

Economic Analysis of New Single-Inhaler Triple Therapies in Patients with COPD in the UK

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OBJECTIVES: To assess the cost-effectiveness of fluticasone furoate/umeclidinium/vilanterol (FF/UMEC/VI; TRELEGY ELLIPTA) versus other single-inhaler triple therapies (SITTs) for the treatment of chronic obstructive pulmonary disease (COPD), from a UK healthcare perspective.

METHODS: A validated linked risk equation model (Briggs, 2017 Med Decis Making 37:4), which predicts COPD disease progression, healthcare costs and health outcomes, was populated with baseline characteristics from randomised controlled trials conducted in patients eligible for triple therapy. Efficacy estimates were derived from a frequentist network meta-analysis, which compared FF/UMEC/VI with budesonide 320 µg/glycopyrronium/formoterol (BUD320/GLY/FOR), BUD160/GLY/FOR and beclomethasone dipropionate (BDP)/FOR/GLY (Ismaila, 2022 Adv Ther, in press). UK healthcare resource unit and drug costs were applied, with costs (2022 GBP) and health outcomes (except life-years [LYs]) discounted at 3.5% annually. The analysis was probabilistic with a lifetime horizon.

RESULTS: FF/UMEC/VI provided an additional 0.617 LYs (95% CI 0.271, 1.010) and 0.286 quality-adjusted life-years (QALYs) (0.096, 0.490), with cost savings of £1,618 (£148, £3,171) compared with BUD320/GLY/FOR, and correspondingly an additional 0.626 LYs (0.258, 1.044) and 0.305 QALYs (0.093, 0.536), with cost savings of £1,710 (£235, £3,342) versus BUD160/GLY/FOR. Compared with BDP/FOR/GLY, FF/UMEC/VI showed an additional 0.330 LYs (0.071, 0.656) and 0.232 QALYs (0.035, 0.439), with cost savings of £1,223 (£-428, £2,844). The probability of FF/UMEC/VI being dominant was 98%, 99%, and 93% versus BUD320/GLY/FOR, BUD160/GLY/FOR, and BDP/FOR/GLY, respectively. At a willingness-to-pay threshold of £20,000, FF/UMEC/VI had a 100% probability of being cost-effective versus BUD320/GLY/FOR or BUD160/GLY/FOR and 99.6% versus BDP/FOR/GLY. One-way deterministic sensitivity analysis showed the results were most sensitive to treatment effect on exacerbations, St George's Respiratory Questionnaire score, treatment discontinuation, and time horizon.

CONCLUSIONS: Based on this analysis, FF/UMEC/VI is a dominant treatment option compared with BUD/GLY/FOR (both dosages) and BDP/FOR/GLY for the treatment of COPD patients in the UK.

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Disclosures:

Afisi Ismaila, Raj Sharma, Alan Martin, and Chris Compton are employees of GSK and/or hold stocks/shares in GSK.

Afisi Ismaila is also an unpaid faculty member at McMaster University, Hamilton, ON, Canada.

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