



Recruitment: Email invitations (ID Rec9)

General

This document uses the five criteria listed in Trial Forge Guidance 2 'How to decide if a further Study Within A Trial (SWAT) is needed' (<https://doi.org/10.1186/s13063-019-3980-5>). The criteria are listed in Appendix 1 at the end of this document.

Do we need more evaluations of email invitations?

Yes.

Why do we need more evaluations and in what sort of host trial?

A trial team is likely to consider information about the following essential when deciding whether a further evaluation of email invitations as a recruitment intervention should form part of their recruitment strategy:

- i) effect on recruitment
- ii) cost (time, money, carbon)

Applying the five criteria

Evidence comes from the 2018 Cochrane review of interventions to improve recruitment¹.

Outcome availability– Data are available for recruitment, time and cost.

GRADE– The overall GRADE certainty in the evidence is moderate. *Criterion met* (the GRADE certainty in the evidence for all essential outcomes is lower than 'high').

Cumulative evidence– There is only one trial and it is impossible to conclude that the cumulative meta-analysis has converged. *Criterion met* (the effect estimate for each essential outcome has not converged).

Context– The PICOT for the available evidence is:

- **P** – One trial was done in the UK in 2012, with a total of 1760 participants (invitations). All participants were general practitioners in Scotland.
- **I** – The host trial intervention was an online behaviour change intervention (action plan) to improve antibiotic prescribing for respiratory infections.
- **C** – The host trial comparators were a different type of message about antibiotic prescribing (persuasive messaging) and nothing.
- **O** – Recruitment to the host trial. Cost and time were also measured.
- **T** – The trial is old now and attitudes to email versus paper invitations to trials may have changed. Moreover, the host trial was itself was hypothetical (it used scenarios) although the evaluation of the invitations was not.

Considering the above, leads to ***Criterion met*** (a new evaluation is likely to contain several elements in the PICOT that are importantly different to those in the existing evaluations).

Balance- participants- There is little benefit to participants of receiving an email invitation. In Treweek 2012 it was easier to get to the online trial because it meant just clicking a link, rather than typing it out. In other trials there may be little or no benefit. Similarly, there is little disadvantage apart from, perhaps, the invitation being just one more email. ***Criterion not met*** (the balance of benefit and disadvantage to participants in the new host trial and/or SWAT is clear).

Balance- host trial- The benefit to the host trial at present is the potential for a very small increase in recruitment. Treweek 2012 found that the email invitations costs less than postal (£442 vs £2071, which includes staff time) and took less staff time (26 hours vs 40). The potential disadvantage may be that some people may not check their emails but for the general practitioner population used in Treweek 2012 this wasn't really an issue, or at least not worse than not reading post. ***Criterion not met*** (the balance of benefit and disadvantage to those running the host trial is clear).

Considering the responses across all five criteria leads us to conclude that further evaluation of email invitations is needed. Priority should be given to evaluation in trials that:

- Evaluation in any host trial would be worthwhile but especially where the potential participants were not healthcare professionals.

Collecting cost (time and money) information would be useful, as would be carbon costs.

Who made these judgements?

Shaun Treweek, Hanne Bruhn and Heidi Gardner, all based at the University of Aberdeen, UK.

References

1. Treweek S, Pitkethly M, Cook J, Fraser C, Mitchell E, Sullivan F, Jackson C, Taskila TK, Gardner H. Strategies to improve recruitment to randomised trials. Cochrane Database of Systematic Reviews 2018, Issue 2. Art. No.: MR000013. DOI: 10.1002/14651858.MR000013.pub6.

Appendix 1

The five Trial Forge Guidance 2 criteria for deciding when a new evaluation of a SWAT intervention is needed (from <https://doi.org/10.1186/s13063-019-3980-5>).

The five proposed criteria for deciding whether the intervention needs another evaluation in a SWAT. The more criteria that are met, the more likely we are to conclude that further evaluation in a SWAT is appropriate.

1. *GRADE*: the GRADE certainty in the evidence for all key outcomes is lower than 'high'.ⁱ
2. *Cumulated evidence*: the cumulative meta-analysis shows that the effect estimate for each outcome essential to make an informed decision has not converged.^{ii, iii}
3. *Context*: the range of host trial contexts evaluated to date does not translate easily to the context of the proposed SWAT^{iv}. For the proposed SWAT consider PICOT:

- P – is the population in the host trial so different from those already included that the current evidence does not provide sufficient certainty?
- I – are the health interventions in the host trial so different from those already included that the current evidence does not provide sufficient certainty?
- C – is the comparator in the host trial so different from those already included that the current evidence does not provide sufficient certainty?
- O – is the SWAT outcome(s) so different to those used in the existing evaluations that that the current evidence does not provide sufficient certainty?
- T – in the time since the existing evaluations were done, have regulatory, technological or societal changes made those evaluations less relevant?

4. *Balance– participants*: the balance of benefit and disadvantage to participants in the host trial and/or the SWAT is not clear^v.
5. *Balance– host trial*: the balance of benefit and disadvantage to the new host trial is not clear^{vi}.

Notes

- i. A GRADE assessment of 'high' means that we are confident that the true effect lies close to the estimate of effect coming from the cumulative meta-analysis. In Cochrane's deliberations as to when to close a Cochrane Review (<https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.ED000107/full>), the collaboration chose not to require 'high' GRADE certainty in the evidence because it was felt that this may not always be achievable. Although we recognise the pragmatic nature of this, we recommend 'high' in our criteria because SWATs are usually simple studies for which it should be possible to generate high certainty evidence. We will, however, keep this criterion under review to consider whether it needs relaxing.
- ii. This is a judgement that depends on the behaviour of the effect estimates and on whether the confidence intervals include the threshold for an important benefit (or disadvantage). For example, if there is drift in the effect estimates of a meta-analysis but the confidence intervals around the estimates are consistently above what you think is an important benefit (or below a relevant disadvantage) then the cumulative meta-analysis can be judged to have converged despite movement in the effect estimates. For more on GRADE see <http://www.gradeworkinggroup.org>.
- iii. A cumulative meta-analysis requires the same outcomes to have been measured in the same way in the studies to be combined. Most SWAT protocols specify just one or perhaps two outcomes, which reduces the scope for different outcomes between evaluations. Tighter specification of outcomes on SWAT protocols would help even more (e.g. retention sounds simple but could mean the proportion of participants who remain in the trial, the proportion who return a form, or the proportion who fully complete all forms). Core outcome sets for trial processes may help and this is being done in ELICIT for interventions to improve informed consent²⁴.
- iv. This is to provide reassurance about the applicability of the result to different types of trials. Care is needed to avoid a default position of insisting on an evaluation in every conceivable context. In other words, is there any reason to believe that the intervention would *not* work in your context given the contexts already studied? It is possible that evidence from SWATs will eventually splinter off to focus specifically on certain contexts but,

for now, we suggest pooling evaluations of the same intervention because there are so few SWAT evaluations of any intervention and this pooling will provide a basic foundation on which to build.

- v. Where there may be no conceivable benefit or disadvantage for participants, they should be considered as balanced.
- vi. A benefit might be that the host trial recruits faster, or its data quality is improved. Examples of disadvantages might be that there are added costs to the host trial, or that a new task is introduced into the workload of trial managers.