Reviewer's report

Title: Adjustment of Nursing Home Quality Indicators

Version: 1  Date: 6 May 2009

Reviewer: Antje Tannen

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Major Compulsory Revisions

1. An overall goal of the study is not clearly stated. Also clear and explicit research questions are missing.

2. Please justify the need for and the practical value of a new list of adjusted quality indicators.

3. There is no (well-grounded) definition of “quality of care in Nursing homes”. The list of QIs could also be used for describing the health of the residents (which is not necessarily a consequence of nursing interventions).

4. The list of 79 QIs mainly obtains resident’s conditions (often unclear if diagnose or outcome), also changes in conditions (which could be interpret as outcome, but without linkages to nursing interventions) as well as obtained aids like “new indwelling catheter” or “feeding tube” (with no information if this is appropriate/ indicated). So it is not comprehensible how these conditions reflect care quality. (e.g. a high rate of residents who are bladder or bowel incontinent?). Is there any evidence that all theses indicators are preventable or capable of being influenced by nursing activities?

5. The reader gets no information about the risk adjustment for each QI. Please describe more detailed the direction and evidence for the underlying associations between the covariates and the QIs. (Some covariates are also QIs.)

6. Why is “resident is comatose” an exclusion criteria to judge the care quality e.g. preventing pressure ulcers? Please explain how the list of exclusion criteria was developed.

7. Please describe the data quality. How complete were the data of the medical charts? How correct were these data? Who made the documentation (qualification? Competence in using scales? How long/ how well do they know the residents?) How was the data quality checked? If scales/ instruments (e.g. pain scale, RUG-III, PSI, depression rating scale, etc.) were used: how were their psychometric properties (references)? How were the data of the medical charts collected (observation, asking the resident/ relative, measurement, etc.)

8. Assessment of reliability of the new QIs: stability of the condition between the measurements is a requirement before calculating the reliability. How was this controlled? What about the reliability of the other QIs?

9. Assessment of validity: Please describe the validation elements and the expert clinical panel review.
10. The multiple correlation coefficient determines the level of validity. Please name references for building the three levels. Why are there different coefficients depending on the model?

-Minor Essential Revisions

1. Please figure out the single strata of the 5 stratification factors. How were these strata built/ tested? (content and statistic!)
2. Figure 3: No labeling/ marking of x- nor y-axis.
3. Some references seem quite old.
4. May be you can make a table that compares the characteristics of the validation sample with the reference sample.
5. Some phrases in the results section could better be placed in the discussion section. (pages 14-15)
6. Please explain “...the absence of validity evidence in this study does not indict a QI is invalid.” (page 15)
7. Please name clearer the limits of the study (see major comments 1-10) in the discussion section.

1. Is the question posed by the authors well defined?
No (see major comments 1 and 2)

2. Are the methods appropriate and well described?
No (see major comments 6, 8-10)

3. Are the data sound?
No (see major comment 7)

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
Could be improved.

5. Are the discussion and conclusions well balanced and adequately supported by the data?
Could be extended.

6. Are limitations of the work clearly stated?
No (See minor comment 7)

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
Yes.

8. Do the title and abstract accurately convey what has been found?
Title ok. Abstract too short (especially: method and results)

9. Is the writing acceptable?
Not judgeable by a non-english-speaker