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Supplemental Material

Long-Term Exposure to Traffic-Related Air Pollution and Risk of Incident Atrial Fibrillation: A Cohort Study

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Table S1: Association between 1- and 5-years residential exposure to NO₂ and NO_x and risk of atrial fibrillation

Air pollution	Cases	Crude IRR (95% CI) *	Adjusted IRR (95% CI) †
1-year mean NO₂			
Q1: < 10.3	538	1.00 (ref.)	1.00 (ref.)
Q2: 10.3- 11.8 µg/m ³	541	1.13 (1.00-1.28)	1.14 (1.01-1.29)
Q3: 11.8- 14.3 µg/m ³	541	1.15 (1.03-1.30)	1.16 (1.03-1.31)
Q4: 14.3- 18.1 µg/m ³	539	1.20 (1.06-1.35)	1.21 (1.06-1.37)
Q5: ≥ 18.1 µg/m ³	541	1.22 (1.08-1.38)	1.22 (1.07-1.39)
<i>Linear trend per 10 µg/m³‡</i>	2,700	1.07 (1.01-1.14)	1.07 (1.00-1.13)
5-year mean NO₂			
Q1: < 10.9 µg/m ³	540	1.00 (ref.)	1.00 (ref.)
Q2: 10.9-12.4 µg/m ³	539	1.04 (0.93-1.18)	1.05 (0.93-1.18)
Q3: 12.4-15.2 µg/m ³	540	1.13 (1.00-1.27)	1.14 (1.01-1.29)
Q4: 15.2-19.0 µg/m ³	541	1.24 (1.10-1.39)	1.24 (1.10-1.40)
Q5: ≥ 19.0 µg/m ³	540	1.18 (1.05-1.34)	1.19 (1.05-1.36)
<i>Linear trend per 10 µg/m³‡</i>	2,700	1.09 (1.03-1.15)	1.08 (1.02-1.15)
1-year mean NO_x			
Q1: < 11.4 µg/m ³	539	1.00 (ref.)	1.00 (ref.)
Q2: 11.4-13.3 µg/m ³	541	1.14 (1.01-1.28)	1.15 (1.02-1.30)
Q3: 13.3-16.1 µg/m ³	539	1.18 (1.04-1.32)	1.19 (1.05-1.34)
Q4: 16.1-20.1 µg/m ³	541	1.21 (1.07-1.36)	1.22 (1.07-1.38)
Q5: ≥ 20.1 µg/m ³	540	1.23 (1.09-1.38)	1.23 (1.08-1.14)
5-year mean NO_x			
Q1: < 13.8 µg/m ³	539	1.00 (ref.)	1.00 (ref.)

Q2: 13.8 < 16.9 $\mu\text{g}/\text{m}^3$	541	1.06 (0.94-1.19)	1.06 (0.94-1.20)
Q3: 16.9 < 20.8 $\mu\text{g}/\text{m}^3$	539	1.22 (1.08-1.38)	1.24 (1.10-1.41)
Q4: 20.8 < 29.6 $\mu\text{g}/\text{m}^3$	540	1.19 (1.05-1.34)	1.19 (1.05-1.35)
Q5: $\geq 29.6 \mu\text{g}/\text{m}^3$	541	1.23 (1.09-1.39)	1.23 (1.08-1.40)

IRR, Incidence rate ratio; CI, confidence interval; Q1-Q5, quintiles 1-5.

* Adjusted for age

† Adjusted for age, sex, body mass index, waist circumference, smoking status, smoking duration, smoking intensity, intake of alcohol, sport during leisure time, length of school attendance, area level socioeconomic position and calendar year.

‡ Linear association per 10 $\mu\text{g}/\text{m}^3$ increase in NO_2 exposure

Table S2: Associations between established risk factor and risk of atrial fibrillation in the Diet, Cancer and Health cohort.

Characteristic at enrolment	Per increase in interquartile range	IRR (95 % CI)
NO ₂ *	6.76 µg/m ³	1.05 (1.00-1.09)
Sex		
Women		ref.
Men		2.13 (1.97-2.30)
Smoking status		
Never		ref.
Former		1.16 (1.06-1.28)
Current		1.17 (1.07-1.28)
Smoking duration†	18 years	1.07 (1.00-1.15)
Alcohol intake ‡	25.0 g/day	1.26 (1.22-1.31)
BMI	4.94 kg/m ²	1.39 (1.34-1.45)
Waist circumference (cm)	18 cm	1.83 (1.74-1.92)

IRR, Incidence rate ratio; CI, confidence interval

* Baseline NO₂

† Among present and former smokers

‡ Among drinkers

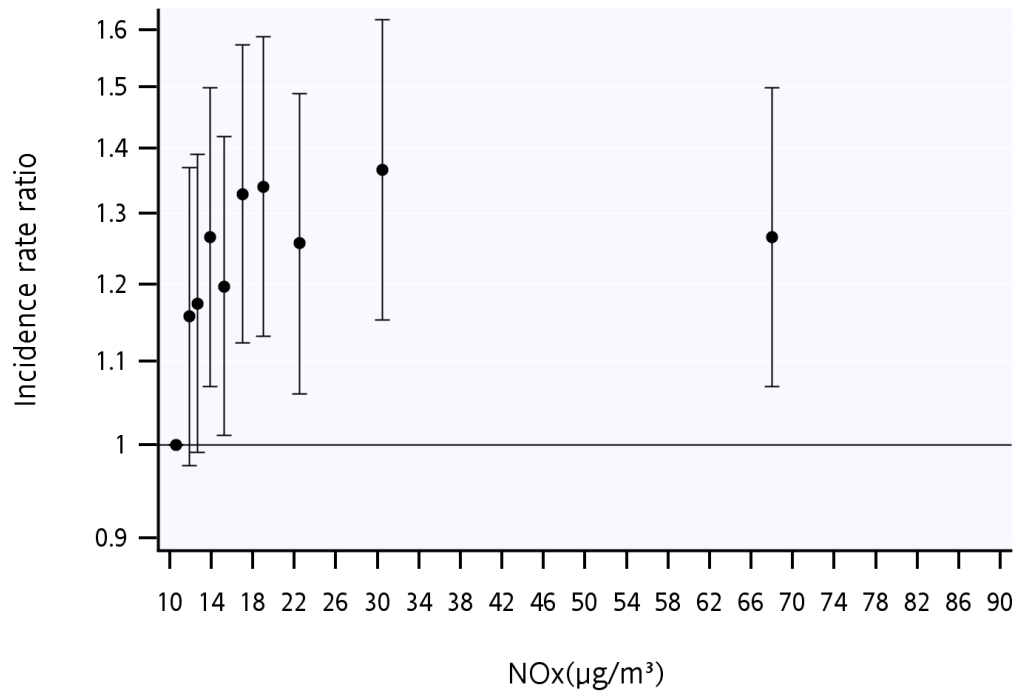


Figure S1: Exposure-response relationship between 1-year time-weighted mean NO_x and risk of atrial fibrillation. The vertical whiskers show incidence rate ratios with 95 % confidence interval at the median of exposure categories (deciles).

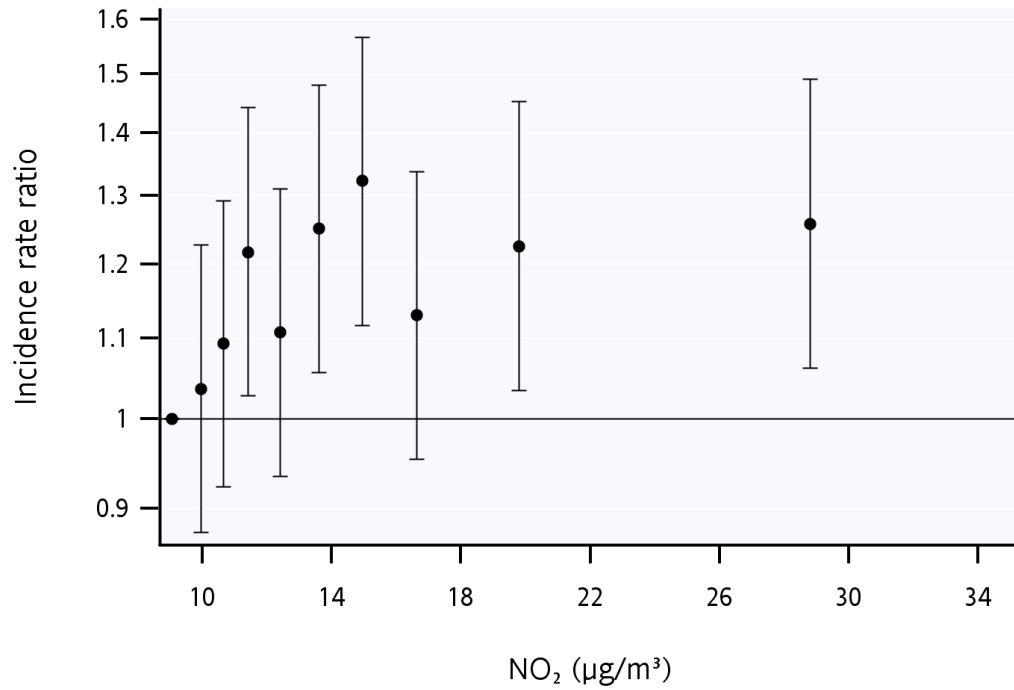


Figure S2: Exposure-response relationship between 1-year time-weighted mean NO₂ and risk of atrial fibrillation. The vertical whiskers show incidence rate ratios with 95 % confidence interval at the median of exposure categories (deciles).

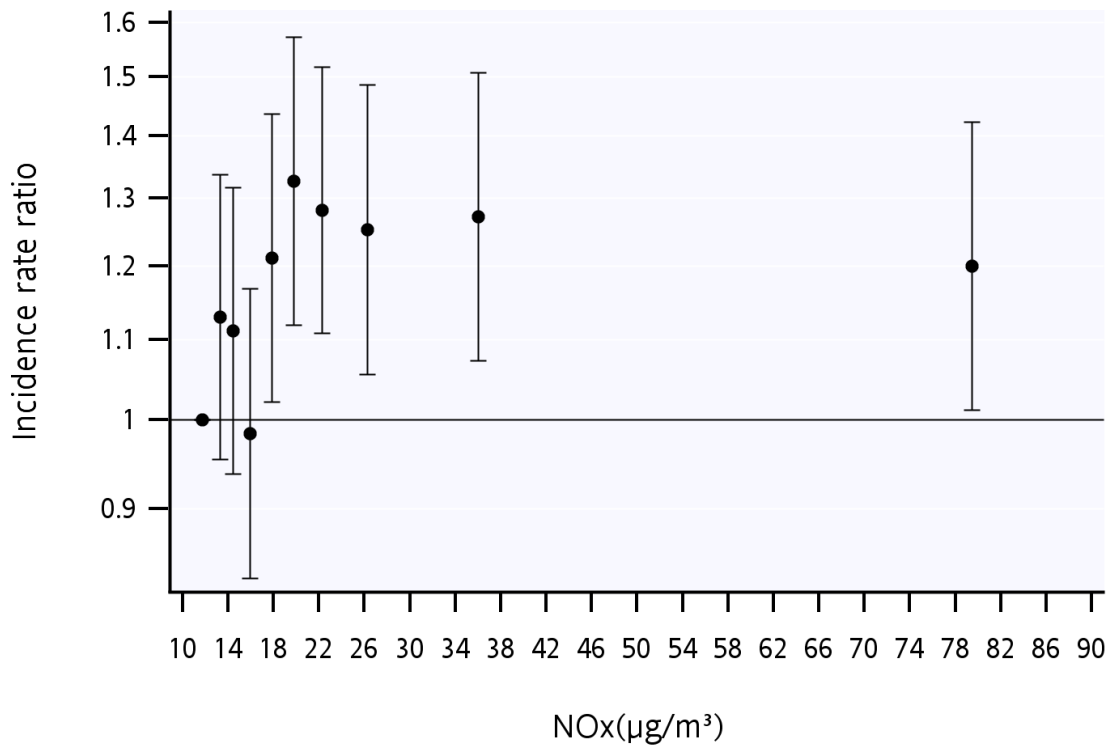


Figure S3: Exposure-response relationship between 10-years time-weighted mean NO_x and risk of atrial fibrillation. The vertical whiskers show incidence rate ratios with 95 % confidence interval at the median of exposure categories (deciles).

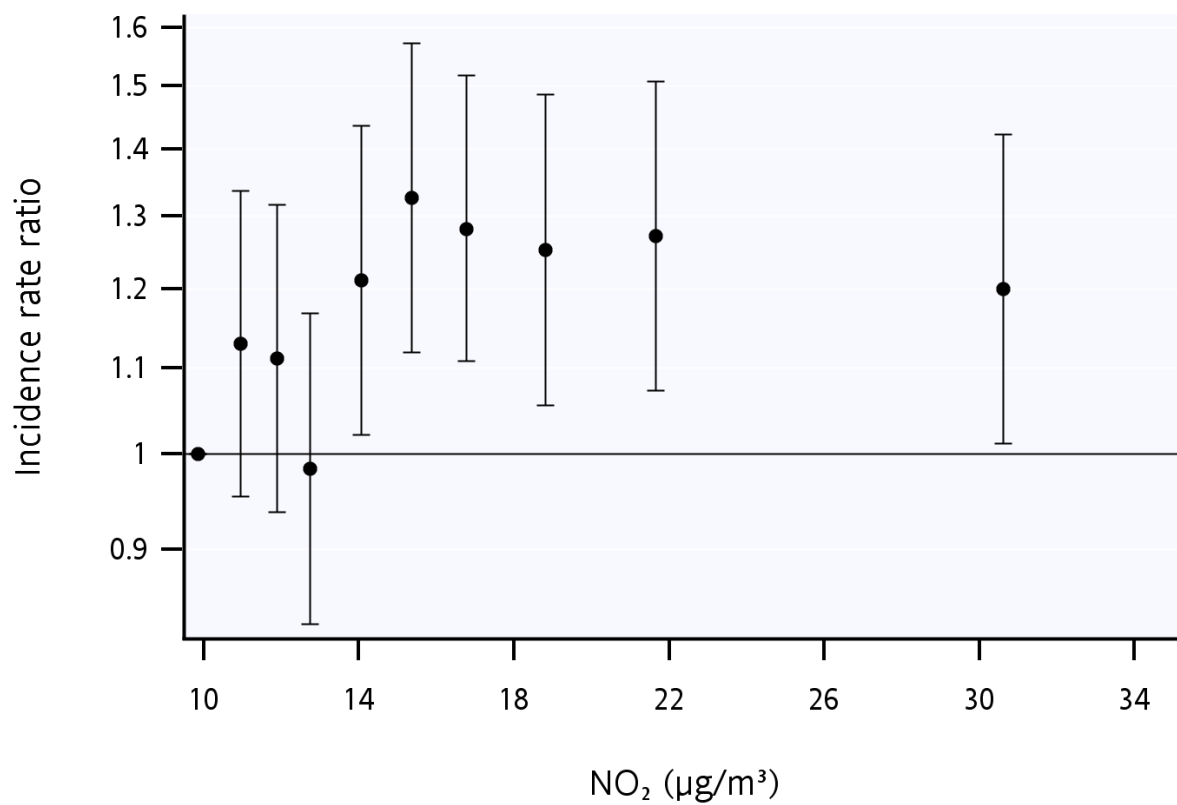


Figure S4: Exposure-response relationship between 10-years time-weighted mean NO₂ and risk of atrial fibrillation. The vertical whiskers show incidence rate ratios with 95 % confidence interval at the median of exposure categories (deciles).