Reviewer’s report

Title: Temporal and Geographic variation in the validity and internal consistency of the Nursing Home Resident Assessment Minimum Data Set 2.0

Version: 1 Date: 8 November 2010

Reviewer: Richard N. Jones

Reviewer’s report:

This is an excellent, rigorous, well-written paper that is extremely informative and helpful to researchers using MDS data. It is timely to publish this comprehensive and exhaustive review of the MDS2.0 as the field is about to embark upon a journey into unknown and untested waters with the issuance of MDS 3.0.

(Discretionary Revisions)

1. That said, I thought one point raised and quickly dispatched by the authors could use more discussion. Specifically on page 16 when it is noted that "As noted, the MDS was designed to document and guide a uniform resident assessment process for the purpose of developing a care plan.[1] As such, the data should guide individual clinical decisions. Clearly the MDS doesn’t do that since the data are not updated in real time, rather only once a quarter to represent a snapshot in time of the resident’s condition." Given that the MDS was intended to inform resident-level care planning, but that use is not likely due to the timeliness of the data and, I would argue the insufficient reliability to support individual level decisions (Nunnally JC, Bernstein IH. Psychometric Theory. 3rd ed. New York: McGraw-Hill College Division; 1994) are there implications for the long-term use of the MDS? Since the potential utility of the MDS is more constrained (a means for structuring payment, tracking quality, and as a health services research data source) is it reasonable to expect that facilities continue to be responsible for completing the MDS? Is the current schedule of repeated assessments warranted? Is the scope of data collection from individual residents justified?

2. Why just report the PPV? I would be interested in seeing the base rate in both samples and the PPV and the NPV. Perhaps these and the other ancillary documents could be posted on-line with the BMC publication.

Minor points (Minor Essential Revisions)

1. On page 17 the authors write of quality indicators that "Such aggregated measures can tolerate a certain level of error particularly since the quality measures being used are not highly correlated.[46]" I’m not clear as why this follows that. Can the authors explain? Why does the low correlation among quality indicators excuse the presence of error in quality measures?

2. Please report the threshold used for the CPS (Table 4, Table 5). It seems to
be identified as the median? What was the median? Why not a rationally chosen cut?

3. I'm confused by Table 5. Maybe the title should be: Standardized Alpha Multi-Item Scale Reliability and Internal Consistency Stratified by Median Activities of Daily Living AND COGNITIVE PERFORMANCE SCALE score? To be most informative the table might include a note that CPS-high and ADL-high groups have the most cognitive and functional impairment.

**Level of interest:** An article of outstanding merit and interest in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.