Reviewer's report

Title: GPs' decisions on drug treatment for patients with high cholesterol values: A think-aloud study

Version: 1 Date: 21 July 2004

Reviewer: Robert Wigton

Reviewer's report:

General

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

This paper describes the result of analysis of the coding of “think aloud” remarks of 20 GPs recorded as they work through 6 case vignettes and decide whether or not to prescribe drug treatment to reduce cholesterol in each case. The cases are each presented in 6 sequential parts on a computer screen. The “talk aloud” recording is coded into 21 “items of information”, (later reduced to 10 items). The analysis of several of these 10 items are examined, then the case responses are statistically clustered to look for patterns of cue importance.

The methods used are very interesting, but even after 3 readings, I had considerable difficulty understanding the paper and how the results relate to the study questions and the conclusions. I will make a few suggestions that I think would help make the paper more understandable.

First, I think the paper would be improved by clearer, more precise statements of the study questions. They need to be more focused and more closely related to the data analysis. For example on page 2 you state “Our first set of research questions concerned the relative importance of different kinds of information about the patient for the decision to prescribe a drug or not to do so.” This is very non-specific. It almost describes a field of study more than a research question or hypothesis. Further, it is difficult for me to see how the information you collected relates to this question and what conclusion you will be able to draw from it. There needs to be more rigor in defining what the study is about and how your results answer the questions.

The discussion that follows (p5) about disagreement is interesting, but it is not clear how it fits into the paper. Is it part of a research hypothesis? If so, what is the specific question you are asking? Surely not “is there disagreement?” since that has been well demonstrated previously.

In summary, there are a number of interesting research topics discussed in the introduction, but I think the discussion would be aided by refining and precisely defining the research questions.

The second area of revision that I think would help is a better explanation of the results themselves and how they relate to the study questions. For example, you make the interesting observation that physicians’ statements imply that they are using the same variable different ways in different cases. It is not clear to me how you have controlled for the level (value) of the variable in these cases since one would expect different directions of influence if the levels were different. For example the price of a candy bar would exert opposite effects on the decision to buy if the price were high or low. Are you referring to differences in direction across physicians or within. The former is hardly surprising. I’m still not clear on the details of your analysis and how the discussion is supported regarding this question.
I have similar questions about other parts of the methods: e.g., How do you control for the large amount of unmodeled information in the cases? How do you know the cluster analysis is valid and meaningful when the number of participants and cases is small? How do you know some of the difference in directionality wasn’t unimportant because the variable had very little weight in the decision? Are the results of the weight here supported by the results of the CJA study?

My final comment is that the conclusion section doesn’t tell much about how the results are useful either to the medical question or the development of psychological methods. The methods are interesting and novel and you could comment on what you think you have proved about there usefulness. Can you generalize from these results? If so, what are the impediments to generalization and which results to you think are robust?

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

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Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

none