Reviewer's report

Title: Social and Clinical Attributes of Patients who restart Antiretroviral Therapy in Central and Copperbelt Provinces of Zambia

Version: 4 Date: 24 November 2015

Reviewer: Nathaniel Chishinga

Reviewer's report:

Major Compulsory Revisions
- Overall the manuscript has a lot of typos and sentence structures that need to be revised. I have made attempts in correcting some of these.

Page 1:
- Line 2: In the title, use ‘Restarting’ instead of “restarting”
- Line 9: Include Zambia at the end, so that it reads ‘FHI 360, Zambia’

Page 2:
- Line 7: Remove “over” in the sentence so the it reads in part as ‘…CD4 count response at 6 and 24 months of …’

Page 3:
- Abstract Conclusion: Revise the conclusion to match the results presented on socio-demographic and clinical characteristics associated with CD4 count at 6 and at 24 months.

Page 4:
- Lines 7 and 11: Move “(LTFU)” to line 7. Sentence in line 11 suggests that treatment interruption and LTFU have the same definition. Consider sticking to LTFU and if that is the case, then sentence should read ‘LTFU was defined in the 2010 Zambia ART guidelines as missing a scheduled pharmacy pick up for more than 60 days.’
- Line 16: The sentence “Treatment interruption, whether structured and unstructured, is not safe.” is not clear. Consider revising or adding more detail to this sentence.
- Line 19: Delete “having” and use ‘at’ so that the sentence reads in part as “…restarting ART at an increased …”
- Line 21: Consider revising the sentence to ‘It has been suggested that patients who restart ART, do so at a CD4 count level similar to what they had at the time of their first ART initiation.’

Page 5:
- Lines 1 to 6: How do you distinguish defaulting from treatment interruption?
What are your working definitions for defaulting and for treatment interruption in the manuscript?
- Line 4: put ‘to be’ between “found” and “more”
- For consistence throughout the manuscript consider putting citations only. Remove first author naming of Elsadr (2006) and Montroyoset al., (on page 11, line 16).
- Line 13: delete “over a period of” and include ‘at’ in the sentence so that it reads in part as ‘… count response at 6 and 24 months after restarting ART.’
- Line 17 and 23: use ‘five’ instead “5”

Page 6:
- Line 4: Is it 6 or five ART centres?
- Lines 5 and 6: Delete “chosen” in sentence. This sentence should be in past tense and should in part read ‘… centres were high volume centres and served geographically and socially discreet populations and received referrals’
- Line 14: delete “relating to the research question”. The sentence should start as ‘The data was collected through …’
- Line 17 to 19: The sentence that starts with “The laboratory form …” and the next one that starts with “The five Smartcare …” are not clear and need rewording.

Page 7:
- Line 1: Is it “stopped” or defaulted?
- Lines 4 to 5: Given that the interest is at 6 and 24 months only, indicate these periods only and explicitly.
- Line 12: include ‘analysis’ between “regression” and “was”
- Lines 15 to 18: These two sentences are not clear. Revise the sentences.

Page 8:
- Lines 2 to 6: The percentages should have one decimal place; in the same way they appear in Table 1. You will need to cite the figure in the text as ‘Figure 1’. Figure 1 (on last page of manuscript) should also have a title.
- Line 3: put ‘years’ after 37
- Line 5: 43.0% is not “almost half” it is way below. Consider rewording your sentences.
- Line 14: Delete “Statistical Analyses”. All the results are from statistical analyses.
- Lines 14 to 23 (and Lines 1 to 18): For the Quantile regression analysis at 6 months, present the results by starting with the socio-demographic characteristics and then move to the clinical characteristics in an orderly fashion as it appears in Table 2, so that the reader can follow the flow.
- Line 16: delete the word “show” that is between “that” and “age”
- Line 19: In relation to Table 2 (on pages 20 and 21), what do the symbols next to UC and AC stand for? Table 2 will need to have a legend to explain the symbols and abbreviations used in Table 2.

- Line 21: put ‘AC’ between “by” and “65.2” and complete these abbreviations the first time they are used in the text.

Page 9:
- Line 9: Complete the abbreviation “AC” where it is first used above.
- Line 17: In relation to CD4 count at restart in Table 2, there are cells in Table 2 (on page 21) that are blank, that need editing.

Page 10:
- Line 4 to 7: The sentence should read ‘One unit increase in CD4 count at 6 and 12 months increased the CD4 count at 24 months by 0.9 cells/mm3 (95% CI: 0.7 – 1.1 and 95% CI: 0.8 – 1.0, respectively).’
- Lines 7 to 9: As indicated above, the Age (socio-demographic characteristics) should be presented in an orderly way and early in the results to allow the reader to follow flow of results.
- Line 11: Delete “but not at multivariate analysis” to avoid repetition.
- Lines 14 and 15: The results for Kabwe General Hospital are appearing abruptly here. Present frequencies of patients seen at each of the five health facilities early in the results, before presenting these results for Kabwe General Hospital.

Page 11:
- Lines 3 to 5: Need to be specific which predictors of CD4 count are for 6 and 24 months.
- Line 6: The sentence and reference in Line 13 to 16 relate to the first sentence in Line 6. This sentence and reference should therefore be moved next to the first sentence in Line 6.

Page 15:
- Lines 16 to 21: Revise and use the correct way of presenting qualifications; BSc, MPH, BA, MPhil Health Promotion, PhD, BSc Human Biology, MBChB.

Page 16:
- Lines 6 to 10: Delete the abbreviations UNZA SoM, SACORE, MEPI since they are only used once.
- Line 8: Replace “welcome” with ‘Welcome’

Page 17:
- Lines 3 and 4: Edit the reference so that it is in one line.
- Lines 16 to 19: Edit the reference so that it is in one line.
- Table 1, “N=535” is appearing twice at the bottom and needs to be edited.

Minor Essential Revisions
- None

Discretionary Revisions
- None.

**Level of interest:** An article of limited interest

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

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

**Declaration of competing interests:**

I declare that I have no competing interests