COPD. The combination of LABA+LAMA is recently indicated for COPD patients with severe symptoms; however, its role in reducing exacerbations is less clear.

**Methods**
We performed a meta-analysis of randomised controlled trials that compared efficacy and safety of LABA+LAMA versus LABA+ICS in moderate to severe COPD patients. The primary outcome is the rate of COPD exacerbations. Other outcome measures include improvement in trough FEV1, St. George Respiratory Questionnaire for COPD (SGRQ-C) scores, transition dyspnea index (TDI) scores, rescue medication use and pneumonia risk. Analysis was performed in accordance with the Quality of Reporting of Meta-Analyses (QUORUM) guidelines.

**Results**
A total of 6 RCTs with 3370 patients were included. Over-all exacerbation rates were 21% lower in those treated with LABA+LAMA versus LABA+ICS (RR 0.79, [95% CI: 0.66–0.94]). This effect is more pronounced in patients who had >1 exacerbation per year, showing 25% lower exacerbation rates (RR 0.75 [0.60–0.95]) compared to those with no history of prior exacerbations (RR 0.85 [0.61–1.14]). Patients given Indacaterol+Glycopyrronium also experienced lower rates exacerbation versus LABA+ICS (RR 0.71 [0.57–0.95]) compared to those given Umeclidinium+Vilanterol (RR 1.16 [0.68–2.00]).

There were also statistically significant improvements in FEV1 (mean difference 70 mL [95% CI: 0.07–0.07 Liters]), improvement in SGRQ-C (mean difference −0.92 points [−0.95, −0.90]), improvement in TDI scores (mean difference 0.24 [0.23–0.23]) and decrease in use of rescue medications (mean difference −0.20 puffs/day[−0.21, −0.20]). Pneumonia risk was 41% lower in patients given LABA+LAMA compared LABA+ICS (RR 0.59 [0.43 – 0.80]).

**Conclusions**
The combination of LABA+LAMA is safer and more effective in reducing exacerbations and improving clinical outcomes compared with LABA+ICS in patients with moderate to severe COPD.
from UK public sources and encompassed annual drug costs (£268 FF/VI; £491 usual care), and COPD exacerbation management costs (moderate £114; severe £2,053).

Results Substituting usual care with FF/VI is likely to be associated with reduced COPD medication and exacerbation management costs. Total annual savings of £34,000 were obtained for a population of 1000 patients with COPD.

Conclusion In an everyday UK clinical setting, substituting usual care with FF/VI in patients with COPD can result in substantial annual cost savings. These results are relevant for clinicians and health care organisations.

Background GOLD guidelines have changed from classifying COPD severity using pre-bronchodilator FEV$_1$ to classifying severity based on post-bronchodilator FEV$_1$. We therefore conducted a pooled post-hoc analysis of four budesonide/formoterol (Symbicort®) Turbuhaler® trials in COPD (which included patients based on pre-bronchodilator FEV$_1$), assessing efficacy and safety.