Supplemental material

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1 **SUPPLEMENTAL MATERIAL**

2 **Supplement 1. Collection of medication data in China PEACE Million Persons Project.**

3 Potential participants who were taking medications were required to bring their drug
4 packaging (boxes) to the project sites. During the face-to-face interview, local project staff
5 asked participants whether they always took anti-hypertension, lipid-lowering, anti-diabetics,
6 or anti-platelet drugs during the past 2 weeks. Those who answered "yes" and knew the
7 name of the drug were further asked to report the name, dose, and frequency of each drug.
8 For those who did not remember the exact dose of the drug, the number of tablets or pills
9 taken was recorded. Interviewers searched and selected drug names or the first letter of the
10 Chinese phonetic alphabet participants answered by entering the generic name or trade
11 name of each drug in the electronic data collecting system. In this system, a data dictionary
12 was used to confirm drug information, including the drug class, generic name, trade name,
13 and corresponding unique ID.
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15 **Supplement 2. Summary statistics for daily PM$_{2.5}$ (µg/m^3) concentrations of assigned**
16 **monitors in 83 study regions.**

No.	Mean	Median	25th percentile	75th percentile	Minimum	Maximum	Total (days)	Missing (days)
1	67.9	50	26	88	5	540	1461	22
2	65.48	48	23	85	3	515	1461	25
3	56.39	40	19	76	2	448	1461	18
4	69.26	50	27	88	4	529	1461	10
5	57.73	41	20	77	4	446	1461	9
6	64.46	51	32	79.5	6	350	1461	13
7	62.85	50	30	78	4	409	1461	38
8	68.35	54	34	83.5	7	408	1461	37
9	64.46	51	32	79.5	6	350	1461	13
10	65.52	51	32	81	7	410	1461	34
11	86.31	61	38	107	5	708	1461	37
12	63.99	52	37	76	6	421	1461	18
13	61.01	50	30	79	2	290	1461	24
14	60.51	49	32	76	7	390	1461	70
15	46.19	40	29	55	7	276	1461	44
16	22.9	18	12	29	3	187	1461	59
17	54.55	41	26	68	3	932	1461	14
18	40.93	32	20	50	5	450	1461	16
19	44.97	35	22	56	6	353	1461	39
20	48.8	37	24	59	6	508	1461	15
21	45.3	31	19	55	3	612	1461	27
22	30.54	22	14	39	2	308	1461	17
23	45.36	34	21	58	3	378	1461	24
24	54.24	33	21	66	5	730	1461	24
25	39.52	29	18	49	3	502	1461	78
26	42.91	36	22	55	4	235	1461	24
27	44.22	36	22	58	5	225	1461	60
28	44.97	38	24	58	5	218	1461	22
29	44.32	37	23	57	6	224	1461	12
30*	49.23	40	28	62	10	271	797	1
31	52.7	42	27	67	7	284	1461	9
32	51.19	43	28	64	3	250	1461	40
33	49.98	44	31	61	6	259	1461	26
34	47.59	40	27	59	3	233	1461	30
35	27.35	25	17	35	2	114	1461	46
36	26.16	22	14	34	2	233	1461	5
37*	32.18	25	14	45	4	155	650	15
38	45.33	40	29	57	9	209	1461	32
39	49.12	44	31	62	3	356	1461	27
40	74.08	60	40	92	7	431	1461	22
41	56.81	46	31	70	7	327	1461	44
42*	70.49	57	40	82	6	514	797	56
43*	56.69	46	34	65	14	257	606	15
44	69.96	53	35	88	5	548	1461	57
45	62	50	31	81	3	275	1461	20
46	44.01	38	26	56	5	195	1461	31
47	48.13	43	29	61	6	478	1461	43
48	51.57	43	29	65	5	289	1461	10
49	39.33	33	23	50	6	214	1461	12
50	32.84	29	20	42	5	121	1461	22

51	32.48	28	18	43	5	149	1461	35
52	27.19	24	14	36	3	120	1461	31
53	38.01	33	21	49	5	192	1461	16
54	35.67	30	19	46	3	269	1461	13
55	50.36	42	27	64	6	286	1461	23
56	44.34	35	23	56	5	333	1461	6
57	35.14	29	16	47	3	202	1461	22
58	22.1	18	14	27	3	123	1461	31
59	15.14	13	9	18	2	68	1461	12
60*	37.75	29	18	47	5	183	773	20
61	49.89	41	30	61	8	222	1461	27
62	60.72	49	32	77	5	353	1461	8
63	42.87	36	24	55	5	215	1461	16
64	49.35	40	24	65	3	235	1461	13
65	32.64	28	18	42	4	195	1461	23
66	30.96	28	21	39	7	123	1461	10
67	29.79	28	20	36	7	102	1461	23
68	13.86	14	12	15	3	51	1461	109
69	25.99	19	13	32	5	187	1461	33
70	24.49	19	13	30	2	124	1461	156
71	11.95	10	7	15	2	88	1461	87
72	51.21	42	30	63	10	239	1461	238
73	10.62	9	7	13	4	73	1461	46
74	53.8	41.5	28	64	5	328	1461	19
75	38.88	32	23	47	4	169	1461	27
76	44.45	36	24	57	4	581	1461	59
77	44.1	36	25	53	5	287	1461	44
78*	44.04	38	27	56	9	139	488	27
79	55.15	45	30	68	5	363	1461	14
80	44.69	36	24	55	5	219	1461	50
81	65.37	34	20	85	5	447	1461	97
82	57.76	29	19	70	3	414	1461	58
83	51.7	26	14	65	3	406	1461	42

Note:

* Monitors being available after 2015

Total: Number of days of assigned monitors being available during 2015-2018

Missing: Number of days with missing PM$_{2.5}$ concentration during 2015-2018

22 **Supplement 3. Distribution of study sites in China Patient-Centered Evaluative**
23 **Assessment of Cardiac Events Million Persons Project.**

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26   **Supplement 4. Characteristics of the study population.**

Variable	Total (n=883,827)
Socio-demographics	
Age, mean (SD), years	55.5 (10.1)
Female, n (%)	533897 (60.4)
Urban residence, n (%)	657608 (74.4)
Han ethnic group, n (%)	805479 (91.1)
College or above	102764 (11.6)
Regions, n (%)	
Eastern	325253 (36.8)
Central	178435 (20.2)
Western	311599 (35.3)
Northeastern	68540 (7.8)
Cardiovascular risk factors, n (%)	
Obesity	142150 (16.1)
Current drinker	194967 (22.1)
Diabetes	173950 (19.7)
Current smoker	161006 (18.2)
Hypertension	381223 (43.1)
Blood pressures	
Systolic blood pressure, mean (SD)	143.5 (22.2)
Diastolic blood pressure, mean (SD)	83.1 (12.3)
$PM_{2.5}$ exposures	
1-y average $PM_{2.5}$ exposure, mean (SD)	49.2 (16.4)
Above WHO Interim Target 1 (IT-1, 35 µg/m^3), n (%)	706415 (79.9)
Above WHO Interim Target 2 (IT-2, 25 µg/m^3), n (%)	842356 (95.3)
Above WHO Interim Target 3 (IT-3, 15 µg/m^3), n (%)	864119 (97.8)

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29 **Supplement 5. The effect of PM$_{2.5}$ exposure on hypertension prevalence.**

Model	Per 10 µg/m^3 PM$_{2.5}$ increment	
	Odds ratios (95% confidence intervals)	p-Value
Hypertension prevalence		
Model 1	1.10 (1.09–1.11)	<0.001
Model 2	1.10 (1.09–1.11)	<0.001
Model 3	1.09 (1.08–1.10)	<0.001
Model 4	1.09 (1.08–1.10)	<0.001
Model 5	1.04 (1.02–1.05)	<0.001
Model 6	1.04 (1.02–1.05)	<0.001

30 Model 1: Included age and sex;

31 Model 2: Model 1 + education level and urbanity;

32 Model 3: Model 2 + smoking status, alcohol consumption, obesity, and diabetes;

33 Model 4: Model 3 + day of week of the medical examination;

34 Model 5: Model 3 + season of the medical examination;

35 Model 6: Model 3 + day of week + season.

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37 **Supplement 6. The effect of PM$_{2.5}$ exposure on blood pressure.**

Model	Per 10 µg/m³ PM$_{2.5}$ increment	
	mmHg (95% confidence intervals)	p-value
Systolic blood pressure		
Model 1	0.58 (0.49–0.67)	<0.001
Model 2	0.57 (0.48–0.66)	<0.001
Model 3	0.45 (0.36–0.54)	<0.001
Model 4	0.50 (0.41–0.59)	<0.001
Model 5	0.50 (0.41–0.59)	<0.001
Model 6	0.19 (0.10–0.28)	<0.001
Model 7	0.19 (0.10–0.28)	<0.001
Diastolic blood pressure		
Model 1	0.29 (0.23–0.34)	<0.001
Model 2	0.28 (0.23–0.34)	<0.001
Model 3	0.21 (0.15–0.26)	<0.001
Model 4	0.23 (0.18–0.28)	<0.001
Model 5	0.23 (0.18–0.28)	<0.001
Model 6	0.13 (0.08–0.18)	<0.001
Model 7	0.13 (0.08–0.18)	<0.001

38 Model 1: Included age and sex;

39 Model 2: Model 1 + education level and urbanity;

40 Model 3: Model 2 + smoking status, alcohol consumption, obesity, and diabetes;

41 Model 4: Model 3 + use of antihypertensive medication;

42 Model 5: Model 4 + day of week of the medical examination;

43 Model 6: Model 3 + season of the medical examination;

44 Model 7: Model 3 + day of week + season.