Reviewer's report

Title: Incidence of pelvic inflammatory disease in a large cohort of women tested for Chlamydia trachomatis: a historical follow-up study

Version: 2 Date: 27 May 2009

Reviewer: Carl J Lombard

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The researchers are fortunate that they have access to such an extensive set of data repositories which can be meaningfully linked.

The basis of the time to event analysis is fine and the use of a chlamydia infection as a time-dependent risk factor is correct. In Table 2 an adjusted analysis is presented with adjustment for age at first test. This is correct since age can be a confounder. However the age at first test does not account for all the influence of the period of testing as depicted in Table 1 from 1990-2005. The information in Table 1 reflects some of the period dynamics - 52% of the tests done in 1990-93 was first tests compared to 22% in 2004-2005. In the discussion the authors also state the changes in testing technology over time. In view of this the time to event analysis should also be adjusted for a calendar year at first entry effect. Whether this is done using calendar year or the groupings used in Table 1 will have to be assessed by the authors.

The descriptive information over the time is limited to Table 1. It would be useful if the mean age of the first testees could be given for each of the year groups. This could even be done for the group as a whole and for the women who tests positive at their first test. The number of pelvic disease case could also be presented for each of the age band cohorts over time. For example the 6761 women with a first test in 1990-93 would have some disease events within the same period or across the remaining periods.

Why are the 16 years of the follow-up period presented in 5 periods of different time lengths?

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

'I declare that I have no competing interests'