Reviewer's report

Title: Grip on challenging behavior. Process evaluation of the implementation of a care program.

Version: 1 Date: 8 November 2013

Reviewer: Jenny Ploeg

Reviewer's report:

The paper is focused on an important topic in relation to trials, specifically issues related to internal and external validity. The paper applies an existing framework for process evaluation of trials (Leontjevas et al) to the example of challenging behaviours in nursing homes. The qualitative data provides an important and rich understanding of some of the issues related to process evaluation of this particular program.

Major Compulsory Revisions

1. In the methods section, authors should provide more detail related to the questionnaires, and specific questions within the questionnaires, that addressed relevance, feasibility and extent to which the program was performed, as this information is not clearly evident in the methods description. How were these items developed? Tested? Were they based on the work by Leontjevas et al? Literature? More detailed examples and scoring categories could be provided in a table. (for example, from the text it is not clear what a rating of 1-10 means on the question re to how much faith do you have in the care program). More detail is required.

2. In the results section, authors need to clarify the number of people who completed each questionnaire, and their representation in terms of the 17 nursing homes included. For example, the section on extent to which the program forms were used included only 16 respondents (Table 1) and yet the on page 8 the text indicates the Q2 was sent to 48 people.

3. Suggest the authors add a section on limitations of the process evaluation itself, for example, the point above where only 16 of 48 people responded to the question re extent to which the program forms were used, and issues of representation across nursing homes.

Minor Essential Revisions

4. Provide more background on the value of conducting a process evaluation and what implications this has for interpreting results of the effectiveness study, (e.g., some of the more detailed explanation offered in the Leontjevas et al paper would be useful)

5. Describe how nurses with level two, three and four training are comparable to nurses in other health care systems, eg what does level two training mean?

6. Provide details re attendance rates at each of the two training sessions, in
addition to the data you provide re mean attendance rate.

7. The authors state that 22 organizations responded to the invitation to participate, please add how many were sent an invitation, and any additional information comparing responders to nonresponders.

8. Revise Table 1. The categories are Never; >25%; 25%-50%; 50%-75%; and 100%; there is overlap in the categories, and gaps in the categories; eg what about 76-99%; add n=16 after title.

9. Revise Figures; the text says Figure 1 is the outline of the program on p 24, but it seems to be Figure 2;

   Figure 1 appears to be the stepped wedge design, which is referred to as Figure 2 on p 24.

   Figure 3 of the framework, do you need permission to include this here?

There are numerous grammatical or spelling errors throughout the paper.

   Discretionary Revisions: none

**Level of interest:** An article of importance in its field

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

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I have no competing interests