

**Supplementary Table S1.** Characteristics of the study population ( $n = 745$ )

Characteristics	Mean $\pm$ SD/ $n$ (%)
Age, years (mean $\pm$ SD)	67.8 $\pm$ 6.2
Sex ( $n$ , %)	
Male	256 (34.4)
Female	489 (65.6)
Education, years ( $n$ , %)	
$\leq 9$	470 (63.1)
$> 9$	275 (36.9)
Marital status ( $n$ , %)	
Married	608 (81.6)
Never married	8 (1.1)
Divorced	20 (2.7)
Widowed	109 (14.6)
Annual household income, RMB ( $n$ , %)	
$< 50,000$	403 (54.1)
$\geq 50,000$	342 (45.9)
Number of people in household ( $n$ , %)	
1	82 (11.0)
2	513 (68.9)
3	63 (8.5)
$\geq 4$	87 (11.7)
Length of community residence, years (M, IQR)	18 (10, 30)
Chronic disease history ( $n$ , %)	
No	317 (42.6)
Yes	428 (57.4)
MMSE test score (mean $\pm$ SD)	
Total score	25.8 $\pm$ 3.2

**Note.** Chronic disease history represents any positive medical history for hypertension, diabetes, hyperlipidemia, or coronary atherosclerotic heart disease. SD, Standard deviation; M, Median; IQR, Interquartile range; MMSE, Mini-Mental State Examination.

**Supplementary Table S2.** Characteristics of related environmental factors

Characteristics	Mean $\pm$ SD/M (IQR)	Range
Exposure variables		
Road network density, km/km <sup>2</sup>		
Main roads	1.14 (0.31, 1.58)	(0, 4.63)
Secondary roads	0.98 (0.60, 2.05)	(0, 5.71)
Other roads	3.31 (2.40, 3.31)	(0.28, 10.43)
Air quality index		
Whole year	91.49 $\pm$ 9.31	(76.56, 112.50)
Heating period	112.34 $\pm$ 15.68	(86.82, 141.61)
Non-heating period	76.60 $\pm$ 5.05	(69.23, 91.71)
Number of chimneys of heating companies	1 (0, 2)	(0, 8)

**Note.** SD, Standard deviation; M, Median; IQR, Interquartile range.