Reviewer’s report

Title: Patterns and trends of utilization of incretin-based medicines between 2008 and 2014 in three Italian geographic areas

Version: 0 Date: 21 Jun 2018

Reviewer: John Hughes

Reviewer's report:

The aim of this study was to describe the real-world patterns and trends of utilization of GLP1α and DDP4i through the analysis of routinely collected administrative data from three Italian geographic areas.

The outcome measures were prevalence and incidence adjusted for age and sex and the characterisation of new users. The overall study population for 2012 was used as the standard population.

The study population was all inhabitants of the regions included. The included regions changed during the study.

1. There were two study populations. The first population was prior to 2011 and did not include Umbria. Umbria was included from 2011 until 2014. Umbria was approximately 18% of the total study population. Can the authors consider excluding Umbria so that the reference population is consistent throughout the study? The authors acknowledge that "underlying differences ... between populations hamper direct comparisons".

2. Tables 1 and 2 present mostly demographic data for users of incretin-based medicines. Would presenting incidence and prevalence by age and sex be more useful?

3. The authors assume that all patients received the Defined Daily Dose (DDD). Would presenting summary statistics for different doses administered to patients be useful if the data are available?

4. In Figure 2a columns showing more than four medications are very difficult to understand. The right hand column has eleven divisions and is incomprehensible. Can the authors please consider presenting this figure as a graph or a table?

5. In the final paragraph of the results section the authors state that "similar trends of utilization were observed in the three geographic areas considered during the study period (data not shown)". Can the authors either not comment on data that have not been shown or show the data?

6. Can the authors correct the legend to Figure 1. The caption for Figure 1a is "standardized
prevalence" but on the label on the figure is "standardized incidence". The caption for Figure 1b is "cumulative incidence" but the label on the figure is "standardized prevalence? 

Are the methods appropriate and well described? 
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls? 
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown? 
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review? 
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

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