Reviewer's report

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

Version: 1 Date: 13 January 2011

Reviewer: William Hamilton

Reviewer's report:

Thank you for asking me to referee this paper. I can confirm I know the subject, and that I have no conflicts of interest.

Summary

This paper describes a large cohort of patients referred for colonoscopy in an Australian centre. It seeks to identify a scoring system (derived from a multivariable model) to predict cancer or polyps. The results are presented as ROC curves, and the researchers conclude their scoring system can identify people to be triaged for colonoscopy.

Although the overall paper is of some interest, it has several drawbacks.

First, the cohort is extremely disparate; it was anyone over 18 referred for colonoscopy. So these may have been screening colonoscopies, suspected cancer, follow-ups. This means two things: the results only pertain to such a heterogeneous group of patients, and that they cannot be used as a selection method for referral for colonoscopy. The authors don’t suggest the latter, but unless they make explicit in their title that the study is in the referred population a reader could easily be misled. MAJOR

Second, if the aim of the paper was to create a method of triage, then the logical outcome variable for study would be ‘condition worth identifying by colonoscopy’ as a binary variable. Their multinomial regressions (which are quite pretty) are actually too sophisticated! RECOMMENDED

Third, other scoring systems are omitted. The SELVA score aims to do precisely the same thing. Its creation was published in the Lancet and its validation in Wales was published this year. I can find the reference if the authors cannot. MAJOR

Fourth, at least one ROC curve should be shown. The key need is for a steep left side with very low sensitivity and very high specificity – these are the patients who may be able to avoid colonoscopy completely. I simply don’t think their table 4 results are workable in clinical practice. Medico-legally a patient referred for colonoscopy who is not offered the service but who harbours cancer will cost the service much more than the savings generated by triage. MAJOR

Fifth, The conclusion that FH and symptoms are poor predictors of cancer is only
true in the referred population, and even in them most studies find rectal bleeding a positive predictor. RECOMMENDED

Finally, have the editors examined the previous publications from this cohort? How different is this one?

**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