Author's response to reviews

Title: Estimation of the hospital-based HIV seroprevalence as a nationwide scale using a novel method: 2002-2008 in Korea

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Author's response to reviews: see over
Article title: Estimation of the hospital-based HIV seroprevalence as a nationwide scale using a novel method: 2002-2008 in Korea
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We appreciate reviewers for reviewing our manuscript and reviewers critical comments.

We have revised manuscript according to the reviewers request and comment and give responses after questions of reviewers.
Thank you for reviewing our manuscript and your critical comments. We give answers after your questions (blue color)

Reviewer's report:
Discretionary Revisions:
How good is the medical insurance claims system, since all the data is based on this system?

Response: As we mentioned on the lines 14-15 of Page 5, Korean National Health Insurance system covers whole population as a single system. That means, the records about the National Health Insurance include all the information about the insurance claim in a whole territory of Korea.

Line 21 Page 5 How is proportions by year and hospital type used to adjust for non-computerized claims?

Response: The results were summarized on Table 1, and we put the designation of Table 1 into the text. (Line 22 Page 5)

Line 17/18 page 7. It is unclear why the number of HIV-tested individuals was calculated divided by the repeated value. How many individuals had more than one HIV test per year?

Response: The result of our analysis indicates the proportion of the persons who took repeated HIV test within a year (Table 1, 6.9% HIV-tested individuals in University Medical Center in 2008 took at lease tow times). We just tried to use more precise estimation using the number of HIV-tested individuals divided by repeated value.

Line 14/15 Page 8. Why is the highest proportion from university medical centers
followed by general hospital and clinic centers. There should be a line or tow in the discussion addressing this.

Response: As described on Figure 1, the number of insurance claim for HIV tests is comparatively high due to the severe cases (operation, transplantation and severe diseases) in University Medical Center. We added a sentence about this situation into the text (Discussion section Lines 8-11 Page 10).

On page 10 line 12 the authors say that individuals >=60 years of have a higher prevalence due to increased hospitalizations in this age group. This does not make sense unless the individuals are getting infected in the hospital. Perhaps this is due to a societal change where individuals are living longer with HIV and are now reaching the age of 60 years.

Response: We agree. This is a wrong description and I deleted this short sentence.

Level of interest: An article of outstanding merit and interest in its field
Quality of written English: Acceptable
Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.
Declaration of competing interests:
I declare that I have no competing interests.
Reviewer's report

Title: Estimation of the hospital-based HIV seroprevalence as a nationwide scale using a novel method: 2002-2008 in Korea

Version: 2 Date: 26 July 2010
Reviewer: Bernardo Galvao-Castro

Thank you for reviewing our manuscript and your critical comments. We give answers after your questions (blue color)

Reviewer's report:

R- The strategy adopted in the present study could facilitate epidemiological surveillance, enhance national prevention strategies and to stimulate the development of studies in order to better understand the epidemiological profile of HIV infection in South Korea.

However, the authors should state the limitations of the study. Indeed, several studies have identified potential biases in inferring general population HIV prevalence from samples of selected groups such as prenatal clinic users, blood donors and hospital-based studies. Particularly, hospital-based studies are more likely to include a biased selection of patients with severe diseases.


 ⇒ We agree on your suggestion, and appreciate your kind recommendation about the additional references. It was very helpful and we added some of
them to the text of this manuscript.

About the insurance claim data, there could be a selection bias in 2005, 2006 and 2008. We added the description about this possible bias. (Lines 3-4 Page 12).

Methods.

R- Also the authors should clarify the algorithm used for HIV laboratory diagnosis in South Korea since standardization of algorithm as well as of assays could underestimate or overestimate the prevalence. (Hlela C Shepperd S, Khumalo NP, Taylor GP (2009) The Prevalence of Human T-Cell Lymphotropic Virus Type 1 in the General Population is Unknown AIDS Rev. 11:205-14)

Response: Procedure of Korean HIV-confirmation test was simply described in a method section (Lines 12-15 Page 6), and the reference 18 (written by Korean CDC) presents the Korean system for HIV-confirmation test.

Korean system for HIV-confirmation test is shown a following diagram (figure 1):

![HIV diagnosis system in Laboratory in Korea](image_url)

**Figure 1. HIV diagnosis system in Laboratory in Korea**

Primary test institutes are 251 public health centers, 8 blood banks, many
hospitals and clinics. Those institutes use usually ELISA antigen/antibody test kit, ELISA antibody test kit, PA, and Rapid test kit for HIV screening test. If any serum is positive in HIV screening test, it is referred secondary test institute for confirmal test. Those institutes use ELISA antigen, ELISA antibody, PA and WB for confirmal test. If secondary test institute can not make a decision the test result (positive or negative), the serum is referred to division of AIDS for final confirmal test. If result of HV test in Local Institute of Health/Environment (LIHE) or Division of AIDS is positive, that was notified to division of HIV & TB Control.

Division of AIDS use ELISA antigen, ELISA antibody, PA, Western blot and PCR method.

Level of interest: An article of importance in its field
Quality of written English: Needs some language corrections before being Published

⇒ Response: I got help from professional edition company.

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