Reviewer's report

Title: Hepatitis C prevalence in Denmark - a capture-recapture estimate based on multiple national registers

Version: 2 Date: 11 May 2012

Reviewer: Ruth King

Reviewer's report:

Minor essential revisions

1. p10 “this rose from 9,166 to 16,907 (95% CI 16,551-18,216)” and previous reviewer comment 4(c). The author response reports a different estimate of 16888 and 95% CI of (16231, 18543) – but the manuscript itself has not been updated. In addition, the calculation of this new CI, as identified by the authors is not correct, and despite there being little uncertainty in the Binomial estimate, this cannot be used to justify using a wrong approach. An alternative (and statistically acceptable) approach would be to calculate a Monte Carlo estimate. This is fairly straightforward to do given that the CI for the total population itself is obtained via a bootstrap approach. For each bootstrap replicate of the total population estimate, divide this by a random variable simulated from a Binomial(9463, 5136/9463) distribution. A 95% CI can then be estimate as the 2.5% and 97.5% quantiles of these values – correctly accounting for uncertainty in total population estimate and Binomial proportion. (Note that as only 1000 bootstrap replicates are used, to improve Monte Carlo error, it may be worth considering simulated x Binomial replicates for each bootstrap replicate).

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:

Note that I collaborate with one of the authors (Hay) in other academic publications - however I do not see this as a competing interest.