Reviewer’s report

Title: Impact of the Macmillan Specialist Care at Home service: A mixed methods evaluation across six sites

Version: 0 Date: 26 Aug 2017

Reviewer: Sandra Bradley

Reviewer's report:

First - I think this is a great study but there are several major design flaws - either this is through lack of articulation of methods in the text or in the actual research design.

Line 82 - insert "there is"

Line 91 - insert "This.." instead of "The" - first word and include at end of this sentence "across the six Innovation Centres over a 15-month period".

Line 133 - "final" s/b capitalised to be the same as Baseline and Interim

Figure 1 - stakeholder interviews (n - need to close bracket). Define Pictor and all acronyms for the first supplementary figures/tables. There is missing data - (n=).

Table 1 - Query - why were so few local stakeholders interviewed for each site? Who were the local stakeholders? Explain - I don't know what a commissioner is in UK. There is a total under Net Stakeholder but also n/a - which is it - can't be both. What is meant by SDT (define for Table). CSNAT data - explain why sites were unable to tell how many carers completed questionnaires - was it because it was postal self-return? Were the questionnaires numbered so you could deduce? Except for site B this data is largely representative of one illness state, i.e. cancer. This should be reflected in the title and abstract.

Who entered the data for the SDT? Was this done by the MSPCH team or an individual or through organisational procedures?

Lines 199-203 - CSNAT - severe limitation for carer data - why only able to capture on endpoint? Explain.

Lines 230-243 - need to identify which thematic analysis methodology was followed especially for a mixed method study. This study is more just triangulation unless you can identify the qualitative methodologies being followed and how they relate to the quantitative aspects - the two need to dove-tail, not just sit side-by-side.
By giving information to the Innovation Centres while undergoing analysis this limits objectivity of the findings and should be explained. The whole section on Qualitative methodology requires references and there are none.

In the Quantitative methods - references are required as to why you have used normality of continuous measures, histograms, etc. How do these apply to the type of info you are seeking?

Would be very helpful to define why you were measuring certain things, e.d. pt/carer characteristics and dying in preferred place - what were you looking for? Was it based on someone else's research? If so, whose? Explain - otherwise, it just looks as though you have put one thing after the other. Line 277 is written well and should be the way the rest of it is written.

Line 284 - how were confidentiality and anonymity assured? I think you explain this further on but just include in this sentence and you won't need to repeat.

Was the study registered?

Lines 292 and 293 are repetitive

Main Query with regard to the study and research design - why didn't you only offer specific types of interventions to each site to see how the interventions supported or didn't support the model based on the sociodemographic characteristics of the site? I think this is the major flaw in the design of the study and is what has made it so difficult for you to compare. However, that doesn't mean I don't think this should be published because it is a good example of whether you are evaluating a process or an outcome. In the way you have described your study, you seem to have been seeking to evaluate a process but the measures used to evaluate it were based on outcomes - more thorough research on study design may have enabled a better match between what to measure to evaluate the process and which elements to evaluate.

Line 336 - remove 450

Line 340-343 - examples of types of support required would be good, e.g. majority of telephone calls were about...

Line 378 - can't begin a sentence with "n=

Line 381 - is shown in Fig 4 (remove brackets)

Line 406 - issues, (and) practical help

Line 415-416 - justify this - are there national statistics to help support this view?

Line 432 - don't begin sentence with "N"

Line 435/436 - give example of carer characterisation that may have impacted on this - not sure what you were comparing
Lines 512-514 - why weren't they carried out at every site? Explain.

Define what is meant by healthcare assistant as these terms vary in different countries as to the level of education, training and expertise.

At end of qual section - don't end qual section with quote - need to summarise the section

Line 634 - insert "In (a)"

Lines 635-637 - This is a very important finding and message

Line 707 - time(s)

Line 716 - this is the first time that you mention the framework you used to do your analysis - this needs to be up front in the Methods section

You mention a number of different statistical tests you used but none of your tables/figures actually show this information. If you don't want to show these statistical findings, then leave out in the text. If you do want to show them, then we need tables that show the binary and logistic regressions.

Overall - a good study with a lot of hard work and effort but the lack of consistency or comparative findings is a result of the research design and what was attempted to be measured - declaring this more boldly in the Discussion will assist others who may wish to replicate your model in other areas or times. Also, it would be good to mention how long you think this evaluation should take place rather than the 15 months that you used - was that time sufficient to gain the understanding required from each of the parties? For carers, you may have needed a longer time period.

The fact that it is not clear when "early referral" should be made is an important finding as is what "palliative care" means for people experiencing chronic and long dying processes. A flaw in the study however is that the majority of referrals were for people with cancer - therefore, the title and abstract should reflect this as it is becoming clearer by the day that the only people who will be receiving palliative care are going to be those with cancer.

Finally - a mixed method study is a specific type of qual/quant combination that is supported by specific methodologies that allow dove-tailing of results and findings. What you have presented is more triangulation - that is multiple methods used to assess the same phenomenon. You even mention that you used triangulation in the last sentences of the article. Perhaps it would be better to describe this as a triangulation study rather than a mixed methods study.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No
**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

No

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

No

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

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