Author's response to reviews

Title: Duration of CQI participation: a key factor explaining improvement in delivery of Type 2 diabetes services to Aboriginal and Torres Strait Islander communities

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Author's response to reviews: see over
Dear Editor

Thank you for the reviewer comments received on this manuscript ‘Duration of CQI participation: a key factor explaining improvement in delivery of Type 2 diabetes services to Aboriginal and Torres Strait Islander communities’. We thank the reviewer for her constructive comments which have assisted us in improving the paper considerably.

Overall, we have endeavored to address the issues raised as far as possible. A point-by-point response to the requested changes is provided below.

Revisions requested

Main recommendation

1. In the conclusion, the recommendation is not supported by the study design, as the causal effect of long term commitment to CQI cannot be estimated.

The reviewer recommended choosing between three options – we have selected the first of these (‘option a’), that is, we have re-phrased the conclusions for greater consistency with the study design. We have stated that an association is observed between long term commitment to CQI and improvement of Type 2 diabetes service delivery (p18, lines 387-389) and that more research is planned to assess causality of this association (p18, lines 379-382).
Background

2. The mechanism leading a health centre to adhere to (or leave) the CQI program should be described here, and percentage of adherence should be computed in the Results section, with a breakdown per year of adherence.

We have provided more detail regarding the nature of health centre participation in the CQI program (p 5, paragraph 3; p7, paragraph 2). To demonstrate the level of participation in Type 2 diabetes audits, a table has been added showing number of audits completed based on a health centre’s first year of participation (Table 1, p24).

3. In this section, it would be very interesting to have a short description of the primary health care system, that makes it clear to what extent “regularity of patient attendance” is something that the health centre (and possibly CQI) has instruments to improve. Second, it is complicated for the reader to understand the interpretation of the findings in non-remote health centres and this anticipated explanation of the primary health care system could be helpful to this respect as well.

We have included a brief description of the Australian Indigenous primary health care setting (p5, paragraph 2). Regularity of patient attendance reflects to some extent the level of culturally appropriate health service delivery for Aboriginal and Torres Strait Islander communities. The difference in service environments based on remoteness is covered within the Discussion section (p14, paragraph 4).

Methods and Results

4. A subsection relating to the study design should be added at the beginning of the Methods section.

This has been done (p7, para 2).

5. To support causality, it would be great if the distribution of some key variables (location, governance, service population…) could be compared across health centres adhering to the program vs non-adhering to the program.

A table has been added showing level of participation in Type 2 diabetes audits by health centre characteristic (Table 5, p26). Discussion about the distribution of these variables across health centres has been included in the Results section (p11, paragraphs 2-3).

6. Information in the ‘Data collection’ section is insufficient.

We have added more detail about the auditing (data collection) process (p7, paragraph 3). The reviewer questioned our use of the term ‘audit’ and felt it may be misleading for the reader. Our use of the term audit is consistent with use of the term in other studies based on quality improvement data (for example, Govender et al: Clinical audit of diabetes management can improve
the quality of care in a resource-limited primary care setting. *Int J Qual Health Care* 2012, 24:612-618; Marley et al: Quality indicators of diabetes care: an example of remote-area Aboriginal primary health care over 10 years. *Med J Aust* 2012, 197:404-408). Audits of health centre records are part of the intervention, as the reviewer points out, and are also the means through which the data for this study were obtained. This has now been clarified in the text (p7, lines 141-145). We have also clarified that the audit was done manually (p8, line 152).

7. *Include in the analysis interaction of remoteness with duration of CQI participation.*

We have included the interaction term into the analysis model (Table 7). The Results section has been modified to incorporate findings of remoteness as an effect modifier (p12, lines 252-255; p13, lines 268-272).

**Discussion**

8. *A limitation subsection should be separated from the rest of the discussion. Causality should be discussed explicitly.*

Study limitations have been outlined in the discussion, including a statement regarding other unmeasured confounders that may be responsible for improvements in diabetes service delivery (p17, lines 373-380).

**Conclusion**

9. *According to the sensitivity analysis chosen and to their results, conclusions should be weakened or rephrased.*

As outlined in the Main Recommendation, the conclusion section has been rephrased for greater consistency with the study design.

The reviewer suggested three specific inclusions in the results. As outlined above, the first two of these have been done (Tables 1 and 5). We considered the third suggestion about options for a sensitivity analysis to strengthen the argument for causality. However we did not feel that our data were able to support such an analysis as duration of CQI is not independent of first year of participation since health services joined the CQI program at different times as shown in Table 1. In support of causality we note that health services that commenced the program at different times did not differ markedly on key characteristics (Table 5).
If you have any further suggestions or require clarification on any aspects of the changes made, please let me know.

We hope that you will find the paper suitable for consideration for publication in the journal, and look forward to hearing from you.

Yours sincerely

Veronica Matthews
Senior Research Officer