Reviewer's report

Title: Underutilization of Information and Knowledge in Everyday Medical Practice: Computer-based Solutions

Version: 2 Date: 19 August 2008

Reviewer: James Cimino

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In general, this is well-written paper that describes what appears to be an effective adjunct to patient history taking. The paper could be improved in the following ways, all of which I consider to be discretionary:

1) Rather than simply point at a single review article on past efforts a patient-centered history taking, it would be nice to know some of the 40+ year history of work in this area and what some of the challenges have been - why hasn't this caught on?

2) In that context, it would be nice to know what the authors did to address the previous shortcomings. There is little about the methods used to solve particular problems. Or was the solution an obvious one to the authors, with as straightforward engineering approach?

3) Has any effort been made to make the terminology "concept oriented"? That is, if some of the 11,000 elements appear in multiple places in the interview, can they be recognized as being synonymous (so that, for example, they could be used by an expert diagnosis system)?

4) Was there any evaluation to assure that what the patient answered was what they really wanted to say? For example, if the patient was asked about chest pain, were the proffered adjectives the ones that the patient found appropriate?

5) Similarly, was there any evaluation to make sure the patient understood the questions? One the advantages of face-to-face interviews is that the patient can be observed for nonverbal cues that might show lack of understanding or misunderstanding.

6) In the recruitment for the study, how many potential subjects declined to participate? Might this have biased the study somehow?

7) Finally, it is worth noting that this is not simply a test of a self-directed history taking program. It is a test of the use of such a program "after" being interviewed by a physician. We cannot know, from the evidence presented, how much if any influence the physician interview might have influenced the patients' use of the system. Additional studies are needed to determine whether the appropriate use of this system is before, after or instead of the physician interview (as well as answering some of the above questions, such as #4 and #5).
Level of interest: An article whose findings are important to those with closely related research interests

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.