**Additional file 4.** Association between long-term exposure to air pollution and first hospitalization for dementia. Sensitivity analyses, Rome 2001-2013

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Exposure** | **Comorbidities adjustment** | **Competing risk** | **Narrower case definition** | **Primary diagnosis** | **Non movers** |
|  | **N=21,548** | **N=21,548** | **N=5,810** | **N=7,486** | **N=18,786** |
|   | **HR1** | **95%CI** | **HR2** | **95%CI** |  | **HR3** | **95%CI** | **HR4** | **95%CI** | **HR5** | **95%CI** |
| PM10 \*(10µg/m3) | 1.00 | 0.98 | 1.03 | 1.01 | 0.99 | 1.04 | 0.95 | 0.90 | 1.00 | 0.98 | 0.93 | 1.02 | 1.00 | 0.97 | 1.03 |
| Coarse \*(5µg/m3) | 0.98 | 0.96 | 1.00 | 1.00 | 0.98 | 1.02 | 0.95 | 0.91 | 0.99 | 0.93 | 0.90 | 0.97 | 0.98 | 0.96 | 1.00 |
| PM2.5 \*(5µg/m3) | 0.99 | 0.96 | 1.03 | 1.01 | 0.97 | 1.04 | 0.95 | 0.88 | 1.02 | 0.95 | 0.89 | 1.01 | 0.98 | 0.94 | 1.02 |
| PM2.5 abs \*(10-5/m) | 1.01 | 0.98 | 1.03 | 1.02 | 0.99 | 1.04 | 0.97 | 0.92 | 1.03 | 0.95 | 0.90 | 1.00 | 1.01 | 0.98 | 1.04 |
| NO2 \*(10µg/m3) | 0.98 | 0.96 | 0.99 | 0.98 | 0.96 | 0.99 | 0.95 | 0.92 | 0.98 | 0.92 | 0.90 | 0.94 | 0.98 | 0.96 | 0.99 |
| NOx \*(20µg/m3) | 1.01 | 1.00 | 1.02 | 1.01 | 1.00 | 1.02 | 0.99 | 0.97 | 1.01 | 0.95 | 0.93 | 0.97 | 1.01 | 1.00 | 1.02 |
| O3 \*(10µg/m3) | 1.06 | 1.04 | 1.08 | 1.07 | 1.04 | 1.09 | 1.06 | 1.01 | 1.10 | 0.98 | 0.94 | 1.02 | 1.05 | 1.03 | 1.08 |

1 HR adjusted for age, education, place of birth, marital status, comorbidities (Chronic Obstructive Pulmonary Disease, diabetes and brain injuries), area-based socioeconomic position with baseline hazard function stratified by sex.

2 HR Models adjusted for gender, education, place of birth, marital status and area-based socioeconomic position with baseline hazard function stratified by sex, with death as competing risk.

3 HR adjusted for age, education, place of birth, marital status, area-based socioeconomic position with baseline hazard function stratified by sex. The selection of case was based on the first of at least two hospital discharges.

4 HR adjusted for age, education, place of birth, marital status, area-based socioeconomic position with baseline hazard function stratified by sex. The selection of case was based on primary diagnosis only.

5 HR adjusted for age, education, place of birth, marital status, area-based socioeconomic position with baseline hazard function stratified by sex in subject that not change residence during the follow up.