

Supplementary Table 1. Use of inhaled controller medication in survived and non-survived admissions with acute exacerbation of chronic obstructive pulmonary disease (n=516 admissions)

	Missing data n (%)	Non-survived admissions (n=67)		Survived admissions (n=449)		p-value
		n	(%)	n	(%)	
Inhaled controller medications						
Salmeterol/fluticasone	3 (0.6)	34	(50.8)	262	(58.4)	0.204
Formoterol/budesonide	3 (0.6)	3	(4.5)	15	(3.3)	0.356
Tiotropium	3 (0.6)	10	(14.9)	100	(22.3)	0.141
Budesonide	3 (0.6)	1	(1.5)	25	(5.6)	0.156

Supplementary Table 2. Antimicrobial treatment of survived and non-survived admissions (n=516 admissions)

	Missing data n (%)	Non-survived admissions (n=67)		Survived admissions (n=449)		p-value
		n	(%)	n	(%)	
Antibiotic treatment	0 (0)	65	(97.0)	403	(89.8)	0.069
Azithromycin	0 (0)	2	(3.0)	18	(4.0)	1.000
Clarithromycin	0 (0)	20	(29.9)	200	(44.5)	0.025
Roxithromycin	0 (0)	2	(3.0)	20	(4.5)	0.755
Ceftriaxone	0 (0)	32	(47.8)	231	(51.5)	0.602
Ceftazidime	0 (0)	12	(17.9)	41	(9.1)	0.049
Piperacillin/Tazobactam	0 (0)	14	(20.9)	62	(13.8)	0.139
Amoxicillin/Clavulanic acid	0 (0)	0	(0)	12	(2.7)	0.380
Imipenem/Cilastatin	0 (0)	3	(4.5)	6	(1.3)	0.099
Meropenem	0 (0)	2	(3.0)	3	(0.7)	0.128
Levofloxacin	0 (0)	12	(17.9)	38	(8.5)	0.024
Oseltamivir	0 (0)	5	(7.5)	18	(4.0)	0.203

Supplementary Table 3 sensitivity analysis of the estimated prognostic indicators for in-hospital mortality of COPD patients with acute exacerbation

Model derived from full multiple-record cohort				
Mortality	HR	p-value	95% CI	
Age ≥80 years	2.33	0.003	1.33	4.07
Respiratory failure (Intubation)	2.77	0.018	1.19	6.46
BT ≥38.0 °C	3.09	<0.001	1.67	5.69
MAP < 65 mmHg	6.13	<0.001	2.83	13.30
WBC count ≥15,000 /mm ³	3.13	<0.001	1.73	5.66
Eosinophil count <50 /mm ³	1.60	0.168	0.82	3.12
Serum creatinine ≥1.5 mg/dl	2.15	0.011	1.19	3.89
Blood urea nitrogen >20 mg/dl	1.39	0.356	0.69	2.77
Model derived from full single-record cohort (exclude readmission visits)				
Mortality	HR	p-value	95% CI	
Age ≥80 years	2.21	0.013	1.18	4.11
Respiratory failure (Intubation)	2.34	0.083	0.89	6.10
BT ≥38.0 °C	2.33	0.014	1.19	4.57
MAP < 65 mmHg	5.54	<0.001	2.36	12.97
WBC count ≥15,000 /mm ³	2.94	0.004	1.42	6.10
Eosinophil count <50 /mm ³	1.20	0.605	0.59	2.44
Serum creatinine ≥1.5 mg/dl	2.24	0.014	1.18	4.25
Blood urea nitrogen >20 mg/dl	1.53	0.265	0.72	3.25

HR, hazards ratio; CI, confidence interval; BT, body temperature; MAP, mean arterial pressure; WBC, white blood cell