Reviewer’s report

Title: A tailored implementation intervention to implement recommendations addressing polypharmacy in multimorbid patients - PomP: study protocol of a cluster-randomized controlled trial

Version: 2 Date: 2 October 2013

Reviewer: Erik Cobo

Reviewer’s report:

I read the paper from Jäger et al about the PomP cluster polypharmacy study and I think it is suitable for publication in Trials. I would like to provide some suggestions in order to help the authors think about ways to improve their paper.

- Major Compulsory Revisions

The most challenging methodological characteristic of the PomP study is probably the existence of 3 nested random variables: QC (Center?), GPs (Practice in sample size?); and patient. Please, consider explaining and defining them earlier and refer to them consistently throughout the paper and as separate boxes in Fig 1.

In addition to CONSORT and CONSORT CLUSTER, please consider addressing also the CONSORT extension to non-pharmacologic interventions, which expands on the usual report and analysis of the random patient variable and includes the additional random variables. For example, specifying eligibility criteria for all of them: please, extend the style to explain selection criteria for physicians and patients to QC. Please, in order to have a clear understanding of the target population, be more precise on specifying the criteria for selecting patients and physicians: Is it all of them? Or only the first consecutive fulfilling criteria and assenting? I.e., In ‘recruitment of patients’, which criteria will the physician follow to select 25? Please, consider also planning to record information both about unselected units (at each level) and characteristics of higher level units in order to describe them at baseline accurately —as initial patient characteristics are usually described.

Although provided ICCs specify higher variability among physicians than among centers, please consider addressing, for example in your discussion, if selecting just 4 centers may compromise representativeness of results: How many centers are there in the studied health area?

- Minor Essential Revisions

Please consider including a concrete reference to the formula of sample size or its concrete application (calculation).

Please, in accordance with CONSORT, consider being more precise about the randomization, allocation concealment, and the evaluator blinding processes.

Please, consider addressing, for example in the discussion, the risks due to the
open nature of the trial, i.e., performance bias due to additional ‘interventions’ in one of the arms or rater bias due to evaluators guessing the center arm. And, in combination with the cluster design, selective selection of centers, physicians or patients: would any of them be able to decline after knowing the allocated center?

Please consider giving more relevance to confidence intervals.

Please consider specifying that a fully specified statistical analysis plan will be written previous to the results in order to avoid ambiguities (for example, the way of adjusting for baseline, transformations to main outcome for improving distributional assumptions, and so on).

- Discretionary Revisions

Please consider specifying the main analysis closer to ‘main outcome’ and ‘Sample Size’.

Please, consider trying to improve your editing (i.e., primary outcome is specified twice in the abstract methods’ section; or the second line of ‘health system’ specifies ‘…as has…’).

My best wishes for the next phases of your meritorious work.

Erik Cobo

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

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

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests