Reviewer's report

Title: Estimating the size of the MSM populations for 38 European countries by calculating the survey-surveillance discrepancies (SSD) between self-reported new HIV diagnoses from the European MSM Internet Survey (EMIS) and surveillance-reported HIV diagnoses among MSM in 2009

Version: 7 Date: 11 August 2013

Reviewer: isabelle devaux

Reviewer's report:

I would like to thank the authors for including previous comments.

Major compulsory revisions:

The length of this article makes the reading fastidious. May I suggest the authors to summarize the information one more time, especially when it comes to references to previous published work?

Could the authors describe the information below within the text or in a table but not both?

Table 1 presents the number of EMIS participants per country [column D]; the total number of EMIS participants reporting to have been diagnosed with HIV in 2009 [column E]; the total number of newly diagnosed cases of HIV in 2009 among males as reported to ECDC by 2010 [column F]; the ECDC-reported (as of 2010), and the adjusted (after consultation of national surveillance representatives) number of newly diagnosed HIV infections in 2009 that are assumed to be MSM [columns G+H], the estimated total size of the MSM population based on the formula Npop= HIVpop*Nsvy*SSD/HIVsvy [column K], and the proportion of the total adult male population (M) that would be estimated to be MSM based on this Npop estimate [column L].

I would advise the authors to verify some of the information mentioned in the article with concerned representatives (I could possibly assist in this process):

Are the countries listed below really reporting “zero” HIV diagnosis among MSM in 2009?

For countries reporting zero HIV diagnoses among MSM in 2009 (Estonia) in their surveillance system...we estimated the minimum number of MSM expected to have been diagnosed with HIV in 2009 for an assumed MSM population size of at least 1% (resp. 2% for Estonia – comparable with Latvia and Lithuania - and 3% for Austria – comparable with Germany and Switzerland) given the SSD estimated on the proportion of households with internet access (see Table 1, column I).

Such statement would need to be verified by ECDC HIV contact points in the
respective countries:

However, after risk re-distribution of cases with unknown transmission risk, in Poland and Russia the ratio dropped to a level comparable with other countries. This strongly suggests that surveillance data are unreliable in terms of transmission risk categorization (or number of reported cases) also in Bulgaria, Belarus, Romania, Turkey, and Ukraine.

A list of person is provided at the end of the article for providing national data and study results, and for validating national surveillance data reported to ECDC. Did the authors verify it these persons were the ECDC national HIV surveillance focal points?

**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.