Cost-effectiveness analysis of indacaterol/glycopyrronium (QVA149) fixed combination as a maintenance bronchodilator treatment in adult patients with chronic obstructive pulmonary disease in Spain

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Background
- Chronic Obstructive Pulmonary Disease (COPD) is a chronic condition affecting 10% of adults between 40 and 80 years old in Spain, accounting for a burden of €0.75-1.00 billions per year. No fixed-dose combination of a long-acting β2-agonist (LABA) and a long-acting muscarinic antagonist (LAMA) are currently commercialized in Spain. QVA149 is an inhaled fixed combination of indacaterol, a LABA, and glycopyrronium, a LAMA, which is being developed for the once daily treatment of COPD.

Objective
- To assess the cost-effectiveness (CE) of indacaterol/glycopyrronium (QVA149; 60/110μg) as a maintenance bronchodilator treatment of adult patients with Chronic Obstructive Pulmonary Disease (COPD) versus salmeterol/fluticasone (SFC; 50μg/500μg).

Materials and methods
- A CE model of micro-simulation over a 3-, 5-, 10-year and lifetime horizon was developed from the perspective of the Spanish National HealthCare System (Table 1).
- Patients progress through subsequent COPD stages based on their baseline characteristics and considering the natural decline of Forced Expiratory Volume in 1 second (FEV1) and exacerbation rate (Table 1).

Results
- QVA149 has shown to be less costly and more effective than the fixed combination of SFC with respect to both Life Years (LY) and Quality-Adjusted Life Years (QALYs) gained (Table 5).
- The cost per patient treated with QVA149 over a 3-, 5-, 10-year and lifetime period was estimated to be €108, €182, €260, and €467 lower than with SFC, which resulted from avoiding exacerbation costs and decreasing maintenance cost in relation to slowing COPD progression (Table 6).
- Therefore, QVA149 was estimated to be dominant over SFC with respect to both cost-effectiveness and cost-utility.
- OWSA shows that the variable that has the greatest impact on the QVA149 vs. salmeterol/fluticasone ICER is the COPD stage of the population (Figure 2).
- The PSA cost-effectiveness plane (Figure 3) and acceptability curve (Figure 4) show that QVA149 is always cost-effective (cost-effectiveness threshold in Spain15 being €300,000/QALY) and most of times dominant (more effective and less costly) than salmeterol/fluticasone in the treatment of COPD in Spain.

Conclusions
- Despite the higher daily drug cost, QVA149 higher efficacy in improving FEV1 and reducing COPD exacerbations allows decreasing exacerbation and maintenance costs, resulting in higher cost-effectiveness compared to SFC.