Reviewer's report

Title: Building a house on shifting sand: methodological considerations when evaluating the implementation and adoption of national electronic health record systems

Version: 2 Date: 16 January 2012

Reviewer: Chris Showell

Reviewer's report:

A. Major Compulsory Revisions

A1. None identified

B. Minor Essential Revisions

B2. Referencing needs attention. Please refer to the journal’s house style for citations (http://www.biomedcentral.com/bmchealthservres/authors/instructions/researcharticle#formatting-references), and make sure that your referencing complies.

Some examples are given below, but this is not a comprehensive list.

* Place a colon (:) after the author names
* Do not use single quotes (‘..’) around the title
* Titles should be in sentence case (see refs 32, 59 for example)
* Reference 32 should probably be formatted as “Article in conference proceedings”
* Do not use “&” or “and” in the list of authors (see refs 11, 14, 16, 19, 20, 25, 45 and so on)
* List all authors, rather than truncating with “et al” (see refs 6, 8, 13, 18, 27 and so on)
* Are ref 63 and ref 70 the same paper?
* Check reference titles. For example, you have used “fails” instead of “fail” in ref 30
* Provide correct in text referencing for the White Paper (political dimensions, para2 line3
* Be sure to use the preferred citation format for published reports (such as references 36, 48, 49, 50, and 63). I was unable to identify the appropriate format from the website – please check with the publisher.
B3. The paper includes a number of words which this reviewer considers to be incorrect or inappropriate:

* Introduction, para3 line9: “discreet” should be “discrete”
* The initial design, para5 line1 “arriving” – “which arrived” would be better
* The initial design, para6 line9: “etc” - what does this include? If there are other items in the list, let us see them.
* Translating the NHS CRS, para3 line3: ‘loosing’ should be ‘losing’
* Political dimensions para1 line7 – ‘LSP’ should be ‘LSPs’
* Ontological lessons para1 last line; Should “…are undergoing…” be “…were undergoing…”?
* Epistemological lessons para1 line5: NHS CRS should be NHS CRSs
* Building the house para1 line1 should start “Any evaluations … ARE likely” or “Any evaluation … is likely”
* Building the house para2 line6 “…as HAVE other authors…”
* Building the house para3 line8 – should be “renderED”
* Conclusions para5 line11: “though” should be “although”

B4. Curious sentence structure is used in a number of places:

* Introduction, para4 – “Indeed, appropriate methods for undertaking such evaluations remains a contested issue [29,30].” Do you mean “…choice of appropriate methods…”
* Political dimensions para3 line1-2: place dashes or brackets around the sub-clause “often it was what they wanted to talk about most [40]”
* Building the house para4 line1 - Do you mean “THOSE IN the mainstream…”
* Building the house para10 starts “Second…” but there does not appear to be a “First…” in preceding paragraphs

B5. Please check that terminology is used consistently throughout the paper:

* Should it be EHR singular (eg EHR – The initial design para6 line 11) or plural (eg EHRs - ). I think you mean “EHRs”
* Is it “trusts” (eg Translating the NHS CRS para2 line4, ) or “Trusts” (eg Geographical and institutional distribution para1 line4)
* The correct word is probably “interpretive”, but you’ve used “interpretative” in para ...

B6. Please introduce a consistent nomenclature for NPfIT at first use, and stay with it. You variously refer to:

* “National Programme for Information Technology” (Background to the English EHR, para1),
* “National Programme” (The initial design, para1),
B7. The authors should reconsider the phraseology used. The paper includes a number of specialised, non-standard and informal terms (including word inversions). Relevant examples are listed below:

* The initial design of the NHS CRS evaluation study
  - para3 line3: ‘epidemiological discourse’ – not sure what meaning you intend in this context
  - para6 line2: ‘meaningful use’ is a loaded phrase with ‘special meanings’, particularly in a US context. What precisely do you mean by it here?
  - para6 line2: ‘…sites identified detailed study…’ should be ‘…sites identified FOR detailed study…’
  - para6 line6: ‘explored directly’ – ‘directly explored’ would be better

* Translating the NHS CRS
  - para1 line6: include “or” in the list – ie “non-adoption or even dis-adoption”
  - para1 line16: ‘a touch of 20:20 hindsight’ – clichéd buzzwords; could be better expressed
  - para2 line9: ‘had already’ – ‘already had’ would be better

* Methodological reflexivity
  - para1 line3: ‘protean nature’ – not a common term; in what sense was the NHS CRS ‘protean’?
  - para1 line12: ‘performative view’ – is this term too specialised for a general HSR audience?
  - para1 line14: ‘sociotechnically framed and performative…ontology’. This is quite a dense and complex concept for a non-specialised audience. You might wish to rephrase, or to elucidate.

* Methodological lessons
  - para1 line2: ‘co-constitutive’ – is this term too specialised for a general HSR audience? (I’m not sure what you mean by the term in this context)
  - para1 line6: ‘dwelling into’ – is this term too esoteric for a general HSR audience? (I’m not sure what you mean by the term in this context)

* Building the house
  - para3 line7: ‘the researchers embodied the criteria’ – not sure of your intended meaning here
  - para3 line2: ‘salience’ is a curious word – would ‘relevance’ be better?
  - para6 last sentence: please check the structure of the list in this sentence.
Conclusions para3line3: “sedimented and stratified dynamics” – is this too esoteric for a general HSR audience? (I’m not sure what you mean in this context)

B8. You state that “Most EHR evaluations draw upon a broadly positivist ontology...” (Introduction, para2). While I don’t necessarily disagree, you provide no evidence for this assertion.

C. Discretionary Revisions

C9. While the paper could be published following the minor revisions which have been suggested, the flow and readability could be improved with a judicious re-writing, making a much stronger paper. You may wish to address these issues in a re-drafted version of the paper.

C10. This paper provides an interesting approach to understanding the tensions between positivist ‘before – after’ evaluations and interpretive case studies. While the paper does touch on the theoretical considerations which underpin this divide, I would have welcomed a more thorough exploration of those theoretical issues.

C12. The differences between the two approaches are framed in the context of problems which arose during the evaluation of England’s national EHR. The authors suggest that the sheer size of this undertaking has a causal effect in making positive approaches in appropriate, but without offering clear evidence or exploring the relationship further. It may be that the tension is also present in smaller implementations (see Greenhalgh, T., Russell, J., Ashcroft, R. E., & Parsons, W. (2011). Why National eHealth Programs Need Dead Philosophers: Wittgensteinian Reflections on Policymakers’ Reluctance to Learn from History. The Milbank Quarterly, 89(4), 533-563.)

C13. I was left with an unanswered question - was the problem situation described here just the result of a mismatch between the timeframe of the implementation and the period allocated (inflexibly) for the evaluation? Would have a conventional approach to evaluation have been appropriate over a longer interval, one that covered a true “pre – during – post” timeframe?

C14. Was there also a political dimension to the evaluation process (Political dimension para3)? It may have been the case that an evaluation using the original model would have produced results which were politically unpalatable.

C15. The intended audience was not immediately clear. Is the paper intended for the small community of sociologists, informaticians and evaluators who already have some familiarity with the background, issues and theoretical underpinnings of this discourse, or for the wider health services research community who struggle to understand why large projects often fail to deliver.

I would suggest that the latter, wider group would be a better target. However,
some revision might be required to make the arguments more accessible for them.

**Level of interest:** An article of importance in its field

**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:**

During 2010 and 2011 I was engaged by iSoft Australia as a consultant/contractor to assist with a tender response; I have no continuing business relationship with iSoft.

As iSoft is a software and services supplier to the NHS, this relationship may be seen as a potential conflict of interest.

However, I do not believe that this past contracting work represents a conflict of interest for me in relation to the paper under review.