Reviewer's report

Title: Lung function decline in relation to diagnostic criteria for airflow obstruction in COPD in respiratory symptomatic subjects

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Reviewer: Ronald Halbert

Reviewer's report:

This is a well-done study addressing an important issue: discordance between different definitions of COPD. Unlike many papers, the authors present new data to help shed light on the issue. Particular strengths include:
1) clear study question, appropriate design
2) nice dataset -- representative of patients seen in primary care (but subject to issues well-discussed in the paper)
3) good analysis, with excellent sensitivity analyses addressing potential criticisms

I have one criticism -- actually a disagreement with the authors' interpretation of the results of alternate prediction equations (Tables 3a & 3b). The authors state on p. 14 that these alternative equations "generally showed the same picture...." However, Table 3a shows only 1 of 5 alternate equations showed significant differences in FEV1 decline (col 8). In Table 3b, 2 of 5 alternate equations show significance in the primary relationship at issue. These results do NOT in my mind show "...generally the same picture...", and are better interpreted as "...the principal effect described by the authors is highly dependent on which prediction equation one uses." Given the strength of the paper otherwise, I must consider this a discretionary revision.

Also, there are some minor necessary English revisions required.

Level of interest: An article of outstanding merit and interest in its field

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

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I serve as a consultant to the biopharmaceutical industry, including makers of therapies for COPD.