COVID-19
Health Evidence Summary No.111

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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.

Epidemiology and modelling

Publication date	Title/URL	Journal/Article type	Summary	Keywords
05.02.2021	Phylogenetic analysis of SARS-CoV-2 in Boston highlights the impact of superspreading events	Science | Research Article	• Here genomic epidemiology was used to investigate the introduction and spread of SARS-CoV-2 in the Boston area across the first wave of the pandemic from March to May 2020 • Results evidence the importance of superspreading events in shaping the course of the pandemic and illustrate how some introductions in an urban setting can lead to a disproportionate number of cases originating from often-times asymptomatic individuals and highlights the close relationships between seemingly disconnected	Superspreading

			groups and populations	
05.02.2021	Immunological memory to SARS-CoV-2 assessed for up to 8 months after infection	Science | Research Article	• Immunological memory (B cells, antibodies, memory CD4+ T cells, and/or CD8+ T cells) is the basis for durable protective immunity after infections or vaccinations but its duration after SARS-CoV-2 infection and COVID-19 is unclear. Understanding this memory would help assess the likely future course of the COVID-19 pandemic • This study involved 254 samples from 188 COVID-19 cases across the range of severity of COVID-19, including 43 samples at 6 to 8 months after infection • Authors found a high degree of heterogeneity in the magnitude of adaptive immune responses that persisted into the immune memory phase to the virus • However, immune memory in three immunological compartments remained measurable in greater that 90% of subjects for more than 5 months after infection • Circulating antibody titres were not predictive of T cell	Immunological memory, protection

			memory thus, simple serological tests for SARS-CoV-2 antibodies do not reflect the richness and durability of immune memory to SARS-CoV-2
			• Despite this heterogeneity of immune responses, these results show that durable immunity against secondary COVID-19 disease is a possibility for most individuals

Infection Prevention and Control

Publication date	Title/URL	Journal/Article type	Summary	Keywords
02.02.2021	Asymptomatic SARS-CoV-2 infections among person entering China from April 16 to October 12, 2020	JAMA | Research Letter	• China successfully controlled its initial COVID-19 epidemic in March 2020 and has since focused on preventing importation of SARS-CoV-2 • This retrospective study assessed the proportion of international entrants to China with asymptomatic SARS-CoV-2 infection (as determined by PCR test result) from 16 April to 12 October 2020 • Findings were that a high and increasing proportion of asymptomatic infections among all SARS-CoV-2-positive international entrants to China may signal an increase in asymptomatic infection globally	Asymptomatic infection

Therapeutics

Publication date	Title/URL	Journal/Article type	Summary	Keywords
05.02.2021	Peginterferon lambda for the treatment of outpatients with COVID-19: a phase 2, placebo-controlled randomised trial	The Lancet Respiratory Medicine | Article	• No approved therapy exists for outpatients with COVID-19 • Double-blind, placebo-controlled trial investigating the safety and efficacy of subcutaneous injection with peginterferon lambda, a type III interferon involved in innate antiviral responses with activity against respiratory pathogens, in the treatment of outpatients with mild-to-moderate COVID-19 • Peginterferon lambda was safe and well tolerated • Peginterferon lambda accelerated viral decline in outpatients with COVID-19, increasing the proportion of patients with viral clearance by day 7, especially in those with high baseline viral load • Treatment with peginterferon lambda early in the course of disease has the potential to prevent clinical deterioration and shorten duration of viral shedding – important in reducing transmission and reducing the duration of self-isolation	Peginterferon lambda, innate response, mild-to-moderate COVID-19
02.02.2021	Azithromycin in patients admitted to	The Lancet | Article	• Evaluation of the safety and efficacy of azithromycin, on the basis of its	Azithromycin

hospital with COVID-19 (RECOVERY): a randomised, controlled, open-label, platform trial		• immunomodulatory actions, in patients admitted to hospital with COVID-19 • Azithromycin did not improve survival or other prespecified clinical outcomes in patients admitted to hospital with COVID-19 • Azithromycin should not be used to treat patients admitted to hospital with COVID-19 unless there is a clear antimicrobial indication	

Vaccines

Publication date	Title/URL	Journal/Article type	Summary	Keywords
08.02.2021	Neutralization of SARS-CoV-2 spike 69/70 deletion, E484K and N501Y variants by BNT162b2 vaccine-elicited sera	Nature Medicine | Brief Communication	• Here the Pfizer-BioNTech COVID-19 vaccine is shown to neutralize SARS-CoV-2 with the N501Y and E484K mutations, which are present in strains from the UK and South Africa, in blood plasma from 20 people who recently had two shots of the Pfizer-BioNTech vaccine • Surveillance of the ongoing evolution of SARS-CoV-2 should work with preparations for the possibility that future mutations might necessitate changes to vaccine strains	Pfizer-BioNTech COVID-19 vaccine, UK variant, South African variant
04.02.2021	Efficacy of ChAdOx1 nCoV-19 (AZD1222) vaccine against SARS-CoV-2 VOC	SSRN | pre-print (not peer reviewed)	• Oxford's ChAdOx1 vaccine has similar efficacy against the B.1.1.7 'Kent' coronavirus strain to previously circulating variants • The ChAdOx1 vaccine also results in a reduction in the duration	Oxford COVID-19 vaccine, UK variant

	202012/01 (B.1.1.7)		of shedding and viral load, which may result in reduced transmission	
02.02.2021	Safety and efficacy of an rAd26 and rAd5 vector-based heterologous prime-boost COVID-19 vaccine: an interim analysis of a randomised controlled phase 3 trial in Russia	The Lancet | Article	• A heterologous recombinant adenovirus (rAd)-based vaccine, Gam-COVID-Vac (Sputnik V), showed a good safety profile and induced strong humoral and cellular immune responses in participants in phase 1/2 clinical trials • Here results of the randomised, double-blind, placebo-controlled, phase 3 trial in Moscow, Russia, including 21, 862 participants, are reported • Interim analysis of the phase 3 trial of Gam-COVID-Vac showed 91.6% efficacy against COVID-19 and was well tolerated in a large cohort • The vaccine is stored and distributed at -18oC but storage at 2-8oC has also been approved by the Ministry of Health of the Russian Federation	Gam-COVID-Vac (Sputnik V), efficacy

Indirect impact of COVID-19

Publication date	Title/URL	Journal/Article type	Summary	Keywords
04.02.2021	The impact of the COVID-19 lockdown in HIV care in 65 South African primary care clinics: an interrupted	The Lancet HIV | Article	• This study aimed to measure the impact of the 2020 national COVID-19 lockdown on HIV testing and treatment in KwaZulu-Natal, South Africa where 1.7 million people are living with HIV • A large dataset from urban and rural primary care clinics between 1 Jan 2018 and 31 July 2020 was analysed with use of interrupted time series	COVID-19, HIV

	time series analysis			analysis to account for longer-term trends • ART provision was generally maintained during the 2020 COVID-19 lockdown, but HIV testing and ART initiations were heavily impacted • Authors recommend that strategies to increase and catch up with HIV testing and treatment initiation should be implemented, alongside ongoing efforts to maintain treatment provision	

Comments, Editorials, Opinions, Blogs, News

Publication date	Title/URL	Journal	Article type
08.02.2021	Covid-19: First UK vaccine safety data are "reassuring," says regulator	BMJ	News
07.02.2021	ChAdOx1 nCov-19 provides minimal protection against mild-moderate COVID-19 infection from B.1.351 coronavirus variant in young South African adults	University of Oxford	News
06.02.2021	Understanding variants of SARS-CoV-2	The Lancet	World Report
06.02.2021	WHO team begins COVID-19 origin investigation	The Lancet	World Report
06.02.2021	Genomic sequencing in pandemics	The Lancet	Editorial
05.02.2021	Covid-19: The E484K mutation and the risks it poses	BMJ	News
05.02.2021	Vaccines are curbing COVID: Data from Israel show drop in infections	Nature	News
05.02.2021	What's the risk of dying from a fast-spreading COVID-19 variant?	Nature	News

05.02.2021	Yemen: Coronavirus in a war zone	The Lancet Respiratory Medicine	Spotlight
04.02.2021	How to save the world from long Covid	Financial Times	News
04.02.2021	India budget pledges billions for virus research amid COVID pandemic	Nature	News
04.02.2021	Could mixing COVID vaccines boost immune response?	Nature	News
04.02.2021	What went wrong in the global governance of covid-19?	BMJ	Editorial
04.02.2021	Covid-19: social murder, they wrote – elected, unaccountable, and unrepentant	BMJ	Editorial
05.02.2021	Two new vaccines deliver good and bad news for the pandemic	Science	In depth
05.02.2021	Danish scientists see tough times ahead as variant rises	Science	In depth
03.02.2021	Why aren't covid-19 vaccines being manufactured in standard prefilled syringes?	BMJ	Feature
02.02.2021	Azithromycin, RECOVERY, and the power of large, simple trials	The Lancet	Comment
28.01.2021	SARS-CoV-2 vaccines and the growing threat of viral variants	JAMA	Viewpoint

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			Our World in Data: COVID-19 vaccinations
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: Handwashing 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 Preparedness 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
February 2021	COVID-19 vaccination training for health workers	Online training	3h	WHO
14.01.2021	Evidence to impact in crisis: how have we measured up during the COVID-19 pandemic?	Webinar	1h 30	CGD

04.12.2020	COVID-19, supply chain resilience and global trade	Webinar	1h	CGD
03.12.2020	More money for health services: What is the tole of PFM in the "new normal"?	WHO & CGD Health systems Governance & Financing	1h 30	Joe Kutzin
01.12.2020	Solutions and support for the mental wellbeing of community health workers on the COVID-19 frontline	Webinar		HSG TWG on CHWs with The George Institute for Global Health
19.11.2020	Looking at the pandemic with a gender lens	Live Twitter conversation		SSHAP
16.11.2020	HIFA and WHO collaborate to promote sharing of experience and expertise around the maintenance of essential health services during (and after) the pandemic	4-week discussion starting 16 Nov		HIFA
10.11.2020	COVID-19 vaccine predictions part 2: estimating the time before we approve efficacious COVID-19 vaccines	Online event	1h30	CGD
16.10.2020	Financing a Global Public Health Response	Online event	1h30	CGD

02.10.2020	Understanding and Improving COVID-19 Vaccine Portfolio	Online event	1h30	CGD
21.09.2020	Mitigating the Economic and Health Impact of COVID-19 across Africa	Online event	1h30	CGD, GF, AU
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).