Reviewer’s report

Title: Risk Communication Formats for Low Probability Events: A study of patient preferences

Version: 1 Date: 10 October 2007

Reviewer: Stacey Sheridan

Reviewer’s report:

General

This study describes 29 individuals’ preferences for six risk reduction formats using the analytic hierarchy process (AHP). The study is unique in its application of AHP to risk communication preferences. Additionally, it extends prior work on communicating small risks by using magnifier scales in conjunction with vertical bar graphs and icon displays (instead of with visual analogue scales where they had been previously applied). There are several methodological and/or reporting considerations, however, that limit conclusions from this work.

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

1) The objectives are unclear. On page 5, at the end of the introduction, stated objectives include a) determining the feasibility of using augmented bar charts and icon displays, and b) to compare patient preferences using these formats, flow diagrams, and combination presentations. In the discussion and conclusions, however, the implied objective is to determine the usefulness of AHP as a measurement technique to assess personal preferences. Clarification of the objective is necessary to adequately judge the quality of the article.

2) The study’s small convenience sample is a problem unless the study is framed more clearly as a feasibility study. It is unlikely that described preferences from a sample of 29 individuals would accurately represent preferences in the study’s source population (or be generalizable to a broad population). The lack of detail about the source population and sample characteristics beyond age and gender make it difficult to assess the extent to which this issue might be a problem.

3) Important detail is lacking about measurement. Authors do not present enough detail about their AHP model to allow replication, nor do they present any measures of the feasibility of using various risk reduction formats or using the AHP.

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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)
1) The study overstates its findings by implying in the discussion that preferences are equated with effectiveness. Although authors acknowledge that this isn’t the case in their limitations section, the rest of the discussion implies otherwise. Distinguishing between the effectiveness of risk communication formats and people’s preferences for them is an important issue. People’s preferences for risk communication would be most useful in a setting where risk formats are known to produce equal understanding of the information being presented.

2) More details about the study scenario would be helpful.

3) It would be helpful to know whether the acceptable cutoff for the consistency ratio for AHP was determined a priori or post hoc.

Discretionary Revisions (which the author can choose to ignore)

1) It would be useful to have information about comparisons between vertical bars and icon displays with and without the magnifier scale. This information may not have been collected, but, if it was, would add significantly to our understanding preferences for presentation of small numbers.

2) The additional files that accompany this article are unaccessible at the time of this review and should be reposted.

**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, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.