

Supplementary Material 1

	Arina, et al N=103	Cao, et al N=141	Leoni, Lombardelli, et al N=204	Leoni, Moschini, et al N=201	Moisa, et al N=291
Age (yr)	59.0 (51.0-67.5)	58.0 (51.0-66.0)	57.5 (51.0-67.0)	59.0 (51.0-66.0)	57.0 (50.0-66.0)
Male	66 (64.1%)	102 (72.3%)	134 (65.7%)	132 (65.7%)	195 (67.0%)
Ethnicity					
White	39 (37.9%)	57 (40.4%)	84 (41.2%)	80 (39.8%)	113 (38.8%)
Asian	31 (30.1%)	47 (33.3%)	60 (29.4%)	63 (31.3%)	84 (28.9%)
Black	20 (19.4%)	22 (15.6%)	33 (16.2%)	34 (16.9%)	53 (18.2%)
Other	2 (1.9%)	3 (2.1%)	4 (2.0%)	4 (2.0%)	6 (2.1%)
Not stated	11 (10.7%)	12 (8.5%)	23 (11.3%)	20 (10.0%)	35 (12.0%)
BMI (kg/m ²)	29.4 (26.5-37.3)	30.2 (26.9-35.6)	30.5 (26.9-35.9)	30.4 (27.0-35.9)	29.4 (26.2-35.2)
Obese (BMI>30)	51 (49.5%)	73 (51.8%)	107 (52.5%)	104 (51.7%)	139 (47.8%)
SOFA Score	6.0 (4.0-8.0)	8.0 (6.0-10.0)	6.0 (4.0-9.0)	7.0 (4.0-9.0)	6.0 (3.0-8.0)
mNUTRIC score	4.0 (3.0-5.0)	4.0 (3.0-5.0)	4.0 (2.0-5.0)	4.0 (2.0-5.0)	4.0 (2.0-5.0)
C-reactive protein (mg/L)	117.0 (85.5-185.5)	122.0 (65.0- 192.0)	132.5 (75.2-193.5)	122.0 (71.0-192.0)	121.0 (75.0-189.0)
Lymphocytes (x10 ⁹ /L)	0.70 (0.50-1.00)	0.70 (0.50-0.90)	0.70 (0.50-1.00)	0.70 (0.50-1.00)	0.70 (0.50-0.90)
Neutrophils (x10 ⁹ /L)	7.1 (5.2-9.8)	8.0 (6.0-10.8)	7.9 (5.5-10.4)	7.9 (5.7-10.8)	7.9 (5.6-10.6)
Neutrophil-to- lymphocyte ratio	12.4 (7.6-19.4)	12.4 (7.6-19.4)	12.4 (7.6-19.4)	12.4 (7.6-19.4)	12.4 (7.6-19.4)
Procalcitonin (ng/mL)	0.39 (0.16-1.20)	0.36 (0.14-0.99)	0.28 (0.13-0.83)	0.28 (0.13-0.84)	0.30 (0.14-0.86)
Urea (mmol/L)	8.2 (5.2-11.2)	6.8 (5.1-10.3)	6.6 (4.9-9.8)	6.6 (4.9-9.9)	6.6 (4.9-10.3)
IMV	51 (49.5%)	141 (100.0%)	126 (61.8%)	128 (63.7%)	134 (46.0%)
Died	52 (50.5%)	79 (56.0%)	96 (47.1%)	93 (46.3%)	121 (41.6%)

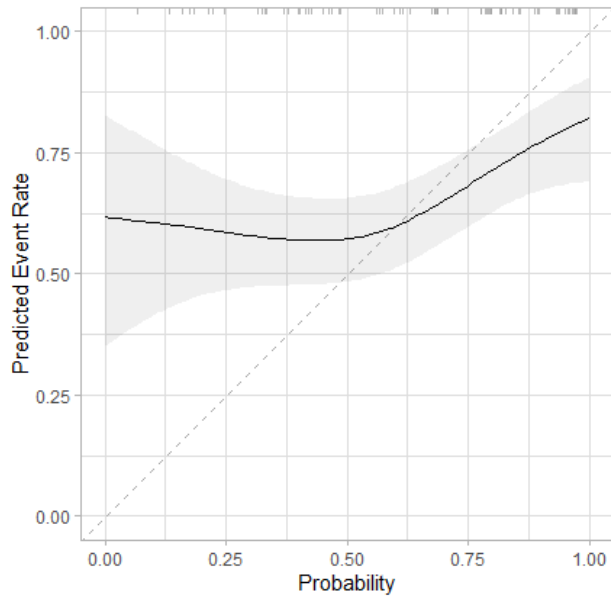
Data reported as N (%) or median (IQR). BMI, body mass index; CRP, C-reactive protein; IMV, invasive mechanical ventilation; mNUTRIC, modified Nutrition Risk in the Critically ill; NLR, neutrophil-to-lymphocyte ratio; SOFA, sequential organ failure assessment.

Supplementary Table 1: Demographics of patients in each validation

	Arina, et al N=27	Cao, et al N=22	Leoni, Lombardelli, et al N=33	Leoni, Moschini, et al N=34	Moisa, et al N=53
Age (yr)	57.0 (49.0-68.0)	53.5 (49.0-60.0)	56.0 (49.0-70.0)	57.0 (50.5-69.5)	57.0 (50.0-70.0)
Male	22 (81.5%)	16 (72.7%)	21 (63.6%)	23 (67.6%)	38 (71.7%)
White	13 (48.1%)	12 (54.5%)	20 (60.6%)	20 (58.8%)	26 (49.1%)
Asian	7 (25.9%)	6 (27.3%)	8 (24.2%)	10 (29.4%)	14 (26.4%)
Black	5 (18.5%)	3 (13.6%)	4 (12.1%)	3 (8.8%)	9 (17.0%)
Other	1 (3.7%)	1 (4.5%)	1 (3.0%)	1 (2.9%)	2 (3.8%)
Not stated	1 (3.7%)	0	0	0	2 (3.8%)
BMI (kg/m ²)	27.8 (25.6-32.5)	28.2 (25.0-33.2)	28.0 (25.3-32.2)	27.9 (25.0-32.7)	27.8 (25.1-32.2)
Obese (BMI>30)	9 (33.3%)	10 (45.5%)	12 (36.4%)	13 (38.2%)	19 (35.8%)
SOFA Score	5.5 (4.0-9.0)	9.0 (4.0-12.0)	6.0 (4.0-9.0)	7.5 (4.0-9.8)	5.0 (3.0-8.0)
mNUTRIC score	4.0 (3.0-5.0)	4.0 (3.0-5.2)	4.0 (3.0-5.5)	4.0 (3.0-6.0)	4.0 (3.0-5.0)
CRP (mg/L)	153.0 (111.5-231.0)	161.5 (99.0-276.5)	154.5 (97.8-234.5)	154.5 (98.2-254.0)	156.0 (103.5-236.0)
Lymphocytes (x10 ⁹ /L)	0.60 (0.50-1.00)	0.55 (0.50-0.78)	0.60 (0.50-1.00)	0.60 (0.42-0.95)	0.70 (0.50-1.00)
Neutrophils (x10 ⁹ /L)	6.9 (5.8-8.9)	7.5 (6.8-10.1)	7.4 (6.0-10.1)	7.5 (5.7-10.1)	7.2 (5.8-9.9)
NLR	12.4 (7.6-19.4)	12.4 (7.6-19.4)	12.4 (7.6-19.4)	12.4 (7.6-19.4)	12.4 (7.6-19.4)
Procalcitonin (ng/mL)	1.20 (0.49-3.00)	1.20 (0.47-2.80)	0.67 (0.31-2.20)	0.67 (0.31-2.80)	0.57 (0.22-1.22)
Urea (mmol/L)	7.4 (5.2-13.7)	7.1 (5.9-15.0)	6.3 (4.2-10.2)	6.7 (4.9-11.4)	6.1 (3.7-11.6)
IMV	13 (48.1%)	22 (100.0%)	21 (63.6%)	20 (58.8%)	22 (41.5%)
Died	15 (55.6%)	12 (54.5%)	18 (54.5%)	18 (52.9%)	26 (49.1%)

Data reported as N (%) or median (IQR). BMI, body mass index; CRP, C-reactive protein; IMV, invasive mechanical ventilation; mNUTRIC, modified Nutrition Risk in the Critically ill; NLR, neutrophil-to-lymphocyte ratio; SOFA, sequential organ failure assessment.

Supplementary Table 2: Demographics of patients in each validation in the pre-dexamethasone cohort



Supplementary Figure 1: Calibration plot of the model from Arina (25). The model shows very poor calibration.