Reviewer's report

Title: A cross-sectional, population-based study measuring comorbidity among people living with HIV in Ontario

Version: 1
Date: 22 November 2013

Reviewer: David Moore

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This is a well written paper on an important topic – the prevalence of co-morbid conditions among HIV infected individuals receiving HIV treatment. As discussed in the introduction, people with HIV are living longer and, if appropriately treated, are much less likely to succumb to classical HIV-related conditions. Consequently, non-HIV related conditions may be becoming a more important group of conditions which can affect the health of people living with HIV. The study makes efficient use of several large administrative databases available in Ontario to examine the burden of these diseases in HIV infected individuals receiving treatment and compare them to controls from the general population without HIV. My only major concern is that the time window in which these the billing codes were examined to assign participants to the disease or non-disease categories and if this differed between the two cohorts.

Abstract:
Concisely relates the contents of the study.

Introduction:
Concise statement of the problem under study

Methods
The inclusion criteria for the HIV cohort are clearly stated. It is not clear to me how participants were determined to be living on April 1, 2009.

By not matching the controls on any factors (including age and sex) it becomes possible to see how these factors differ between the two cohorts.

The chronic diseases under investigation are well described. However, it is unclear to me whether the prevalence estimates include any physician billing claim from 1992 to 2009 or whether a specific time period closer to 2009 was chosen. If the period in which the HIV infected cohort could have had an eligible physician claim was longer, might this offer a partial explanation for the greater burden of co-morbidities in this group?

The statistical analyses are well described.

Results
I would like to see more descriptive information (with numbers and p values) written in the 1st paragraph, rather than just having the reader refer to the text.

Is it possible to report on what proportion of the HIV infected cohort had died by
2009 and also what the duration of follow-up for these individuals was? Tables 2 and 3 could be merged.

Discussion

With regards to the statement “Both men and women with HIV acquired an increasing number of chronic conditions as they aged”. Is this not also true of HIV uninfected individuals?

The authors do discuss how differences in mortality rates between the HIV infected and uninfected populations, can affect estimates of prevalence for comorbid conditions. However, it would be helpful to discuss this in specific reference to the issues raised above – i.e. observation time periods.

If people infected with HIV are from more marginalized populations are more likely to seek care at CHCs wouldn’t we expect that a much larger proportion of HIV-infected individuals access their care through CHCs?

Some discussion of the possible reasons for these differences between HIV infected and uninfected people would be appreciated. Does the literature suggest that these are independent associations with HIV, or do they represent an overabundance of traditional risk factors (smoking, poor diet, sedentary behaviour…) among populations who are also at high risk for HIV infection.

Level of interest: An article of importance in its field

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