Reviewer's report

Title: Identifying and explaining the variability in development and implementation costs of disease management programs in the Netherlands

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Reviewer: Peter Groenewegen

Reviewer's report:

In this manuscript the authors want to describe and explain the costs of development and implementation (D&I) of disease management programmes (DMPs) in the Netherlands. The research is based on the evaluation of a Dutch grant programme for health care organizations that intended to implement disease management.

Main issues:

Pre-project costs: if I understand the manuscript right, as D&I costs those costs were taken that have been funded in the project grants. From the second part of the manuscript it becomes clear that an important correlate of the D&I costs is the pre-project phase investments. This makes the calculation of D&I costs rather arbitrary. If an organization had invested in the right ICT solutions before the project period and hence did not include this in its grant proposal, the D&I costs are seen as low. But the investments in ICT have been made and paid for. Consequently the main conclusion of the manuscript is the last one on p. 20. But this conclusion says more about the approach in this evaluation than about the reality of the needed investments for DMPs.

Definition of the D&I costs: why is costs of care coordination included? Care coordination seems to be one of the core characteristics of DMPs; so care coordination is part of the running costs of care delivery in DMPs.

How was the development of a DMP defined? Is the DMP the same as the organization that implements a DMP? Do all organizations have to develop DMPs themselves or do blue prints of DMPs exist? Isn’t it rather about adapting a DMP to the local organization then developing a DMP?

In the manuscript it remains unclear what kind of organizations the manuscript is about. As far as I know, they include individual primary care practices and health centres, primary care groups (cooperatives of practices that facilitate DMP implementation and that contract bundled payments) and hospitals. The size of the organizations largely coincides with the distinction between primary care organizations and hospitals. The size of the organizations is seen as quite important, also in the discussion and conclusions. I doubt whether it is size or something else.

Conceptual framework: under this heading there is only one paragraph but this cannot be seen as a conceptual framework. Here for the first time mention of
project plans and grant proposals. Should something like ‘potential cost drivers’ not be part of a conceptual framework?

External validity: how can the conclusions of this study be generalized? Is there a good reason why organizations that did not apply for subsidy or that were not selected, show comparable D&I costs to the organizations in the projects? In other words, how selective is the sample of organizations that was studied in the evaluation?

Minor issues:
- Include box with relevant info on Dutch health care system
- Relation between funding by health insurance organizations and project subsidies is unclear.
- Link between projects and bundled payments for DMPs: bundled payments did not exist for all the DMP subject groups included in the projects. How does that influence the comparison of D&I costs between different payment methods?
- Methods section: How are the quantitative and qualitative approaches combined. How was the iterative integration of economic and qualitative data (second para, p.7) actually done?
- Last para methods section: this paragraph on ‘Themes’ should be in the results section.
- The comments in the manuscript on Fig 4 (‘there might be a small negative relation’) and the correlation coefficient in Table 2 (-.08) is an over-interpretation.
- On page 9 there is a heading ‘Intervention’. It was never made clear that this manuscript is about an intervention study, nor is it clear what exactly the intervention is.
- At some points in the qualitative part of the manuscript the authors mention that project managers coordinated the efforts of the research team (e.g. p. 15 last para). Is that part of the D&I costs of the DMPs?

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

I was chairperson of the committee 'practice projects in disease management' of ZonMw (the Netherlands organisation for health research and development). The manuscript was part of the research project that evaluated the practice projects.