Reviewer’s report

Title: Feasibility and acceptability of two incentive-based implementation strategies for mental health therapists implementing cognitive-behavioral therapy: a pilot study to inform a randomized controlled trial

Version: 0 Date: 28 Aug 2017

Reviewer: C Hendricks Brown

Reviewer's report:

Review of IMP D 17 00338

This is a well-written manuscript addressing an important implementation science question. It focuses on reinforcing psychotherapists' actions to provide an evidence-based practice, specifically cognitive behavioral therapy. The authors’ motivation for this study hinges on the recognition that many therapists do not feel rewarded for using EBPs. This pilot study examines the use of two incentives drawn from behavioral economics, one a financial incentive and the other a social incentive, both directed towards the individual therapist.

While this is a pilot study, involving only 11 therapists and 15 clients, the paper is noteworthy and of enough interest for readers of Implementation Science to recommend publishing. It uses an acceptable measure of fidelity to CBT - the maximum score along 12 dimensions of CBT using the TPOCS-RS CBT subscale. Acceptability was high in this pilot study, and there is some indication that adherence was influenced by the incentives, although the study was too small to provide much evidence.

One point to note is that the client sample was already highly experienced in therapy, having on average attended 10 sessions. This degree of prior contact with therapy is highly skewed towards the high end; indeed, the median number of individual sessions nationally is one. Thus the current study provides little information about engagement and retention in an evidence-based practice. Other types of therapeutic modalities besides CBT, such as family therapy, place emphasis on early engagement, and thus the value of using CBT practices for engagement and retention would be missed unless the full study includes a high proportion of new clients.

Of note is the authors' own study (Bedias et al., 2015 JAMA Peds) that pointed out higher influences from organizational, rather than individual therapist measures in predicting the use of EBP related to CBT. This could have relevance to the planned larger study, as the authors' state that one of the agencies already used social incentives and did not think the ones added by this study made much difference. One would need to measure the degree to which social incentives already existed in agencies in the larger study. Also, feedback about how well the therapist followed CBT was deemed important in this study, but its value would likely depend on the existing level of supervision.
The authors noted important lessons learned in this pilot study that would help inform the larger trial. Specifically, there were ethical issues raised about financial incentives, and it made sense to provide the opportunity for everyone within an agency to have the same opportunity to earn extra money, particularly since therapists often feel underpaid. It would suggest that the larger design would need to involve a group randomization, or a roll-out or stepped-wedge type of design. The "cluster randomized design" planned and noted on line 396 is presumably due to this and other factors, but not stated directly. Indeed, statistical power is known to be much higher if individual therapists can be randomized within agencies that serve as blocks, and leakage of the intervention is not large. It would be useful in this paper to point out the reasons the authors want to conduct this as a (presumably agency-based) cluster randomized trial.

Finally, the authors should note that therapeutic principles for CBT are sometimes at odds with those of other modalities, particularly family therapy, which is indeed considered having considerable evidence behind it, especially for externalizing behaviors. Given that this project takes place in Philadelphia, which has long been known as a home for family therapy (as well as CBT), there may be directors of agencies that do not completely endorse CBT in all its components. It would be useful to close the paper with a short discussion of what agency-level factors may be important to measure in the trial and what moderating variables are hypothesized to have effects.

**Level of interest**
Please indicate how interesting you found the manuscript:

An article of importance in its field

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?
4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal