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Supplement of

Effects of AIR pollution on cardiopuLmonary disEaSe in urban and peri-urban reSidents in Beijing: protocol for the AIRLESS study

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Table S1: The minimum detectable effects for the 4 cardiopulmonary outcomes in cross-sectional and longitudinal settings

Health Outcome	Mean \pm SD ^a	Power	Cross-Sectional ^b	Longitudinal ^c			
				$\rho = 0.5$	$\rho = 0.6$	$\rho = 0.7$	$\rho = 0.8$
SBP	115.4 \pm 7	0.8	1.25 ^d	0.53	0.47	0.41	0.34
		0.9	1.44	0.61	0.54	0.47	0.38
DBP	68.2 \pm 5.2	0.8	0.93	0.39	0.35	0.31	0.25
		0.9	1.07	0.45	0.4	0.35	0.28
FE _{NO}	11.3 \pm 6.9	0.8	1.23	0.52	0.47	0.4	0.33
		0.9	1.42	0.6	0.54	0.46	0.38
WBC	6.54 \pm 1.69	0.8	0.3	0.13	0.11	0.1	0.08
		0.9	0.35	0.15	0.13	0.11	0.09

5 ^aThe mean \pm sd for each biomarker are referred from previous studies;

^bTwo-sided F test for slope at a significant level of 0.05 using simple linear regression with participant N=240

^cTwo-sided F test for the fixed effect of environmental exposure under longitudinal setting with varying within participant correlation with participant N=240 and 4 repeated observation per participant, at a significant level of 0.05 and statistical power of 0.8 and 0.9. ρ refers to within-participant correlation coefficient.

10 ^dThe minimum detectable effects are reported with SD increase in exposure level.

SD: standard deviation; SBP: systolic blood pressure; DBP: diastolic blood pressure.

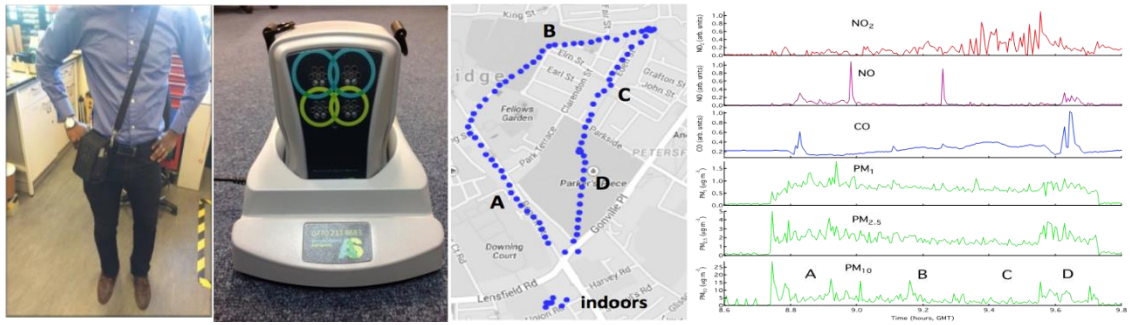


Figure S1. Personal Air Monitor (PAM) used in AIRLESS - Model and Applications