

PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form ([see an example](#)) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below. Some articles will have been accepted based in part or entirely on reviews undertaken for other BMJ Group journals. These will be reproduced where possible.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Understanding factors influencing vulnerable older people keeping warm and well in winter: a qualitative study using social marketing techniques
AUTHORS	Tod, Angela; Sheffield Hallam university, centre for health and social care research Lusambili, Adelaide Sheffield Hallam university, centre for health and social care research Homer, Catherine; NHS Rotherham, Public Health Abbott, Joanne; NHS Rotherham, Public Health Cooke, Joanne; Sheffield Teaching Hospitals NHS Foundation Trust, CLAHRC-SY Stocks, Amanda; AJ Stocks Limited, McDaid, Kathleen; National Energy Action,

VERSION 1 - REVIEW

REVIEWER	Virginia Murray, Health Protection Agency
REVIEW RETURNED	26-Mar-2012

GENERAL COMMENTS	an important paper that merits publicaiton
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REVIEWER	Russell Hitchings, UCL, Department of Geography
REVIEW RETURNED	15-Feb-2012

THE STUDY	I have provided more detail on these elements below
RESULTS & CONCLUSIONS	I think there is further work to be done to make the contribution clear. The results seem a bit vague as presented in the abstract and I didn't quite see how they followed on from the evidence that was presented. This was especially the case for the statement that 'older people's homes were cold.' This is not really discussed in any great detail in the subsequent analysis. What temperatures do you mean exactly? Also are claims such as this supported by the evidence we have on our hands here? This relates to the sampling. If I understand the paper correctly, the older people involved were deliberately recruited from an area where there are high levels of fuel poverty and (though it's not entirely clear from the discussion on page 4) vulnerable older people were deliberately targeted. This makes this conclusion more problematic: saying older people have cold houses is quite different to saying poor and vulnerable older people have cold houses. I would like to see much more discussion of the sample and its implications. In any case, if conclusions about cold houses are to stay, we need a fuller account of the temperature

	<p>readings. The other option, of course, would be to remove this and focus more fully on the 'pen portraits', how they were generated, and what we could do with them (since this seems to be the key contribution of the paper).</p> <p>Discussion of particular project components (though interesting) seemed superfluous to this paper. The focus groups and the consultation event are not really drawn on in the findings that are presented here and discussion of these might easily be cut. It may be better to tell us about how exactly the pen portraits were generated (since this seems to me to be the central contribution) and how many of your sample seemed to fit within each (since this would be helpful to those reading this journal). On this note, the first paragraph on 'limitations' should probably be taken out – the paper should really stand or fall on the presented evidence, rather than anecdotal reporting of it being well received.</p> <p>Discussion of previous evidence was missing too. It is true to say relatively little is known about how older people feel it appropriate to stay warm during winter - but that is changing. There are now a number of comparable qualitative studies that should be mentioned and discussed here. Doing so would probably also help the authors define their contribution more fully (and strengthen the evidence base in terms of making recommendations about health policy). Here are some examples:</p> <p>Wolf, J, Adger, N, Lorenzoni, I, 2010, "Heat waves and cold spells: an analysis of policy response and perceptions of vulnerable people in the UK" Environment and Planning A 42 2721-2734</p> <p>Hitchings, R. and Day, R. 2011. How older people relate to the private winter warmth practices of their peers and why we should be interested. Environment and Planning A. 43.10. 2457-2467.</p> <p>Day, R. and Hitchings, R. 2011. 'Only old ladies would do that': age stigma and older people's ways of dealing with winter cold. Health and Place. 17.4. 885-894</p> <p>Armstrong D, Winder R, Wallis R, 2006, "Impediments to policy implementation: the offer of free installation of central heating to an elderly community has limited uptake" Journal of the Royal Institute of Public Health 120 161-166</p>
GENERAL COMMENTS	<p>Overall, I think this paper could become a valuable contribution to the growing interest in how to ensure winter wellbeing in aging societies. The determination to draw out wider applications and relevance was particularly commendable. However, in my view there is still some work to do to define the contribution.</p> <p>Further pointers:</p> <ul style="list-style-type: none"> • I don't understand the first couple of sentences on page 6. • What do you mean by fragmented on page 9? • I don't think you can quite claim a 'unique understanding' on page 9. • Could you expand the first paragraph of the discussion section on page 9? • Protective of their pride? Page 10. • Limitations – the last section has grammatical errors on page 10. • How exactly do the NEA questions follow on from your study? page 11. • Can you say a bit more about how exactly people could use the pen portraits? page 11. • I don't quite follow your point about 'geo-demographic modelling' on page 11. • Your discussion of making 'every contact count' (page 12) seems to run against your evidence. If older people are proud, as you suggest, would they listen?

	<ul style="list-style-type: none"> • Page 13. I'm not sure the final points follow on from the presented evidence. You didn't really talk much about 'knowledge and awareness' in the empirical discussion. • Page 13. I don't think we need mention of a 'strategy group' here when it hasn't been discussed before. • Throughout. 'elderly' – people in gerontology would argue against this term and prefer 'older people'
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VERSION 1 – AUTHOR RESPONSE

Response to peer reviewers

Understanding factors influencing older, vulnerable people keeping warm and well in winter: a qualitative study

Many thanks for the peer review responses to the article we submitted to BMJ Open. We are especially grateful to Russell Hitchings whose comments and suggestions were very helpful. His positive comments were appreciated. We agreed with Russell's critique and have revised the manuscript accordingly. We hope that the points have been adequately captured by the changes. We hope that in response to his advice and comments the quality of the article has improved. However, do let us know if you require further detail, clarification or revision.

We have summarised our revisions and how we have addressed the points raised in order here.

I apologise that I didn't notice the request to sue track changes. I ahve therefore highlighted sections that have been ammended in red and bold text. this includes tables that are additional or have been revised.

Managing Editor

We have revised the title in order to capture the research question more clearly, but without making it too long. The proposed title is now: Understanding factors influencing older, vulnerable people keeping warm and well in winter: a qualitative study.

If you have any further comments or suggestions regarding the title we would be interested to hear them.

Russell Hitchings

In order to summarise the changes to the manuscript we have listed below the key points made by Russell. Below this is a second bulleted list that itemizes revisions made in relation to the minor pointers made by Russell.

Key points

1. Results in abstract are vague especially relating to temperature. The results presented in the abstract have been changed to reflect the other changes in the paper. Reference to the temperatures in homes has been removed.

2. Clarification of the sample.

The sample was drawn from areas with populations at high risk of fuel poverty. Not all the sample were fuel poor

Additional detail has been added in the section "Sample and recruitment". We aimed to recruit people who were at risk of a cold home and the negative health impact of cold weather. A range of factors were considered in the sampling - not just whether they were in fuel poverty. Past experience, beliefs, preferences and values may also place older people at risk. These factors were acknowledged in the sampling and the section has been rewritten and now hopefully reflects this.

3. Claims regarding cold homes and temperature measurements. In response to suggestions by

Russell we have removed the reference to the temperature readings and focused the article entirely on the insight generated and on the development of the pen portraits. The data on temperatures will form the focus of an additional article. On reflection we agree that to tackle both in one paper would be overly ambitious and confusing.

4. Focus on pen portrait development, how they were generated and how they can be used. Having removed the temperature data the article now increases the attention given to the development of the pen portraits. The methods sections have been enhanced to include details on how the data was analysed using social marketing approaches to generate the pen portraits. The findings section now details the data used to develop the pen portraits. In the boxes where quotes are given, a gender, age and segmentation/pen portrait group has been ascribed to participant quoted. We have also identified how many participants best matched each pen portrait, this detail has been added to Table 7 along with the segmentation model and pen portrait summary. The discussion section considers more explicitly how the pen portraits can be used.

5. Some project components are interesting but superfluous to the paper. We have removed from the methods details of the consultation event in preference to the additional information on development of the pen portraits, as this is considered by the reviewer the central contribution. We have retained mention of the group interviews. In health-services research terms it is valuable to know that findings were verified and challenged with a wider sample. The group interviews provided this function. As requested, we have included in the findings how many participants fell within each segment.

6. Limitations paragraph. The limitations section has been left in. It is our understanding that it is a requirement of the journal to have section on the study limitations. We are happy to revise this if the editors prefer.

7. Previous evidence. Additional evidence has been mentioned as advised. This has been integrated into the introduction and reflected on in the discussion.

Additional Points

- I don't understand the first couple of sentences on page 6.
- What do you mean by fragmented on page 9?

Both these sections have been revised, additional details have been provided without adding too much to the length of the article.

- I don't think you can quite claim a unique understanding

The word unique has been removed from the statement

- Could you expand the first paragraph of the discussion section on page 9?
- Protective of their pride?

This sentence has been revised to refer to people being protective of their privacy.

- Limitations – the last section has grammatical errors on page 10.

This paragraph has been removed as the temperature and consultation event detail has now been removed.

- How exactly do the NEA questions follow on from your study?

I have reframed the mention of the NEA questions as an example of how they can be used alongside the pen portraits to identify people at risk of a cold home.

- Can you say a bit more about how exactly people could use the pen portraits?

This has been provided in the discussion

- I don't quite follow your point about 'geo-demographic modelling'

I have removed mention of geo-demographic modelling as I agree it may be confusing.

- Your discussion of making 'every contact count' (page 12) seems to run against your evidence. If older people are proud, as you suggest, would they listen?

I have revised reference to MECC and tried to address the concern regarding accessibility and acceptability of messages.

- Page 13. I'm not sure the final points follow on from the presented evidence. You didn't really talk much about 'knowledge and awareness' in the empirical discussion.

I have expanded slightly the mention of knowledge and awareness in the findings. Illustrative quotes are also provided.

- I don't think we need mention of a 'strategy group' here when it hasn't been discussed before.

Hopefully with the overall revisions of the article this point makes sense now. I have amended this whole section. because of the complex agenda and large number of stakeholders it is important that there is a dedicated strategic group if EWD/fuel poverty targets and the cold weather plan are to be realised. The pen portraits can be used as a reflective tool at a strategic level as well as by clinicians. This has been done successfully in a number of localities.

- Replace the term elderly with "older people".

This has been done.

Additional revisions

- We have made minor changes to Box 4 in order to clarify the content

VERSION 2 – REVIEW

REVIEWER	Russell Hitchings, UCL, Department of Geography
REVIEW RETURNED	: 08-May-2012

GENERAL COMMENTS	<p>I have picked 'major' revisions because I still think there is some work to do in terms of the writing and presentation of the project. However, I would strongly encourage the authors to persevere because I think, with some further effort, this could become a very useful and interesting contribution to research on this topic:</p> <p><i>Second review of 'Understanding factors influencing older, vulnerable people keeping warm and well in winter: a qualitative study'</i></p> <p>I think the paper has certainly improved. It is now starting to engage with the relevant literature and to make clear what this research adds. With some further work, I think this will merit publication. In itself, it's a nicely applied study. However, it's still not there yet, in my view. Here are the main elements I think the authors need to do more work on:</p> <ul style="list-style-type: none"> • Staying focused on your findings. Quite a lot of what we have here is general discussion about policy and it's not clear how this discussion follows on from your study. I think the revised paper needs to be clearer about what exactly is being argued and how exactly this follows on from the data that emerges from the study. • Are we studying vulnerable older people or not? Some revisions have helped with this, but it's still unclear. This is really important – older people are not, by definition,
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	<p>vulnerable. Yes, some of them are prone to winter difficulties, but many are not and gerontologists would take issue with this framing. So be careful not to slip into general claims about 'older people' that don't stand. We see this, for example, in the title. 'Older, vulnerable people' suggests all older people are vulnerable. I think you mean 'vulnerable older people'. This is a small point, but the implications are big and the paper probably needs to be edited with this in mind.</p> <ul style="list-style-type: none"> • More generally, we need a much more careful edit. The writing is still a bit sloppy in places, with quite a few grammatical mistakes. I'll highlight some of these below. • I think the concluding sections need to connect the findings we have here to the other studies that are now mentioned towards the start. In what way are your recommendations / findings different or similar to those others have made? Is this because you have deliberately chosen potentially vulnerable older people? How exactly are you building on this other work? I think we need to do more than just acknowledge this –it also needs to be engaged with. Otherwise it because much harder for those who may want to make interventions based on the research to choose whose advice to follow in particular circumstances. <p>Some specifics:</p> <p>Title: I don't think you can just say this is a 'qualitative study' when other qualitative studies have already been done. Say this is 'a qualitative study using social marketing techniques to aid health care professionals' or something like that?</p> <p>Results summary: slips into saying 'older people'. Be careful. You really mean 'vulnerable older people' / 'potentially vulnerable older people'</p> <p>Objectives: Grammatical issues.</p> <p>Introduction: We probably don't need the discussion of European differences and a lot of this is also quite wordy too.</p> <p>Page 3. 30-35 Grammatical issues.</p> <p>Page 3. 37-38 There is probably now as much on older people as any other group. Take this starting sentence out and start with ' There is now a small, but growing...'</p> <p>Page 4. 16. 'Who collectively defined' This doesn't make sense.</p> <p>Page 4. Para 2 'of the public'? Is SM all about 'risk'?</p>
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	Page 5. Approach	I would take out the discussion of triangulation. The study needs to be framed as about the interview / focus group work with older people. Why are we presuming that health workers will know when your study tells us older people themselves don't like to talk about these matters?
	Page 6	I think you should probably remove the discussion of the research with nurses and voluntary sector staff. This is off the point in view of the purposes of this paper really. The point of your empirical work was to generate pen portraits not to collect those that others had already painted? Perhaps this could be the subject of a different paper.
	Page 7	This is vague on the application of SM techniques. How exactly do you do it? What kind of SM did you do? How did you generate diagrams, and charts? The paper stands and falls on the quality of this work and so it needs more discussion, in my view.
	Page 8	How do the personality types revealed by the pen portraits correspond to housing type etc.? If these context factors are important, how do they connect to the portraits (which is what I understand to be the key outcome of the study in terms of helping professionals identify vulnerable people)?
	Page 8	These context factors are interesting, but you say little about how exactly they have impacts. How exactly did 'generation' effect home heating behaviors, for example?
	Page 11	Here I think we need to connect your results more fully to previous work on this topic (see my comments above). How are you building on these other studies?
	Page 11	Limitations. This needs to be re-written or removed. I don't buy this argument really, as I said before. Validity comes through rigorous and considered research, not through people saying your study 'resonated' with them.
	Page 12	This is good, interesting and useful discussion! But how exactly would you like people to use your portraits? This is the key

		contribution and more discussion of this would really strengthen the piece. Are they memorizing them? Using them to look for tell tale signs of potential vulnerability? Putting them in manuals?
	Page 13	The first paragraph is general discussion and not particularly related to your study. I would cut this.
	Page 13	Second paragraph. This is interesting and follows on from your findings, but not particularly well expressed. I would spend a bit more time on this.
	Page 14	'What this study adds' section. Needs to be more about the study and needs to be more carefully worded. In particular, the second point about 'older peoples' (needs to be 'people's' by the way) doesn't quite fit. Can we really say that all older people often end up being cold at home when your study was about <i>potentially vulnerable</i> older people? This is a concerning slippage. Also, how does an Affordable Warmth Strategy Group relate to your findings? I can't see how it does really. Surely we need to talk more about the portraits here.
	Page 16	References needs checking. Its 'Environment and Planning A' for example, not just 'Environment and Planning'.

VERSION 2 – AUTHOR RESPONSE

Understanding factors influencing vulnerable older people keeping warm and well in winter: a qualitative study using social marketing techniques

Many thanks again for the time spent on this paper and for the comments. I have amended accordingly. I have tried to accommodate the requests for more focus, detail and discussion regarding the data. However, as a BMJ paper, I did want to retain the applied practice and policy element of the paper to ensure it has purchase in the public health and NHS professions, as well as an academic audience.

This obviously puts pressure on the word count. I have tried to accommodate the requests and hope I have done so in sufficient manner for the peer reviewer and editor.

1. Staying focused on your findings. Quite a lot of what we have here is general discussion about policy and it's not clear how this discussion follows on from your study. I think the revised paper needs to be clearer about what exactly is being argued and how exactly this follows on from the data that emerges from the study.

Because the policy agenda is changing (introduction of the first Cold Weather Plan, shifting of public

health to Local Authorities, and implementation of the Public Health Outcomes Framework) we felt it was important to consider and discuss the findings and outputs in the context of this new policy and what the findings may do to help NHS staff and organisations implementing the policy. I have tried to emphasise this aim in the background and have revised the discussion accordingly, whilst staying focused on the findings.

2. Are we studying vulnerable older people or not? Some revisions have helped with this, but it's still unclear. This is really important – older people are not, by definition, vulnerable. Yes, some of them are prone to winter difficulties, but many are not and gerontologists would take issue with this framing. So be careful not to slip into general claims about 'older people' that don't stand. We see this, for example, in the title. 'Older, vulnerable people' suggests all older people are vulnerable. I think you mean 'vulnerable older people'. This is a small point, but the implications are big and the paper probably needs to be edited with this in mind.

The point is well made and I can see that I missed the opportunity in the previous revision to make the required changes and emphasis. This was partly as I made the revisions quickly. I received the peer review findings after returning from holiday so the turn-around time was a bit stretched. I hope the more recent revisions are adequate and make it clear the study focuses on vulnerable older people.

3. More generally, we need a much more careful edit. The writing is still a bit sloppy in places, with quite a few grammatical mistakes. I'll highlight some of these below.

These edits have been made

4. I think the concluding sections need to connect the findings we have here to the other studies that are now mentioned towards the start. In what way are your recommendations / findings different or similar to those others have made? Is this because you have deliberately chosen potentially vulnerable older people? How exactly are you building on this other work? I think we need to do more than just acknowledge this – it also needs to be engaged with. Otherwise it becomes much harder for those who may want to make interventions based on the research to choose whose advice to follow in particular circumstances.

Some specifics:

The points raised have been addressed but I have not been overly expansive at times due to concern about the growing length of the paper. I have commented on my response to some of the points raised below. As a BMJ paper it may be that an editorial opinion is required in terms of the best fit for the Journal. I am happy to revise in line with editorial preference or request.

Introduction: We probably don't need the discussion of European differences and a lot of this is also quite wordy too. I have left this in as the question of "why is it so bad in Britain compared to other colder countries" does preoccupy public health and clinical communities. I am happy to review if the editor prefers.

Page 6 I think you should probably remove the discussion of the research with nurses and voluntary sector staff. This is off the point in view of the purposes of this paper really. The point of your empirical work was to generate pen portraits not to collect those that others had already painted? Perhaps this could be the subject of a different paper
I have removed all reference to the staff interviews and focus groups and adjusted tables accordingly

Page 1 1 Limitations. This needs to be re-written or removed. I don't buy this argument really, as I said before. Validity comes through rigorous and considered research, not through people saying your study 'resonated' with them. I have removed the section on the consultation and testing of the study

findings and pen portraits. It is my understanding that it is a requirement of the journal to have a section on limitations. I will remove or edit this if preferred.

Correction

Tod AM, Lusambili A, Homer C, *et al.* Understanding factors influencing vulnerable older people keeping warm and well in winter: a qualitative study using social marketing techniques. *BMJ Open* 2012;**2**:e000922. There are two errors in this article:

1. The abstract makes note of individual and group interviews with health and social care staff in addition to the older people who participated. This article focuses on the older people data.
2. In table 3, the last column should add up to 24 not 20.

BMJ Open 2013;**3**:e000922corr1. doi:10.1136/bmjopen-2012-000922corr1