

Web Supplemental Table 1. Characteristics of the participants with percent emphysema measures stratified by race/ethnicity and gender

	Men (n=3,771)				Women (n=4,476)				
	n = 8247	Non-Hispanic White	African- American	Hispanic	Chinese- American	Non-Hispanic White	African- American	Hispanic	Chinese- American
n (%)		1235(30)	1185(31)	963(26)	388(10)	1349(30)	1567(35)	1147(26)	413(9)
Age, mean (SD), years		63(10)	61(10)	60(10)	62(10)	63(10)	61(10)	61(10)	62(10)
Height, mean (SD), cm		176(6.9)	176(7.0)	169(6.4)	168(6.0)	162(6.5)	162(6.6)	156(6.1)	155(5.7)
BMI, mean (SD), kg/m ²		28(4.1)	29(4.9)	29(4.5)	24(3.1)	28(5.8)	31(6.5)	30(5.9)	24(3.4)
Smoking status, n (%)									
Never		497(40)	453(38)	395(41)	207(53)	660(49)	842(54)	776(68)	397(96)
Former		602(49)	470(40)	395(41)	143(37)	531(39)	466(30)	251(22)	9(2)
Current		137(11)	261(22)	173(18)	38(10)	158(12)	257(16)	120(10)	7(2)
Pack years of smoking, * median [IQR]		24.0 [9.0,44.0]	20.3 [8.8,36.8]	16.3 [5.9,34.5]	17.5 [5.4,33.0]	18.9 [6.0,36.8]	17.3 [6.4,33.0]	7.0 [2.0,16.5]	13.5 [2.0,19.5]
Percent Emphysema (%, SD)		29(14.1)	23(13.5)	21(12.4)	22(12.8)	19(12.5)	14(11.1)	13(9.7)	12(9.0)
Ancestral principal Components (PC), median, [IQR]									
PC 1		0.027 [0.015, 0.043]	0.800 [0.698, 0.870]	0.073 [0.054, 0.169]	0.091 [0.088, 0.094]	0.0199 [0.015, 0.036]	0.804 [0.689, 0.876]	0.089 [0.062, 0.200]	0.091 [0.088, 0.095]
PC 2		0.032 [0.026, 0.043]	0.252 [0.222, 0.272]	0.307 [0.189, 0.425]	0.978 [0.971, 0.982]	0.032 [0.025, 0.042]	0.252 [0.222, 0.274]	0.299 [0.202, 0.432]	0.976 [0.969, 0.982]
PC 3		0.175 [0.167, 0.182]	0.250 [0.240, 0.259]	0.451 [0.284, 0.564]	0.027 [0.019, 0.038]	0.176 [0.170, 0.184]	0.250 [0.240, 0.256]	0.428 [0.294, 0.566]	0.028 [0.019, 0.040]

Abbreviations

SD, standard deviation; BMI, body mass index; IQR, inter-quartile range;

Footnotes:

* Among ever smokers.

Web supplemental Table 2. Mean difference in percent emphysema per 10 pack years of smoking, stratified by gender and race/ethnicity

	Non-Hispanic White	African-American	Hispanic	Chinese-American	P-value for differences by self-reported race/ethnic group	P-value for differences by principal components of ancestry
Men (n)	1,235	1,185	963	388		
Percent Emphysema difference (%) [*]	0.17 (-0.11, 0.41)	-0.05 (-0.46, 0.36)	0.28 (-0.18, 0.73)	-0.23 (-0.86, 0.41)	0.17	0.13
	Non-Hispanic White	African-American	Hispanic	Chinese-American [†]	P-value for differences by self-reported race/ethnic group	P-value for differences by principal components of ancestry
Women (n)	1,349	1,567	1,147	413		
Percent Emphysema difference (%) [*]	0.87 (0.52, 1.23)	0.13 (-0.31, 0.57)	0.04 (-0.28, 0.36)		0.03	0.10

^{*} Percent emphysema model adjusted for 10-pack-years of smoking, age, height, body mass index, CT scanner type, smoking status.

[†] Excluding Chinese-American women as smoking rates too low for analysis

Web supplemental table 3: Mean difference in lung function measures per 10 pack-years of smoking stratified by gender and race/ethnicity, among participants with greater than 10 pack-years smoking history

	Non-Hispanic Whites	African-Americans	Hispanics	Chinese-Americans	P-value for differences across self-reported race/ethnic groups [p-value excluding Chinese-Americans]	P-value for differences by principal components of ancestry [p-value excluding Chinese-Americans]
Men (n=776)						
n.	310	217	157	92		
FEV ₁ /FVC difference (%), (95% CI)	-0.81 (-1.23, -0.39)	-0.10 (-0.92, 0.71)	-0.56 (-1.22, 0.10)	-0.16 (-0.98, 0.66)	0.66	0.62
FEV ₁ difference (mL), (95% CI)	-45.7 (-69.9, -21.2)	-4.42 (-49.2, 40.3)	-36.9 (-72.1, -1.8)	4.56 (-29.8, 38.9)	0.06 [0.31]	0.09 [0.39]
Women (n=457)						
n.	235	159	56	7		
FEV ₁ /FVC difference (%), (95% CI)	-1.05 (-1.41, 0.69)	-0.77 (-1.24, -0.31)	-0.73 (-1.30, -0.16)		0.78	0.68
FEV ₁ difference (mL), (95% CI)	-34.8 (-60.2, -9.3)	-68.7 (-100.7, -36.7)	-24.1 (-72.3, 24.0)		0.99	0.87

* Model adjusted for 10-pack-years of smoking, age, age², height, height², current smoking status, physician-diagnosed asthma before 45 years, family history of emphysema, cigar smoking status, cigar pack-years, second-hand smoke exposure, depth of inhalation, time before first cigarette in the morning, urinary cotinine level, history of hayfever, occupational exposure to dust, fumes or smoke, and educational attainment.

† Chinese-American women excluded from analysis due to small sample size with smoking history

Web Supplemental Table 4. Mean difference in lung function measures per 10 pack-years of smoking, stratified by gender and race/ethnicity, and including adjustment for immigrant status and years lived in United States

	Non-Hispanic Whites	African-Americans	Hispanics	Chinese-Americans	P-value for differences across self-reported race/ethnic groups [p-value excluding Chinese-Americans]	P-value for differences by principal components of ancestry [p-value excluding Chinese-Americans]
Men						
n.	582	402	342	283		
FEV ₁ /FVC difference (%), (95% CI)	-0.73 (-1.00, -0.46)	-0.85 (-1.37, -0.33)	-0.83 (-1.24, 0.41)	-0.26 (-0.81, 0.29)	0.19	0.11
FEV ₁ difference (mL), (95% CI)	-53.4 (-69.8, -36.9)	-41.9 (-68.8, -15.0)	-48.9 (-73.7, -24.0)	-14.4 (-43.1, 14.3)	0.01 [0.91]	0.004 [0.38]
Women	Non-Hispanic Whites	African-Americans	Hispanics	Chinese-Americans†	P-value for differences across self-reported race/ethnic groups	P-value for differences by principal components of ancestry
n.	591	471	395	278		
FEV ₁ /FVC difference (%), (95% CI)	-1.05 (-1.41, 0.69)	-0.77 (-1.24, -0.31)	-0.73 (-1.30, -0.16)		0.43	0.31
FEV ₁ difference (mL), (95% CI)	-42.3 (-59.3, -25.3)	-43.8 (-63.9, -23.6)	-36.5 (-64.2, -8.7)		0.52	0.59

* Model adjusted for 10-pack-years of smoking, age, age², height, height², current smoking status, physician-diagnosed asthma before 45 years, family history of emphysema, cigar smoking status, cigar pack-years, second-hand smoke exposure, depth of inhalation, time before first cigarette in the morning, urinary cotinine level, history of hayfever, occupational exposure to dust, fumes or smoke, and educational attainment.

† Chinese-American women excluded from analysis due to small sample size with smoking history

Web Supplemental Table 5. Mean difference in lung function measures per 10 pack-years of smoking, stratified by gender and race/ethnicity, among participants age 45-65 years.

	Non-Hispanic Whites	African-Americans	Hispanics	Chinese-Americans	P-value for differences across self-reported race/ethnic groups [p-value excluding Chinese-Americans]	P-value for differences by principal components of ancestry [p-value excluding Chinese-Americans]
Men (n=857)						
n.	292	223	204	138		
FEV ₁ /FVC difference (%), (95% CI)	-0.70 (-1.23, -0.18)	-0.22 (-0.94, -0.50)	-0.43 (-1.34, 0.47)	-0.50 (-1.82, 0.83)	0.16	0.11
FEV ₁ difference (mL), (95% CI)	-52.4 (-86.7, -18.02)	-21.3 (-64.6, 22.0)	0.74 (-67.7, 69.2)	-59 (139.4, 21.1)	0.08	0.02 [0.02]
Women (n=902)				Chinese-Americans†	P-value for differences across self-reported race/ethnic groups	P-value for differences by principal components of ancestry
n.	303	231	224	144		
FEV ₁ /FVC difference (%), (95% CI)	-0.58 (-1.22, -0.06)	-0.18 (-1.14, 0.77)	-0.33 (-1.04, 0.37)		0.38	0.14
FEV ₁ difference (mL), (95% CI)	-34.7 (-207, 344)	-33.6 (-79.0, 11.9)	-50.8 (-94.0, -7.5)		0.73	0.74

* Model adjusted for 10-pack-years of smoking, age, age², height, height², current smoking status, physician-diagnosed asthma before 45 years, family history of emphysema, cigar smoking status, cigar pack-years, second-hand smoke exposure, depth of inhalation, time before first cigarette in the morning, urinary cotinine level, history of hayfever, occupational exposure to dust, fumes or smoke, and educational attainment.

† Chinese-American women excluded from analysis due to small sample size with smoking history

**Web Supplemental Table 6:
Interaction between principal components of ancestry and lung function measures, stratified by site and gender**

	Men	Women
Winston-Salem, North Carolina	n= 298	n=299
FEV ₁ /FVC	0.46	0.08
FEV ₁	0.17	0.47
New York, New York	n=341	n=397
FEV ₁ /FVC	0.31	0.08
FEV ₁	0.56	0.1
Baltimore, Maryland	n=243	n=245
FEV ₁ /FVC	0.03	0.78
FEV ₁	0.12	0.22
Minnesota	n=287	n=263
FEV ₁ /FVC	0.58	0.19
FEV ₁	0.75	0.82
Chicago, Illinois	n=366	n=372
FEV ₁ /FVC	0.09	0.71
FEV ₁	0.11	0.14
Los Angeles, California	n=420	n=434
FEV ₁ /FVC	0.25	0.05
FEV ₁	0.07	0.03