

Appendix 2. Basic characteristics of the study subjects stratified by death within 30 days and ICU admission

	Alive			Death within 30-day		
	No ICU (n = 1,259)	ICU admission (n = 115)	P-value	No ICU (n = 295)	ICU admission (n = 63)	P-value
Male	745 (59.2)	81 (70.4)	0.024	213 (72.7)	50 (79.4)	0.312
Age	67 (57–77)	67 (57–76)	0.785	70 (62–78)	70 (57.5–75.5)	0.284
BMI	22.6 (19.9–25)	22.3 (20.1–25.7)	0.607	20.9 (17.6–23.3)	20.9 (18.8–24.4)	0.237
Nursing home resident	39 (3.1)	3 (2.6)	0.993	20 (6.8)	1 (1.6)	0.195
Pneumonia						
CAP	896 (71.7)	67 (58.8)	0.009	98 (33.3)	26 (41.3)	0.168
HAP	51 (4.1)	9 (7.9)		20 (6.8)	7 (11.1)	
HCAP	302 (24.2)	38 (33.3)		176 (59.9)	30 (47.6)	
Intubation	0 (0)	37 (32.2)	<0.001	1 (0.3)	17 (27.0)	<0.001
Hypertension	363 (28.8)	30 (26.1)	0.606	95 (32.2)	19 (30.2)	0.867
DM	237 (18.8)	26 (22.6)	0.388	51 (17.3)	16 (25.4)	0.187
Chronic lung disease	263 (20.9)	28 (24.3)	0.453	85 (28.8)	15 (23.8)	0.516
Chronic liver disease	45 (3.6)	5 (4.3)	0.870	21 (7.1)	4 (6.3)	1.0
CHF	98 (7.8)	16 (13.9)	0.035	17 (5.8)	9 (14.3)	0.036
CVA	127 (10.1)	16 (13.9)	0.260	30 (10.2)	8 (12.7)	0.714
CKD	127 (10.1)	14 (12.2)	0.586	43 (14.6)	12 (19.0)	0.483
Cancer						
Lung cancer	155 (12.3)	10 (8.7)	0.321	87 (29.5)	22 (34.9)	0.484
Solid cancer	169 (13.4)	15 (13.0)	0.949	78 (26.4)	6 (9.5)	
Lung metastasis	33 (2.6)	2 (1.7)	0.791	20 (6.8)	4 (6.3)	1.0
Hematologic cancer	30 (2.4)	1 (0.9)	0.473	16 (5.4)	8 (12.7)	0.069
Lymphoma	23 (1.8)	3 (2.6)	0.817	10 (3.4)	3 (4.8)	0.875
Confusion	77 (6.1)	15 (13.0)	0.008	39 (13.2)	6 (9.5)	0.552
SBP	127 (111–143)	121 (97.7–146.7)	0.114	120.5 (105–137)	120 (102–140.5)	0.857
DBP	72 (64–83)	67 (58–81.7)	0.005	69 (60–78.2)	70 (56–80.5)	0.727
Heart rate	99 (86–113)	107 (92–126)	<0.001	107 (91–120)	116.5 (103–132)	0.002
Respiratory rate	20 (18–20)	22 (20–24)	<0.001	20 (19–24)	24 (20–29.5)	<0.001
Body temperature	37.5 (36.9–38.3)	37.7 (37.1–38.5)	0.089	37.4 (36.8–38)	37.6 (37–38.1)	0.339
SpO2	96 (94–98)	92 (83.5–95)	<0.001	95 (91–97)	93 (88–97.5)	0.198
Pleural effusion on X-ray	278 (22.1)	36 (31.3)	0.032	117 (39.7)	26 (41.3)	0.924
Laboratory finding						
pH	7.46 (7.43–7.49)	7.44 (7.38–7.48)	<0.001	7.46 (7.42–7.50)	7.45 (7.41–7.50)	0.326
pCO ₂	32.5 (28.7–37.1)	32.3 (28.3–39.5)	0.338	31.4 (27.2–37)	29.9 (24.0–36.3)	0.093
Lactic acid	1.43 (1.11–1.93)	2.43 (1.55–3.66)	<0.001	1.83 (1.36–2.59)	2.85 (1.87–4.36)	<0.001
Procalcitonin	0.21 (0.1–0.66)	0.96 (0.27–7.65)	<0.001	0.4 (0.18–1.3)	1.02 (0.20–7.02)	0.022
C-reactive protein	7.86 (2.98–15.1)	13.38 (4.65–25.1)	<0.001	10.97 (5.36–18.6)	15.2 (9.03–23.7)	0.014
WBC	9.64 (7.09–13.54)	9.62 (5.47–15.33)	0.539	10.21 (6.74–14.8)	9.65 (5.45–15.7)	0.601
Segmented neutrophils	77.4 (69–84.3)	77.5 (67.1–85.7)	0.928	81.9 (71.7–86.9)	80.6 (62.9–86.8)	0.240
ANC	7.42 (5–11.01)	7.01 (3.58–11.9)	0.440	8.40 (5.08–12.14)	7.48 (3.23–12.59)	0.174
Hemoglobin	12.6 (11.2–13.9)	12.7 (11.2–14.4)	0.576	10.9 (9.4–12.35)	10.8 (9.35–12.0)	0.826
Platelet	223 (169–286.5)	200 (151–277)	0.036	228 (134.5–316)	165 (84.5–284)	0.017
BUN	14.5 (10.6–20.7)	20 (13.5–30.2)	<0.001	18.2 (12.4–30.7)	22.6 (15.5–42.3)	0.009
Creatinine	0.83 (0.67–1.06)	1 (0.70–1.63)	0.001	0.86 (0.66–1.32)	1.01 (0.75–2.13)	0.020
Glucose	125 (109–159)	142.5 (120–182)	<0.001	129 (110–161.5)	153.5 (118–211)	0.007
Potassium (K ⁺)	4.2 (3.9–4.5)	4.2 (3.9–4.7)	0.613	4.3 (4–4.8)	4.4 (3.9–4.8)	0.739
PT (INR)	1.09 (1.02–1.18)	1.16 (1.06–1.29)	<0.001	1.15 (1.07–1.3)	1.24 (1.13–1.45)	<0.001
Protein	6.5 (6–7)	6 (5.5–6.6)	<0.001	6.25 (5.6–6.9)	6 (5.32–6.5)	0.046
Albumin	3.8 (3.4–4.2)	3.5 (3–3.9)	<0.001	3.3 (3–3.7)	3.2 (2.9–3.4)	0.022
Bilirubin	0.8 (0.6–1.1)	0.85 (0.6–1.27)	0.219	0.8 (0.6–1.2)	1 (0.7–1.8)	0.004
D-dimer	1.36 (0.68–2.48)	2.16 (1.13–3.93)	<0.001	2.79 (1.40–5.02)	3.06 (1.89–7.08)	0.288

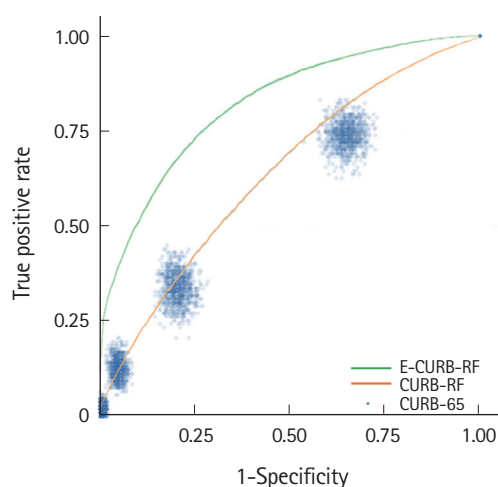
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Appendix 2. Continued

	Alive			Death within 30-day		
	No ICU (n = 1,259)	ICU admission (n = 115)	P-value	No ICU (n = 295)	ICU admission (n = 63)	P-value
TCO2	20.8 (18.7–22.8)	19.3 (16.4–21.4)	0.043	21.3 (18.8–23.8)	17.9 (16.5–20)	< 0.001
NT-pro BNP	984.4 (213.3–3,102)	1,450.5 (296.5–4,390)	0.003	1,794 (776.5–5,757)	2,328 (1316.5–8,713.5)	0.237
CURB-65			< 0.001			< 0.001
0 Score	480 (38.1)	29 (25.2)		81 (27.5)	12 (19.0)	
1 Score	557 (44.2)	35 (30.4)		129 (43.7)	15 (23.8)	
2 Score	186 (14.8)	20 (17.4)		56 (19.0)	20 (31.7)	
3 Score	33 (2.6)	23 (20.0)		25 (8.5)	12 (19.0)	
4 Score	3 (0.2)	7 (6.1)		4 (1.4)	3 (4.8)	
5 Score	0 (0.0)	1 (0.9)		0 (0.0)	1 (1.6)	

Values are presented as number (%) or median (interquartile range).

ICU, intensive care unit; BMI, body mass index; CAP, community-acquired pneumonia; HAP, hospital-acquired pneumonia; HCAP, health care-associated pneumonia; DM, diabetes mellitus; CHF, congestive heart failure; CVA, cerebrovascular accident; CKD, chronic kidney disease; SBP, systolic blood pressure; DBP, diastolic blood pressure; SpO₂, peripheral capillary oxygen saturation; pCO₂, partial pressure of carbon dioxide; WBC, white blood cell; ANC, absolute neutrophil count; BUN, blood urea nitrogen; PT, prothrombin time; INR, international normalized ratio; TCO₂, total carbon dioxide; NT-pro BNP, N-terminal pro b-type natriuretic peptide.



Appendix 3. Comparison of receiver operating characteristics curves among the three models for 30-day mortality.