieved a rate of around 14.5% (Parkinson A, Jorm L, Douglas KA, Gee A, Sargent GM, et al. (2014) Recruiting general practitioners for surveys: Reflections on the difficulties and some lessons learned. Aust J Prim Health). As such, the limitations of our study may provide information for other researchers also using these tools.
Reviewer: Russell

The definition of comprehensiveness.

The added section in the introduction is not adequate. Having more equipment, dedicated programs and specific clinics are not measures of comprehensiveness. It is possible for a specialist service to provide these and not provide a full range of services to meet patients health care needs (e.g., a specialist diabetes service). This suggests that "comprehensiveness" should be replaced in the title, abstract, and body of the paper with another term (e.g., systematic chronic disease management).

Thank you for this comment. We have changed the wording used throughout the manuscript, and now make very few references to 'comprehensiveness' (and only within the context of the broader literature). We now use terms such as 'specialized chronic care management' and 'systematic care'. We have revised the 2nd paragraph of page 5 in the manuscript, it now reads:

Shared premises are thought to be a critical enabling factor for effective interdisciplinary care, to "enhance information transaction, facilitate communication, and increase personal familiarity" (p143 [27]). Co-location also reflects the growing interest in redesigning traditional primary care into 'patient-centred medical homes', such that there is one point of access to an array of services and professionals [14]. We hypothesized that primary care practices with co-located non-physician members may offer broader services and specialized care for patients with chronic conditions: such as more equipment, dedicated programs, and specific clinics tailored to their conditions. We used data from Quality and Costs of Primary Care in Europe (QUALICOPC) surveys in NZ and Ontario to explore the co-location of multiple disciplines in primary care centres, and the association of this factor with the provision of specialized care for people with chronic conditions.