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v i r t u a l

An estimate of the European prevalence of COPD in 2050

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Introduction: Prevalence of chronic obstructive pulmonary disease (COPD) in Europe is expected to rise due to increasing risk factors like smoking and air pollution.

Aim: We estimated the prevalence of COPD in the year 2050 based on current values for these risk factors, recognising population growth and aging during this time.

Methods: We used a time-in-state model to make projections using data from the World Bank population projections and Global Burden of Disease data for COPD. We generated an estimated count of COPD patients by country, age, sex, and year strata from 2020 to 2050, in ages >25 years. We assumed the change in number of COPD patients over time as a function of population aging and growth, but assumed no change in COPD risk factors during this time.

Results: We included 39 countries in Europe with data available. In 2020, we estimate there are 36,580,965 Europeans with COPD. In 2050, we project 49,453,852 people will have COPD (prevalence=9.3%), which represents a 35.2% relative increase in patients and 39.6% increase in prevalence. Table 1 shows estimates of the countries with the highest projected impact.

Conclusions: COPD burden is substantial and projected to worsen over time, creating a vast economic and health impact. Our estimates are conservative, as we anticipate worsening of COPD risk factors, particularly in developing countries. Efforts to address this burden will require coordinated efforts with advocacy, prevention, diagnosis, and treatment.

Rank	Projected Number of COPD Patients in 2050	Projected Prevalence of COPD in 2050
1	Germany 7.6M	Netherlands 14.6%
2	UK 7.0M	Denmark 14.4%
3	Spain 4.8M	Spain 13.8%
4	Italy 4.7M	Belgium 13.7%
5	Russian Federation 4.5M	UK 13.1%