Author's response to reviews

Title: The impact of multimorbidity on younger deprived patients: an exploratory study of research and service implications in general practice

Authors:

Susan M Smith (susmith@tcd.ie)
Atakelet Ferede (atakeleta@yahoo.com)
O'Dowd Tom (todowd@tcd.ie)

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Author's response to reviews:

7th December 2007

Dear Editor,

Thank you for considering this revised manuscript for publication. We have outlined all our revisions and responses to the very useful comments and suggestions provided by the peer reviewers below.

Many thanks,

Yours sincerely,

Susan M Smith, on behalf of co-authors

Authors responses to reviewer's report

MS: 4419980161959131

Reviewer: Marjan van den Akker

Reviewer's report:

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
- the title does hardly reflect the contents of the paper (missing are: feasibility, low SES, and relatively young age)

Author response

We have changed the title to reflect this comment to:
¿The impact of multimorbidity on younger deprived patients: an exploratory study of research and service implications in general practice¿

-For this study only patients with 3 or more diseases were included. This choice is not very helpful for the clarity of the definition of multimorbidity. Also I don't see a very good reason to restrict multimorbidity to 3 diseases or more.
Author response

While we accept that much of the literature on multimorbidity relies on a definition of two or more coexisting chronic conditions, some debate remains as to the practicality of such a definition which encompasses large proportions (>90%) of patients in general practice settings particularly in older adults. As this study was designed to inform a larger randomised controlled trial of an intervention to improve outcomes in patients with multimorbidity we decided to focus on more vulnerable patients with higher levels of multimorbidity so that the intervention could be focused on patients with higher levels of complex care needs. We have added the following to the introduction to reflect this decision.

¿In an effort to identify the sub-group of patients with more complex health needs we included patients with three or more chronic conditions.¿

Why were control patients only selected in IMC?

Author response

We have added the following explanation to the Methods section: Patients:

¿We also identified a small comparator group of individuals within the same age and socio-economic grouping who had only one chronic condition to provide a comparator group. This was only done in the IMC practice, as it was not possible in the MMHC practice to use the practice clinical software system to identify individuals age 45-64 with one chronic condition and would have involved extensive individual patient record searching which was not possible due to time and funding constraints.¿

- Page 5, second paragraph: "Data on hospital activity was incomplete in both practices". I'm not sure what this implies: missing diagnoses and medication?

Author response

This has been clarified with the following amended sentence:

¿Data on hospital activity relating to both diagnoses, medications and hospital admissions was incomplete in both practices.¿

- In the discussion authors see a similarity of combinations found in their own study and in other studies. However, no combinations were reported here.

Author response

This should have been described as similarity in types of chronic conditions recorded rather than combinations of conditions as we have not broken down the analysis to examine combinations. This sentence (Discussion, para 3, sentence 2) has been amended to read:

¿These studies have found similar types of chronic conditions though our sample has fewer cases with rheumatological conditions, which may relate to disease coding within the practices.¿

Minor Essential Revisions (such as missing labels on figures, or the wrong use of
a term, which the author can be trusted to correct)
-In the description of the data collection Figures 1 & 2 are mentioned. Please replace by Tables 1 & 2
Author response
This error has been corrected.

Please describe JMP (statistical analyses)
Author response
JMP is a statistical software package (see www.jmp.com). The Data analysis section has been amended to clarify this:
¿Data were entered onto Excel and then transferred onto the statistical software JMP In version 4 (www.jmp.com) for analysis.¿

Discretionary Revisions (which the author can choose to ignore)
I think it's a bit odd to include one of the co-authors in the acknowledgement
Author response
We have amended the Acknowledgements section appropriately and also added details acknowledging the funding source:
¿We wish to acknowledge the cooperation of Dr Kieran Harkin, Dr Eimear Mallon, Ms Ann Down and Mary Tobin of IMC and Dr Aisling Ni Shuilleabhain, Christine Kelly and Elizabeth Kilbride of MMHC. The study was funded by the Health Service Executive jointly with Trinity College Dublin.¿

Reviewer's report
Reviewer: Elizabeth Bayliss
Reviewer's report:
General
In their manuscript, ¿Multimorbidity in general practice: exploring its impact¿, the authors describe the level of morbidity found in a review of general practice records in Ireland, as well as barriers experienced in the process of obtaining this information. This is an important area of investigation given the prevalence of multimorbidity in primary care. My comments in order of their appearance in the manuscript are as follows:
Abstract: I¿d suggest adding a sentence on the reasons behind the investigation into barriers to feasibility of multimorbidity research in this setting.
Author response
We have added the following sentence to the Abstract introduction:
¿Potential barriers to such research relate to methods of disease recording and
coding and examination of the process of care.

Introduction: Again, I’d suggest some more information on why look for barriers.
Author response
The following sentences have been added to paragraph 1 of the introduction to expand on potential barriers involved:

Potential barriers to the introduction of an intervention for multimorbidity arise both in terms of identifying vulnerable patients using existing clinical software, which uses single disease coding systems. Examining the effect of an intervention also requires estimation of the process of care involved for patients with multimorbidity and the likely polypharmacy issues making management of these patients more complex for primary care practitioners.

Although the introduction suggests that the authors will explore the impact of multimorbidity on practice, the results are more descriptive of prevalence and barriers encountered.
Author response
We have re-written and expanded the aims within the introduction to reflect this comment:

We aimed to assess the feasibility of identifying younger individuals with multimorbidity in service general practices. In an effort to identify the sub-group of patients with more complex health needs we included patients with three or more chronic conditions. In addition we aimed to explore the effect of multimorbidity on the type and volume of health care delivered using individuals with a single chronic condition as a comparator. We also aimed to identify and describe the barriers encountered in conducting research into multimorbidity in primary care settings.

Methods: The two paragraphs on inclusion and exclusion criteria could be combined.
Author response
This has been done.

The statistical analysis would benefit from a bit more detail especially with regard to which groups are being compared and why.
Results: There is a comparison between multimorbid patients and those with single conditions, but this concept of comparison is not introduced in the background or in the methods. (Though it is of interest and does reinforce the literature on multimorbidity causing higher utilization and medication use.)
Author response
We have added detail to the introduction (aims) and the methods section regarding the comparator group with a single chronic condition. We have
expanded the data analysis section to include the following:

The analysis focused on a comparison of multimorbidity patients in both practices and a comparison between multimorbidity patients and comparator patients with a single chronic condition in the IMC practice only.

The results have also been altered to clarify the analysis further as outlined in the response below.

Tables
1 and 2 are clear. Table 3 is confusing in that the two N’s don’t add up to 92 (the number of multimorbid patients in tables 1 and 2), and it is not clear where the single morbidity group comes from.

Author response
This has been clarified in both the methods and results section. We were only able to identify relevant comparator patients in the IMC practice as described above. The results have been changed to highlight where the numbers in Table 3 originate:

There was a significant difference in terms of GP visits and number of current medications between patients with multimorbidity (n=62) and the comparator patients with a single chronic condition (n= 42) at IMC in the previous 12 months. (Table 3).

The list of barriers is interesting; there are multiple important points that each have a body of literature behind them and implications for research methods on multimorbidity. They would benefit from both categorization (when they are presented in the results) and also from some discussion in the next section.

Author response
We have categorized the barriers as suggested by the reviewer into the following groupings within the results section:
1. Issues relating to record keeping and disease coding
2. Examining the process of primary care delivery
3. Multiple sources of information

The discussion has also been restructured as outlined in the next response

Discussion: I would suggest dividing the discussion by category of results: findings and discussion around prevalence, and findings and discussion around barriers to studying multimorbidity through GP records. Although the discussion mentions the importance of patient perspective on care, and the impact of multimorbidity on practice (and I agree with the importance of both of these),
these points seem peripheral to the main goals of the manuscript—the prevalence of multimorbidity, and methods of collection of information on multimorbidity.

Author response
The Discussion has been completely re-ordered to reflect these comments and has now been sub-divided into the following sections:
Study findings: prevalence and workload implications
Barriers identified
Study limitations
Conclusions
The section regarding patient perspectives has been shortened to reflect the above comments.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
Reorganizing the discussion; clarification of single vs multiple disease comparisons; and Ns on table 3.

Author response
These have all been addressed as outlined above

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
Increased background information in the introduction; decision on how to present the issue of 'impact on multimorbidity' throughout the manuscript.

Author response
Additional background information has been added to the introduction as discussed above and the results and discussion have been presented in a more structured way to enable clearer presentation of the study findings.