Author’s response to reviews

Title: A predictive Bayesian approach to risk analysis in health care

Authors:

Terje Aven (terje.aven@uis.no)
Karianne Eidesen (karianne.eidesen@uis.no)

Version: 2 Date: 19 June 2007

Author’s response to reviews: see over
Reviewer #1: General
The article is well written; I searched and could not find any typographical errors.
The rationale and statistical methods for the reported study have described succinctly.

Response. Thanks.

It would be useful to include a real data example of the proposed approach and comparisons made with available Bayesian risk analysis methods.

Reviewer #2: Page 1
(1) A better real example where it is more compelling to use a predictive Bayesian approach, the current example is very simplified.
(2) The discussion is rather broad and philosophical than arranged pointwise in terms of quantitative and application oriented reasoning, a more balanced combination of the two in a focussed manner will be welcome.
(3) Contrast with why posterior inference based on updating with data is not appropriate in such situations in terms of an example.
(4) Offer some solutions to subjectivity of assigning probability rules and robustness. Can one do sensitivity analysis here?
(5) In Bayesian analysis there is distinction between a prior predictive and posterior predictive distribution, I think the distinction is necessary here.

This paper is about fundamentals ideas and principles, and too many technicalities related to a specific case should be avoided. However, we agree that a more “interesting” case would improve the paper, and we have therefore included an example (section 3) which clarifies some of the issues we would like to make, and also showing the difference between the Bayesian approaches.

We have revised the paper according to the reviewers comments, to the extent possible, without conflicting the basic ideas and basis of the paper. See specific comments below. Thanks for many useful comments and suggestions.
Response: (1) An example is included, see comment above for reviewer 1.
(2) A summary of main arguments has been added (in section 4), addressing the two dimensions – theoretical perspective and application.
(3) See the examples. The examples of Section 2 and 3 demonstrate analyses without updating. However, we are not saying that such updating is inappropriate in general, ref. paragraph in Section 4.
(4) Included
(5) We do not see the need for addressing the distinction between prior predictive and posterior predictive distributions.