Supplementary material
Table S1: Scoring systems of Early Warning Scores.

National Early Warning Score 2 (NEWS2)

Physiologic Parameters	3	2	1	0	1	2	3
Respiratory Rate	<8		9-11	12-20		21-24	≥25
SpO$_2$ Scale (%)	≤83	84-85	86-87	88-92 on oxygen ≥93 on air	93-94 on oxygen	95-96 on oxygen	≥97 on oxygen
Air or oxygen		Oxygen		Air			
Systolic Blood Pressure	≤90	91-100	101-110	111-219			≥220
Heart Rate	≤40		41-50	51-90	91-110	111-130	≥131
Consciousness				Alert			CVPU
Temperature	≤35.0		35.1-36.0	36.1-38.0	38.1-39.0	≥39.1	

Modified NEWS proposed by Liao et al. (NEWS-C)

Physiologic Parameters	3	2	1	0	1	2	3
Age				<65			≥65
Respiratory Rate	<8		9-11	12-20		21-24	≥25
SpO$_2$ Scale (%)	≤91	92-93	94-95	≥96			
Air or oxygen?		Oxygen		Air			
Systolic Blood Pressure	≤90	91-100	101-110	111-219			≥220
Heart Rate	≤40		41-50	51-90	91-110	111-130	≥131
Consciousness				Alert			CVPU
Temperature	≤35.0		35.1-36.0	36.1-38.0	38.1-39.0	≥39.1	

COVID-19 Severity Index

Physiologic Parameters	3	2	1	0	1	2	3
Age				<65			≥65
Male sex			Yes	No	Yes		
Heart failure			Yes	No	Yes		
COPD			Yes	No	Yes		
Diabetes with organ damage			Yes	No	Yes		
Chest X-ray			Bilateral infiltrates	Without bilateral infiltrates	Bilateral infiltrates		
Respiratory Rate	<8		9-11	12-20		21-24	≥25

SpO$_2$ Scale (%)	≤91	92-93	94-95	≥96			
Air or oxygen?	Oxygen			Air			Oxygen
Systolic Blood Pressure	≤90	91-100	101-110	111-219			≥220
Heart Rate	≤40		41-50	51-90	91-110	111-130	≥131
Consciousness				Alert			CVPU
Temperature	≤35.0		35.1-36.0	36.1-38.0	38.1-39.0	≥39.1	
Dyspnea		Yes		No		Yes	
D-Dimer (ng/ml)				≤1000	>1000		
Lymphocytes per mm^3		≤500	<1000	≥1000			
Platelets per mm^3			<100000	≥100000			

The Early Warning Scores were calculated by adding the individual assigned points together. A = alert; CVPU: new Confusion, Voice, Pain, Unresponsive; COPD: Chronic obstructive pulmonary disease.

Note:
- New confusion: A patient may be alert but confused or disoriented. It is not always possible to determine whether the confusion is "new" when a patient presents acutely ill. Such a presentation should always be considered to be "new" until confirmed to be otherwise. New-onset or worsening confusion, delirium or any other altered mentation should always prompt concern about potentially serious underlying causes and warrants urgent clinical evaluation.
- Voice: The patient makes some kind of response when you talk to them, which could be in any of the three component measures of eyes, voice or motor -- eg patient's eyes open on being asked "Are you okay?". The response could be as little as a grunt, moan, or slight movement of a limb when prompted by voice.
- Pain: The patient makes a response to a pain stimulus. A patient who is not alert and who has not responded to voice (hence having the test performed on them) is likely to exhibit only withdrawal from pain, or even involuntary flexion or extension of the limbs from the pain stimulus. The person undertaking the assessment should always exercise care and be suitably trained when using a pain stimulus as a method of assessing levels of consciousness.
- Unresponsive: This is also commonly referred to as "unconscious". This outcome is recorded if the patient does not give any eye, voice or motor response to voice or pain.

Table S2: Sensibility, specificity, likelihood ratios of the three scores

NEWS2	Proportion of classified patients	Sensitivity	Specificity	LR+	LR-
0	32.19%	100.00%	0.00%	1.00	
1	62.19%	80.00%	33.47%	1.20	0.60
2	80.41%	64.80%	65.02%	1.85	0.54
3	91.50%	48.00%	83.39%	2.89	0.62
4	96.36%	29.60%	93.71%	4.70	0.75
5	98.56%	14.40%	97.48%	5.72	0.88
6	99.77%	5.60%	98.99%	5.56	0.95
≥7	100%	0.80%	99.83%	4.77	0.99
NEWS-C					
0	22.02%	100.00%	0.00%	1.00	
1	49.58%	92.80%	23.57%	1.21	0.31
2	72.97%	73.60%	52.01%	1.53	0.51
3	86.64%	55.20%	75.92%	2.29	0.59
4	93.85%	39.20%	89.35%	3.68	0.68
5	97.42%	24.80%	95.81%	5.91	0.78
6	99.24%	8.80%	98.07%	4.56	0.93
≥7	100%	3.20%	99.50%	6.36	0.97
COVID-19 Severity Index					
0	0.53%	100.00%	0.00%	1.00	
1	14.64%	99.21%	0.50%	1.00	1.58
2	31.79%	97.62%	15.94%	1.16	0.15
3	46.05%	95.24%	34.65%	1.46	0.14
4	63.58%	84.92%	49.33%	1.68	0.31
5	75.49%	69.05%	67.03%	2.09	0.46
6	84.45%	56.35%	78.86%	2.67	0.55
7	90.36%	45.24%	87.58%	3.64	0.63
8	94.08%	34.92%	93.04%	5.02	0.70
9	96.66%	23.81%	95.97%	5.91	0.79

10	98.25%	14.29%	97.82%	6.55	0.88
11	99.39%	10.32%	99.16%	12.30	0.90
≥12	100%	3.97%	99.75%	15.77	0.96

LR: Likelihood ratio.