K4D | Knowledge, evidence and learning for development

COVID-19 Demography Evidence Summary No.13

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This is the 13th of a two-weekly COVID-19 Demography Evidence Summary (DES) to signpost FCDO 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 Africa.*

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 (January 2021)	Life under lockdown: Illustrating tradeoffs in South Africa's response to COVID-19	World Development / Volume 137, January 2021, 105168	Carlitz, R.D., & Makhura, M.N.	• This study analysed subnational variation in population mobility as a response to COVID-19 in South Africa. It leveraged anonymised mobile phone data to capture mobility reductions across provinces. • People tend to reduce mobility substantially in response to government's initial lockdown orders. • Mobility reductions are significantly and negatively associated with COVID-19 growth rates. • The study illustrated how the government's response and corresponding mobility reductions can exacerbate existing inequalities.	Spreading, Mobility, Policy
Forthcoming (November-December 2020)	Impact of COVID-19 and comorbidities on health and economics: Focus on	**Diabetes & Metabolic Syndrome: Clinical Research & Reviews / Volume 14, Issue 6, November–**	Singh, A.K. & Misra, A.	• Comorbidities in patients with COVID-19 is often associated with a poor prognosis. • Diabetes prevalence is highest in Indian COVID-19 patients compared to other countries. • Countries such as India, Brazil and in Africa with less resources and	Comorbidity, asymptomatic cases

	developing countries and India	**December 2020, Pages 1625-1630**		an average socio-economic background, must adopt a strict policy for an affordable testing programs to trace, test, identify and home quarantine of asymptomatic cases. • Despite the huge number of COVID-19 patients, India still has low volume research at the moment.	
08.09.2020	Relationships of total COVID-19 cases and deaths with ten demographic, economic and social indicators	MedRxiv (not peer reviewed)	Valev, D.	• This study used data for 45 countries with a population of over 30 millions in which 85.8% of the world's population lives. Demographic, economic and social indicators (indices) are Life Expectancy, Median Age, Growth Rate, Population Density, GDP PPP per capita, Human Development Index (HDI), Gini index of income equality, Intelligence Quotient (IQ), Corruption Perceptions Index (CPI) and Democracy Index. • Statistically significant relationships were found with all indicators excluding Gini index and Population Density. The closest is the relationship of Deaths per million population and total Cases per million population. Therefore, it is clear statistically that the more are Cases per million in a country the more are Deaths per million. • The study also shows that the richest and well-being countries are most seriously affected by the COVID-19 pandemic. The most probable reason for this is the	Age structure, mortality, social-economy

				large percentage of aging population, comorbidity of population with severe chronic diseases and obesity in countries with high GDP and HDI. No less important reason appears the delayed and/or insufficiently effective pandemic restrictions in these countries, which have underestimated the danger of a pandemic in early stage.	
08.09.2020	Comparison of Multimorbidity in COVID-19 infected and general population in Portugal	MedRxiv (not peer reviewed)	Froes, M.T., Duque Neves, B., Martins, B., & Silva, M.J.	• This study looks at the impact of multimorbidity in the population of Portugal with COVID-19 infection. It is based on a descriptive analysis of a dataset extracted from all reported confirmed cases of COVID-19 in Portugal until June 30, 2020. • The authors observed a prevalence of multimorbidity in 6.77% of the 36,244 infected patients. Patients showed an increased risk of hospitalisation, ICU admission and mortality with OR 2.22 (CI 95%: 2.13-2.32) for every additional morbidity. • Special attention should be made on data collection to ensure proper recording of patient comorbidities.	Comorbidity
07.09.2020	COVID-19 superspreading in cities versus the countryside	MedRxiv (not peer reviewed)	Eilersen, A., & Sneppen, K.	• The authors argue that superspreaders and population heterogeneity are the core factors explaining the spreading of the virus. They do so through an agent-based lattice model of a disease spreading in a heterogeneous population. • The authors predict that an epidemic driven by superspreaders	Spreading, population density

				will spread rapidly in cities, but not in the countryside where the sparse population limits the maximal number of secondary infections. This suggests that mitigation strategies should include restrictions on venues where people meet a large number of strangers. • Furthermore, mitigating the epidemic in cities and in the countryside may require different levels of restrictions.	
*07.09.2020	Modeling COVID-19 Transmission in Africa: Country-wise Projections of Total and Severe Infections Under Different Lockdown Scenarios	MedRxiv (not peer reviewed)	Frost, I, Craig, J., Osena, G. et al.	• Despite relatively lower numbers of cases initially, many African countries are now experiencing an exponential increase in case numbers. This study models the possible trajectory of Covid-19 in 52 African countries under different intervention scenarios: no intervention, moderate lockdown, hard lockdown, and hard lockdown with continued restrictions once lockdown is lifted. The study also analysed the potential impact of COVID-19 on vulnerable populations affected by HIV/AIDS and TB. • In the absence of an intervention, the most populous countries had the highest peaks in active projected number of infections with Nigeria having an estimated 645,081 severe infections. The scenario with a hard lockdown and continued post-lockdown interventions to reduce transmission was the most efficacious strategy for delaying the time to the peak and reducing the number of cases. In South	Spreading, policy

				Africa projected peak severe infections increase from 162,977 to 203,261, when vulnerable populations with HIV/AIDS and TB are included in the analysis.	
28.08.2020	Assessing the age specificity of infection fatality rates for Covid-19: systematic review, meta-analysis, and public policy implications	MedRxiv (not peer reviewed)	Levin, A.T., Meyerowitz-Katz, G., Owusu-Boaitey, N., Cochran, K.B., & Walsh S.P.	• This paper assesses the age specificity of the infection fatality rate (IFR) for COVID-19 using seroprevalence results from eight national studies, regional studies of fifteen locations in Europe and the United States, and five countries that have engaged in comprehensive tracing of COVID-19 infections. • The estimated IFR is close to zero for children and younger adults but rises exponentially with age, reaching 0.4% at age 55, 1.3% at age 65, 4.5% at age 75, and 15% at age 85. • The study found that differences in the age structure of the population and the age-specific prevalence of COVID-19 explain 90% of the geographical variation in population IFR. • Consequently, protecting vulnerable age groups could substantially reduce the incidence of mortality.	Mortality, age structure
26.08.2020	COVID-19: Saving lives and livelihoods using population density driven testing	MedRxiv (not peer reviewed)	Budhwani, K.I., Budhwani, H., & Podbielski, B.	• The current standard of population density agnostic per capita reporting has the potential to simultaneously induce a dangerous sense of false security while accelerating infection in economic nerve centres. • The heatmaps and subsequent prospective analysis of tests and	Population density, mortality

				cases in the USA unveils the scale of testing disparity which can derail the fragile path to societal normalcy and economic recovery. • However, heatmaps of retail and payroll activity are unsurprisingly similar to population density in the USA. This is where the innate intertwining of public health and economic wellbeing around the “location, location, location” axis can be synergistic. • By simply adjusting the distribution of testing capacity to also account for population density, it is possible to improve monitoring and response to blunt the speed and spread of the virus while also safeguarding both retail activity and the economic nerve centres.	
25.08.2020	Forecasting for COVID-19 has failed	International Journal of Forecasting / Pre-proof article	Ioannidis, J.P.A., Cripps, S. & Tanner, M.A.	• Failures in epidemic forecasting became prominent with COVID-19. Poor data input, wrong modeling assumptions, high sensitivity of estimates, lack of incorporation of epidemiological features, poor past evidence on effects of available interventions, lack of transparency, errors, lack of determinacy, looking at only one or a few dimensions of the problem at hand, lack of expertise in crucial disciplines, groupthink and bandwagon effects and selective reporting are some of the causes of these failures. • Some (but not all) of these problems can be fixed. Careful modeling of predictive distributions rather than focusing on point estimates, considering multiple dimensions of impact, and continuously reappraising models	Modeling

				based on their validated performance may help. If extreme values are considered, extremes should be considered for the consequences of multiple dimensions of impact so as to continuously calibrate predictive insights and decision-making. • When major decisions (e.g. draconian lockdowns) are based on forecasts, the harms (in terms of health, economy, and society at large) and the asymmetry of risks need to be approached in a holistic fashion, considering the totality of the evidence.	

Impact of COVID-19 on demography

Publication date	Title/URL	Journal/Publication type	Authors	Summary	Tags
*Forthcoming (October 2020)	The impact of covid-19 on midwives' practice in Kenya, Uganda and Tanzania: A reflective account	Midwifery / Volume 89, October 2020, 102775	Pallangyo, E., Nakate, M.G., Maina, R., & Fleming, V.	• In Kenya, Tanzania and Uganda, maternal and neonatal mortality rates are already consistently high, but the COVID-19 pandemic has exacerbated this. • Alongside the response needed to deal with COVID-19, other national issues such as plagues of locusts and flooding are also causing significant problems. • It is likely that in the near future that despite the best efforts of midwives and other health professionals that an upward surge in the numbers of COVID-19 related deaths in women of	Maternal and neonatal mortality

				reproductive age, including pregnant and postnatal women, will take place.	
09.09.2020	COVID-19 crisis and urbanization, migration and inclusive city policies in India: A new theoretical framework	Journal of Public Affairs	Panwar, N.S. & Mishra, A.K.	• This study is an effort to develop a coherent theoretical migration model. The motivation behind the composition is the global pandemics, which has forced migrant labours to shift from the urban areas to their origin. This migration crisis has put a serious challenge for the revitalisation of the city economy in the post lockdown period. • The theoretical perspective highlights the importance of agglomeration economies, urban informal sector and the development of core urban infrastructure to catalyse agglomeration externalities in the process of urban development and accommodating rural–urban migrants. • The model suggests any approach to deal with urbanisation issues in India must bring into account the critical part played by migrants-urban poor and address their needs while benefitting rural areas. • The urban planning and governance processes which failed to recognise the 'location' and 'access' of the poor urban migrants need to be reformed.	Urbanisation, Migration

02.09.2020	From insights to action: Gender equality in the wake of COVID-19	UN Women / report	Azcona, G., Bhatt, A., Encarnacion, J. et al.	• This publication summarises new data, research, and policy work by UN Women's Policy and Programme Division on the pandemic's impact on women and girls, including the impact on extreme poverty, employment, health, unpaid care, and violence against women and girls. • The publication brings into focus the paucity of gender data and calls for greater investment and prioritisation of data on the gendered effects of the crisis. • The data comes from UN Women's rapid gender assessments and estimates on extreme poverty by sex and age.	Gender
August	The impact of COVID-19 on people with diabetes in Brazil	**Diabetes Research and Clinical Practice /** Volume 166, August 2020, 108304	Ugliara Barone, M.T., Bega Harnik, S., Vieirade Luca, P. et al.	• In this sampling study, data was collected from 1701 individuals, aged 18 or above; 75.54% female participants; 60.73% T1D and 30.75% T2D, between April 22nd and May 4th, using an anonymous and untraceable survey containing 20 multiple choice questions (socio-demographic; health status and habits of life during COVID-19 pandemic). • 95.1% of respondents reduced their frequency of going outside of their homes; among those who monitored blood glucose at home during the pandemic (91.5%), the majority (59.4%) experienced an increase, a decrease or a higher variability in glucose levels; 38.4% postponed their medical appointments and/or routine examinations; and 59.5% reduced their physical activity.	Diabetes

				• T1D, the youngest group, was more susceptible to presenting COVID-19 symptoms despite not being testing; whilst the T2D group had higher frequency of comorbidities that are additional risk factors for COVID-19 severity.	

Policy briefs, statements, tools, guidelines

Publication date	Title/URL	Publication organisation/type	Authors	Tags
Forthcoming (October 2020)	COVID-19 response in low- and middle-income countries: Don't overlook the role of mobile phone communication	International Journal of Infectious Diseases / Perspective / Volume 99, October 2020, Pages 334-337 This study presents examples of initiatives enhancing patient care and public health outcomes by using mobile communication. It also presents a checklist for helpful mobile communication to combat COVID-19.	Verhagen, L.M., de Groot, R., Lawrence, C.A., Taljaard, J., Cotton, M.F., & Rabie, H.	Mobile technology
Forthcoming (October 2020)	Covid-19 Dataset: Worldwide spread log including countries first case and first death	**Data in Brief / Volume 32, October 2020, 106173** **Covid-19 Dataset and various infographics**	Ali, H., Hossain, F., Hasan, M., & Abujar, S.	Data
Forthcoming (October 2020)	COVID-ABS: An agent-based model of COVID-19 epidemic to simulate health and economic effects of social distancing interventions	**Chaos, Solitons & Fractals /** Volume 139, October 2020, 110088 Model to measure impact of Covid-19 interventions.	Silva, P.C.L., Batista, P.V.C., Lima, H.S. et al.	Interventions

Comments, Editorials, Opinions, Blogs, News

Publication date	Title/URL	Article type	Authors
*September	Whither are we bound? Rethinking the gendered frailty during COVID-19 pandemic	Public Health in Practice / Volume 1, November 2020, 100019 / Article to the Editor	Gyasi, R.M., & Anderson, E.A.
*03.09.2020	The COVID-19 Pandemic and Sexual & Reproductive Health in Africa	IUSSP webinar series **/** 4-day webinar from 31 August to 3 September 2020 / recordings for each day available	IUSSP
*19.08.2020	Virtual learning under lockdown casts doubt on Kenya as the Silicon Savannah	Blog post by LSE	Noah Miller (Director at the Sochin Research Institute in Kenya)
18.08.2020	5 things COVID-19 has taught us about inequality	Blog post by World Economic Forum	Joe Myers (writer)

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 two-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

The two-weekly Demography Evidence Summaries are not intended to replace 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 summaries 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).