

## Supplement:

### Explanation of Abbreviations

ALT: alanine aminotransferase  
 ARDS: acute respiratory distress syndrome  
 BP: blood pressure  
 BUN: blood urea nitrogen  
 CRP: C-reactive protein  
 ECMO: extracorporeal membrane oxygenation  
 eGFR: effective glomerular flow rate  
 FiO<sub>2</sub>: fraction of inspired oxygen  
 GCS: Glasgow coma score  
 ICU: intensive care unit  
 LDH: lactate dehydrogenase  
 PaO<sub>2</sub>: partial pressure of oxygen  
 RDW: erythrocyte distribution width  
 SPO<sub>2</sub>: oxygen saturation

### Supplementary Table A: Search Terms Utilized To Identify Prognostic Models.

	Terms Used
1	COVID-19 & predict & (clinical    severe    survival    mortality    outcome    deterioration    risk    progression)
2	COVID-19 & patient & (model    score    nomogram    tool    index)

### Supplementary Table B: Reported Model Performances in Training and Validation for Each Study.

Author	Study Training Performance	Study Validation Performance
Jiao Gong et al.[7]	AUROC = .91	Cohort 1: AUROC = .85 Cohort 2: AUROC = .75
Ying Zhou et al.[8]	AUROC = .89	AUROC = .88
Handong Zou et al.[9]	AUROC = .88	

Jianfeng Xie et al.[5]	AUROC = .88	AUROC = .98
Li Yan et al.[6]	AUROC = .95	Avg F1 = .97
Todd J. Levy et al.[10]	AUROC = .83	Cross Validation
Huayu Zhang et al.[12]	Task 1 AUROC = .91	Task 1 AUROC = .74
	Task 2 AUROC = .88	Task 2 AUROC = .72
Yabing Guo et al.[13]	AUROC = .86	AUROC = .78
Chuanyu Hu et al.[14]	AUROC = .90	AUROC = .88
Ewan Carr et al.[11]	AUROC = .75	AUROC = .73

## Supplementary Table C: Summary of Cohort Profiles

Author	Cohort	Age (years)	Female Sex (%)	Met Outcome (%)	Location of Population
Jiao Gong et al.	Training	49 <sup>^</sup>	53	15	Guangdong, China
Jiao Gong et al.	External Test 1	52 <sup>^</sup>	56	24	Wuhan, China
Jiao Gong et al.	External Test 2	41.5 <sup>^</sup>	50	22	Guangdong, China
Ying Zhou et al.	Training and Testing	55.6 <sup>#</sup>	52.8	42.2	Wuhan, China
Handong Zou et al.	Training and Testing	57 <sup>#</sup>	51	not stated	Wuhan, China
Jianfeng Xie et al.	Training	62.7 <sup>#</sup>	51.8	51.8	Wuhan, China
Jianfeng Xie et al.	External Test	56.5 <sup>#</sup>	0.3	47.6	Wuhan, China
Li Yan et al.	Training and Testing	58.8 <sup>#</sup>	40.3	46.4	Wuhan, China
Todd J. Levy et al.	Training and Cross-Validation	61-80 <sup>^</sup>	41.6	22.6	New York, USA
Huayu Zhang et al.	Training	61 <sup>#</sup>	51.1	4.3 (task 1), 9.7 (task 2)	Wuhan, China
Huayu Zhang et al.	External Test	74 <sup>#</sup>	45.1	34.1 (task 1), 42.9 (task 2)	London, UK
Yabing Guo et al.	Training	42 <sup>#</sup>	51.6	7.9	Guangdong, China
Yabing Guo et al.	External Test	56 <sup>#</sup>	50	12.1	Hubei, China
Chuanyu Hu et al.	Training	63.5 <sup>#</sup>	0.4	37.2	Wuhan, China
Chuanyu Hu et al.	External Test	not stated	not stated	48.4	Wuhan, China
Ewan Carr et al.	Training	67 <sup>#</sup>	45.1	35.2	London, UK
Ewan Carr et al.	External Test	67.9 <sup>#</sup>	46.5	23	London, UK

NYU Validation	61.4 <sup>#</sup>	42.2	21.0 (ICU), 22.8 (mortality)	New York, USA
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<sup>^</sup> = Mean value

<sup>#</sup> = Median value