

Table S1. Pearson's correlation coefficients among environmental variables in Hong Kong between 2004 and 2012

| | Temperature | Humidity | Rainfall | PM ₁₀ | PM _{2.5} | SO ₂ | NO ₂ |
|--|-------------|----------|----------|------------------|-------------------|-----------------|-----------------|
| Whole year | | | | | | | |
| Humidity (%) | 0.22 | | | | | | |
| Rainfall (mm) | 0.13 | 0.34 | | | | | |
| PM ₁₀ (mg/m ³) | -0.32 | -0.45 | -0.25 | | | | |
| PM _{2.5} (mg/m ³) | -0.32 | -0.41 | -0.24 | 0.92 | | | |
| SO ₂ (mg/m ³) | 0.08 | -0.23 | -0.09 | 0.43 | 0.53 | | |
| NO ₂ (mg/m ³) | -0.34 | -0.38 | -0.19 | 0.67 | 0.74 | 0.43 | |
| O ₃ (mg/m ³) | 0.04 | -0.55 | -0.23 | 0.55 | 0.53 | 0.13 | 0.48 |
| Cold season (October-March) | | | | | | | |
| Humidity (%) | 0.17 | | | | | | |
| Rainfall (mm) | 0.11 | 0.25 | | | | | |
| PM ₁₀ (mg/m ³) | -0.08 | -0.46 | -0.22 | | | | |
| PM _{2.5} (mg/m ³) | -0.07 | -0.36 | -0.20 | 0.96 | | | |
| SO ₂ (mg/m ³) | 0.01 | -0.28 | -0.10 | 0.60 | 0.64 | | |
| NO ₂ (mg/m ³) | -0.13 | -0.36 | -0.17 | 0.65 | 0.66 | 0.55 | |
| O ₃ (mg/m ³) | 0.39 | -0.50 | -0.17 | 0.50 | 0.44 | 0.13 | 0.33 |
| Warm season (April-September) | | | | | | | |
| Humidity (%) | -0.05 | | | | | | |
| Rainfall (mm) | 0.04 | 0.39 | | | | | |
| PM ₁₀ (mg/m ³) | -0.36 | -0.28 | -0.20 | | | | |
| PM _{2.5} (mg/m ³) | -0.36 | -0.26 | -0.21 | 0.87 | | | |
| SO ₂ (mg/m ³) | 0.17 | -0.24 | -0.10 | 0.36 | 0.54 | | |
| NO ₂ (mg/m ³) | -0.36 | -0.25 | -0.14 | 0.62 | 0.76 | 0.40 | |
| O ₃ (mg/m ³) | -0.13 | -0.54 | -0.22 | 0.53 | 0.57 | 0.15 | 0.55 |

PM₁₀, particulate matter with aerodynamic diameter <10 µm; PM_{2.5}, particulate matter with aerodynamic diameter <2.5 µm; SO₂, sulphur dioxide; NO₂, nitrogen dioxide; O₃, ozone

Table S2. Different lag days for LRTI admission

| | <u>Lower respiratory tract infection</u> | | |
|-------------|---|-----------|------------|
| | Overall | Preschool | School-age |
| Temperature | Lag 0 | Lag 5 | Lag 0 |
| Humidity | Lag 1 | Lag 0 | Lag 4 |
| Rainfall | Lag 0 | Lag 0 | Lag 5 |

Table S3. Daily percentage change in daily hospital admission rates for lower respiratory tract infection (LRTI) per interquartile range (IQR) increase of the four pollutants in children aged 0 to 18 years between 2004 and 2012

| | Daily percentage change in hospital admission for LRTI (95% CI) | |
|--------------------------------|--|----------------------------|
| | Whole group (0 to18 years) | Preschool (0 to 5 years) |
| PM _{2.5} [^] | 1.6 (-0.9 to 4.1) | 2.6 (0.1 to 5.1) |
| SO ₂ | -2.0 (-3.3 to -0.7) | -2.2 (-3.6 to -0.8) |
| NO ₂ | 2.9 (1.0 to 4.9) | 3.6 (1.6 to 5.8) |
| O ₃ | 9.7 (7.0 to 12.5) | 10.7 (8.0 to 13.4) |

PM_{2.5}, particulate matter with aerodynamic diameter <2.5 µm; SO₂, sulphur dioxide; NO₂, nitrogen dioxide; O₃, ozone