## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (http://bmjopen.bmj.com/site/about/resources/checklist.pdf) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

## ARTICLE DETAILS

| TITLE (PROVISIONAL) | Modification of Social Determinants of Health by Critical Illness,<br>and Consequences of that Modification for Recovery: An<br>International Qualitative Study   |
|---------------------|---|
| AUTHORS             | McPeake, Joanne; Boehm, Leanne; Hibbert, Elizabeth;<br>Hauschildt, Katrina; Bakhru, Rita; Bastin, Anthony; Butcher, Brad;<br>Eaton, Tammy; Harris, Wendy; Hope, Aluko; Jackson, James;<br>Johnson, Annie; Kloos, Janet; Korzick, Karen; McCartney, Judith;<br>Meyer, Joel; Montgomery-Yates, Ashley; Quasim, Tara; Slack,<br>Andrew; Wade, Dorothy; Still, Mary; Netzer, Giora; Hopkins,<br>Ramona; Mikkelsen, Mark; Iwashyna, Theodore; Haines,<br>Kimberley; Sevin, Carla |

## **VERSION 1 – REVIEW**

| REVIEWER        | Granero-Molina, J.  |
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|                 | Universidad de Almeria, Nursing, Phisiotherapy and Medicine |
| REVIEW RETURNED | 07-Feb-2022   |

| GENERAL COMMENTS | Dear Editor, thank you for the opportunity to revise this<br>manuscript. This is an interesting study, focused on identifying<br>SDoH that were modified at the individual level by the experience<br>of critical illness, and the effect of such modifications on patients'<br>and families' recovery. The topic of this study is relevant, up-to-<br>date and suitable for BMJ Open. Title: appropriate, wellwritten.<br>Introduction: The authors provide a good introduction to the topic,<br>however, a clearer definition of SDoH should also be added. The<br>study is well-justified. Clarify why it was carried out in 3 different<br>countries. Social services and healthcare provision may be very<br>different and the interpretation of the results may vary. The authors<br>should justify this decision in order to improve understanding by<br>international readers. The Background must describe the situation<br>in each different country, as SDoh can vary by area, state, etc.<br>Objective: well-posed, the introduction must be written in a concise<br>paragraph which clearly states: the objective of this study is<br>Methods: The authors performed a qualitative study, but they do<br>not mention the type of study. The Design is unclear, could it be a<br>Qualitative Descriptive Study? The first paragraph talks about<br>obtaining permission from the ethics committee to perform the<br>study, this should go in a separate paragraph titled Ethical Issues<br>at the end of the Methods section. Setting: The authors should<br>explain what the THRIVE programme consists of, and where it is<br>applied. The sample is nonhomogeneous and the sampling criteria<br>is not explained. The majority of the sample are of North American<br>nationality, so why did you add 3 patients and 2 carers from<br>Australia, or 13 patients and 2 carers from the UK? Generally, the<br>experiences of carers differ from those of patients, thus, why were<br>separate samples not used? What was the role of the patient |
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| representatives in the development of the interview script? The<br>authors should justify the use of the Framework Analysis<br>Technique in the data analysis. Are we looking at a deductive<br>analysis supported by a pre-existing theory? If so, describe this<br>theory. On P. 8 the authors state: Patients and caregivers who had<br>previously been admitted to intensive care helped create the<br>interview schedules utilised for this study, how was this done?<br>Results: There is a lack of information on why the 14 centres were<br>chosen for data collection. Specify the source of the 4 primary<br>domains of SDoH. The results are interesting and pleasing to read,<br>but they seem obvious. Are there inductive results that can provide<br>additional information to the study problem, beyond confirming<br>pre-existing categories with a series of quotes? Discussion:<br>relevant and well-written. The convenience sample is very |
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| relevant and well-written. The convenience sample is very<br>unbalanced between countries, and this is a major limitation.<br>Conclusions: relevant, but very general. Add clearly what this<br>study adds to existing literature on the subject.   |

| REVIEWER        | Kashyap, Gyan<br>Institute of Health Management Research |
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| REVIEW RETURNED | 11-Feb-2022  |

| GENERAL COMMENTS | This is an interesting study, and the authors have explored the Social determinants of health (SDoH) and its modification for critical illness.  |
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|                  | Comments   |
|                  | The study's title talks about the multinational qualitative study, but<br>only 3 Australian patients were interviewed. The authors may not<br>justify it as a multinational qualitative study with a small sample.   |
|                  | The authors should expand the introduction section and include the few most recent studies conducted in the UK and USA.  |
|                  | As the qualitative information was collected through telephonic<br>interviews, how did the authors validate the qualitative data? How<br>authors had validated the modifications in social determinants of<br>health of patients and caregivers on recovery from critical illness. |
|                  | In table 1, the variable Patient Admission Diagnosis under which there is a category other (N=16), please specify the category in the table's footnote.  |
|                  | I am not able to comprehend the linkages between qualitative findings, connections between domains are missing.  |

## **VERSION 1 – AUTHOR RESPONSE**

Reviewer: 1

Dr. J. Granero-Molina, Universidad de Almeria

Comments to the Author:

Dear Editor, thank you for the opportunity to revise this manuscript. This is an interesting study, focused on identifying SDoH that were modified at the individual level by the experience of critical illness, and the effect of such modifications on patients' and families' recovery. The topic of this study

is relevant, up-to-date and suitable for BMJ Open.

Thank you for this feedback.

Title: appropriate, well written.

Thank you for this this feedback.

Introduction: The authors provide a good introduction to the topic, however, a clearer definition of SDoH should also be added. The study is well-justified. Clarify why it was carried out in 3 different countries. Social services and healthcare provision may be very different and the interpretation of the results may vary. The authors should justify this decision in order to improve understanding by international readers. The Background must describe the situation in each different country, as SDoh can vary by area, state, etc.

Thank you for this feedback. We have added a definition of the social determinants of health (Page 6) as well as a clear rationale for why this study was executed across multiple countries. We have also included a statement about the social context of each nation included (Page 7).

Objective: well-posed, the introduction must be written in a concise paragraph which clearly states: the objective of this study is...

We have now updated the objective section (Page 6). Thank you for this feedback.

Methods: The authors performed a qualitative study, but they do not mention the type of study. The Design is unclear, could it be a Qualitative Descriptive Study?

We agree this could be clearer. We have now updated the design section (Page 7).

The first paragraph talks about obtaining permission from the ethics committee to perform the study, this should go in a separate paragraph titled Ethical Issues at the end of the Methods section.

Now updated (Page 8).

Setting: The authors should explain what the THRIVE programme consists of, and where it is applied.

Now updated (Page 7).

The sample is nonhomogeneous and the sampling criteria is not explained. The majority of the sample are of North American nationality, so why did you add 3 patients and 2 carers from Australia, or 13 patients and 2 carers from the UK?

We agree this requires to be updated. We have now added a clear rationale for the inclusion of multinational sites (Page 7). We have also added this as a limitation as we agree with the reviewer that this may have influenced reported results (Page 20). Thank you.

Generally, the experiences of carers differ from those of patients, thus, why were separate samples not used?

Thank you for this feedback. As this was an analysis of the SDoH were interested in the experiences of both patients and caregivers. We have added a section justifying this approach (Page 8).

What was the role of the patient representatives in the development of the interview script?

We agree this requires clarification. The representatives helped develop question content and structure. Now updated (Page 8).

The authors should justify the use of the Framework Analysis Technique in the data analysis.

This analytical framework is widely used in policy settings and allows structured and systematic analysis of qualitative data, as such was deemed suitable for this particular analysis. We have updated this rationale (Page 8).

Are we looking at a deductive analysis supported by a pre-existing theory? If so, describe this theory.

The researchers utilised a well-established framework for the SDoH using Framework analysis. This was our robust, qualitative approach, to undertake this analysis (Page 8). We have updated language to ensure clarity (Page 8).

On P. 8 the authors state: Patients and caregivers who had previously been admitted to intensive care helped create the interview schedules utilised for this study, how was this done?

We agree this requires clarification. The representatives helped develop question content and structure. Now updated (Page 8).

Results: There is a lack of information on why the 14 centres were chosen for data collection.

Thank you. A clear rationale for the sites involved, alongside the use of international sites is now explained (Page 6 and 8).

Specify the source of the 4 primary domains of SDoH.

Thank you. These four domains are now fully referenced in text and are part of an established framework for the SDoH (Page 8).

The results are interesting and pleasing to read, but they seem obvious. Are there inductive results that can provide additional information to the study problem, beyond confirming pre-existing categories with a series of quotes?

Although these results seem obvious this is the first time, as far as we can establish, that they have been explained within the critical care context. Of note, as specified in text, we utilised the categories to understand the experiences of patients and caregivers. We did not simply confirm categories with quotes. We have added in a statement to ensure that this is clear. Thank you for this feedback (Page 8).

Discussion: relevant and well-written. The convenience sample is very unbalanced between countries, and this is a major limitation.

We agree with the reviewer and have now added this as a limitation (Page 20),

Conclusions: relevant, but very general. Add clearly what this study adds to existing literature on the subject.

We agree. We have now updated the conclusion section with more specific emphasis on what this

study offers (Page 21).

Reviewer: 2 Dr. Gyan Kashyap, Institute of Health Management Research Comments to the Author: This is an interesting study, and the authors have explored the Social determinants of health (SDoH) and its modification for critical illness.

Thank you for this feedback.

Comments

The study's title talks about the multinational qualitative study, but only 3 Australian patients were interviewed. The authors may not justify it as a multinational qualitative study with a small sample.

Thank you. We have updated our feedback in response to the reviewer (Page 1).

The authors should expand the introduction section and include the few most recent studies conducted in the UK and USA.

Now expanded. Thank you (Page 6).

As the qualitative information was collected through telephonic interviews, how did the authors validate the qualitative data? How authors had validated the modifications in social determinants of health of patients and caregivers on recovery from critical illness.

We utilised member checking to validate our results. We have now made this clearer in text (Page 8).

In table 1, the variable Patient Admission Diagnosis under which there is a category other (N=16), please specify the category in the table's footnote.

We are unable to update this as we do not have this information. We agree with the reviewer that this is a limitation and have added it to our limitations section (Page 20).

I am not able to comprehend the linkages between qualitative findings, connections between domains are missing.

Thank you for this feedback. We have now added in a section within our results and discussion about how findings were linked (Page 10 and 18).