Appendix 2: Supplementary Tables

Supplementary Table 1: Screening tool study characteristics (n=57).

Title	First author	Year	Study location	Study setting income level	Study setting	Age group	No. tool inputs	Has the tool been proposed or implemented?
Preparing for emerging respiratory pathogens such as SARS-CoV, MERS-CoV, and SARS-CoV-2(1)	Al-Tawfiq	2020	Dhahran, Saudi Arabia	High-income	Not specified	All ages	7	Proposed
Correlation Between the COVID-19 Respiratory Triage Score and SARS-COV-2 PCR Test(2)	Aldobyany	2020	Makkah, Saudi Arabia	High-income	Not specified	Not specified	14	Implemented
Guidance for building a dedicated health facility to contain the spread of the 2019 novel coronavirus outbreak(3)	Argawal	2020	Pune, India	Lower-middle-income	Not specified	Not specified	4	Proposed
Rapid response infrastructure for pandemic preparedness in a tertiary care hospital: lessons learned from the COVID-19 outbreak in Cologne, Germany, February to March 2020(4)	Augustin	2020	Cologne, Germany	High-income	Not specified	Not specified	3	Implemented
Adoption of COVID-19 triage strategies for low-income settings(5)	Ayebare	2020	Uganda	Low-income	Outpatient / general practitioner	Not specified	6	Proposed
Development, evaluation, and validation of machine learning models for COVID-19 detection based on routine blood tests(6)	Cabitza	2021	Italy	High-income	Hospital	Not specified	23	Proposed
Hospital Emergency Management Plan During the COVID-19 Epidemic(7)	Cao	2020	Chengdu, China	Upper-middle-income	Hospital	Not specified	3	Implemented
Hospital surge capacity in a tertiary emergency referral centre during the COVID-19 outbreak in Italy(8)	Carenzo	2020	Milan, Italy	High-income	Hospital	Not specified	4	Implemented
Standard Operating Procedure for Triage of suspected COVID-19 patients in non-US Healthcare settings(9)	Centers for Disease Control and Prevention	2020	United States	High-income	Not specified	Not specified	4	Proposed

Enhancing the triage and cohort of patients in public primary care clinics in response to the coronavirus disease 2019 (COVID-19) in Hong Kong: an experience from a hospital cluster(10)	Chan	2020	Hong Kong, China	Upper-middle-income	Outpatient / general practitioner	Not specified	3	Implemented
Infection control measures of a Taiwanese hospital to confront the COVID-19 pandemic(11)	Chang	2020	Kaohsiun, Taiwan	High-income	Hospital	Not specified	3	Implemented
Fangcang shelter hospitals: a novel concept for responding to public health emergencies(12)	Chen	2020	Wuhan, China	Upper-middle-income	Hospital	Not specified		Implemented
Escalating infection control response to the rapidly evolving epidemiology of the coronavirus disease 2019 (COVID-19) due to SARS-CoV-2 in Hong Kong(13)	Cheng	2020	Hong Kong, China	Upper-middle-income	Not specified	Not specified	4	Implemented
Onsite telemedicine strategy for coronavirus (COVID-19) screening to limit exposure in ED(14)	Chou	2020	Texas, United States	High-income	Hospital-based emergency care	Not specified	3	Implemented
Mobilization and Preparation of a Large Urban Academic Center During the COVID-19 Pandemic(15)	Chowdhury	2020	Pennsylvania, United States	High-income	Hospital	Not specified	13	Implemented
Revised Triage and Surveillance Protocols for Temporary Emergency Department Closures in Tertiary Hospitals as a Response to COVID-19 Crisis in Daegu Metropolitan City(16)	Chung	2020	Daegu, Korea	High-income	Hospital-based emergency care	Not specified	7	Proposed
Infection control practices in children during COVID-19 pandemic: differences from adults(17)	Devrim	2020	Izmir, Turkey	Upper-middle-income	Not specified	Paediatric	4	Implemented
Calculated Decisions: Brescia-COVID Respiratory Severity Scale (BCRSS)/Algorithm(18)	Duca	2020	United States	High-income	Hospital-based emergency care	Not specified	1	Implemented
Triage decision-making at the time of COVID-19 infection: the Piacenza strategy(19)	Erika	2020	Piacenza, Italy	High-income	Hospital-based emergency care	Not specified	4	Implemented
Lung Ultrasound vs. Chest X-Ray Study for the Radiographic Diagnosis of COVID-19 Pneumonia in a High-Prevalence Population.(20)	Gibbons	2021	United States	High-income	Not specified	Not specified	7	Proposed
Immersion in an emergency department triage center during the Covid-19 outbreak: first report of the Liège University hospital experience(21)	Gilbert	2020	Liège, Belgium	High-income	Hospital-based emergency care	Not specified	5	Implemented

An effective screening and management process in the outpatient clinic for patients requiring hospitalization during the COVID-19 pandemic(22)	Guo	2020	Beijing, China	Upper-middle-income	Outpatient / general practitioner	Not specified	4	Proposed
How to transform a general hospital into an "infectious disease hospital" during the epidemic of COVID-19(23)	He	2020	China	Upper-middle-income	Hospital	Not specified	2	Implemented
Screening and triage at health-care facilities in Timor-Leste during the COVID-19 pandemic(24)	Howitt	2020	Timor-Leste	Lower-middle income	Not specified	Not specified	2	Implemented
Application and effects of fever screening system in the prevention of nosocomial infection in the only designated hospital of coronavirus disease 2019 (COVID-19) in Shenzhen, China(25)	Huang	2020	Shenzhen, China	Upper-middle-income	Hospital	Not specified	5	Implemented
The role of emergency medical services in containing COVID-19(26)	Jaffe	2020	Israel	High-income	Prehospital emergency care	Not specified	2	Implemented
An algorithmic approach to diagnosis and treatment of coronavirus disease 2019 (COVID-19) in children: Iranian expert's consensus statement(27)	Karimi	2020	Tehran, Iran	Upper-middle-income	Not specified	Paediatric	9	Proposed
2019-nCoV: The Identify-Isolate-Inform (3I) Tool Applied to a Novel Emerging Coronavirus(28)	Koenig	2020	United states	High-income	Not specified	Not specified	3	Proposed
Diagnosis and clinical management of severe acute respiratory syndrome Coronavirus 2 (SARS-CoV-2) infection: an operational recommendation of Peking Union Medical College Hospital (V2.0): Working Group of 2019 Novel Coronavirus, Peking Union Medical College Hospital(29)	Li	2020	Beijing, China	Upper-middle-income	Not specified	Not specified	1	Proposed
A Double Triage and Telemedicine Protocol to Optimize Infection Control in an Emergency Department in Taiwan During the COVID-19 Pandemic: Retrospective Feasibility Study(30)	Lin	2020	Taipei, Taiwan	High-income	Hospital	Adult	3	Implemented
Optimizing screening strategies for coronavirus disease 2019: A study from Middle China(31)	Liu	2020	Changsa, China	Upper-middle-income	Not specified	Not specified	3	Proposed

A COVID-19 Risk Assessment Decision Support System for General Practitioners: Design and Development Study(32)	Liu	2020	Hangzhou, China	Upper-middle-income	Outpatient / general practitioner	Not specified	36	Proposed
Reorganization of a large academic hospital to face COVID-19 outbreak: The model of Parma, Emilia-Romagna region, Italy(30)	Meschi	2020	Parma, ltaly	High-income	Hospital-based emergency care	Not specified	3	Implemented
How emergency departments prepare for virus disease outbreaks like COVID-19(31)	Möckel	2020	Germany	High-income	Hospital-based emergency care	Not specified	3	Implemented
Clinical Triaging in Cough Clinic Alleviates COVID-19 Overload in Emergency Department in India.(32)	Nayan	2020	West Bengal, India	Lower-middle-income	Hospital	Not specified	8	Implemented
A Pediatric Emergency Department Protocol to Avoid Interhospital Spread of SARS-CoV-2 during the Outbreak in Bergamo, Italy(33)	Nicastro	2020	Bergamo, Italy	High-income	Hospital	Paediatric	3	Implemented
The ultrasound guided triage: a new tool for prehospital management of COVID-19 pandemic(34)	Piliego	2020	Italy	High-income	Not specified	Not specified	7	Proposed
Screening and managing of suspected or confirmed novel coronavirus (COVID-19) patients: experiences from a tertiary hospital outside Hubei province(35)	Pu	2020	Chengdu, China	Upper-middle-income	Hospital	Not specified	2	Implemented
Reorganising the emergency department to manage the COVID-19 outbreak(36)	Quah	2020	Singapore	High-income	Hospital-based emergency care	Not specified	7	Implemented
Diagnostic accuracy of symptoms as a diagnostic tool for SARS-CoV 2 infection: a cross-sectional study in a cohort of 2,173 patients.(37)	Romero-Gameros	2021	Mexico City, Mexico	Upper-middle-income	Hospital-based emergency care	Not specified	11	Proposed
Can You Catch It? Lessons Learned and Modification of ED Triage Symptom- and Travel-Screening Strategy(38)	Schwedhelm	2020	Nebraska, United States	High-income	Hospital-based emergency care	Not specified	4	Implemented
Emergency Responses to Covid-19 Outbreak: Experiences and Lessons from a General Hospital in Nanjing, China(39)	Shen	2020	Nanjing, China	Upper-middle-income	Hospital	Not specified	5	Implemented
A quickly, effectively screening process of novel corona virus disease 2019 (COVID-19) in children in Shanghai, China(40)	Shi	2020	Shanghai, China	Upper-middle-income	Hospital	Paediatric	3	Implemented
The response of Milan's Emergency Medical System to the COVID-19 outbreak in Italy(41)	Spina	2020	Milan, Italy	High-income	Prehospital emergency care	Not specified	2	Implemented
Reducing hospital admissions for COVID-19 at a dedicated screening centre in Singapore(42)	Tan	2020	Singapore	High-income	Hospital	Not specified	3	Implemented

The role of triage in the prevention and control of COVID-19(43)	Wang	2020	Xi'an, China	Upper-middle-income	Hospital	Not specified	7	Implemented
Providing uninterrupted care during COVID-19 pandemic: experience from Beijing Tiantan Hospital(44)	Wang	2020	Beijing, China	Upper-middle-income	Hospital	Not specified	4	Implemented
Containing COVID-19 in the Emergency Department: The Role of Improved Case Detection and Segregation of Suspect Cases(45)	Wee	2020	Singapore	High-income	Hospital-based emergency care	All ages	2	Implemented
Redesigning emergency department operations amidst a viral pandemic(46)	Whiteside	2020	United States	High-income	Hospital-based emergency care	Not specified	3	Proposed
Clinical Management of COVID-19 Interim Guidance(47)	World Health Organization	2020	Not applicable	Not applicable	Not specified	All ages	4	Proposed
Strategies for qualified triage stations and fever clinics during the outbreak of COVID-2019 in the county hospitals of Western Chongqing(48)	Wu	2020	Western Chongqing, China	Upper-middle-income	Outpatient / general practitioner	Not specified	17	Implemented
Therapeutic and triage strategies for 2019 novel coronavirus disease in fever clinics(49)	Zhang	2020	Wuhan, China	Upper-middle-income	Outpatient / general practitioner	Not specified	10	Implemented
Analysis and suggestions for the preview and triage screening of children with suspected COVID-19 outside the epidemic area of Hubei Province(50)	Zhang	2020	Chongqing, China	Upper-middle-income	Outpatient / general practitioner	Paediatric	5	Implemented
COVID19: A Systematic Approach to Early Identification and Healthcare Worker Protection(51)	Zhao	2020	Shanghai, China	Upper-middle-income	Not specified	Not specified	4	Proposed
Primary stratification and identification of suspected Corona virus disease 2019 (COVID-19) from clinical perspective by a simple scoring proposal(52)	Zhou	2020	Gansu, China	Upper-middle-income	Not specified	Not specified	10	Proposed
Proposed Clinical Indicators for Efficient Screening and Testing for COVID-19 Infection from Classification and Regression Trees (CART) Analysis(53)	Zimmerman	2020	Pennsylvania, United States	High-income	Outpatient / general practitioner	Not specified	5	Proposed
Application of Critical Care Ultrasound in Patients With COVID-19: Our Experience and Perspective.(54)	Zou	2020	Chengdu, China	Upper-middle-income	Not specified	Not specified	7	Proposed

Supplementary Table 2: Triage tool study characteristics (n=23).

Title	First author	Year	Study location	Study setting income level	Study setting	Age group	No. tool inputs	Has the tool been proposed or implemented?
Point-of-Care Ultrasound in the Evaluation of COVID-19.(55)	Abrams	2020	United States	High-income	Hospital	Not specified	1	Proposed
Emergency Department COVID-19 Severity Classification(56)	American College of Emergency Physicians	2020	United States	High-income	Not specified	Adults	41	Proposed
Fangcang shelter hospitals: a novel concept for responding to public health emergencies(12)	Chen	2020	Wuhan, China	Upper-middle-income	Hospital	Not specified	12	Implemented
Mobilization and Preparation of a Large Urban Academic Center During the COVID-19 Pandemic(15)	Chowdhury	2020	Pennsylvania, United States	High-income	Hospital	Not specified	16	Implemented
Revised Triage and Surveillance Protocols for Temporary Emergency Department Closures in Tertiary Hospitals as a Response to COVID-19 Crisis in Daegu Metropolitan City(16)	Chung	2020	Daegu, Korea	High-income	Hospital-based emergency care	Not specified	8	Proposed
Early prediction of the risk of severe coronavirus disease 2019: A key step in therapeutic decision making(57)	Côté	2020	Quebec, Canada	High-income	Not specified	Not specified	21	Proposed
Infection control practices in children during COVID-19 pandemic: differences from adults(17)	Devrim	2020	Izmir, Turkey	Upper-middle-income	Not specified	Paediatric	5	Implemented
Using Lung Point-of-care Ultrasound in Suspected COVID-19: Case Series and Proposed Triage Algorithm.(58)	Duggan	2020	United States	High-income	Not specified	Not specified	1	Proposed
Simple, fast and affordable triaging pathway for COVID-19.(59)	Eggleton	2020	United Kingdom	High-income	Not specified	Not specified	1	Proposed
How is COVID-19 affecting South Korea? What is our current strategy?(60)	Her	2020	South Korea	High-income	Not specified	Not specified	2	Implemented
Screening and triage at health-care facilities in Timor-Leste during the COVID-19 pandemic(24)	Howitt	2020	Timor-Leste	Lower-middle income	Not specified	Not specified	4	Implemented

An algorithmic approach to diagnosis and treatment of coronavirus disease 2019 (COVID-19) in children: Iranian expert's consensus statement(27)	Karimi	2020	Tehran, Iran	Upper-middle-income	Not specified	Paediatric	15	Proposed
Diagnosis and clinical management of severe acute respiratory syndrome Coronavirus 2 (SARS-CoV-2) infection: an operational recommendation of Peking Union Medical College Hospital (V2.0): Working Group of 2019 Novel Coronavirus, Peking Union Medical College Hospital(29)	Li	2020	Beijing, China	Upper-middle-income	Hospital	Not specified	11	Proposed
A Double Triage and Telemedicine Protocol to Optimize Infection Control in an Emergency Department in Taiwan During the COVID-19 Pandemic: Retrospective Feasibility Study(30)	Lin	2020	Taipei, Taiwan	High-income	Hospital	Adult	8	Implemented
CLUE: COVID-19 lung ultrasound in emergency department(61)	Manivel	2020	Sydney, Australia	High-income	Hospital-based emergency care	Not specified	1	Proposed
Proposed Modifications in the 6-minutue Walk Test for Potential Application in Patients with mild Coronavirus Disease 2019 (COVID-19): A Step to Optimize Triage Guidelines(62)	Mantha	2020	India	Lower-middle income	Not specified	Not specified	6	Proposed
Reorganization of a large academic hospital to face COVID-19 outbreak: The model of Parma, Emilia-Romagna region, Italy(30)	Meschi	2020	Parma, Italy	High-income	Hospital-based emergency care	Not specified	8	Implemented
A Dynamic Bayesian Model for Identifying High-Mortality Risk in Hospitalized COVID-19 Patients.(63)	Momeni-Boroujeni	2021	New York, United States	High-income	Hospital	Not specified	11	Proposed
The ultrasound guided triage: a new tool for prehospital management of COVID-19 pandemic(34)	Piliego	2020	Italy	High-income	Not specified	Not specified	9	Proposed
Pattern recognition of high-resolution computer tomography (HRCT) chest to guide clinical management in patients with mild to moderate COVID-19.(64)	Rajalingam	2021	South Tamilnadu, India	Lower-middle-income	Outpatient/ general practitioner	Not specified	1	Proposed
COVID-19 Outpatient Screening: A Prediction Score for Adverse Events(65)	Sun	2020	Massachusetts, United States	High-income	Outpatient / general practitioner	Adult	20	Proposed

Lower mortality of COVID-19 by early recognition and intervention: experience from Jiangsu Province(66)	Sun	2020	Nanjing, China	Upper-middle-income	Not specified	Not specified	6	Implemented
Clinical Management of COVID-19 Interim Guidance(45)	World Health Organization	2020	Not applicable	Not applicable	Not specified	All ages	18	Proposed

Supplementary Table 3: Severity scoring / prognostication tool study characteristics (n=54).

Title	First author	Year	Study location	Study setting income level	Study setting	Age group	No. tool inputs	Has the tool been proposed or implemented?
Isaric 4c Mortality Score As A Predictor Of In-Hospital Mortality In Covid-19 Patients Admitted In Ayub Teaching Hospital During First Wave Of The Pandemic.(67)	Ali	2021	Abbottabad, Pakistan	Lower-middle-income	Hospital	Not specified	8	Proposed
Development and validation of a prediction model for severe respiratory failure in hospitalized patients with SARS-Cov-2 infection: a multicenter cohort study (PREDI-CO study) (68)	Bartoletti	2020	Bologna, Italy	High-income	Hospital	Not specified	8	Proposed
Lung ultrasonography for risk stratification in patients with COVID-19: a prospective observational cohort study(69)	Brahier	2020	Switzerland	High-income	Hospital	Not specified	1	Proposed
Prediction of severe illness due to COVID-19 based on an analysis of initial fibrinogen to albumin ratio and platelet count(70)	Bi	2020	Taizhou, China	Upper-middle-income	Hospital	Not specified	2	Proposed
Chest X-ray in new Coronavirus Disease 2019 (COVID-19) infection: findings and correlation with clinical outcome(71)	Cozzi	2020	Florence, Italy	High-income	Hospital	Not specified	1	Proposed
Predicting CoVID-19 community mortality risk using machine learning and development of an online prognostic tool.(72)	Das	2020	South Korea	High-income	Not specified	Not specified	3	Proposed
A novel simple scoring model for predicting severity of patients with SARS-CoV-2 infection(73)	Dong	2020	Wuhan, China	Upper-middle-income	Hospital	Not specified	3	Proposed
Correlation between the variables collected at admission and progression to severe cases during hospitalization among patients with COVID-19 in Chongqing(74)	Duan	2020	Chongqing, China	Upper-middle-income	Not specified	Not specified	3	Proposed
A multipurpose machine learning approach to predict COVID-19 negative prognosis in São Paulo, Brazil(75)	Fernandes	2021	São Paulo, Brazil	High-income	Upper-middle-income	Not specified	5	Proposed

The utility of established prognostic scores in COVID-19 hospital admissions: a multicentre prospective evaluation of CURB-65, NEWS2, and qSOFA(76)	Frost	2020	Liverpool, England	High-income	Hospital	Not specified	2	Proposed
A clinical risk score to identify patients with COVID-19 at high risk of critical care admission or death: An observational cohort study(77)	Galloway	2020	London, United Kingdom	High-income	Hospital	Not specified	10	Proposed
Prognostic Accuracy of the SIRS, qSOFA, and NEWS for Early Detection of Clinical Deterioration in SARS-CoV-2 Infected Patients(78)	Geol Jang	2020	Daegu, Korea	High-income	Not specified	Not specified	3	Proposed
Predictive value of National Early Warning Score 2 (NEWS2) for intensive care unit admission in patients with SARS-CoV-2 infection(79)	Gidari	2020	Perugia, Italy	High-income	Hospital	Not specified	1	Proposed
A Tool for Early Prediction of Severe Coronavirus Disease 2019 (COVID-19): A Multicenter Study Using the Risk Nomogram in Wuhan and Guangdong, China(80)	Gong	2020	Guangzhou, China	Upper-middle-income	Hospital	Not specified	7	Proposed
Development and validation of a prognostic model based on comorbidities to predict COVID-19 severity: a population-based study(81)	Gude-Sampedro	2021	Galicia, Spain	High-income	Not specified	Not specified	10	Proposed
Evaluation of the clinical profile, laboratory parameters and outcome of two hundred COVID-19 patients from a tertiary centre in India(82)	Gupta	2020	India	Lower-middle-income	Not specified	Not specified	12	Proposed
Development and validation of the quick COVID-19 severity index (qCSI): a prognostic tool for early clinical decompensation(83)	Haimovich	2020	Connecticut, United States	High-income	Not specified	Not specified	3	Proposed
Predictive Value of 5 Early Warning Scores for Critical COVID-19 Patients(84)	Hu	2020	Wuhan, China	Upper-middle-income	Hospital-based emergency care	Not specified	5	Proposed
COVID-19 Severity Index: predictive score for hospitalized patients(85)	Huespe	2020	Buenos Aires, Argentina	Upper-middle-income	Hospital	Not specified	16	Proposed

COVID-19: Symptoms, course of illness and use of clinical scoring systems for the first 42 patients admitted to a Norwegian local hospital(86)	Ihle-Hansen	2020	Viken county, Norway	High-income	Hospital	Not specified	1	Proposed
Clinical Characteristics and Prognostic Factors for Intensive Care Unit Admission of Patients With COVID-19: Retrospective Study Using Machine Learning and Natural Language Processing(87)	Izquierdo	2020	Castilla-La Mancha, Spain	High-income	Not specified	Not specified	3	Proposed
Development and validation of a model for individualized prediction of hospitalization risk in 4,536 patients with COVID-19(88)	Jehi	2020	Guangzhou, China	Upper-middle-income	Not specified	Not specified	8	Proposed
The association of chest radiographic findings and severity scoring with clinical outcomes in patients with COVID-19 presenting to the emergency department of a tertiary care hospital in Pakistan(89)	Kaleemi	2021	Pakistan	Lower-middle-income	Adult	Hospital-based emergency care	1	Proposed
The performance of the National Early Warning Score and National Early Warning Score 2 in hospitalised patients infected by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).(90)	Kostakis	2020	United Kingdome	High-income	Hospital	Not specified	1	Proposed
Clinical Frailty Scale for risk stratification in patients with SARS-CoV-2 infection(91)	Labenz	2020	Mainz, Germany	High-income	Hospital	Not specified	1	Proposed
Triage tool for suspected COVID-19 patients in the emergency room: AIFELL score(92)	Levenfus	2020	Zurich, Switzerland	High-income	Hospital	Not specified	6	Proposed
A simple algorithm helps early identification of SARS-CoV-2 infection patients with severe progression tendency(93)	Li	2020	Shanghai, China	Upper-middle-income	Not specified	Not specified	3	Proposed
Development and Validation of a Clinical Risk Score to Predict the Occurrence of Critical Illness in Hospitalized Patients With COVID-19(94)	Liang	2020	Guangzhou, China	Upper-middle-income	Not specified	Not specified	10	Proposed
Early triage of critically ill COVID-19 patients using deep learning(95)	Liang	2020	Guangzhou, China	Upper-middle-income	Not specified	Not specified	10	Proposed

Development and validation of a risk stratification model for screening suspected cases of COVID-19 in China(96)	Ma	2020	Wuhan, China	Upper-middle-income	Not specified	Not specified	23	Proposed
National Early Warning Score 2 (NEWS2) on admission predicts severe disease and in-hospital mortality from Covid-19 - a prospective cohort study(97)	Myrstad	2020	Oslo, Norway	High-income	Hospital	Not specified	1	Proposed
A score combining early detection of cytokines accurately predicts COVID-19 severity and intensive care unit transfer(98)	Nagant	2020	Brussels, Belgium	High-income	Hospital	Not specified	3	Proposed
A nomogram to predict the risk of unfavourable outcome in COVID-19: a retrospective cohort of 279 hospitalized patients in Paris area(99)	Nguyen	2020	Paris, France	High-income	Hospital	Not specified	7	Proposed
Automated EHR score to predict COVID-19 outcomes at US Department of Veterans Affairs(100)	Osborne	2020	California, United States	High-income	Not specified	Adult	25	Proposed
NEWS can predict deterioration of patients with COVID-19(101)	Peng	2020	Huazhong, China	Upper-middle-income	Not specified	Not specified	2	Proposed
Examining the utility of extended laboratory panel testing in the emergency department for risk stratification of patients with COVID-19: a single-centre retrospective service evaluation(102)	Ponsford	2021	Cardiff, United Kingdom	High-income	Hospital	Adult	8	Proposed
Association between Clinical Frailty Scale score and hospital mortality in adult patients with COVID-19 (COMET): an international, multicentre, retrospective, observational cohort study(103)	Sablerolles	2021	Europe	High-income	Hospital	Adult	1	Proposed
Performance of pneumonia severity index and CURB-65 in predicting 30-day mortality in patients with COVID-19(104)	Satici	2020	Istanbul, Turkey	Upper-middle-income	Hospital	Not specified	2	Proposed
Model-based Prediction of Critical Illness in Hospitalized Patients with COVID-19(105)	Schalekamp	2020	Amersfoort, The Netherlands	High-income	Not specified	Not specified	7	Proposed

Scoring systems for predicting mortality for severe patients with COVID-19(106)	Shang	2020	Wuhan, China	Upper-middle-income	Hospital	Not specified	5	Proposed
Evaluating a Widely Implemented Proprietary Deterioration Index Model Among Hospitalized COVID-19 Patients(107)	Singh	2020	Michigan, United States	High-income	Not specified	Not specified	1	Proposed
Development and validation of a simple risk score for diagnosing COVID-19 in the emergency room(108)	Sung	2020	Maryland, United States	High-income	Hospital	Not specified	10	Proposed
Prediction of Sepsis in COVID-19 Using Laboratory Indicators(109)	Tang	2021	Tongji, China	Upper-middle-income	Not specified	Not specified	7	Proposed
Development of a data-driven COVID-19 prognostication tool to inform triage and step-down care for hospitalised patients in Hong Kong: A population based cohort study(110)	Tsui	2020	Hong Kong, China	Upper-middle-income	Hospital	Not specified	7	Proposed
Personalized predictive models for symptomatic COVID-19 patients using basic preconditions: Hospitalizations, mortality, and the need for an ICU or ventilator(111)	Wollenstein-Betech	2020	Mexico	Upper-middle-income	Not specified	Not specified	9	Proposed
Development of a Clinical Decision Support System for Severity Risk Prediction and Triage of COVID-19 Patients at Hospital Admission: An International Multicenter Study(112)	Wu	2020	Maastricht, the Netherlands	High-income	Hospital	Not specified	7	Proposed
Development and validation of the HNC-LL score for predicting the severity of coronavirus disease 2019(113)	Xiao	2020	Guangzhou, China	Upper-middle-income	Not specified	Not specified	5	Proposed
Point-of-Care Lung Ultrasound for COVID-19: Findings and Prognostic Implications From 105 Consecutive Patients(114)	Yasukawa	2021	Washington D.C., United States	High-income	Hospital	Not specified	1	Proposed
A Novel Scoring System for Prediction of Disease Severity in COVID-19(115)	Zhang	2020	Beijing, China	Upper-middle-income	Hospital	Not specified	5	Proposed
Development and validation of a risk factor-based system to predict short-term survival in adult hospitalized patients with COVID-19: a multicenter, retrospective, cohort study(116)	Zhang	2020	Honghu, China	Upper-middle-income	Hospital	Not specified	1	Proposed

Lung Ultrasound Score in Evaluating the Severity of Coronavirus Disease 2019 (COVID-19) Pneumonia(117)	Zhao	2020	Shanghai, China	Upper-middle-income	Hospital	Not specified	1	Proposed
Development and validation a nomogram for predicting the risk of severe COVID-19: A multi-center study in Sichuan, China(118)	Zhou	2020	Sichuan, China	Upper-middle-income	Not specified	Not specified	6	Proposed
Deep-learning artificial intelligence analysis of clinical variables predicts mortality in COVID-19 patients(119)	Zhu	2020	New York, United States	High-income	Not specified	Not specified	5	Proposed
Acute Physiology and Chronic Health Evaluation II Score as a Predictor of Hospital Mortality in Patients of Coronavirus Disease 2019(120)	Zou	2020	Wuhan, China	Upper-middle-income	Hospital	Not specified	1	Proposed

Supplementary Table 4: Summary of validation data for tools being used to screen, triage, and prognosticate COVID-19 patients.

		Tool training/development validation data					Other validation data					
Title	**Validation endpoint**	**AUC**	**Sensitivity**	**Specificity**	**PPV**	**NPV**	**Validation type**	**AUC**	**Sensitivity**	**Specificity**	**PPV**	**NPV**
A Novel Scoring System for Prediction of Disease Severity in COVID-19(94)	ICU admission						Retro-spective	0·91	0·71	0·89		
A novel simple scoring model for predicting severity of patients with SARS-CoV-2 infection(62)	COVID-19 confirmed by RT-PCR						Retro-spective		0·8	0·79		
A quickly, effectively screening process of novel corona virus disease 2019 (COVID-19) in children in Shanghai, China(38)	COVID-19 diagnosis		1	0·71	0·18	1						
A simple algorithm helps early identification of SARS-CoV-2 infection patients with severe progression tendency(74)	Severe COVID-19 disease						Retro-spective		0·18	0·93	0·49	0·98
A Tool for Early Prediction of Severe Coronavirus Disease 2019 (COVID-19): A Multicenter Study Using the Risk Nomogram in Wuhan and Guangdong, China(67)	Severe COVID-19 disease	0·91	0·86	0·88								
Acute Physiology and Chronic Health Evaluation II Score as a Predictor of Hospital Mortality in Patients of Coronavirus Disease 2019(93)	In-hospital mortality	0·97	0·96	0·86								
Clinical Characteristics and Prognostic Factors for Intensive Care Unit Admission of Patients With COVID-19: Retrospective Study Using Machine Learning and Natural Language Processing.	ICU admission	0.76										
Containing COVID-19 in the Emergency Department: The Role of Improved Case Detection and Segregation of Suspect Cases(43)	COVID-19 confirmed by RT-PCR		0·842 (95% CI [0·736-0·919])	0·648 (95% CI [0·625-0·670])								
COVID-19 Outpatient Screening: A Prediction Score for Adverse Events(57)	Hospitalisation, ICU care, need for mechanical ventilation, or death within 7 days of an	0·80 (hospitalisation); 0·82 (critical illness);					Pro-spective	0·76 (hospitalisation); 0·79 (critical illness); 0·93 (death)				

	outpatient medical encounter	0·87 (death)										
Development and Validation of a Clinical Risk Score to Predict the Occurrence of Critical Illness in Hospitalized Patients With COVID-19(75)	Critical COVID-19 disease		72% (95% CI [65%-79%]) (at risk score >3)	86% (95% CI [89%-92%]) (at risk score >3)	74% (95% CI [67%-80%]) (at risk score >3)	89% (95% CI [85%-91%]) (at risk score >3)	Retro-spective		80% (95% CI [73%-85%]) (at risk score >3)	76% (95% CI [70%-81%]) (at risk score >3)	69% (95% CI [60%-74%]) (at risk score >3)	85% (95% CI [80%-89%]) (at risk score >3)
Development and validation of a prediction model for severe respiratory failure in hospitalized patients with SARS-Cov-2 infection: a multicenter cohort study (PREDI-CO study)(59)	Severe respiratory failure	0·89 (95% CI [0·86-0·92])										
Development and validation of a prognostic model based on comorbidities to predict COVID-19 severity: a population-based study.	Mortality	0.89										
Development and validation of a risk factor-based system to predict short-term survival in adult hospitalized patients with COVID-19: a multicenter, retrospective, cohort study(89)	28-day mortality						Retro-spective	0.879 (95% CI [0.856-0.900)				
Development and validation of a risk stratification model for screening suspected cases of COVID-19 in China(77)	COVID-19 confirmed by RT-PCR	0·86	0·83	0·78	0·32	0·97	Retro-spective	0·87	0·82	0·77	0·26	0·98
Development and validation of a simple risk score for diagnosing COVID-19 in the emergency room.	COVID-19 confirmed by RT-PCR		0.796	0.709								
Development and validation of the HNC-LL score for predicting the severity of coronavirus disease 2019(88)	Severe COVID-19 disease						Retro-spective	0·86	0·85	0·76		
Development and validation of the quick COVID-19 severity index (qCSI): a prognostic tool for early clinical decompensation(68)	Respiratory failure within 24 hours of admission						Retro-spective	0·91	0·94	0·82		
Development of a Clinical Decision Support System for Severity Risk Prediction and Triage of COVID-19 Patients at Hospital Admission: An International Multicenter Study(87)	Severe or critical COVID-19 disease	0·88	0·85	0·74	0·75	0·85						
Development of a data-driven COVID-19 prognostication tool to inform triage and step-down care	Severe COVID-19 disease			0·913 (Day-1 model) and								

for hospitalised patients in Hong Kong: A population based cohort study(86)				0·942 (Day-5 model)						
Evaluating a Widely Implemented Proprietary Deterioration Index Model Among Hospitalized COVID-19 Patients(85)	ICU-level care, mechanical ventilation, or in-hospital death				Retro-spective	0·79	0·39	0·91	0·74	0·9
Examining the utility of extended laboratory panel testing in the emergency department for risk stratification of patients with COVID-19: a single-centre retrospective service evaluation.	28-day mortality	0.77								
Lower mortality of COVID-19 by early recognition and intervention: experience from Jiangsu Province(58)	Severe COVID-19 disease	0·96	0·955 (95% CI [0·772-0·999])	0·899 (95% CI [0·863-0·928])						
Lung Ultrasound Score in Evaluating the Severity of Coronavirus Disease 2019 (COVID-19) Pneumonia(90)	Refractory COVID-19 disease				Retro-spective	0·52	1	0·74		
Model-based Prediction of Critical Illness in Hospitalized Patients with COVID-19(83)	Critical COVID-19 disease				Retro-spective	0·77	0·5	0·88	0·79	0·66
National Early Warning Score 2 (NEWS2) on admission predicts severe disease and in-hospital mortality from Covid-19 - a prospective cohort study(78)	Severe COVID-19 disease	0·82	0·8	0·84						
NEWS can predict deterioration of patients with COVID-19(81)	Severe and critical COVID-19 disease				Pro-spective	0·84	1	0·51		
Performance of pneumonia severity index and CURB-65 in predicting 30-day mortality in patients with COVID-19(82)	30-day mortality				Retro-spective	0·79 (CURB-65); 0·85 (PSI)	0·73 (CURB-65); 0·80 (PSI)	0·85 (CURB-65); 0·89 (PSI)	0·31 (CURB-65), 0·39 (PSI)	0·97 (CURB-65), 0·98 (PSI)
Personalized predictive models for symptomatic COVID-19 patients using basic preconditions: Hospitalizations, mortality, and the need for an ICU or ventilator.	Mortality	0.63								
Predicting CoVID-19 community mortality risk using machine learning and development of an online prognostic tool.	Mortality	0·83	0·692	0·968						

Prediction of severe illness due to COVID-19 based on an analysis of initial Fibrinogen to Albumin Ratio and Platelet count(60)	Severe COVID-19 disease		0·863 (95% CI [0·640–0·964])	0·593 (95% CI [0·485–0·694])	0·339 (95% CI [0·222–0·0·479])	0·9474 (95% CI [0·845–0·986])	Pro-spective		0·857 (95% CI [0·420–0·992])	0·429 (95% CI [0·226–0·556])	0·333 (95% CI [0·143–0·588])	0·9 (95% CI [0·541–0·994])
Predictive value of National Early Warning Score 2 (NEWS2) for intensive care unit admission in patients with SARS-CoV-2 infection(66)	Severe COVID-19 disease						Retro-spective		0·89	0·66	0·63	0·9
Prognostic Accuracy of the SIRS, qSOFA, and NEWS for Early Detection of Clinical Deterioration in SARS-CoV-2 Infected Patients(84)	28-day mortality						Retro-spective	0·918 (NEWS); 0·760 (qSOFA); 0·744 (SIRS)	0·867 (NEWS≥ 5)	0·905 (NEWS≥ 5)	0·591 (NEWS≥ 5)	0·977 (NEWS≥ 5)
Proposed Clinical Indicators for Efficient Screening and Testing for COVID-19 Infection from Classification and Regression Trees (CART) Analysis(51)	COVID-19 confirmed by RT-PCR	0·78	0·96	0·53	0·14	0·99						
The utility of established prognostic scores in COVID-19 hospital admissions: a multicentre prospective evaluation of CURB-65, NEWS2, and qSOFA(63)	30-day mortality						Pro-spective	0·75 (CURB-65 2); 0·61 (CURB-65 ≥3); 0·78 (NEWS2 ≥5); 0·66 (qSOFA ≥2)	0·85 (CURB-65 ≥2); 0·61 (CURB-65 ≥3); 0·92 (NEWS2 ≥5); 0·45 (qSOFA ≥2)	0·47 (CURB-65 ≥2); 0·73 (CURB-65 ≥3); 0·31 (NEWS2 ≥5); 0·484(qSOFA ≥2)	0·12 (CURB-65 ≥2); 0·17 (CURB-65 ≥3); 0·10 (NEWS2 ≥5); 0·19 (qSOFA ≥2)	0·97 (CURB-65 ≥2); 0·96 (CURB-65 ≥3); 0·98 (NEWS2 ≥5); 0·94 (qSOFA ≥2)

Note: Only common, standardised measures of validation were extracted.
AUC = area under curve score; PPV = positive predictive value; NPV = negative predictive value

Supplementary Table 5: Breakdown of inputs used tools used to screen, triage, and prognosticate COVID-19 patients.

Input	Feasible to evaluate or perform in low-resource setting emergency units?	Screening tools (n=57)		Triage tools (n=23)		Severity scoring tools (n=54)	
		No. tools using input	%	No. tools using input	%	No. tools using input	%
CONCURRENT ACUTE CONDITIONS (n=20)							
Acute renal failure	No	0	0·0%	0	0·0%	2	3·7%
Acute respiratory distress syndrome	No	0	0·0%	3	13·0%	0	0·0%
Animal/insect bites	Yes	0	0·0%	1	4·3%	0	0·0%
Bacterial coinfection	No	0	0·0%	2	8·7%	0	0·0%
Cardiac arrest	Yes	0	0·0%	2	8·7%	0	0·0%
Current level of physical fitness	Yes	0	0·0%	0	0·0%	2	3·7%
Encephalopathy	Yes	0	0·0%	1	4·3%	0	0·0%
Major trauma	Yes	0	0·0%	0	0·0%	0	0·0%
Metabolic acidosis	No	0	0·0%	1	4·3%	0	0·0%
Multilobe infiltrate	Yes	0	0·0%	0	0·0%	0	0·0%
Organ failure	No	0	0·0%	1	4·3%	2	3·7%
Pericarditis	No	0	0·0%	1	4·3%	0	0·0%
Pleural effusion	Yes	0	0·0%	0	0·0%	1	1·9%
Pneumonia	Yes	2	3·5%	3	13·0%	2	3·7%
Respiratory distress	Yes	1	1·8%	3	13·0%	2	3·7%
Pneumothorax	No	0	0·0%	3	13·0%	0	0·0%
Respiratory failure	Yes	0	0·0%	3	13·0%	4	7·4%
Septic shock	Yes	0	0·0%	3	13·0%	1	1·9%
Systemic inflammatory response syndrome (SIRS)	Yes	0	0·0%	1	4·3%	0	0·0%
Unknown clinical inputs (proprietary algorithm)	No	0	0·0%	0	0·0%	1	1·9%
CLINICAL INTERVENTIONS RECEIVED (n=5)							
Nasal intermittent positive pressure ventilation	No	0	0·0%	1	4·3%	0	0·0%
Need for supplemental oxygen	Yes	0	0·0%	1	4·3%	7	13·0%
High-flow nasal canula	No	0	0·0%	1	4·3%	0	0·0%
Mechanical ventilation	No	0	0·0%	1	4·3%	0	0·0%
Vasopressors	No	0	0·0%	1	4·3%	0	0·0%
DEMOGRAPHICS (n=7)							

Age	Yes	4	7·0%	9	**39·1%**	28	**51·9%**
Sex	Yes	2	3·5%	3	**13·0%**	12	**22·2%**
Ethnicity	Yes	0	0·0%	0	**0·0%**	2	**3·7%**
Marital status	Yes	0	0·0%	0	**0·0%**	1	**1·9%**
Pregnancy	Yes	0	0·0%	0	0·0%	1	**1·9%**
Race	Yes	0	0·0%	1	**4·3%**	1	**1·9%**
Welsh Index of Multiple Deprivation	Yes	0	0·0%	0	0·0%	1	**1·9%**
COMORBIDITIES (n=29)							
Amyotrophic lateral sclerosis	Yes	0	0·0%	1	4·3%	0	0·0%
Any comorbidity	Yes	2	3·5%	**3**	13·0%	2	3·7%
Asthma	Yes	0	0·0%	0	0·0%	1	1·9%
Atrial fibrillation	Yes	0	0·0%	0	0·0%	1	1·9%
Body mass index	Yes	1	1·8%	2	8·7%	6	11·1%
Chronic kidney disease	Yes	2	3·5%	1	4·3%	5	9·3%
Chronic obstructive lung disease	Yes	0	0·0%	2	8·7%	7	11·1%
Connective tissue disease	Yes	0	0·0%	0	0·0%	1	1·9%
Coronary artery disease / congestive heart failure	Yes	2	3·5%	1	4·3%	7	13·0%
Cystic fibrosis	Yes	0	0·0%	1	4·3%	0	0·0%
Dementia	Yes	0	0·0%	0	0·0%	1	1·9%
Depression	Yes	0	0·0%	0	0·0%	1	1·9%
Diabetes	Yes	0	0·0%	1	4·3%	6	11·1%
Functional disorder	Yes	0	0·0%	0	0·0%	1	1·9%
Hypertension	Yes	0	0·0%	3	13·0%	6	11·1%
Immunocompromise	Yes	3	5·3%	0	0·0%	4	7·4%
Liver disease	Yes	0	0·0%	0	0·0%	3	5·6%
Malignancy	Yes	0	0·0%	2	8·7%	6	11·1%
Malnutrition	Yes	0	0·0%	0	0·0%	1	1·9%
Myasthenia gravis	Yes	0	0·0%	1	4·3%	0	0·0%
Pancreatitis	Yes	0	0·0%	1	4·3%	0	0·0%
Peripheral vascular disease	Yes	0	0·0%	0	0·0%	1	1·9%
Psychiatric disorder	Yes	1	1·8%	0	0·0%	1	1·9%
Seizure disorder	Yes	0	0·0%	1	4·3%	0	0·0%
Smoking history	Yes	0	0·0%	2	8·7%	1	1·9%
Spinal muscular atrophy	Yes	0	0·0%	0	0·0%	1	1·9%
Stroke	Yes	0	0·0%	1	4·3%	1	1·9%
Transplant history	Yes	0	0·0%	0	0·0%	1	1·9%

Valvular heart disease	Yes	0	0·0%	0	0·0%	1	1·9%
LABORATORY INVESTIGATIONS (n=64)							
Albumin	No	0	0·0%	1	4·3%	3	5·6%
Alanine aminotransferase	No	0	0·0%	2	8·7%	0	0·0%
Albumin/globulin ratio	No	0	0·0%	0	0·0%	1	1·9%
Alkaline phosphatase	No	0	0·0%	1	4·3%	0	0·0%
Arterial blood gas	No	0	0·0%	2	8·7%	1	1·9%
Aspartate aminotransferase	No	0	0·0%	1	4·3%	1	1·9%
Basophil count	No	3	5·3%	1	4·3%	0	0·0%
Blood urea nitrogen	No	0	0·0%	2	8·7%	5	9·3%
C-reactive protein	No	2	3·5%	7	30·4%	14	25·9%
Calcium	No	0	0·0%	0	0·0%	1	1·9%
Cardiovascular abnormalities	No	0	0·0%	2	8·7%	0	0·0%
CD3	No	0	0·0%	0	0·0%	1	1·9%
CD4	No	0	0·0%	0	0·0%	2	3·7%
Chloride	No	0	0·0%	0	0·0%	1	1·9%
Complete blood count	No	0	0·0%	1	4·3%	0	0·0%
Creatine kinase	No	0	0·0%	0	0·0%	1	1·9%
Creatinine	No	0	0·0%	4	17·4%	5	9·3%
D-dimer	No	0	0·0%	3	13·0%	5	9·3%
Direct bilirubin	No	0	0·0%	1	4·3%	4	7·4%
Eosinophil count	No	2	3·5%	2	8·7%	0	0·0%
Erythrocyte sedimentation rate	No	0	0·0%	0	0·0%	1	1·9%
Ferritin	No	0	0·0%	1	4·3%	0	0·0%
Fibrinogen to albumin ratio	No	0	0·0%	0	0·0%	1	1·9%
Globulin	No	0	0·0%	0	0·0%	1	1·9%
Glomerular filtration rate	No	0	0·0%	0	0·0%	1	1·9%
Glucose	Yes	0	0·0%	0	0·0%	1	1·9%
Haematocrit	No	2	3·5%	0	0·0%	3	5·6%
Haemoglobin	No	2	3·5%	0	0·0%	0	0·0%
IL-2R	No	0	0·0%	0	0·0%	1	1·9%
IL-6	No	0	0·0%	0	0·0%	2	3·7%
IL-8	No	0	0·0%	0	0·0%	1	1·9%
IL-10	No	0	0·0%	0	0·0%	1	1·9%
Immature granulocyte percentage	No	1	1·8%	0	0·0%	0	0·0%
Influenza test	No	1	1·8%	0	0·0%	0	0·0%

INR	No	0	0·0%	1	4·3%	0	0·0%
Lactate	No	0	0·0%	1	4·3%	0	0·0%
Lactate dehydrogenase	No	0	0·0%	3	13·0%	11	20·4%
Leukocyte count	No	2	3·5%	1	4·3%	1	1·9%
Lymphocyte count	No	6	10·5%	4	17·4%	1	1·9%
Lymphocyte percentage	No	0	0·0%	1	4·3%	1	1·9%
Mean corpuscular haemoglobin	No	2	3·5%	0	0·0%	0	0·0%
Mean corpuscular haemoglobin concentration	No	1	1·8%	0	0·0%	0	0·0%
Mean corpuscular volume	No	3	5·3%	0	0·0%	0	0·0%
Mean platelet volume	No	1	1·8%	0	0·0%	0	0·0%
Comprehensive metabolic panel	No	0	0·0%	3	13·0%	0	0·0%
Mononuclear cell count	No	2	3·5%	0	0·0%	1	1·9%
Neutrophil count	No	1	1·8%	2	8·7%	5	9·3%
Neutrophil to lymphocyte ratio	No	1	0·0%	2	8·7%	5	9·3%
Nucleated red blood cells	No	1	1·8%	0	0·0%	0	0·0%
pH	No	0	0·0%	0	0·0%	3	5·6%
Platelet count	No	3	5·3%	3	13·0%	5	9·3%
Platelet distribution width	No	2	3·5%	0	0·0%	0	0·0%
Platelet haematocrit	No	2	3·5%	0	0·0%	0	0·0%
Potassium	No	0	0·0%	0	0·0%	4	7·4%
Prealbumin	No	0	0·0%	0	0·0%	1	1·9%
Procalcitonin	No	0	0·0%	1	4·3%	1	1·9%
Red cell count	No	0	0·0%	1	4·3%	0	0·0%
Red cell distribution width	No	2	3·5%	1	4·3%	1	1·9%
SARS-CoV-2 RT-PCR	No	9	15·8%	1	4·3%	0	0·0%
Sodium	No	0	0·0%	0	0·0%	3	5·6%
Total protein	No	0	0·0%	0	0·0%	1	1·9%
Troponin	No	0	0·0%	3	13·0%	1	1·9%
Urea	No	0	0·0%	1	4·3%	3	5·6%
White blood cell count	No	0	0·0%	2	8·7%	2	3·7%
IMAGING INVESTIGATIONS (n=3)							
Chest X-ray	No	4	7·0%	8	**34·8%**	7	13·0%
Chest CT	No	9	15·8%	10	**43·5%**	3	5·6%
Lung ultrasound	No	5	8·8%	8	**34·8%**	2	3·7%
SIGNS AND SYMPTOMS (n=37)							
Abdominal pain	Yes	0	0·0%	1	4·3%	0	0·0%

Anosmia / agueisa	Yes	4	7·0%	0	0·0%	1	1·9%
Any COVID-related symptoms	Yes	10	17·5%	1	4·3%	0	0·0%
Any respiratory symptoms	Yes	26	45·6%	0	0·0%	0	0·0%
Arthralgia	Yes	1	1·8%	0	0·0%	0	0·0%
Chest distress	Yes	2	3·5%	0	0·0%	0	0·0%
Chest pain	Yes	3	5·3%	0	0·0%	0	0·0%
Chest tightness	Yes	1	1·8%	0	0·0%	0	0·0%
Chills	Yes	6	10·5%	0	0·0%	0	0·0%
Conjunctival congestion	Yes	1	1·8%	0	0·0%	0	0·0%
Constipation	Yes	0	0·0%	1	4·3%	0	0·0%
Convulsions	Yes	0	0·0%	1	4·3%	0	0·0%
Cough	Yes	23	40·4%	0	0·0%	2	3·7%
Cyanosis	Yes	0	0·0%	1	4·3%	0	0·0%
Diarrhoea	Yes	3	5·3%	1	4·3%	0	0·0%
Dizziness	Yes	1	1·8%	0	0·0%	0	0·0%
Duration of fever	Yes	2	3·5%	0	0·0%	0	0·0%
Duration of symptoms	Yes	0	0·0%	2	8·7%	1	1·9%
Fatigue	Yes	1	1·8%	0	0·0%	1	1·9%
Fever	Yes	31	54·4%	2	8·7%	3	5·6%
Frequency of cough	Yes	1	1·8%	0	0·0%	0	0·0%
Gastrointestinal symptoms	Yes	1	1·8%	0	0·0%	0	0·0%
Haematemesis	Yes	0	0·0%	2	8·7%	0	0·0%
Haemoptysis	Yes	0	0·0%	0	0·0%	2	3·7%
Headache	Yes	1	1·8%	1	4·3%	1	1·9%
Inability to breastfeed or drink	Yes	0	0·0%	1	4·3%	0	0·0%
Myalgia	Yes	5	8·8%	0	0·0%	0	0·0%
Nasal congestion	Yes	3	5·3%	0	0·0%	1	1·9%
Nausea	Yes	1	1·8%	1	4·3%	0	0·0%
Rash	Yes	1	1·8%	0	0·0%	0	0·0%
Rhinorrhoea	Yes	2	3·5%	1	4·3%	0	0·0%
Shortness of breath	Yes	16	28·1%	0	0·0%	5	9·3%
Sore throat	Yes	5	8·8%	0	0·0%	1	1·9%
Sputum production	Yes	2	3·5%	0	0·0%	0	0·0%
Unconsciousness	Yes	0	0·0%	1	4·3%	1	1·9%
Unspecified signs and symptoms	Yes	1	1·8%	1	4·3%	0	0·0%
Vomiting	Yes	1	1·8%	1	4·3%	0	0·0%

VITAL SIGNS (n=17)							
Altered mental status	Yes	1	1·8%	3	13·0%	5	9·3%
AVPU scale	Yes	0	0·0%	1	4·3%	0	0·0%
Clinical gestalt	Yes	1	1·8%	1	4·3%	1	1·9%
Diastolic blood pressure	Yes	0	0·0%	3	13·0%	1	1·9%
Exertional oxygen saturation	Yes	0	0·0%	1	4·3%	0	0·0%
FiO2	Yes	0	0·0%	0	0·0%	1	1·9%
Glasgow Coma Scale	Yes	0	0·0%	4	17·4%	4	7·4%
Haemodynamic instability	Yes	1	1·8%	1	4·3%	0	0·0%
Heart rate	Yes	1	1·8%	4	17·4%	8	14·8%
Hypercapnia	No	1	1·8%	0	0·0%	0	0·0%
Oxygen saturation	Yes	9	15·8%	14	60·9%	8	14·8%
Pain severity	Yes	0	0·0%	1	4·3%	0	0·0%
PaO2/FIO2 < 300	No	0	0·0%	4	17·4%	0	0·0%
Respiratory rate	Yes	2	3·5%	13	56·5%	16	29·6%
Systolic blood pressure	Yes	1	1·8%	9	39·1%	9	16·7%
Temperature	Yes	17	29·8%	5	21·7%	13	24·1%
Altered mental status	Yes	1	1·8%	2	8·7%	5	9·3%
OTHER CHARACTERISTICS (n=7)							
Ability to live and walk independently	Yes	1	1·8%	0	0·0%	0	0·0%
Abnormal ECG findings	No	0	0·0%	1	4·3%	0	0·0%
Score on the Braden scale	Yes	0	0·0%	0	0·0%	0	0·0%
Epidemiological history	Yes	36	63·2%	2	8·7%	2	3·7%
Nursing home resident	Yes	0	0·0%	1	4·3%	1	1·9%
Status as a healthcare worker	Yes	2	3·5%	0	0·0%	0	0·0%
Use of prescription medications	Yes	0	0·0%	1	4·3%	0	0·0%

Supplementary Table 6: Overview of use of established prognostication tools for COVID-19.

Tool	No. inputs	Inputs	Feasible in low-resource settings?	No. studies using tool
APACHE II Score(95)	15	• Acute renal failure • Age • Creatinine • FiO2 • Glasgow Coma Scale • Haematocrit • Heart rate • History of severe organ failure or immunocompromise • Mean arterial pressure • pH • Potassium • Respiratory rate • Sodium • Temperature • White blood cell count	No	1
Clinical Frailty Score	1	• Level of physical fitness	Yes	3
CURB-65 Score for Pneumonia Severity	5	• Age • Blood urea nitrogen • Confusion • Respiratory rate • Systolic or diastolic blood pressure	No	4
Deyo-Charlson Score(96)	17	• AIDS • Any malignancy • Cerebrovascular disease • Chronic pulmonary disease • Congestive heart failure • Dementia • Diabetes with complications • Diabetes without chronic complications • Hemiplegia or paraplegia • Metastatic solid tumour • Mild liver disease • Moderate/severe liver disease • Myocardial infarction • Peptic ulcer disease • Peripheral vascular disease • Renal disease • Rheumatoid disease	Yes	1
HEWS Korean Triage and Acuity Scale(97)	17	• • Abdominal pain • Bites • Cardiac arrest • Chest pain • Constipation • Diarrhoea • Glasgow Coma Scale • Haematemesis • Headache • Major trauma	Yes	1

		• Nausea and/or vomiting • Prescription medications • Respiratory failure • Systolic blood pressure • Systemic inflammatory response syndrome (SIRS) • Temperature • Urinary tract infection		
Modified 6-Minute Walk Test(98)	1	• Distance walked in 6 minutes	Yes	1
Modified Early Warning Score (MEWS) for Clinical Deterioration(99)	5	• AVPU score • Heart rate • Respiratory rate • Systolic blood pressure • Temperature	Yes	1
MuLBSTA Score for Viral Pneumonia Mortality(100)	6	• Absolute lymphocyte count • Age • Bacterial coinfection • History of hypertension • Multilobe infiltrate • Smoking history	No	1
National Early Warning Score (NEWS)(101)	5	• Need for supplemental oxygen • Oxygen saturation • Respiratory rate • Systolic blood pressure • Temperature	Yes	4
National Early Warning Score 2 (NEWS2)(102)	7	• Consciousness • Heart rate • Hypercapnic respiratory failure • Need for supplemental oxygen • Respiratory rate • Systolic blood pressure • Temperature	Yes	5
Pneumonia Severity Index for Community Acquired Pneumonia(103)	19	• Age • Altered mental status • Blood urea nitrogen • Glucose • Haematocrit • Heart rate • History of congestive heart failure • History of liver disease history • History of renal disease • Neoplastic disease • Nursing home resident • Partial pressure of oxygen • pH • Pleural effusion on X-ray • Respiratory rate • Sex • Sodium • Systolic blood pressure • Temperature	No	1
qSOFA (Quick SOFA) Score for Sepsis(104)	3	• Glasgow Coma Scale • Respiratory rate • Systolic blood pressure	Yes	5
SEWS		•		

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