Author’s response to reviews

Title: Barriers and facilitators to implementing Dementia Care Mapping in Care Homes: results from the DCM™ EPIC Trial process evaluation

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Author’s response to reviews:

Response to reviewers

Editor Comments:

In addition to the reviewer comments, please can you address the following:

1. Use the reference format outlined in the submission guidelines, with numbering for in-text citations.
   
   This has now been updated.

2. Ethics approval and consent to participate: please indicate if consent was written or verbal.
   
   Consent was written, this has been added on page 7.
3. Please place figures in figure files with legends in the main text, after the references. Please present Box 1 as a figure.

This has been updated.

4. Please add emails for all authors to the title page.

These have now been included on the title page.

5. Please add the trial registration number and date of registration for the trial on which this is based as the last line of the abstract.

This has been added to the abstract.

BMC Geriatrics operates a policy of open peer review, which means that you will be able to see the names of the reviewers who provided the reports via the online peer review system. We encourage you to also view the reports there, via the action links on the left-hand side of the page, to see the names of the reviewers.

Reviewer reports:

Jacomine de Lange (Reviewer 1): The manuscript is interesting and clear and will support others with implementation of complex interventions in dementia care and with implementation research.

pg 6 r 28 I do not understand the percentages. They do not count to 100%? Figure 1 does not help to understand.

Thank you for highlighting that this was unclear. We were trying to explain that of the 26% who completed more than one cycle, only half of these did the full three cycles. We have rephrased this to say:

“DCM™ implementation was poorer than expected, even with DCM™ expert mapper support. Sixteen (51.6%) of care homes completed only one cycle to an acceptable level, 4 (12.9%) completed two cycles to an acceptable level and 4 (12.9%) completed all three cycles to an acceptable level. Seven care homes (22.6%) did not complete a full intervention cycle, with three (9.7%) of these not completing any of the intervention components (see Figure 1 for a summary of DCM™ implementation).”
We have also updated Figure 1 (now Figure 2) to make the difference between the colours of the bars clearer.

Findings/discussion:

pg 7 r 26: only two residents participated and 6 relatives, pg 9 r8: interviews varied from 3 to 38 minutes. residents and relatives no highlighted any facilitators or barriers.

Please reflect on this issue in the discussion.

We have added the following into the discussion section:

“Some residents and relatives were asked for their views on DCM™ implementation but were unable to comment specifically on this.”

In care homes and nursing homes time is often given as a reason not to give psychosocial care, attention, organise activities and so on.

The authors selected care homes with 3 full cycles of DCM and homes who not succeeded: was there a difference in barriers and facilitators between the two types of care homes? And how was the time-problem solved in successful care homes?

With other words: is lack of time in fact lack of motivation of was there really lack of time.

The same may be the case for the lack of time of the mappers. They felt urged to help their colleagues. Or: within the culture of the care home it is not done to say no to your colleagues.

Thank you for these thoughts, we agree that time is a key component in people implementing interventions but also in care delivery more widely. To address the difference in the types of care homes we have prepared a further manuscript investigating in detail the characteristics of the care homes that were most and least successful, comparing the barriers and facilitators highlighted in these homes. This will help to identify whether a genuine lack of time was present, or whether this was used when the issues instead were to do with motivation or management, for example. We would not be able to adequately cover the detail of this within the current paper.

Discussion

DCM is a complex, time consuming intervention and staff is often not enough qualified for all parts of the intervention. Is it, based on these findings, possible to give recommendations to
make DCM less complex for instance through other forms of observation, coding and paperwork? Please reflect on this issue.

We have added the following into the discussion:

“These findings also have implications for the DCMTM tool itself, with staff reporting feeling a lack of confidence in implementing it as well as a lack of time to complete the full process. This was despite undertaking four days of training, which was felt to be onerous by staff but also inadequate to prepare them to undertake DCMTM. All components of the process were felt to be too complex, with expert mappers identifying that report writing and action planning were particularly difficult for staff to complete. Given the known contextual challenges faced by care homes including low staff literacy [16], numeracy, IT skills and accessibility and lack of time and resources [17], the complexity of DCMTM warrants consideration. If DCMTM is to be used in the future within care home settings, by care home staff, consideration of the ways in which the process could be shortened or simplified may be beneficial to supporting implementation.”

Reviewer 2 (Reviewer 2): PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses a testable research question(s) (brief or other article types: is there a clear objective)?

Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?

No - there are minor issues

EXECUTION - Are the experiments and analyses performed with technical rigor to allow confidence in the results?

No - there are minor issues

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?
Yes - the author's interpretation is reasonable

OVERALL MANUSCRIPT POTENTIAL - Could an appropriately REVISED version of this work represent a technically sound contribution?

Probably - with minor revisions

PEER REVIEWER COMMENTS:

GENERAL COMMENTS: Implementing complex psychosocial interventions in care homes can be an expensive, difficult, and intense process in a context where the priority (usually) is with providing care for the residents, staff shortage and turn over are high, and the current staff experiences a high work load. Therefore, implementing an intervention often is not on top of everybody's list. With interventions comprising of multiple components, the 'challenges’ of the intervention environment, and between-site differences in intervention delivery and receipt, making a proper understanding of the intervention process and implementation issues highly important in considering (the current and future) research study design and implementation.

Overall the authors did a good job. Not only is the objective relevant and clear, the paper is understandable and easy to read. However, as someone not familiar with the EPIC Trial I would have liked to see some more details about the study and the involved care homes/participants to be able to better put this study in context. Also, I think the results section was a bit wordy and would benefit from shortening (for example, only add quotes that really add something extra to the text).

REQUESTED REVISIONS:

Method:

- Why did you recruit 216 residents at 16-months? Did you recruit them from the care homes that where already participating in the study or did you also include new care homes? If so, how many?

Additional residents were recruited at 16 months due to a higher than anticipated loss to follow up rate. All additional residents were recruited from care homes already participating within the trial. This has been clarified:
“…with a further 216 residents recruited from these care homes at 16-months follow up due to higher loss to follow up than anticipated.”

- Who did the randomization?

The randomisation was completed by the Clinical Trials Research Unit associated with the Trial. We have added the following into the manuscript:

“Randomisation was conducted immediately following baseline data collection, using an automated randomisation system. This operated through a computer generated programme, which ensured arms were balanced for the following care home characteristics; home type (residential/nursing/specialist dementia), home size (≥40 bedrooms/<40 bedrooms), delivery of dementia awareness training by the research team (yes/no) and recruitment area (West Yorkshire/Oxford/London).”

- Please provide information about the participating care homes (size, rural/urban, number of participants, etc.). This can be done using a Table, and/or in the Supplements. If details of the care homes involved is already available, please add the appropriate reference.

We have added in a table (Table 1) providing the demographics information. The main paper from the trial has been accepted by Lancet Psychiatry, but has not yet been published, therefore we do not yet have a reference for this. If, by the time of publication, we do have a reference, we will be able to update this.

- Please provide more information about the mappers in each care home (for example; background, gender, did they receive an incentive for their participation, what kind of training did they get, what instructions did the care homes receive for selecting mappers, etc.).

The following has been added into the ‘Design’ section of the Method:

“The mappers recruited in each care home were selected by the Manager, following discussion with the research team. All mappers were required to be permanent members of staff and judged by the Manager to meet the criteria for being a mapper (e.g. English language skills, confidence in delivering briefing and feedback sessions, ability to use data analysis package). Mappers received standardised 4 day training in DCM™ and did not receive any financial incentive for this.”
- Why did you choose to select 2 mappers per care home? How many residents did each mapper have to map? I am just wondering, because that might have impacted the mapper (the ratio mapper:residents) and possible success of implementation. Perhaps you could also talk about this a bit in your Discussion.

This is standard DCM practice, so we have clarified this on page 6:

“In line with standard DCM practice …”

Do you have any idea of an optimum number of residents per mapper (like for a full time staff number in a care home with no additional funding for the DCM)? What would you recommend to care homes who are interested in starting with DCM?

We have clarified this on page 6:

“During use of DCMTM mappers were expected not to be involved in the delivery of care. In agreeing to participate in the trial, care home managers approved that staff would be paid for all shifts where they undertook DCMTM. Mappers were asked to observe for as long as they were able on a single day or over a week, up to a maximum of 6-hours. They were asked to observe between one and five residents, depending on their confidence in using the tool.”

- Is there a fixed time period between cycles of DCM or could care homes decide for themselves? (Obviously I am not a DCM expert) Were they given specific instructions regarding this?

Cycles were scheduled to be completed at fixed time periods, although allowing some flexibility due to the complex nature of implementing DCM in care homes. The following has been added into the Method section:

“These cycles were scheduled at 3-months (or as soon as practicable), 8-months and 13-months post-randomisation.”

The following is also stated in the Method section:

“Additional mechanisms for supporting intervention adherence included sending SMS reminders and paperwork to mappers ahead of each cycle, and provision of telephone support from the DCMTM™ intervention lead.”
- p6, s28-39: This section seems out of place. Maybe better to move this to Results. Also, were you able to identify certain characteristics of the care homes that were the most successful and unsuccessful in implementing DCM?

We have moved this section to the Results. We have prepared a further manuscript investigating in detail the characteristics of the care homes that were most and least successful, utilising the quality of the data they produced. We would not be able to adequately cover the detail of this within the current paper.

- Same section: please add the 'n' after the %. That is more informative for the reader.

We have rephrased this section as follows:

“DCM™ implementation was poorer than expected, even with DCM™ expert mapper support. Sixteen (51.6%) of care homes completed only one cycle to an acceptable level, 4 (12.9%) completed two cycles to an acceptable level and 4 (12.9%) completed all three cycles to an acceptable level. Seven care homes (22.6%) did not complete a full intervention cycle, with three (9.7%) of these not completing any of the intervention components (see Figure 1 for a summary of DCM™ implementation).”

- How many residential, nursing, and dementia care homes were participating (please provide number per type of care home)? Did you observe a difference in implementation success between the types of care homes?

We have added a table of care home and resident demographics.

Although no differences in implementation success were observed by type of care home, we found that in interviews type of care home was highlighted as a barrier, i.e. lots of people said it would work better in a different type of care home to theirs. This is picked up under the theme of ‘staffing related issues’.

- Please provide more details about the interviewees (like how where they distributed among the care homes, gender, age, number per category, etc.)

We have added a table (Table 3) that includes the distribution of participants. Unfortunately, we did not collect demographic information specifically about those who participated in the Process Evaluation.
- Why did you only conduct interviews in 18 of the DCM care homes? How/why did you select these homes for the interviews?

Further details of the sampling process for selecting the care homes have been added to the study design section (p7), as follows:

“We selected 18 homes to provide a broad and manageable sample size. Purposive sampling was used to select care homes with a range of characteristics that may have affected DCM implementation (e.g. variations in size and type of care home) and to select homes that had implemented different doses of DCM™ (0-3 cycles), in order to explore the factors associated with implementation in greater detail.”

Results:

- This section is a bit wordy. It would benefit from shortening. Only add quotes when they truly add something to the text or illustrate something. For example, the first quote on p25 could be removed and 2nd quote on p24 is very similar to previous quote on p24.

We have shortened this section by removing quotes where two or more were listed in relation to a single point and generally reducing the word count of the Results section.

- p9, first alinea, please integrate with participants section.

This has been moved to the participants section.

- p9. s54 "this suggest....". Does your data support this (when looking, for example, at % completion intervention components)? This might be interesting to put in the Discussion and elaborate further.

We have prepared a further manuscript investigating in detail the characteristics of the care homes that were most and least successful, utilising the quality of the data they produced.

We have also added the following into the Discussion section:

Overall, the evidence suggests a range of factors that may influence whether care homes are able to successfully implement DCM. This paper has not explored the combinations of these factors and their potential association with greater or poorer implementation. This is something that should be explored further in order to identify whether there appear to be crucial combinations of factors that lead to success or not.
- p11, first paragraph: Do you have any number on turnover of trained mappers after recruitment but before training and how often it occurred that no suitable replacement was found after the first cycle?

We have added this information into the ‘Design’ section of the Method:

“Withdrawal of one or both of the mappers occurred in 17 homes (55%). The reasons for withdrawal were resignation from the care home, illhealth/long-term sickness, maternity leave, and in one home, both mappers withdrew due to lack of management support to map. At 16-month follow-up 14 homes (45%) had two trained mappers still in post, 7 had one mapper (23%) and 10 (32%) had no mappers. While there was funding to train additional mappers this only occurred in one home due to insufficient time before the end of the trial to train further mappers, being unable to identify a suitable replacement mapper or the consented mapper being unable to attend scheduled DCM™ training due to personal or organisational reasons.”

- p11, s15-16: "....overwhelmed by what was required of them." What was required of them? Did that differ per care home? Could you tell us a bit more about that? Was it the sheer number of residents that had to map (if so how many) or the combo with their regular tasks?

We have added the following:

“DCM was often considered to be a complex and time-consuming process due to the paperwork, length of training course and individual elements of the mapping process. These requirements of implementing DCM as a lone mapper were considered overwhelming alongside their normal care home duties, whereas having the support from a second mapper eased the process.

“It were definitely better having two rather than having just doing it on my own, because I think I would’ve struggled a lot more” (Mapper)”

- p18, start at s10: Good point made. Structure-wise it feels a bit odd. I would suggest to move this to the Discussion or introduce it as a short summary of that paragraph.

Thank you for highlighting that this was not clear. We have restructured this as follows:

“As an intervention, DCM™ may be more accessible for larger care homes. This may be due to more qualified staff and greater access to funds and resources, for example with larger staffing pools to provide cover for mappers.”
You describe the experience of one mapper. This is not specific for choice of mappers. To improve the structure, move this to the Discussion or at the end of that specific section in a sort of short summary of the paragraph that motivation and passion alone is not always enough.

We have added the following:

However, while initially motivated to engage in the mapper role, for one mapper, the challenges of implementing DCM™, particularly the lack of support, overruled her motivation and she became disengaged with the process. This indicates that even if mappers are selected for having appropriate skills and abilities, a failure in wider support can undermine this, demonstrating initial mapper passion or enthusiasm was not always enough to ensure successful DCM™ implementation.

This is an important point you make and also a valuable recommendation. Move completely, or add this section to the Discussion too.

We are pleased that this is seen as a valuable recommendation. We have added the following to the discussion:

There were issues with implementation of DCM™ in most of the care homes within this study, raising questions around the appropriateness of DCM™ in its current form for care homes. In order for DCM™ to continue to be used in care homes, those responsible for training individuals in its use need to reconsider the amount of time needed and paperwork that mappers are asked to complete, as well as the complexity of using the tool.

Do you have any thoughts about why the expectations of management and staff differed from the realities of participation?

We think that the main issue is that this was a new process. None of the care homes had ever undertaken anything like this and so even with information they did not really know what to expect. Additionally, they were participating in data collection for a clinical trial. Limited engagement from managers and change of management during the trial may also have been important. We are planning subsequent papers exploring these issues in depth and do not feel we are able to comment on these to a sufficient level of detail in the present paper.

Section about 'Input from DCM expert mappers': just wanted to say that I think you selected really good quotes. Very informative and illustrative!
Thank you for this comment – we are pleased that this section was informative.

Discussion:

- Please add some of the previous mentioned suggestions for a bit more depth in the discussion.

We have incorporated these points into the discussion.

- I would like to see some really practical recommendations for practice. That would make your article not only interesting from a scientific perspective, but also more valuable for practice (if the journal does not permit that, maybe it's something you can add to the Supplements).

We have added the following section to the end of the discussion:

“This study suggests a range of recommendations for practice that researchers and care homes should consider before implementing DCMTM. These may also be helpful to consider when implementing other similar, complex psychosocial interventions. For example, it is important for researchers to take time to understand the culture of the care home to ensure it is one that will be supportive and open to use of DCMTM. This may include assessing organisational, manager and staff openness to practice change and their commitment to delivering person-centred care. Where settings are not yet ready for DCMTM additional work may need to be undertaken, potentially over a sustained period, in order to develop the required supportive context. This might include additional training for staff and work with the management team on openness to and support for change. Ensuring the care home manager is fully committed to the process and is willing to engage with and support its implementation on a sustained basis is also crucial. The manager needs to have a thorough understanding of DCMTM and how it is implemented, in order to do this. Consideration of alternative models of DCMTM may also be advantageous, given the high staff turnover rates in care homes and the frequent difficulties we found that care home managers had in identifying care home staff who had the full range of skills and qualities needed to successfully train in and then implement DCMTM. This study has demonstrated that training two members of care home staff is unlikely to be practical or sustainable model of DCMTM implementation for most care homes. Where a care provider has a number of care homes, this might for example, include development of a central team of skilled staff who undertake DCMTM across a number of homes and who work with their staff to support implementation of action plans and practice change. These recommendations also indicate that it may be helpful for an individual who is skilled in the implementation of DCMTM to support care homes to assess...
their readiness for DCMTM ahead of them making a decision to train staff and implement the method.

ADDITIONAL REQUESTS/SUGGESTIONS:

Minor issues:

- There is a difference in Title between that on p1 and p3. Thank you for highlighting this – it has now been corrected.

- p5, s46/47: 'fifty' should be '50'. This has been corrected.

- Remove the 2nd bullet from Box 1 (no text after that bullet). This has been corrected.