Reviewer's report

Title: Tiotropium's cost-effectiveness for the treatment of COPD: a cost-utility analysis under real-world conditions.

Version: 1 Date: 2 December 2009

Reviewer: Nikos Maniadakis

Reviewer's report:

The aim of the paper is to undertake an economic evaluation of Tiotropium in Belgium, based on an economic model which was populated neatly with data coming from an observational study, a large clinical trial and other local and international sources. The study concludes that the treatment is not cost-effective at present price and reimbursement levels and it may become at lower ones.

It is a well conducted and well written study and represents an interesting paper in its field and is certainly worth of publication, but I recommend a few minor but essential revisions, or to be more precise some additions.

Specifically, the paper is based on an economic model which synthesizes results from various sources, has a certain structure and is based on several assumptions. One could go about modeling this comparison in different ways and in fact one could debate about the proper structure of the model and to challenge some of the assumptions, but always there will be different approaches about modeling the disease and the treatment effect and thus as the approach employed here is a robust one, there is no meaning to debate about it and to make criticisms on the structure and assumptions. Furthermore the authors deal with parameter uncertainly using a probabilistic approach which enables them to report results on the acceptability curve.

However, because of the nature of their results (incremental changes which give very large ICERs), but also independently of the later, to improve their work, they should analyze at the end of the corresponding section, the impact of their main assumptions and the results and the conclusions of the study. Thus they should undertake some scenario or sensitivity analyses where they alter their main hypotheses. Furthermore, as there are studies in the literature which indicate opposite results to this one, the authors should discuss frankly the possible caveats of their analyses and they should compare and discuss their approach and results with the others in the literature, in an effort to explain the differences. This will strengthen their paper a lot and would make it more credible and useful to the reader.

Declaration of competing interests:

I have in the past five years received research funding from the manufacturer of tiotropium.