K4D | Knowledge, evidence and learning for development

COVID-19
Health Evidence Summary No.122

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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
03.05.2021	Clinical determinants of the severity of COVID-19: A systematic review and meta-analysis	PLOS One| Article	• A systematic review and meta-analysis was conducted to explore possible risk factors for severe COVID-19. • Two authors independently screened for articles. The Newcastle-Ottawa Scale was used to evaluate quality. Forty-one (41) articles were included and were published between 07.02.2020 and 13.03.2021. For meta-analysis, 21060 participants were included. • From pooled results, being male, being of advanced age, having history of smoking, and higher BMI (>_30kg/m2), were considered risk factors for severe disease. • Seven (7) co-morbidities were associated with risk	Clinical determinants, severity, systematic review, meta-analysis

			of severe disease, these included: Chronic Kidney Disease, Chronic Obstructive Pulmonary Disease, Coronary Heart Disease, malignancy, cerebrovascular disease, hypertension, diabetes, and chronic liver diseases. There was no significant difference in severe vs non severe COVID-19 disease in patients with asthma. • Results indicated that severe complications included Acute Respiratory Disease Syndrome, shock and Acute Kidney Injury.	
30.04.2021	Epidemiology, outcomes, and utilization of intensive care unit resources for critically ill COVID-19 patients in Libya: A prospective multi-center cohort study	PLOS One| Article	• Mortality and morbidity outcomes for patients admitted to Intensive Care Units (ICU) with severe COVID-19 infection have been reported, however, the authors report that only one other study specifically explores ICU outcomes in Africa. To address this gap, the authors present data from a prospective cohort study across 11 ICUs in Libya, from 29.05.2020 to 30.12.2020. Adult patients included (n=465) were followed up for 60 days from ICU admission or until discharge. • At 60 day follow up, 60.4% (281/465) of patients had died in the ICU, and 39.6% (184/465) were discharged. In comparing these two groups, multivariant analysis showed lower lymphocyte count, higher procalcitonin, cardiac troponin, C-reactive protein, D-dimer, total Sequential Organ Failure	Critical care, mortality, Libya, Intensive care Units, prospective cohorts, severe COVID-19

			Assessment (SOFA), emergency intubation and stress cardiomyopathy were significantly associated with mortality. • The study also found that those aged > 70 years had the highest mortality rate compared to the other age groups. Use of antibiotics was associated with lower mortality. • The study reports that the study '*demonstrated the utilization of both the SOFA score and quick SOFA score at admission. The results found a median (IQR) quick SOFA score of 1 (1–2) and a total SOFA score of 6 (4–7) on admission'*, and indicates the severity within the cohort. The authors report that some patients would have waited hours or days for an ICU bed due to lack of capacity during the surge in number of cases, which may have contributed to the SOFA scores and the higher mortality. The authors also report that other factors such as human resources and shortage of medical supplies, as well as the ongoing civil war and severe financial crisis should be considered, and therefore healthcare system challenges need to be addressed to support health workers and response during COVID-19 and also future pandemics.	

Vaccines

Publication date	Title/URL	Journal/Article type	Summary	Keywords
05.05.2021	Impact and effectiveness of mRNA BNT162b2 vaccine against SARS-CoV-2 infections and COVID-19 cases, hospitalisations, and deaths following a nationwide vaccination campaign in Israel: an observational study using national surveillance data	The Lancet| Article	- This study uses nationwide surveillance data in Israel to explore SARS-CoV2 outcomes following two doses of the BNT162b2 vaccine (Pfizer–BioNTech mRNA) for people over 16 years of age. Surveillance data from 24.01.2921 to 03.04.2021 was analysed. People were considered fully vaccinated if at least 7 days past receiving second vaccination. At the time, 4 714 932 (72·1%) of 6 538 911 people aged 16 years or older and 1 015 620 (90·0%) of 1 127 965 people aged 65 years or older were fully vaccinated with two doses. Outcomes analyses included; symptomatic and asymptomatic cases of COVID-19, hospitalised with COVID-19, severe/critical cases of COVID-19, and deaths. B.1.1.7 was reported as the dominant strain during this period. - During this time period; 232 268 SARS-CoV-2 infections were confirmed, and 66.6% were in people over 16 years. Out of this group (154 648), 71% were unvaccinated and 4.1% fully vaccinated. 54 677 people aged 16 years and older who had symptomatic COVID-19, 71·4% (39 065) were unvaccinated and 3·1% (1692) received two doses. 7694 people aged 16 years and older who were hospitalised with COVID-19, 71·8% (5526) were	BNT162b2 vaccine, observation, COVID-19 outcomes, vaccine efficacy and effectiveness, Israel

Date	Title	Source	Summary	Keywords

			unvaccinated and 7·7% (596) received two doses.
			  ○ 4481 COVID-19-related severe or critical hospitalisations occurred in people aged 16 years and older, among which 71·4% (3201) people were unvaccinated and 8·1% (364) were fully vaccinated.
			  ○ 1113 people aged 16 years and older who died from COVID-19, 64·2% (715) were unvaccinated and 12·4% (138) were fully vaccinated.
			• The authors report that 'the adjusted estimates of vaccine effectiveness were 91·5% (90·7–92·2%) against asymptomatic SARS-CoV-2 infection, 97·0% (96·7–97·2%) against symptomatic COVID-19, 97·2% (95% CI 96·8–97·5%) against COVID-19 hospitalisation, 97·5% (97·1–97·8%) against severe or critical hospitalisation, and 96·7% (95% CI 96·0–97·3%) against death.'
			• Vaccine effectiveness against deaths was estimated to be 98·1% at 14 days or longer after the second vaccine, and 77·0·% at 14–21 days after the first vaccine.
			• The authors conclude, that vaccination with two doses of BNT162b2 has high efficacy and effectiveness against a range of SARS-CoV-2 outcomes, including among older adults (aged ≥85 years).	

05.05.2021	Efficacy of NVX-CoV2373 Covid-19	The New England Journal of	• This paper reports on Phase 2 trials with NVX-CoV2373 (Novavax) in South Africa with people HIV negative, and a sub-group of people	NVX-CoV2373, Phase 2 Trials,

	Vaccine against the B.1.351 Variant	Medicine| Article	who are medically stable HIV positive. Participants were recruited from across 16 sites in South Africa, and were aged 18-84 years if HIV negative and 18-64 years if HIV positive. Participants either received the vaccine or a placebo in 1:1 ratio and were followed up 7 days, 21 days, 35 days, 3 months and 6months.	South Africa
			• 4387 participants were included and received at least one vaccine or placebo. 30% were seropositive for COVID-19 at baseline.	
			• Among vaccine recipients, adverse events reported included; headache (20 to 25%), muscle pain (17 to 20%), and fatigue (12 to 16%).	
			• 2684 participants who were COVID-19 seronegative at baseline were included in analysis for vaccine efficacy (94% HIV negative, 6% HIV positive). After 28 days, 15 participants in the vaccine group and 29 participants in the placebo group developed symptomatic COVID-19. All (except one person) were classified as mild/moderate COVID-19. The authors report vaccine efficacy of 49.4%. Vaccine efficacy among HIV-negative participants was 60.1%. Post hoc vaccine efficacy against B.1.351 was 51.0% among the HIV-negative participants.	

Indirect impact of COVID-19

Publication date	Title/URL	Journal/Article type	Summary	Keywords
05.05.2021	THE POTENTIAL IMPACT OF THE COVID-19 RESPONSE ON TUBERCULOSIS IN HIGH-BURDEN COUNTRIES: A MODELLING ANALYSIS	Stop TB Partnership| Report	• A modelling study was designed to explore the potential impact of short-term lockdowns due to COVID-19 on Tuberculosis (TB), focusing on India, the Republic of Kenya and Ukraine. Different models explored difficult scenarios including; 2 month lockdown followed by 2 month recovery and 3 month lockdown followed by 10 month recovery (worst case scenario). Global estimates were also made. • The authors summarise '*Each month taken to return to normal TB services would incur, in India, an additional 40,685 deaths between 2020 and 2025; in Kenya, an additional 1,157 deaths; and in Ukraine, an additional 137 deaths over this period.*' • For the worst case scenario, the authors report that this could lead to an additional 6.3 million cases of TB and additional 1.4 million deaths due to TB between 2020-2025. • Increase efforts and investment are therefore needed to mitigate against this. Measure suggested are intensifying active case finding, community engagement and contact tracing, and increasing access to TB treatment and care.	TB modelling, mortality from TB

Social Science

Publication date	Title/URL	Journal/Article type	Summary	Keywords

06.05.2021	Data Synthesis: COVID-19 Vaccine Perceptions in Africa: Social and Behavioural Science Data, March 2020 – March 2021	Social Science in humanitarian Action Platform| Evidence Reviews	• Vaccination is an important strategy during the COVID-19 pandemic. The target of the COVID-19 Vaccine Development and Access Strategy (Africa CDC 2020) is to vaccinate 60% of the population in Africa by 2022. Survey data across 22 African countries was analysed to explore public perception towards COVID-19 vaccinations to inform vaccination programmes. The five large scale surveys included over 12 million respondents between March 2020 and March 2021. Whilst key differences between the survey methodologies and limitations were acknowledged, the authors report the following key results:
			  ○ Overall vaccine acceptance was considered quite high, but variable across countries and type of survey. Guinea had the highest acceptance (86%) whist Cameroon had the lowest (35%).
			  ○ A large CDC survey indicated no overall gender difference in vaccine hesitancy, whilst smaller studies indicated women were more vaccine hesitant compared to men. Other demographic factors did not appear to have an impact on vaccine acceptance, although some studies reported higher acceptance for
				Vaccine uptake, community engagement, risk communication, vaccine hesitency

			older participants, higher economic groups or higher education group.	
			o In many of studies, personal risk of COVID-19 infection was perceived to be low, and there were concerns about the safety of the vaccine. This included: beliefs that the development of the vaccine was rushed; fear of side effects; beliefs about ingredients; and distrust over the mRNA technology used.	
			o There were some concerns about who will be prioritised for vaccination, potential cost implications and fear and distrust of potential mandatory vaccination strategies. There was also some mistrust about vaccine procurement within the context of geopolitics.	
			o There are rumours, misinformation and conspiracy theories circulating regarding vaccines. The CDC reported that 66% of participants believe they have been exposed to them. There were also some reports of the need for more information of the vaccines.	
			o There was some relationship between trust in governments and trust in the vaccine.	
			o COVID-19 had a negative impact on routine vaccinations.	

Leadership and governance

Publication date	Title/URL	Journal/Article type	Summary	Keywords
06.05.2021	A global public health convention for the 21st century	The Lancet Public Health| Article	Recognising the challenges of International Health Regulations framework, Duff *et al* propose 10 recommendations to strengthen global health governance in pandemic response. These 10 recommendations were developed through qualitative interviews with a panel of experts. Recommendations for global health security include: • Greater authority for a global governing body • Greater capacity for global health system (and agencies) to be flexible and rapidly respond to diverse needs. • A central body with technical expertise that is '*empowered to create and communicate the standards for the world without undue political interference*'. • An objective evaluation system for national core public health capacities. • Governing body (bodies) with the ability to enforce standards through effective enforcement mechanisms. • Autonomous governing body (bodies) with freedom of self-governance and decision making processes resistant to undue political pressures. • Sustainable financing • A governance structure which is representative of all countries, with a high degree of transparency and accountability.	Global governance, Global health security, International Health Regulations framework

• Multi-sector collaboration at all levels of governance.		
• Collective commitment and action from all countries.		

The authors recognise that implementing these recommendations may involve reforming and strengthening WHO, concluding, '*the lessons learned from the COVID-19 pandemic response efforts present a unique chance to re-evaluate, refocus, and revise the current global public health security system*' (page 5).

Health systems

Publication date	Title/URL	Journal/Article type	Summary	Keywords
04.05.2021	COVID-19 in West Africa: regional resource mobilisation and allocation in the first year of the pandemic	BMJ Global Health| Practice	• The article reflects on the early response of agencies in West Africa to mitigate against the COVID-19 pandemic. In comparison to other global regions, West Africa has had relatively few COVID-19 cases, for example, as of March 2021, 5363 deaths were reported compared to the USA (with a similar size population) having 530, 000 deaths. The authors outline the response of West Africa to mobilise resources and leverage on systems and infrastructure developed during previous epidemics. • Pan-African institutions and mechanisms were mobilised such as the African Centre for Disease Control. Regionally, the Economic Community of West African States (ECOWAS) Regional Centre for Surveillance and Disease control, was set up	Economic Community of West African States, West African Health Organization (WAHO), early response, systems and infrastructure

| | | | | following the Ebola epidemic to prepare and respond to current and future pandemics. Other institutions established include a Ministerial Coordination Committee and a network of Public Health Reference Laboratories.
• In Jan 2020, 15 ECOWAS countries met to strengthen critical national capacities. Funds were also mobilised through country-specific and multi-country initiatives. This funding went to response measurements like the provision of resources and equipment, and also to the provision of social safety nets for vulnerable populations.
• At the start of the pandemic, the region had two laboratories for diagnosis of COVID-19 which has now expanded to all countries (since September 2020). Research and surveillance capacities have also been strengthened.
• Despite these successes, the authors caution against complacency as this is an evolving pandemic with the ability to overwhelm health systems, as seen elsewhere, and they advocate for increased support and investment in increasing testing capacity, information management systems, human resource capacity and research and development in health technologies, such as local vaccine production capacity. This would support the region to respond to COVID-19 and future pandemics. | |

Comments, Editorials, Opinions, Blogs, News

Publication date	Title/URL	Journal	Article type
08.05.2021	India's covid-19 catastrophe is a failure of national and global public health and policy response to the pandemic	The BMJ| Opinion blog
07.05.2021	Where are we with drug treatments for covid-19?	The BMJ| Feature Briefing
07.05.2021	Management of severe covid-19: progress and promise	The BMJ| Editorials
06.05.2021	Priorities for COVID-19 research response and preparedness in low-resource settings	The Lancet| Comment
06.05.2021	Amitava Banerjee: Covid-19 in India—lockdown and vaccination drive only way forward	The BMJ| Opinion blog
06.05.2021	Covid-19: Two doses of Pfizer vaccine are "highly effective" against infection, hospital admission, and death, study finds	The BMJ| News
06.05.2021	Pandemic preparedness in the 21st century: which way forward?	The Lancet Public Health	Comment
05.05.2021	Supply-chain strategies for essential medicines in rural western Kenya during COVID-19	WHO Bulletin| Lessons from the field
05.05.2021	COVID-19 rise in Bangladesh correlates with increasing detection of B.1.351 variant	BMJ Global Health	Editorial
05.05.2021	Thromboembolism and the Oxford-AstraZeneca vaccine	The BMJ| Editorials
04.05.2021	Covid-19: Bolsonaro tells Brazilians to stop "being a country of sissies''	The BMJ| Opinion blog
04.05.2021	Time for the ethical management of COVID-19 vaccines	The Lancet Global Health| Viewpoint
30.04.2021	Why is India having a covid-19 surge?	The BMJ| News

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 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	Southern Voice	Covid Collective Research Platform

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	Health systems Global		
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
20.05.2021	COVID-19: What Impacts on UHC in Africa?	Webinar	1h 30	Centre for Global Development
17.05.2021-18.5.2021	Lives in the Balance: Equity in COVID-19 Recovery	Summit	2 days	PMNCH, Global Financing Facility for Women, Children and Adolescents (GFF), Gavi, the

				Vaccine Alliance, and CORE Group
17.05.2021	COVID-19: Understanding the Research Behind the Pandemic	Course	2 weeks (4 hrs)	Future Learns
13.05.2021	Covid and mental health	Webinar	2h 15	BMJ
15.04.2021	How can evaluation work support greater vaccine equity for COVID-19?	Webinar	1h	Itad
12.04.2021	COVID-19: Vaccines Safety Webinar - Understanding the Facts & Myths	Webinar	1.5h	Asia Pacific Association of Allergy, Asthma and Clinical Immunology
07.04.2021	Public webinar 'The RECOVERY Trial: one year on'	Webinar	1h	Nuffield Department of Population Health
25 March 2021	UK Public Health Rapid Support Team: Latest research & scientific insights	Webinar	1h	LSHTM
18 March 2021	Africa taking charge of its future: prioritizing gender equality in the path to recovery	Webinar	1h 30	CGD
10 March 2021	Equity and scale in global immunization: new evidence from Nigeria on cash transfers for vaccination	Webinar	1h 15	CGD

Date	Title	Type	Duration	Organizer
9 March 2021	COVID-19 vaccines and Africa: where do we stand in the race for vaccines?	Virtual conference webinar	1h	AHAIC
8 March 2021	Chronic Respiratory Diseases in the COVID era	Webinar		GARD, WHO
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	4-week discussion starting 16 Nov		HIFA

	services during (and after) the pandemic			
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	COVID-19 Diagnostics and Testing	Online learning	3 weeks | 3 hours weekly study	FutureLearn FIND/LSHTM/ASLM

version will commence early June 2020				
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).