Online Supplement
Characterizing COPD Symptom Variability in the Stable State Utilizing the Evaluating Respiratory Symptoms in COPD Questionnaire

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Supplementary Tables

Table E1. Comparison of included and excluded subjects in the symptom variability analysis

Characteristic	Included	Excluded	Overall
N	140 [68.3%]	65 [31.7%]	205
Age (years)	63.3 ±8.4	63.3 ±7.6	63.3 ±8.1
Female sex, n [%]	74 [52.9%]	29 [44.6%]	103 [50.2%]
BMI* (kg/m^2)	27.5 ±5.5	27.2 ±5.5	27.4 ±5.5
Six-minute walk distance (10m)	36.2 ±12.3	38.7 ±12.5	37.0 ±12.4
FEV$_1$[†]% predicted	61.5 ±21.9	65.0 ±21.9	62.6 ±21.8
BODE[‡] Index	2.3 ±2.2	1.8 ±2.1	2.1 ±2.2
MMRC[§] dyspnea scale	1.4 ±1.1	1.0 ±1.0	1.3 ±1.0
PSQ[‖] total score	6.9 ±3.8	7.2 ±4.6	7.0 ±3.9
SGRQ** total score	42.9 ±19.9	36.5 ±19.9	41.1 ±21.0
HADS[††] anxiety score	6.2 ±4.0	5.6 ±4.0	6.0 ±4.0
HADS[††] depression score	4.9 ±3.7	4.5 ±3.3	4.8 ±3.5
Current smoker	47 [33.8%]	27 [41.5%]	74 [36.3%]
GOLD[‡‡] stage, n [%]			
Stage I	11 [7.9%]	4 [6.3%]	15 [7.4%]
Stage II	31 [22.3%]	14 [21.5%]	45 [22.1%]
Stage III	67 [48.2%]	29 [44.6%]	96 [47.1%]
Stage IV	30 [21.6%]	18 [23.8%]	48 [23.5%]
Unavailable	1 [0.7%]	0 [3.1%]	1 [0.5%]
EXACT[§§] mean	35.2 ±11.0	33.4 ±13.1	34.7 ±11.5
E-RS[Δ] mean	11.4 ±6.6	9.9 ±7.5	11.0 ±6.9
E-RS[Δ] subscales			
E-RS breathlessness	5.6 ±3.8	4.9 ±4.2	5.4 ±4.0
E-RS cough/sputum	3.2 ±1.9	2.9 ±1.9	3.1 ±1.9
E-RS chest	2.6 ±2.0	2.2 ±2.1	2.4 ±2.0
WS-SD[ΔΔ] at baseline	3.04 ± 1.52	2.55 ± 1.74	2.89 ± 1.60
HCRU[^] Exacerbations	18 [12.9%]	3 [4.6%]	21 [10.2%]
EXACT[§§] event within 4 weeks of follow-up (1 or more event), n [%]	45 [32.1%]	5 [7.7%]	50 [24.4%]

*BMI = Body mass index; [†]FEV1 = Forced expiratory volume in one second; [‡]BODE = Body mass index, airflow obstruction, dyspnea and exercise capacity; [§]MMRC = Modified Medical Research Council; [‖]PSQ = Pittsburgh Sleep Quality Index; **SGRQ = St. George Respiratory Questionnaire; [††]HADS = hospital anxiety and depression scale; [‡‡]GOLD = Global Initiative For Chronic Obstructive Lung Disease; [§§]EXACT = Exacerbations of Chronic Pulmonary Disease Tool; [Δ]E-RS = Evaluating Respiratory Symptoms in COPD Tool; [ΔΔ]WS-SD = Within-subject standard deviation; [^]HCRU = Healthcare resource utilization exacerbations in the 52 weeks following Exacerbation sub study enrollment.

Table E2. Pair wise differences in weekly WS-SD* among 130 subjects with sufficient data in 12 weeks

Start Week	End Week											
	1	2	3	4	5	6	7	8	9	10	11	12
0	0.07 p†=0.71	-0.05 p=0.72	**-0.34 p=0.025**	**-0.45 p=0.006**	**-0.4 p=0.007**	**-0.6 p<0.001**	**-0.78 p<0.001**	**-0.57 p<0.001**	**-0.67 p<0.001**	**-0.48 p=0.007**	**-0.62 p<0.001**	**-0.64 p<0.001**
1		-0.12 p=0.53	**-0.4 p=0.035**	**-0.52 p=0.007**	**-0.46 p=0.008**	**-0.66 p<0.001**	**-0.85 p<0.001**	**-0.64 p=0.001**	**-0.74 p<0.001**	**-0.55 p=0.006**	**-0.69 p<0.001**	**-0.7 p<0.001**
2			**-0.28 p=0.039**	**-0.39 p=0.02**	**-0.34 p=0.014**	**-0.54 p<0.001**	**-0.73 p<0.001**	**-0.52 p<0.001**	**-0.62 p<0.001**	**-0.42 p=0.014**	**-0.57 p<0.001**	**-0.58 p<0.001**
3				-0.11 p=0.48	-0.06 p=0.66	-0.26 p=0.075	**-0.45 p=0.003**	-0.23 p=0.095	**-0.33 p=0.032**	-0.14 p=0.41	-0.28 p=0.087	-0.3 p=0.056
4					0.05 p=0.69	-0.15 p=0.30	**-0.34 p=0.022**	-0.12 p=0.38	-0.22 p=0.11	-0.03 p=0.86	-0.17 p=0.28	-0.19 p=0.24
5						-0.2 p=0.078	**-0.39 p=0.03**	-0.17 p=0.17	**-0.27 p=0.03**	-0.08 p=0.60	-0.22 p=0.11	-0.24 p=0.095
6							-0.19 p=0.14	0.02 p=0.85	-0.07 p=0.57	0.12 p=0.44	-0.03 p=0.85	-0.04 p=0.77
7								0.21 p=0.11	0.11 p=0.42	0.31 p=0.068	0.16 p=0.26	0.15 p=0.28
8									-0.1 p=0.42	0.09 p=0.55	-0.05 p=0.71	-0.07 p=0.66
9										0.19 p=0.20	0.05 p=0.73	0.03 p=0.82
10											-0.14 p=0.37	-0.16 p=0.31
11												-0.02 p=0.91

*WS-SD = within subject standard deviation. †all p-values indicate paired t-tests, bold indicates statistical significance.

SUPPLEMENTARY FIGURES

Figure E1. Example of one subject's E-RS scores throughout the study with standard deviation (blue dashed line) decreasing throughout the weeks. Day -7 to day 0 represents the baseline week. Mean E-RS score (red line) demonstrates more stability during the same time period. E-RS = Evaluating Respiratory Symptoms in COPD Tool. WS-SD = within subject standard deviation
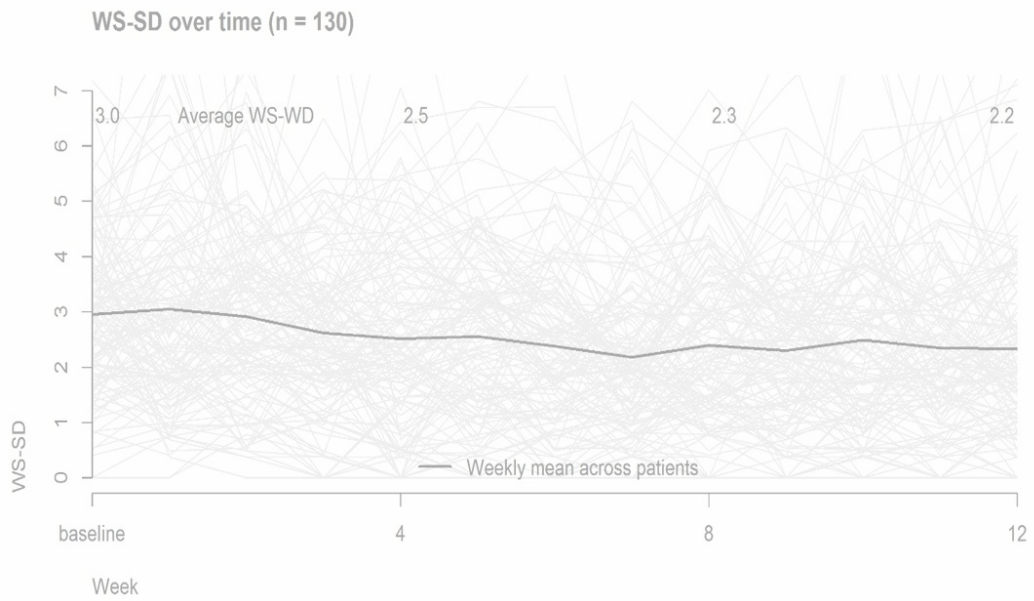
Figure E2. Mean WS-SD of subjects over twelve weeks of follow-up after baseline week. Grey lines indicate each individual subject's WS-SD trajectory over the 13 weeks. WS-SD = within subject standard deviation

Figure E3. Example of two subject's daily EXACT scores leading to the onset and recovery of an EXACT event.

Figure E1

Figure E2

Figure E3