Author's response to reviews

Title: Colorectal cancer risk assessment and screening recommendation: A community survey of healthcare providers' practice from a patient perspective.

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Author's response to reviews: see over
Dear Prof Buntinx,

Thank you for your recent correspondence relating to the above manuscript submitted to *BMC Family Practice*. We welcome the opportunity to revise and improve this manuscript and address concerns put forward by reviewers. Below each reviewer’s comments are addressed with revised page numbers relating to changes to the manuscript marked.

The authors can clarify that as suggested by the Editor, the main comment of reviewer 1 and first major comment of reviewer 2 have been carefully addressed in the discussion. The minor comments of reviewer 2 as indicated by the Editor have been addressed in the appropriate sections of the text. However, as requested by the Editor, the last paragraph of the background section remains in its original location.

**Reviewer 1 comments – Prof William Hamilton**

**Major comment**

*Premise of the study – “risk-based screening”*

Prof Hamilton indicated that there is very good evidence that systematic screening of whole populations works and questions the evidence and need for targeted ‘risk-based’ screening of at-risk persons. The authors agree that ‘population level’ screening is essential to reducing the incidence and mortality associated with colorectal cancer (CRC). This is clearly supported by several RCTs which have identified the effectiveness of scheduled Faecal Occult Blood Test (FOBT) screening for the general population aged over 50 years.

Risk-based screening is an attempt to address a problem that FOBT screening for the general population cannot address—the relationship between a strong family history of CRC and a relatively increased likelihood of developing CRC. The Australian guidelines make recommendations based on a very compelling body of evidence which uses family history as a phenotypic marker for triaging individuals into appropriate surveillance for CRC (when necessary). Sufferers of some of the rarer genetic conditions (that carry a very high risk of developing CRC) such as Familial Adenomatous Polyposis (close to absolute likelihood of developing CRC by age 50) and Lynch’s Syndrome simple cannot afford to wait until age 50, before they begin CRC screening. Furthermore a risk-based approach, acknowledges the problem of over screening in the population, which can be harmful, costly and simply unnecessary. Therefore, the authors believe that it is pertinent that family history of CRC is addressed by health care providers and used to guide risk-appropriate screening provision in accordance with National guideline recommendation for all at-risk persons. A number of
leading health care organisations worldwide encourage health care providers to: 1) assess family history of CRC and identify persons at increased-risk owing to a positive family history of CRC, 2) provide risk-appropriate screening advice and 3) ensure the appropriate referral of persons with suspected familial cancer syndromes to Familial Cancer Clinics. For the high risk group, it must be considered that targeted “risk-based” screening programs using colonoscopic screening are highly relevant and necessary to reduce the burden of illness in this population group.

The authors agree that the premise of “targeted” or “risk-based screening” requires consideration and has been addressed in the discussion.

**Minor comment**

*Relegation of table 6 to text.*

The authors agree that the presentation of this data in text would take up less space. Subsequently, Table 6 has been removed with data now reported in text (See pg. 18).

**Reviewer 2 comments – Dr. Phuong Mai**

**Major comment 1**

*Table 1.*

Dr Phuong Mai sought clarification on Table 1 and whether such questions in this table were mailed to respondents. The authors can verify that the questions listed were asked *verbatim* in the questionnaire mailed to respondents as indicated in Table 1. The authors confirm that no additional questions or instructions were asked of respondents. The word “Verbatim” has been inserted into the Table 1 heading to make this clearer for the reader (See pg. 8).

*Questions and response options.*

It is possible, as indicated by the reviewer that some persons may have been asked about their family history of CRC at a time when no family history of CRC was evident and may have been correctly notified of no “increased risk”, yet at a later time point, with a newly diagnosed family member may have been informed of their changed risk status. The authors agree that this is an important key point and have made mention of this issue in the discussion (See pg. 22).

**Major comment 2**

*Potential explanation for the association between respondents’ psychosocial characteristics and frequency of CRC risk assessment by a health care provider?*

This study identified that persons with a lower physical component summary (PCS) score on the SF-36 were significantly more likely to have ever had been asked about their family history of CRC by a health care provider. The reviewer sought clarification on this finding. The higher-order cluster score for the PCS is derived from the following scales in the SF-36: physical functioning, role-physical, bodily-pain and general health. It is possible that persons with a lower PCS score (with the increased possibility of decreased physical and general health) would frequent their doctors more regularly than persons with a higher PCS score. Therefore, the increased number of visits to a health care provider would increase the number
of opportunities for preventive health care discussions with a doctor, i.e. the opportunity for discussion of family history of cancer with a doctor. However, given that this assumption is speculative the authors chose not to include this in the discussion. The authors acknowledge that further research is needed to unravel the underlying mechanism between psychosocial health and the wider construct of preventive health care provision in the primary setting.

Why were the “increased-risk” groups more likely to have been asked about their family history of CRC?

The reviewer sought clarification on why persons at increased-risk were more likely to have been asked about their family history of CRC. Some confusion may be occurring here, as this was not identified in the current study. Rather, there was an increased likelihood of persons at elevated levels of risk i.e. “moderately increased/ potentially high risk” receiving CRC screening advice from a doctor or other health professional. Such a finding is plausible given that the relative risk of developing CRC increases dramatically with both the number of affected relatives and age at diagnosis in the family. It is possible that health providers, which were aware of the patients “increased risk”, had subsequently notified patients of the importance and need for screening given the presence of an elevated level of risk.

Major comment 3
Population-used does not include persons younger than age of 55 years.

The authors acknowledge the relevance of the reviewer’s comment relating to the pertinence of CRC risk assessment occurring at the earliest possible age, particularly for persons aged less than 50 years where a known genetic mutation is identified. Indeed, for families at high risk i.e. FAP and Lynch’s Syndrome carriers, early age at CRC screening commencement and stringent testing on a routine basis takes up-most importance given the increased relative risk for such persons. The authors are in agreement that for this population, early investigation and tailored screening programs is paramount, with population-level screening inadequate to meet the tailored screening needs of this population group. The authors agree that consideration of persons at an age less than 50 years of age, in particular where elevated risk is evident i.e. “potentially high risk” would have been a pertinent issue to explore. Unfortunately, however, the study was confined to persons aged over the age of 55 years, which did not allow for an in-depth investigation of this issue across a wider range of the at-risk population.

Minor point 1
As suggested by the reviewer more detail on the method section has been included in the Abstract (See pg. 2).

Minor point 2
As suggested by the reviewer the response rate has been added in the Abstract (See pg. 2). The authors agree that a description of the “physical component score” is warranted and have now placed a description in method section of the manuscript (See pg. 11). The authors feel that this location is more appropriate than within the abstract as suggested by the reviewer.
Minor point 3
The authors have clarified in the results section of the abstract that the figure of 31% reported relates to all individuals “across each level of risk” (See pg. 2).

Minor point 4
As requested, reference for efficacy of flexible sigmoidoscopy has been included in the background section. For consistency, the efficacy of FOBT and colonoscopy screening has also been added (See pg. 4).

Discretionary revision 1
Although the reviewer suggested that the last paragraph in the background section be moved, as the Editor requested such a change should not be made, this paragraph will remain in its original location.

Discretionary revision 2
The authors can clarify that Appendix A were mailed to participants in paper format.

It is hoped that the above critique meets with the editor’s satisfaction. If any further clarification is required please feel free to contact myself at any stage.

Yours Sincerely,

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