**Supplementary material 3.** Prevalence and Odds Ratios (OR) of mortality for all possible pairs of multimorbidity

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Diagnosis group\* | LUNG | MUSCULO-SKELETAL | ENDO | MENTAL | CANCER | NEURO | GASTRO | HEART | KIDNEY | SENSORY |
| ONLY ONE DIAGNOSIS GROUP | *45.893 (1.2%)* | *181.159 (4.5%)* | *42.735 (1.1%)* | *114.479 (2.9%)* | *72.296 (1.8%)* | *54.043 (1.4%)* | *53.579 (1.3%)* | *98.103 (2.5%)* | *19.306 (0.5%)* | *77.589 (2.0%)* |
| 2.56†[2.50-2.63] | 1.10[1.08-1.12] | 2.12[2.07-2.18] | 2.38[2.33-2.42] | 2.68[2.63-2.74] | 2.52[2.46-2.58] | 1.32[1.28-1.36] | 1.91[1.88-1.94] | 1.38[1.32-1.45] | 1.29[1.26-1.31] |
| LUNG |  | *5.891 (0.2%)* | *1.806 (0.05%)* | *3.592 (0.1%)* | *1.913 (0.05%)* | *1.714 (0.04%)* | *1.894 (0.05%)* | *9.258 (0.2%)* | *680 (0.02%)* | *2.636 (0.07%)* |
|  | 2.99[2.80-3.19] | 4.58[4.06-5.16] | 4.86[4.47-5.28] | 5.59[4.93-6.34] | 4.94[4.33-5.64] | 3.52[3.13-3.95] | 5.75[5.42-6.10] | 3.40[2.80-4.13] | 3.38[3.03-3.77] |
| MUSCULO-SKELETAL |  |  | *5.580 (0.1%)* | *10.737 (0.3%)* | *6.540 (0.2%)* | *6.598 (0.2%)* | *7.380 (0.2%)* | *16.001 (0.4%)* | *2.845 (0.07%)* | *12.109 (0.3%)* |
|  |  | 1.99[1.86-2.13] | 2.31[2.19-2.43] | 2.66[2.49-2.84] | 2.56[2.40-2.74] | 1.37[1.29-1.46] | 2.03[1.95-2.11] | 1.45[1.31-1.61] | 1.42[1.35-1.49] |
| ENDO |  |  |  | *3.670 (0.1%)* | *1.898 (0.05%)* | *3.534 (0.1%)* | *2.294 (0.06%)* | *10.890 (0.3%)* | *836 (0.02%)* | *2.998 (0.1%)* |
|  |  |  | 4.49[4.14-4.87] | 4.26[3.78-4.80] | 5.94[5.42-6.50] | 3.54[3.20-3.91] | 4.27[4.06-4.49] | 5.31[4.48-6.29] | 2.87[2.59-3.17] |
| MENTAL |  |  |  |  | *3.553 (0.1%)* | *8.848 (0.2%)* | *6.745 (0.2%)* | *6.011 (0.2%)* | *1.378 (0.03%)* | *4.274 (0.1%)* |
|  |  |  |  | 4.22[3.86-4.61] | 4.89[4.63-5.16] | 5.08[4.79-5.38] | 3.57[3.33-3.81] | 2.73[2.37-3.13] | 3.23[2.95-3.52] |
| CANCER |  |  |  |  |  | *2.708 (0.07%)* | *2.039 (0.05%)* | *4.671 (0.1%)* | *1.048 (0.03%)* | *4.365 (0.1%)* |
|  |  |  |  |  | 6.35[5.71-7.06] | 3.77[3.36-4.24] | 4.43[4.07-4.81] | 3.00[2.53-3.55] | 2.90[2.65-3.17] |
| NEURO |  |  |  |  |  |  | *1.698 (0.04%)* | *9.421 (0.2%)* | *912 (0.02%)* | *4.060 (0.1%)* |
|  |  |  |  |  |  | 2.84[2.50-3.22] | 4.29[4.04-4.55] | 3.65[3.07-4.34] | 3.19[2.89-3.51] |
| GASTRO |  |  |  |  |  |  |  | *4.415 (0.1%)* | *849 (0.02%)* | *2.181 (0.05%)* |
|  |  |  |  |  |  |  | 1.74[1.61-1.87] | 1.79[1.46-2.18] | 1.52[1.36-1.70] |
| HEART |  |  |  |  |  |  |  |  | *1.609 (0.04%)* | *11.118 (0.3%)* |
|  |  |  |  |  |  |  |  | 4.09[3.59-4.66] | 2.15[2.04-2.28] |
| KIDNEY |  |  |  |  |  |  |  |  |  | *899 (0.02%)* |
|  |  |  |  |  |  |  |  |  | 1.84[1.54-2.21] |

Prevalence is presented as numbers (N) and percentages (%).

\*LUNG = lung diagnoses, MUSCULOSKELETAL = musculoskeletal diagnoses, ENDO = endocrine diagnoses, MENTAL = mental diagnoses, CANCER = cancer diagnoses, NEURO = neurological diagnoses, GASTRO = gastrointestinal diagnoses, HEART = cardiovascular diagnoses, KIDNEY = genitourinary diagnoses, SENSORY = sensory organ diagnoses

†Odds Ratios for mortality for all combinations of two diagnosis groups compared to persons without any chronic diagnose, calculated with logistic regression, presented with 95% confidence intervals. All analyses are adjusted for age, sex, socioeconomic status (education, income, working status, and assets), and degree of urbanisation and cohabitation status.