

**Supplementary Table 3:** Average annual change\* in exercise capacity, respiratory muscle force and other domains of health status related to baseline step count (multivariable linear regression model†).

	Per 1000 increase in steps.day <sup>-1</sup>  Estimate (95% CI)	p-value
Δ6MWD (m.year <sup>-1</sup> )	0.94 (-0.29 to 2.17)	0.13
ΔMIP (cm H <sub>2</sub> O.year <sup>-1</sup> )	-0.14 (-0.21 to -0.06)	0.30
ΔMEP (cm H <sub>2</sub> O.year <sup>-1</sup> )	0.29 (-0.31 to 0.90)	0.35
ΔSGRQ <sub>total</sub> score (points.year <sup>-1</sup> )	-0.16 (-0.39 to 0.07)	0.17
ΔSGRQ <sub>activity</sub> score (points.year <sup>-1</sup> )	-0.13 (-0.43 to 0.18)	0.42
ΔSGRQ <sub>impacts</sub> score (points.year <sup>-1</sup> )	-0.14 (-0.41 to 0.13)	0.31

6MWD = 6-min walk distance, MIP = maximal inspiratory pressure, MEP = maximal expiratory pressure, 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 ( $\geq 1 / 0$ ), Fat free mass, FEV<sub>1</sub>% predicted and duration of daylight for 6MWD, (ii) age, sex, exacerbation history, Fat free mass, FEV<sub>1</sub>% predicted, 6MWD and duration of daylight for respiratory muscle force or (iii) age, sex, exacerbation history ( $\geq 1 / 0$ ), smoking status (current / not current), FEV<sub>1</sub>% predicted, 6MWD and duration of daylight for SGRQ. 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).