



Table S1. Children/Teens Age 5–17: Asthma ED Visits, for PM_{2.5} (per 10 µg/m³). Single Pollutant, Single day lags and average lag.

Parameter	Estimate	Std Error	Chi-Square	<i>p</i> -Value	Chi-Square Ratio	95-Confidence Intervals	
Lag 0							
PM _{2.5} _10µg	−0.15351	0.07907	3.7692	0.0522	0.858	0.735	1.001
AvgTemp	0.00632	0.00486	1.6929	0.1932	1.006	0.997	1.016
Lag 1							
PM _{2.5} _10µg	−0.06593	0.07801	0.7143	0.3980	0.936	0.803	1.091
AvgTemp	0.00939	0.00482	3.7993	0.0513	1.009	1.000	1.019
Lag 2							
PM _{2.5} _10µg	−0.01152	0.07831	0.0216	0.8831	0.989	0.848	1.153
AvgTemp	0.00297	0.00486	0.3741	0.5408	1.003	0.993	1.013
Lag 3							
PM _{2.5} _10µg	−0.01554	0.07864	0.0390	0.8434	0.985	0.844	1.149
AvgTemp	0.00442	0.00486	0.8289	0.3626	1.004	0.995	1.014
Lag 4							
PM _{2.5} _10µg	0.05658	0.08091	0.4891	0.4843	1.058	0.903	1.240
AvgTemp	0.00249	0.00499	0.2484	0.6182	1.002	0.993	1.012
Lag 5							
PM _{2.5} _10µg	0.07370	0.08001	0.8484	0.3570	1.076	0.920	1.259
AvgTemp	−0.00064	0.00505	0.0165	0.8977	0.999	0.990	1.009
Lag 0–5							
PM _{2.5} _10µg	−0.04453	0.12565	0.1256	0.7230	0.956	0.748	1.224
AvgTemp	0.00850	0.00686	1.5345	0.2154	1.009	0.995	1.022

Data were adjusted for apparent temperature (at same lag) analyses with a 7-day washout and 28-day referent periods. AvgTemp = Average temperature; Std Error = Standard Error.

Table S2. Children/Teens Age 5–17: Asthma ED Visits for Ozone (per 10 ppb). Single Pollutant, Single day lags and average lag.

Parameter	Estimate	Std Error	Chi-Square	<i>p</i> -Value	Chi-Square Ratio	95-Confidence Intervals	
Lag 0							
O ₃ _10ppb	−0.00022	0.04200	0.0000	0.9958	1.000	0.921	1.086
AvgTemp	0.00389	0.00496	0.6167	0.4323	1.004	0.994	1.014
Lag 1							
O ₃ _10ppb	0.09963	0.04240	5.5230	0.0188	1.105	1.017	1.200
AvgTemp	0.00455	0.00493	0.8507	0.3564	1.005	0.995	1.014
Lag 2							
O ₃ _10ppb	0.01652	0.04155	0.1581	0.6909	1.017	0.937	1.103
AvgTemp	0.00211	0.00493	0.1830	0.6688	1.002	0.992	1.012
Lag 3							
O ₃ _10ppb	0.02213	0.04150	0.2843	0.5939	1.022	0.943	1.109
AvgTemp	0.00331	0.00491	0.4528	0.5010	1.003	0.994	1.013
Lag 4							
O ₃ _10ppb	0.04718	0.04227	1.2459	0.2643	1.048	0.965	1.139
AvgTemp	0.00182	0.00499	0.1336	0.7147	1.002	0.992	1.012
Lag 5							
O ₃ _10ppb	−0.02610	0.04141	0.3973	0.5285	0.974	0.898	1.057
AvgTemp	0.00179	0.00507	0.1249	0.7237	1.002	0.992	1.012
Lag 0–5							
O ₃ _10ppb	0.07201	0.06932	1.0789	0.2989	1.075	0.938	1.231
AvgTemp	0.00517	0.00711	0.5295	0.4668	1.005	0.991	1.019

Data were adjusted for apparent temperature (at same lag) analyses with a 7-day washout and 28-day referent periods. *Abbreviation Definitions: AvgTemp = Average temperature; Std Error=Standard Error*

Table S3. Children/Teens Age 5–17: Asthma ED Visits for PM_{2.5} (per 10 µg/m³) and Ozone (per 10 ppb). Two Pollutants, Single day lags and average lag.

Parameter	Estimate	Std Error	Chi-Square	P-value	Chi-Square Ratio	95-Confidence Intervals	
Lag 0							
PM 2.5_10µg	-0.16130	0.08112	3.9540	0.0468	0.851	0.726	0.998
O ₃ _10ppb	0.01891	0.04337	0.1901	0.6628	1.019	0.936	1.110
AvgTemp	0.00575	0.00503	1.3045	0.2534	1.006	0.996	1.016
Lag 1							
PM 2.5_10µg	-0.11943	0.08064	2.1937	0.1386	0.887	0.758	1.039
O ₃ _10ppb	0.11657	0.04410	6.9866	0.0082	1.124	1.031	1.225
AvgTemp	0.00585	0.00500	1.3700	0.2418	1.006	0.996	1.016
Lag 2							
PM 2.5_10µg	-0.01931	0.08038	0.0577	0.8101	0.981	0.838	1.148
O ₃ _10ppb	0.01879	0.04269	0.1937	0.6599	1.019	0.937	1.108
AvgTemp	0.00237	0.00505	0.2207	0.6385	1.002	0.993	1.012
Lag 3							
PM 2.5_10µg	-0.02641	0.08076	0.1070	0.7436	0.974	0.831	1.141
O ₃ _10ppb	0.02534	0.04271	0.3520	0.5530	1.026	0.943	1.115
AvgTemp	0.00366	0.00503	0.5297	0.4667	1.004	0.994	1.014
Lag 4							
PM 2.5_10µg	0.03845	0.08296	0.2148	0.6431	1.039	0.883	1.223
O ₃ _10ppb	0.04266	0.04331	0.9703	0.3246	1.044	0.959	1.136
AvgTemp	0.00122	0.00516	0.0556	0.8136	1.001	0.991	1.011
Lag 5							
PM 2.5_10µg	0.09023	0.08232	1.2013	0.2731	1.094	0.931	1.286
O ₃ _10ppb	-0.03665	0.04233	0.7496	0.3866	0.964	0.887	1.047
AvgTemp	0.00047	0.00521	0.0084	0.9269	1.000	0.990	1.011
Lag 0-5							
PM 2.5_10µg	-0.09659	0.13249	0.5316	0.4659	0.908	0.700	1.177
O ₃ _10ppb	0.08952	0.07351	1.4830	0.2233	1.094	0.947	1.263
AvgTemp	0.00592	0.00718	0.6788	0.4100	1.006	0.992	1.020

Data were adjusted for apparent temperature (at same lag) analyses with a 7-day washout and 28-day referent periods. *Abbreviation Definitions: AvgTemp = Average temperature; Std Error=Standard Error.*

Table S4. Children/Teens Age 5-17: Asthma ED Visits for Carbon Monoxide (CO) (per 10 ppm). Single Pollutant, Single day lags and average lag.

Parameter	Estimate	Std Error	Chi-Square	p-Value	Chi-Square Ratio	95-Confidence Intervals	
Lag 0							
CO_ppm	-0.15182	0.17157	0.783	0.3762	0.859	0.614	1.203
AvgTemp	0.00496	0.00485	1.0453	0.3066	1.005	0.995	1.015
Lag 1							
CO_ppm	-0.21203	0.1649	1.6533	0.1985	0.809	0.586	1.118
AvgTemp	0.00988	0.00481	4.2115	0.0401	1.01	1	1.02
Lag 2							
CO_ppm	-0.29423	0.17175	2.9349	0.0867	0.745	0.532	1.043
AvgTemp	0.00486	0.00481	1.0221	0.312	1.005	0.995	1.014
Lag 3							
CO_ppm	-0.19924	0.16565	1.4467	0.2291	0.819	0.592	1.134
AvgTemp	0.00554	0.00479	1.3345	0.248	1.006	0.996	1.015
Lag 4							
CO_ppm	-0.07304	0.16261	0.2017	0.6533	0.93	0.676	1.278
AvgTemp	0.00419	0.00487	0.7414	0.3892	1.004	0.995	1.014
Lag 5							
CO_ppm	-0.12825	0.1598	0.6441	0.4222	0.88	0.643	1.203
AvgTemp	0.00152	0.00489	0.0967	0.7558	1.002	0.992	1.011
Lag 0-5							
CO_ppm	-0.4145	0.26956	2.3644	0.1241	0.661	0.39	1.121
AvgTemp	0.00941	0.00671	1.9697	0.1605	1.009	0.996	1.023

Data were adjusted for apparent temperature (at same lag) analyses with a 7-day washout and 28-day referent periods. *Abbreviation Definitions:* AvgTemp = Average temperature; Std Error=Standard Error.

Table S5. Children/Teens Age 5–17: Asthma ED Visits for NO₂ (per 10 ppb). Single Pollutant, Single day lags and average lag.

Parameter	Estimate	Std Error	Chi-Square	p-Value	Chi-Square Ratio	95-Confidence Intervals	
Lag 0							
NO2_10ppb	-0.05374	0.04799	1.2542	0.2628	0.948	0.863	1.041
AvgTemp	0.00501	0.00481	1.0863	0.2973	1.005	0.996	1.015
Lag 1							
NO2_10ppb	-0.02798	0.0483	0.3356	0.5624	0.972	0.885	1.069
AvgTemp	0.00887	0.00475	3.4873	0.0618	1.009	1	1.018
Lag 2							
NO2_10ppb	-0.00601	0.04736	0.0161	0.8991	0.994	0.906	1.091
AvgTemp	0.00288	0.00474	0.3692	0.5435	1.003	0.994	1.012
Lag 3							
NO2_10ppb	-0.02201	0.04755	0.2141	0.6435	0.978	0.891	1.074
AvgTemp	0.00456	0.00474	0.9264	0.3358	1.005	0.995	1.014
Lag 4							
NO2_10ppb	0.03801	0.04836	0.6178	0.4319	1.039	0.945	1.142
AvgTemp	0.00281	0.00483	0.339	0.5604	1.003	0.993	1.012
Lag 5							
NO2_10ppb	0.01623	0.04838	0.1126	0.7372	1.016	0.924	1.117
AvgTemp	0.00044	0.0049	0.0081	0.9284	1	0.991	1.01
Lag 0-5							
NO2_10ppb	-0.01663	0.08187	0.0412	0.8391	0.984	0.838	1.155
AvgTemp	0.00804	0.00668	1.4485	0.2288	1.008	0.995	1.021

Data were adjusted for apparent temperature (at same lag) analyses with a 7-day washout and 28-day referent periods. *Abbreviation Definitions:* AvgTemp = Average temperature; Std Error=Standard Error.

Table S6. Children/Teens Age 5–17: Asthma ED Visits for SO₂ (per 10 ppb). Single Pollutant, Single day lags and average lag.

Parameter	Estimate	Std Error	Chi-Square	p-Value	Chi-Square Ratio	95-Confidence Intervals	
Lag 0							
SO2_10ppb	-0.02384	0.04292	0.3085	0.5786	0.976	0.898	1.062
AvgTemp	0.00399	0.0047	0.7183	0.3967	1.004	0.995	1.013
Lag 1							
SO2_10ppb	-0.02135	0.04121	0.2685	0.6044	0.979	0.903	1.061
AvgTemp	0.00845	0.00466	3.2845	0.0699	1.008	0.999	1.018
Lag 2							
SO2_10ppb	0.03405	0.03945	0.7449	0.3881	1.035	0.958	1.118
AvgTemp	0.00264	0.00465	0.3222	0.5703	1.003	0.994	1.012
Lag 3							
SO2_10ppb	0.03605	0.04052	0.7913	0.3737	1.037	0.958	1.122
AvgTemp	0.00399	0.00466	0.7334	0.3918	1.004	0.995	1.013
Lag 4							
SO2_10ppb	-0.03651	0.04481	0.6638	0.4152	0.964	0.883	1.053
AvgTemp	0.00391	0.00473	0.6831	0.4085	1.004	0.995	1.013
Lag 5							
SO2_10ppb	0.00796	0.04304	0.0342	0.8533	1.008	0.926	1.097
AvgTemp	0.0007	0.00482	0.0212	0.8844	1.001	0.991	1.01
Lag 6							
SO2_10ppb	0.00564	0.08212	0.0047	0.9452	1.006	0.856	1.181
AvgTemp	0.00785	0.00662	1.4034	0.2362	1.008	0.995	1.021

Data were adjusted for apparent temperature (at same lag) analyses with a 7-day washout and 28-day referent periods. *Abbreviation Definitions:* AvgTemp = Average temperature; Std Error=Standard Error.

Table S7. Children/Teens Age 5-17: Asthma ED Visits for PM2.5 (per 10 µg/m³), Ozone (per 10 ppb), CO (ppm), NO2 (per 10 ppb), SO2 (per 10 ppb). Multiple Pollutant models, Single day lags and average lag.

Parameter	Estimate	Std Error	Chi-Square	p-Value	Chi-Square Ratio	95-Confidence Intervals		
Lag 0								
PM 2.5_10µg	-0.15374	0.09685	2.5198	0.1124	0.857	0.709	1.037	
O3_10ppb	0.02007	0.04376	0.2103	0.6465	1.02	0.936	1.112	
NO2_10ppb	-0.00874	0.06113	0.0205	0.8863	0.991	0.879	1.117	
SO2_10ppb	-0.00984	0.04365	0.0508	0.8217	0.99	0.909	1.079	
CO_ppm	0.01393	0.2072	0.0045	0.9464	1.014	0.676	1.522	
AvgTemp	0.00571	0.00511	1.2504	0.2635	1.006	0.996	1.016	
Lag 1								
PM 2.5_10µg	-0.09026	0.09486	0.9054	0.3413	0.914	0.759	1.1	
O3_10ppb	0.11326	0.04447	6.4854	0.0109	1.12	1.026	1.222	
NO2_10ppb	0.00478	0.06123	0.0061	0.9377	1.005	0.891	1.133	
SO2_10ppb	-0.01675	0.04192	0.1597	0.6894	0.983	0.906	1.068	
CO_ppm	-0.14172	0.19506	0.5279	0.4675	0.868	0.592	1.272	
AvgTemp	0.00653	0.00508	1.6524	0.1986	1.007	0.997	1.017	
Lag 2								
PM 2.5_10µg	0.02553	0.09711	0.0691	0.7926	1.026	0.848	1.241	
O3_10ppb	0.00819	0.0432	0.0359	0.8496	1.008	0.926	1.097	
NO2_10ppb	0.03892	0.06044	0.4148	0.5196	1.04	0.924	1.17	
SO2_10ppb	0.03843	0.04007	0.9199	0.3375	1.039	0.961	1.124	
CO_ppm	-0.41287	0.21113	3.8242	0.0505	0.662	0.438	1.001	
AvgTemp	0.00404	0.00513	0.6199	0.4311	1.004	0.994	1.014	
Lag 3								
PM 2.5_10µg	0.01468	0.09777	0.0225	0.8807	1.015	0.838	1.229	
O3_10ppb	0.01931	0.04314	0.2005	0.6544	1.02	0.937	1.109	
NO2_10ppb	-0.00249	0.05998	0.0017	0.9669	0.998	0.887	1.122	
SO2_10ppb	0.04162	0.04119	1.0208	0.3123	1.042	0.962	1.13	
CO_ppm	-0.23171	0.20048	1.3358	0.2478	0.793	0.535	1.175	
AvgTemp	0.00464	0.00509	0.8303	0.3622	1.005	0.995	1.015	
Lag 4								
PM 2.5_10µg	0.0473	0.09885	0.229	0.6323	1.048	0.864	1.273	
O3_10ppb	0.03848	0.04364	0.7774	0.3779	1.039	0.954	1.132	
NO2_10ppb	0.0542	0.06079	0.7948	0.3727	1.056	0.937	1.189	
SO2_10ppb	-0.04513	0.04617	0.9556	0.3283	0.956	0.873	1.046	
CO_ppm	-0.18486	0.1969	0.8814	0.3478	0.831	0.565	1.223	
AvgTemp	0.00176	0.0052	0.1143	0.7353	1.002	0.992	1.012	
Lag 5								
PM 2.5_10µg	0.1359	0.09834	1.9098	0.167	1.146	0.945	1.389	
O3_10ppb	-0.04685	0.04295	1.1898	0.2754	0.954	0.877	1.038	
NO2_10ppb	0.02737	0.06059	0.204	0.6515	1.028	0.913	1.157	
SO2_10ppb	0.00456	0.04382	0.0108	0.9171	1.005	0.922	1.095	
CO_ppm	-0.29678	0.19516	2.3125	0.1283	0.743	0.507	1.09	
AvgTemp	0.00117	0.00524	0.0497	0.8236	1.001	0.991	1.011	

Lag 0-5							
PM 2.5_10µg	-0.05342	0.16391	0.1062	0.7445	0.948	0.688	1.307
O3_10ppb	0.07167	0.07456	0.9239	0.3364	1.074	0.928	1.243
NO2_10ppb	0.08093	0.11367	0.5069	0.4765	1.084	0.868	1.355
SO2_10ppb	0.02648	0.08488	0.0973	0.755	1.027	0.869	1.213
CO_ppm	-0.54617	0.34314	2.5334	0.1115	0.579	0.296	1.135
AvgTemp	0.00709	0.00724	0.9596	0.3273	1.007	0.993	1.022

Data were adjusted for apparent temperature (at same lag) analyses with a 7-day washout and 28-day referent periods. *Abbreviation Definitions: AvgTemp = Average temperature; Std Error=Standard Error.*

Table S8. Adults 18+: Asthma ED Visits for PM_{2.5}(per 10 µg/m³). Single Pollutant, Single day lags and average lag.

Parameter	Estimate	Std Error	Chi-Square	p-Value	Chi-Square Ratio	95-Confidence Intervals	
Lag 0							
PM2.5_10µg	0.00225	0.02926	0.0059	0.9387	1.002	0.946	1.061
AvgTemp	0.0025	0.00184	1.8602	0.1726	1.003	0.999	1.006
Lag 1							
PM2.5_10µg	-0.00056	0.02919	0.0004	0.9846	0.999	0.944	1.058
AvgTemp	0.00246	0.00185	1.7602	0.1846	1.002	0.999	1.006
Lag 2							
PM2.5_10µg	-0.01998	0.02949	0.4591	0.4981	0.98	0.925	1.039
AvgTemp	0.0024	0.00185	1.6773	0.1953	1.002	0.999	1.006
Lag 3							
PM 2.5_10µg	-0.00769	0.02956	0.0677	0.7948	0.992	0.936	1.052
AvgTemp	0.00353	0.00185	3.6423	0.0563	1.004	1	1.007
Lag 4							
PM2.5_10µg	0.00947	0.03002	0.0995	0.7524	1.01	0.952	1.071
AvgTemp	0.00076	0.00188	0.1672	0.6826	1.001	0.997	1.004
Lag 5							
PM2.5_10µg	0.03075	0.03016	1.0393	0.308	1.031	0.972	1.094
AvgTemp_	-0.00148	0.00191	0.601	0.4382	0.999	0.995	1.002
Lag 0-5							
PM2.5_10µg	0.0094	0.0481	0.0382	0.8451	1.009	0.919	1.109
AvgTemp	0.00335	0.0026	1.6641	0.1971	1.003	0.998	1.008

Data were adjusted for apparent temperature (at same lag) analyses with a 7-day washout and 28-day referent periods. *Abbreviation Definitions: AvgTemp = Average temperature; Std Error=Standard Error.*

Table S9. Adults 18+: Asthma ED Visits for Ozone (per 10 ppb). Single Pollutant, Single day lags and average lag.

Parameter	Estimate	Std Error	Chi-Square	p-value	Chi-Square Ratio	95-Confidence Intervals	
Lag 0							
O3_10ppb	-0.03208	0.01624	3.9023	0.0482	0.968	0.938	1.007
AvgTemp	0.0037	0.00187	3.9303	0.0474	1.004	1	1.007
Lag 1							
O3_10ppb	-0.03221	0.01623	3.9384	0.0472	0.968	0.938	1.007
AvgTemp	0.00359	0.00188	3.6649	0.0556	1.004	1	1.007
Lag 2							
O3_10ppb	-0.04174	0.0162	6.6368	0.01	0.959	0.929	0.998
AvgTemp	0.00359	0.00188	3.6439	0.0563	1.004	1	1.007
Lag 3							
O3_10ppb	-0.03376	0.01613	4.3812	0.0363	0.967	0.937	0.998
AvgTemp	0.00464	0.00188	6.1001	0.0135	1.005	1.001	1.008
Lag 4							
O3_10ppb	-0.03166	0.01602	3.9072	0.0481	0.969	0.939	1.006
AvgTemp	0.00209	0.00189	1.2239	0.2686	1.002	0.998	1.006
Lag							
O3_10ppb	-0.0188	0.01601	1.3791	0.2403	0.981	0.951	1.013
AvgTemp	-0.00019	0.00193	0.0103	0.919	1	0.996	1.004
Lag 5							
O3_10ppb	-0.08902	0.0272	10.7116	0.0011	0.915	0.867	0.965
AvgTemp	0.00653	0.00268	5.9361	0.0148	1.007	1.001	1.012

Data were adjusted for apparent temperature (at same lag) analyses with a 7-day washout and 28-day referent periods. *Abbreviation Definitions: AvgTemp = Average temperature; Std Error=Standard Error.*

Table S10. Adults 18+: Asthma ED Visits for PM2.5 (per 10 µg/m³) and Ozone (per 10 ppb). Two Pollutants, Single day lags and average lag.

Parameter	Estimate	Std Error	Chi-Square	p-value	Chi-Square Ratio	95-Confidence Intervals	
Lag 0							
PM2.5_10μg							
g	0.01687	0.0301	0.3143	0.5751	1.017	0.959	1.079
O3_10ppb	-0.03427	0.01668	4.2232	0.0399	0.966	0.935	0.998
AvgTemp	0.0035	0.0019	3.3991	0.0652	1.004	1	1.007
Lag 1							
PM2.5_10μg							
g	0.014	0.03003	0.2172	0.6412	1.014	0.956	1.076
O3_10ppb	-0.03404	0.01668	4.1667	0.0412	0.967	0.935	0.999
AvgTemp	0.00342	0.00191	3.2013	0.0736	1.003	1	1.007
Lag 2							
PM2.5_10μg							
g	-0.00141	0.03041	0.0022	0.963	0.999	0.941	1.06
O3_10ppb	-0.04155	0.01669	6.1959	0.0128	0.959	0.928	0.991
AvgTemp	0.00361	0.00192	3.5457	0.0597	1.004	1	1.007
Lag 3							
PM2.5_10μg							
g	0.00681	0.03034	0.0503	0.8225	1.007	0.949	1.069
O3_10ppb	-0.03459	0.01655	4.3715	0.0365	0.966	0.935	0.998
AvgTemp	0.00456	0.00191	5.6744	0.0172	1.005	1.001	1.008
Lag 4							
PM2.5_10μg							
g	0.02347	0.03075	0.583	0.4451	1.024	0.964	1.087
O3_10ppb	-0.03436	0.01637	4.4072	0.0358	0.966	0.936	0.998
AvgTemp	0.00176	0.00194	0.8284	0.3627	1.002	0.998	1.006
Lag 5							
PM2.5_10μg							
g	0.04042	0.03092	1.7093	0.1911	1.041	0.98	1.106
O3_10ppb	-0.02345	0.01636	2.0555	0.1517	0.977	0.946	1.009
AvgTemp	-0.00075	0.00197	0.1463	0.7021	0.999	0.995	1.003
Lag 0-5							
PM2.5_10μg							
g	0.06431	0.05075	1.606	0.2051	1.066	0.965	1.178
O3_10ppb	-0.1	0.02851	12.3004	0.0005	0.905	0.856	0.957
AvgTemp	0.00603	0.00271	4.9599	0.0259	1.006	1.001	1.011

Data were adjusted for apparent temperature (at same lag) analyses with a 7-day washout and 28-day referent periods. *Abbreviation Definitions:* AvgTemp = Average temperature; Std Error=Standard Error.

Table S11. Adults 18+: Asthma ED Visits for Carbon Monoxide (per 10 ppm). Single Pollutant, Single day lags and average lag.

Parameter	Estimate	Std Error	Chi-Square	p-Value	Chi-Square Ratio	95-Confidence Intervals	
Lag 0-5							
CO_ppm	0.08524	0.0638	1.7849	0.1816	1.089	0.961	1.234
AvgTemp	0.0019	0.00184	1.0715	0.3006	1.002	0.998	1.006
Lag 1							
CO_ppm	0.06997	0.06324	1.2241	0.2686	1.072	0.947	1.214
AvgTemp	0.00195	0.00184	1.1213	0.2896	1.002	0.998	1.006
Lag 2							
CO_ppm	0.03378	0.06376	0.2806	0.5963	1.034	0.913	1.172
AvgTemp	0.00182	0.00184	0.9807	0.322	1.002	0.998	1.005
Lag 3							
CO_ppm	0.09172	0.06325	2.103	0.147	1.096	0.968	1.241
AvgTemp	0.00279	0.00183	2.326	0.1272	1.003	0.999	1.006
Lag 4							
CO_ppm	0.0162	0.06277	0.0666	0.7963	1.016	0.899	1.149
AvgTemp	0.000833	0.00185	0.2032	0.6522	1.001	0.997	1.004
Lag 5							
CO_ppm	0.12878	0.06224	4.2815	0.0385	1.137	1.007	1.285
AvgTemp_	-0.00173	0.00187	0.8604	0.3536	0.998	0.995	1.002
Lag 0-5							
CO_ppm	0.20214	0.10229	3.905	0.0481	1.224	1.002	1.496
AvgTemp	0.00261	0.00255	1.0472	0.3062	1.003	0.998	1.008

Data were adjusted for apparent temperature (at same lag) analyses with a 7-day washout and 28-day referent periods. *Abbreviation Definitions: AvgTemp = Average temperature; Std Error=Standard Error.*

Table S12. Adults 18+: Asthma ED Visits for NO2 (per 10 ppb). Single Pollutant, Single day lags and average lag.

Parameter	Estimate	Std Error	Chi-Square	p-Value	Chi-Square Ratio	95-Confidence Intervals	
Lag 0							
NO2_10ppb	-0.01558	0.01826	0.7282	0.3935	0.985	0.95	1.02
AvgTemp	0.00286	0.00181	2.4996	0.1139	1.003	0.999	1.006
Lag 1							
NO2_10ppb	0.01325	0.01826	0.5271	0.4678	1.013	0.978	1.05
AvgTemp	0.00219	0.00182	1.445	0.2293	1.002	0.999	1.006
Lag 2							
NO2_10ppb	-0.00483	0.01826	0.0701	0.7912	0.995	0.96	1.031
AvgTemp	0.00215	0.00182	1.3991	0.2369	1.002	0.999	1.006
Lag 3							
NO2_10ppb	0.02436	0.01822	1.7864	0.1814	1.025	0.989	1.062
AvgTemp	0.00296	0.00181	2.6654	0.1026	1.003	0.999	1.007
Lag 4							
NO2_10ppb	0.01858	0.01825	1.0362	0.3087	1.019	0.983	1.056
AvgTemp	0.00057	0.00184	0.0967	0.7559	1.001	0.997	1.004
Lag 5							
NO2_10ppb	0.03992	0.01839	4.7107	0.03	1.041	1.004	1.079
AvgTemp	-0.00171	0.00186	0.8465	0.3576	0.998	0.995	1.002
Lag 0-5							
NO2_10ppb	0.04196	0.03162	1.761	0.1845	1.043	0.98	1.11
AvgTemp	0.003	0.00254	1.3916	0.2381	1.003	0.998	1.008

Data were adjusted for apparent temperature (at same lag) analyses with a 7-day washout and 28-day referent periods. *Abbreviation Definitions: AvgTemp = Average temperature; Std Error=Standard Error.*

Table S13. Adults 18+: Asthma ED Visits for SO₂ (per 10 ppb). Single Pollutant, Single day lags and average lag.

Parameter	Estimate	Std Error	Chi-Square	p-Value	Chi-Square Ratio	95-Confidence Intervals	
Lag 0							
SO2_10ppb	-0.00923	0.01553	0.3533	0.5522	0.991	0.961	1.021
AvgTemp	0.0026	0.00177	2.1423	0.1433	1.003	0.999	1.006
Lag 1							
SO2_10ppb	-0.00954	0.01559	0.3746	0.5405	0.991	0.961	1.021
AvgTemp	0.00249	0.00179	1.9471	0.1629	1.002	0.999	1.006
Lag 2							
SO2_10ppb	-0.0386	0.01606	5.7775	0.0162	0.962	0.932	0.993
AvgTemp	0.00223	0.00178	1.5629	0.2112	1.002	0.999	1.006
Lag 3							
SO2_10ppb	0.01014	0.01557	0.4236	0.5151	1.01	0.98	1.042
AvgTemp	0.00335	0.00178	3.5164	0.0608	1.003	1	1.007
Lag 4							
SO2_10ppb	-0.00623	0.01529	0.166	0.6837	0.994	0.964	1.024
AvgTemp	0.00096	0.0018	0.2896	0.5905	1.001	0.997	1.005
Lag 5							
SO2_10ppb	0.00287	0.01542	0.0348	0.8521	1.003	0.973	1.034
AvgTemp	-0.00093	0.00183	0.2593	0.6106	0.999	0.995	1.003
Lag 0-5							
SO2_10ppb	-0.03014	0.03035	0.9862	0.3207	0.97	0.914	1.03
AvgTemp	0.00356	0.00251	2.0007	0.1572	1.004	0.999	1.009

Data were adjusted for apparent temperature (at same lag) analyses with a 7-day washout and 28-day referent periods. *Abbreviation Definitions: AvgTemp = Average temperature; Std Error=Standard Error.*

PM2.5_10µg	0.00246	0.06333	0.0015	0.969	1.002	0.885	1.135
O3_10ppb	-0.0968	0.02892	11.2029	0.0008	0.908	0.858	0.961
NO2_10ppb	0.04295	0.04435	0.9381	0.3328	1.044	0.957	1.139
SO2_10ppb	-0.03956	0.03091	1.6375	0.2007	0.961	0.905	1.021
CO_ppm	0.14951	0.13189	1.285	0.257	1.161	0.897	1.504
AvgTemp	0.00572	0.00273	4.4001	0.0359	1.006	1	1.011

Data were adjusted for apparent temperature (at same lag) analyses with a 7-day washout and 28-day referent periods. *Abbreviation Definitions: AvgTemp = Average temperature; Std Error=Standard Error.*