Reviewer's report

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

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Reviewer: Anita Loughlin

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Measuring how HIV-infected individuals move from HIV testing to medical care to treatment remains an important area for public health surveillance and for research needed to test interventions aimed at improving lasting linkages to quality HIV medical care. Therefore the authors have presented a novel approach to how a surveillance program can improve the enumeration of HIV-infected individuals who move from testing to accessing HIV medical care. In general, the manuscript is timely and with a few revisions and strengthening of evidence will add to public health practice.

MAJOR COMPULSORY REVISIONS

My first comment is about the word choice and changing of the word from "entry" to "accessing" HIV medical care. I've been looking through my papers to find the article that demonstrates that many people access care, i.e. have that first visit and never return to receive results of CD4 and viral load tests or have other visits. Therefore, it is difficult to say that these individuals have entered HIV medical care. In other articles "entry into care" is defined as at least 2 visits within 6 months or in a year (some other time frame) with the same HIV medical care provider(s)/clinic. If the authors prefer to use the term “entry into care” then they should define it early -- even briefly in the abstract. Their definition is not written until page 6.

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.
My third comment is about the validity of self reported medical care visits. As part of the case-management efforts, newly diagnosed HIV infected persons were contacted. During this interview they were asked if they had entered HIV medical care. This response is subject to bias since it is socially acceptable to answer that they were in care. Since self reported entry into care is an acceptable end point, I believe your finding of confirmed entry into care may be overestimated. The authors would strengthen their manuscript and give credence to the case management practice if they present data on the percentage of these self reports that were confirmed by contacting medical care providers or finding a subsequent CD4 or HIV viral load test that corresponds to dates of case’s self reported visit.

My fourth comment concerns other exclusions for CD4 and HIV viral load laboratory tests. The authors excluded individuals who had laboratory tests done on the same date as their first HIV diagnostic test. If the authors are looking for indicators for access to primary HIV medical care then laboratory tests should be restricted to those that were ordered from these medical care centers and excluded if lab tests are ordered at ER visits and/or hospitalizations. The authors should discuss if they can determine who ordered the tests and if they can confirm if this is a primary care practice or some other medical service. Again, not excluding testing at ER visits or hospitalizations would overestimate the number of cases who have entered into primary HIV medical care.

My fifth comment is simply sticking to the same terminology throughout the paper. The first is referring to CD4 cell counts and HIV viral loads which are sometimes referred to as CD4 tests, CD4 T cell counts, HIV viral loads, plasma HIV viral loads, plasma HIV-1 viral loads, plasma viral loads, and viral load tests. When first introduced, the most formal names should be used; and in parentheses, the simple names you’ll be using throughout the rest of the text can be introduced: for example, CD4 T cell counts (CD4 tests) and plasma HIV viral loads (viral loads). Secondly, the case management intervention in the abstract is called an “interview by SFDPH staff”, in the last sentence of the background a “patient contact”, and in the methods it is described as many things: a “contact, disclosure, and referral”. Yet, there appears to be a difference between contact through letters and an interview with a case manager for a referral. I strongly suggest that the definition/wording of intervention of interest be clearly used. One suggestion for use is “case-manager interview and referral to HIV medical care”, because it is not the interview or the contact itself that is leading to entry into care.

DISCRETIONARY REVISIONS – STRONGLY

In general, the flow of the manuscript was understandable, but there were some ambiguities in writing that make it hard to follow. Their descriptions of statistical analyses as well as their presentation of the analyses are difficult to understand.

The authors have 5 main points: In San Francisco (1) HIV testing and reporting is name-based; therefore individuals reported to the HIV/AIDS Surveillance registry can be linked to other records. (2) The SF Department of Health has initiated a program where case managers interview newly HIV infected persons diagnosed
at municipal STD clinics, county hospitals, and 13 community based primary care centers to provide referrals to services including HIV medical care. (3) The SF Department of Health has also initiated surveillance of dates of first visits into HIV medical care for these newly HIV infected persons. This surveillance includes asking cases, asking providers/chart reviews (I think), and mandatory laboratory reporting of CD4 tests (and HIV viral loads?), as well as reviews of laboratory records at major San Francisco hospitals. Finally, (4) Using names and dates of birth, individuals can be linked from first positive test to case management and referral to entry into HIV medical care or first CD4 cell count or HIV viral load test. With these points in place, the authors aim to show how using laboratory surveillance improves detection of individuals who have access to HIV medical care, and secondly they claim to show that the case-management intervention “called interview or contact and referral” is associated with an increased likelihood of accessing medical care within 3 months of first HIV positive test compared to not having contact with a case manager.

It would be helpful if these points flowed better.

Here are some suggestions:

a) In the abstract, page 2, methods, second sentence, “Self report from patient, reports by medical providers, confidential laboratory and visits reports were used to determine the date of the initial health care visit after HIV diagnosis.” Same term is used on page 6 Definition of outcomes.

What is a visit report? It is unclear throughout the article whether there is a systematic review of medical records?

Should this read …. “reports by medical providers, mandatory laboratory reports and medical record reviews were used to determine the date of the initial health care visit after initial HIV diagnosis.”?

b) I would include a table or statement that showed to what extent all forms of reporting entry into HIV medical care overlapped. This would give some credence to the reporting systems.

c) Page 4 Background, beginning of paragraph 3 makes the case for why using CD4 and viral load would be useful, see comment b) above. Then go on with … 3rd paragraph.

Page 4 Background, third paragraph needs editing. One suggestion is:

“At the public health level, Collecting initial CD4 cell counts and HIV viral loads can determine the stage of HIV infection at diagnosis entry into medical care. Although several studies have used CD4 T cell counts tests or viral load results as markers of care, these studies have not used these laboratory tests as a surveillance tool for surveillance for to assess linkage 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 agencies as surrogates for linkage to HIV care after diagnosis. allowing the design, evaluation and improvement of HIV testing and linkage to care programs. Currently …. viral
loads.

The meaning of the end of the last sentence was not clear; either clarify or omit.

d) Page 5, a suggestion for a re-write of the last paragraph background:

In this report we describe the characteristics of patients having a newly diagnosed HIV infection between July 1, 2006 and June 30, 2007 who entered into HIV medical care. Secondly, we demonstrate an additional yield obtained by using laboratory surveillance of CD4 tests and HIV viral loads as a marker for entry into HIV medical care after initial diagnosis. Lastly we show an effect of having had a case manager interview and referral to medical care after a first positive HIV test on the likelihood of entering medical care within 3 months of the initial HIV diagnosis.

e) Page 6, Documentation of entry into care:

Were laboratories mandated to report only HIV viral loads or both viral loads and CD4 cell counts?

f) Page 6, Documentation of entry into care: Try to make sentences more concise. For example, second and third sentence suggestions are “Laboratories are required by law to report all viral load tests to the health department. Additionally, CD4 test results were collected by health department staff from major San Francisco hospitals and through medical records review. Since July 1, 2006, the SFDPH began recording the initial primary HIV care visit as part of standard HIV case management practice.”

g) Page 6, Definition of outcome, last sentence may be more clear if you write:

Date of first HIV diagnosis, date of first primary care visit and date of first CD4 and/or HIV viral load test were used in our analysis to determine the timing from diagnosis to entry into HIV care.

h) Statistical Analysis section is very confusing. First you describe the multivariate analysis before the univariate or descriptive analysis, which is backward. In your univariate analysis, you mention comparing mean CD4 and Viral load tests using a t-test but this is not presented anywhere, and CD4 are presented categorically in Table 1. You present categorical data in table 1 and use a Z-test to compare proportions across groups; a chi-square test across all categories would be more appropriate or univariate odds ratios if you wanted a statistic for each category relative to a reference category.

I strongly suggest placing your analysis strategy by order of your tables; you should describe your analysis plan as:

A) Descriptive statistics and a comparison of persons who were confirmed to have entered care and who had not entered care (Table 1); again the analysis would be either 1) Chi square tests or 2) odds ratios.

B) Comparison of the timing from diagnosis to entry into care for individuals identified as in care by interview versus as in care by CD4 or viral load test.
(figure 2). Since I don’t see a statistical test I’m not sure if there is any importance to this figure. But I would suggest one of two: you can test the average number of days using a t-test or mean and 95% confidence intervals, or if you want to keep it categorical, collapse the data to <60 days and >60 days and do a Chi square test; use fisher exact statistic since you’ll have a small cell size.

C) Table 2 is your multivariate analysis; in your text you state that the potential risk or confounding factors included in your analysis are: sex, sexual orientation, age, site of testing, race/ethnicity, substance abuse, and CD4. Why is your main variable case-management interview and referral, as in your model, not listed? You also use an acronym in your table that means nothing to the reader, e.g. SFGH; I’d suggest writing this out. There are also other variables, e.g. co-morbidities, and CD4< 200 vs. CD4>200.

My preference is to have a table with 2 columns: one with the univariate odds and 95% CI for all variables and the second column with a multivariate model showing all adjusted Odds ratios with 95% CIs; you can bold the statistically significant ones. I don’t think you need p-values too, unless this is the journal’s preference.

You do not need to mention that a two sided p-value < 0.05 is statistically significant or that a confidence interval not including 1 is statistically significant; the reader should know this.

i) Discussion, page 10, second paragraph: Are references 5 and 8 for the prior reports you refer to in the first sentence “Importantly, and contrary to prior reports”? If not, you need a reference for these reports or you should leave the phrase out and just state “We found ….”

Minor suggestions:


Page 4, paragraph 1 last line, insert word “care” --- “lower health care cost (3).”

Avoid redundancy and wordiness, for example repeating the phrase “after initial HIV diagnosis”; once stated it is known throughout a paragraph of text.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have not competing interest.