|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **ITU admission HR (95% CI)** | | **CPNS Death HR (95% CI)** | | **ONS Covid-19 Death HR (95% CI)** | |
|  | Age-sex adj | Fully adj | Age-sex adj | Fully adj | Age-sex adj | Fully adj |
| **Age** |  |  |  |  |  |  |
| 18-<40 |  |  | 1.02 (0.98-1.06) | 1.01 (0.96-1.06) |  |  |
| 40-<50 |  |  | 1.00 (0.95-1.05) | 0.99 (0.93-1.04) |  |  |
| 50-<60 |  |  | 1.00 (ref) | 1.00 (ref) |  |  |
| 60-<70 |  |  | 1.00 (0.94-1.05) | 0.99 (0.93-1.05) |  |  |
| 70-<80 |  |  | 1.02 (0.97-1.08) | 1.02 (0.95-1.08) |  |  |
| 80+ |  |  | 1.00 (0.96-1.05) | 0.99 (0.94-1.05) |  |  |
|  |  |  |  |  |  |  |
| **Sex** |  |  |  |  |  |  |
| Female |  |  | 1.00 (ref) | 1.00 (ref) |  |  |
| Male |  |  | 1.00 (0.97-1.03) | 1.00 (0.97-1.03) |  |  |
|  |  |  |  |  |  |  |
| **BMI** |  |  |  |  |  |  |
| Not obese |  |  | 1.00 (ref) | 1.00 (ref) |  |  |
| Obese class I (30-34.9kg/m2) |  |  | 1.01 (0.97-1.05) | 1.01 (0.97-1.05) |  |  |
| Obese class II (35-39.9kg/m2) |  |  | 1.02 (0.98-1.06) | 1.02 (0.98-1.06) |  |  |
| Obese class III (≥40 kg/m2) |  |  | 1.00 (0.96-1.05) | 1.00 (0.96-1.04) |  |  |
|  |  |  |  |  |  |  |
| **Smoking** |  |  |  |  |  |  |
| Never |  |  | 1.00 (ref) | 1.00 (ref) |  |  |
| Ex-smoker |  |  | 0.98 (0.93-1.02) | 0.96 (0.88-1.05) |  |  |
| Current |  |  | 1.00 (0.97-1.03) | 1.01 (0.97-1.06) |  |  |
|  |  |  |  |  |  |  |
| **Ethnicity\*** |  |  |  |  |  |  |
| White |  |  | 1.00 (ref) | 1.00 (ref) |  |  |
| Mixed |  |  | 1.02 (0.98-1.06) | 1.02 (0.98-1.06) |  |  |
| Asian or Asian British |  |  | 1.01 (0.97-1.05) | 1.01 (0.97-1.06) |  |  |
| Black |  |  | 1.02 (0.97-1.06) | 1.02 (0.98-1.06) |  |  |
| Other |  |  | 0.98 (0.94-1.03) | 0.98 (0.94-1.03) |  |  |
|  |  |  |  |  |  |  |
| **IMD quintile** |  |  |  |  |  |  |
| 1 (least deprived) |  |  | 1.00 (ref) | 1.00 (ref) |  |  |
| 2 |  |  | 0.98 (0.93-1.02) | 0.98 (0.92-1.03) |  |  |
| 3 |  |  | 0.99 (0.95-1.04) | 0.99 (0.94-1.04) |  |  |
| 4 |  |  | 0.98 (0.93-1.02) | 0.98 (0.93-1.02) |  |  |
| 5 (most deprived) |  |  | 1.00 (0.95-1.04) | 1.02 (0.96-1.08) |  |  |
|  |  |  |  |  |  |  |
| **Blood pressure** |  |  |  |  |  |  |
| Normal |  |  | 1.00 (ref) | 1.00 (ref) |  |  |
| High, or diagnosed hyper-tension |  |  | 1.01 (0.98-1.04) | 1.02 (0.99-1.05) |  |  |
|  |  |  |  |  |  |  |
| ***Co-morbidities*** |  |  |  |  |  |  |
| **Respiratory disease ex asthma** |  |  | 1.07 (0.91-1.26) | 1.06 (0.90-1.26) |  |  |
|  |  |  |  |  |  |  |
| **Asthma (vs none)\*** |  |  |  |  |  |  |
| With no recent OCS use |  |  | 1.00 (0.96-1.05) | 1.00 (0.96-1.05) |  |  |
| With recent OCS use |  |  | 1.01 (0.96-1.05) | 1.00 (0.96-1.05) |  |  |
|  |  |  |  |  |  |  |
| **Chronic heart disease** |  |  | 1.00 (0.96-1.04) | 1.06 (0.96-1.16) |  |  |
|  |  |  |  |  |  |  |
| **Diabetes (vs none)**\*\* |  |  |  |  |  |  |
| Controlled (HbA1c<7.5%) |  |  | 1.01 (0.96-1.07) | 1.02 (0.94-1.10) |  |  |
| Uncontrolled (HbA1c>7.5%) |  |  | 0.95 (0.89-1.02) | 0.96 (0.88-1.04) |  |  |
| No recent HbA1c measure |  |  | 0.99 (0.96-1.04) | 1.00 (0.94-1.07) |  |  |
|  |  |  |  |  |  |  |
| **Cancer (non-haematological, vs none)** |  |  |  |  |  |  |
| Diagnosed < 1 year ago |  |  | 0.99 (0.95-1.04) | 0.99 (0.95-1.04) |  |  |
| Diagnosed 1-4.9 years ago |  |  | 0.98 (0.93-1.02) | 0.97 (0.93-1.02) |  |  |
| Diagnosed ≥5 years ago |  |  | 1.01 (0.96-1.07) | 1.02 (0.97-1.07) |  |  |
|  |  |  |  |  |  |  |
| **Haematological malignancy (vs none)** |  |  |  |  |  |  |
| Diagnosed < 1 year ago |  |  | 1.01 (0.97-1.06) | 1.03 (0.98-1.08) |  |  |
| Diagnosed 1-4.9 years ago |  |  | 1.02 (0.98-1.07) | 1.04 (0.99-1.09) |  |  |
| Diagnosed ≥5 years ago |  |  | 1.04 (0.98-1.12) | 1.14 (1.02-1.28) |  |  |
|  |  |  |  |  |  |  |
| **Liver disease** |  |  | 0.99 (0.93-1.06) | 0.85 (0.67-1.08) |  |  |
|  |  |  |  |  |  |  |
| **Stroke/dementia** |  |  | 1.00 (0.94-1.06) | 0.99 (0.81-1.22) |  |  |
|  |  |  |  |  |  |  |
| **Other neurological** |  |  | 0.97 (0.75-1.27) | 0.96 (0.73-1.25) |  |  |
|  |  |  |  |  |  |  |
| **Kidney disease** |  |  | 1.01 (0.97-1.06) | 1.01 (0.97-1.06) |  |  |
|  |  |  |  |  |  |  |
| **Organ transplant** |  |  | 1.02 (0.96-1.08) | 1.02 (0.95-1.08) |  |  |
|  |  |  |  |  |  |  |
| **Spleen diseases** |  |  | 0.98 (0.93-1.04) | 0.94 (0.82-1.08) |  |  |
|  |  |  |  |  |  |  |
| **Rheumatoid/Lupus/ Psoriasis** |  |  | 1.03 (0.87-1.22) | 1.01 (0.85-1.20) |  |  |
|  |  |  |  |  |  |  |
| **Other immunosuppressive condition** |  |  | 1.00 (0.95-1.04) | 1.00 (0.95-1.04) |  |  |

*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.*