Reviewer's report

Title: Modelling imperfect adherence to HIV induction therapy

Version: 2 Date: 6 June 2009

Reviewer: John E Mittler

Reviewer's report:

The paper is much improved. The authors have been responsive to most my previous suggestions.

Major Compulsory Revisions:

Although the authors have addressed the issue of latently infected cells verbally in the discussion, the issue of latently (and/or long-lived) infected cells still requires a little more attention. (I regret that I was not more forceful on this point in my first review). Long-lived cells could maintain a nontrivial amount of WT virus in the body during effective therapy. In the absence of long-lived infected cells, WT virus will quickly drop to extremely low levels during effective therapy. What I want to know is the sensitivity of their results to this assumption. Provided that the effects of this on their conclusions are not too big, some back-of-envelop calculations may be sufficient. If the effects are big they may need to add a couple of simulation panels to address how the existence of long-lived infected cells changes their conclusions. Note: I am particularly interested in the effects of such cells on the results in Fig 7b.

Minor essential revisions:

1. I note, with approval, that the authors provided the following cautionary note about the interpretation of data in the tables:

"we stress that these results are theoretical and have not been tested clinically. In particular, it should be noted that pharmacokinetic parameters can vary from patient to patient."

Before they publish this paper, however, they should include a similar, though brief, cautionary note in the figure itself (since some readers copy tables from papers without including the legend text). For example, put the words "theoretical predictions for" above the last two columns of Table 1.

2. "Smith" comes out as "Smith?" on the pdf.

Discretionary Revisions

The authors should explore making using a log10 y-axis on Figures 4-7 to see if that yields easier-to-interpret results.
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.