Author's response to reviews

Title: Developing an algorithm to identify people with Chronic Obstructive Pulmonary Disease (COPD) using administrative data

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Author's response to reviews: see over
Dear Editors

Thank you very much for these further useful comments and suggestions. We are grateful to you for giving us another opportunity to further improve our manuscript “Developing an algorithm to identify people with Chronic Obstructive Pulmonary Disease (COPD) using administrative data” as suggested by the reviewer.

Please find below a detailed description of how we have responded to the reviewer’s suggestions and comments together with the revised manuscript.

We hope that the revised manuscript has become acceptable for publication.

On behalf of the authors,
Yours faithfully,

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#1:
The reviewer has advised us to check all figures and tables to ensure all are correct. We have gone through the numbers and have made certain that all are correct. There might have been some misunderstanding to if it was sensitivity or proportion mentioned in figure 1. We have clarified this further with adding to Table 3- now Additional file 4- the actual numbers of patients in GP practices and numbers of patients identified correctly among all identified when we use the PPV of 9% for COPD in the Danish population.
The reviewer writes that there was no mentioning of the 532 vs. 2,895 patients in the Method part of the abstract which makes it difficult to understand when the numbers are mentioned in the Result part. Following this advice we have inserted the figures in the Method part, which now reads: "Seven general practices were asked to identify patients with known Chronic Obstructive Pulmonary Disease in their practices. For the 266 patients (population A), we used administrative data on hospital admissions for lung-related diagnoses, redeemed prescriptions for lung-diseases drugs and lung-function tests combined to develop an algorithm that identified the highest proportion of patients with Chronic Obstructive Pulmonary Disease with the fewest criteria involved. We tested nine different algorithms combining two to four criteria. The simplest algorithm with highest positive predictive value identified 532 patients (population B); with possible diagnosis of Chronic Obstructive Pulmonary Disease in five general practices. The doctors were asked to confirm the diagnosis. The same algorithm identified 2,895 patients whom were asked to confirm their diagnosis (population C)."

The reviewer strongly suggests rewriting the result part in the abstract as there are some vague sentences or directly unclear ones as the first sentence “The algorithms identified from 70.7% to 72.6% of the patients”. It was meant to explain that the algorithm of the nine tested with the lowest identification rate identified 70.7% and the one algorithm which had the highest identification rate identified 72.6% of the patients. We have followed the suggestion and fully rewritten the Results part in the Abstract using the terms sensitivity and positive predictive value and inserted the sensitivity values including the 29.7%. It now reads as follows: "In population A the chosen algorithm had a positive predictive value of 72.2% and three criteria: a) discharged patients with a chronic lung-disease diagnosis at least once during the preceding 5 years; or b) redeemed prescription of lung-medication at least twice during the preceding 12 months; or c) at least two spirometries performed at different dates during the preceding 12 months. In population B the positive predictive value was 65.0% [60.8;69.1%] and the sensitivity 44.8% [41.3;48.4%]) when the “uncertain” were added to where doctors agreed with the diagnosis. For the 1,984 respondents in population C, the positive predictive value was 72.9% [70.8;74.8%] and the sensitivity 29.7% [28.4;31.0%]."