

COVID-19

Health Evidence Summary No.83

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This weekly COVID-19 health evidence summary (HES) is based on 3.5 hours of desk-based research. The summary is not intended to be a comprehensive summary of available evidence on COVID-19 but aims to make original documents easily accessible to decision makers which, if relevant to them, they should go to before making decisions.

Clinical characteristics and management

Publication date	Title/URL	Journal/Article type	Summary	Keywords
08.07.2020	COVID-19 Mortality Risk Assessment: An International Multi-Center Study	medRxiv (not peer-reviewed) pre-print	<ul style="list-style-type: none"> This study seeks to develop and validate a data-driven personalized mortality risk calculator for hospitalized COVID-19 patients. This CMR model leverages machine learning to generate accurate mortality predictions using commonly available clinical features. This is the first risk score trained and validated on a cohort of COVID-19 patients from Europe and the United States. 	mortality

Epidemiology and modelling

Publication date	Title/URL	Journal/Article type	Summary	Keywords
08.07.2020	<p>Diagnostics and spread of SARS-CoV-2 in Western Africa: An observational laboratory-based study from Benin</p>	<p>medRxiv (not peer-reviewed) pre-print</p>	<ul style="list-style-type: none"> Information on SARS-CoV-2 spread in Africa is limited by fragile surveillance systems and insufficient diagnostic capacity. Study found a 15-fold increase in the monthly laboratory workload due to COVID-19. Genomic surveillance showed 9 introductions of three distinct SARS-CoV-2 lineages. SARS-CoV-2 genome-based analyses yielded an R0 estimate of 10.4 (95% confidence interval: 2.0-7.7), suggesting intense spread of SARS-CoV-2 in Africa. 	<p>Growth rate</p>
08.07.2020	<p>The COVID-19 mortality effects of underlying health conditions in India: a modelling study</p>	<p>medRxiv (not peer-reviewed) pre-print</p>	<ul style="list-style-type: none"> Known COVID-19 health risk factors are not expected to have a large effect on aggregate mortality or its age distribution in India relative to England. The high share of COVID-19 deaths from people under 60 in low- and middle-income countries (LMICs) remains unexplained. Understanding mortality risk 	<p>Mortality, modelling</p>

			associated with health conditions prevalent in LMICs, such as malnutrition and HIV/AIDS, is essential for understanding differential mortality.	
08.07.2020	Reconstructing the global dynamics of under-ascertained COVID-19 cases and infections	medRxiv (not peer-reviewed) pre-print	<ul style="list-style-type: none"> • Study found substantial under-ascertainment of symptomatic cases, particularly at the peak of the first wave of the SARS-CoV-2 pandemic, in many countries. Reported case counts will therefore likely underestimate the rate of outbreak growth initially and underestimate the decline in the later stages of an epidemic. • Although there was considerable under-reporting in many locations, estimates were consistent with emerging serological data, suggesting that the proportion of each country's population infected with SARS-CoV-2 worldwide is generally low. 	Data
06.07.2020	Prediction of COVID-19 spreading profiles in South Korea, Italy and Iran by data-driven coding	PLOS One	<ul style="list-style-type: none"> • This work applies a data-driven coding method for prediction of the COVID-19 spreading profile in any given population that shows an initial 	Data

			<p>phase of epidemic progression.</p> <ul style="list-style-type: none"> • Application of the method to the data collected for South Korea, Italy and Iran shows that peaks of infection cases are expected to occur before mid April, the end of March and the end of May 2020, and that the percentage of population infected in each city or region will be less than 0.01%, 0.5% and 0.5%, for South Korea, Italy and Iran, respectively. 	
06.07.2020	Prevalence of SARS-CoV-2 in Spain (ENE-COVID): a nationwide, population-based seroepidemiological study	The Lancet Article	<ul style="list-style-type: none"> • This article is included as is the first nationwide (Spain) population-based study of seroprevalence estimates of antibodies against SARS-CoV-2 at national and regional levels • Only approx. 5% had C19 antibodies with no differences by sex and lower seroprevalence in children younger than 10 years • There was substantial geographical variability, with higher prevalence around Madrid (>10%) and lower in coastal areas (<3%) 	Seroprevalence

			<ul style="list-style-type: none"> • 95% of people in Spain are still susceptible, despite one of Europe's most intense outbreaks • Herd immunity through natural infection is difficult to achieve and unethical, given the collateral damage of many deaths in the susceptible population and overburdening of health systems 	
04.07.2020	The projected impact of mitigation and suppression strategies on the COVID-19 epidemic in Senegal: A modelling study	medRxiv (not peer-reviewed) pre-print	<ul style="list-style-type: none"> • Senegal acted promptly to contain the spread of SARS-CoV-2 and has already significantly reduced transmission from 1.9 (95% CI 1.7-2.2) to 1.3 (95% CI 1.2-1.5) but has not full interrupted transmission • This study estimates that continued spread is likely to peak in October, and to overwhelm the healthcare system with an estimated 77,400 deaths (95% CI 55,270-100,700) • Enhanced physical distancing measures could reduce the burden on healthcare services • Rapid scale up of hospital capacity is likely to be needed 	Mitigation, public health, healthcare capacity
02.07.2020	Tracking changes in	Cell Article	<ul style="list-style-type: none"> • A SARS-CoV-2 variant with a change in an 	SARS-CoV-2 variant

	<p>SARS-CoV-2 Spike: evidence that D614G increases infectivity of the COVID-19 virus</p>		<p>amino acid in the Spike protein has become the most prevalent form in the global pandemic with an increase at national, regional and municipal levels and even in local epidemics where the original form was well established</p> <ul style="list-style-type: none"> • This pattern was highly statistically significant, suggesting that the new variant may have a fitness advantage with possible higher upper respiratory tract viral loads, but not increased disease severity • Important for a mechanistic understanding of the virus, and support of continuing surveillance of Spike mutations to aid in the development of immunological interventions 	
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Infection Prevention and Control

Publication date	Title/URL	Journal/Article type	Summary	Keywords
06.07.2020	Global resource shortages during COVID-19: Bad news for	PLOS Neglected Tropical Diseases	<ul style="list-style-type: none"> • To better elucidate COVID preparedness in low-income countries, we combined data from all service provision assessments (SPAs) conducted in nationally representative surveys of hospitals within the past 5 years in low-income 	PPE

	low-income countries		<p>countries, which included Afghanistan, Democratic Republic of the Congo (DRC), Haiti, Nepal, and Tanzania.</p> <ul style="list-style-type: none"> • Conclusions: Continued local as well as international action is needed to ensure access to PPE for all health workers and respiratory support for all patients, not just for those living in resource-abundant countries. As COVID-19 therapeutics and vaccines emerge, additional international commitment will be necessary to ensure global access. 	
06.07.2020	Mobility restrictions for the control of epidemics: When do they work?	PLOS One	<ul style="list-style-type: none"> • Mobility restrictions may not be an effective policy for controlling the spread of an infectious disease if it is assessed by the overall final epidemic size. Patterns of mobility established through the independent mobility and trade decisions of people in both communities may be sufficient to contain epidemics. 	Mobility restrictions

Testing

Publication date	Title/URL	Journal/Article type	Summary	Keywords
06.07.2020	An evaluation of COVID-19 serological assays informs future diagnostics and exposure assessment	Nature Communications Article	<ul style="list-style-type: none"> • A detailed comparison of serological COVID-19 assays shows a wide diversity in assay performance in different scenarios and when correlated to virus neutralising antibodies 	Serological assays

Therapeutics

Publication date	Title/URL	Journal/Article type	Summary	Keywords
06.07.2020	The Role of Remdesivir in South Africa: Preventing COVID-19 Deaths Through Increasing ICU Capacity	Clinical Infectious Diseases	<ul style="list-style-type: none"> Countries such as South Africa have limited intensive care unit (ICU) capacity to handle the expected number of COVID-19 patients requiring ICU care. Remdesivir can prevent deaths in countries such as South Africa by decreasing the number of days people spend in ICU, therefore freeing up ICU bed capacity. 	Remdesivir

Indirect impact of COVID-19

Publication date	Title/URL	Journal/Article type	Summary	Keywords
18.06.2020	Pausing the Fight Against Malaria to Combat the COVID-19 Pandemic in Africa: Is the Future of Malaria Bleak?	Frontiers in microbiology	<ul style="list-style-type: none"> Access to healthcare has generally been limited by COVID-19, while malaria interventions, such as seasonal malaria chemotherapy and distribution of insecticide-treated bed nets, have been suspended due to lockdowns. Likewise, the repurposing of antimalarials for treatment of COVID-19 shared symptoms and the shift in focus from the production of malaria rapid diagnostic tests (RDTs) to COVID-19 RDTs is a cause for concern in malaria-endemic regions. Children are less affected by the COVID-19 pandemic compared to the elderly. However, due to the fears of contracting SARS-CoV-2, the elderly who are worst affected by COVID-19 may not take children for malaria 	Malaria

			medication, resulting in high malaria-related mortalities among children.	
02.07.2020	The Impact of COVID-19 on People With Diabetes in Brazil	Diabetes research and clinical practise	<ul style="list-style-type: none"> Convenience sampling study with data collected from 1701 individuals. Study provides a firsthand revelation of the severity of COVID-19 on individuals with diabetes in Brazil, altering their habits, which impacted their glycemia, potentially increasing their risk of poor outcomes if infected by SARS-CoV-2. 	Diabetes

Leadership and governance

Publication date	Title/URL	Journal/Article type	Summary	Keywords
08.07.2020	Ranking the effectiveness of worldwide COVID-19 government interventions	medRxiv (not peer-reviewed) pre-print	<ul style="list-style-type: none"> Assessing the effectiveness of the individual interventions is critical to inform future preparedness response plans. Emerging picture is one in which no one-fits-all solution exists, and no single NPI alone can decrease R_t below one and that a combination of NPIs is necessary to curb the spread of the virus. We show that there are NPIs considerably less intrusive and costly than lockdowns that are also highly effective, such as certain risk communication strategies and voluntary measures that strengthen the healthcare system. 	NPIs, government
01.07.2020	Effectiveness of government	SSRN	<ul style="list-style-type: none"> Assessment of the quantitative impact of government 	Government, impact

	policies in response to the COVID-19 outbreak		<p>interventions on deaths related to the C19 outbreak</p> <ul style="list-style-type: none"> • The greater the strength of government interventions at an early stage, the more effective these are in slowing down or reversing the growth rate of deaths • Informative for future C19 waves and for other future pandemics 	
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Comments, Editorials, Opinions, Blogs, News

Publication date	Title/URL	Journal Article type	Author(s)
08.07.2020	Mounting evidence suggests coronavirus is airborne — but health advice has not caught up	Nature News feature	Dyani Lewis
08.07.2020	Women are most affected by pandemics — lessons from past outbreaks	Nature Comment	Clare Wenham, Julia Smith et al
08.07.2020	More on Clinical Characteristics of Pregnant Women with Covid-19 in Wuhan, China	NEJM Correspondance	Lynne M. Mofenson, Andrea Ciaranello
08.07.2020	Pandemics: why a new science is needed	STEPS blog	Ian Scoones
June 2020	Cardiovascular care in sub-Saharan Africa during the COVID-19 crisis: lessons from the global experience	Cardiovascular Journal of Africa Editorial	Kishal Likhna, Blanche Cupido, Jens Hitzeroth, Ashley Chin, Mpiko Ntsekhe

August 2020	COVID-19, health rights of prison staff, and the bridge between prison and public health in Africa	Public Health Letter	M C Van Hout
03.07.2020	Covid-19: No large hidden outbreak in Africa but health worker shortage worsens	BMJ News	Owen Dyer
03.07.2020	Remdesivir: US purchase of world stocks sparks new “hunger games,” warn observers	BMJ News	Jacqui Wise
06.07.2020	Reset Sustainable Development Goals for a pandemic world	Nature Comment	
06.07.2020	Cambodia’s Response to COVID-19	JHBSPH Podcast	Dr. Kumanan Rasanathan, talks with Dr. Sara Bennett
July 2020	COVID-19 testing in Africa: lessons learnt	The Lancet Microbe Comment	Pascale Ondo et al.
July 2020	COVID-19: a multifaceted threat to refugee camps	The Lancet Microbe News	Talha Burki
July 2020	Development of potential COVID-19 vaccines continues to accelerate	The Lancet Microbe News	Tony Kirby
06.07.2020	The Indirect Health Effects of COVID-19: long-term costs for health systems	CGD Blog	Lydia Regan Y-Ling Chi
06.07.2020	WHO: access to HIV medicines severely impacted by COVID-19 as AIDS response stalls	WHO News	
06.07.2020	SARS-CoV-2 seroprevalence in COVID-19 hotspots	The Lancet Comment	Isabella Eckerle

			Benjamin Meyer
03.07.2020	Six months of coronavirus: the mysteries scientists are still racing to solve	Nature News	Ewen Callaway Heidi Ledford Smriti Mallapaty
03.07.2020	Oxygen availability in sub-Saharan African countries: a call for data to inform service delivery	The Lancet Global Health Correspondence	Sowmya Mangipudi Andrew Leather Ahmed Seedat Justine Davies
03.07.2020	Pulse oximetry in low-resource settings during the COVID-19 pandemic	The Lancet Global Health Correspondence	Nicola Starr et al.
03.07.2020	Decisive leadership is a necessity in the COVID-19 response	The Lancet Comment	Ahmed Mohammed Obaid Al Saidi et al.
01.07.2020	How to predict – and prevent – the next pandemic	The Economist Weekly podcast (24 min)	

Guidelines, Statements & Tools

Publication Date	Title/URL	Source	Summary
01.05.2020	COVID-19 considerations for home and community care	SSHAP	<ul style="list-style-type: none"> This review gives an overview of existing guidance and models for home and community-based care for C19, with an emphasis on LMICs Gaps in the guidance are assessed and ways these may be addressed suggested. This includes highlighting innovative examples and drawing on knowledge of past outbreaks Recommendations are aimed at governments, NGOs and relevant community-based organisations

Dashboards & Trackers

Cases & deaths: Global	Cases & deaths: Regional	Cases & deaths: Country	Living evidence & policy maps	Current research including trials	Diagnostics	Treatments	Vaccines
WHO sitreps	WHO Africa	Ghana	COVID-NMA	WHO	FIND SARS-CoV-2 Test Tracker	Global COVID-19 Clinical Trial Tracker	CEPI
WHO dashboard	African Arguments	Indonesia	EPPI Centre	WHO International Clinical Trials Registry Platform (ICTRP)	FIND SARS-CoV-2 Diagnostics: performance data	US NIH registered clinical trials	Vaccine Centre LSHTM
Johns Hopkins University	European CDC	Nigeria CDC	Norwegian Institute of Public Health	Cytel	Serology-based tests for COVID-19	Solidarity trial	COVID-19 Oxford Vaccine Trial

WEF		Sierra Leone	Oxford C19 Government Response Tracker (OxCGRT)	US NIH	Our World in Data: C19 Testing	COVID-19 Therapeutics Accelerator	COVID-19 Vaccine Tracker
Our World in Data		Singapore	Our World in Data: C19 Policy responses	COVID-evidence			
Global 5050		UK	IFPRI COVID-19 Policy Response Portal	Cochrane			
CEBM, University of Oxford		US	COVID-19 Primer	Clinicaltrials.gov			
Humanitarian Data Exchange			NIH LitCovid	UKCDR			
Information is Beautiful			WHO COVID-19 Database				
LSHTM							
HealthMap (cases)							
The Commons Project							

C19 Resource Hubs

Global	Regional & Country	Academic journals & Publishers	Institutes/Centres /Funders/Other	Health Topics	Social Sciences
WHO COVID-19 pandemic	Africa CDC	Annals of Internal Medicine	LSTM	Stop TB Partnership	SSHAP
WHO risk communication	African Union	BMJ	LSHTM		IDA
WHO Q&A	Nigeria CDC	Bulletin of the WHO	ICL MRC Centre for Global Infectious Disease Analysis	Global Menstrual Collective	Disability and inclusion
WHO Global research	GeoPoll: SSA	Cambridge University Press	ODI	SLH: Handwashing in low resource settings	Coregroup IDDC
COVID-19 Solidarity Response Fund	Global Health Network Africa	Cell Press	Johns Hopkins University	RBM Partnership	Ethics, health systems & COVID-19
UN	African Academy of Sciences	Cochrane	Center for Global Development	Epidemic Preparedness Innovations	Social Development Direct C19 blog series
UN Women	Africa Evidence Network	Elsevier	CMMID Repository		
UNOCHA	OCHA Southern and Eastern Africa	Health Policy and Planning	Norwegian Institute of Public Health		

	COVID-19 Digest				
UNHCR	South African Government	JAMA Network	Oxford Centre for Evidence-based Medicine		
UNICEF		The Lancet	HEART		
UNESCO		medRxiv and bioRxiv (Preprints)	UKRI		
UN WFP		NEJM	Evidence Aid		
GOARN		Oxford University Press	NIH		
EPI-WIN		PLoS	IFPRI Resources and Analyses of C19 Impact		
World Bank		SAGE journals	Prevent Epidemics		
Our World in Data		Science			
COVID-19 Narratives by David Nabarro		Springer Nature			
Reliefweb		SSRN (Preprints)			
Humanitarian OpenStreetMap Team		Wiley			

Global Partnership for Sustainable Development Data					
WorldPop					
Flowminder					
COVID-END					
Premise COVID-19 Global Impact Study					
GISAID					

Online learning & events

Date	Title/URL	Online learning/event	Duration	Lead
Wednesday, July 15, 2020 - 9:30am to 10:45am ET	The Role of Parliamentarians in Strengthening COVID-19 Response & Recovery	Online event	1hr 15	Center for Global Development
07.07.2020 1300-1430 BST	Fifth Annual Health Financing Forum (AHFF): Health Financing Resilience and Sustainability	Online event	1h 30	JLN, WB, USAID, GFF, GFF, CGD
30.06.2020 1000 BST	Clinical update: dexamethasone and hydroxychloroquine for treatment of severe COVID-19	Webinar		African Academy of Sciences

26.06.2020 0900 to 1030 EDT	Monitoring and mitigating the collateral effects of COVID-19	Online event	1h 30	CGD
13 July 3:00 PM – 6:00 PM BST	2020 UCL-Lancet Lecture: Global Health Preparedness by Dr Muhammad Pate, Global Director for Health, Nutrition and Population at the World Bank Group	Online Lecture	2 hour lecture, 1 hour panel discussion	UCL, The Lancet
June 2020	OpenWHO, the free, open-access learning platform for health emergencies, now offers 10 online courses related to COVID19.	Online courses	Varies	WHO
24- 25.06.2020	Africa's leadership role in COVID-19 vaccine development and access	Zoom webinar		African Union & Africa CDC
Available now	Standard precautions: Environmental cleaning and disinfection	Online course	1 hour	WHO
Available now	COVID-19: Effective Nursing in Times of Crisis	Online course	2 weeks – 2 hours per week	Johns Hopkins School of Nursing
Available now	WHO Academy and WHO Info mobile applications	Mobile app		WHO
Available now	COVID-19: Pandemics, Modelling and Policy	Online learning	2 weeks 2 hours weekly study	FutureLearn UNESCO UNITWIN Complex Systems

				Digital Campus/Open University
12.05.2020	COVID-19 and maintaining quality essential health services	Webinar	1 hour	WHO & ISQua – Dr Shams Syed, Dr Peter Lachman, Dr Teri Rynolds & Dr Ed Kelley
11.5.2020	COVID-19 Contact Tracing course	Online learning	5 hours	Johns Hopkins Bloomberg School of Health
7-28 May 2020	Virtual Evidence Weeks	5 sessions	1h 30	International Initiative for Impact Evaluation (3ie)
Tuesdays at 1700 CEST (Geneva time) & Thursdays 0830 CEST (Geneva time)	COVID-19 Open online brief with Dr David Nabarro	Event	1h	4SD
30.04.2020	Professor Chris Whitty's Gresham lecture on COVID-19	Event	1h 20	Gresham College
Available now	Emerging respiratory viruses, including COVID-19: methods for detection, prevention, response and control	Online learning	3 hours	WHO
Available now	Responding to COVID-19: Real-time training for the coronavirus disease outbreak	Online learning	Multiple self-paced course	WHO
25 May 2020	COVID-19: Tackling the Novel Coronavirus	Online learning	3 weeks 4 hours	FutureLearn LSHTM/UK PHRST

			weekly study	
Available online now without mentors. Updated version will commence early June 2020	COVID-19 Diagnostics and Testing	Online learning	3 weeks 3 hours weekly study	FutureLearn FIND/LSHTM/ASLM
6 April 2020	COVID-19 Critical Care: Understanding and Application	Online learning	5 weeks 1 hour weekly study	FutureLearn University of Edinburgh & Royal College of Physicians of Edinburgh
Available now	COVID-19 supporting online courses	Online learning	Multiple self-paced course	BMJ Learning

Suggested citation

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Rapid review methodology

The rapid weekly search for peer-reviewed literature is carried out through a PubMed search with the following keywords (“COVID-19” OR “severe acute respiratory syndrome coronavirus 2” OR “2019-nCoV” OR “SARS-CoV-2” OR “2019nCoV” OR “coronavirus”) AND (“Africa” OR “South Asia” OR “Developing” OR “low-income” OR “low income” OR “lower-middle income” OR “low and middle income” OR “LMIC” OR “LIC” OR “global south”) OR (“poverty”) OR (“equity” OR “equities”), restricted to articles published in the previous 2 to 3 days, in English. This is complemented by a search of the homepage of the following high-impact global health journals: The Lancet journals, New England Journal of Medicine, Nature, JAMA, Annals of Internal Medicine, Cochrane Reviews, BMJ Global Health, the PLoS journals and a Twitter search of their Twitter pages. A search also of preprints from bioRxiv and medRxiv. Please note that papers that have **not been peer-reviewed** are highlighted in red. All primary research papers that relate to the primary and secondary impacts of the COVID-19 response in LMICs, and disease control and health system responses are included. Articles related to tackling the secondary impacts on other sectors are not included. Additional commentaries, opinions, and commissioned pieces are selected based on relevance.

The search for dashboards, guidelines, tools, editorials, comments, blogs, opinions and news is through the academic journals listed above, C19 resource hubs and following lead academics and professionals on Twitter.

About this report

This weekly COVID-19 health evidence summary (HES) is based on 3.5 hours of desk-based research. The summary is not intended to be a comprehensive summary of available evidence on COVID-19 but aims to make original documents easily accessible to decision makers which, if relevant to them, they should go to before making decisions. The HES are not intended to replace medical or professional advice and the researcher or the K4D consortium cannot be held responsible for any decisions made about COVID-19 on the basis of the HES alone. K4D services are provided by a consortium of leading organisations working in international development, led by the Institute of Development Studies (IDS), with Education Development Trust, Itad, University of Leeds Nuffield Centre for International Health and Development, Liverpool School of Tropical Medicine (LSTM), University of Birmingham International Development Department (IDD) and the University of Manchester Humanitarian and Conflict Response Institute (HCRI).

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