Data supplement for Gu et al., Association Between Ambient Air Pollution and Daily Hospital Admissions for Depression in 75 Chinese Cities. Am J Psychiatry (doi: 10.1176/appi.ajp.2020.19070748)

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Northern cities	No. of monitoring sites	Southern cities	No. of monitoring sites
Aletai	2	Bazhong	8
Anshan	7	Binzhou	5
Anyang	6	Changde	8
Baoji	8	Changsha	10
Changji	3	Changzhou	9
Chengde	5	Chengdu	10
Datong	7	Chongqing	21
Dezhou	4	Chuxiong	2
Handan	4	Dazhou	5
Hebi	3	Enshi	2
Heze	3	Ganzi	3
Jilin	8	Guangzhou	12
Jinan	8	Hangzhou	11
Jining	3	Honghe	4
Jinzhou	5	Huaihua	5
Lanzhou	6	Jiaxing	6
Liaocheng	5	Jinhua	4
Qingyang	3	Lishui	3
Qiqihaer	5	Liuan	4
Shenyang	13	Nanchong	6
Siping	3	Puer	2
Tacheng	1	Qingyuan	4
Taian	3	Quzhou	3
Tangshan	6	Shantou	6
Tianjin	20	Shaotong	2
Weifang	8	Shaoyang	5
Weihai	3	Shiyan	4
Weinan	4	Taizhou	3
Wuhai	3	Tongling	6
Wulumuqi	8	Wuhan	11
Xianyang	4	Wuhu	4
Yanan	4	Wuxi	8
Yanbian	3	Xiangyang	5
Yantai	7	Yueyang	6
Yuncheng	6	Yuxi	5
Zaozhuang	5	Zhuzhou	7
Zhumadian	3	Zigong	6
Zibo	6		

TABLE S1. Number of monitoring sites in 75 Chinese cities.

	PM _{2·5}	PM ₁₀	NO ₂	SO ₂	O 3	СО	Temperature	Relative
								humidity
PM _{2.5}	1.00	$0{\cdot}88^{\dagger\dagger}$	$0.67^{\dagger\dagger}$	0·58 ^{††}	$-0.06^{\dagger\dagger}$	0.06 ^{††}	-0.224	<0.01
PM ₁₀		1.00	$0.67^{\dagger\dagger}$	0.59 ^{††}	-0.01	$0{\cdot}07^{\dagger\dagger}$	-0.54	-0.16
SO ₂			1.00	0.57	-0.10^{++}	$0{\cdot}07^{\dagger\dagger}$	-0.38 ⁺⁺	-0.54
NO ₂				1.00	$-0.06^{\dagger\dagger}$	$0.06^{\dagger\dagger}$	-0.26++	$-0.08^{\dagger\dagger}$
O ₃					1.00	-0.01	0.42	-0.14
СО						1.00	-0.04++	$-0.02^{\dagger\dagger}$
Temperature							1.00	0.5144
Relative humidity								1.00

TABLE S2. Spearman correlation coefficients among the ambient air pollutants and weather variables in 75 Chinese cities during 2013-2017.

[†]*P*<0.05, ^{††}*P*<0.01.

	Mean air concen	r pollutant ntration*	Temperature (°C)		Relative humidity (%)		GDP per capita		
-	Percent Change	95% CI	Percent Change	95% CI	Percent Change	95% CI	Percent Change	95% CI	
$PM_{2.5} (10 \mu g/m^3)$									
lag1	0.02	-0.19, 0.22	-0.05	-0.17, 0.08	0.03	-0.04, 0.10	-0.03	-1.24, 1.20	
lag01	-0.13	-0.40, 0.13	-0.01	-0.17, 0.15	0.03	-0.06, 0.11	-0.47	-1.98, 1.06	
lag02	-0.04	-0.33, 0.25	-0.07	-0.24, 0.10	0.05	-0.05, 0.14	-0.31	-1.94, 1.34	
$PM_{10}(10\mu g/m^3)$									
lag1	0.01	-0.06, 0.07	-0.02	-0.12, 0.08	0.02	-0.03, 0.07	-0.02	-0.92, 0.89	
lag01	-0.03	-0.12, 0.06	-0.01	-0.14, 0.12	0.03	-0.03, 0.09	-0.31	-1.49, 0.87	
lag02	-0.01	-0.11, 0.09	-0.03	-0.17, 0.11	0.03	-0.04, 0.10	-0.29	-1.56, 1.00	
lag03	0.00	-0.12, 0.13	-0.03	-0.19, 0.14	0.00	-0.08, 0.09	-0.07	-1.58, 1.47	
$NO_2(10\mu g/m^3)$									
lag0	-0.24†	-0.48, -0.00	-0.09	-0.37, 0.19	0.06	-0.07, 0.20	-1.87	-4.04, 0.35	
lag1	-0.02	-0.47, 0.42	0.17	-0.18, 0.53	0.02	-0.15, 0.19	-1.74	-4.60, 1.21	
lag01	-0.17	-0.54, 0.19	0.03	-0.32, 0.39	0.05	-0.13, 0.22	-2.40	-5.15, 0.43	
lag02	-0.11	-0.58, 0.37	0.05	-0.38, 0.48	0.10	-0.11, 0.31	-2.93	-6.24, 0.50	
lag03	-0.10	-0.75, 0.56	0.02	-0.51, 0.55	0.10	-0.16, 0.36	-2.70	-6.81, 1.59	
lag04	-0.10	-0.99, 0.79	0.07	-0.58, 0.73	0.08	-0.24, 0.39	-1.87	-7.01, 3.55	
$SO_2(10\mu g/m^3)$									
lag0	-0.07	-0.53, 0.39	0.03	-0.35, 0.41	0.09	-0.06, 0.25	-1.04	-4.65, 2.70	
$O_3(10\mu g/m^3)^{**}$									
-	-		-		-		-		
CO (1mg/m ³)									
lag05	-0.90	-4.05, 2.36	-0.12	-2.24, 2.05	0.37	-0.69, 1.43	-2.54	-20.22, 19.06	
lag06	-0.88	-4.42, 2.80	0.58	-1.76, 2.97	0.14	-1.02, 1.31	-8.15	-26.19, 14.32	
lag07	-0.91	-4.38, 2.69	0.66	-1.70, 3.08	0.11	-1.06, 1.30	-9.93	-27.85, 12.44	

TABLE S3. Metaregression results of city-specific variables for the significant associations between ambient air pollutants and daily hospital admissions for depression.

Data are shown as percent changes and 95% confidence intervals (CIs).

*Mean air pollutant concentration indicated whether estimates of the association between one air pollutant and depression admissions were modified

by the mean levels of the air pollutant.

**We only examined the modification effect on the significant effect estimates of each air pollutant in the main analysis (Figure 2) and no estimate

of O_3 was significant at P < 0.05.

[†]P<0.05.

	Adjus	sted for	Adjus	sted for	Adjus	sted for	Adjus	sted for	Adjus	sted for	Adjus	ted for
	PI	M _{2.5}	P	M ₁₀	N	1 O 2	S	O_2	(D ₃	C	20
	Percent	95%	Percent	95%	Percent	95%	Percent	95%	Percent	95%	Percent	95%
	Change	CI	Change	CI	Change	CI	Change	CI	Change	CI	Change	CI
PM _{2.5} (lag02)	-		-0.04	-0.16, 0.08	0.01	-0.04, 0.07	0.05	-0.01, 0.11	0.06^{\dagger}	0.00, 0.11	0.03	-0.02, 0.09
PM ₁₀ (lag02)	0.07	-0.02, 0.17	-		0.02	-0.03, 0.06	0.04	-0.01, 0.09	0.05^{\dagger}	0.01, 0.09	0.04	-0.01, 0.08
NO ₂ (lag0)	1.49 **	0.53, 2.45	1.48 **	0.51, 2.46	-		1.31 **	0.37, 2.26	1.61 **	0.86, 2.37	1.29 **	0.34, 2.25
SO ₂ (lag0)	0.04	-0.01, 0.09	0.02	-0.07, 0.12	0.20^{\dagger}	0.01, 0.39	-		0.06	-0.01, 0.14	0.75 †	0.13, 1.37
O ₃ (lag0)	0.44	-0.02, 0.90	0.44	-0.02, 0.91	0.56^{+}	0.08, 1.05	0.44	-0.03, 0.91	-		0.45	-0.03, 0.93
CO (lag07)	0.73 [†]	0.03, 1.45	0.68	-0.05, 1.42	0.49	-0.21, 1.19	0.77 †	0.08, 1.47	0.76^{\dagger}	0.14, 1.39	-	

TABLE S4. Associations between ambient air pollutants and daily hospital admissions for depression in two-pollutant models.

Two-pollutant models were conducted only for the most significant effect estimate of each air pollutant (with the smallest p value) by controlling for another air pollutant at the same lag time. Data are shown as percent changes and 95% confidence intervals (CIs).

[†]*P*<0.05, ^{††}*P*<0.01.



FIGURE S1. Locations of the 75 Chinese cities included in this study. Total admissions indicate the total number of hospital admissions for depression in each city during 2013-2017.



FIGURE S2. Monthly variation of daily concentrations of ambient PM_{2.5}, PM₁₀, NO₂, SO₂, O₃, and CO and number of hospital admissions for depression in 75 Chinese cities during the study period (2013-2017). The lower and upper edges of the boxplot represent the 25th and 75th percentiles of the daily air pollutant concentrations, respectively, the horizontal line inside the boxplot indicates the median of the daily air pollutant concentrations, and the straight lines extending from the lower and upper edges of the boxplot connect the minimum and maximum values of the daily air pollutant concentrations.

City Name	ES(95%CI)		%W(random)
Aletai	0.68(-1.14, 2.54)	+	3.12
Anshan	-0.94(-2.93, 1.08)		2.83
Baoji	-0.55(-1.94, 0.87)	-	3.80
Bazhong	-1.06(-9.52, 8.19)		0.28
Binzhou	-6.69(-14.39, 1.71)		0.30
Changde	-2 10(-5 08 0 96)		0.65
Changzhou	2.11(-0.23, 4.52)		2.44
Chengde	-5.33(-14.32, 4.61)		0.23
Chengdu	2.87(1.00, 4.78)		3.10
Chuxiong	17 84(1 65 36 60)		0.10
Datong	-6.25(-12.48, 0.43)		0.45
Dazhou	6.60(-1.45,15.30)		0.36
Dezhou	3.02(-0.87, 7.07)		1.23
Ganzi	-1.79(-10.26, 7.49) 11.04(-14.17.43.67)		0.03
Guangzhou	-1.59(-6.54, 3.62)		0.76
Handan	0.53(-2.72, 3.88)		1.57
Hangzhou	1.00(-0.54, 2.57)	-	3.58
Honghe	4 11(-2 70 11 40)		2.00
Huaihua	0.14(-7.51, 8.41)		0.35
Jiaxing	-3.21(`-6.64,`0.34)		1.36
Jichang	1.87(-3.71, 7.78)		0.65
Jilin Jinan	-0.07(-2.32, 2.24)		2.49
Jinhua	0.24(-1.36, 1.86)	+	3.47
Jining	-0.61(-2.11, 0.92)	-	3.61
Jinzhou	2.61(-2.72, 8.23)		0.72
Lanzhou	-2.14(-5.84, 1.70)		1.23
Lishui	0.41(-3.01, 3.96)		1.44
Liuan	2.13(-6.16,11.16)		0.31
Nanchong	2.27(-5.53,10.72)		0.35
Puer	4.40(-9.77,20.79)		0.11
Qingyang	-0.31(-9.12, 9.35)		0.26
Qiqihaer	1.82(-4.26, 8.29)		0.55
Quzhou	-2.37(-7.01, 2.51)		0.84
Shantou	-4.94(-13.37, 4.30) 6.58(-7.31.22.57)		0.26
Shaoyang	4.32(-3.80.13.12)		0.33
Shenyang	1.64(0.37, 2.92)	-	4.08
Shiyan	-6.33(-13.86, 1.86)		0.31
Siping	-2.91(-8.18, 2.66) -5.21(-21.48.14.43)		0.66
Taian	-3.85(-7.91, 0.39)		1.03
Taizhou	2.67(-4.57,10.46)		0.41
Tangshan	1.68(-2.33, 5.85)		1.15
Tanjin	-0.86(-2.56, 0.86) 1.05(-8.33.11.38)		3.27
Weifang	-3.18(-7.13, 0.94)		1.08
Weihai	2.60(-0.14, 5.42)		2.03
Weinan	0.79(-2.88, 4.59)		1.30
Wuhan	-0.03(-1.89, 1.87)	-	3.04
Wuhu	1.37(-2.44, 5.32)		1.24
Wulumuqi	1.16(-0.82, 3.19)		2.89
Wuxi	0.03(-2.34, 2.46)		2.36
Xiangyang Xianyang	0.16(-3.40, 3.86)		1.35
Yanan	4.86(-3.75,14.24)		0.30
Yanbian	2.16(-2.53, 7.07)		0.89
Yantai	2.46(0.40, 4.57)		2.81
Yuncheng	3.47(-0.38, 6.65)		1.75
Yuxi	3.63(-2.22, 9.84)		0.62
Zaozhuang	1.13(-1.10, 3.42)	+	2.56
Zhoukou Zhumadian	-1.71(-7.01, 3.89)		0.67
Zhunadian Zhuzhou	-0.70(-4.40, 3.14)		1.26
Zibo	0.57(-1.79, 2.98)	+	2.38
	5.68(2.43, 9.03)		1.68
Overall (I-Squared = 30.7%, p = 0.0075)	0.52(0.03, 1.01)	· · · · · ·	100.00
		-30 0 30 0	30

FIGURE S3. Forest plots for overall analyses of daily hospital admission for depression associated with an increase of 10 μ g/m³ in PM_{2.5} at lag01 in 75 Chinese cities. The size of the percent change data markers is relative to each city's weight.

City Name	ES(95%CI)	L.	%W(random)
Aletal Anshan	-5 28(-10.59, 0.34)		4.12
Anyang	-0.22(-1.83, 1.41)	-	2.57
Baoji	-0.25(-1.28, 0.80)	+	3.68
Binzhou	-2.05(-7.94, 4.21) -3.87(-9.48, 2.07)		0.32
Changde	3.83(-0.22, 8.05)		0.72
Changsha Changzhou	-0.91(-3.92, 2.19) 1.37(-0.27, 3.03)		1.10
Chengde	-3.50(-9.14, 2.49)		0.34
Chengdu	2.18(0.93, 3.44)	-	3.28
Chuxiona	11.14(0.60.22.78)		0.13
Datong	-2.98(-7.25, 1.47)		0.58
Dazhou	6.24(-0.03,12.92)		0.33
Enshi	-1.11(-7.57, 5.81)		0.27
Ganzi	13.19(-1.27,29.76)		0.07
Handan	-0.13(-2.74, 2.55)		1.39
Hangzhou	0.91(-0.24, 2.07)	-	3.46
Heze	1.69(0.00, 3.41)		2.48
Huaihua	0.18(-4.83, 5.46)		0.46
Jiaxing	-2.97(-5.56,-0.32)		1.34
Jichang Jilin	-0.26(-2.18, 1.70)		0.82
Jinan	-1.06(-3.06, 0.98)		1.97
Jinhua Jining	-0.19(-1.49, 1.12)	±	3.12
Jinzhou	1.86(-2.60, 6.52)		0.58
Lanzhou	-0.70(-2.21, 0.83)	-	2.72
Liaocheng Lishui	0.04(-1.98, 2.09) 0.36(-2.42, 3.22)		1.98
Liuan	1.83(-4.15, 8.18)		0.34
Nanchong	1.23(-4.11, 6.87)		0.41
Qingyang	-1.83(-6.91, 3.54)		0.43
Qingyuan	-2.18(-8.40, 4.47)		0.29
Qiqinaer	2.06(-3.12, 7.52)		0.44
Shantou	-3.56(-9.98, 3.33)		0.26
Shaotong	4.93(-4.61,15.42)		0.14
Shenyang	1.39(0.36, 2.43)		3.71
Shiyan	-3.41(-9.05, 2.57)		0.34
Siping	-2.69(-6.75, 1.54)		0.64
Taian	-1.69(-4.75, 1.48)		1.05
Taizhou	3.45(-1.67, 8.83)		0.47
Tangshan Tianiin	1.30(-2.04, 4.77) -0.39(-1.79, 1.04)		0.95
Tongling	1.40(-5.47, 8.76)		0.25
Weifang	-2.74(-5.72, 0.34)		1.08
Weinan	-1.13(-4.02, 1.85)		1.16
Wuhai	1.51(-2.41, 5.58)		0.73
Wuhan	0.19(-1.20, 1.60) 1.21(-1.55, 4.04)		2.95
Wulumuqi	-0.11(-1.59, 1.40)	+	2.78
Wuxi	0.01(-1.64, 1.68)		2.50
Xianyang	-1.28(-4.09, 1.62)		1.21
Yanan	2.02(-3.54, 7.90)		0.39
Yanbian Yantai	2.81(-0.98, 6.75) 1.29(-0.32, 2.93)		0.79
Yueyang	-2.94(-7.74, 2.10)		0.47
Yuncheng	3.30(0.91, 5.74)		1.65
Zaozhuang	0.83(-0.66, 2.35)		2.78
Zhoukou	-0.62(-4.45, 3.37)		0.73
∠numadian Zhuzhou	2.09(-2.11, 6.48) 0.00(-2.88, 2.97)		0.65
Zibo	0.11(-1.67, 1.92)	-	2.30
Zigong Overall (L Squared = 22.6%, p = 0.0022)	5.28(2.74, 7.89)	·	1.55
overall (i-Squareu - 55.6%, p - 0.0052)	0.41(0.00, 0.70)		100.00

FIGURE S4. Forest plots for overall analyses of daily hospital admissions for depression associated with an increase of 10 μ g/m³ in PM₁₀ at lag01 in 75 Chinese cities. The size of the percent change data markers is relative to each city's weight.

City Name	ES(95%CI)		%W(random)
Aletai	0.75(-0.80, 2.32)	•	6.65
Anshan	-20.61(-34.82,-3.30)		0.26
Anyang Baoii	-1.74(-7.46, 4.35)		2.14
Bazhong	9 84(-17 36 46 00)		0.13
Binzhou	-15.46(-32.46, 5.81)		0.21
Changde	2.02(-15.43,23.08)		0.29
Changsha	-3.70(-11.91, 5.28)		1.14
Changzhou	0.71(-3.81, 5.44)		3.06
Chengdu	4.61(-20.89, 13.01)		3.09
Chongging	2.87(-1.16, 7.07)	-	3.59
Chuxiong	18.25(-2.96,44.09)		0.26
Datong	-0.99(-14.04,14.05)		0.50
Dazhou	6.53(-19.08,40.24)		0.14
Enshi	4.97(-0.40,20.30) 2.58(-21.24.33.59)		0.53
Ganzi	4.21(-1.12, 9.84)		2.58
Guangzhou	0.09(-5.28, 5.78)	-	2.41
Handan	4.36(-4.21,13.70)		1.22
Hangzhou	3.18(0.23, 6.23)	+	4.82
Honghe	26 31(-2.30, 13.30) 26 31(-5 69 69 17)		0.12
Huaihua	7.92(-12.27.32.76)		0.24
Jiaxing	-0.37(-6.08, 5.69)		2.19
Jichang	5.47(-7.69,20.51)		0.56
Jilin	-1.16(-7.86, 6.03)		1.69
Jinan	0.95(-5.65, 8.01)	-	1.79
lining	1 96(-2.41, 6.53)	—	3 24
Jinzhou	1.93(-10.97,16.71)		0.54
Lanzhou	2.31 (-2.90, 7.81)		2.59
Liaocheng	-5.50(-13.46, 3.20)		1.17
Lisnui	2.15(-5.40,10.31)		1.46
Nanchong	9 05(-14 93 39 81)		0.20
Puer	-14.38(-34.20,11.40)		0.15
Qingyang	-1.46(-28.64,36.07)		0.10
Qingyuan	2.03(-9.78,15.38)		0.64
Qiqinaer	14.39(-7.93,42.12)		0.22
Shantou	-8 33(-24 96 11 97)		0.26
Shaotong	26.43(-13.68,85.19)		0.07
Shaoyang	16.96(-12.42,56.21)		0.12
Shenyang	3.68(0.29, 7.19)	-	4.31
Shiyan	-11.77(-35.62,20.91)		0.11
Tacheng	-15.18(-38.06.16.16)		0.11
Taian	-3.56(-13.92, 8.04)		0.74
Taizhou	12.99(-3.37,32.11)		0.41
Tangshan	0.73(-9.33,11.91)		0.85
Tanjin	-0.79(-4.99, 3.60) 10.46(-7.33.31.66)		3.29
Weifang	-9 23(-19 51, 2, 37)		0.55
Weihai	6.77(0.48,13.46)		2.10
Weinan	-4.46(-14.11, 6.28)		0.84
Wuhai	-0.35(-13.84, 15.26)	-	0.47
Wuhu	-1 30(-8 59 6 57)		4.40
Wulumugi	-0.86(-6.27, 4.86)	-	2.36
Wuxi	-1.75(-5.64, 2.29)		3.56
Xiangyang	-6.56(-26.43,18.67)		0.18
Xianyang	-0.93(-10.77,10.01)		0.86
Yanbian	1 75(-8 79 13 50)		0.29
Yantai	3.26(-1.14, 7.86)	-	3.26
Yueyang	-11.50(-29.45,11.00)		0.20
Yuncheng	8.06(-0.37,17.19)		1.34
ruxi Zaozbuano	7.09(-3.53,20.22)		0.79
Zhoukou	11.32(-7.62.34.13)		0.29
Zhumadian	6.24(-9.03,24.09)		0.42
Zhuzhou	8.55(-3.45,22.04)		0.70
∠IDO Zigong	6.64(0.43,13.24)		2.14
Overall (I-Squared = 23.5% n = 0.0396)	1.78(0.73, 2.83)	•	100.00
5161411 (1 Oqualed - 201070, p - 0.0030)	110(0110, 2.00)		100.00

FIGURE S5. Forest plots for overall analyses of daily hospital admissions for depression associated with an increase of $10 \ \mu g/m^3$ in NO₂ at lag01 in 75 Chinese cities. The size of the percent change data markers is relative to each city's weight.

City Name	ES(95%CI)		%W(random)
Aletai	0.00(-0.76, 0.77)		4.72
Anyang	-4.56(-9.02, 0.11)	•	3.02
Baoji	-5.67(-12.98, 2.24)	-	1.80
Bazhong	135.91(-28.86,682.33)		→ 0.01 0.21
Changde	1.29(-14.46, 19.94)		0.58
Changsha	-6.88(-21.66, 10.68)		0.55
Changzhou	5.72(-1.25, 13.17)	-	2.19
Chengdu	6 33(-5 51, 19 66)		1.05
Chongqing	12.22(5.01, 19.92)	-	2.25
Chuxiong	5.12(-13.70, 28.04)		0.44
Datong	-2.46(-7.76, 3.15) 35.90(-17.14.122.88)	-	2.66
Dezhou	10.36(1.76, 19.68)	-	1.78
Enshi	15.62(-19.54, 66.15)		0.14
Ganzi Guanozhou	2 48(-16 60 25 93)		0.18
Handan	-2.51(-9.68, 5.24)	-	1.92
Hangzhou	7.25(-0.18, 15.22)	-	2.07
Heze	1.96(-3.46, 7.68) 5.18(-1.51, 12.32)	Ť	2.71
Huaihua	4.29(-13.61, 25.90)		0.47
Jiaxing	4.17(-5.19, 14.45)		1.46
Jichang	-10.70(-30.09, 14.07)		0.29
Jinan	-0.23(-7.60, 7.95) -2.55(-7.67, 2.85)	Ţ	2 74
Jinhua	-1.37(-6.55, 4.09)	+	2.74
Jining	-1.14(-3.71, 1.49)	•	4.07
Jinzhou Lanzhou	5.00(-2.70, 15.48) 5.60(-8.07, 21.30)		1.66
Liaocheng	-8.12(-14.27, -1.53)	-	2.15
Lishui	-0.44(-11.29, 11.74)	-	1.09
Liuan	6.50(-21.68, 44.81)		0.19
Puer	17.18(-15.19, 61.90)		0.10
Qingyang	-3.18(-17.96, 14.25)		0.60
Qingyuan	-5.19(-29.09, 26.76)		0.21
Quzhou	-5.78(-17.96, 8.21)		0.33
Shantou	-0.14(-25.90, 34.56)		0.20
Shaotong	4.51(-11.62, 23.58)		0.58
Shenyang	1.96(0.14, 3.83)		4 42
Shiyan	-14.60(-44.14, 30.56)		0.10
Siping	-6.10(-17.48, 6.86)		0.91
Taian	4.28(-38.98, 78.21) -0.51(-7.99, 7.59)		0.06
Taizhou	4.23(-22.81, 40.76)		0.20
Tangshan	-4.49(-12.65, 4.43)	-	1.57
Lianjin Tongling	-3.73(-8.72, 1.53) 21.28(4.17, 41.21)	•	2.78
Weifang	-3.68(-11.43, 4.76)	-	1.71
Weihai	2.30(-3.99, 9.01)	+	2.35
Weinan	-4.36(-20.24, 14.69)		0.51
Wuhan	0.40(-7.48, 8.94)	–	1.77
Wuhu	-16.02(-25.04, -5.92)		1.11
Wulumuqi	-0.11(-12.63, 14.20)		0.86
Xiangyang	12.15(-27.02, 72.35)		0.10
Xianyang	-5.34(-20.32, 12.46)		0.56
Yanan Yanbian	2.96(-14.95, 24.63)		0.46
Yantai	4.28(-1.69, 10.61)	•	2.53
Yueyang	1.81(-17.86, 26.18)		0.37
Yuncheng	5.97(1.65, 10.46)	•	3.32
Zaozhuang	1.64(-2.61, 6.08)	-	3.26
Zhoukou	-11.56(-34.16, 18.78)		0.21
Zhumadian	15.05(-11.32, 49.26)		0.26
Zibo	2.68(0.06 5.38)	•	1.44 4.09
Zigong	56.68(38.05, 77.83)		0.94
Overall (I-Squared = 53.2%, p < 0.0001)	1.16(-0.21, 2.56)	· · · · · · · · · · · · · · · · · · ·	100.00
		-100 0 100 200	300

FIGURE S6. Forest plots for overall analyses of daily hospital admissions for depression associated with an increase of $10 \ \mu g/m^3$ in SO₂ at lag01 in 75 Chinese cities. The size of the percent change data markers is relative to each city's weight.

Aletai -0.15(-1.21, 0.92) Anshan 15.35(-3.72, 28.29)	4.58 0.44 1.22
Anshan 15,35(3,72, 28,29)	0.44
Anyang -0.90(-0.23, 4.02)	2.46
Bazhong -0.46(-14.85, 517)	0.21
Binzhou 5.81(-3.95, 16.56)	0.52
Changde -0.36(-7.05, 6.81)	0.92
Changsha -3.20(-8.23, 2.11)	1.38
Changenou -1.07(-44-9, 1.10)	2.00
Chengdu 0.44(-4.20, 5.30)	1.64
Chongqing -0.27(-1.97, 1.46) +	3.97
Chuxiong 13.40(2.31, 25.69)	0.46
Datong 16.25(4.38, 29.47)	0.43
Dezhoù 340(-3.97, 11.34)	0.83
Enshi -1.63(-14.52, 13.19)	0.26
Ganzi -16.33(-30.92, 1.35)	0.14
Guangznou 1.24(-2.31, 4.91)	2.31
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	4 10
Heze 3,30(-0.19, 6.91)	2.41
Honghe 4.55(-2.89, 12.55)	0.83
Huanua -1.18(-10.65, 9.30)	0.48
Jiaking -1.0 (144,0, 1.02)	0.25
Jilin 0.67(-4.51, 6.14)	1.40
Jinan 3.32(`-1.43,` 8.31)	1.65
Jinhua 2.52(0.58, 4.49)	3.78
Jining -0.36(-2.75, 2.10)	3.26
Lanzhou 0.17(-5.06, 5.69)	1.37
Liaocheng 7.85(`1.00,`15.16)	1.01
Lishui 0.22(-2.27, 2.77) +	3.18
Liuan 4.04(-1.05, 24.00) — — — — — — — — — — — — — — — — — —	0.19
Puer 10.95(-2.55, 26.31)	0.30
Qingyang 5.41(-7.19, 19.71)	0.31
Qingyuan 0.58(-1.61, 2.82,	3.49
Qiginaer 12.20(-2.13,20.11)	1.28
Shantou -3.99(-9.46, 1.80)	1.20
Shaotong 5.67(-8.06, 21.45)	0.26
Shaoyang 7.01(-3.82, 19.06)	0.43
Shivan	0.34
Siping 4.53(-4.51, 14.42) —	0.59
Tachēng -10.36(-18.40, -1.53)	0.55
Taian 7,89(-0.20, 16,63)	0.76
Tangshan -9 25-27 (0.13)	0.45
Tianjin -1.33(-4.35, 1.79) -	2.66
Tongling -3.53(-15.22, 9.78)	0.30
Weifang -1.61(-8.50, 5.80)	0.85
Weinan 2 64 - 6.12 12 22	2.00
Wuhai -4.48(-17.27, 10.28)	0.25
Wuhan 1.34(-0.85, 3.58)	3.50
Wulu 0.10(-4.7, 5.15)	1.55
Wuxi 0.85(-140.315)	3.43
Xiangyang -3.03(-15.20, 10.88)	0.28
Xianyang -0.33(-9.50, 9.76)	0.52
Yanhan -2.12(-14.26, 11.78)	0.29
Vantai -0.04(-3.37, 2.57) -	2.76
Yueyang -13.19(-21.98, -3.41)	0.43
Yuncheng 0.99(-5.46, 7.88)	1.00
TUXI -2.41(-7.2, 2.71)	1.47
Zhoukou 0.92(-8.68, 11.53) —	0.49
Zhumadian 0.62(-7.42, 9.34)	0.68
<u>Zhuzhou</u> 5.16(0.20, 10.37)	1.59
Ziaona 14 01(6.77, 21, 74)	1.01
Overall (I-Squared = 40.0%, p = 0.0003) 0.60(-0.14, 1.34)	100.00

FIGURE S7. Forest plots for overall analyses of daily hospital admissions for depression associated with an increase of $10 \ \mu\text{g/m}^3$ in O₃ at lag01 in 75 Chinese cities. The size of the percent change data markers is relative to each city's weight.

City Name	ES(95%CI)	-	%W(random)
Aletai	0.87(-0.66, 2.44)		10.62
Anshan	-56.49(-74.83,-24.81)		0.28
Anyang	-3.27(-14.11, 8.93)		3.96
Baoii	-0.12(-14.74, 17.01)		2.65
Bazhong	35.77(-45.68,239.36)		0.10
Binzhou	-40.25(-63.31, -2.70)		0.36
Changde	20.08(-16.49, 72.65)		0.63
Changsha	-25.48(-52.21, 16.20)		0.43
Changzhou	6.19(-16.82, 35.56)		1.29
Chengde	-9.40(-46.74, 54.14)		0.30
Chengdu	21.92(-3.73, 54.40)		1.37
Chongging	15.07(-4.78, 39.06)		2.00
Chuxiong	157.71(-3.80,590.38)		0.09
Datong	-17.88(-39.95, 12.31)		0.83
Dazhou	32.54(-31.13,155.11)		0.20
Dezhou	8.31(-13.92, 36.29)		1.44
Enshi	-13.66(-53.08, 58.90)		0.23
Ganzi	14.00(-60.93,232,66)		0.08
Guangzhou	5.79(-38.11, 80.83)		0.30
Handan	-0.16(-16.70, 19.66)		2.14
Hangzhou	2.09(-12.71, 19.41)		2.69
Heze Honghe Huaihua Jiaxino	14.46(-7.78, 42.07) 82.85(9.24,206.05) -19.82(-60.73, 63.71) -5.78(-29.99, 26.81)		0.32 0.17 0.91
Jichang Jilin Jinan	10.16(-29.74, 72.72) 1.72(-21.59, 31.97) -0.38(-1.12, 0.36) 1.12(8.11, 11.26)		0.42 1.15 10.86
Jining	-16.13(-28.67, -1.38)	+	2.55
Jinzhou	34.44(-12.47, 106.49)		0.46
Lanzhou	1.61(-17.65, 25.37)		1.68
Liaocheng	1.63(-20.25, 29.52)		1.31
Lishui	-14.61(-36.54, 14.90)		0.91
Liuan	82.53(-33.84,403.62)		0.08
Nanchong	29.38(-56.63,285,98)		0.07
Puer	-6.89(-39.32, 42.88)	<u> </u>	0.46
Qingyang	-23.76(-59.55, 43.68)		0.21
Qingyuan	-21.95(-59.14, 49.09)		0.20
Quzhou Shantou Shaotong	-23.78(-54.07, 26.46) -26.64(-62.47, 43.39) -29.92(-71.47, 72.17)		0.15 0.33 0.19 0.11
Shaoyang Shenyang Shiyan	134.33(-7.54,493.87) 23.24(10.25,37.75) -19.88(-61.79,68.00) 11.36(-27.64,71.37)	•	0.10 4.29 0.16 0.45
Tacheng	-5.19(-27.67, 24.27)		1.08
Taian	-22.15(-43.39, 7.07)		0.80
Taizhou	20.36(-34.14,119.95)		0.24
Tangshan	-11.50(-21.66, -0.02)	•	3.83
Tianjin	-9.68(-20.95, 3.21)		3.39
Tongling	40.52(-34.27,200.41)		0.15
Weifang	-28.76(-52.98, 7.93)		0.48
Weihan	27.80(3.42, 57.93)		1.66
Weinan	-4.57(-35.29, 40.72)		0.55
Wuhai	14.90(-23.45, 72.48)		0.51
Wuhan Wuhu Wulumuqi Wuxi	14.66(-6.33, 43.47) 5.76(-27.90, 55.13) 14.96(-1.85, 34.65) -1.32(-20.33, 22.22)		0.57 2.65 1.63
Xiangyang	-28.96(-72.98, 86.81)		0.09
Xianyang	-13.96(-42.16, 27.99)		0.53
Yanan	-12.51(-47.52, 45.86)		0.32
Yanbian	11.86(-26.79, 70.93)		0.47
Yantai Yueyang Yuncheng	21.15(3.55, 41.73) -28.47(-67.53, 57.56) 9.03(-7.09, 27.95)	<u>+</u> +	2.68 0.14 2.60
ruxi	1.72(-12.96, 18.87)		2.71
Zaozhuang	12.18(-16.54, 50.77)		0.92
Zhoukou	-18.30(-54.84, 47.81)		0.24
Zhumadian	28.71(-33.44.148.91)		0.20
Zhuzhou	2.07(-31.06, 51.13)	÷	0.54
Zibo	19.01(2.17, 38.62)		2.80
Zigong	259.19(138.50,440.97)		0.50
Overall (I-Squareα = 48.7%, p < 0.0001)	2.85(-0.14, 5.94)	-200 0 200 400 600	100.00

FIGURE S8. Forest plots for overall analyses of daily hospital admissions for depression associated with an increase of 1 mg/m^3 in CO at lag01 in 75 Chinese cities. The size of the percent change data markers is relative to each city's weight.



FIGURE S9. Overall percent changes in daily hospital admissions for depression per $10\mu g/m^3$ increases in PM_{2.5}, PM₁₀, NO₂, SO₂, O₃ and 1mg/m³ increase in CO at different lag days in 75 Chinese cities stratified by geographical region.



FIGURE S10. Overall percent changes in daily hospital admissions for depression per $10\mu g/m^3$ increases in PM_{2.5}, PM₁₀, NO₂, SO₂, O₃ and 1mg/m³ increase in CO at different lag days in 75 Chinese cities stratified by sex.



FIGURE S11. Overall percent changes in daily hospital admissions for depression per $10\mu g/m^3$ increases in PM_{2.5}, PM₁₀, NO₂, SO₂, O₃ and 1mg/m³ increase in CO at different lag days in 75 Chinese cities stratified by age.



FIGURE S12. Overall percent changes in daily hospital admissions for depression per $10\mu g/m^3$ increases in PM_{2.5}, PM₁₀, NO₂, SO₂, O₃ and 1mg/m³ increase in CO at different lag days in 75 Chinese cities stratified by insurance type.