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Supplementary appendix

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Supplementary Materials

Cardio-pulmonary responses to walking on a traffic-polluted roadside in healthy, pulmonary and cardiac participants

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Supplementary Materials:

Supplementary Tables S1, S2, S3

Supplementary Figures S1, S2, S3

Supplementary Materials

Table S1. Estimated percent changes (and 95% confidence interval) in the health outcomes from the baseline and at various hours after the start of the walk (time at 0hr) in Oxford Street or in Hyde Park for healthy, COPD and IHD participants.

Health outcomes	Time (hours)	Healthy				COPD				IHD			
		Oxford Street		Hyde Park		Oxford Street		Hyde Park		Oxford Street		Hyde Park	
		Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI
FEV ₁ (% predicted)	1	0.66	(-1.77, 3.10)	3.08	(0.51, 5.66)	-3.48	(-7.64, 0.68)	3.50	(-0.75, 7.76)	0.44	(-2.23, 3.10)	0.36	(-2.24, 2.97)
	2	-0.04	(-2.47, 2.40)	2.17	(-0.40, 4.75)	-2.19	(-6.36, 1.97)	-0.38	(-4.64, 3.87)	2.33	(-0.34, 4.99)	0.52	(-2.06, 3.11)
	3	3.41	(0.98, 5.84)	5.63	(3.05, 8.20)	5.08	(0.92, 9.24)	9.21	(4.96, 13.47)	3.01	(0.34, 5.67)	4.45	(1.87, 7.04)
	5	1.91	(-0.53, 4.34)	7.64	(5.07, 10.22)	3.31	(-0.86, 7.47)	4.60	(0.35, 8.85)	3.16	(0.50, 5.83)	4.11	(1.52, 6.69)
	6	1.85	(-0.58, 4.29)	7.42	(4.85, 10.00)	3.22	(-0.95, 7.38)	4.41	(0.16, 8.67)	4.40	(1.74, 7.07)	4.62	(2.04, 7.21)
	26	0.12	(-2.32, 2.55)	3.55	(0.98, 6.13)	3.75	(-0.41, 7.91)	5.16	(0.91, 9.41)	1.37	(-1.30, 4.03)	2.13	(-0.46, 4.71)
FVC (% predicted)	1	0.10	(-2.54, 2.74)	1.21	(-1.45, 3.87)	-1.79	(-4.94, 1.37)	3.98	(0.86, 7.10)	-0.09	(-3.10, 2.92)	3.61	(0.74, 6.48)
	2	-0.91	(-3.55, 1.73)	0.48	(-2.18, 3.14)	-3.66	(-6.81, -0.50)	1.69	(-1.43, 4.80)	3.03	(0.02, 6.04)	5.18	(2.34, 8.03)
	3	0.72	(-1.92, 3.36)	3.07	(0.41, 5.73)	2.21	(-0.95, 4.79)	6.04	(2.93, 9.16)	3.42	(0.41, 6.63)	5.59	(2.74, 8.43)
	5	0.55	(-2.09, 3.19)	4.36	(1.70, 7.02)	1.63	(-1.52, 4.79)	4.82	(1.70, 7.93)	1.86	(-1.15, 4.87)	5.78	(2.93, 8.62)
	6	0.31	(-2.33, 2.95)	2.38	(-0.28, 5.05)	1.43	(-1.72, 4.59)	3.09	(-0.03, 6.21)	4.32	(1.31, 7.33)	5.97	(3.12, 8.81)
	26	-0.31	(-2.95, 2.33)	-1.08	(-3.75, 1.59)	1.86	(-1.29, 5.41)	3.18	(0.06, 6.30)	0.15	(-2.86, 3.16)	4.80	(1.96, 7.64)

			2.33)		1.58)		5.02)		6.30)		3.16)		7.65)
R5	4	-1.32	(-6.58, 3.94)	-3.42	(-8.87, 2.04)	4.19	(0.43, 7.95)	-4.00	(-7.78, -0.21)	4.79	(-0.44, 10.0)	0.31	(-4.62, 5.23)
	26	-2.30	(-7.56, 2.96)	-3.14	(-8.63, 2.36)	-1.67	(-5.43, 2.09)	-6.58	(-10.4, -2.80)	2.24	(-2.99, 7.47)	-3.84	(-8.76, 1.09)
R20	4	-1.41	(-5.66, 2.84)	-2.92	(-7.22, 1.38)	1.17	(-2.70, 5.03)	-7.89	(-11.7, -4.13)	-0.50	(-5.05, 4.05)	-3.34	(-7.47, 0.79)
	26	-2.51	(-6.76, 1.74)	-3.80	(-8.10, 0.51)	-1.00	(-4.87, 2.86)	-6.97	(-10.7, -3.21)	-0.84	(-5.38, 3.71)	-2.39	(-6.52, 1.74)
R5-R20	4	4.05	(-20.1, 20.1)	-4.81	(-28.2, 14.3)	11.29	(3.10, 17.0)	1.21	(-3.25, 11.8)	17.08	(8.82, 40.8)	15.23	(-4.16, 24.2)
	26	0.86	(-21.7, 18.5)	-2.76	(-25.6, 17.3)	-6.83	(-9.91, 3.98)	-9.15	(-13.4, 1.66)	14.07	(-2.25, 29.7)	5.79	(-18.8, 10.2)
Pulse Wave Velocity (PWV)	3	-0.35	(-5.36, 4.66)	-5.31	(-10.4, -0.27)	2.12	(-2.46, 6.71)	-6.09	(-10.5, -1.67)	0.65	(-4.20, 5.49)	-7.63	(-12.1, -3.20)
	5	2.74	(-2.26, 7.75)	-2.93	(-7.96, 2.11)	3.36	(-1.22, 7.95)	-5.06	(-9.49, -0.64)	5.02	(0.17, 9.87)	-5.12	(-9.56, -0.69)
	6	3.67	(-1.34, 8.68)	-2.07	(-7.13, 2.99)	3.66	(-0.92, 8.24)	-2.52	(-6.94, 1.90)	3.42	(-1.43, 8.26)	-1.62	(-6.05, 2.81)
	26	7.17	(2.16, 12.2)	-4.39	(-9.49, 0.71)	3.75	(-0.83, 8.34)	-4.70	(-9.12, -0.28)	2.91	(-1.94, 7.75)	-5.35	(-9.78, -0.91)

Table S1. Cont'd

Health outcomes	Time (hours)	Healthy				COPD				IHD			
		Oxford Street		Hyde Park		Oxford Street		Hyde Park		Oxford Street		Hyde Park	
		Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI
Augmentation Index (AI)	3	-4.62	(-11.6, 2.36)	-24.27	(-31.0, -17.5)	-16.16	(-22.9, -9.47)	-24.64	(-31.0, -18.3)	-8.64	(-15.9, -1.35)	-19.75	(-26.5, -13.0)
	5	-1.77	(-8.75, 5.21)	-16.87	(-23.6, -10.1)	-4.80	(-11.5, 1.89)	-15.40	(-21.7, -9.07)	-6.69	(-14.0, 0.60)	-12.70	(-19.4, -5.99)
	6	-2.91	(-9.89, 4.07)	-13.90	(-20.7, -7.12)	1.02	(-5.67, 7.71)	-13.89	(-20.2, -7.55)	-2.79	(-10.1, 4.51)	-11.27	(-18.0, -4.56)
	26	3.27	(-3.71, 10.3)	-8.76	(-15.6, -1.93)	3.84	(-2.85, 10.5)	-16.74	(-23.1, -10.4)	0.57	(-6.72, 7.87)	-10.13	(-16.8, -3.41)
Systolic Blood Pressure (SBP)	3	-7.36	(-10.2, -4.47)	-6.06	(-9.07, -3.06)	-9.00	(-11.8, -6.23)	-8.72	(-11.6, -5.86)	-8.27	(-11.5, -5.03)	-10.55	(-13.6, -7.53)
	5	-1.17	(-4.06, 1.71)	-1.00	(-4.00, 2.01)	-4.37	(-7.14, -1.61)	-0.67	(-3.53, 2.19)	-1.42	(-4.66, 1.81)	-4.55	(-7.57, -1.54)
	6	3.37	(0.48, 6.26)	2.84	(-0.18, 5.86)	0.16	(-2.60, 2.93)	2.88	(0.02, 5.74)	2.14	(-1.09, 5.38)	0.10	(-2.92, 3.11)
	26	-3.45	(-6.33, -0.56)	-1.67	(-4.70, 1.37)	-5.09	(-7.88, -2.30)	-3.05	(-5.91, -0.19)	-1.47	(-4.70, 1.77)	-5.15	(-8.17, -2.13)
Heart rate	3	9.75	(5.83, 13.7)	12.06	(8.03, 16.1)	20.46	(16.7, 24.2)	16.16	(12.4, 19.9)	10.93	(6.35, 15.5)	10.91	(6.45, 15.4)
	5	-0.39	(-4.31, 3.53)	0.21	(-3.82, 4.24)	5.42	(1.65, 9.18)	2.56	(-1.16, 6.28)	1.92	(-2.66, 6.51)	1.41	(-3.04, 5.87)
	6	-3.01	(-6.92, 0.91)	-2.47	(-6.51, 1.58)	1.62	(-2.15, 5.39)	1.40	(-2.32, 5.12)	2.42	(-2.17, 7.00)	0.09	(-4.37, 4.55)
	26	1.52	(-2.40, 5.44)	0.42	(-3.65, 4.49)	5.63	(1.86, 9.40)	4.64	(0.92, 8.37)	2.31	(-2.27, 6.90)	3.55	(-0.91, 8.01)

Table S2. Percent change estimate, standard error (SE), and 95% confidence interval (95% CI) in FEV₁ (% predicted value) and FVC (% predicted value), in differential frequency-dependent respiratory resistance at 5Hz and 20Hz (R5-20), in pulse wave velocity (PWV) and augmentation index (AI) per interquartile range changes in components of air pollution at the times indicated after the start of the two-hour walk in two exposure sessions for each group of healthy, COPD and IHD participants.

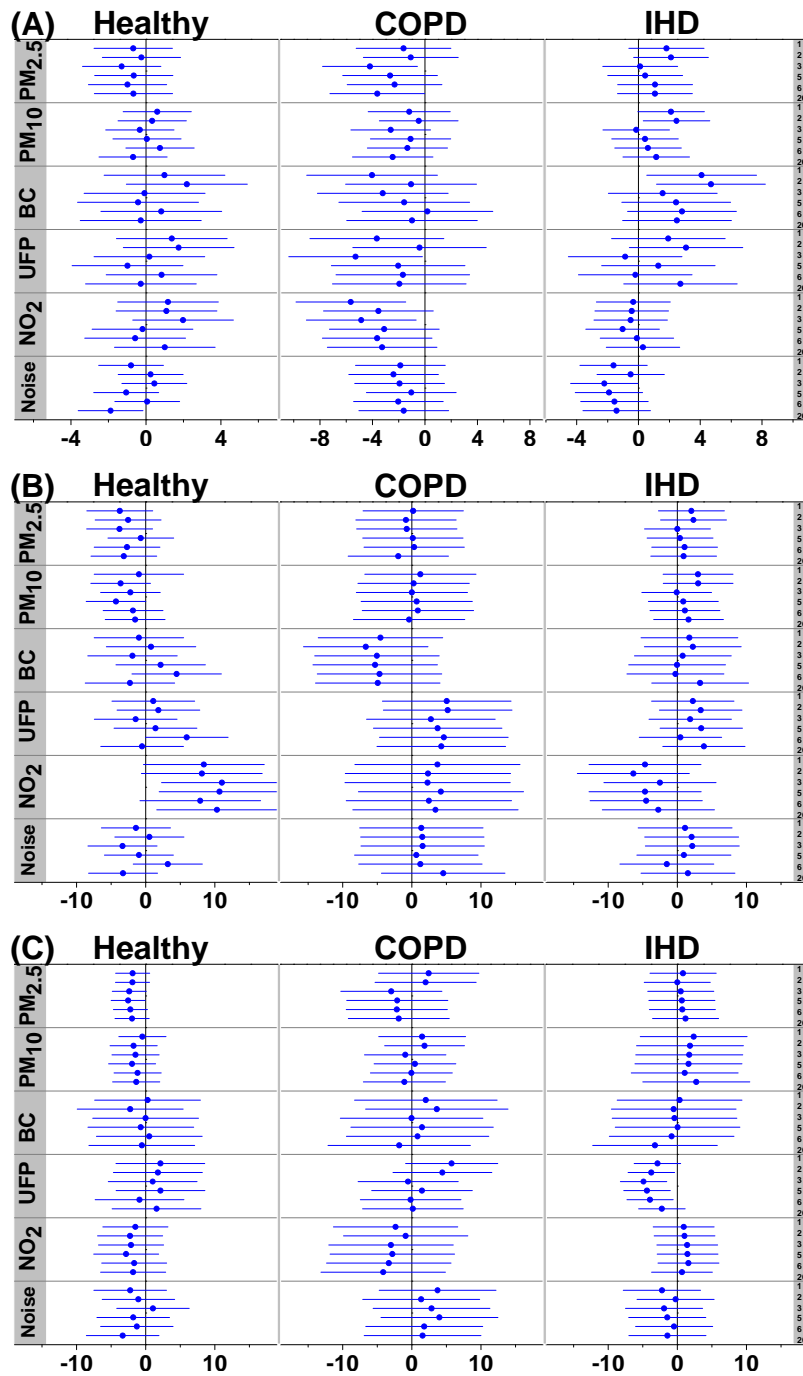
Health outcomes	Pollutant	Healthy				COPD				IHD			
		Estimate	SE	95% CI- lower level	95% CI- upper level	Estimate	SE	95% CI- lower level	95% CI- upper level	Estimate	SE	95% CI- lower level	95% CI- upper level
FEV ₁ (% predicted)	BC	-0.42	1.64	-3.65	2.80	-3.21	2.54	-8.19	1.77	2.43	1.80	-1.09	5.96
	NO ₂	-0.18	1.37	-2.87	2.50	-4.85	2.13	-9.03	-0.67	-1.03	1.22	-3.41	1.35
	Noise	-1.05	0.88	-2.78	0.68	-1.93	1.75	-5.35	1.48	-1.92	1.11	-4.10	0.27
	UFP	-0.98	1.51	-3.94	1.97	-5.28	2.60	-10.37	-0.19	1.29	1.88	-2.39	4.96
	PM _{2.5}	-0.65	1.07	-2.74	1.44	-4.19	1.84	-7.80	-0.58	0.43	1.24	-1.99	2.85
	PM ₁₀	0.05	0.93	-1.77	1.87	-2.61	1.55	-5.65	0.43	0.42	1.10	-1.73	2.58
FVC (% predicted)	BC	0.38	1.86	-3.27	4.03	-2.60	2.0	-6.53	1.34	0.46	2.12	-3.69	4.61
	NO ₂	-0.36	1.54	-3.38	2.66	-4.99	1.67	-8.27	-1.70	-1.59	1.42	-4.38	1.19
	Noise	0.24	1.00	-1.71	2.20	-4.39	1.39	-7.12	-1.65	-1.81	1.33	-4.41	0.79
	UFP	-1.90	1.72	-5.27	1.48	-4.87	2.07	-8.93	-0.81	-1.47	2.23	-5.84	2.91
	PM _{2.5}	-0.16	1.22	-2.55	2.23	-3.60	1.47	-6.48	-0.72	-1.23	1.47	-4.10	1.65
	PM ₁₀	0.23	1.08	-1.88	2.34	-3.41	1.24	-5.84	-0.98	-1.31	1.31	-3.88	1.26
R5-R20	BC	14.66	9.50	-3.96	33.27	22.63	8.28	6.39	38.86	16.54	10.9	-4.82	37.90
	NO ₂	6.07	7.61	-8.84	20.99	26.37	6.83	12.98	39.75	8.38	7.22	-5.97	22.73
	Noise	5.71	4.52	-3.16	14.57	8.49	6.07	-3.41	20.39	-4.23	5.55	-15.30	6.83
	UFP	11.04	8.39	-5.40	27.48	24.26	8.08	8.41	40.10	15.00	11.0	-6.56	36.56
	PM _{2.5}	-3.75	6.25	-16.01	8.50	12.79	5.82	1.38	24.21	2.91	8.87	-14.47	20.30

	PM ₁₀	0.47	5.34	-10.00	10.95	10.24	4.94	0.55	19.93	4.39	7.84	-10.99	19.76
Pulse Wave Velocity (PWV)	BC	9.80	3.36	3.22	16.38	7.36	2.67	2.14	12.59	3.70	3.29	-2.76	10.15
	NO ₂	2.66	2.54	-2.31	7.63	3.28	2.02	-0.67	7.24	1.81	2.01	-2.13	5.74
	Noise	4.85	1.72	1.48	8.22	1.51	1.78	-1.98	5.01	4.12	1.92	0.37	7.88
	UFP	11.37	2.89	5.71	17.04	7.77	2.59	2.70	12.84	5.20	3.23	-1.14	11.53
	PM _{2.5}	-0.09	2.15	-4.30	4.13	3.00	1.88	-0.68	6.69	0.91	2.19	-3.38	5.20
	PM ₁₀	2.20	1.87	-1.47	5.88	2.13	1.59	-0.98	5.25	2.68	1.92	-1.09	6.45
Augmentation Index (AI)	BC	18.39	4.50	9.58	27.21	10.50	4.01	2.63	18.36	4.23	4.76	-5.10	13.57
	NO ₂	15.00	3.48	8.18	21.82	12.48	3.11	6.39	18.57	1.54	2.99	-4.33	7.40
	Noise	0.12	2.23	-4.25	4.49	1.54	2.51	-3.37	6.46	0.61	2.61	-4.51	5.72
	UFP	16.18	3.95	8.45	23.91	9.97	3.95	2.22	17.72	7.89	4.76	-1.45	17.22
	PM _{2.5}	1.27	2.80	-4.21	6.75	4.36	2.79	-1.11	9.83	5.18	3.15	-1.00	11.36
	PM ₁₀	1.33	2.40	-3.37	6.04	1.70	2.36	-2.93	6.32	4.17	2.79	-1.30	9.63

Table S3. Estimated percent changes (and 95% confidence interval) in the health outcomes from the baseline and at various hours after the start of the walk (time at 0hr) in Oxford Street or in Hyde Park for healthy, COPD and IHD participants after controlling for the pack-year for the sensitivity analysis of smoking status.

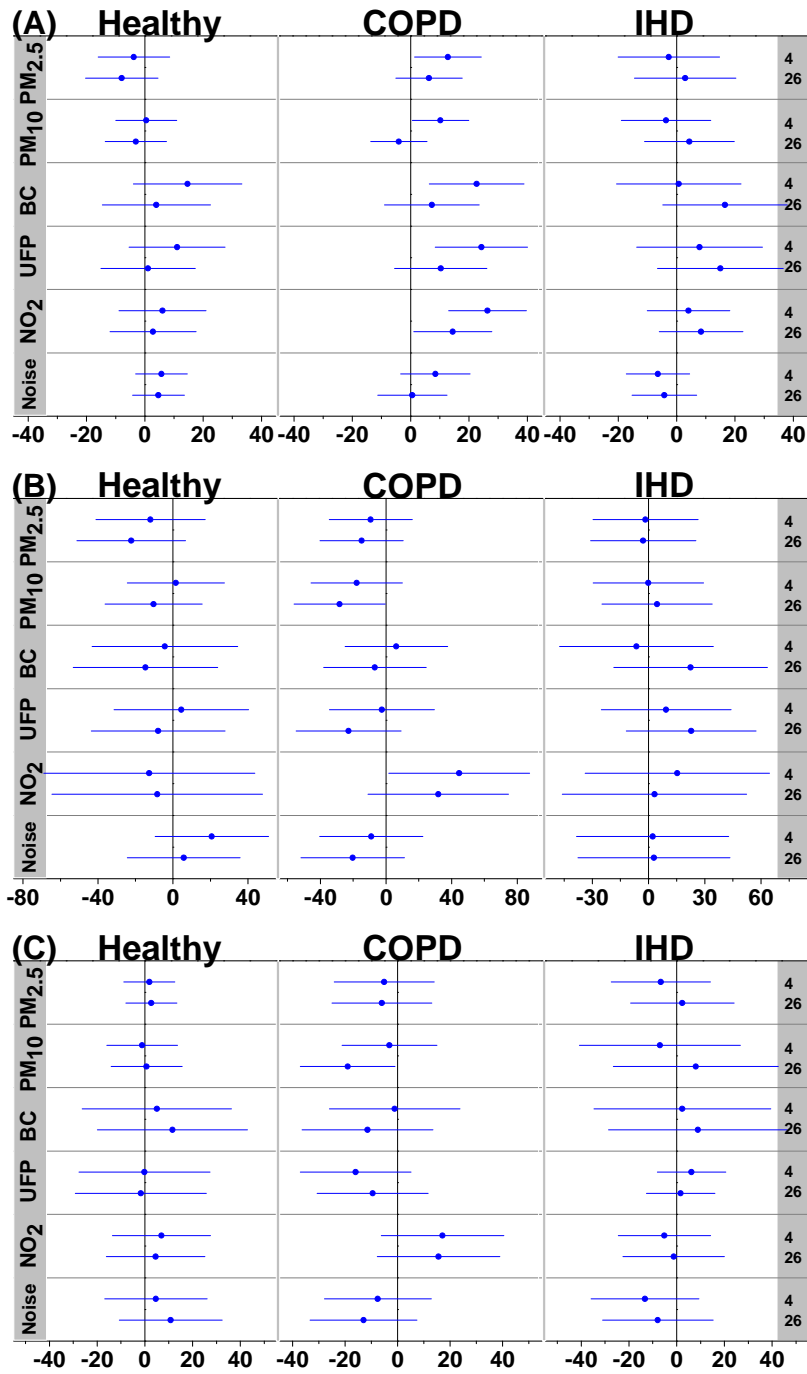
Health outcomes	Time (hours)	Healthy				COPD				IHD			
		Oxford Street		Hyde Park		Oxford Street		Hyde Park		Oxford Street		Hyde Park	
		Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI
FEV ₁ (% predicted)	1	0.39	(-2.11, 2.89)	2.79	(0.14, 5.44)	-2.74	(-7.15, 1.66)	4.26	(-0.25, 8.77)	0.26	(-2.47, 2.99)	0.03	(-2.62, 2.68)
	2	-0.31	(-2.81, 2.19)	1.88	(-0.77, 4.52)	-1.46	(-5.86, 2.95)	0.37	(-4.13, 4.88)	2.14	(-0.59, 4.88)	0.06	(-2.60, 2.71)
	3	3.14	(0.64, 5.64)	5.33	(2.68, 7.98)	5.81	(1.41, 10.22)	9.97	(5.47, 14.48)	2.81	(0.08, 5.55)	4.27	(1.62, 6.92)
	5	1.63	(-0.87, 4.14)	7.35	(4.70, 9.99)	4.04	(-0.37, 8.45)	5.36	(0.85, 9.86)	3.04	(0.30, 5.77)	3.86	(1.21, 6.51)
	6	1.58	(-0.92, 4.08)	7.13	(4.48, 9.77)	3.95	(-0.45, 8.36)	5.17	(0.67, 9.68)	4.38	(1.64, 7.11)	4.48	(1.83, 7.13)
	26	-0.15	(-2.66, 2.35)	3.26	(0.61, 5.91)	4.48	(0.08, 8.89)	5.92	(1.41, 10.42)	1.15	(-1.58, 3.89)	2.00	(-0.65, 4.65)
FVC (% predicted)	1	-0.08	(-2.81, 2.64)	1.04	(-1.71, 3.78)	-1.43	(-4.80, 1.93)	4.33	(1.00, 7.66)	-0.21	(-3.30, 2.89)	3.41	(0.48, 6.33)
	2	-1.09	(-3.82, 1.63)	0.31	(-2.44, 3.05)	-3.30	(-6.67, 0.06)	2.04	(-1.29, 5.36)	3.10	(0.01, 6.19)	4.85	(1.93, 7.77)
	3	0.54	(-2.18, 3.26)	2.89	(0.15, 5.64)	2.56	(-0.80, 5.92)	6.39	(3.07, 9.72)	3.44	(0.35, 6.53)	5.66	(2.73, 8.58)
	5	0.37	(-2.35, 3.09)	4.19	(1.44, 6.93)	1.98	(-1.38, 5.35)	5.17	(1.84, 8.49)	1.80	(-1.29, 4.90)	5.82	(2.90, 8.74)

	6	0.13	(-2.59, 2.85)	2.21	(-0.53, 4.95)	1.78	(-1.58, 5.15)	3.44	(0.12, 6.77)	4.49	(1.40, 7.59)	6.10	(3.18, 9.02)
	26	-0.49	(-3.22, 2.23)	-1.26	(-4.00, 1.49)	2.21	(-1.15, 5.58)	3.53	(0.20, 6.85)	-0.14	(-3.24, 2.95)	4.74	(1.82, 7.66)
R5-R20	4	2.74	(-18.0, 23.5)	-4.01	(-26.0, 18.0)	8.73	(1.26, 16.2)	2.84	(-5.28, 11.0)	28.49	(12.1, 44.9)	10.43	(-4.13, 25.0)
	26	1.18	(-19.6, 21.9)	-1.23	(-23.4, 20.9)	-4.28	(-11.8, 3.19)	-7.30	(-15.4, 0.82)	16.76	(0.39, 33.1)	-5.27	(-20.1, 9.60)
Pulse Wave Velocity (PWV)	3	-1.30	(-6.42, 3.81)	-6.24	(-11.4, -1.09)	3.51	(-1.33, 8.35)	-4.78	(-9.45, -0.12)	0.97	(-3.97, 5.91)	-8.04	(-12.6, -3.52)
	5	1.79	(-3.33, 6.91)	-3.86	(-9.01, 1.29)	4.75	(-0.09, 9.59)	-3.76	(-8.42, 0.91)	4.92	(-0.02, 9.86)	-5.66	(-10.2, -1.14)
	6	2.72	(-2.40, 7.83)	-3.00	(-8.17, 2.17)	5.05	(0.21, 9.89)	-1.21	(-5.88, 3.45)	3.57	(-1.38, 8.51)	-2.00	(-6.52, 2.52)
	26	6.21	(1.10, 11.3)	-5.32	(-10.5, -0.11)	5.14	(0.30, 9.98)	-3.39	(-8.06, 1.27)	2.81	(-2.13, 7.75)	-5.86	(-10.4, -1.34)
Augmentation Index (AI)	3	-4.65	(-11.9, 2.56)	-24.35	(-31.3, -17.4)	-16.15	(-23.3, -8.97)	-24.64	(-31.4, -17.9)	-8.93	(-16.4, -1.44)	-19.77	(-26.7, -12.9)
	5	-1.80	(-9.02, 5.41)	-16.95	(-23.9, -9.97)	-4.78	(-12.0, 2.39)	-15.40	(-22.2, -8.61)	-7.82	(-15.3, -0.32)	-12.82	(-19.7, -5.92)
	6	-2.94	(-10.2, 4.27)	-13.98	(-21.0, -6.97)	1.04	(-6.14, 8.21)	-13.89	(-20.7, -7.10)	-3.91	(-11.4, 3.58)	-11.55	(-18.4, -4.65)
	26	3.23	(-3.98, 10.5)	-8.84	(-15.9, -1.79)	3.85	(-3.32, 11.0)	-16.73	(-23.5, -9.95)	0.11	(-7.38, 7.61)	-10.37	(-17.3, -3.47)



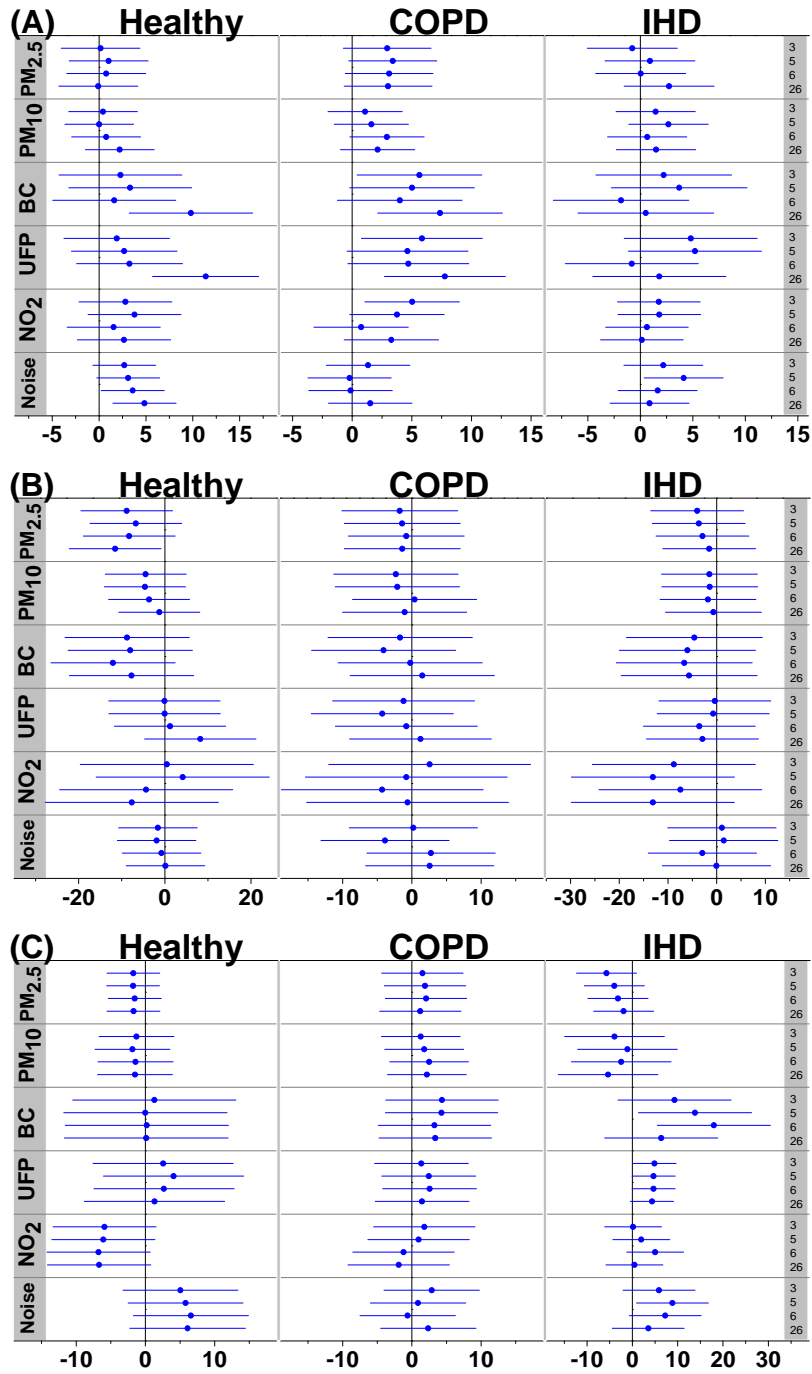
Percent Change in Outcome Associated with IQR Increase in Pollution Concentration

Figure S1. Percent changes (and 95% confidence interval) in FEV₁ (% predicted value) per interquartile range changes in components of air pollution at the times indicated after the start of the two-hour walk in two exposure sessions for each group of healthy, COPD and IHD participants at both sites (A), Oxford Street (B), and Hyde Park (C). IQR of air pollution for both sites (A): PM_{2.5}: 14.94 $\mu\text{g}/\text{m}^3$; PM₁₀: 14.47 $\mu\text{g}/\text{m}^3$; BC: 9.2 $\mu\text{g}/\text{m}^3$; UFP: 19,854/cm³; NO₂: 64.9 ppb; Noise: 3.97 dB. IQR of air pollution for Oxford Street (B): PM_{2.5}: 12.73 $\mu\text{g}/\text{m}^3$; PM₁₀: 14.86 $\mu\text{g}/\text{m}^3$; BC: 3.94 $\mu\text{g}/\text{m}^3$; UFP: 9974/cm³; NO₂: 63.5 ppb; Noise: 3.00 dB. IQR of air pollution for Hyde Park (C): PM_{2.5}: 7.59 $\mu\text{g}/\text{m}^3$; PM₁₀: 11.59 $\mu\text{g}/\text{m}^3$; BC: 1.43 $\mu\text{g}/\text{m}^3$; UFP: 2585/cm³; NO₂: 9.8 ppb; Noise: 5.68 dB.



Percent Change in Outcome Associated with IQR Increase in Pollution Concentration

Figure S2. Percent changes (and 95% confidence interval) in R5-R20 per interquartile range changes in components of air pollution at the times indicated after the start of the two-hour walk in two exposure sessions for each group of healthy, COPD and IHD participants at both sites (A), Oxford Street (B), and Hyde Park (C). IQR of air pollution for both sites (A): PM_{2.5}: 14.94 µg/m³; PM₁₀: 14.47 µg/m³; BC: 9.2 µg/m³; UFP: 19,854/cm³; NO₂: 64.9 ppb; Noise: 3.97 dB. IQR of air pollution for Oxford Street (B): PM_{2.5}: 12.73 µg/m³; PM₁₀: 14.86 µg/m³; BC: 3.94 µg/m³; UFP: 9974/cm³; NO₂: 63.5 ppb; Noise: 3.00 dB. IQR of air pollution for Hyde Park (C): PM_{2.5}: 7.59 µg/m³; PM₁₀: 11.59 µg/m³; BC: 1.43 µg/m³; UFP: 2585/cm³; NO₂: 9.8 ppb; Noise: 5.68 dB.



Percent Change in Outcome Associated with IQR Increase in Pollution Concentration

Figure S3. Percent changes (and 95% confidence interval) in PWV per interquartile range changes in components of air pollution at the times indicated after the start of the two-hour walk in two exposure sessions for each group of healthy, COPD and IHD participants at both sites (A), Oxford Street (B), and Hyde Park (C). IQR of air pollution for both sites (A): PM_{2.5}: 14.94 $\mu\text{g}/\text{m}^3$; PM₁₀: 14.47 $\mu\text{g}/\text{m}^3$; BC: 9.2 $\mu\text{g}/\text{m}^3$; UFP: 19,854/cm³; NO₂: 64.9 ppb; Noise: 3.97 dB. IQR of air pollution for Oxford Street (B): PM_{2.5}: 12.73 $\mu\text{g}/\text{m}^3$; PM₁₀: 14.86 $\mu\text{g}/\text{m}^3$; BC: 3.94 $\mu\text{g}/\text{m}^3$; UFP: 9974/cm³; NO₂: 63.5 ppb; Noise: 3.00 dB. IQR of air pollution for Hyde Park (C): PM_{2.5}: 7.59 $\mu\text{g}/\text{m}^3$; PM₁₀: 11.59 $\mu\text{g}/\text{m}^3$; BC: 1.43 $\mu\text{g}/\text{m}^3$; UFP: 2585/cm³; NO₂: 9.8 ppb; Noise: 5.68 dB.