

**Supplementary Table 5:** Average annual change\* in lung function and symptoms domain of health status related to baseline step count (multivariable linear regression model†), with and without having exacerbations during follow-up as a covariate.

	Without exacerbations during follow-up in the model		Including exacerbations during follow-up ( $\geq 1$ vs. 0) in the model	
	Per 1000 increase in steps.day <sup>-1</sup> Estimate (95% CI)	p-value	Per 1000 increase in steps.day <sup>-1</sup> Estimate (95% CI)	p-value
$\Delta FEV_1$ (ml.year <sup>-1</sup> )	7.26 (2.3 to 12.2)	0.005	7.41 (2.3 to 12.5)	0.005
$\Delta FVC$ (ml.year <sup>-1</sup> )	8.78 (0.7 to 16.9)	0.034	8.91 (0.6 to 17.2)	0.036
$\Delta DL_{co}$ (ml/min/mmHg.year <sup>-1</sup> )	0.10 (0.0 to 0.2)	0.036	0.09 (0.0 to 0.1)	0.055
$\Delta SGRQ_{symptoms}$ score (points.year <sup>-1</sup> )	-0.36 (-0.7 to 0.0)	0.027	-0.35 (-0.7 to 0.0)	0.023

FEV<sub>1</sub> = forced expiratory volume in 1 second, FVC = forced vital capacity, DL<sub>co</sub> = diffusion capacity of the lung carbon monoxide, SGRQ = Saint George's respiratory questionnaire.

\* Negative values represent a decline in the outcome measure.

† Every cell is a single multivariable model adjusted for baseline value of the corresponding outcome and (i) age, sex, exacerbation history ( $\geq 1 / 0$ ), BMI, Charlson index, smoking status (current / not current), pack-years and duration of daylight for lung function variables, or (ii) age, sex, exacerbation history ( $\geq 1 / 0$ ), smoking status, FEV<sub>1</sub>% predicted, 6MWD and duration of daylight for SGRQ. Having a COPD exacerbation during follow-up was included as a binary variable in the models. The full list of potential confounders included: age, sex, education, marital status, work status, baseline smoking status, smoking history expressed as pack-years, medication (including long acting bronchodilators, inhaled corticosteroids and a combined inhaled therapy), diet (including vegetables, meat and fruit intake), Charlson index, BMI, FFM, FFMi, mMRC, COPD exacerbation history, FEV<sub>1</sub> % predicted, hand grip force, 6MWD and duration of daylight. Criteria for keeping them in the final model are detailed in the methods (complete version).