|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Primary analysis | Early censoring | Restricted to those with complete BMI/smoking | Adjusted for ethnicity in complete cases |
| **Age** |  |  |  |  |
| 18-<40 | 0.07 (0.05-0.10) | 0.08 (0.05-0.13) | 0.09 (0.06-0.13) | 0.08 (0.06-0.11) |
| 40-<50 | 0.31 (0.25-0.39) | 0.31 (0.21-0.46) | 0.32 (0.25-0.41) | 0.30 (0.23-0.38) |
| 50-<60 | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) |
| 60-<70 | 2.09 (1.84-2.38) | 2.35 (1.90-2.91) | 2.12 (1.85-2.44) | 2.07 (1.79-2.39) |
| 70-<80 | 4.77 (4.23-5.38) | 5.55 (4.54-6.77) | 4.84 (4.25-5.50) | 4.81 (4.20-5.51) |
| 80+ | 12.64 (11.19-14.28) | 13.43 (10.95-16.45) | 12.76 (11.18-14.55) | 12.04 (10.47-13.84) |
|  |  |  |  |  |
| **Sex** |  |  |  |  |
| Female | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) |
| Male | 1.99 (1.88-2.10) | 2.18 (1.99-2.38) | 2.06 (1.94-2.19) | 1.93 (1.80-2.06) |
|  |  |  |  |  |
| **BMI** |  |  |  |  |
| Not obese | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) |
| Obese class I (30-34.9kg/m2) | 1.27 (1.18-1.36) | 1.39 (1.25-1.54) | 1.32 (1.23-1.41) | 1.28 (1.18-1.38) |
| Obese class II (35-39.9kg/m2) | 1.56 (1.41-1.73) | 1.62 (1.39-1.90) | 1.64 (1.48-1.81) | 1.60 (1.43-1.80) |
| Obese class III (≥40 kg/m2) | 2.27 (1.99-2.58) | 2.45 (2.00-3.01) | 2.40 (2.10-2.74) | 2.28 (1.96-2.65) |
|  |  |  |  |  |
| **Smoking** |  |  |  |  |
| Never | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) |
| Ex-smoker | 1.25 (1.18-1.33) | 1.33 (1.21-1.47) | 1.24 (1.17-1.33) | 1.32 (1.23-1.42) |
| Current | 0.88 (0.79-0.99) | 0.84 (0.70-1.01) | 0.92 (0.81-1.03) | 0.94 (0.82-1.07) |
|  |  |  |  |  |
| **Ethnicity\*** |  |  |  |  |
| White | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) |
| Mixed | 1.64 (1.19-2.26) | 1.13 (0.62-2.05) | 1.58 (1.12-2.22) | 1.64 (1.19-2.26) |
| Asian or Asian British | 1.62 (1.43-1.82) | 1.77 (1.48-2.13) | 1.69 (1.49-1.91) | 1.62 (1.43-1.82) |
| Black | 1.71 (1.44-2.02) | 1.90 (1.48-2.45) | 1.69 (1.42-2.02) | 1.71 (1.44-2.02) |
| Other | 1.33 (1.03-1.73) | 1.81 (1.28-2.57) | 1.41 (1.07-1.84) | 1.33 (1.03-1.73) |
|  |  |  |  |  |
| **IMD quintile** |  |  |  |  |
| 1 (least deprived) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) |
| 2 | 1.13 (1.04-1.24) | 1.01 (0.88-1.16) | 1.12 (1.02-1.23) | 1.19 (1.07-1.33) |
| 3 | 1.23 (1.13-1.35) | 1.04 (0.91-1.20) | 1.23 (1.12-1.35) | 1.26 (1.13-1.40) |
| 4 | 1.49 (1.37-1.63) | 1.27 (1.11-1.46) | 1.48 (1.35-1.62) | 1.53 (1.38-1.70) |
| 5 (most deprived) | 1.75 (1.60-1.91) | 1.49 (1.29-1.71) | 1.72 (1.57-1.89) | 1.70 (1.53-1.89) |
|  |  |  |  |  |
| **Blood pressure** |  |  |  |  |
| Normal | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) | 1.00 (ref) |
| High, or diagnosed hyper-tension | 0.95 (0.89-1.01) | 0.94 (0.85-1.05) | 0.94 (0.88-1.01) | 0.97 (0.90-1.05) |
|  |  |  |  |  |
| ***Co-morbidities*** |  |  |  |  |
| **Respiratory disease ex asthma** | 1.78 (1.67-1.90) | 1.97 (1.77-2.18) | 1.74 (1.62-1.86) | 1.79 (1.66-1.93) |
|  |  |  |  |  |
| **Asthma (vs none)\*** |  |  |  |  |
| With no recent OCS use | 1.11 (1.02-1.20) | 1.14 (1.01-1.29) | 1.10 (1.02-1.20) | 1.03 (0.94-1.13) |
| With recent OCS use | 1.25 (1.08-1.44) | 1.39 (1.12-1.73) | 1.22 (1.05-1.42) | 1.24 (1.06-1.46) |
|  |  |  |  |  |
| **Chronic heart disease** | 1.27 (1.20-1.35) | 1.33 (1.22-1.46) | 1.27 (1.19-1.35) | 1.27 (1.19-1.36) |
|  |  |  |  |  |
| **Diabetes (vs none)**\*\* |  |  |  |  |
| Controlled (HbA1c<7.5%) | 1.50 (1.40-1.60) | 1.48 (1.33-1.65) | 1.47 (1.37-1.57) | 1.47 (1.36-1.59) |
| Uncontrolled (HbA1c>7.5%) | 2.36 (2.18-2.56) | 2.57 (2.27-2.91) | 2.30 (2.12-2.50) | 2.23 (2.03-2.45) |
| No recent HbA1c measure | 1.87 (1.63-2.16) | 1.68 (1.33-2.12) | 1.85 (1.60-2.15) | 1.91 (1.63-2.24) |
|  |  |  |  |  |
| **Cancer (non-haematological, vs none)** |  |  |  |  |
| Diagnosed < 1 year ago | 1.56 (1.29-1.89) | 1.51 (1.10-2.05) | 1.52 (1.24-1.86) | 1.68 (1.36-2.09) |
| Diagnosed 1-4.9 years ago | 1.19 (1.04-1.35) | 1.36 (1.13-1.65) | 1.20 (1.05-1.37) | 1.21 (1.04-1.40) |
| Diagnosed ≥5 years ago | 0.97 (0.88-1.06) | 0.92 (0.79-1.06) | 0.96 (0.87-1.05) | 1.02 (0.92-1.13) |
|  |  |  |  |  |
| **Haematological malignancy (vs none)** |  |  |  |  |
| Diagnosed < 1 year ago | 3.52 (2.41-5.14) | 2.60 (1.30-5.22) | 3.77 (2.58-5.50) | 3.30 (2.10-5.18) |
| Diagnosed 1-4.9 years ago | 3.12 (2.50-3.89) | 3.67 (2.66-5.06) | 3.03 (2.40-3.83) | 3.42 (2.67-4.38) |
| Diagnosed ≥5 years ago | 1.88 (1.55-2.29) | 1.64 (1.18-2.28) | 1.90 (1.55-2.33) | 1.84 (1.46-2.32) |
|  |  |  |  |  |
| **Liver disease** | 1.61 (1.33-1.95) | 1.86 (1.40-2.47) | 1.59 (1.30-1.93) | 1.61 (1.30-2.00) |
|  |  |  |  |  |
| **Stroke/dementia** | 1.79 (1.67-1.93) | 1.61 (1.43-1.81) | 1.78 (1.65-1.92) | 1.75 (1.61-1.90) |
|  |  |  |  |  |
| **Other neurological** | 2.46 (2.19-2.76) | 2.28 (1.88-2.76) | 2.38 (2.10-2.69) | 2.41 (2.11-2.76) |
|  |  |  |  |  |
| **Kidney disease** | 1.72 (1.62-1.83) | 1.75 (1.58-1.92) | 1.71 (1.60-1.82) | 1.76 (1.64-1.89) |
|  |  |  |  |  |
| **Organ transplant** | 4.27 (3.20-5.70) | 2.62 (1.51-4.57) | 4.44 (3.31-5.96) | 4.59 (3.36-6.27) |
|  |  |  |  |  |
| **Spleen diseases** | 1.41 (0.93-2.12) | 1.87 (1.06-3.30) | 1.25 (0.79-1.96) | 1.43 (0.90-2.27) |
|  |  |  |  |  |
| **Rheumatoid/Lupus/ Psoriasis** | 1.23 (1.12-1.35) | 1.31 (1.14-1.51) | 1.20 (1.09-1.32) | 1.17 (1.05-1.30) |
|  |  |  |  |  |
| **Other immunosuppressive condition** | 1.69 (1.21-2.34) | 2.01 (1.25-3.25) | 1.52 (1.06-2.19) | 1.66 (1.16-2.39) |

*FOOTNOTES: Ethnicity effect estimated from a model restricted to those with recorded ethnicity. Models adjusted for age using a 4-knot cubic spline age spline, except for estimation of age group effects. OCS = oral corticosteroids. \*Recent OCS use defined as in the year before baseline. \*\*HbA1c classification based on latest measure within 15 months before baseline.*