Author's response to reviews

Title: Using Surveillance Data to Monitoring Entry into Care of Newly Diagnosed HIV-Infected Persons: San Francisco 2006-2007

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Author's response to reviews: see over
Response to Reviewer 2 comments

Reviewer's report:

In general the manuscript reads better and has improved. I'm concerned mainly about the statistical analyses presented in Tables 1 and 2. Table 1 is a univariate analysis examining cofactors for entering care versus not entering or unknown entry into care. There are 3 major concerns outlined below one concern is the Z test, secondly I'm concerned about grouping and findings, and thirdly I'm concerned that not all cofactors are presented in table that are eventually modeled and deemed important, eg, investigator interview. Furthermore, there is not multivariate analysis presented of variables that predictive of entry into care. Table 2 jumps to a multivariate analysis of a different question “of those who entered care what predicts entering care within 3 months?”. I would have liked to have seen some univariate statistics for the question prior to this table. It is hard to believe that increasing CD4 or decreasing viral load (ie declining health) did not predict quicker entry into care, yet it wasn't presented just used as a control variable.

Following the reviewer's suggestion, we have modified the analysis of our data (see the following sections for a more detailed explanation of the changes). Main changes in the analysis and tables are:

1. We have included the univariate ORs of all the variables included in Table 1. Similarly, all the significant variables were now included in the new multivariate model.
2. Table 2 has been deleted from the manuscript.

Also, in my previous review I had favorably reviewed concept of paper, but gave some specific comments about suggested revisions. The author’s responses appeared to accept 90% of the suggestions and they stated that they made the suggested revisions. If so, I feel the paper would be an important manuscript and would be acceptable. I will just highlight a few additional edits I feel were missed in the authors’ revisions.

Major concerns:

(1) Statistical analysis
Table 1 present a number of univariate frequency comparisons. The authors stated that the stat analyze of proportions was a Z test, which may result in doing many test increasing likelihood of having a significant result by chance. I’d consider a groupwise test first such as the Chi-square tests to identify statistically significant cofactors, or univariate odds ratios.

The new Table 1 includes the univariate Ors for all the variables. The multivariate analysis is now included in the same table.

In Table 1 some of the groups sparse the sample out such that the cell sizes in the not in care group become small, you are not likely seeing significant results in your testing because of your grouping. If you did a tests using a continuous variable or collapse the
groups you may see more differences, for example I collapsed the bottom to cells in age and show that there is a stat difference in age in persons who enter care (are older) then persons who don’t enter care.

We tried several combinations for the grouping of the different variables. Although it is true that different grouping may lead to statistically significant results for the univariate analysis of age, this difference disappear in the multivariate analysis (suggesting that the difference was driven by the effect of confounders). After several combinations (which included the use of age as a continuous variable), we found no role of age as a predictor for entry to care in our sample.

In table 1 not all co-factors in study are represented? Where is one of your most important variables public health investigator interview? Include all variables in this table. Why do you group trangendered M to F with Males and not just call them transgendered, or if gender is female group them with females or call the category females and M to F transgendered. Where is the multivariate analysis examining cofactors for entry into care.

The variables included in the multivariate analysis have been modified. The only analysis shown in the new version of the manuscript is the model that predicts entry to care. The new model is now clearly specified and all the variables included have univariate Ors. The multivariate analysis predicting entry to care within the first 3 months (prior table 2) has been removed.

Table 2 as stated above this is a leap to a multivariate analysis for a second question. It doesn’t follow from table 1. I suggest strongly that a univariate analysis be presented also so reader can see effect of variables that didn’t fit the final model.

This table was removed from the manuscript.

Figure 3 adds little to presentation, numbers on bars make it confusing. I’d suggest that you state this finding in text and use space to do a better presentation of analyses needed for 2 questions (1) what are the predictors for entry into care? and (2) among those who entered care what are the predictors for entering care within 3 months of diagnosis?

Figure 3 has also been removed from the manuscript.

I made the following comment quoted the reviewers response: “My second comment is that the authors do not tell the reader in the introduction/background the rationale for why looking at CD4 and viral load tests are a good marker for accessing care. This rationale is not presented distinctly until the first paragraph of the discussion, page 9: "CD4 T cell counts and HIV plasma viral load are used to determine stage of disease and are commonly obtained on the first visit of HIV care. Therefore, CD4 T cell counts and HIV plasma viral load could potentially serve as a surrogate marker to evaluate
entry into care, and determine unmet health care needs in various communities.” I would suggest the authors move this to the beginning of the article.

Authors: “That paragraph has been moved to the background section.”

While some of the information is in paragraph 3 of background section. The logic of why CD4/viral load are good markers for entry into care is still missing from the background section. That is that these tests are commonly done on the first and if not second visit to HIV medical care provider. Paragraph 3 of background should be reworked to contain this logic.

Paragraph 3 in the background section now reads: “At the public health level, collecting initial CD4 T cell counts and plasma HIV viral loads can determine the stage of HIV infection at diagnosis and serve as a measure of entry into medical care. Although several studies have used CD4 T cell count tests or plasma HIV viral load results as markers of care, those studies have not used provider or laboratory-reported test results as surveillance measures to assess entry to HIV medical care in the public health setting (2,5,6). Surveillance of laboratory reports of CD4 T cell counts and plasma HIV viral loads could be used by public health departments as valid surrogates for entry into HIV medical care after diagnosis, allowing the design, evaluation, and improvement of HIV testing and linkage to care programs. Currently, few local public health departments are using CD4 T cell count data collected for these purposes and many states have not yet established mandatory laboratory reporting of CD4 T cell counts and plasma HIV viral loads.”

We feel that this paragraph now explains the reasoning behind the use of CD4 cells as a public health surrogate of entry to care. Further discussion of this issue may be unnecessarily redundant.

(3) Consistency, a suggestion was made to use consistent terms for the intervention that appear successful. The authors agreed to use case-manager interview yet in the abstract they again refer to this person as a “public health investigator” not a case manager. Consider sticking to one term either investigator (appears to be your preference that’s fine) or case manager. See Abstract.

Results - We found that being interviewed by a public health investigator See pages 5 and 6 – You mention case manager interview an referral but then state that patient is being contacted by “public health investigator” and previously referred to person as “case-investigator”. See Stat plan page the phrasing is changed to “interviewed by the SFDPH,”

We apologize for overlooking those phrases. The new manuscript is fully consequent with the terms “public health investigation” and “public health investigator” that we decided to use.

(4) Statistical analysis statement out of place and a mistake: The following statement is really a result. In fact you had to consider sex and sexual orientation in models which is
part of the plan, and found that they did not add anything which is a result. I’d leave what is part of plan in plan and what is a result in result.

Second the mistake is that you don’t have 9% women you have -- n=9 according to tables and n=10 according to writing -- women to model. The statement is also awkward with the number dangling at the end. Consider rephrasing to “there were not enough women (n=9) in the sample…”. Your sentence reads at bottom page 8 and top page 9. “However, sex and sexual orientation were not found to contribute significantly to the model (p > .05) and were excluded from the final model; it may be that there were not enough women in the sample to detect differences by sex (9%).”

Thanks for picking up that typo. The new version mentions in that section: “(n=9, 5.6%)” which is the accurate number and percentage.

Minor comments
(1) Unless it is the style of Biomed Central dates should be July 1, 2006 not July 1st, 2006. Your computer maybe changing this in your spell check but it is not correct.
See Abstract
Methods: Since July 1st, 2006,
Results: One-hundred sixty new HIV-infected cases were diagnosed between July 1st, 2006 and June 30th, 2007.
See Page 6
Documentation of entry into care. … Since July 1st, 2006,

We have change the text to indicate those changes

(2) Do you mean and “HIV viral load” values in the conclusion of the abstract? See Conclusion: The time from HIV diagnosis to initial CD4 T cell count and CD4 T cell value may be appropriate surveillance measures

We mean HIV diagnosis. However, to add clarity, we have included “from HIV diagnosis to CD4 T cell count, CD4 T cell value and HIV viral load testing” to that sentence.

(3) There are typos for example double periods ..
See Abstract -- collection methods..
See page 8 -- of those 101 patients. .

Those typos have been corrected