K4D | Knowledge, evidence and learning for development

COVID-19
Health Evidence Summary No.89

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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
19.08.2020	Effects of COVID-19 on the nervous system	Cell | Review	• A critical appraisal of the potential for neurotropism and mechanisms of neuropathogenesis of SARS-CoV-2, as they relate to the acute and chronic neurological consequences of the infection • Includes outstanding questions	Nervous system
18.08.2020	Effects of a major deletion in the SARS-CoV-2 genome on the severity of infection and the inflammatory response: an	The Lancet | Article	• Deletions in open reading frame 8 (ORF8) is a hotspot for coronavirus mutation • The clinical effect of deletions in this region appears to be a milder infection with less systemic release of proinflammatory	Genome deletion

	observational cohort study		cytokines and a more effective immune response to SARS-CoV-2 • Further study of these variants could have implications for development of treatments and vaccines	
17.08.2020	COVID-19 and multisystem inflammatory syndrome in children and adolescents	The Lancet Infectious Diseases | Review	• A review of the epidemiology, causes, clinical features and current treatment protocols for multisystem inflammatory syndrome in children and adolescents associated with C19 • Also a discussion on the possible underlying pathophysiological mechanisms for C19-induced inflammatory processes, which can lead to organ damage in paediatric patients who are severely ill • This provides evidence for the need to develop a clear case definition and treatment protocol for this new condition	Multisystem inflammatory syndrome, children, adolescents
17.08.2020	SARS-CoV-2 renal tropism associates	The Lancet | Correspondence	• SARS-CoV-2 has been found in the kidney but the clinical effect remains unclear	renal

	with acute kidney injury		• Data from a post-mortem series of 63 patients who had SARS-CoV-2 respiratory infection, linking SARS-CoV-2 renal tropism to clinical outcome and acute kidney injury	

Epidemiology and modelling

Publication date	Title/URL	Journal/Article type	Summary	Keywords
18.08.2020	Comparison of molecular testing strategies for COVID-19 control: a mathematical modelling study	The Lancet Infectious Diseases | Article	• WHO has called for increased C19 testing, but countries have taken different approaches and the effectiveness of alternative strategies is unknown • This modelling study investigated the potential impact of different testing and isolation strategies SARS-CoV-2 transmission • The expected effectiveness of different testing strategies was defined as the percentage reduction in R • Authors conclude that molecular testing can play an important role in prevention of SARS-CoV-2 transmission, especially among healthcare workers and other high-risk groups, but no single strategy will reduce R below 1 at current levels of population immunity	Molecular testing strategies
13.08.2020	Contact settings and risk for transmission	Annals Internal	• Risk for transmission of SARS-CoV-2 to close contacts of infected persons has not been well estimated	Transmission risk, close contacts

	in 3410 close contacts of patients with COVID-19 in Guangzhou, China: A prospective cohort study	Medicine | Article	• This prospective cohort study evaluates the risk for transmission of SARS-CoV-2 to close contacts in different settings • Compared with the household setting (10.3%), the secondary attack rate was lower for exposures in healthcare settings (1.0% OR 0.09 [CI, 0.04 to 0.20]) and on public transportation (0.1% OR 0.01 [CI 0.00 to 0.08]) • The secondary attach rate increased with the severity of index cases	

Infection Prevention and Control

Publication date	Title/URL	Journal/Article type	Summary	Keywords
18.08.2020	Digital contact tracing technologies in epidemics: a rapid review	Cochrane Systematic Review - Rapid	• A rapid review on the effectiveness of digital solutions to contact tracing during infectious disease outbreaks • The effectiveness of digital solutions is largely unproven as there are very few published data in real-world outbreak settings • None of the included studies assessed digital plus manual contact tracing with digital contact tracing alone • Digital solutions may have equity implications for at-risk populations with poor internet access and poor access to digital technology	Digital contact tracing
19.08.2020	Automated and partly automated contact tracing: a	The Lancet Digital Health | Review	• A SR of automated or partly automated contact tracing • No empirical evidence of the effectiveness of	Digital contact tracing

Publication date	Title/URL	Journal/Article type	Summary	Keywords
	systematic review to inform the control of COVID-19		- automated contact tracing was identified - Concerns regarding privacy and equity should be considered - Well-designed prospective studies are needed given gaps in evidence of effectiveness. - Large-scale manual contact tracing is therefore still key in most contexts	
17.08.2020	SARS-CoV-2 infection among community health workers in India before and after use of face shields	JAMA | Research Letter	- Face shields have been proposed to prevent transmission of SARS-CoV-2 in the community but data are lacking - Here the transmission in a community setting before and after the use of face shields is described - The study found no SARS-CoV-2 infections among community health workers after the addition of face shields to their personal protective equipment - The before-after design is a limitation and further investigation of face shields in community settings is warranted	Face shields, community transmission

Therapeutics

Publication date	Title/URL	Journal/Article type	Summary	Keywords
14.08.2020	Implications of sex differences in immunity for SARS-CoV-2 pathogenesis and design of therapeutic interventions	Cell| Review	- Men present more frequently with severe manifestations of COVID-19 and are at higher risk for death - Sex differences in immunity contribute to better control of SARS-CoV-2 in women - Immune-mediated tissues repair mechanisms differ between the sexes	Sex differences, immunity

Publication date	Title/URL	Journal/Article type	Summary	Keywords
14.08.2020	Tocilizumab among patients with COVID-19 in the intensive care unit: a multicentre observational study	The Lancet Rheumatology | Article	• Tocilizumab, a monoclonal antibody directed against the IL-6 receptor, could mitigate the cytokine storm syndrome associated with severe C19 • This observational study found that patients with C19 requiring ICU support who received tocilizumab had reduced mortality • Awaiting results of ongoing randomised controlled trials	Tocilizumab, mortality

Vaccines

Publication date	Title/URL	Journal/Article type	Summary	Keywords
20.08.2020	RNA-based COVID-19 vaccine BNT162b2 selected for a pivotal efficacy study	medRxiv | preprint (not peer-reviewed)	• Additional safety and immunogenicity data from the US phase 1 trial that supported selection of the vaccine candidate • Results support selection of the BNT162b2 vaccine candidate for phase 2/3 large-scale safety and efficacy evaluation, currently underway	Phase 1, RNA vaccine

Social Science

Publication date	Title/URL	Journal/Article type	Summary	Keywords
19.08.2020	Knowledge and perception of COVID-19, prevalence of pre-existing conditions and access	medRxiv | preprint (not peer reviewed)	• There are 'immense gaps' in the knowledge and perceptions of C19 and access to treatment and preventative services among individuals living in Somali IDP camps • Huge resources are needed to adequately address C19 in Somalia, starting with educating those most vulnerable to infection	Knowledge gap, perception

	to essential resources and health services in Somali IDP camps			
17.08.2020	Behavioural preventive measures and the use of medicines and herbal products among the public in response to Covid-19 in Bangladesh: a cross-sectional study	medRxiv | preprint (not peer reviewed)	• Cross-sectional survey of 1222 people • Gender, age and fear of C19 were associated with the use of both preventive medicines and herbal products • Paracetamol, Fexofenadine and zinc supplements were used most often for the management of C19 related symptoms • Most participants sought information from non-medical sources • Potentially inappropriate and unnecessary use of drugs were identified	Prevention, medicines, herbal products
16.08.2020	Knowledge, practice and associated factors towards the prevention of COVID-19 among high-risk groups: a cross-sectional study in Addis Ababa, Ethiopia	medRxiv | preprint (not peer reviewed)	• This study found that there was moderate knowledge about transmission modes and prevention mechanism • Also moderate practice of measures that contribute towards the prevention of C19 among these priority high-risk communities of Addis Ababa • There is an need to fill this knowledge gap to improve prevention practices and control the spread of C19 • Female public figures and religious leaders could help support raising awareness	Knowledge gap

Comments, Editorials, Opinions, Blogs, News

Publication date	Title/URL	Journal	Article type
Sept 2020	Improving handwashing habits and household air quality in Africa after COVID-19	The Lancet Global Health	Comment
Sept 2020	Water and sanitation in a post-COVID world	The Lancet Global Health	Editorial
20.08.2020	Airborne transmission of covid-19	BMJ	Editorial
19.08.2020	Progress report on the coronavirus pandemic	Nature	Editorial
19.08.2020	Modelling the manufacturing process for COVID-19 vaccines: our approach	CGD	Blog
18.08.2020	Community engagement for successful COVID-19 pandemic response: 10 lessons from Ebola outbreak responses in Africa	BMJ Global Health	Commentary
18.08.2020	Accelerating genomics-based surveillance for COVID-19 response in Africa	The Lancet Microbe	Comment
17.08.2020	The perils of preprints	BMJ	Editorial
15.08.2020	COVID-19 worsens in Zimbabwe's health crisis	The Lancet	World Report
15.08.2020	Humanitarian crises in a global pandemic	The Lancet	Editorial
15.08.2020	COVID-19 combination prevention requires attention to structural drivers	The Lancet	Correspondence
15.08.2020	Emerging pandemic diseases: how we got to COVID-19	Cell	Perspective

Date	Title	Source
14.08.2020	Finding the best covid-19 vaccine should not be a race	BMJ | Opinion
13.08.2020	COVID-19 in Kenya: 150 days of learning	BMJ Global Health | Blog
13.08.2020	How contextual issues are jeopardising the COVID-19 response in Mali?	BMJ Global Health | Blog
13.08.2020	Sex differential in COVID-19 mortality varies markedly by age	The Lancet | Correspondence
11.08.2020	COVID-19 pandemic more than a century after the Spanish flu	The Lancet Infectious Diseases | Correspondence
11.08.2020	The pandemic appears to have spared Africa so far. Scientists are struggling to explain why	Science | News
10.08.2020	Digital public health and COVID-19	The Lancet Public Health | Comment
05.08.2020	Innovation during COVID-19: Applying global mental health lessons from humanitarian settings to high resource settings	Health Policy and Planning Debated | Blog
2020	COVID-19: Implications of cross-border traffic in Eastern and Southern Africa	SSHAP | Infographics

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							
SeroTracker							

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 communicati on	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: Handwashi ng in low resource settings	Coregrou p 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 Preparedne ss Innovations	Social Developm ent Direct C19 blog series
UN Women	Africa Evidence Network	Elsevier	CMMID Repository		

UNOCHA	OCHA Southern and Eastern Africa COVID-19 Digest	Health Policy and Planning	Norwegian Institute of Public Health		
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	
June 2020	OpenWHO, the free, open-access learning platform for health emergencies, now offers 10 online courses related to COVID19.	Online courses	Varies	WHO	
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
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
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

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).