Author's response to reviews

Title: Study protocol: a randomised controlled trial of invitation techniques to improve men's uptake of faecal occult blood test screening for colorectal cancer.

Authors:

Amy Duncan (amy.duncan@adelaide.edu.au)
Ian Zajac (ian.zajac@csiro.au)
Ingrid Flight (ingrid.flight@csiro.au)
Benjamin J.R Stewart (benjamin.j.stewart@adelaide.edu.au)
Wilson Carlene (carlene.wilson@flinders.edu.au)
Turnbull Deborah (deborah.turnbull@adelaide.edu.au)

Version: 4 Date: 4 July 2013

Author's response to reviews: see over
Manuscript Revisions.

**Title:** Comparison of mailed invitation strategies to improve faecal occult blood test participation in men: protocol for a randomised controlled trial.

**Authors:** Duncan, A., Zajac, I., Flight, I., Stewart, B., Wilson, C., Turnbull, D.

Please see below for a point by point summary of reviewer comments (italics) and author response for the above manuscript. Changes documented below are also highlighted in the text using track changes.

1. **Background para 1. The authors state that "Australia has a comparatively high incidence of colorectal cancer". Compared to where?**

   This sentence has been removed and replaced with “Australia has one of the highest rates of colorectal cancer (CRC) incidence in the world exceeding those of Europe, North America and many other Western countries”

2. **Background para 3. In the paragraph beginning "In order to identify strategies", the authors cite their own unpublished work. More detail is needed on the nature of this study and its population i.e. was data collected via interviews? From whom?**

   This paragraph now states that data were collected from mailed surveys of two South Australian populations within the target age range for FOBT screening and refers to published papers based on these same samples.

3. **The authors might like to say something about how their intervention dovetails with the screening programme. There is no mention of the study being undertaken in collaboration with the screening programme, and I wonder whether there could be bias introduced into the study from the fact that in their study population, a fair number of individuals may have recently received an 'official' invitation to participate in screening, or may be due to receive such an invitation shortly after receiving the trial intervention. Have the authors done anything to take this into account in their analyses, as the recency of other screening invitations has been shown to impact on the likelihood of undertaking screening on subsequent occasions.**

   Multiple sections now address the potential impact of the NBCSP on the trial outcomes. Paragraph three under the title “Intervention” acknowledges other screening participation is likely amongst our invitees and that participants are encouraged to contact the study when screening will not be completed due to participation in other screening tests.

   The section entitled “sample size considerations” now states that those who contact the research team to opt out of screening as a result of being up to date, or for medical reasons, will be excluded from analysis on the basis that participants were not eligible for screening. Out power calculations also take this potential reduction into account.

   Finally, the last paragraph of the discussion now highlights the limitations associated with conducting population research in the current Australian context and the potential impact this could have on the trial outcomes (e.g., reduced participation).
4. The authors describe how randomisation will be carried out, but do not say by whom (e.g. members of the research team?)

Paragraph entitled ‘randomisation’ now includes an additional sentence specifying that randomisation will be carried out by a member of the research team using de-identified data.

5. I would suggest moving the section about ethical considerations to the end of the methods section rather than inserting it midway through as is currently the case.

The paragraph titled “ethical considerations” was moved so that it is now the last section before the discussion.

6. The authors state that individuals who formally opt out of the study will not receive any further correspondence about it. As individuals can opt out at any stage of the research study, will data that has already been collected on or provided by individuals still be included, or will these individuals be removed from the study completely?

The paragraph “sample size considerations” now highlights that those who opt out of screening will either be excluded (if up to date with screening or have a medical reason not to screen) or classified as a non-participant for the primary analysis. This paragraph also states that survey participants who opt out of the study prior to completing the endpoint phase will be excluded from analyses of survey responses.

7. The description of the sub-groups to receive the survey is confusing and it is not clear how the survey fits in with the rest of the study. This is probably because of the way the text is currently phrased rather than there being any problem with the research design, but it seems that in each arm, 1100 men will receive the screening invitations. Of the additional 600 in each arm selected for the survey, only those who return a baseline survey will be sent a screening invitation. Is it ethical to withhold the opportunity to participate in screening from those individuals on the basis that they have not returned a survey when the rest of the cohort in the relevant trial arm will receive the screening invitation?

Several changes have been made to the manuscript to clarify the rationale of the survey group approach as follows;

Firstly, the section entitled “study design” now includes a separate paragraph to address how the survey group fits within the study and the rationale for this approach (e.g., to avoid increasing screening awareness amongst the entire population).

The section entitled “survey phases” has been moved to precede the intervention phase and now includes more detailed information about the protocol used to recruit participants into the baseline phase (four points of mailed contact). Within this section we now clarify that screening will not be offered to those who do not complete the baseline survey on the basis that an invitation to screen (following 4 mailed invitations about the study previously) would be construed as harassment. This approach is consistent with our previous research which is now referenced in the manuscript.

To clarify the numbers of participants in the screening and survey groups extra information has also been added to figure one (red text).

8. Why was a 6% difference in uptake between groups chosen as the difference that the trial is powered to detect? Is there any particular rationale for a 6% difference being especially significant from a screening uptake point of view?
Section entitled “sample size considerations” now states that a difference of at least 6% was considered by the research team to be the smallest difference that would be feasible to detect without requiring overly large sample sizes, and is similar to the effect size estimate used in our previous research.

9. In the section on secondary outcomes (immediately before the discussion section), the authors note that they will assess "change scores for psychosocial variables". It is not clear what is meant by 'change scores'. This is presumably the change in psychosocial variables between the baseline and endpoint surveys for the cohort who respond to both surveys. If this is the case, then this needs to be clarified.

At the beginning of the paragraph entitled “secondary outcomes” it now states that change scores are the change in psychosocial measures from baseline and endpoint for those participants that completed both surveys. These change scores will be calculated by subtracting the baseline from endpoint score for each variable.

Minor issues not for publication:

1. Background paragraph 2, sentence beginning "Consequently, population screening", don't capitalise the The before United Kingdom

Changed as suggested, see tracked changes.

Editorial requests:
Please ensure the title conforms to journal style for study protocol articles. The title should follow the format? _____: study protocol for a randomised controlled trial

The title now reads as follows; Comparison of mailed invitation strategies to improve faecal occult blood test participation in men: protocol for a randomised controlled trial.

Thank you for your consideration.

Sincerely,
Dr Amy Duncan
amy.duncan@adelaide.edu.au (corresponding author)