Table E1: Baseline characteristics of the Sleep Heart Health Study cohort by FEV_1 category

	FEV_1 group 1 (≥ 3.19) N =1529		FEV_1 group 2 (2.61-3.18) N=1536		FEV_1 group 3 (2.10-2.60) N =1551		FEV_1 group 4 (≤ 2.09) N =1558	
Age, years	57.3	(9.1)	60.6	(9.6)	63.6	(10.1)	71.0	(9.9)
FEV_1, L	3.73	(0.44)	2.88	(0.16)	2.35	(0.15)	1.68	(0.35)
FVC, L	4.86	(0.64)	3.79	(0.40)	3.13	(0.36)	2.34	(0.52)
FEV_1/FVC, %	77.1	(5.7)	76.5	(6.5)	75.7	(7.1)	72.6	(10.3)
BMI, kg/m^2	28.2	(4.5)	28.5	(5.2)	28.8	(5.8)	28.4	(5.7)
Sex, %								
Women	157 (10%)		738 (48%)		1099 (71%)		1264 (81%)	
Men	1372 (90%)		798 (52%)		452 (29%)		294 (19%)	
Race,%								
White	1312 (86%)		1247 (81%)		1156 (75%)		1105 (71%)	
African-American	47 (3%)		73 (5%)		107 (7%)		239 (15%)	
Native American	93 (6%)		141 (9%)		187 (12%)		159 (10%)	
Hispanic	66 (4%)		56 (4%)		76 (5%)		36 (2%)	
Other	11 (1%)		19 (1%)		25 (2%)		19 (1%)	
Smoking Status, %								
Never	607 (40%)		700 (46%)		776 (50%)		732 (47%)	
Former	733 (48%)		667 (44%)		604 (39%)		629 (41%)	
Current	177 (12%)		160 (10%)		162 (11%)		185 (12%)	
Hypertension, %	605 (40%)		737 (48%)		858 (55%)		1065 (69%)	
Cardiovascular disease[†], %	176 (12%)		210 (14%)		239 (16%)		359 (24%)	
Deaths, %	182 (12%)		275 (18%)		356 (23%)		644 (41%)	
Follow-up time, person-years	17641.1		17351.0		16731.4		15368.2	
Mortality rate, per 1000 person-years	10.3		15.8		21.3		41.9	

p < 0.0001 for comparisons of age,, FEV_1, FEV_1/FVC, gender, race, smoking status, hypertension, diabetes, cardiovascular disease across RDI categories using χ^2 and analysis of variance to compare categorical and continuous variables, respectively. P<0.05 for comparisons of body mass index, p=0.01 for comparison of across categories. Values represent mean (standard deviation) or percentage. [†]Cardiovascular disease defined as presence of angina, heart failure, myocardial infarction, stroke, or any coronary revascularization procedure.

Table E2: Adjusted hazard ratios for FVC (per 200 mL decrease) and all-cause mortality in the Sleep Heart Health Study.

	AHI < 5 events/hr	AHI ≥ 5 events/hr
Model 1[†]	1.13 (1.12, 1.15)	1.10 (1.08, 1.11)
Model 2[‡]	1.08 (1.06, 1.10)	1.06 (1.04, 1.08)
Model 3[§]	1.07 (1.05, 1.09)	1.05 (1.03, 1.07)

[†]Model 1: FVC (continuous), AHI (categorical), FVC x AHI interaction.

[‡]Model 2: FVC (continuous), AHI (categorical), FVC x AHI interaction, age, gender, race, BMI, smoking status.

[§]Model 3: FVC (continuous), AHI (categorical), FVC x AHI interaction, age, gender, race, BMI, smoking status, hypertension, and cardiovascular disease.

p-values for interaction term to Models 1, 2, and 3: 0.004, 0.172, 0.072.

Table E3: Adjusted hazard ratios for FVC (per 200mL decrease) associated with all-cause mortality.

	Apnea-hypopnea index (events/hr)			
	< 5.0	5.0-14.9	15.0-29.9	≥30.0
Model 1[†]	1.14 (1.12, 1.15)	1.10 (1.08, 1.12)	1.10 (1.07, 1.13)	1.09 (1.04, 1.13)
Model 2[‡]	1.08 (1.06, 1.10)	1.06 (1.04, 1.09)	1.06 (1.03, 1.10)	1.05 (1.01, 1.09)
Model 3[§]	1.07 (1.05, 1.09)	1.05 (1.03, 1.07)	1.05 (1.02, 1.09)	1.03 (0.99, 1.08)

[†]Model 1: FVC (continuous), AHI (categorical), FVC x AHI interaction.

[‡]Model 2: FVC (continuous), AHI (categorical), FVC x AHI interaction, age, gender, race, BMI, smoking status.

[§]Model 3: FVC (continuous), AHI (categorical), FVC x AHI interaction, age, gender, race, BMI, smoking status, hypertension, and cardiovascular disease.

p-values for interaction between AHI categories and FVC as a trend in Models 1, 2 and 3: 0.009, 0.141, 0.061.

Table E4: Adjusted hazard ratios for FEV_1/FVC (per 1% decrease) and all-cause mortality

	AHI < 5 events/hr	AHI $\geq$ 5 events/hr
Model 1[†]	1.05 (1.04, 1.06)	1.01 (1.00, 1.02)
Model 2[‡]	1.02 (1.01, 1.03)	1.00 (0.99, 1.01)
Model 3[§]	1.02 (1.01, 1.03)	1.00 (0.99, 1.01)

[†]Model 1: FEV_1/FVC (continuous), AHI (categorical), FEV_1/FVC x AHI interaction.

[‡]Model 2: FEV_1/FVC (continuous), AHI (categorical), FEV_1/FVC x AHI interaction, age, gender, race, BMI, smoking status.

[§]Model 3: FEV_1/FVC (continuous), AHI (categorical), FEV_1/FVC x AHI interaction, age, gender, race, BMI, smoking status, hypertension, and cardiovascular disease.

p-values for interaction term to Models 1, 2, and 3: <0.001, 0.003, 0.021.

Table E5: Adjusted hazard ratios for FEV_1/FVC (per 1% decrease) and all-cause mortality.

	Apnea-hypopnea index (events/hr)			
	< 5.0	5.0-14.9	15.0-29.9	$\geq$30.0
Model 1[†]	1.05 (1.04, 1.06)	1.03 (1.01, 1.04)	1.00 (0.99, 1.02)	1.00 (0.97, 1.02)
Model 2[‡]	1.02 (1.01, 1.03)	1.01 (1.00, 1.02)	0.99 (0.97, 1.01)	0.99 (0.97, 1.02)
Model 3[§]	1.02 (1.01, 1.03)	1.01 (1.00, 1.02)	0.99 (0.97, 1.01)	0.99 (0.97, 1.02)

[†]Model 1: FEV_1/FVC (continuous), AHI (categorical), FEV_1/FVC x AHI interaction.

[‡]Model 2: FEV_1/FVC (continuous), AHI (categorical), FEV_1/FVC x AHI interaction, age, gender, race, BMI, smoking status.

[§]Model 3: FEV_1/FVC (continuous), AHI (categorical), FEV_1/FVC x AHI interaction, age, gender, race, BMI, smoking status, hypertension, and cardiovascular disease.

p-values for interaction between AHI categories and FEV_1/FVC as a trend in Models 1, 2 and 3: <0.001, 0.001, 0.004.

Figure E1: Scatterplot of FEV_1 (L) versus FVC (L).