COPD: Worldwide morbidity and mortality

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COPD Worldwide

- According to WHO 65 million people have moderate to severe chronic obstructive pulmonary disease (COPD).
- In high- and middle-income countries tobacco smoke is the biggest risk factor.
- In low-income countries primary cause is exposure to indoor air pollution, such as the use of biomass fuels for cooking and heating.
- Almost 90% of COPD deaths occur in low- and middle-income countries.
COPD Disease in US

- 13 million people in U.S. have diagnosed COPD.
- >133,000 U.S. deaths due to COPD in 2010. Third leading cause of death in U.S.
- COPD costs ~ $37.2 billion in 2004.
  - $20.9 billion in health care expenditures.
  - $7.4 billion indirect morbidity costs.
  - $8.9 billion indirect mortality costs.
COPD Risk Factors

• Hereditary deficiency in \( \alpha_1 \)-antitrypsin (ATT), a protein made in the liver.
  – Less than 1% of COPD patients

• Cigarette Smoking
  – 80-90% caused by smoking in developed countries
  – Only 15-20% of smokers develop COPD and 10% of COPD deaths occur in lifetime non-smokers.

• Occupational Exposures
  – 15-30% of COPD cases
  – Among never smokers, up to 50% of COPD cases estimated to be caused by occupational exposures.

• Ambient air pollution/biomass fuel use
  • Almost 3 billion people worldwide use biomass and coal as their main source of energy