

## Online appendix

### **Box 1. Exposure Variables used in analysis**

#### **1. Residential Exposure**

Years lived in Zone A (near heavy industry in Teesside)

Years lived in Zone A or D (near heavy industry anywhere)

#### **2. Active smoking**

Current smoking status (current, ex-, or never-smoker)

Mean number of cigarettes smoked per day

Years of regular smoking (at least one cigarette a day on most days)

Pack years smoking

Years stopped smoking (ex-smokers)

#### **3. Socio-economic status**

Left school at <16 years with no qualifications (Y/N)

Occupational social class (manual vs non-manual) of longest duration job during early adult (16-24 years), mid-adult (25-40 years), and late adult (> 40 years) periods; total number of manual main occupations during early, mid and late adult periods (0-3)

Housing tenure (rented vs non-rented) of longest duration of residence house during childhood (0-11 years), young adult (16-40 years), middle-age (41-65 years), and elderly (>65 years); total number (0-2) of main residences rented, excluding elderly period

Car ownership – proportion of adult life (> 16 years) subject or immediate family owned a car

Current marital status (currently married/co-habiting – Y/N)

Townsend score for Enumeration District of the current place of residence

#### **4. Second hand smoke (SHS)**

*Domestic SHS:* ‘Smoker years’ – sum of the years of regular SHS exposure from each smoker; ‘Pack years exposure’ – sum of pack years (typical number cigarettes smoked daily/20 multiplied by duration in years) SHS exposure from each smoker

*Workplace and social/other SHS:* ‘Exposure years’ sum of the years of regular exposure in workplace or social/other settings; ‘Intensity hours’ sum of the intensity hours (mean hours exposure per week x 48 x typical intensity score - 1 ‘light’, 2 ‘moderate’, 3 ‘heavy’) of regular exposure in workplace or social/other settings

#### **5. Asbestos and other occupational exposures**

Number of years working in jobs with ‘possible/probable/definite’ non-asbestos lung carcinogen exposure

Number of years of ‘possible/probable/definite’ asbestos exposure