

Supplementary Table 1. Characteristics of participants by lung function status detailed in severity levels of PRISm

		Total		Normal lung function		Restricted lung		Mild		Moderate		Moderately severe		Severe or very severe		AO	
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
		461,031	(100.0)	358,755	(77.8)	65,781	(14.3)	47,997	(10.4)	11,328	(2.5)	4,451	(1.0)	2,005	(0.4)	36,495	(7.9)
Age	20-39	239,283	(51.9)	207,047	(57.7)	17,563	(26.7)	11,937	(24.9)	3,795	(33.5)	1,358	(30.5)	473	(23.6)	14,673	(40.2)
	40-59	158,298	(34.3)	117,975	(32.9)	28,406	(43.2)	20,974	(43.7)	4,825	(42.6)	1,829	(41.1)	778	(38.8)	11,917	(32.7)
	60 or above	63,450	(13.8)	33,733	(9.4)	19,812	(30.1)	15,086	(31.4)	2,708	(23.9)	1,264	(28.4)	754	(37.6)	9,905	(27.1)
Gender	Men	225,587	(48.9)	178,160	(49.7)	28,853	(43.9)	21,992	(45.8)	4,279	(37.8)	1,697	(38.1)	885	(44.1)	18,574	(50.9)
	Women	235,444	(51.1)	180,595	(50.3)	36,928	(56.1)	26,005	(54.2)	7,049	(62.2)	2,754	(61.9)	1,120	(55.9)	17,921	(49.1)
Education	Middle school or below	88,366	(25.0)	57,273	(19.7)	24,577	(50.9)	18,337	(50.7)	3,751	(47.8)	1,628	(55.1)	861	(62.0)	6,516	(45.7)
	High school	81,725	(23.1)	68,519	(23.6)	10,055	(20.8)	7,420	(20.5)	1,780	(22.7)	617	(20.9)	238	(17.1)	3,151	(22.1)
	Junior college	69,955	(19.8)	62,019	(21.3)	6,004	(12.4)	4,435	(12.3)	1,074	(13.7)	352	(11.9)	143	(10.3)	1,932	(13.5)
	College or above	113,121	(32.0)	102,773	(35.4)	7,688	(15.9)	5,946	(16.5)	1,236	(15.8)	359	(12.1)	147	(10.6)	2,660	(18.7)
Smoking status	Never-smoker	241,874	(69.9)	199,917	(70.0)	33,466	(71.2)	24,983	(71.0)	5,510	(72.4)	2,060	(71.5)	913	(67.7)	8,491	(63.2)
	Ex-smoker	22,879	(6.6)	18,524	(6.5)	3,148	(6.7)	2,409	(6.8)	451	(5.9)	186	(6.5)	102	(7.6)	1,207	(9.0)
	Current smoker	81,120	(23.5)	66,961	(23.5)	10,418	(22.2)	7,802	(22.2)	1,647	(21.6)	636	(22.1)	333	(24.7)	3,741	(27.8)
Smoking status (Men)	Never-smoker	84,217	(48.8)	72,246	(50.0)	9,263	(43.8)	7,424	(45.1)	1,204	(40.6)	406	(36.4)	229	(37.1)	2,708	(38.3)
	Ex-smoker	19,610	(11.4)	15,679	(10.9)	2,849	(13.5)	2,192	(13.3)	392	(13.2)	170	(15.2)	95	(15.4)	1,082	(15.3)
	Current smoker	68,912	(39.9)	56,579	(39.2)	9,048	(42.8)	6,846	(41.6)	1,370	(46.2)	539	(48.3)	293	(47.5)	3,285	(46.4)
Smoking status (Women)	Never-smoker	157,657	(91.1)	127,671	(90.6)	24,203	(93.5)	17,559	(93.7)	4,306	(92.8)	1,654	(93.6)	684	(93.6)	5,783	(90.9)
	Ex-smoker	3,269	(1.9)	2,845	(2.0)	299	(1.2)	217	(1.2)	59	(1.3)	16	(0.9)	7	(1.0)	125	(2.0)
	Current smoker	12,208	(7.1)	10,382	(7.4)	1,370	(5.3)	956	(5.1)	277	(6.0)	97	(5.5)	40	(5.5)	456	(7.2)
Drinking status	Non-drinker	266,918	(78.7)	221,936	(79.2)	35,475	(77.7)	26,445	(77.3)	5,866	(79.5)	2,169	(77.5)	995	(76.0)	9,507	(71.4)
	Occasional drinker	39,478	(11.6)	32,820	(11.7)	4,689	(10.3)	3,592	(10.5)	696	(9.4)	279	(10.0)	122	(9.3)	1,969	(14.8)
	Regular drinker	32,641	(9.6)	25,300	(9.0)	5,510	(12.1)	4,154	(12.1)	812	(11.0)	352	(12.6)	192	(14.7)	1,831	(13.8)
Body mass index	<18.5	33,308	(7.2)	26,577	(7.4)	4,406	(6.7)	2,853	(5.9)	1,009	(8.9)	383	(8.6)	161	(8.1)	2,325	(6.4)
	18.5~24	293,049	(63.6)	234,579	(65.4)	35,026	(53.3)	25,660	(53.5)	5,967	(52.7)	2,321	(52.2)	1,078	(54.0)	23,444	(64.3)
	25~29	114,257	(24.8)	83,464	(23.3)	21,552	(32.8)	16,101	(33.6)	3,471	(30.7)	1,367	(30.8)	613	(30.7)	9,241	(25.3)
	≥30	20,299	(4.4)	14,086	(3.9)	4,739	(7.2)	3,357	(7.0)	865	(7.6)	373	(8.4)	144	(7.2)	1,474	(4.0)
Physical activity	Inactive	181,794	(51.1)	148,488	(50.9)	26,108	(53.1)	19,155	(52.1)	4,444	(55.5)	1,707	(56.1)	802	(56.4)	7,198	(49.9)
	Low	85,563	(24.1)	72,244	(24.7)	10,051	(20.4)	7,642	(20.8)	1,590	(19.9)	553	(18.2)	266	(18.7)	3,268	(22.7)

Hypertension	Moderate	53,494 (15.0)	43,729 (15.0)	7,664 (15.6)	5,791 (15.8)	1,202 (15.0)	453 (14.9)	218 (15.3)	2,101 (14.6)
	High	21,816 (6.1)	17,013 (5.8)	3,565 (7.2)	2,716 (7.4)	521 (6.5)	239 (7.9)	89 (6.3)	1,238 (8.6)
	Very high	12,955 (3.6)	10,514 (3.6)	1,819 (3.7)	1,430 (3.9)	250 (3.1)	91 (3.0)	48 (3.4)	622 (4.3)
Diabetes	None	367,272 (79.7)	298,479 (83.2)	42,021 (63.9)	30,372 (63.3)	7,617 (67.2)	2,838 (63.8)	1,194 (59.6)	26,772 (73.4)
	Yes	93,759 (20.3)	60,276 (16.8)	23,760 (36.1)	17,625 (36.7)	3,711 (32.8)	1,613 (36.2)	811 (40.4)	9,723 (26.6)
Cough recently	None	435,832 (94.5)	343,469 (95.7)	58,235 (88.5)	42,390 (88.3)	10,148 (89.6)	3,949 (88.7)	1,748 (87.2)	34,128 (93.5)
	Yes	25,199 (5.5)	15,286 (4.3)	7,546 (11.5)	5,607 (11.7)	1,180 (10.4)	502 (11.3)	257 (12.8)	2,367 (6.5)
Blood in sputum	None	413,893 (89.8)	323,143 (90.1)	57,514 (87.4)	42,195 (87.9)	9,865 (87.1)	3,817 (85.8)	1,637 (81.6)	33,236 (91.1)
	Yes	47,138 (10.2)	35,612 (9.9)	8,267 (12.6)	5,802 (12.1)	1,463 (12.9)	634 (14.2)	368 (18.4)	3,259 (8.9)
Wheezing	None	450,356 (97.7)	349,962 (97.5)	64,331 (97.8)	46,990 (97.9)	11,055 (97.6)	4,342 (97.6)	1,944 (97.0)	36,063 (98.8)
	Yes	10,675 (2.3)	8,793 (2.5)	1,450 (2.2)	1,007 (2.1)	273 (2.4)	109 (2.4)	61 (3.0)	432 (1.2)
Asthma history or medication	None	427,607 (92.8)	334,476 (93.2)	59,050 (89.8)	43,625 (90.9)	10,044 (88.7)	3,783 (85.0)	1,598 (79.7)	34,081 (93.4)
	Yes	33,424 (7.2)	24,279 (6.8)	6,731 (10.2)	4,372 (9.1)	1,284 (11.3)	668 (15.0)	407 (20.3)	2,414 (6.6)
Asthma history or medication	None	448,815 (97.4)	350,276 (97.6)	63,520 (96.6)	46,815 (97.5)	10,813 (95.5)	4,141 (93.0)	1,751 (87.3)	35,019 (96.0)
	Yes	12,216 (2.6)	8,479 (2.4)	2,261 (3.4)	1,182 (2.5)	515 (4.5)	310 (7.0)	254 (12.7)	1,476 (4.0)

* N Number of participants

PRISm: Preserved Ratio Impaired Spirometry; COPD: Chronic Obstructive Pulmonary Disease.