Reviewer’s report

Title: Older HIV-infected individuals present late and have a higher mortality: a UK cohort study

Version: 2 Date: 26 January 2013

Reviewer: Margaret May

Reviewer’s report:

This paper looks at trends over time in late presentation of patients with HIV to a hospital clinic in Brighton over 14 years. The data are interesting and informative for local HIV testing policies. They are also interesting for comparative studies in different settings. This is a very important issue because, as the authors show, late presentation is associated with much higher mortality. This is particularly high in the first year of presentation when most deaths are due to AIDS. A recent COHERE study looking across Europe found 8-fold increase in first year mortality. Late presentation, as well as impacting individual health, also impacts NHS costs due to increased hospitalisations and public health due to onward transmission of the virus in those not treated with ART and virally suppressed.

In general, the paper is clearly written and the statistics appropriate. I have a few comments for the authors to consider:

Major compulsory revisions

1. In the abstract it says “factors associated with late diagnosis were African ethnicity, heterosexual transmission risk and male gender” but in results it says “late presentation was also associated with female sex” – this appears to be inconsistent, but looking at table 1 the univariable and multivariable associations of sex are in opposite directions, although this is not referred to explicitly or discussed. I think this is partially due to homosexual/bisexual being male. I suggest that instead of having sex and risk as separate groups you define risk/sex groups as follows: MSM, female het, male het, female other, male other.

2. Were excluded patients (eg without CD4) similar to included ones with respect to sex, age and risk? Please give comparison of excluded with included in terms of basic demographics and comment on how this might bias results

Minor essential revisions

1. Give name of cohort/clinic in title and first line of methods ie say it is Brighton and Sussex cohort and describe clinic setting.

2. Sex and gender are used interchangeably – use sex consistently.

Discretionary revisions

1. A weakness of the study is that it does not take account of background mortality being higher in older persons. This could be adjusted for using relative
survival methods in stata. The authors do acknowledge this shortcoming in the discussion.

2. Were “other” ethnicity genuinely “other” eg Asian or mixed race or were they missing ethnicity?

3. What proportion of patients presented with AIDS and did this change over time?

4. P7 The trend in MSM late presentation is similar to that found in Denmark (see paper by Marie Hellenberg) which found it was due to more frequent testing by MSM in later years.

5. You found a tripling of mortality comparing late with timely presenters. The figure is many times higher for first year mortality when most of the AIDS deaths occur. Can you estimate this with CI even though nos. Of deaths are very small in those with CD4>350?

6. P11 paragraph on age as prognostic factor – also mention background mortality higher in older people as possible reason

7. The paper, although very interesting, is overly long because it is repetitive – would be better if shortened. Suggestions for shortening: some results in text are just repeating what is in tables; P12 discussion repeats some of introduction eg data from 2011 HPA report; the conclusion reiterates specific results and should be a broader statement of findings and implications.

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

**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