Reviewer’s report

**Title:** Statin use and association with colorectal cancer survival and risk: case control study with prescription data linkage

**Version:** 1  **Date:** 12 February 2012

**Reviewer:** Matthew Katz

**Reviewer’s report:**

The authors present their analysis of an interesting topic of emerging interest – the potential for statins to have anti-neoplastic effects in vivo rather than just in vitro.

**Major Compulsory Revisions**

The question asked by the authors needs to be framed more precisely. While there are in vitro data regarding molecular mechanisms, in the introduction it may be advisable to reference the key concepts and focus more upon the relevant epidemiology data to which the current study may be compared. The molecular mechanisms, while interesting, are better left for the discussion section.

This population-based cohort study evaluated the potential association of statin use with colorectal mortality although endpoint are not clearly stated. It is unclear whether ‘risk’ means endpoints of incidence, and there is no description of defined endpoints in the methods section. Also, it would be best to present them similarly in the methods and results – incidence, then mortality.

Some other areas of the methods need to be more precise. With AJCC stage, 6th or 7th? Also, the rationale for using four definitions of statin use is unclear. Are these variables based upon the limitations of data collection, the authors’ selection or due to other published data?

Some of the data are difficult to review in PDF but seem reasonable. However, the results are not presented correctly in the abstract (does all cause mortality OR 0.49 really have – 95% CI -0.49 – 1.36? ).

The discussion already incorporates much of the material in the introduction. However, one area worthy of comment is the data in Table 4. The only statistically significant association for statin use with the studied endpoints was that of statin use on one prescription within 2 months. But it was not significant at seven months or when evaluating subjects with statin use for two prescriptions. How do the authors explain these findings? Do the data support the null hypothesis?

On p.16, the final paragraph should come before the prior. It is reasonable to consider pooling RCTs for analysis, that is to suggest a potential direction for future research before the conclusion. Further, given the negative findings of this
study it does not seem necessary for the authors to comment on further in the abstract.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I have no conflicts of interest, financial, intellectual property or otherwise.