Reviewer's report

Title: A randomized controlled trial evaluating the impact of knowledge translation and exchange strategies

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Reviewer: Paul M Wilson

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General comments

Thank you for inviting me to review this interesting study assessing the impact of three knowledge transfer interventions. The inclusion of a knowledge brokering element is novel and I know of only one other such study (which I think is ongoing).

RCTs evaluating complex interventions can be challenging both to those undertaking the research and to those interpreting the findings. In this instance, I can't help but think that this study would have been enhanced and the authors could have avoided some of the limitations they appropriately highlight, if they had been able to adopt a framework for developing and evaluating a complex intervention, such as that recommended by the UK MRC.

With this in mind, what follows are a number of reporting issues that I feel the authors' need to address – most of which involves a reworking of the introduction and methods sections.

Major Compulsory Revisions

To be able to set the study in context, there needs to be some description of the nature and role of Canadian Public Health departments - Implementation Science has an international audience so I'm sure many will be unfamiliar with how these services are configured. To illustrate, I was surprised that only 2% of participating public health decision makers were physicians' - which suggests a picture very different from the UK - is this because these departments are involved in what we in the UK would term health promotion? Clarification would be helpful.

A rationale for the selection of 'health body weight promotion' as the topic of interest is required - was this selection researcher or decision maker led? I ask because it's not clear to the reader how much of a priority this topic was to the participating organisations.

A fuller description of the knowledge broker intervention is required - as it stands

I'm not sure that what is being described is what I understand to be knowledge brokering. The manuscript states that a more complete description is published elsewhere but in fact is only submitted. A fuller description of this intervention arm is important because I think the knowledge broker literature suggests the concept is fluid and has been defined in different ways. My understanding is that knowledge brokering can be quite an involved process, is dependant on the credibility and skills of the broker and that 'success' or 'failure' can be associated with face to face communication or the lack of. Given this, could you state what your knowledge broker intervention actually entailed, the attributes, experience and skills of the broker employed, and the expected and actual level of interaction (how many and what sort of contacts, who attended the workshops, etc) they had with the participants (and the departments) in the 36 geographically spread organisations.

You mention evidence from systematic reviews was used to develop the second Health Policies and Program outcome variable – a reference link to the relevant systematic review should be attached to each statement in Table 1. Some description of the quality of the available evidence is also required - I'm slightly surprised at the ‘11 policies with known effectiveness’ statement. It's not my field, and I'm only familiar with the Cochrane review (colleagues assisted with the 2005 update), but I seem to recall it highlighted a lack of good quality evidence on the effectiveness of interventions on which to base national strategies or inform clinical practice. This may also merit consideration in the discussion section as quality/ certainty of the available evidence is often cited as a barrier to use in the research to policy literature.

As per the CONSORT Statement for reporting RCTs, the authors need to include a participant flow diagram documenting all phases of the study.

Currently the paper provides some detail on how participants were allocated to the three intervention arms - a fuller description of the method and process of randomisation (including stratification) would be useful.

The authors need to include dates defining the periods when the interventions were delivered and follow up occurred - without these it's difficult for the reader (both now and in the future) to place the study in context.

Minor Essential Revisions

Rather than saying tailored messaging’, ‘electronic targeted messaging’ or 'electronic communication' the author should just use the term ‘email’ throughout the paper – If I have understood correctly all participants received a single email advertising http://health-evidence.ca/ - but they then had to access relevant information themselves. Those in the second and third arms also received a series of emails with direct links to (or attachments of) health-evidence. Messaging isn’t a clear description of the intervention components delivered.

The authors also need to include details of the ISRCTN (I know there is one)

There are a number of typographical and citation errors in the reference list that need to be amended.

Discretionary Revisions

Throughout the paper the authors employ a number of abbreviations which are not commonly used - in my view these are unnecessary and inhibit readability.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests