Author’s response to reviews

Title: Design, planning and implementation lessons learnt from a surgical multi-centre Randomised Controlled Trial

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Author’s response to reviews:

Please note: Line numbers in the responses refer to the 'clean' version of the manuscript (i.e. no tracked changes)

Reviewer #1: The authors are to be commended for their clear representation of the challenges of this particular type of trial, and for their transparent reporting of intended interventions as well as of the article's limitations. The issue of potential biases inherent in Type 3 surgical trials is particularly thoughtfully addressed.

The article might benefit from a clearer distinction between methods and results, both in the abstract and the main paper. The authors should ensure that all the planned methods are adequately reflected in the results section. For instance, the micro-costing of research activities is described in admirable detail in the methods section; however, I would also be interested in the outcome of this - for example, could the results section describe whether the costing projections were adequate?

Response: The methods and results sections have been made more distinct from each other, both in the abstract and the main text.

I fully understand the limitations in funding etc. that meant some of the interventions could not be systematically evaluated; nevertheless, the results on the recruitment video and the prize draw are disappointingly short.

Response: All references to the prize draw have been removed from the paper and felt we did not have any more to say about it than what had been included. As the reviewer pointed out it would useful to discuss the impact and we do not know how it impacted on our retention.
- Is there anything more to be said on the recruitment video, even just anecdotally? Or could the authors give some examples of what was contained in the video that the staff found particularly useful? Conveying equipoise is a major challenge for many trials and any insights would be highly transferable.

Response: Some text added to the results section (lines 274-278)

- Similarly, without any further detail on the effect of the prize draw, I'm not sure it warrants the claim "... and a prize draw ensured adequate follow-up..." as stated in the abstract. At the very least, I would expect a mention e.g. of expected versus actual return rate, or how the return rates compare to similar trials and populations.

Response: All references to the prize draw have been removed from the paper and felt we did not have any more to say about it than what had been included. As the reviewer pointed out it would useful to discuss the impact and we do not know how it impacted on our retention.

Some of the statements made in the abstract weren’t immediately clear on first reading (without reference to the main article), in particular the sentence in the results section ending in “..., providing confidence in the use of the baseline measure.” Given this is one of the main findings, could this be rephrased to enhance clarity.

Response: This statement has been edited.

Minor comments:

Could you mention the overall duration of recruitment and follow up in the methods section of the main body - currently this is only evident from Figure 1. Incidentally, Figure 1 is erroneously titled "Participant Flow Diagram".

Response: Amended to ‘Participant recruitment graph’ (line 245, and Figure 1)

While the language is adequate overall, some errors have crept in presumably during editing, which merit revision (see for instance lines 144/145, lines 149/150, line 159, line 271, as well as various cross-referencing errors). Lines 365-368 are unclear in wording or punctuation.

Response: Manuscript has been review for errors. Lines 144/145 have been edited (lines 134-136); Lines 149/150 edited (line 140-141); Line 159 has been edited (line 168-169)
Reviewer #2: This article has an interesting premise but I think it needs to be improved prior to being reassessed prior to any possible publication

Overall:

The abstract (and paper) is internally inconsistent in that it states that forecasting work ensured that the recruitment window was of adequate length, then a couple of lines later that real-time monitoring meant you could extend the recruitment window in a timely fashion!

Response: This has been made clearer in the edited abstract.

Having referenced statements within the results section is unusual; I would suggest these should either be in the background or, more likely, in the discussion.

Response: All referenced statements have been removed from the results section and either added to discussion or deleted due to repetition. (lines 372-373, 377)

There is some over-generalisations made from the reported literature - for example in the question of optimal timing of endpoint assessment (relative to day of randomisation or day of intervention) - and a statement is made that this "makes little difference to the reported outcomes" - but this is based on evidence from one random orthopaedic trial. As such, this is probably a misleading and potentially even an irresponsible statement to make.

Response: Toned down this statement (line 82)

Numerous links to figures etc were missing, with an error message given instead - which made the paper hard to navigate/understand.

Response: These have been corrected and there should be no further error messages

One of the key concepts in the paper is the authors using 'reference class' forecasting of consent rates. But in the relevant section of the methods, this concept is not introduced or described at all - and as such the uninitiated reader will not be able to gain much from this.

Response: Text added in this section to expand on ‘reference-class’ (lines 111-116)

I doubt that the sections on attribution and reimbursement of costs, and how this was done within the UK system will be of any interest to international readers. It doesn't add much to the paper either.

Response: Text added to make it more appropriate for international readers (lines 143-160). We believe that the estimation of acuity and resources is essential for a well-run trial.
The prize draw for improving questionnaire return - this concept is incompletely introduced in the methods, then effectively ignored for the rest of the paper. It should be expanded, with more discussion of evidence behind this (of which there is plenty) and discussion of potential ethical issues involved.

Response: We have deleted all references to the prize draw as we have no idea of its impact on the follow-up rate.

Other specific points:

The background sets the scene fairly well but has some confusing parts - such as in line 52 - what does n=36 mean? Is it 36 out of 81 out of 395 within the particular reference being discussed? Then the next sentence appears to be discussing the same source, yet is then referenced as source '5-7' which makes no sense.

Response: Amended the numbers in the text and edited the two sentences to make the references clearer (lines 55-56)

Line 59 - in the introduction of type 3 surgical trials; comparing medicine with surgery; you state that surgeon equipoise can be an issue - but what about non-surgeons? They definitely can have a lack of equipoise in this situation. Suggest change to 'clinician'

Response: Changed ‘surgeon’ to ‘clinician’ (line 62)

Line 128 - "For type 3 surgical trials, conversion rates NEVER exceed one patient consented for every five screened…". This is a very strong statement, and whilst the 11 year old review article and the single small trial in GORD may support it mathematically, nothing is ever this black and white. It should be toned down.

Response: Changed ‘never’ to ‘rarely’ (line 118)

Line 148-149-150 - this sentence makes no sense and needs to be rewritten

Response: Edited (line 139-140)