Author's response to reviews

Title: A Draft Framework for Measuring Progress towards the Development of a National Healthcare Information Infrastructure

Authors:

Dean F. Sittig (dean.f.sittig@kp.org)
Richard N Shiffman (richard.shiffman@yale.edu)
Kevin Leonard (k.leonard@utoronto.ca)
Charles Friedman (friedmc1@mail.nlm.nih.gov)
Barbara Rudolph (brudolph@leapfroggroup.org)
George Hripcsak (hripcsak@columbia.edu)
Laura L Adams (ladams@riqi.org)
Lawrence C Kleinman (lkleinma@NEMOURS.ORG)
Rainu Kaushal (RKAUSHAL@PARTNERS.ORG)

Version: 3 Date: 8 April 2005

Author's response to reviews: see over
Date: 25 March, 2005
To: Editor, Medical Informatics & Decision Making
From: Dean F. Sittig, Ph.D. for the authors
Re: A Draft Framework for Measuring Progress towards the Development of a National Healthcare Information Infrastructure

Thank you for taking the time to review our work. We were particularly pleased with the comments of Reviewer 1!

In regards to Reviewer 2:

1. The development, implementation and monitoring of interoperability standards is critical and should be an integral component of the evaluation framework. It could have a role as another axis or as a compulsory starting point for the axes.
We agree. We modified the manuscript to include the following:
Likewise, we believe that similar qualitative studies should be conducted on the state of clinical and administrative information exchange standards and on the “values” of potential users of these systems.

2. Especially in the formative evaluation phase, there is a role for qualitative evaluation methodology such as interviews, focus groups and observational studies.
We agree. The (revised)section on page 12 (listed below) addresses this point. An in depth description of qualitative research techniques that might be used to address these questions seems beyond the scope of the paper, however.
In addition to the measurements associated with elements of the conceptual model described earlier, we also believe that our measurements of NHII progress should include qualitative reviews of the current state of the art with regard to the legislation that is in place, or impending. Likewise, we believe that similar qualitative studies should be conducted on the state of clinical and administrative information exchange standards and on the “values” of potential users of these systems. While these qualitative estimates of progress will not be as easy to interpret, they provide at least a glimpse of the progress that the nation is making in these critical arenas.

3. Change management (education, professional development, capacity building) is a critical dimension of progress which needs to be measured.

We agree with this statement, but are not sure how any of these concepts can be measured in a reliable manner. For example, with education, do we measure number of schools offering courses, students trained, HIMSS certified professionals, etc. Any of these measures would leave out the current largest group…on the job trained MD’s. We believe this paper is about possibilities not specifics and have therefore chosen not to address this comment.

In regards to Reviewer 3, we have made the following changes:
1. Abstract: “...(NHII) that does not currently exist” should be changed to “...(NHII) that is incomplete” or “…(NHII) that is in the early stages of development.”
We have made the following change:
This will require a National Healthcare Information Infrastructure (NHII) that is far more complete than the one that is currently in its formative stage of development.

1
2. page 4, first paragraph, “…we will be forced to accept less precision in our measurements” should be changed to “…we will likely need to accept less precision in our measurements.”

Changed to: …we will likely be forced to accept less precision in our measurements.

3. (p. 9), “the percentage of patients in a region who have health data available through the RHIO” is a proposed category of measurement. The final phrase “through the RHIO” is superfluous.

We agree and have changed it to: What is the coverage, or percentage, of patients in a region who have their health data available in an electronic format to qualified personnel? As our measurement techniques become more sophisticated, we also hope to be able to measure, or at least estimate, the “completeness” of each patient’s health record, although at the present time the definition of a “complete” electronic medical record is still not precisely defined.

4. “We define a cluster as two or more nodes that have an existing written data sharing agreement, …” (p.5). Wouldn’t it be better to also require that data actually be shared?

Yes. We have made the following revision: We define a cluster as two or more nodes that have a) an existing written data sharing agreement and b) sent (or received) patient-identifiable information to (or from) any other node in the cluster—either directly or through an intermediary.

5. typo on page 14, 5th line from the bottom: […] within the next 10 years”). The closed quote does not have a matching open quote and should be deleted.

Done.

6. typo on page 7, 7th line from the bottom: [.] The comma should be deleted.

Done.

7. The authors recommend HHS funding of an impartial expert group to create clear and consistent definitions of the NHII, but suggest that this group be led by a recognized leader in clinical information systems measurement and evaluation appointed by HHS. This seems contradictory.

We agree and have revised this section to read:

We recommend that the United States department of Health and Human Services (HHS) convene and co-sponsor an impartial, public-private partnership group, such as an Institute of Medicine (IOM) committee, to create clear and consistent definitions of the components of the NHII (e.g., RHIO, EHR, CPOE) as a basis for the further refinement of specific metrics. This group should be lead by a recognized leader in the field of clinical information systems measurement and evaluation.

1 On September 1, 2004, the American Health Information Management Association, Healthcare Information and Management Systems Society, and The National Alliance for Health Information Technology announced the formation of a Certification Commission for Healthcare Information Technology. Their charge is to create an efficient, impartial and trusted mechanism for certifying ambulatory electronic health records and other healthcare information technology (IT) products. It is possible that an EHR “completeness” measure could formulated from their recommendations.

2 An intermediary in this case serves as a hub through which others share information. The process is more than a single claims submission transaction, users must also be able to retrieve, or at least view information from others.
8. It would be helpful if the authors could expand a bit on the goals and assumptions behind their recommendations, and discuss the pros and cons of several alternative organizational structures that might accomplish their objectives. The Connecting for Health group from the Markle Foundation has recommended a “Standards and Policy Entity” that would be a public-private partnership. Is the organization proposed by the authors separate? Could the measurement function be added to the duties of the organization suggested by Markle? A more complete analysis of alternatives would inform further discussion of this issue and therefore be helpful to policymakers. What next?

We believe such an expansion is beyond our capabilities at this time. This paper simply reports on what we have accomplished so far. This work has not yet been accomplished and would require a significant additional investment in time and energy, which we do not believe is possible at this point in time.

Thank you again for your timely and thoughtful review of our paper.

We look forward to your review of this revision as well.

Dean F. Sittig….for the rest of the co-authors.