

## **COPD, SMOKING AND SES IN FOUR POPULATION-BASED COHORTS AS PART OF DATA HARMONIZATION IN THE ESCAPE PROJECT**

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**Background and Aims** : Longitudinal studies on the long-term influence of air pollution on chronic respiratory disease in adults are rare. Workpackage 4 (WP4) of ESCAPE investigates this in six adult cohort studies in 12 European countries namely ECRHS, EGEA, E3N, SAPALDIA, SALIA and NSHD. This analysis compares prevalence of COPD by smoking status, as a first step to understand similarities and differences across the cohorts involved.

**Methods**: Four population-based studies of this workpackage have lung function data (ECRHS, NSHD, SALIA, SAPALDIA). Data were harmonised to ensure consistency of statistical analysis (by study and meta-analyses). COPD variability by sex, smoking status, SES (education level) and age were explored and logistic regression was used to determine cross-sectional associations with spirometrically defined COPD using the GOLD criteria where COPD is defined as an FEV1/FVC ratio <0.7.

**Results** : There were 13'282 participants with at least two spirometric measures and 18'088 participants with questionnaire data about chronic bronchitis symptoms. The follow-up time varied between studies from 10 to 20 years and mean age from 42.6 to 73.5 years among studies. The unadjusted prevalence of moderate COPD at the most recent follow-up varied across studies ranging from 1.6% to 4.6%. Smoking was significantly associated with COPD in all studies with OR's ranging 1.87 to 2.86 for 'current smoking', while women were found to have 40-70% of the risk of men. No significant association could be found for SES in all studies.

**Conclusions**: An important part of the ESCAPE project is harmonisation of datasets for use in future analyses of associations of respiratory outcomes with air pollution. Findings for cross-sectional associations of COPD with major risk factors were comparable despite differences in protocols, areas and timing of cohort studies. These analyses are being extended to all respiratory outcomes being investigated in WP4 and will inform analytic strategies.