Reviewer's report

**Title:** The Quality Case for Information Technology in Healthcare

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**Version:** 1  **Date:** 5 Oct 2002

**Reviewer:** Dr Gordon D Schiff

**Level of interest:** A paper of considerable general medical or scientific interest

**Advice on publication:** Accept after discretionary revisions

Excellent overall summary of the state-of-the-art from one of the leaders in the field of medical informatics and electronic improvement strategies. A very basic, yet wise and fairly all-encompassing review of the current issues and potential in this field. The document would be useful to both the relatively uninitiated as well as helpful re-formulation for more experienced informatics academicians and clinicians. Has a well grounded emphasis and orientation in quality improvement impacts of advanced information technology. Good up-to-date references.

No areas of major disagreement about (relatively underdeveloped) the state of information technology in medicine, or the ways that the author formulates and explicates the problem. Thus I offer comments below more as minor suggestions and additional emphasis that might add to the paper's purview, even though it stands well as is.

-Much of the paper is an aerial photograph of the landscape of the status of implementation of information technology. What is lacks is close up details of precisely where US health care institutions are "at" with "IT." This is partly understandable given a) that this is a moving target, b)paucity of data in the peer-reviewed literature describing how far along various institutions are, and c) wide variations in progress across institutions. Nonetheless, this means reader must settle for generalities rather than specifics, to both understand current situation or gauge forward implementation progress of the functionalities the author identifies.

-Tends to discuss problems in isolation from other problems that are related and impacting on the IT scene. In particular problems related to our current financing mechanisms that contribute to discontinuity of care and data (beyond lack of identifier, and perverse reimbursement incentives that reward MRI purchase but not IT investments)--financial arrangements which in turn compound distrust/data-sharing and higher leverage/level collaborations.

-A comment related to above two points. We have a public health care system whose IT accomplishment warrant mention along with institutions cited in the paper and is perhaps a model for some of the integration described--VAH system.

-A real strength of the paper is delineation of the vital role/need of enhanced information technology for both improving and measuring processes (as opposed to outcome from administrative claims data bases). But next level of depth for clinical information is the clinical documentation function--the rich trail of patients symptoms, clinical findings, physicians' assessment. How the automated record will work to facilitate, enhance, transform both the recording and surveying (for quality improvement and research) is a vast unexplored territory. While obviously a subject for an entire paper, would be
valuable if author offered a few thoughts on this important area.

-Paper is at its weakest in explicating the reasons for the slow progress. Again some of the underemphasized policy forces at work--dysfunctional vendor behaviors (beyond just proprietary data formats mentioned by the author), shortsighted planning, and competing standards, arcane and fragmented financing systems. Another major realm is the ways MD's (and other health providers) have not sufficiently been involved (in the extreme resisting) in working on and for electronic records, ordering, feedback, etc. I believe this is an issue on both the local (within institutions and outpatient practices) as well as on a broader level (professional/organizational leadership). I might even add this as a fifth front (along with standards, financial incentives, security/confidentiality, research dearth) as one of the places where more attention/efforts/funding will need to be invested to accelerate progress. Implies not only do docs need to be more intimately involved with implementation, but implementation must speak to more to the day-to-day (hour-to-hour, etc) processes of medical, surgical, pediatric, OB, etc. care.

Competing interests:

No financial or other substantive conflicts
Have co-authored papers with author