who initiated therapy during year 2002 with either an inhaled corticosteroid or an anticholinergic (first fill date identified as index date) were included in the analyses. Patients were followed for one year prior to and one year after the index date. Rate of switching and augmentation between the two groups was analyzed descriptively. Multivariate analyses controlling for patient demographics, comorbidities, baseline health resource utilization and physician specialty were used to compare costs between the two groups. RESULTS: Of the 8392 patients identified as having COPD, 467 (5.56 %) initiated an inhaled corticosteroid and 495 (5.90 %) initiated an anticholinergic. Rate of switching (12 % vs. 10 %) and augmentation (32 % vs. 24 %) was higher in the inhaled corticosteroid group as compared to the anticholinergic group. After adjusting for the confounding factors, multivariate analysis revealed that the initiating inhaled corticosteroid group had 68 % higher respiratory costs and 20 % higher overall costs as compared to the initiating anticholinergic group during the one-year follow-up period (p < 0.05). CONCLUSIONS: The inhaled corticosteroid users had higher rates of switching/augmentation and higher respiratory and overall costs as compared to the anticholinergic users. Future research determining the reasons for higher follow-up cost in the inhaled corticosteroid group would be helpful.

OBJECTIVES: The Canadian Thoracic Society (CTS) guidelines for the management of Chronic Obstructive Pulmonary Disease (COPD) recommend incorporating combination therapy [long-acting B_2-agonist (LABA) and an inhaled corticosteroid (ICS)] for select COPD patients but have not evaluated the associated economic implications. Our objective was to provide economic information to inform decision makers whether to recommend combination therapy to none, all, or a select group of COPD patients. METHODS: Using clinical guidelines and current management of COPD as the basis for the analysis, a Markov model was constructed to determine, from a health system perspective, the cost-effectiveness of combination therapy versus LABA alone between four treatment strategies: 1) maintenance therapy for all patients using LABA alone (base case); and in addition to the base case, 2) provide combination therapy for severe cases (forced expiratory volume in 1 second [FEV1] < 35 % predicted); 3) provide combination therapy for moderate or severe cases (FEV1 < 50 % predicted); and 4) provide combination therapy for all COPD patients. Estimates of mortality, exacerbation and disease progression rates, and outcomes (QALY) were derived from a systematic review of the literature. Cost estimates were based on current Alberta healthcare costs. A time horizon of 3 years was used. RESULTS: Beginning with the lowest cost intervention of LABA for all cases the incremental cost-effectiveness ratio (ICER) of providing combination therapy for severe patients was $9670 per QALY gained. The marginal ICER for providing combination therapy for moderate and severe cases is $31,606 per QALY gained and providing combination therapy for all stages of disease was $271,241 per QALY gained. CONCLUSION: It would be cost-effective to provide combination therapy for moderate and severe COPD patients. This analysis has significant implications for the planned revision of CTS guidelines because it promotes the wider use of combination therapy in COPD populations with greater severity.

LIFETIME COSTS AND IMPACT ON LIFE EXPECTANCY OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) IN THE U.S.: PROJECTIONS FROM A DECISION-ANALYTIC MODEL
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OBJECTIVES: COPD is a leading cause of morbidity and mortality in the U.S., and is a major source of healthcare costs. Lifetime costs of COPD and its impact on life expectancy have not been adequately quantified. METHODS: We developed a Markov model to project mortality and costs from COPD over an individual’s remaining lifetime. The model profiles patients with diagnosed COPD by sex, age (30, 40, 50, 60, 70, 80 years), smoking status (current, former, never smoker), and COPD severity (GOLD stages I-IV). Changes/transitions for these factors, along with mortality, occur in each one-year model cycle. Data were obtained from published sources and analyses of government survey and claims databases. The model projects direct costs (undiscounted and discounted to 2005 US$ at 3 % per annum) and life expectancy (age at death and quality-adjusted life years [QALYs] remaining). RESULTS: For a “typical” COPD patient (60 years old, former smoker, GOLD stage I or II), discounted lifetime costs of COPD were projected to range from $38,000–$74,000 (men) and $43,000–$85,000 (women) for GOLD stages I and II, respectively. Unadjusted remaining life expectancy was 19.6/22.0 years (men/women) for GOLD stage I and 16.6/19.0 years (men/women) for GOLD stage II. Men/women in GOLD stages I and II respectively had 1.4/2.3 and 4.4/5.3 fewer years remaining in life compared to average 60-year-olds in the general U.S. population. Quality-adjusted life expectancy for men/women was 17.0/18.9 and 12.0/13.7 QALYs for GOLD stages I and II, respectively. CONCLUSION: Lifetime burden of COPD for individuals with the disease is considerable. Costs and life-years lost for GOLD stage II patients are about double to triple for those in GOLD stage I. These results highlight the potential clinical and economic benefits of slowing disease progression.