



# COVID-19

## Health Evidence Summary No.62

### summary from this week

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*This is a weekly summary of the daily COVID-19 health evidence summary (HES) which are based on 3 hours of desk-based research each day. 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
11.06.2020	Merits and culprits of immunotherapies for neurological diseases in times of COVID-19	EBioMedicine   Review	<ul style="list-style-type: none"> <li>An overview, of the most recently available data about SARS-CoV-2 and the approved immunotherapies for neurological diseases, that includes current treatment strategies and the associated COVID-19 risk and the potential of immunotherapies to treat COVID-19</li> </ul>	Immunotherapy, neurology
05.06.2020	Rapid generation of neutralizing antibody responses in COVID-19 patients	Cell   Article	<ul style="list-style-type: none"> <li>Cross-sectional study of antibody responses to the receptor binding domain (RBD) of the spike protein and neutralisation activity in a cohort of hospitalised</li> </ul>	Antibody response, protective immunity

			<p>COVID-19 patients</p> <ul style="list-style-type: none"> <li>• A robust humoral immune response occurs early during severe or moderate C19 infection</li> <li>• These kinetic findings support the effort in applying antibody testing for clinical diagnostic purposes and highlight the importance of timing of these tests</li> <li>• The appearance of high titer neutralising antibody responses early after infection suggests there may be some degree of protection from re-infection</li> <li>• Further studies will need to define the neutralising titer which correlates with protective immunity and determine the durability of the responses over time.</li> </ul>	
08.06.2020	Pulmonary post-mortem findings in a series of COVID-19 cases from northern Italy: a two-centre descriptive study	Lancet Infectious Diseases   Article	<ul style="list-style-type: none"> <li>• Analysed lung tissue samples from 38 patients who died from COVID-19 in two hospitals in northern Italy between Feb 29 and March 24, 2020</li> <li>• The predominant pattern of lung lesions in patients with COVID-19</li> </ul>	

			<p>patients is diffuse alveolar damage, as described in patients infected with severe acute respiratory syndrome and Middle East respiratory syndrome coronaviruses. Hyaline membrane formation and pneumocyte atypical hyperplasia are frequent. Importantly, the presence of platelet–fibrin thrombi in small arterial vessels is consistent with coagulopathy, which appears to be common in patients with COVID-19 and should be one of the main targets of therapy.</p>
04.06.2020	<p>Maternal and neonatal outcomes associated with COVID-19 infection: A systematic review</p>	<p>PLOS One   Research article</p>	<ul style="list-style-type: none"> <li>• With limited understanding of the effects of COVID-19 during pregnancy, clinicians and patients are forced to make uninformed decisions.</li> <li>• Conclusions - COVID-19-positive pregnant women present with fewer symptoms than the general population and may be RT-PCR negative despite having signs of viral pneumonia. The incidence of preterm births, low birth weight, C-section, NICU admission appear higher than the general population.</li> </ul>

## Epidemiology and modelling

Publication date	Title/URL	Journal/Article type	Summary	Keywords
12.06.2020	Predicted COVID-19 fatality rates based on age, sex, comorbidities, and health system capacity	CGD   Working Paper	<ul style="list-style-type: none"> <li>• Non-random testing and incomplete vital registration systems challenge estimating directly the infection fatality rate (IFR) in many LMICs</li> <li>• This paper estimates the adjustments required to extrapolate estimates of IFR from high- to lower-income regions</li> <li>• Predicted IFR across 21 world regions range from 0.11% in Western sub-Saharan Africa to 1.07% for high-income Asia Pacific when accounting for differences in the distribution of age, sex, and relevant comorbidities</li> <li>• Adjusting for health system capacity greatly diminishes, but does not erase entirely, the demography-based advantage predicted from the lowest income settings</li> <li>• Code for this paper is available</li> </ul>	Mortality, LMICs
12.06.2020	The effectiveness of social bubbles as part of a Covid-19 lockdown exit strategy, a modelling study	medRxiv   Preprint (not peer reviewed)	<ul style="list-style-type: none"> <li>• The impact of contact clustering in social bubbles, as part of gradual lockdown exit strategy, on epidemic and mortality risk was estimated using the UK as a case study</li> <li>• Analysis highlights the continued need for social distancing despite a social bubble strategy being effective in expanding contacts</li> </ul>	Social bubbles, exit strategy

			<p>while limited the risk for a resurgence of cases.</p> <ul style="list-style-type: none"> <li>• Recommending social bubbles only for those struggling with lockdown alongside continuing prioritising outdoor settings for gathers and maintaining social distancing could strike a balance between minimising the impact on mental health and minimising the C19 epidemic risk</li> </ul>	
09.06.2020	Update Alert: Epidemiology of and risk factors for coronavirus infection in health care workers	Annals of Internal Medicine   Letter	<ul style="list-style-type: none"> <li>• First monthly update alert for a living review on the epidemiology and risk factors for coronavirus infections in HCWs</li> </ul>	Risk factors, infection, HCWs
09.06.2020	Sex differences in immune responses to SARS -CoV-2 that underlie disease outcomes	medRxiv   Preprint (not peer reviewed)	<ul style="list-style-type: none"> <li>• This study examined sex differences in viral loads, SARS-CoV-2-specific antibody titres, plasma cytokines and blood cell phenotyping in C19 patients with mild to moderate disease who had not received immunomodulatory medications</li> <li>• Findings reveal a possible explanation underlying observed sex biases in C19</li> </ul>	Sex, immune responses
09.06.2020	An analysis of SARS-CoV-2 viral load by patient age	medRxiv   Preprint (not peer reviewed)	<ul style="list-style-type: none"> <li>• Analysis to examine the relationship between patient age and estimated viral load from this study conducted in Germany concludes that a considerable percentage of infected people in all age groups, including those who are pre- or mild-symptomatic, carry viral loads like to represent infectivity</li> </ul>	Age, viral load, infectivity

			<ul style="list-style-type: none"> <li>• Authors recommend caution and careful monitoring during gradual lifting of NPIs. There is little evidence from the present study to support suggestions that children may not be as infectious as adults</li> </ul>	
08.06.2020	Reduction in mobility and COVID-19 transmission	ICL   Report 26	<ul style="list-style-type: none"> <li>• Mobility data represent an important proxy of measure of social distancing</li> <li>• This modelling study developed a framework and applied to 53 countries with sustained SARS-CoV-2 transmission based on two distinct country-specific automated measures of human mobility – Apple and Google. The relationship between mobility and transmission was consistent within and across countries</li> <li>• Enhanced control measures necessary to expect a decline in new infections (<math>R &lt; 1</math>) are still warranted for the majority of countries</li> <li>• Early evidence was found of some decoupling of transmission and mobility in 10 countries – a key indicator of successful easing of social-distancing restrictions</li> </ul>	Mobility, transmission

## Infection Prevention and Control

Publication date	Title/URL	Journal/Article type	Summary	Keywords
12.06.2020	The impact of COVID-19 and strategies for mitigation and suppression in low- and middle-income countries	Science   Research Article	<ul style="list-style-type: none"> <li>• Analysis combines data on demography, contact patterns, disease severity and health care capacity and quality to understand its impact and inform strategies for its control</li> <li>• Limited health system capacity and closer inter-generational contact negate the “benefit” of younger populations in LICs</li> <li>• Mitigation strategies that slow but do not interrupt transmission will still result in health systems being overwhelmed due to the poorer health care available</li> <li>• Many lower income countries acted quickly when transmission was low which likely substantially slowed viral spread</li> <li>• This will need to be maintained or triggered frequently to keep within health care capacity</li> </ul>	Mitigation, suppression, health care capacity
04.06.2020	The natural history and transmission potential of asymptomatic SARS-CoV-2 infection	Clinical infectious diseases	<ul style="list-style-type: none"> <li>• A massive coronavirus testing campaign in Vietnam has found evidence that infected people who never show any symptoms can pass the virus to others.</li> <li>• Early in the global COVID-19 outbreak, Vietnam began to repeatedly test people at high risk of infection. Those who tested positive were admitted</li> </ul>	testing

			<p>to a hospital until they either recovered or tested negative.</p> <ul style="list-style-type: none"> <li>• Of roughly 14,000 people tested between mid-March and early April, 49 were infected. Le Van Tan at the Oxford University Clinical Research Unit in Ho Chi Minh City, Vietnam, and his colleagues monitored 30 of the 49 individuals and found that 13 developed no symptoms during their hospital stay</li> </ul>	
09.06.2020	Exploring the correlation between COVID-19 fatalities and poor WASH services	medRxiv   Preprint (not peer reviewed)	<ul style="list-style-type: none"> <li>• It is currently unknown whether poor or non-availability of WASH services are closely related to C19 fatalities</li> <li>• Analysis of data on C19 fatality rates in SSA with indicators of safe water and sanitation governance show a strong correlation between a higher case fatality rate and poorer access to safe drinking water as well as safe sanitation</li> <li>• Whilst an association was confirmed by this study, this analysis does not establish causality</li> </ul>	Mortality, WASH
08.06.2020	The effect of large-scale anti-contagion policies on the COVID-19 pandemic	Nature   Article	<ul style="list-style-type: none"> <li>• We estimate that early infections of COVID-19 exhibit exponential growth rates of roughly 38% per day. We find that anti-contagion policies have significantly and substantially slowed this growth.</li> <li>• These findings may help inform whether or when these policies should be deployed, intensified, or lifted, and they can support</li> </ul>	Masks, social contact



			decision-making in the other 180+ countries where COVID-19 has been reported	
06.06.2020	The impact of COVID-19 control measures on social contacts and transmission in Kenyan informal settlements	medRxiv   Preprint (not peer reviewed)	<ul style="list-style-type: none"> <li>• Study collected contact data from residents of informal settlements around Nairobi, Kenya to assess if control measures have changed contact patterns, and estimate the impact of changes on the basic reproduction number (R0).</li> <li>• COVID-19 control measures have had a large impact on direct contacts and therefore transmission, but have also caused considerable economic and food insecurity. Reductions in R0 are consistent with the linear epidemic growth in Kenya and other sub-Saharan African countries that implemented similar, early control measures</li> </ul>	Masks, social contact
05.06.2020	SARS-CoV-2 in environmental samples of quarantined households	medRxiv   Preprint (not peer reviewed)	<ul style="list-style-type: none"> <li>• Contaminated surfaces might have only a minor role in transmitting COVID-19 within households.</li> <li>• Ricarda Schmithausen at the University of Bonn in Germany and her colleagues looked for traces of the virus SARS-CoV-2 in 21 households that each included at least one infected person. The team found viral RNA in just 3% of samples from the most frequently touched objects, such as door knobs, and in 15% of samples taken from bathroom drains and toilets. The team could not grow</li> </ul>	Surfaces

			<p>infectious virus from any of the samples.</p> <ul style="list-style-type: none"> <li>• All 15 samples from air monitors designed to pick up fine respiratory aerosol particles tested negative for viral RNA, although the authors say that the method they used means this result should be interpreted cautiously.</li> <li>• The findings suggest that direct transmission of the coronavirus, for example through exhaled or coughed droplets, is probably the main route of infection. However, transmission in wastewater is a possible route of infection, the authors add.</li> </ul>	
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## Testing

Publication date	Title/URL	Journal/Article type	Summary	Keywords
11.06.2020	Systematic SARS-CoV-2 screening in cerebrospinal fluid during the COVID-19 pandemic	The Lancet Microbe   Correspondence	<ul style="list-style-type: none"> <li>• Retrospective systematic screening of all cerebrospinal fluid (CSF) samples (n=622) at University Hospital in Lyon, France 1 Feb to 11 May 2020</li> <li>• SARS-CoV-2 detection in CSF samples was very low suggesting that although SARS-CoV-2 can replicate in neuronal cells in vitro, SARS-CoV-2 testing in CSF is currently not relevant in the general population</li> <li>• Further studies are required to identify the potential role of the host-immune response on neurological manifestation in patients with C19</li> </ul>	Testing, CSF

12.06.2020	Evaluation of sample pooling for screening of SARS-CoV-2	medRxiv   Preprint (not peer reviewed)	<ul style="list-style-type: none"> <li>• This study recommends pooling of 4 in 1 using the standard protocols of the assay, reagents and equipment, expected to retain test accuracy</li> <li>• This approach allows expansion of screening capacity</li> </ul>	Sample pooling
12.06.2020	An imperfect tool: COVID-19 'test & trace' success relies on minimising the impact of false negatives and continuation of physical distancing	medRxiv   Preprint (not peer reviewed)	<ul style="list-style-type: none"> <li>• Although this study extends an existing UK-focused branching process model, it highlights that test accuracy must be considered when relaxing physical distancing measures through contact tracing.</li> </ul>	Test accuracy
08.06.2020	Optimising SARS-CoV-2 pooled testing for low-resource settings	Lancet Microbe   Comment	<ul style="list-style-type: none"> <li>• Several policy proposals support mass individual testing to suppress SARS-CoV-2 but with restricted testing capacity, such testing is not only infeasible for low-income countries, but also an inefficient use of scarce testing kits that adversely affects the global supply of testing kits.</li> <li>• Group testing offers a viable alternative.</li> <li>• This article discusses three different approaches to group testing that are benchmarked against individual testing.</li> </ul>	•

## Therapeutics

Publication date	Title/URL	Journal/Article type	Summary	Keywords
11.06.2020	Hydroxychloroquine proves ineffective in hamsters and macaques infected with SARS-CoV-2	bioRxiv   Preprint (not peer reviewed)	<ul style="list-style-type: none"> <li>Although many human clinical trials are ongoing assessing efficacy of prophylactic/therapeutic use of hydroxychloroquine (HCQ) for C19 there remains a lack of supportive preclinical drug efficacy studies</li> <li>This preclinical animal study in two animal models does not support the use of HCQ in prophylaxis/treatment of C19</li> </ul>	Preclinical, HCQ

## Vaccines

Publication date	Title/URL	Journal/Article type	Summary	Keywords
10.06.2020	Generation of a Broadly Useful Model for COVID-19 Pathogenesis Vaccination, and Treatment	Cell   Article	<ul style="list-style-type: none"> <li>It is critical that vaccines and therapeutics be developed very rapidly. Mice, the ideal animal for assessing such interventions, are resistant to SARS-CoV-2.</li> <li>Article describes a murine model of broad and immediate utility to investigate COVID-19 pathogenesis, and to evaluate new therapies and vaccines.</li> </ul>	mouse model, pathogenesis, therapeutics, vaccine

10.06.2020	Neuropilin-1 facilitates SARS-CoV-2 cell entry and provides a possible pathway into the central nervous system	bioRxiv   Preprint (not peer reviewed)	<ul style="list-style-type: none"> <li>• Researchers have found a second protein that SARS-CoV-2 uses to enter human cells, potentially offering a new target for vaccines and drugs.</li> <li>• The SARS-CoV-2 protein called Spike is known to attach to a human protein called ACE2, which allows the virus to enter cells. Two teams of researchers have now found that the human protein neuropilin-1 (NRP1) also aids viral invasion.</li> <li>• Peter Cullen and Yohei Yamauchi at the University of Bristol, UK, and their colleagues showed that a fragment of the Spike protein can bind to NRP1</li> </ul>	vaccine
05.06.2020	Neuropilin-1 is a host factor for SARS-CoV-2 infection	bioRxiv   Preprint (not peer reviewed)	<ul style="list-style-type: none"> <li>• This team found that in mice, NRP1 assists the entry of virus-sized particles into the central nervous system.</li> <li>• The two studies suggest that blocking the interaction between the virus and NRP1 could</li> </ul>	Vaccine

			provide a way to combat coronavirus infection.	
06.06.2020	Development of an inactivated vaccine candidate, BBIP-CorV, with potent protection against SARS-CoV-2	Cell   Article	<ul style="list-style-type: none"> <li>• An inactivated SARS-coV-2 vaccine candidate BBIP-CorV</li> <li>• This vaccine induces high levels of neutralising antibody titres in animal models</li> <li>• Two-does immunisation with 2ug/dose of the vaccine candidate efficiently protects rhesus macaques</li> <li>• This vaccine candidate exhibits efficient productivity and good genetic stability for vaccine manufacture</li> </ul>	Vaccine candidate, animal models

## Social Science

Publication date	Title/URL	Journal/Article type	Summary	Keywords
05.06.2020	Mental Health Status of Medical Staff in Emergency Departments During the Coronavirus Disease 2019 Epidemic in China	Brain, behaviour and immunity	<ul style="list-style-type: none"> <li>• 14,825 doctors and nurses in 31 provinces of mainland China completed the survey</li> <li>• Prevalence rates of depressive symptoms and post-traumatic stress disorder (PTSD) were 25.2% for doctors and 9.1% for nurses. Men were more likely to have depressive symptoms and PTSD than women.</li> <li>• Findings suggest targeted psychological interventions to promote</li> </ul>	Mental health, China

			the mental health of medical staff with psychological problems need to be immediately implemented. Special attention should be paid to local medical staff in Hubei.	
08.06.2020	Quantify the role of superspreaders -opinion leaders- on COVID-19 information propagation in the Chinese Sina-microblog	PLOS One   article	<ul style="list-style-type: none"> <li>• Effective communication of accurate information through social media constitutes an important component of public health interventions</li> <li>• Study is a mathematical model to quantify the roles of information superspreaders in single specific information which outbreaks rapidly and usually has a short duration period, and to examine the information propagation dynamics in the Chinese Sina-microblog.</li> </ul>	

## Comments, Editorials, Opinions, Blogs, News

Publication date	Title/URL	Journal   Article type	Author(s)
13.06.2020	COVID-19 vaccines for all?	The Lancet   World Report	Ann Danaiya Usher
13.06.2020	Offline: COVID-19 - what can we expect to come	The Lancet   Comment	Richard Horton
12.06.2020	Predicting COVID-19 infection fatality rates around the world	CGD   Blog	Justin Sandefur et al.
11.06.2020	Socio-demographic and epidemiological consideration of Africa's COVID-19 response: what is the possible pandemic course?	Nature Medicine   Comment	Bamba Gaye et al.

09.06.2020	Update Alert: Epidemiology of and Risk Factors for Coronavirus Infection in Health Care Workers	Annals of Internal Medicine   Letter	Roger Chou, Tracy Dana, David I. Buckley, Shelley Selph,
09.06.2020	When the Dust Settles: Preventing a Mental Health Crisis in COVID-19 Clinicians	Annals of Internal Medicine   Ideas and opinions	Stephanie B. Kiser, Rachelle E. Bernacki,
09.06.2020	The Impact of COVID-19 on Food Security and Nutrition	UN   Policy Brief	
10.06.2020	The Importance of Proper Death Certification During the COVID-19 Pandemic	JAMA   Viewpoint	James R. Gill, Maura E. DeJoseph, DO
10.06.2020	Hydroxychloroquine side-effects raise concerns for rheumatology patients	Lancet Rheumatology   News	Brian Owens
09.06.2020	Overcoming COVID-19: Addressing the perception of risk and transitioning protective behaviours to habits	Infection control & hospital infection   Letter	Mohamad G. Fakh Lisa Sturm Rand R. Fakh
09.06.2020	Evaluation of modelling study shows limits of COVID-19 importing risk simulations in sub-Saharan Africa	Epidemiology & Infection	T Miyachi T Tanimoto M Kami
09.06.2020	Addressing the public mental health challenge of COVID-19	The Lancet   Psychiatry	Jonathan Campion Afzal Javed Norma Sartorius Michael Marmot



06.06.2020	Letter to the Editor regarding “COVID-19 and Neurosurgical Education in Africa”; How the pandemic is changing neurosurgical education in Morocco.	World Neurosurgery   Letter to editor	Mohammed Yassaad Oudrhiri et al
08.06.2020	COVID-19 and measles: double trouble for Burundi	Lancet Microbe   News	Sanjeet Bagcchi
01.06.2020	COVID-19 diagnostics—not at the expense of other diseases	Lancet Microbe   News	Priya Venkatesan
01.06.2020	We risk letting a new threat expose us to old enemies	Lancet Microbe	
08.06.2020	Global health under fire: Trump and covid are just two of the threats	BMJ   Feature	Mara Kardas-Nelson
07.06.2020	Nigeria: Coronavirus - Abia Cases Quadruple As Nigeria Records 260 New Infections	All Africa	
06.06.2020	COVID-19 vaccine development pipeline gears up	Lancet   World Report	Asher Mullard
05.06.2020	The WHO we want	Lancet   Comment	Olivier Nay, Marie-Paule Kieny, Lelio Marmora, Michel Kazatchkine
05.06.2020	False Negative Tests for SARS-CoV-2 Infection — Challenges and Implications	NEJM   Perspectives	Steven Woloshin, Neeraj Patel, and Aaron S. Kesselheim,
05.06.2020	Caring for Women Who Are Planning a Pregnancy, Pregnant, or Postpartum During the COVID-19 Pandemic	JAMA Insights	Sonja A. Rasmussen, Denise J. Jamieson

04.06.2020	Kenya: Govt to Roll Out Home-Based Care for COVID-19 Patients, Kagwe Says	All Africa	
04.06.2020	Kenya: Fistula Patients Suffer in Silence Amid COVID-19	All Africa	
05.06.2020	An urgent call to address the nutritional status of women and children in Nepal during COVID-19 crises	International journal for equity in health   Commentary	
08.06.2020	India coronavirus: Patients stranded as Delhi struggles with Covid	BBC	
06.06.2020	Infections are rising fast in Bangladesh, India and Pakistan	Economist	
07.06.2020	S.Africa government, private hospitals agree deal on COVID-19 patients	Reuters	

## Guidelines, Statements & Tools

Publication Date	Title/URL	Source	Summary
10.06.2020	COVID-19 measures must be grounded first and foremost on the right to health	OHCHR   Press release	<ul style="list-style-type: none"> <li>UN Human Rights Special Rapporteur press release on the right to health foundation of the C19 response</li> </ul>

## 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	<a href="#">COVID-19 Oxford Vaccine Trial</a>
WEF		Sierra Leone	Oxford COVID-19 Government Response Tracker (OxCGRT)	US NIH	Our World in Data: COVID-19 Testing	COVID-19 Therapeutics Accelerator	
Our World in Data		Singapore	Our World in Data: COVID-19 Policy responses	COVID-evidence			
Global 5050		UK	<a href="#">IFPRI COVID-19 Policy Response Portal</a>	Cochrane			
CEBM, University of Oxford		US	<a href="#">COVID-19 Primer</a>	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		Social Development Direct C19 blog series
UN Women	Africa Evidence Network	Elsevier	CMMID Repository		
UNOCHA	OCHA Southern and Eastern Africa COVID-19 Digest	JAMA Network	Norwegian Institute of Public Health		
UNHCR	South African Government	The Lancet	Oxford Centre for Evidence-based Medicine		
UNICEF		medRxiv and bioRxiv (Preprints)	HEART		
UNESCO		NEJM	UKRI		
UN WFP		Oxford University Press	Evidence Aid		
GOARN		PLoS	NIH		
EPI-WIN		SAGE journals	IFPRI Resources and Analyses of C19 Impact		
World Bank		Science	Prevent Epidemics		

Our World in Data		Springer Nature			
COVID-19 Narratives by David Nabarro		SSRN (Preprints)			
Reliefweb		Wiley			
Humanitarian OpenStreetMap Team					
Global Partnership for Sustainable Development Data					
WorldPop					
Flowminder					
COVID-END					
Premise COVID-19 Global Impact Study					

## Online learning & events

Date	Title/URL	Online learning/event	Duration	Lead
Available now	<a href="#">Standard precautions: Environmental cleaning and disinfection</a>	Online course	1 hour	WHO
16.06.2020	<a href="#">Africa beyond COVID-19</a>	Virtual event	1h 30 hours	ODI
15.06.2020	<a href="#">Poverty monitoring in the context of Covid-19</a>	Virtual event	1h 15	ODI
Available now	<a href="#">COVID-19: Effective Nursing in Times of Crisis</a>	Online course	2 weeks – 2 hours per week	Johns Hopkins School of Nursing
Available now	<a href="#">WHO Academy and WHO Info mobile applications</a>	Mobile app		WHO
Available now	<a href="#">COVID-19: Pandemics, Modelling and Policy</a>	Online learning	2 weeks   2 hours weekly study	FutureLearn UNESCO UNITWIN Complex Systems Digital Campus/Open University
12.05.2020	<a href="#">COVID-19 and maintaining quality essential health services</a>	Webinar	1 hour	WHO & ISQua – Dr Shams Syed, Dr Peter Lachman, Dr Teri Rynolds & Dr Ed Kelley
11.5.2020	<a href="#">COVID-19 Contact Tracing course</a>	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 weekly study	FutureLearn LSHTM/UK PHRST
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 daily 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 is a weekly summary of the daily COVID-19 health evidence summary (HES) which are based on 3 hours of desk-based research each day. 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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