Author's response to reviews

Title: Medical conditions leading to admission to a nursing home

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Author's response to reviews: see over
Response to referees’ comments on:

“Medical conditions of nursing home admissions”.

Dear Editor,

Thank you very much for having given us the opportunity to submit a revision of our manuscript if we are able to fully address all the referees’ concerns. We carefully addressed all the comments of the reviewers (new version or in green in the text) and thank them for their quality review.

Answer to the comments of Referee Heribert Ramroth

General Comments

The article reports information that might be useful for nursing home management and public health policymakers, especially for developing interventions to prevent institutionalisation.

1. Minor Essential Revisions

- Table 1: ‘men and women’ instead of ‘man and woman’.
  Has been corrected.

- Better % because of different amount of beds per institution.
  Was adapted into %.

- p.7, fourth last line, typing error: “de” → “the”.
  Has been corrected.

- Table 5: better %
  Changed as suggested by the Referee.

2. Discretionary Revisions

- p.12: The formulation: “needs” an admission in a RH/NH”.
  The gold standard for the elderly would be, to stay in a familiar situation cared by family members and supported by external supports settings.

  We agree with the Referee; the choice of the word ‘needs’ is not appropriate.
Answer to the comments of Referee Anette Hylen Ranhoff

1. Major Compulsory Revisions

1. - The paper is long and should be shortened.
   The revised version was shortened by 3 pages. We focussed the discussion more to the results.

2. - The language needs improvement.
   The language has been improved throughout the manuscript.

3. - Many expressions lack precise definitions (aging symptoms) and many statements lack references.
   We added definitions where necessary and removed the word aging symptoms. References were added for each statement.

4. - The method and the data collected are not sufficient
   1. To answer the question: “which disorder lead to institutionalization”.
   2. To show differences between 1993 and 2005.
   3. To create a medical risk profile (for developing interventions to prevent institutionalization).

We restructured and expanded the method section to deal with the comments of the referee (page 3 of the revised version). We changed the question into: “which are the medical conditions of nursing home admissions”

With the collected data we have quantitative and qualitative characteristics of the residents. A qualitative comparison between 2005 and 1993 is possible (typology of the diseases). Between 1993 and 2005 nursing home organisation has been changed in Belgium. In 1993, only a small subgroup of nursing homes meets the international criteria of nursing home residents (residents with a need for assistance in 3 or more ADLs). Therefore, only a subgroup of the total beds meet our inclusion criteria for the comparison. We clarified this in the first paragraph of the method section. ‘The aim of this exploratory survey was to quantify and characterize the chronic conditions of NH applicants who are lower functioning. In Belgium, NH beds, legally created in 1982 and destined for elderly in need of care, were primarily set up in the lap of existing rest homes (RH) who accommodate valid elderly, at an average of 12 NH beds out of 100 RH beds. In 2000 the care setting in Belgium was comparable with the internationally criteria of nursing homes.’
5. The problem is, as is mentioned in the paper, that the medical reasons for Nursing Home Admission (NHA) are often vague or missing. Even face-to-face interviews cannot fully fill this gap. The diagnosis of each resident was case by case discussed with the general practitioner or nursing home physician. Diagnostic mistakes or competing causes might still be possible. However, we believe that our standardised method based on the medical files and interpretation by the medical doctor is a reliable surveillance system for health-related data.

6. The registration of medical diagnoses from 1993 does not contain dementia diagnoses even dementing illnesses are known to be very common in long-term NH clients (70 – 80%). Because dementia – diagnoses are missing in the 1993 population, comparing of differences in diagnoses are difficult.

Dementing illnesses are very common in long-term NH clients.
In table 4 ‘Classification of mental primary diagnoses per disease group’: 1993 (n=636); 2005 (n=360) we can see that 97.3% had a psychosis in 1993. Of these residents 98% suffer from dementia.(see previously version page 7).
In 1993 no percentages could be given of the total number of residents (no proportions between residents with somatic or mental illnesses). Some institutions only takes residents having dementia or others only take residents who are somatic disabled.
In 2005 the number of people admitted having dementia, was an average of 52% and varies per institution from 39 to 98% (specialised institution Cocoon).
In 1993 dementia was mainly described as ‘dementia NEC’ and in 2005 we were able to give more details about the different types of dementia. As we said on page 8 (previous version):”a comparison with 2005 is insignificant”. The year 1993 was a pilot study.

7. The true reason for NHA is often a combination of medical diseases and their consequences on function, together with other patient related factors (age, ...) and social factors (living alone...). To subtract and study the medical diagnoses alone will then be difficult.

To subtract and study the medical diagnoses alone is normally difficult.
Although such an approach can have an influence on the reasons of admission, we did not take it into account because we could expect a similar effect of the other (personal/social) variables for all the diseases. (see page 12)
Moreover …” dementia, Parkinson’s disease, stroke, hip fractures and diabetes were strongly associated with increased risk of institutionalization, independent of socio-demographic confounders” (reference 13, 36).

8. The authors are not clear on the definition “the main medical conditions leading to institutionalization were decreased lucidity and mobility”.

We removed this definition, as requested by the Referee.
9. - It is difficult to compare when different inclusion criteria are used for the two cohorts (B- and C category from 1993 and all from 2005. Perhaps it is an idea to look at 2005 data only.

See also point 4.
The B and C-category of 1993 indicated a small group of nursing home residents out of the entire rest home population and in 2005 the entire facility was regarded as nursing home (comparable with other countries).
So we included the same type of residents both in 1993 and 2005.

10. - Description of methods should be moved from result section to method section.
    Changed as requested.

11. - The discussion needs substantial improvement and should be organized as:
    - Principal findings and their interpretation.
    - Strengths and limitations of the study.
    - Strengths and weaknesses in relation to other studies.

We changed the format of the discussion as suggested by the Referee

12. - The references are generally old. There are several recent studies about predictors of long-term care admissions.
    We added 13 new and recent references, marked in green.

2. Minor Essential Revisions

13. - The conclusion in the abstract contains the interpretation of the results and not the principal findings.
    We changed the concluding paragraph of the abstract

14. - The statement “findings underscore the increase in diabetes mellitus”, is difficult to understand.
    The sentence was replaced. In the discussion section we added a paragraph of the national ‘IKED’ report (p.10) to demonstrate the increase in diabetes mellitus.

15. - The standardized hospital questionnaire should be shown.
    The hospital standardized questionnaire is attached. Its mandatory in Belgium since 1990.

3. Discretionary Revisions

16. - Common dementing illnesses as Vascular dementia, Lewy Body dementia and Frontotemporal dementia are not mentioned in the text, while others which are very rare are mentioned.
Vascular dementia was mentioned in the text as MID (Multi Infarct Dementia) and scored 4% in 2005. Lewy Body dementia was nominated 3 times in 2005 and Frontotemporal dementia was not specified. (n=360) See table 5, page 8.

17. Senile dementia is mentioned as an own category in table 5, does that mean not-classified dementia or Alzheimer’s disease?

In hospitals and GP often use combined codes 290.0 (senile dementia) and 331.0 (Alzheimer disease). Senile dementia is often been used if Alzheimer can not be excluded.
Answer to the comments of Referee Ann L. Gruber-Baldini

General Comments

While the analyses may have merit, the whole tone of the paper needs to be corrected.

1. Major Compulsory Revisions

1. - Title: you have no data about what leads to a NHA, you simply have descriptive info about those admitted. The title should be something like: “Medical conditions of NH admissions”.

We have changed the title as suggested by the Referee. “Medical conditions of nursing home admissions”.

2. - Literature review is poorly written and lacks one relevant report. In the US the National NH Survey reports similar data on a national survey of NH-residents. I suspect other countries report similar national data.

We added 13 new and recent references, marked in green. Also the US NNHS is included in the review. Not all countries have those data. Belgium collect only ‘need of care’ statistics (number of residents of category O, A, B, C, Bd, Cd) without medical information.

3. - The discussion goes beyond the findings.

We agree your remark and rewrote the hole discussion.

2. Specific Major Comments

1. - Correct the title.
   The title was changed into: "Medical conditions of nursing home admissions”.

2. - Abstract: avoid causal statements in the results section. “The main medical conditions leading to institutionalization” should be: “The main medical conditions observed in those institutionalized”.
   We avoided causal statements.

3. - Also lucidity and mobility are not true data.
   We removed this in the revised manuscript.
4. - Presenting % of people consistently throughout (and not some as % of people and some as % of codes).
In the revised version percentages are given.

5. p.2 Literature review. The paragraphs “Anderson’s model ... literature review are not clearly written. It feels like an outline.
We rewrote this paragraph.

6. p.3 Use the descriptors for A and C throughout the paper. The Belgian scale is unclear.

The interpretations have also been repeatedly amended.
We used the term ‘nursing home residents (what means category B and C / or residents who need assistance in 3 or more ADLs) throughout the revised version. Its more comprehensive outside Belgium.

5. The results should be % of people, not % of codes and better details is more informative, see table 4. 97% of the people had a psychoses code and 98% of them had dementia. Does that mean that 95% of the people had dementia?
Yes, in 1993 95.4% % of the people with a mental illness had dementia and in 2005 89.3%.

6. The numbers in the first sentence of the discussion section are not in the tables.
The first sentence: “Almost half of all admitted people are demented and”....
Table 1 (cause of admission) shows that 52.1 % of the applicants have a mental illness.
Table 4 reports that 97.3% of all mental illnesses involved ‘psychosis’ and of the psychosis patients, 98% in 1993 and 95% in 2005, have dementia.
This was clarified in the text.

7. The discussion goes away beyond the findings.
Correct. We rewrote the hole discussion section.

3. Minor Essential Revisions

8. Abstract: “Focus on self-support”. The issue is not self-support, it’s the lack of self-support.
We changed as requested.

9. Methods: The use of just B and C is not easy to read; retain the descriptors.
We used consequently the descriptor ‘nursing home resident’ instead of categories throughout the new paper.
See also 2.6.

10. p.4, 4th paragraph the word “read” is not needed.
Was adapted.
11. Results: table 1 needs a legend for all the abbreviations. 
   A legend was added.

12. In the tables you sometimes have commas where periods should be. 
   We corrected all the commas in the tables.

13. p.7 4th last line: “de” → “the” 
   Has been corrected.

14. Discussion p.10 (and later): ‘People “have” dementia, to say they “are demented” is pejorative. 
   We changed as requested.
Answer to the comments of Referee Charlene Quinn

General Comments

- The author writes about an important topic and has much work involved in the analyses and the writing. However, the writing is not focused starting with the specific aims of the study.

In the revised version we focus more on the specific aim of the study.

- Writing the paper such that a more general audience, outside of Belgium and Europe, would understand the terms and make this paper a more useful manuscript to the scientific literature.
  We took efforts to make the paper understandable for a broader audience.

1. Major Compulsory Revisions

- Reviewing more current literature available through the US NLM pub med website.
  We added 13 new and recent references, marked in green.

1. The question (specific aims) posed by the authors is not well defined. Narrow the analysis on change in trends for mental health and focus on depression and dementia for example.

Our aim was to study major disorders which are associated with nursing home disorders.

2. The author should follow a structured outline for the methods section.
  We rewrote the method section.

3. It's not clear to the reader how the data were collected. (What is standardized ?)

See method section of the revised version.
The hospital standardized questionnaire is attached. Its mandatory in Belgium since 1990.

4. The manuscript doesn’t adhere to the relevant standards for data reporting.
We believe that the style and format of our manuscript is according the formats.

5. The discussion and conclusions are not adequately supported by the data (some findings are not discussed, for example the decrease in hip fractures).

In the revised version we focussed the discussion.

6. The limitations of the work are not always clearly stated.
  Limitations of study are stated in the revised version of the paper (page 12).
7. The authors don’t clearly acknowledge any work upon they are building (reviewing more current literature).

More current literature: see point 1. (13 new references).

8. The title and abstract don’t accurately convey what has been found.
   The title has been changed into “Medical conditions of nursing home admissions” according to the suggestion of other Referees.
   The abstract was rewrote.

9. The writing is not acceptable.
   We improved the language and the structure of the manuscript.