**Title**
Triple Therapy for Moderate-to-Severe Chronic Obstructive Pulmonary Disease

**Agency**
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**Reference**

**Aim**
To evaluate the comparative clinical effectiveness, cost effectiveness, and health service impact of triple therapy in treating moderate-to-severe chronic obstructive pulmonary disease (COPD).

**Conclusions and results**
The evidence was insufficient to determine whether triple therapy was clinically superior to dual bronchodilator therapy or combination (LABA+ICS) therapy in treating moderate-to-severe COPD. Compared to the use of tiotropium alone, triple therapy was associated with a decrease in the number of COPD hospitalizations, improved lung function, and better quality-of-life measures in patients with moderate-to-severe COPD. The incremental cost-utility ratio of triple therapy (tiotropium+LABA+ICS) compared with monotherapy (tiotropium) was estimated to be $111,458 per quality-adjusted life-year (QALY). The cost per QALY of triple therapy varied depending on the source of efficacy data and the assumed cost of the LABA plus ICS. Using the base-case analysis, triple therapy would be cost-effective if willingness to pay exceeded $111,458 per QALY. Otherwise monotherapy would be the cost-effective treatment.

**Recommendations**
Not applicable.

**Methods**
We conducted systematic reviews of clinical and economic literature to compare triple therapy (LAAC+LABA+ICS) with dual bronchodilator therapy (LAAC+LABA, regular use SAAC+LABA), combination therapy (LABA+ICS), or monotherapy (LAAC). Due to heterogeneity in the selected studies, we did not perform a meta-analysis. For the economic assessment, we performed a cost-utility analysis using a Markov model and taking a publicly funded healthcare perspective. In the base-case analysis, 65-year-old patients with severe-to-moderate COPD comprised the starting cohort. Comparators were monotherapy (tiotropium), dual bronchodilator therapy (tiotropium+LABA), and triple therapy (tiotropium+LABA+ICS). The time horizon was 5 years.

**Further research/reviews required**
More studies comparing therapies for COPD are needed.