Author's response to reviews

Title: Organisational culture, team climate and diabetes care in small office-based practices

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Version: 2 Date: 1 July 2008

Author's response to reviews: see over
Dear Sir, Madam,

Thank you very much again for giving us the opportunity to send in a revised manuscript. Please find below our response to the very helpful comments of the reviewers who assessed our paper. Overall, we feel that our response to these comments did improve the paper, and we look forward to your kind reconsideration of our manuscript.

Revisions MS 1210826394179523 – Organisational culture, team climate and diabetes care in small office based practices.
Marije Bosch, Rob Dijkstra, Michel Wensing, Trudy van der Weijden and Richard Grol

General comments:
- We included information regarding the informed consent procedure in the paper; all study participants provided written, informed consent.

Response to concerns reviewer 1:
- The authors should include more information on the intervention since the context could be important in interpreting the results.
  - We gave a brief description of the components of the intervention, as well as some information of the timing of the intervention. Interested readers may also refer to Dijkstra et al., 2007 (reference 23); the effect paper on this intervention study. In terms of interpreting the results, we acknowledge the fact that the intervention may influence our measures, which is why we did include the variable ‘intervention / control’ in our analyses. The intervention did not have an effect on the outcomes, whereas it did have an effect on the process measure. So, therefore this variable should be taken into account in the analyses.

- Include more information about when the patient outcomes in the study were obtained from the EMR (time window for when outcomes were assessed).
  - We included the dates of the measurements.

- More details about the implementation of the patient survey and other potential variables from it besides age and gender that could be used in the analysis should be provided.
  - We provided information about the timing of this questionnaire. Other variables that have been measured in this questionnaire are self-assessed use of passport, visits to various health professionals, medication usage, diabetes knowledge, quality of life, satisfaction, self advocacy, and demographic variables. However, we feel that these do not necessarily have to be included in our model of analysis.
• Case mix should be accounted for in the analyses
  o Indeed this should be the case. And in fact, we did include the baseline measures of all four outcomes in our analyses, but for some reason these were not described in the analyses part of the article. Of course this has been corrected in the current version of the manuscript.

• In the limitation section the concerns regarding the small number of patients should be discussed. 752 patients may not be enough to provide enough power to detect effect sizes using the hierarchical models appropriately used in our study.
  o We are not certain about the fact that this is indeed a problem in this study. We estimated the number of patients needed as following: We included 6 independent variables in our analyses. The “rule of thumb” indicates that 15 cases per variable are needed. So, if the data had not been clustered, only 90 patients would be needed. However, of course this number needs to be corrected for the clustering effect. We expected the ICC of the process measure to be around 0.15 (the ICC for the clinical outcomes usually around 0.05). So, the correction factor would be 0.15 * 25 (mean number of patients per practice) = 4.75. 90 * 4.75 = 430 patients. So, we thought that 750 patients should in fact be enough in this study.

• We should discuss any potential implications of national cultural differences (much of this previous work was done in the UK) in interpreting these results.
  o In the discussion section we mention a few issues that may be informative in light of the interpretation of the data. First, Dutch practices may in general be somewhat smaller than UK practices. Second, we included some information on the fact that for instance both Dutch and UK practices have predominantly group cultures, as shown in several studies, so—with that respect—are comparable.

• The results section should provide a breakdown of response rates by provider type, not just the 63% given overall.
  o The response rates are now provided for each group separately (GPs, practice assistants, and practice nurses) in addition to the overall response rate.

Response to concerns reviewer 2:

• In the background/discussion it would be useful to provide more information about the health system in the Netherlands especially as it relates to the provisions of diabetes care and how representative the sample of practices are. Are there particular arrangements for health insurance which may affect the variation in diabetes care in general practice?
  o At the time of study (2004), around 85% of diabetes patients were treated in primary care, and there were no specific arrangements with health insurers that could have influenced the performance of the GPs. The only thing that may have been the case is that some practices had a practice nurse that performed tasks for the GP (role
revision), while this was not the case in other practices. However, this held for GPs in all regions. Single handed practices were underrepresented but previous Dutch studies showed that there was no difference in task delegation of preventive tasks and treatment of chronic diseases between GPs in single handed practices compared to GPs in group practices. So therefore we can assume that our sample is representative for Dutch GPs. We included this information in the discussion of the paper.

- In the methods it needs to be explained how the 40 practices were selected and what the response rate was from those who were approached to participate in the trial.
  - We included this information in the methods section.

- In relation to the 10 process measures: why was BP only measured in the past 12 months when other measures are more frequent? (most guidelines recommend at least 6 months?)
  - We followed the Dutch guideline that was used at the time of the study, which indicated ‘yearly measurement’. We included the reference to this guideline.

- In relation to the 10 process measures: how was the smoking indicator scored: it would only be relevant to discuss this and quitting if the patient was a smoker?
  - Smoking behaviour was discussed with all patients since the Dutch guideline at that time indicated that smoking behaviour should be discussed with patients on a yearly basis, even if they were non-smokers (although we realise that there is a chance that it is not very likely this happens in case someone hasn’t smoked for 60 years, so therefore this item may be relatively more often missing than others; we included this in the discussion). Indeed, quitting was only discussed with smokers.

- There needs to be more explanation of the validity and significance of calculating the balance of organizational cultures. Surely this will depend on the size of practice and mix of providers. This should be related to organizational theory.
  - Indeed, around the CVF, its concepts, and what they exactly mean, many questions are thinkable, on which further research would be helpful. In this study we therefore repeated what others had been doing so far. This ‘balance-measure’ was used in a previous study on improving chronic illness care, in which it was hypothesised that each of the culture dimensions in the CVF can help to facilitate effective quality improvement teams. In this study, contrary to earlier studies that emphasised the importance of a single dominant culture type, it was suggested that all 4 dimensions are potentially important for perceived team effectiveness, and that it is the relative balance among culture values of participation, achievement, openness to innovation and adherence to rules that is most likely to be associated with perceived team effectiveness. Indeed, this study showed an association between a culture balance and team effectiveness, (although it was rather marginally). This measure was also
used in a recently published study in primary care, in which the hypothesis regarding this measure was that teams with a good balance of culture would be more likely to have a high overall TCI score. This hypothesis was, however, not supported by the data. We explored this measure in our study as well, since we reasoned that in order to reach and these high standards, all four above mentioned aspects are of importance. We included some information regarding these studies and their underlying hypotheses in our discussion and also briefly in the methods section under ‘independent factors’.

- Why was only one score used for the TCI – it has 4 subscales which have been validated. The distribution of these may help to explain the lack of association between the TCI and the outcome measures.
  - In line with earlier studies we presented the overall score. However, we have now also calculated the scores on the 4 subscales, which were 1.84 (α = 0.81) for vision, 1.83 for participative safety (α = 0.79), 1.96 for task orientation (α = 0.78), and 2.16 for support for innovation (α = 0.82). We presented this additional information in the results section now.

- In the analysis why was practice size (either number of patients or number of family physicians) not been included a covariate. This has been identified in a number of studies as influencing TCI as well as being associated with various measures of quality of care. How did TCI and quality of care vary against the presence of special consulting hours or intervention or control practices.
  - The clustered design of our study implies that we can only take 2 confounders into account at cluster level (30 practices, “rule of thumb” 15 cases per variable). We explored the cluster-level factors that we thought would be of importance, amongst which indeed total number of patients and practice size (group versus solo). However, these variables were not significantly related to quality of care (process measure; p=0.9 and p=0.26 respectively), whereas “intervention practice or not”, “the presence of special diabetes consulting hours” were (and also the presence of a practice nurse, but this variable was highly correlated with the consulting hours variable). So, we selected the covariates that had most effect on the sum score measure. As for the intervention/control group variable; the intervention practices scored 1 point higher on our process measure (p=0.013). Practices with special consulting hours scored 1.4 points higher on the process measure (p=0.02). The scores on the TCI did hardly vary against these variables.

- In the results it is stated that 9 practice members in 10 practices were excluded. Was this because a practice member occurred in two practices or because there were no respondents in one or more of the practices?
• This was because there were less than two respondents in these practices. We added a sentence to clarify this.

• One of the issues for further research that could be discussed would be the possible association between climate and culture and change in quality of care. This is particularly relevant to the TCI which is about team climate for innovation.
  • Yes, we agree, we have included a sentence in the discussion on this topic.