Author's response to reviews

**Title:** Diabetes in Sub Saharan Africa 1999-2011: Epidemiology and Public Health Implications. A systematic review.

**Authors:**

Victoria J Hall (victoriajhall@yahoo.co.uk)  
Reimar W Thomsen (r.thomsen@rn.dk)  
Ole Henriksen (ohrk@novonordisk.com)  
Nicolai Lohse (nilh@novonordisk.com)

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**Author's response to reviews:** see over
Dear Prof Paulo Lotufo,

Thank you very much for your response to our manuscript. We appreciate the constructive comments from you and the reviewers, and are grateful for the opportunity to send you a revised manuscript. We have provided a point-by-point response to the issues raised below. We hope that we have addressed your concerns satisfactorily, and that you are now able to accept this paper for publication. If further revision is required then please let us know.

Yours sincerely,

Victoria Hall

Reviewer: Dermot Maher

1. Grouping of countries as belonging to sub-Saharan Africa

In the previous revision, we had changed the definition of Sub-Saharan Africa to include only countries that are on the African continent, south of the Sahara. The Indian ocean states of Mauritius and Seychelles had therefore been removed from this definition. Given this change, all references to Mauritius and the Seychelles had been removed from the manuscript, tables and accompanying annexes. In this revision, we have now explicitly defined the definition of Sub-Saharan Africa used in the methods section, with the following sentence in the first paragraph of page four:

“We defined Sub-Saharan Africa as all mainland African countries south of the Sahara with the addition of the island state of Madagascar.”

2. Association between HIV and metabolic problems including obesity and insulin resistance.

In the previous revision, we had changed the statements referring to the associations between HIV, ART and diabetes in the abstract and discussion sections, to emphasise that the most significant metabolic changes are associated with ART, although recognising that some metabolic changes have been associated with untreated HIV. In this revision, we have not made any additional changes because it was not clear to us, from reading the editor’s comments, if additional revisions were needed. The revisions are as follows:

In the results section of the abstract on page 2 we have stated:

“At the same time, antiviral treatment for HIV increases the risk of obesity and insulin resistance.”

In the discussion section in the last paragraph of page 13 we have stated:

“Meanwhile, the high prevalence of HIV and the roll-out of ART may increase the prevalence of diabetes risk factors and consequently diabetes incidence. Antiretroviral therapy (ART) for HIV, and to a small extent, HIV itself, is associated with an increased risk of developing the metabolic syndrome, which predisposes individuals to develop type 2 diabetes and cardiovascular disease [81]. A range of metabolic changes have been associated with ART, such as increased central obesity [81], increased insulin resistance [82], lipodystrophy [83], and dislipidemia [84]. These changes have also been associated, although to a much lesser extent, with untreated
One review found that prevalence of metabolic syndrome among patients on ART ranged between 18 and 33% [85].