

Table S1. Descriptive statistics for PM_{2.5} exposure in NC from 2002-2009

Exposure Metric		Mean (SD)	25%	Median	75%	Max	IQR
Monitor	2002	13.1 (6.7)	8.4	11.7	16.7	62.7	8.3
	2003	12.8 (6.7)	7.9	11.7	16.6	50.0	8.7
	2004	13.3 (6.8)	8.2	12.3	17.1	43.9	8.9
	2005	13.6 (7.2)	8.2	12.3	17.7	69.5	9.5
	2006	13.1 (6.8)	8.1	11.8	17.0	84.1	8.9
	2007	12.9 (6.8)	7.6	11.5	16.9	61.0	9.3
	2008	11.7 (6.0)	7.5	10.7	14.9	107.6	7.4
	2009	9.4 (4.3)	6.3	8.8	11.9	38.1	5.6
	CMAQ-PHASE	2002	12.6 (6.3)	8.1	11.4	15.6	76.4
2003		13.1 (6.2)	8.7	12.0	13.1	56.3	4.5
2004		12.6 (6.0)	8.1	11.6	15.9	67.5	7.8
2005		13.6 (7.7)	8.5	12.2	17.3	62.1	8.8
2006		13.0 (6.3)	8.3	11.8	16.5	63.0	8.2
2007		12.6 (6.6)	7.6	11.1	16.2	53.4	8.6
2008		11.5 (7.2)	6.5	9.5	14.7	56.1	8.1
2009		9.5 (4.0)	6.6	8.9	11.8	28.3	5.2
CMAQ-DF		2002	11.9 (5.5)	7.9	11.0	14.7	56.6
	2003	11.2 (5.3)	7.4	10.4	14.2	54.5	6.8
	2004	11.8 (5.3)	7.8	11.1	15.0	208.7	7.3
	2005	12.1 (5.8)	7.7	11.2	15.4	115.9	7.7
	2006	11.7 (5.4)	7.7	10.9	14.9	60.8	7.3
	2007	11.5 (5.4)	7.3	10.5	14.8	50.6	7.6
	2008	10.2 (4.9)	6.6	9.5	13.0	95.6	6.4
	2009	8.8 (4.1)	5.9	8.2	10.9	49.0	5.0
	Satellite 10km	2002	12.5 (6.1)	8.3	11.5	15.2	106.4
2003		12.0 (5.5)	8.0	11.4	15.0	51.9	7.0
2004		13.0 (5.6)	8.8	12.5	16.4	45.9	7.5
2005		12.9 (6.0)	8.4	11.9	16.1	52.2	7.8
2006		12.4 (5.8)	8.0	11.7	15.8	43.0	7.8
2007		12.4 (6.0)	7.6	11.3	15.6	44.8	8.1
2008		11.1 (5.2)	7.3	10.4	13.9	50.9	6.6
2009		9.0 (3.7)	6.2	8.6	11.4	27.3	5.2
Satellite 1km		2002	11.9 (6.3)	7.7	10.5	14.6	65.6
	2003	11.4 (5.7)	7.4	10.4	14.4	58.4	7.1
	2004	12.1 (5.8)	7.6	11.3	15.5	53.0	7.9
	2005	13.0 (6.9)	7.9	11.6	16.6	66.2	8.7
	2006	12.0 (6.1)	7.6	10.8	15.4	67.7	7.9
	2007	11.9 (6.3)	6.9	10.6	15.9	55.3	8.9
	2008	10.5 (5.6)	6.4	9.4	13.5	94.2	7.1
	2009	8.1 (3.7)	5.3	7.5	10.3	41.7	5.0

Abbreviations: CMAQ, Community Multi-scale Air Quality; DF, data fusion; EPA, Environmental Protection Agency.

Table S2. Annual average PM_{2.5} (ug/m³) levels for CATHGEN participants, stratified by urban/rural status.

	Urban		Rural	
	Mean (SD)	IQR	Mean (SD)	IQR
PM _{2.5} Monitor	12.93 (1.26)	1.27	12.64 (1.16)	1.18
PM _{2.5} CMAQ-PHASE	13.07 (1.30)	0.97	12.58 (1.21)	0.92
PM _{2.5} CMAQ-DF	12.78 (1.07)	0.94	12.38 (0.96)	0.86
PM _{2.5} Satellite 10km	12.50 (0.97)	0.85	12.29 (0.83)	0.64
PM _{2.5} Satellite 1km	12.61 (1.10)	1.22	12.10 (1.05)	1.12

Abbreviations: CMAQ, Community Multi-scale Air Quality; DF, data fusion; EPA, Environmental Protection Agency; IQR, interquartile range; SD, standard deviation.

Table S3. Individual mean, interquartile range, and maximum differences between annual average levels for each exposure model

	Mean of difference (SD)	IQR of difference	Max of difference
PM_{2.5}			
Monitor – CMAQ-PHASE	0.70 (0.61)	0.68	5.89
Monitor – CMAQ-DF	0.68 (0.54)	0.65	4.45
Monitor – Satellite 10km	0.82 (0.68)	0.77	5.14
Monitor – Satellite 1km	0.72 (0.60)	0.75	5.63
CMAQ-PHASE – DF-CMAQ	0.45 (0.47)	0.42	5.27
CMAQ-PHASE – Satellite 10km	0.79 (0.69)	0.71	6.78
CMAQ-PHASE – Satellite 1km	0.81 (0.70)	0.85	6.13
DF-CMAQ – Satellite 10km	0.48 (0.48)	0.43	3.98
DF-CMAQ – Satellite 1km	0.62 (0.55)	0.69	4.73
Satellite 10km – Satellite 1km	0.59 (0.46)	0.60	3.30

Abbreviations: CMAQ, Community Multi-scale Air Quality; DF, data fusion; EPA, Environmental Protection Agency; IQR, interquartile range; SD, standard deviation.

Table S4. Associations between 1- $\mu\text{g}/\text{m}^3$ increases in $\text{PM}_{2.5}$ and CAD, stratified by urban/ rural status.

Air pollution Metric		Odds ratio	95% CI	Interaction p-value
Monitor				
	Urban	1.11	1.03, 1.20	
	Rural	0.99	0.92, 1.06	<i>p</i>=0.02
CMAQ-PHASE				
	Urban	1.13	1.06, 1.22	
	Rural	1.03	0.97, 1.10	<i>p</i> =0.05
CMAQ-DF				
	Urban	1.13	1.03, 1.23	
	Rural	1.08	0.99, 1.17	<i>p</i> =0.49
Satellite 10km				
	Urban	1.12	1.02, 1.24	
	Rural	1.14	1.04, 1.25	<i>p</i> =0.87
Satellite 1km				
	Urban	1.12	1.03, 1.22	
	Rural	1.07	1.00, 1.15	<i>p</i> =0.39

Abbreviations: CMAQ, Community Multi-scale Air Quality; DF, data fusion; EPA, Environmental Protection Agency.

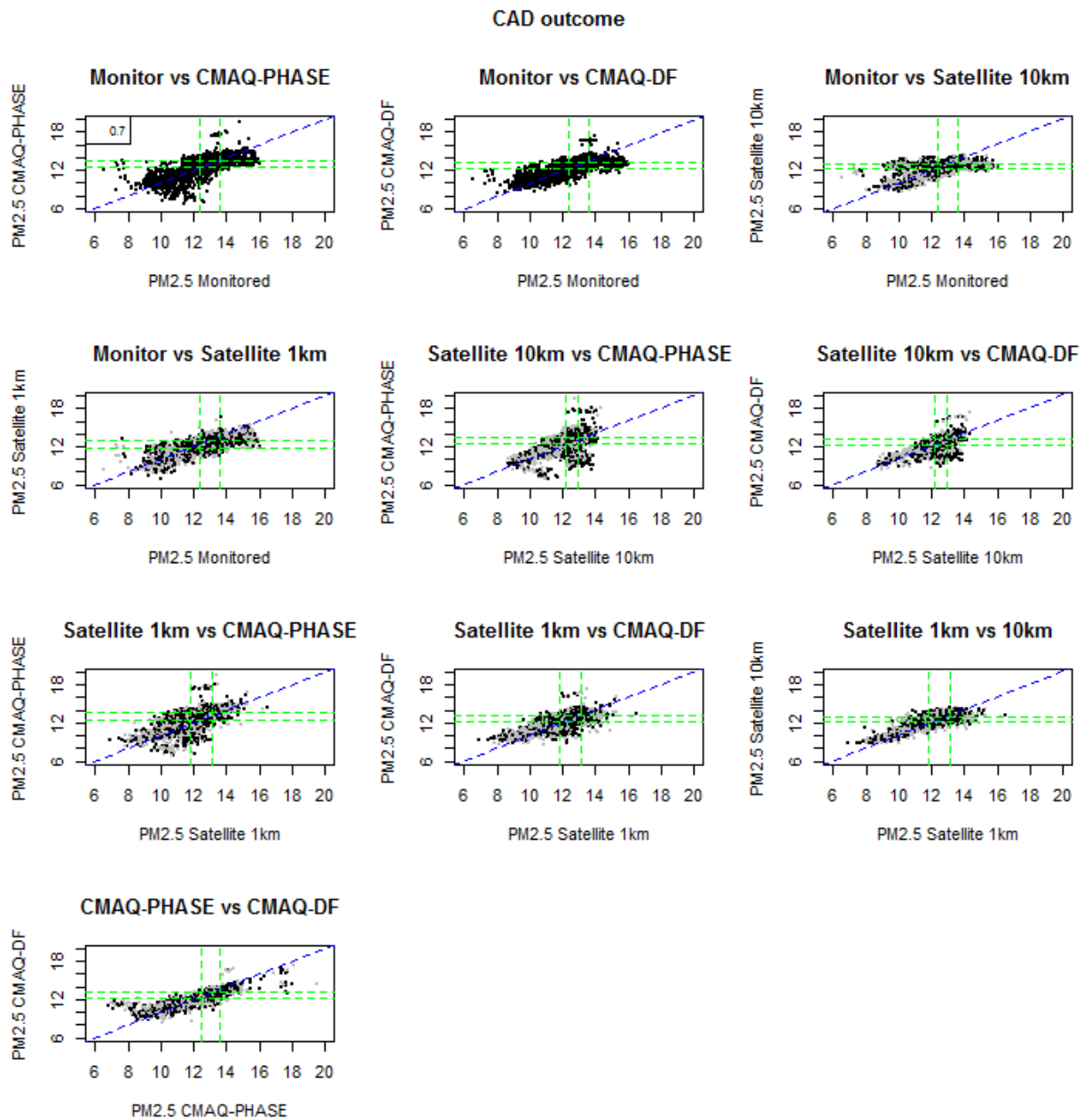


Figure S1. Plots of annual average PM_{2.5} levels, by CAD outcome status. Black dots represent those participants with a CAD index score >23, while grey dots represent those with a CAD index score <23. The X and Y-axes represent the PM_{2.5} averages for the corresponding exposure metric. The blue dashed line represents the Y=X line and the green dashed lines indicate the 25th and 75th percentile for each exposure metric. Inconsistent observations between the two exposure assignment methods are located in the upper left and lower right quadrants.

MI outcome

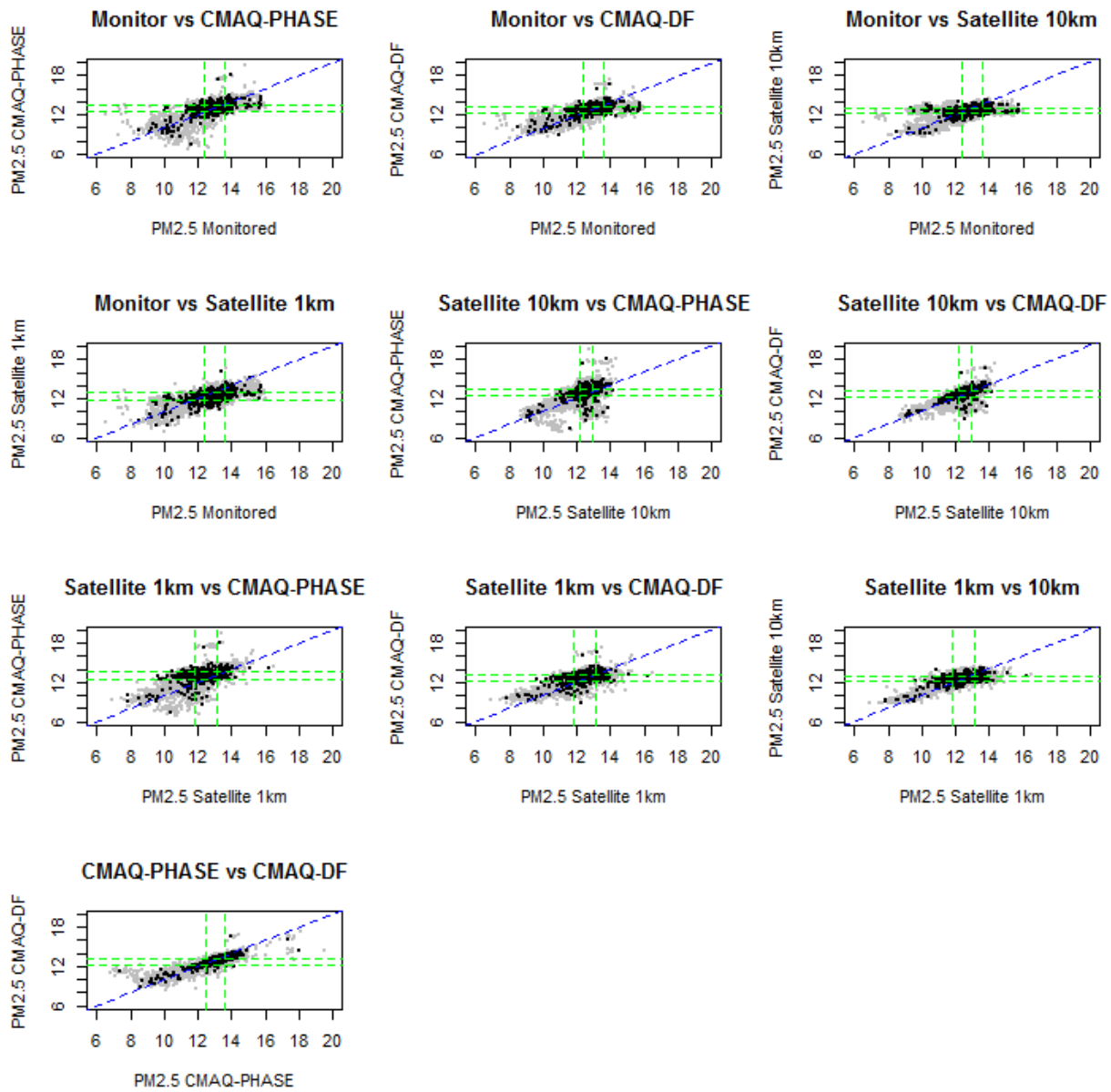


Figure S2. Plots of annual average PM_{2.5} levels, by MI outcome status. Black dots represent those participants with a recent MI. The X and Y-axes represent the PM_{2.5} averages for the corresponding exposure metric. The blue dashed line represents the Y=X line and the green dashed lines indicate the 25th and 75th percentile for each exposure metric. Inconsistent observations between the two exposure assignment methods are located in the upper left and lower right quadrants.