

S4 Table: Mortality ratios for 2020 and 2015-9 (Usual) with corresponding excess mortality ratio (EMR) and true pandemic interaction (TPI) for selected co-morbidities stratified by age

| | 2020 Mortality Ratio (95% CI) | 2015-9 Usual Mortality Ratio (UMR) (95%CI) | 2020 Excess Mortality Ratio (EMR) (95%CI) | True Pandemic Interaction* (95%CI) |
|-------------------------------|--------------------------------------|---|--|---|
| Asthma | | | | |
| - 30 to 64 | 1.248 (1.124,1.386) | 1.313 (1.240,1.390) | 1.082 (0.700,1.672) | 0.824 (0.521,1.305) |
| - 65 to 79 | 1.187 (1.089,1.294) | 1.267 (1.208,1.329) | 1.007 (0.727,1.393) | 0.794 (0.562,1.122) |
| - 80+ | 1.065 (1.003,1.131) | 1.058 (1.021,1.097) | 1.076 (0.908,1.276) | 1.017 (0.844,1.225) |
| Cancer | | | | |
| - 30 to 64 | 6.795 (6.212,7.432) | 9.013 (8.565,9.485) | 2.218 (1.398,3.518) | 0.246 (0.152,0.397) |
| - 65 to 79 | 3.078 (2.887,3.282) | 4.158 (4.015,4.306) | 1.198 (0.901,1.595) | 0.288 (0.213,0.389) |
| - 80+ | 1.367 (1.305,1.432) | 1.613 (1.570,1.656) | 0.991 (0.856,1.147) | 0.615 (0.525,0.720) |
| Coronary Heart Disease | | | | |
| - 60 to 79 | 1.750 (1.621,1.889) | 1.741 (1.669,1.817) | 1.770 (1.361,2.302) | 1.016 (0.768,1.345) |
| - 80+ | 1.276 (1.219,1.335) | 1.314 (1.280,1.349) | 1.213 (1.065,1.381) | 0.923 (0.802,1.063) |
| COPD | | | | |
| - 60 to 79 | 2.678 (2.481,2.891) | 3.246 (3.116,3.381) | 1.515 (1.094,2.097) | 0.467 (0.331,0.657) |
| - 80+ | 1.592 (1.500,1.690) | 1.756 (1.697,1.817) | 1.326 (1.105,1.591) | 0.755 (0.620,0.919) |
| Dementia | | | | |
| - 60 to 79 | 9.552 (8.782,10.389) | 5.181 (4.887,5.493) | 22.400 (18.069,27.769) | 4.323 (3.395,5.506) |
| - 80+ | 4.061 (3.897,4.231) | 2.613 (2.546,2.682) | 7.847 (7.042,8.744) | 3.003 (2.666,3.383) |
| Diabetes | | | | |
| - 30 to 64 | 2.971 (2.716,3.251) | 2.073 (1.961,2.192) | 6.355 (4.719,8.559) | 3.065 (2.223,4.227) |
| - 65 to 79 | 1.979 (1.853,2.114) | 1.774 (1.707,1.843) | 2.511 (2.006,3.143) | 1.416 (1.113,1.801) |
| - 80+ | 1.435 (1.371,1.502) | 1.328 (1.291,1.365) | 1.627 (1.436,1.868) | 1.226 (1.068,1.425) |
| Epilepsy | | | | |
| - 30 to 64 | 3.961 (3.366,4.661) | 3.670 (3.350,4.020) | 4.743 (2.635,8.536) | 1.292 (0.691,2.418) |
| - 65 to 79 | 2.718 (2.345,3.150) | 2.235 (2.042,2.447) | 3.863 (2.479,6.019) | 1.728 (1.065,2.805) |
| - 80+ | 1.629 (1.431,1.854) | 1.448 (1.337,1.568) | 1.934 (1.378,2.714) | 1.336 (0.919,1.941) |
| Hypertension | | | | |
| - 30 to 64 | 1.801 (1.658,1.956) | 1.414 (1.347,1.485) | 3.243 (2.415,4.356) | 2.294 (1.678,3.136) |
| - 65 to 79 | 1.326 (1.248,1.409) | 1.133 (1.095,1.172) | 1.934 (1.550,2.411) | 1.707 (1.349,2.159) |
| - 80+ | 1.038 (0.995,1.082) | 0.982 (0.959,1.006) | 1.140 (1.010,1.286) | 1.160 (1.018,1.322) |
| Learning Disability | | | | |
| - 30 to 64 | 7.550 (6.117,9.318) | 4.828 (4.181,5.574) | 15.116 (8.451,27.037) | 3.131 (1.634,5.999) |
| - 65 to 79 | 5.499 (4.347,6.957) | 3.540 (2.984,4.200) | 10.128 (5.509,18.618) | 2.861 (1.430,5.724) |
| Mental Health | | | | |
| - 30 to 64 | 4.131 (3.483,4.901) | 4.058 (3.684,4.469) | 4.330 (2.230,8.407) | 1.067 (0.527,2.161) |
| - 65 to 79 | 3.625 (3.110,4.224) | 2.757 (2.499,3.041) | 5.699 (3.680,8.825) | 2.067 (1.276,3.349) |
| - 80+ | 2.468 (2.156,2.824) | 1.641 (1.492,1.806) | 3.879 (2.863,5.255) | 2.364 (1.668,3.350) |

* - Defined as the ratio of the EMR to the UMR (see S1 Appendix). Note that all models adjust for age and sex.