SUPPLEMENTARY TABLE S2 Multi-variate logistic regression and Cox regression with bootstrapping on the risks of the major adverse outcomes

Method of staging (cutoff values)	Adjusted OR for $\geq$ 1 SAE at 1 year by bootstrapping[#] (95% CI)	Adjusted OR for $\geq$ 2 SAE at 1 year by bootstrapping[#] (95% CI)	Adjusted OR for $\geq$ 1 SAE every year at 2 years by bootstrapping[#] (95% CI)	Adjusted HR for mortality by bootstrapping[#] (95% CI)
FEV_1%pred (GOLD)				
1 ($\geq$80%)	1	1	1	1
2 ($\geq$50% and <80)	0.90 (0.87-0.91)*	0.23 (0.22-0.23)*	1.11 (1.08-1.14)*	1.52 (1.48-1.65)*
3 ($\geq$30% and <50)	4.10 (4.01-4.18)*	3.78 (3.71-3.86)*	6.55 (6.42-6.69)*	2.75 (2.59-2.89)*
4 (<30%)	2.12 (2.05-2.18)*	1.38 (1.34-1.42)*	4.66 (4.48-4.81)*	5.26 (4.95-5.58)*
FEV_1%pred (quartiles)				
1 ($\geq$69.3%)	1	1	1	1
2 ($\geq$53.6% and <69.3)	0.65 (0.63-0.66)*	0.73 (0.70-0.75)*	2.05 (2.01-2.12)*	2.16 (2.14-2.20)*
3 ($\geq$41.0% and <53.6)	5.00 (4.90-5.10)*	6.23 (6.11-6.36)*	11.59 (11.36-11.82)*	2.92 (2.97-3.06)*
4 (<41.0%)	3.10 (3.03-3.16)*	6.11 (5.99-6.23)*	10.80 (10.49-11.02)*	3.35 (3.32-3.42)*
Z score (quartiles)				
1 ($\geq$-1.70)	1	1	1	1
2 ($\geq$-2.57 and < -1.70)	0.66 (0.64-0.67)*	0.33 (0.32-0.33)*	0.46 (0.45-0.47)*	1.58 (1.57-1.60)*
3 ($\geq$-3.17 and < -2.57)	6.55 (6.42-6.69)*	10.91 (10.70-11.13)*	22.65 (22.20-23.10)*	2.92 (2.89-2.94)*
4 (<-3.17)	2.94 (2.89-3.00)*	5.87 (5.75-5.99)*	15.96 (15.49-16.44)*	3.82 (3.74-3.86)*
$(FEV_1 \cdot Ht^{-2})_A$ (quartiles)				
1 ($\geq$0.63)	1	1	1	1
2 ($\geq$0.47 and <0.63)	0.95 (0.93-0.97)*	1.54 (1.49-1.58)*	1.73 (1.68-1.77)*	1.01 (0.99-1.03)
3 ($\geq$0.36 and <0.47)	2.83 (2.77-2.89)*	5.42 (5.31-5.53)*	3.19 (3.13-3.25)*	2.86 (2.80-2.92)*
4 (<0.36)	2.92 (2.86-2.97)*	7.61 (7.46-7.77)*	6.42 (6.23-6.55)*	2.14 (2.10-2.18)*
$(FEV_1 \cdot Ht^{-2})_B$[¶]				
1 ($\geq$0.50)	1	1	1	1
2 ($\geq$0.40 and < 0.30)	1.43 (1.42-1.46)*	2.36 (2.29-2.44)*	1.45 (1.42-1.49)*	2.08 (2.03-2.10)*
3 ($\geq$0.30 and < 0.40)	4.48 (4.39-4.53)*	9.21 (9.03-9.39)*	5.64 (5.53-5.75)*	2.01 (1.97-2.03)*
4 (< 0.30)	3.49 (3.42-3.56)*	8.76 (8.50-9.03)*	9.03 (8.76-9.21)*	5.05 (5.00-5.10)*
$FEV_1 \cdot Ht^{-3}$ (quartiles)				
1 ($\geq$0.38)	1	1	1	1
2 ($\geq$0.29 and <0.38)	1.35 (1.32-1.38)*	2.64 (2.59-2.72)*	2.12 (2.05-2.16)*	1.23 (1.21-1.26)*
3 ($\geq$0.22 and <0.29)	3.42 (3.35-3.46)*	5.37 (5.26-5.47)*	4.06 (3.94-4.14)*	3.00 (2.97-3.06)*
4 (<0.22)	2.75 (2.69-2.80)*	8.85 (8.67-9.03)*	6.42 (6.30-6.62)*	1.99 (1.97-2.03)*
FEV_1Q (quartiles)				

1 (≥3.38)	1	1	1	1
2 (≥2.50 and <3.38)	1.88 (1.84-1.92)*	1.97 (1.92-2.03)*	1.48 (1.43-1.52)*	1.55 (1.51-1.60)*
3 (≥1.90 and <2.50)	2.75 (2.69-2.80)*	5.87 (5.75-5.99)*	3.67 (3.60-3.74)*	2.86 (2.80-2.94)*
4 (<1.90)	4.05 (3.97-4.14)*	7.03 (6.89-7.17)*	6.96 (6.82-7.10)*	3.10 (3.00-3.19)*

FEV_1, forced expiratory volume in 1 second; FEV_1%pred, percentage of predicted FEV_1; $FEV_1·Ht^{-2}$, FEV_1 over height squared; $FEV_1·Ht^{-3}$, FEV_1 over height cubed; FEV_1Q, FEV_1 quotient; GOLD, the Global Initiative for Chronic Obstructive Lung Disease; OR, odds ratio; SAE, severe acute exacerbation; 95% CI, 95% confidence interval; HR, hazard ratio. [#] : Adjustment was made for age, body mass index, Charlson comorbidity index, smoking status, and history of severe acute exacerbation in the preceding year; bootstrapping was performed using SAS (version 9.4, SAS Institute, Cary, North Carolina) with 5000 random samplings with replacement. [¶] The cutoff values (0.5, 0.4, 0.3) were proposed by Miller *et al* [1]. [*] : $P < 0.05$.

REFERENCE FOR SUPPLEMENTARY TABLE S2:

1 Miller MR, Pedersen OF, Dirksen A. A new staging strategy for chronic obstructive

pulmonary disease. *Int J Chron Obstruct Pulmon Dis* 2007; 2(4): 657–663.