**Supplementary Table** Array-approach sensitivity analysis for unmeasured confounder

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ARR | RRCD | PC1 | PC0 | RRadjusted | PC0 | RRadjusted | PC0 | RRadjusted | PC0 | RRadjusted | PC0 | RRadjusted |
| 1.59 | 1.0 | 0.5 | 0.1 | 1.59 | 0.2 | 1.59 | 0.3 | 1.59 | 0.4 | 1.59 | 0.5 | 1.59 |
| 1.59 | 1.5 | 0.5 | 0.1 | 1.33 | 0.2 | 1.40 | 0.3 | 1.46 | 0.4 | 1.53 | 0.5 | 1.59 |
| 1.59 | 2.0 | 0.5 | 0.1 | 1.16 | 0.2 | 1.27 | 0.3 | 1.38 | 0.4 | 1.48 | 0.5 | 1.59 |
| 1.59 | 2.5 | 0.5 | 0.1 | 1.04 | 0.2 | 1.18 | 0.3 | 1.32 | 0.4 | 1.45 | 0.5 | 1.59 |
| 1.59 | 3.0 | 0.5 | 0.1 | 0.95 | 0.2 | 1.11 | 0.3 | 1.27 | 0.4 | 1.43 | 0.5 | 1.59 |
| 1.59 | 3.5 | 0.5 | 0.1 | 0.88 | 0.2 | 1.06 | 0.3 | 1.24 | 0.4 | 1.41 | 0.5 | 1.59 |
| 1.59 | 4.0 | 0.5 | 0.1 | 0.82 | 0.2 | 1.02 | 0.3 | 1.21 | 0.4 | 1.40 | 0.5 | 1.59 |
| 1.59 | 4.5 | 0.5 | 0.1 | 0.78 | 0.2 | 0.98 | 0.3 | 1.19 | 0.4 | 1.39 | 0.5 | 1.59 |
| 1.59 | 5.0 | 0.5 | 0.1 | 0.74 | 0.2 | 0.95 | 0.3 | 1.17 | 0.4 | 1.38 | 0.5 | 1.59 |
| 1.59 | 5.5 | 0.5 | 0.1 | 0.7 | 0.2 | 0.93 | 0.3 | 1.15 | 0.4 | 1.37 | 0.5 | 1.59 |
| 1.59 | 6.0 | 0.5 | 0.1 | 0.68 | 0.2 | 0.91 | 0.3 | 1.14 | 0.4 | 1.36 | 0.5 | 1.59 |
| 1.59 | 1.0 | 0.4 | 0.1 | 1.59 | 0.2 | 1.59 | 0.3 | 1.59 | 0.4 | 1.59 |  |  |
| 1.59 | 1.5 | 0.4 | 0.1 | 1.39 | 0.2 | 1.46 | 0.3 | 1.52 | 0.4 | 1.59 |  |  |
| 1.59 | 2.0 | 0.4 | 0.1 | 1.24 | 0.2 | 1.36 | 0.3 | 1.48 | 0.4 | 1.59 |  |  |
| 1.59 | 2.5 | 0.4 | 0.1 | 1.14 | 0.2 | 1.29 | 0.3 | 1.44 | 0.4 | 1.59 |  |  |
| 1.59 | 3.0 | 0.4 | 0.1 | 1.06 | 0.2 | 1.24 | 0.3 | 1.41 | 0.4 | 1.59 |  |  |
| 1.59 | 3.5 | 0.4 | 0.1 | 0.99 | 0.2 | 1.19 | 0.3 | 1.39 | 0.4 | 1.59 |  |  |
| 1.59 | 4.0 | 0.4 | 0.1 | 0.93 | 0.2 | 1.16 | 0.3 | 1.37 | 0.4 | 1.59 |  |  |
| 1.59 | 4.5 | 0.4 | 0.1 | 0.89 | 0.2 | 1.13 | 0.3 | 1.36 | 0.4 | 1.59 |  |  |
| 1.59 | 5.0 | 0.4 | 0.1 | 0.85 | 0.2 | 1.10 | 0.3 | 1.35 | 0.4 | 1.59 |  |  |
| 1.59 | 5.5 | 0.4 | 0.1 | 0.82 | 0.2 | 1.08 | 0.3 | 1.33 | 0.4 | 1.59 |  |  |
| 1.59 | 6.0 | 0.4 | 0.1 | 0.79 | 0.2 | 1.06 | 0.3 | 1.33 | 0.4 | 1.59 |  |  |
| 1.59 | 1.0 | 0.3 | 0.1 | 1.59 | 0.2 | 1.59 | 0.3 | 1.59 |  |  |  |  |
| 1.59 | 1.5 | 0.3 | 0.1 | 1.45 | 0.2 | 1.52 | 0.3 | 1.59 |  |  |  |  |
| 1.59 | 2.0 | 0.3 | 0.1 | 1.34 | 0.2 | 1.47 | 0.3 | 1.59 |  |  |  |  |
| 1.59 | 2.5 | 0.3 | 0.1 | 1.26 | 0.2 | 1.43 | 0.3 | 1.59 |  |  |  |  |
| 1.59 | 3.0 | 0.3 | 0.1 | 1.19 | 0.2 | 1.39 | 0.3 | 1.59 |  |  |  |  |
| 1.59 | 3.5 | 0.3 | 0.1 | 1.13 | 0.2 | 1.36 | 0.3 | 1.59 |  |  |  |  |
| 1.59 | 4.0 | 0.3 | 0.1 | 1.08 | 0.2 | 1.34 | 0.3 | 1.59 |  |  |  |  |
| 1.59 | 4.5 | 0.3 | 0.1 | 1.04 | 0.2 | 1.32 | 0.3 | 1.59 |  |  |  |  |
| 1.59 | 5.0 | 0.3 | 0.1 | 1.01 | 0.2 | 1.30 | 0.3 | 1.59 |  |  |  |  |
| 1.59 | 5.5 | 0.3 | 0.1 | 0.98 | 0.2 | 1.29 | 0.3 | 1.59 |  |  |  |  |
| 1.59 | 6.0 | 0.3 | 0.1 | 0.95 | 0.2 | 1.27 | 0.3 | 1.59 |  |  |  |  |
| 1.59 | 1.0 | 0.2 | 0.1 | 1.59 | 0.2 | 1.59 |  |  |  |  |  |  |
| 1.59 | 1.5 | 0.2 | 0.1 | 1.51 | 0.2 | 1.59 |  |  |  |  |  |  |
| 1.59 | 2.0 | 0.2 | 0.1 | 1.45 | 0.2 | 1.59 |  |  |  |  |  |  |
| 1.59 | 2.5 | 0.2 | 0.1 | 1.40 | 0.2 | 1.59 |  |  |  |  |  |  |
| 1.59 | 3.0 | 0.2 | 0.1 | 1.36 | 0.2 | 1.59 |  |  |  |  |  |  |
| 1.59 | 3.5 | 0.2 | 0.1 | 1.32 | 0.2 | 1.59 |  |  |  |  |  |  |
| 1.59 | 4.0 | 0.2 | 0.1 | 1.29 | 0.2 | 1.59 |  |  |  |  |  |  |
| 1.59 | 4.5 | 0.2 | 0.1 | 1.26 | 0.2 | 1.59 |  |  |  |  |  |  |
| 1.59 | 5.0 | 0.2 | 0.1 | 1.23 | 0.2 | 1.59 |  |  |  |  |  |  |
| 1.59 | 5.5 | 0.2 | 0.1 | 1.21 | 0.2 | 1.59 |  |  |  |  |  |  |
| 1.59 | 6.0 | 0.2 | 0.1 | 1.19 | 0.2 | 1.59 |  |  |  |  |  |  |
| 1.59 | 1.0 | 0.1 | 0.1 | 1.59 |  |  |  |  |  |  |  |  |
| 1.59 | 1.5 | 0.1 | 0.1 | 1.59 |  |  |  |  |  |  |  |  |
| 1.59 | 2.0 | 0.1 | 0.1 | 1.59 |  |  |  |  |  |  |  |  |
| 1.59 | 2.5 | 0.1 | 0.1 | 1.59 |  |  |  |  |  |  |  |  |
| 1.59 | 3.0 | 0.1 | 0.1 | 1.59 |  |  |  |  |  |  |  |  |
| 1.59 | 3.5 | 0.1 | 0.1 | 1.59 |  |  |  |  |  |  |  |  |
| 1.59 | 4.0 | 0.1 | 0.1 | 1.59 |  |  |  |  |  |  |  |  |
| 1.59 | 4.5 | 0.1 | 0.1 | 1.59 |  |  |  |  |  |  |  |  |
| 1.59 | 5.0 | 0.1 | 0.1 | 1.59 |  |  |  |  |  |  |  |  |
| 1.59 | 5.5 | 0.1 | 0.1 | 1.59 |  |  |  |  |  |  |  |  |
| 1.59 | 6.0 | 0.1 | 0.1 | 1.59 |  |  |  |  |  |  |  |  |

Scenario: Confounder decreases mortality, and is more prevalent in the exposed. The observed relative risk (ARR) was set as the upper confidence interval of the odds ratio for salt intake and all-cause mortality comparing daily salt intake <6 g with 6–9.9 g (RR=1.59; 95% CI=1.40 to 1.80). The association between the confounder and total mortality (RRCD) varied from 0.50 to 1.00. The prevalence of the cofounder varied from 10% to 50%. ARR, apparent (or observed) relative risk; RRCD, association between confounder and disease outcome; PC1, prevalence of confounder in the exposed; PC0, prevalence of confounder in the unexposed; RRadjusted, relative risk when adjusted for unmeasured confounder.

$$RR\_{adjusted}=\frac{ARR}{\left[\frac{P\_{C1}\left(RR\_{CD}-1\right)+1}{P\_{Co}\left(RR\_{CD}-1\right)+1}\right]}$$

If the confounder can render the inverse association between salt intake and all-cause mortality non-significant, it is shown in red