Reviewer's report

Title: The value of age and medical history for predicting the likelihood of colorectal cancer and adenomas

Version: 1 Date: 7 April 2011

Reviewer: Michael Hoffmeister

Reviewer's report:

In this study from Australia including 8200 participants aged 18 years or older and undergoing colonoscopy in practices or in hospitals for any reason, an attempt was made to predict different grades of colorectal neoplasia from information of a self-administered questionnaire and from medical records. The aim of the study was to find a combination of risk factors that predicts prevalence of cancer, advanced adenomas and other adenomas, respectively, in order to better select people at higher risk and to save resources spent on colonoscopy.

Among the study's strengths are the assessment of information before the date of colonoscopy, the availability of medical records, and the large number of participants. However, from my point of view, there are some major concerns with respect to the informative value of the results.

Major compulsory revisions:

(1) What is the practical relevance of this prediction model? What is the target group? Of course, age is the major risk factor. Is this prediction model eligible for all age groups? The prevalence of most risk factors and the set of risk factors vary with age.

(2) The mixture of subjects with a history of colonoscopy or even with neoplastic findings at previous colonoscopy and subjects with no previous colonoscopy brings in different underlying risks (let alone the risks of those who have colonoscopies or advanced neoplasia before the age of 40 or 50). If the aim is to sort out people in the average-risk population who should be advised to have a colonoscopy, why not focus e.g. on people with no previous colonoscopy? The target group should be defined more clearly.

(3) How do people have a positive history of polyps although no previous colonoscopy was performed so that we know?

Minor Essential Revisions:

(4) Table 4 can be omitted. In my opinion, it doesn't add to the major result of this study and an appropriate discussion would distract from the major findings, as this table is not easy to comprehend.

(5) The conclusions are poor and include an introductory part (first 2 sentences) that can be omitted. Please provide a more focussed discussion and
conclusions. Who will be assisted by your models, and what is the rationale for recommending colonoscopy on the basis of your models?

**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.