K4D | Knowledge, evidence and learning for development

COVID-19 Demography Evidence Summary No.10

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This is the 10th of a weekly COVID-19 Demography Evidence Summary (DES) to signpost DFID and other UK government departments to the latest relevant evidence and discourse on COVID-19 to inform and support their response. It is a result of 4 hours of work per week and is not intended to be a comprehensive summary of available evidence on COVID-19 but aims to make original documents easily accessible to decisionmakers which, if relevant to them, they could refer to before making decisions.

The scope of DES includes emerging evidence on i) how COVID-19 impacts on demographic indicators, ii) how demographic indicators impact on transmission/spreading and mortality rate, and iii) policy advice on tailoring such responses to account for demographic indicators.

* Means a specific focus on Afric

Academic journal articles and research papers

Impact of demographic indicators on COVID-19 spreading and mortality

Publication date	Title/URL	Journal/Publication type	Authors	Summary	Tags
Forthcoming	Risk factors for mortality among COVID-19 patients	Diabetes Research and Clinical Practice, Volume 166, August 2020, 108293.	Albitar, O., Ballouze, R., Ooi, J.P., Ghadzi, S.M.S.	A total of 828 confirmed cases of COVID-19 with definite outcomes were retrospectively identified from open access individual-level worldwide data. Univariate followed by multivariable regression analysis were used to evaluate the association between potential risk factors and mortality. Majority of the patients were males 59.1% located in Asia 69.3%. Based on the data, older age (adjusted odds ratio (aOR), 1.079; 95% confidence intervals (95% CI), 1.064–1.095 per year increase), males (aOR, 1.607; 95% CI, 1.002–2.576), patients with hypertension (aOR, 3.576; 95% CI, 1.694–7.548), diabetes mellitus (aOR, 12.234; 95% CI, 4.126–36.272), and patients located in America (aOR, 7.441; 95% CI, 3.546–15.617) were identified as the risk factors of mortality among COVID-19 patients. Males, advanced age, hypertension patients, diabetes mellitus patients, and patients located in America were the independent risk factors of death	Comorbidity

				among COVID-19 patients. Extra attention is required to be given to these factors and additional studies on the underlying mechanisms of these effects.	
16.07.2020	Community-level SARS-CoV-2 Seroprevalence Survey in urban slum dwellers of Buenos Aires City, Argentina: a participatory research	MedRxiv (not peer reviewed)	Figar, S., Pagotto, V., Luna, L. et al.	By July 1st, the incidence rate of Covid-19 was 5.9% in Barrio Padre Mugica, one of the largest slums in Buenos Aires City. This study aimed to establish the seroprevalence of Covid-19 three months after the first case was reported. A finger prick sample was tested to detect IgG-class antibodies against Covid-19. Multilevel model was applied to understand sector, household and individual conditions associated with seroconvert. Prevalence based on IgG was 53.4% (95%IC 52.8% to 54.1%). Among the IgG positive cases, 15% reported having compatible symptoms at some point in the past two months. There is evidence of within-household clustering effect (rho=0.52; 95% IC 0.36-0.67); living with a PCR-confirmed case doubled the chance of being SARS-CoV2 IgG positive (OR 2.13; 95% IC 1.17-3.85). The highest risk of infection was found in one of the most deprived areas of the slum, the Bajo autopista sector.	Spreading, Population density,

16.07.2020	The age and sex distribution of COVID-19 cases and fatalities in India	MedRxiv (not peer reviewed)	Gupta, S.	Using anonymous publicly available data on Covid-19 infections and gross outcomes in India, the age and sex distribution of infections and fatalities is studied. The age structure in the count of infections is not proportional to that in the population, indicating the role of either co-morbidity or differential attack rate. There is a strong age structure in the sex ratio of cases, with the female to male ratio being about 50% on average. The ratio drops between puberty and menopause. No such structure is visible in the sex ratio of fatalities. The overall age distribution of fatalities is consistent with a model which uses the empirical age structure of infections and a previous determinations of age structured IFR. The average IFR for India is then expected to be 0.4% with a 95% CrI in [0.22%, 0.77%].	Mortality, age structure, sex distribution
16.07.2020	Space-time patterns, change, and propagation of COVID-19 risk relative to the intervention scenarios in Bangladesh	MedRxiv (not peer reviewed)	Masrur, A., Yu, M., Luo, W., & Dewan, A.	While early detection and isolation were identified as important non-pharmaceutical intervention (NPI) measures for containing the disease spread, this may not be pragmatically implementable in developing countries primarily due to social and economic reasons (i.e. poor education, less public awareness, massive unemployment). To shed light on Covid-19 transmission dynamics and	Spreading, socioeconomic factors

				impacts of NPI scenarios, e.g. social distancing, this study conducted emerging pattern analysis using the space-time scan statistic at district and sub-district levels in Bangladesh and its capital Dhaka city. The study found that the central and south eastern regions in Bangladesh are currently exhibiting a high risk of COVID-19 transmission. Dhaka megacity remains as the highest risk "active" cluster since early April. The space-time progression suggests that Bangladesh have experienced a community level transmission at the early phase (i.e., March, 2020) primarily introduced by Bangladeshi citizens returning from coronavirus-affected countries in Europe and the Middle East. A linkage is evident between the violation of NPIs and post-incubation period emergence of new clusters with elevated exposure risk around Bangladesh.	
*11.07.2020	Lockdown measures in response to COVID-19 in Sub-Saharan Africa: A rapid study of nine countries	MedRxiv (not peer reviewed)	Haider, N., Osman, A.Y., Gadzekpo, A. et al.	This paper defines the term lockdown and describes the design, timing and implementation of lockdown in nine countries in Sub Saharan Africa: Ghana, Nigeria, South Africa, Sierra Leone, Sudan, Tanzania, Uganda, Zambia and Zimbabwe. It also discusses the manner in which lockdown is enforced, the need to mitigate the harms of lockdown, and the association between lockdown and	Policy, spreading, mortality

				the reported number of Covid-19 cases and deaths. While there are some commonalities in the implementation of lockdown, a more notable finding is the variation in the design, timing and implementation of lockdown measures across the nine countries. We found that the number of reported cases is heavily dependent on the number of tests done, and that testing rates ranged from 9 to 21,261 per million population. The reported number of COVID-19 deaths per million population also varies, but is generally low when compared to countries in Europe and North America. While lockdown measures may have helped inhibit some community transmission, the pattern and nature of the epidemic remains unclear. Of concern are signs of lockdown harming health by affecting the functioning of the health system and causing social and economic harms. This paper highlights the need for inter-sectoral and trans-disciplinary research capable of providing a rigorous and holistic assessment of the harms and benefits of lockdown.of Covid-19 deaths.	
07.07.2020	Risk Factors for Mortality of COVID-19 Patients	MedRxiv (not peer reviewed)	Ouchetto, O. & Bourhanbour, A.D.	Lethality rates of Covid-19 are so different between countries and continents. This lethality seems to be very low in Africa and Asia, but exceedingly high in western Europe	Mortality, age structure, comorbidity

| | | | | and North America. Many factors could have a role in this disparity such as comorbidities. Advanced age, obesity, cardiovascular disease, diabetes and cancer were the most frequently cited in the reported Covid-19 data. This study analyses the association between the Covid-19 mortality and the mentioned factors in 164 countries. The correlation between Covid-19 mortality and latitude, high age, obesity, CVD and number of cancer patients per 100,000 is significant at 0.01 level with r = 0.489, r=0.511, r=0.489, r=0.561 and r=0.536 respectively. The correlation between the number of deaths and diabetes is less strong than the previous ones, and the correlation coefficient is r= 0.154. The great lethality of Covid-19 in western Europe and North America can be explained in part by the highest of age, cancer and CVD percentage in these regions. It seems also plausible that the increased obesity in the USA and vitamin D deficiency in Europe may contribute to increasing the number of Covid-19 deaths. | |
| *05.07.2020 | On the role of governmental action and individual reaction on COVID-19 dynamics in South Africa: A mathematical modelling study | Informatics in Medicine Unlocked (in-press, Journal pre-proof) | Mushayabasa, S., Ngarakana-Gwasira, E.T., & Mushanyu, J. | The proposed framework incorporates all the relevant biological factors as well as the effects of individual behavioural reaction and government action such as travel restrictions, social distancing, hospitalization, quarantine and hygiene measures. Understanding | Spreading, modelling |

| | | | | the dynamics of this highly contagious Covid-19, which at present does not have any therapy assist the policy makers on evaluating the effectiveness of the control measures currently being implemented. Moreover, policy makers can have insights on short-and-long term dynamics of the disease. The proposed conceptual framework was combined with data on cases of coronavirus disease (COVID-19) in South Africa, March 2020 to early May 2020. Overall, our work demonstrated optimal conditions necessary for the infection to die out as well as persist. | |

Impact of COVID-19 on demography

Publication date	Title/URL	Journal/Publication type	Authors	Summary	Tags
*Forthcoming	Policy options for mitigating impacts of COVID-19 on domestic rice value chains and food security in West Africa	Global Food Security, Volume 26, September 2020, 100405.	Arouna, A., Soullier, G., Mendez del Villar, P., & Demont, M.	Rice plays a strategic role in food security in West Africa. However, the region increasingly relies on rice imports due to a growing and structural deficit, and domestic value chains face constraints in technology, finance and coordination. As a result, West Africa is very vulnerable to international and local trade disruptions, such as the ones currently inflicted by the COVID-19 pandemic. The study builds on evidence of the current state of domestic rice	Food security, Policy

				value chain upgrading in West Africa to anticipate the impacts of the COVID-19 pandemic on rice value chains' resilience and their capacity to sustain food security in the region. Several policy options are proposed to help West African governments mitigate the impacts of the COVID-19 crisis on food security.	
13.07.2020	Potential impact of the COVID-19 pandemic on HIV, tuberculosis, and malaria in low-income and middle-income countries: a modelling study	Lancet Global Health A previous version of this study from May 2020 was mentioned in another edition of the Demography Evidence Summary.	Hogan, A.B., Jewell, B.L., Sherrard-Smith, E. et al.	In high-burden settings, deaths due to HIV, tuberculosis, and malaria over 5 years could increase by up to 10%, 20%, and 36%, respectively, compared with if there was no COVID-19 pandemic. The greatest impact on HIV was estimated to be from interruption to antiretroviral therapy, which could occur during a period of high health system demand. For tuberculosis, the greatest impact would be from reductions in timely diagnosis and treatment of new cases, which could result from any prolonged period of COVID-19 suppression interventions. The greatest impact on malaria burden could be as a result of interruption of planned net campaigns. These disruptions could lead to a loss of life-years over 5 years that is of the same order of magnitude as the direct impact from COVID-19 in places with a high burden of malaria and large HIV and tuberculosis epidemics.	Health impact

*24.06.2020	COVID-19 and routine childhood immunization in Africa: leveraging systems thinking and implementation science to improve immunization system performance	International Journal of Infectious Diseases (in-press, journal pre-proof)	Adamu, A.A., Jalo, R.I., Habonimana, D., & Wiysonge, C.S.	One of the routine health services that is being disrupted by coronavirus disease 2019 (COVID-19) in Africa is childhood immunisation. Its disruption increases the risk of epidemics of vaccine-preventable diseases which can increase child mortality. Therefore, policymakers must quickly identify robust and context-specific strategies to rapidly scale-up routine immunisation in order to mitigate the impact of COVID-19 on their national immunisation performance. To achieve this, the authors propose a paradigm shift towards systems thinking and use of implementation science in immunisation decision making. Systems thinking can inform a more nuanced and holistic understanding of the interrelationship that between COVID-19, its control strategies and childhood immunisation. Tools like causal loop diagrams can be used to explicitly illustrate the systems structure by identifying the feedback loops. Once mapped and leverage points for interventions have been identified, implementation science can be used to guide the rapid uptake and utilization of multifaceted evidence-based innovations in complex practice settings.	Immunisation, Policy

Policy briefs, statements, tools, guidelines

Publication date	Title/URL	Publication organisation/type	Authors	Tags
July 2020	**Policy Brief: The Impact of COVID-19 on Latin America and the Caribbean**	Policy Brief by UN	UN	Secondary impact, Policy
14.07.2020	**COVID-19 and a primer on shock-responsive social protection systems**	Policy Brief by UN-DESA	UN-DESA	Social protection, Policy
09.07.2020	Covid-19 & Poverty and Hunger	Policy Brief by World Vision	World Vision	Secondary impact, Policy

Comments, Editorials, Opinions, Blogs, News

Publication date	Title/URL	Article type	Authors
*Forthcoming	COVID-19 palaver: Ending rights violations of vulnerable groups in Africa	Commentary in World Development, Letters on Urgent Issues, Volume 134, October 2020,	Solomon Amadasun (University of Benin, Nigeria)
*16.07.2020	How Africa has tackled covid-19	Feature article in BMJ / BMJ 2020;370:m2830	Bibi-Aisha Wadvalla (freelance journalist)
15.07.2020	Assessing national performance in response to COVID-19	Comment in The Lancet	Dale Fisher (University of Singapore), Yik Ying Teo (University of Singapore), David Navarro (Imperial College London)

*13.07.2020	Africa's Varied COVID Landscapes	Infographics and feature online article on Africa Center for Strategic Studies	Africa Center for Strategic Studies
10.07.2020	Community health workers reveal COVID-19 disaster in Brazil	Comment in The Lancet	Gabriela Lotta (Fundacao Getulio Vargas), Clare Wenham (LSE), João Nunes (University of York), Denise Nacif Pimenta (Fiocruz)
*10.07.2020	Addressing the impact of covid-19 on girls and women's education in Africa	Blog post on Global Partnership for Education	Rita Bissoonauth (Head, African Union International Center for Girls and Women's Education in Africa)

COVID-19 Data hubs relevant for Demography

Organisation	Title	URL
*African Arguments	Coronavirus in Africa Tracker: Data on confirmed cases in Africa	https://africanarguments.org/2020/06/11/coronavirus-in-africa-tracker-how-many-cases-and-where-latest/
Data World	COVID-19 Data Resource Hub	https://data.world/resources/coronavirus/
UN statistics division	Updates on census 2020 and COVID-19	https://unstats.un.org/unsd/demographic-social/census/COVID-19/
*GeoPoll	Data dashboard on COVID-19 impact on Africa	https://www.geopoll.com/blog/coronavirus-in-sub-saharan-africa-food-security-covid-testing/#dashboard
Migration Data Portal	Migration data relevant for COVID-19 pandemic	https://migrationdataportal.org/themes/migration-data-relevant-COVID-19-pandemic
World Bank Group	Understanding the COVID-19 pandemic through data: Data centre on COVID-19	http://datatopics.worldbank.org/universal-health-coverage/coronavirus/
Flowminder	Using mobile operator data to track COVID-19	https://COVID19.flowminder.org/
University of Southampton	WorldPop global demographic data: Portal with localised demographic data on sex and age accessible to tailor COVID-19 responses	https://www.southampton.ac.uk/publicpolicy/COVID19/tatem-worldpop.page

COVID-19 Resource hubs relevant for Demography

Organisation	Title	URL
*African Population and Health Research Centre (APHRC)	APHRC COVID-19 Situation updates in Sub-Saharan Africa	https://aphrc.org/COVID-19-situation-updates/
*Africa Centres for Disease Control and Prevention (Africa CDC)	Africa CDC COVID-19 Resource hub	https://africacdc.org/COVID-19/COVID-19-resources/
*UN Development System in Africa	One-stop knowledge information centre of all UN agencies on COVID-19	https://knowledge.uneca.org/COVID19/
Family Planning 2020	Family Planning and COVID-19 resource hub	http://familyplanning2020.org/COVID-19
Global Partnership for Sustainable Development Data	COVID-19 resources hub on data and mapping	http://www.data4sdgs.org/resources/COVID-19-resources
*INCLUDE Knowledge Platform	COVID-19: Challenging Inclusive Development in Africa	https://includeplatform.net/inclusive-development-covid-19-pandemic/
International Conference on Family Planning	COVID-19 and reproductive health	https://icfp2021.org/COVID19
International Union for the Scientific Study of Population	Demographers' contributions to the understanding of the COVID-19 pandemic	https://iussp.org/fr/node/11297
*ONE	The ONE Africa COVID-19 Tracker	https://www.one.org/africa/about/policy-analysis/covid-19-tracker/
Population Council	Research hub on the COVID-19 pandemic	https://www.popcouncil.org/research/responding-to-the-COVID-19-pandemic
Population Europe	The Network of Europe's leading Demographic Research Centres on Demography and COVID-19	https://population-europe.eu/news/demography-coronavirus

REACH Initiative	Supporting the Humanitarian Response to COVID-19	https://www.reach-initiative.org/what-we-do/news/updates-on-ongoing-research-and-activities-linked-to-covid-19-pandemic/
UNFPA	United Nations Population Funds COVID-19 knowledge hub	https://www.unfpa.org/COVID19

Suggested citation

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Methodology

The rapid weekly search looks for peer-reviewed academic articles, however, due to rapid developments most academic literature is not peer-reviewed (yet). Therefore, the literature is complemented by a search of the homepage of high-impact global health, demography and population journals and a Twitter search of their Twitter pages. A search also of preprints, for example from medRxiv. Additional commentaries, opinions, and commissioned pieces are selected based on relevance. The search for dashboards, guidelines, tools, editorials, comments, blogs, opinions and news is mostly through academic institutions, journals, C19 resource hubs and following lead academics and professionals on Twitter.

About this report