

## Supplementary Tables

**Supplementary Table 1. Inclusion/Exclusion Criteria**

	Non-smokers	Smokers	Mild/Mod COPD	Severe COPD
<b>Inclusion Criteria</b>				
Between age 40 and 80 (inclusive) at Baseline Visit	X	X	X	X
Able to tolerate and willing to undergo study procedures	X	X	X	X
<1 pack-year history of smoking	X			
>20 pack-year history of smoking		X	X	X
Pre-bronchodilator: FEV <sub>1</sub> /FVC ≥.7 and FVC>LLN	X			
Post-bronchodilator: FEV <sub>1</sub> /FVC ≥.7 and FVC>LLN		X		
Post bronchodilator: FEV <sub>1</sub> /FVC < .7 and FEV <sub>1</sub> > 50% pred			X	
Post bronchodilator: FEV <sub>1</sub> /FVC < .7 and FEV <sub>1</sub> < 50% pred				X
Able to understand English and/or Spanish	X	X	X	X
<b>Exclusion Criteria</b>				
Women only: Cannot be pregnant at baseline or plan to become pregnant during the course of the study	X	X	X	X
Dementia or other cognitive dysfunction which in the opinion of the investigator would prevent the participant from consenting to the study or completing study procedures	X	X	X	X
Has plans to leave the area in the next 3 years	X	X	X	X
Smoking history of > 1 pack-year but <21 pack-years	X	X	X	X
Has a BMI > 40 kg/m <sup>2</sup> at baseline exam	X	X	X	X
Prior significant difficulties with pulmonary function testing	X	X	X	X
Hypersensitivity to or intolerance of albuterol sulfate or ipratropium bromide or propellants or excipients of the inhalers	X	X	X	X
Non-COPD obstructive lung disease (various bronchiolitis, sarcoid, LAM, histiocytosis X) or parenchymal lung disease, pulmonary vascular disease, pleural disease, severe kyphoscoliosis, neuromuscular weakness, or other conditions, including clinically significant cardiovascular and pulmonary disease, that, in the opinion of the investigator, limit the interpretability of the pulmonary function measures.	X	X	X	X
History of Interstitial lung disease	X	X	X	X
Current diagnosis of asthma	X			
History of Lung volume reduction surgery or lung resection	X	X	X	X
History of lung or other organ transplant	X	X	X	X
History of endobronchial valve therapy	X	X	X	X
History of large thoracic metal implants (e.g., AICD and/or pacemaker) that in the opinion of the investigator limit the interpretability of CT scans	X	X	X	X

Currently taking $\geq 10$ mg a day/20mg every other day of prednisone or equivalent systemic corticosteroid	X	X	X	X
Currently taking any immunosuppressive agent	X	X	X	X
Current illicit substance abuse, excluding marijuana	X	X	X	X
History of or current use of IV Ritalin	X	X	X	X
History of or current use of heroin	X	X	X	X
History of illegal IV drug use within the last 10 years or more than 5 instances of illegal IV drug use ever	X	X	X	X
Known HIV/AIDS infection	X	X	X	X
History of lung cancer or any cancer that spread to multiple locations in the body	X	X	X	X
History of or current exposure to chemotherapy or radiation treatments that, in the opinion of the investigator, limits the interpretability of the pulmonary function measures.	X	X	X	X
Diagnosis of unstable cardiovascular disease including myocardial infarction in the past 6 weeks, uncontrolled congestive heart failure, or uncontrolled arrhythmia	X	X	X	X

**Supplementary Table 2. Schedule of Study Measurements**

	<b>V1</b>	<b>V2</b>	<b>V3</b>	<b>V4</b>
<b>Physiological Measures</b>				
<b>Pulmonary Function Testing</b>				
Exhaled CO (eCO)	X	X		X
Forced Vital Capacity	X	X	X	X
Slow vital capacity	X	X	X	X
Bronchodilation	X	X	X	X
Forced Vital Capacity	X	X	X	X
Slow Vital Capacity	X	X	X	X
Six minute walk test with continuous pulse oximetry	X	X	X	X
<b>Anthropometric Measurements</b>				
Height	X	X	X	X
Weight	X	X	X	X
Arm Span	X	X	X	X
Waist	X	X	X	X
Hip	X	X	X	X
Neck	X	X	X	X
Seated Blood Pressure	X	X	X	X
<b>MDCT</b>	X	X		
<b>Biospecimen collection</b>				
<b>Blood</b>				
Serum (Two – RT)	X	X		X
Plasma (One – P100)	X	X		X
Plasma (Three – Plasma/DNA w/EDTA; one – CBC w/EDTA)	X	X		X
Plasma (One – with citrate)	X	X		X
RNA (One – PAX-Gene)	X	X		
Urine	X	X		X
Induced Sputum	X			
<b>Questionnaires</b>				
Medical History	X	X	X	X
St. George’s Respiratory Questionnaire	X	X	X	X
MOT Short Form – 12	X	X	X	X
COPD Assessment Test	X	X	X	X
Modified Medical Research Council (MRC) Dyspnea Scale	X	X	X	X
<b>Sleep questionnaires</b>				
Berlin Questionnaire	X	X	X	X
Pittsburgh Sleep Quality Index	X	X	X	X
Veterans Specific Activity Questionnaire	X	X	X	X
Hospital Anxiety and Depression Scale (HADS)	X	X	X	X
FACIT	X	X	X	X
Questionnaire for Ease of Cough and Sputum Clearance	X	X	X	X

**Supplementary Table 3. Imaging protocol in SPIROMICS**

	BMI < 20	BMI 20-30	BMI > 30
kVp setting	120 kVp	120 kVp	120 kVp
CTDIVol for inspiration	6.1 mGy	7.6 mGy	11.4 mGy
CTDIVol for expiration	4.2 mGy	4.2 mGy	6.1 mGy
mAs setting	Depends on scanner type and whether inspiration or expiration		