

## Supplemental Material

Table 1. Distribution of day of the week on which first diagnosis of asthma occurred, Medicaid enrolled children in Harris County, Texas, 2005-2007.

Day of the Week	Percent of Cases
Sunday	1.6%
Monday	21.0%
Tuesday	20.6%
Wednesday	17.8%
Thursday	16.9%
Friday	15.8%
Saturday	6.2%

Table 2. Description of pollutants, meteorological conditions and aeroallergens, averaged across monitoring sites in Harris County, Texas, 2005-2007, warm season (May-October).

Pollutant	Number of Days	Mean	Standard Deviation	Minimum	25th percentile	50th percentile	75th percentile	Maximum	Interquartile Range
O <sub>3</sub> (8-hr max, ppb)	551	42.93	17.83	10.82	27.75	40.75	56.25	96.88	28.50
NO <sub>2</sub> (1-hr max, ppb)	548	36.98	13.93	12.00	26.00	36.00	46.00	108.00	20.00
PM <sub>2.5</sub> (24-hr mean, µg/m <sup>3</sup> )	525	16.42	6.41	2.70	11.80	15.20	19.90	44.20	8.10
Temperature (daily max, °C)	552	30.82	3.14	18.65	28.96	31.55	33.00	37.57	4.04
Relative humidity (daily mean, %)	550	70.06	8.74	41.28	64.65	70.66	75.74	90.30	11.09
Mold (spores/m <sup>3</sup> )	348	3,192.96	3,764.49	36.00	798.50	1,342.50	4,490.00	22,596.00	3,691.50
Tree pollen (grains/m <sup>3</sup> )	334	41.00	138.43	0.00	0.00	0.00	19.00	1,310.00	19.00
Grass pollen (grains/m <sup>3</sup> )	334	13.10	40.56	0.00	2.00	6.00	10.00	441.00	8.00
Weed pollen (grains/m <sup>3</sup> )	334	98.25	282.94	0.00	0.00	3.00	32.00	1,782.00	32.00

Table 3. Description of pollutants, meteorological conditions and aeroallergens, averaged across monitoring sites in Harris County, Texas, cold season, 2005-2007, cold season (November-April).

Pollutant	Number of Days	Mean	Standard Deviation	Minimum	25th Percentile	50th Percentile	75th Percentile	Maximum	Interquartile Range
O <sub>3</sub> (8-hr max, ppb)	543	32.73	11.86	3.75	25.13	30.88	39.59	80.06	14.46
NO <sub>2</sub> (1-hr max, ppb)	543	41.56	13.86	12.00	32.00	41.00	50.00	105.00	18.00
PM <sub>2.5</sub> (24-hr mean, µg/m <sup>3</sup> )	510	13.48	5.15	2.75	9.80	12.80	16.20	33.85	6.40
Temperature (daily max, °C)	543	20.83	5.66	2.75	17.22	22.15	25.10	31.57	7.88
Relative humidity (daily mean, %)	543	69.21	13.95	27.26	60.03	72.22	79.47	93.21	19.44
Mold (spores/m <sup>3</sup> )	327	2,134.36	2,211.96	40.00	629.00	1,215.00	2,888.00	11,507.00	2,259.00
Tree pollen (grains/m <sup>3</sup> )	323	537.61	1,040.64	0.00	10.00	82.00	443.00	6,776.00	433.00
Grass pollen (grains/m <sup>3</sup> )	323	13.79	33.25	0.00	0.00	4.00	10.00	255.00	10.00
Weed pollen (grains/m <sup>3</sup> )	316	2.93	12.35	0.00	0.00	0.00	0.00	137.00	0.00

Table 4. Spearman rank-correlation matrix for pollutants, meteorological variables and aeroallergens, averaged across monitoring sites in Harris County, Texas, 2005-2007.

Pollutant	O <sub>3</sub> (8-hour mean)	NO <sub>2</sub> (1-hour maximum)	PM <sub>2.5</sub> (24-hour mean)	Temperature (daily maximum, °C)	Relative humidity (daily mean, %)	Mold (spores/m <sup>3</sup> )	Tree pollen (grains/m <sup>3</sup> )	Grass pollen (grains/m <sup>3</sup> )	Weed pollen (grains/m <sup>3</sup> )
O <sub>3</sub> (8-hour mean)	1.00								
NO <sub>2</sub> (1-hour max)	0.49*	1.00							
PM <sub>2.5</sub> (24-hour mean)	0.32*	0.21*	1.00						
Temperature (daily max, °C)	0.33*	-0.23*	0.36*	1.00					
Relative humidity (daily mean, %)	-0.49*	-0.39*	-0.04	0.02	1.00				
Mold (spores/m <sup>3</sup> )	-0.05	-0.01	-0.04	-0.01	0.13*	1.00			
Tree pollen (grains/m <sup>3</sup> )	0.04	0.15*	-0.18*	-0.49*	0.04	0.14*	1.00		
Grass pollen (grains/m <sup>3</sup> )	0.23*	0.02	-0.02	0.09*	-0.03	0.25*	0.31*	1.00	
Weed pollen (grains/m <sup>3</sup> )	0.09*	0.06	0.06	0.24*	-0.02	0.50*	-0.14*	0.17*	1.00

\*p<0.05

Figure 1. Adjusted odds ratios and 95% confidence intervals for O<sub>3</sub> and NO<sub>2</sub> exposure metrics determined by (a) Harris County averages, (b) the three closest monitors to centroid of zip code of residence, and (c) monitors within 6 miles of the zip code of residence. ORs presented are per 10 ppb increase in short-term pollutant levels. Study population includes Harris County, Texas children enrolled in Medicaid between 2005 and 2007. All models are adjusted for same-day maximum temperature, mean relative humidity and mold spore, tree pollen, grass pollen and weed pollen counts. L0 through L5 indicate single same-day through lag 5-day pollutant values, and L01 through L05 indicate 2-day through 6-day cumulative mean pollutant values.

Figure 1

