## Supplementary Table 1. Correlation between pneumonia and control diseases (i.e., malignant neoplasm and heart disease) by age and gender

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| --- | --- | --- | --- | --- | --- |
| Control groups | Age (years) / Gender | From 2003-13 | | From 2014-17 | |
| R2 | *P* -value | R2 | *P* -value |
| malignant neoplasm | male | 0.82 | < 0.001 | 0.86 | < 0.001 |
| female | 0.84 | < 0.001 | 0.86 | < 0.001 |
| heart disease | male | 0.99 | < 0.001 | 0.98 | < 0.001 |
| female | 0.99 | < 0.001 | 0.98 | < 0.001 |
| malignant neoplasm | 65-69 | 0.99 | < 0.001 | 0.95 | < 0.001 |
| 70-74 | 0.99 | < 0.001 | 0.94 | < 0.001 |
| 75-79 | 1.00 | < 0.001 | 0.94 | < 0.001 |
| 80-84 | 0.99 | < 0.001 | 0.93 | < 0.001 |
| 85-89 | 0.98 | < 0.001 | 0.93 | < 0.001 |
| 90 & over | 0.96 | < 0.001 | 0.92 | < 0.001 |
| heart disease | 65-69 | 0.99 | < 0.001 | 0.94 | < 0.001 |
| 70-74 | 0.98 | < 0.001 | 0.95 | < 0.001 |
| 75-79 | 0.98 | < 0.001 | 0.94 | < 0.001 |
| 80-84 | 0.97 | < 0.001 | 0.95 | < 0.001 |
| 85-89 | 0.93 | < 0.001 | 0.93 | < 0.001 |
| 90 & over | 0.73 | < 0.001 | 0.90 | < 0.001 |

Correlation between mortality of pneumonia and control groups by age and gender are shown (by means of linear regression analysis). Malignant neoplasm and heart disease were used as control groups.