Reviewer's report

Title: The interRAI Acute Care instrument incorporated in an eHealth system for standardized and web-based geriatric assessment: strengths, weaknesses, opportunities and threats in the acute hospital setting

Version: 1 Date: 4 May 2013

Reviewer: Jeff Poss

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In general, this is an interesting project report that describes an evaluation of a novel pilot implementation of an integrated assessment, focusing on hospital geriatric units. My two chief issues with this draft is i) the lack of separation between the assessment implementation and its utility as a source of information to be exchanged with other clinical settings, and ii) the choice of SWOT analysis as the organizing approach of collecting the findings.

Major compulsory revisions

1. You need to describe the target population – for example, on page 6 you say ‘map a geriatric patient in the hospital’ – was there an age threshold, or were patients on these units based on clinical presentation or some other criteria? Were some patients too ill or unstable to be assessed, and if so how many?

2. I have trouble with the SWOT analysis being put forward as a ‘method’, when in fact it’s more of a structure in which to place findings after the fact. What I see here is a year-long pilot that generated evaluative findings as a result of questionnaires, focus groups, and semi-structured interviews – these are the methods. The SWOT structure would be better applied in a summary discussion section. However, as the paper is written, it’s not clear if the SWOT analysis really represents the results, or whether it’s the authors’ discussion of the results.

3. It’s unclear to me how nVivo was used. You need to be more explicit, for example its use for identification of themes. It’s not clear for many points under the SWOT section which come directly from the evaluation comments, and which are the experience of the authors in conducting this pilot.

4. P9: that ‘Separate SWOT analyses were generated for the interRAI AC instrument and for the BelRAI-software, respectively’ – if in fact this was done I do not see it reported separately, and I was confused by the organization of the results, expecting this.

Minor essential revisions

1. P5: CGA – would normally be an abbreviation for ‘comprehensive geriatric assessment’, but you introduce it as ‘comprehensive assessment instruments’ – you need to be consistent with the acronym or the thing to which it refers.

2. In figure 1, and in the text (page 7) the term ‘exchange’ is used, however the arrows only flow out from AC – an exchange suggests a 2-way movement. Was it...
an exchange, and if so please show it as such in the diagram.

3. It would be helpful in the introduction to talk about the degree of item correspondence between the AC and the other RAI instruments, for example of the 98 how many map directly to HC and LTCF, and of the HC and LTCF items, the proportion that map to AC.

4. Ethics: you state that participants provided consent – I don’t see in the results where you report on anyone not consenting, or dropping out. Please add something about this.

5. It’s not clear what function SPSS was used for – apart from figure 2 which could have been done with a spreadsheet program, I did not find much quantitative material.

6. Page 9: completing the assessment – not always possible – can you give a summary of this: of the total, how many had complete pre-morbid, admit, re-assess, and discharge assessments?

7. Page 10: exchange – would be helpful if the methods described this process more fully, as it’s hard to interpret what the numbers here mean. Some of the questions raised in my mind:
   a. How do the sites, whether hospital or home care or residential care ‘receive’ the assessments from another site, i.e., are they requested by the receiver, are they ordered by the sender, are they available on request and if so who requests them? Were there situations where it was available but it went unrequested?
   b. Only 4 assessments were received from home care; out of how many who were home care recipients prior to hospital admission, and of these how many had an HC assessment, and if so, how recent was it? Some context would be helpful here for many of the numbers reported in this section.
   c. For residential care where assessments are repeated quarterly, did the hospital always get the most recent assessment, or was there a history?
   d. Did only those items from HC or LTCF that correspond with the AC assessment items get transferred and/or displayed for use? What about the additional items that have no equivalent in the AC, such as informal care from the HC?

8. I expected to find more description of any technical or operational challenges, for example what to do with incomplete assessments, would they be eligible for transmission? What about detecting logical errors, such as non-agreeing birthdates or sex values? Or perhaps opportunities for clinical insight, such as differentiating CAPs that were newly triggered on the AC versus those already triggered in the previous setting.

Discretionary revisions

1. P5: the second paragraph begins with an assertion about first and third generation CGA, but you have not yet introduced what you mean by this – consider restructuring this section such that you introduce the concept of first, second, and third generation CGA, and then talk about the specifics related to this work.
2. The same paragraph, consider adding an example of a first, second, or third generation instrument, and tie this to the limitations of both comparisons of measurement, and also of transfer between settings. I believe you need to establish the nature of consistent, valid, and standardized measurement, and then bridge this to electronic transfer. The strength of the interRAI suite is that important things like physical dependency or incontinence are scored the same way – please make this point stronger, possibly using an example.

3. Throughout the paper, and especially early on as early as the bottom of page 5, there is an emphasis on the BelRAI-software as a ‘platform’ – I think the paper would read better if the authors were to more clearly separate the functionality of software used with any assessment system like RAI, and the more advanced features like security and data transfer with multiple instruments and settings. The function of capturing assessment information and producing an assessment report (with scale values, summaries, CAPs, etc.), and saving this information consistently and securely is not a novel or interesting thing. The novel contribution as I see it is around moving data from setting to setting, capitalizing on the standardized items of the RAI suite, and giving a picture of recent health status using a language already understood. In this paper there is too much attention to the assessment capture and challenges that go with that in a hospital setting, and not enough substantive detail about the other. For example, in the steps described on page 7, the first 4 are not unique to this implementation; only step 5 (with little description to support it) is of great interest.

4. Use of the word ‘moment’ as in ‘after each assessment moment’ – consider leaving this word out, or consider ‘date’ or ‘completion’

5. Page 7: ‘complexity of the BelRAI-process’ – it isn’t clear at this point what this complexity is composed of – is it in learning/mastering the assessment itself, the software, the security and privacy protocols? Would be helpful to give some idea of the emphasis in the 3 day training, and how much of it would be necessary for any RAI implementation.

6. The paper would read better, in my view, if some of the details that are included in the SWOT sections were broken out and brought forward into either the introduction or the methods. For example, the description of the security of Belgian E-health and BELRAI secure access (P12) could be placed earlier, and then the results could focus more clearly on what aspects the qualitative data (or however this was determined, it’s not clear to me) found to be strengths.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**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