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Title: The drug costs associated with COPD prescription medicine in Denmark

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Body: Background: Spirometric studies of the general population estimate that 430,000 Danes have chronic obstructive lung disease (COPD). COPD is mainly caused by smoking with smoking cessation being considered the most important intervention to prevent disease progression. Cost-of-illness of COPD in Denmark is significant. However, the use of prescription medicine for COPD has not been analysed for the Danish population. Aim and objective: Analyse the societal costs associated with prescription medicine for the treatment of COPD in Denmark. Methods: The study was designed as a nation-wide retrospective register study of the drug costs (ATC group R03) associated with COPD from 2001-2010. Data were retrieved from the Prescription Database and the National Patient Register. The population comprised individuals (40+ years) having had at least one prescription of medications (R03) with an indication code indicating COPD. Patients dying were included up to time of death. A societal perspective included both public reimbursement costs and co-payment. Costs were calculated in fixed 2010-prices using a Laypeyres price index (average treatment cost per DDD and DDD amount sold). Results: In the period 2001-2010, 292,646 individuals (40+ years) have had at least one prescription of R03 medication. Among these, 124,020 with a COPD diagnosis had been hospitalized, whereas 46,218 have not. The annual average drug cost (R03) was DKK 8,017 per patient (Euro 1,069) with a total average cost per year of 680 million DKK (91 million Euros). Conclusions: The annual costs of prescription medicine for COPD in Denmark are significant. For comparison smoking cessation treatment costs, i.e. the primary intervention towards COPD, are much lower.