

## Supplemental Tables and Figures

Supplemental Table 1: Reported comorbidities at baseline (Phase 1)

	<b>Low Income Smokers (Less than \$15,000/year)</b>	<b>Higher Income Smokers (Greater than \$15,000/year)</b>	<b>P-value</b>
Smoking-related cancer (1 or more)*	37 (2.37%)	192 (5.86%)	<0.0001
Coronary Heart Disease**	160 (10.33%)	391 (11.94%)	0.102
Congestive Heart Failure	54 (3.49%)	65 (1.98%)	0.002
Diabetes	219 (14.14%)	375 (11.44%)	0.008
Stroke	55 (3.55%)	61 (1.86%)	<0.0001
Osteoporosis	111 (7.17%)	313 (9.55%)	0.006
Osteoarthritis	262 (16.91%)	709 (21.64%)	<0.0001
High blood pressure	655 (42.31%)	1346 (41.07%)	0.415
High Cholesterol	474 (30.60%)	1495 (45.62%)	<0.0001
GERD	357 (23.05%)	911 (27.81%)	<0.0001
BMI >= 30 (Obese)	599 (38.67%)	1263 (38.54%)	0.932
Stomach Ulcers	132 (8.52%)	258 (7.88%)	0.442
Hay Fever	420 (27.11%)	1038 (31.68%)	0.001
Peripheral Vascular Disease	36 (2.32%)	85 (2.59%)	0.575
Sleep Apnea	170 (10.97%)	346 (10.56%)	0.135
Mean Comorbidity Score	2.52 (2.07)	2.74 (1.96)	0.0004

\*Smoking related cancer includes lung, breast, prostate, bladder, and colon cancers

\*\*Including report of angina, coronary artery disease, myocardial infarction, bypass surgery, or angioplasty

Supplemental Table 2: Respiratory medications reported

<b>Medication Use</b>	<b>Low Income Smokers (Less than \$15,000/year)</b>	<b>Higher Income Smokers (Greater than \$15,000/year)</b>	<b>P-value</b>
<b>Combination short-acting</b>	<b>10.2%</b>	<b>5.8%</b>	<b>&lt;0.0001</b>
<b>Ipratropium bromide</b>	<b>6.3%</b>	<b>3.0%</b>	<b>&lt;0.0001</b>
Tiotropium bromide	14.3%	13.3%	0.370
<b>Combination inhaled corticosteroid +</b>	<b>19.4%</b>	<b>14.5%</b>	<b>&lt;0.0001</b>
Inhaled Corticosteroids	6.0%	4.7%	0.054
Oral Corticosteroids	2.3%	1.2%	0.003
<b>Inhaled short-acting beta-agonist</b>	<b>35.5%</b>	<b>23.3%</b>	<b>&lt;0.0001</b>
Long-acting beta-agonist	2.4%	2.5%	0.844
Theophylline	1.7%	1.0%	0.039
None of the above	61.6%	70.7%	<0.0001
Any short acting medication	545 (36.7%)	817 (25.3%)	<0.0001
Any long acting medication	365 (24.5%)	668 (20.7%)	0.003

Supplemental Table 3: Income modeled as a multi-level variable

<b>Change in FEV1 (ml)</b>			
<b>Model R-squared = 0.0668</b>			
	<b>Coefficient</b>	<b>95% Confidence Interval</b>	<b>P-value</b>
Baseline FEV <sub>1</sub> % predicted	-2.84	-3.21 to -2.46	<0.0001
Current Smoking	-47.81	-67.61 to -28.01	<0.0001
Female gender	69.95	53.29 to 86.62	<0.0001
Age at recruitment	-0.33	-1.49 to 0.82	0.57
Greater than high school education	-11.78	-31.03 to 7.47	0.23
<b>&lt;15,000/yr</b>	-58.75	-90.35 to -27.14	<0.0001
<b>15,000-35,000</b>	-35.20	-64.87 to -5.52	.020
<b>35,000-50,000</b>	-11.61	-43.28 to 20.05	0.472
<b>50,000-75,000</b>	-6.44	-43.27 to 20.05	.70
<b>&gt;75,000 (baseline)</b>	0		
African American	54.64	32.57 to 76.72	<0.0001
ATS Pack Years	-0.85	-1.23 to -0.47	<0.0001
<b>Change in airway wall thickness</b>			
<b>Model R-squared = 0.1121</b>			
	<b>Coefficient</b>	<b>95% Confidence Interval</b>	<b>P-value</b>
Baseline airway wall thickness	-0.20	-0.22 to -0.18	<0.0001
Baseline FEV <sub>1</sub> % predicted	-0.00017	-0.00035 to 0.0000081	0.061
Current Smoking	0.0051	-0.0038 to 0.014	0.264
Female gender	-0.022	--0.030 to -0.014	<0.0001
Age at recruitment	0.00068	0.00016 to 0.0012	0.01
Greater than high school education	0.00011	-0.0088 to 0.0086	0.98
<b>&lt;15,000/yr</b>	0.021	0.0065 to 0.035	0.004
<b>15,000-35,000</b>	0.011	-0.0023 to 0.024	0.105
<b>35,000-50,000</b>	0.0067	-0.0072 to 0.021	.34
<b>50,000-75,000</b>	0.0028	-0.011 to 0.017	0.70
<b>&gt;75,000 (baseline)</b>	0		
African American	-0.017	-0.027 to -0.0063	0.001
ATS Pack Years	0.00012	-0.000055 to 0.00030	0.18

Supplemental Table 4: Addition of dust and fumes exposure to change models

Change in FEV1 (ml) Model R-squared = 0.0660				Dust and Fumes Exposure Model R-squared = 0.0716	
	Coefficient	95% Confidence Interval	P-value	Coefficient	P-value
Baseline FEV <sub>1</sub>	-2.78	-3.13 to -2.41	<0.0001	-2.85	<0.0001
Current Smoking	-51.36	-70.99 to -31.73	<0.0001	-53.24	<0.0001
Female gender	68.47	51.85 to 85.09	<0.0001	70.24	<0.0001
Age at recruitment	-0.39	-1.54 to 0.77	0.51	-0.44	0.48
Education greater than high school	-7.96	-27.00 to 11.08	0.41	-13.62	0.18
<b>Low income</b>	<b>-36.58</b>	<b>-57.23 to -15.93</b>	<b>0.001</b>	-34.43	0.002
African American race	49.21	-27.48 to 70.93	<0.0001	50.87	<0.0001
Pack Years	-0.89	-1.27 to -0.51	<0.0001	-1.08	<0.0001
Dust exposure				-17.87	0.096
Fumes exposure				7.56	0.47

Supplemental Table 5: Addition of exacerbation rate, comorbidity score, and time since the first visit to multivariable models

Change in FEV1 (ml) Model R <sup>2</sup> = 0.0660			
	Coefficient	95% Confidence Interval	P-value
Baseline FEV <sub>1</sub> percent predicted	-2.74	-3.13 to -2.36	<0.0001
Current Smoking	-50.7	-70.36 to -31.10	<0.0001
Female gender	68.98	52.37 to 85.58	<0.0001
Age at recruitment	-0.82	-1.98 to 0.34	0.164
Education greater than high school	-9.13	-28.07 to 9.79	0.344
<b>Low income</b>	<b>-37.40</b>	<b>-57.96 to -16.84</b>	<b>&lt;0.0001</b>
African American race	48.92	27.33 to 70.52	<0.0001
Pack Years	-0.89	-1.27 to -0.52	<0.0001
Exacerbation frequency (P1)	-7.82	-18.28 to 2.64	0.143
Comorbidity Score	2.69	-1.61 to 6.99	0.220
Days since P1 visit	-0.12	-0.15 to -0.09	<0.0001
Change in emphysema Model R <sup>2</sup> = 0.0925			
	Coefficient	95% Confidence Interval	P-value
Baseline Emphysema	-0.021	-0.040 to -0.0037	0.018
Baseline FEV <sub>1</sub> percent predicted	-0.050	-0.057 to -0.044	<0.0001
Current Smoking	0.65	0.35 to 0.94	<0.0001
Female gender	-0.053	-0.30 to 0.20	0.674
Age at recruitment	-0.0030	-0.020 to 0.014	0.734
Education greater than high school	0.21	-0.074 to 0.49	0.148

<b>Low income</b>	<b>0.13</b>	<b>-0.18 to 0.44</b>	<b>0.418</b>
African American race	0.27	-0.059 to 0.60	0.107
Pack Years	0.0055	-0.00031 to 0.011	0.064
Exacerbation frequency (P1)	0.17	0.011 to 0.33	0.036
Comorbidity Score	-0.074	-0.14 to -0.0083	0.027
Days since P1 visit	-0.0012	-0.0018 to -0.00058	<0.0001
<b>Change in airway wall thickness</b>			
<b>Model R<sup>2</sup> = 0.1121</b>			
	<b>Coefficient</b>	<b>95% Confidence Interval</b>	<b>P-value</b>
Baseline airway wall thickness	-0.21	-0.23 to -0.19	<0.0001
Baseline FEV1 percent predicted	-0.00015	-0.00033 to 0.000037	0.117
Current Smoking	0.0079	-0.0010 to 0.017	0.083
Female gender	-0.023	-0.031 to -0.015	<0.0001
Age at recruitment	0.00061	0.000080 to 0.0011	0.022
Education greater than high school	-0.0020	-0.011 to 0.0066	0.644
<b>Low income</b>	<b>0.012</b>	<b>0.0025 to 0.021</b>	<b>0.013</b>
African American race	-0.015	-0.025 to -0.0049	0.004
Pack Years	0.00011	-0.000064 to 0.00029	0.215
Exacerbation frequency (P1)	0.0027	-0.0021 to 0.0074	0.269
Comorbidity Score	0.0030	0.00099 to 0.0050	0.003
Days since P1 visit	-0.000012	-0.000031 to 0.00000803	0.246

Supplemental Figure 1: Subjects shown by GOLD classification and race. African-American subjects represent approximately one third of the cohort.

