



COVID-19

Demography Evidence Summary

No.1

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14 May 2020

This is the first 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 decision-makers which, if relevant to them, they could refer to before making decisions.

This DES looks specifically to the demographic indicators that impact on transmission/spreading and mortality rate, and the emerging policy advice on tailoring such responses to account for demographic indicators.

** Means a specific focus on Africa.*

Academic journal articles and research papers

Epidemiological, socio-demographic and clinical features of the early phase of the COVID-19 epidemic in Ecuador

Esteban Ortiz-Prado, Katherine Simbana-Rivera, Ana Maria Diaz, Alejandra Barreto et al. | *medRxiv (not peer reviewed)* | May 13, 2020 | tags: mortality, age-structure, comorbidity

<https://doi.org/10.1101/2020.05.08.20095943>

Abstract: This research analyses epidemiological, socio-demographic, and clinical data of the first 9,468 confirmed cases in Ecuador. The results of this analysis show that men are at higher risk of dying from COVID-19 than women, which increases as with age and the presence of comorbidities. Areas with better testing capabilities reported lower CFR% and mortality, additionally cantons located above 2,500 metres have lower attack and mortality rates although the risk of dying is greater among highlanders.

Report 22: Equity in response to the COVID-19 pandemic: an assessment of the direct and indirect impacts on disadvantaged and vulnerable populations in low- and lower middle-income countries

Peter Winskill, Charlie Whittaker, Patrick Walker, Oliver Watson, Daniel Laydon, Natsuko Imai, et al. | *Imperial College COVID-19 response team* | May 12, 2020 | tags: mortality, inter-generational living

<https://doi.org/10.25561/78965>

Abstract: In low-income settings there exist unfair or avoidable differences in health among different groups in society – health inequities – that mean that some groups are particularly at risk from the negative direct and indirect consequences of COVID-19. The findings demonstrate clear trends that the probability of death from COVID-19 increases with increasing poverty. Furthermore, larger, inter-generational households hamper efforts to protect the elderly if social distancing are associated with lower-income countries and, within LMICs, lower wealth status. The timing of the COVID-19 epidemic in low-resource settings also has the potential to interrupt planting and harvesting seasons for staple crops, thereby accentuating vulnerability.

*The relatively young and rural population may limit the spread and severity of Covid-19 in Africa: a modelling study

Binta Zahra Diop, Marieme Ngom, Clemence Pougue Biyong, and John N. Pougue Biyong | *medRxiv (not peer reviewed)* | May 12, 2020 | tags: spreading, youth, rural

<https://doi.org/10.1101/2020.05.03.20089532>

Abstract: This paper investigates the role of demographic patterns, urbanisation and co-morbidities (HIV, tuberculosis, anemia) on the possible trajectories of COVID-19 in Ghana, Kenya, and Senegal. By using an augmented deterministic SIR model to predict the spread of the disease, under the containment measures taken so far. The paper concludes that Africa's younger and rural population may modify the severity of the epidemic. The large youth population may lead to more infections but most of these infections will be asymptomatic or mild, and will probably go undetected. The higher prevalence of underlying conditions must be considered.

Demographic science aids in understanding the spread and fatality rates of COVID-19

Jennifer Beam Dowd, Liliana Andriano, David M. Brazel, Valentina Rotondi, Per Block, Xuejie Ding, Yan Liu, and Melinda C. Mills | *PNAS*, 117(18), pp.9696-9698 | May 05, 2020 | tags: mortality, spreading, age-structure

<https://doi.org/10.1073/pnas.2004911117>

Abstract: Because deaths have been concentrated at older ages, this study highlights the important role of demography, particularly, how the age structure of a population may help

explain differences in fatality rates across countries and how transmission unfolds. The interaction of demography and current age-specific mortality for COVID-19 suggests that social distancing and other policies to slow transmission should consider the age composition of local and national contexts as well as intergenerational interactions.

***Response strategies for COVID-19 epidemics in African settings: a mathematical modelling study**

Kevin van Zandvoort, Christopher I Jarvis, Carl Pearson, Nicholas G Davies, Timothy W Russell et al. | *medRxiv (not peer reviewed)* | May 03, 2020 | tags: spreading, age-structure, policy

<https://doi.org/10.1101/2020.04.27.20081711>

Abstract: This study focusses on the specific response strategies in the African context, based on including demographic and socio-economic indicators in a mathematical model. Self-isolation while symptomatic had a maximum impact of about 30% on reducing severe cases, while the impact of physical distancing varied widely. The effect of shielding high-risk people, e.g. by rehousing them in physical isolation, was sensitive mainly to residual contact with low-risk people, and to a lesser extent to contact among shielded individuals. Response strategies incorporating self-isolation of symptomatic individuals, moderate physical distancing and high uptake of shielding reduced predicted peak bed demand by 46% to 54% and mortality by 60% to 75%. Lockdowns delayed epidemics by about 3 months. Estimates were sensitive to differences in age-specific social mixing patterns. Strategies combining self-isolation, moderate physical distancing and shielding will probably achieve substantial reductions in mortality in African countries. Temporary lockdowns, where socioeconomically acceptable, can help gain crucial time for planning and expanding health service capacity.

Crowding and the epidemic intensity of COVID-19 transmission

Benjamin Rader, Samuel Scarpino, Anjalike Nande, Alison Hill, Benjamin Dalziel, Robert Reiner Jr. David Pigott, et al. | *medRxiv (not peer reviewed)* | April 20, 2020 |tags: spreading, density, urbanisation

<https://doi.org/10.1101/2020.04.15.20064980>

Abstract: This study analyses highly-resolved spatial variables for cities in China together with case count data in order to investigate the role of climate, urbanisation, and variation in interventions across China. The epidemic intensity of COVID-19 is strongly shaped by crowding, such that epidemics in dense cities are more spread out through time, and denser cities have larger total incidence. Densely-populated cities worldwide may experience more prolonged epidemics.

Estimates of the Potential Impact of the COVID-19 Pandemic on Sexual and Reproductive Health in Low- and Middle-Income Countries.

Taylor Riley, Elizabeth Sully, Zara Ahmed, and Ann Biddlecom |

International Perspectives on Sexual and reproductive Health, Volume 46, pp.73-76. | April 16, 2020 | tags: policy, reproductive health

<https://www.guttmacher.org/journals/ipsrh/2020/04/estimates-potential-impact-covid-19-pandemic-sexual-and-reproductive-health>

Abstract: This study looks at the potential annual impacts of a 10% proportional decline in use of sexual and reproductive health care services resulting from COVID-19–related disruptions in 132 low- and middle-income countries. Including policy-recommendations.

Intergenerational Ties and Case Fatality Rates: A Cross-Country Analysis

Christian Bayer and Moritz Kuhn. | Institute for the Study of Labour, IZA Discussion Paper No.13114. | April 13, 2020 | tags: mortality, intergenerational living

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3573284

Abstract: This study explores how differences in living arrangements of generations within families contribute to the cross-country differences. We document a strong positive correlation between countries' Case-Fatality-Rates and the share of working-age families living with their parents. This suggest that policy needs to focus on inter-generational social distance when combating this pandemic.

*Vulnerable Groups at Increased Risk of COVID-19 in Sub-Saharan Africa: The Case of the HIV Population.

Marília Nepomuceno | *OSF Preprint (not peer reviewed)* | April 02, 2020 | tags: mortality, comorbidity

<https://doi.org/10.31219/osf.io/uyzjv>

Abstract: Regions with a high burden of infectious diseases such as HIV, malaria, and dengue including Latin America and Africa are experiencing an increasing number of confirmed cases and deaths. Since the age structure and the distribution of relevant co-morbidities varies substantially by country, the risk profile for COVID-19 could be very different in countries with high prevalence of individuals living with HIV.

Monitoring trends and differences in COVID-19 case fatality rates using decomposition methods: Contributions of age structure and age-specific fatality

Dudel, C., Riffe, T., Acosta, E., van Raalte, A. A., Strozza, C., & Myrskylä, M | *SocArXiv (not peer-reviewed)* | April 01, 2020 | tags: mortality, age-structure

<https://doi.org/10.31235/osf.io/j4a3d>

Abstract: The population-level case-fatality rate (CFR) associated with COVID-19 varies substantially, both across countries time and within countries over time. This study analyses the contribution of two key determinants of the variation in the observed CFR: the age-structure of diagnosed infection cases and age-specific case-fatality rates. Findings suggest data to be disaggregated by age, and potentially other variables, to facilitate a better understanding of population-level differences in CFRs. They also show the need for well-designed seroprevalence studies to ascertain the extent to which differences in testing regimes drive differences in the age-structure of detected cases.

Policy briefs, statements, tools, guidelines

Forced returns of migrants must be suspended in times of COVID-19

Statement by the *United Nations Network on Migration* | May 13, 2020 | tags: policy, migration
<https://www.unicef.org/press-releases/forced-returns-migrants-must-be-suspended-times-covid-19>

*Responding to Covid-19 in Africa: using data to find a balance

Survey , synopsis and recommendations from the *Partnership for Evidence-Based Response to COVID-19 (PERC)* | May 06, 2020 | tags: policy, data, monitoring
https://preventepidemics.org/wp-content/uploads/2020/05/PERC_Regional_5-6-2020.pdf

Demography and the Coronavirus Pandemic

Balbo, N., Kashnitsky, I., Melegaro, A., Meslé, F., Mills, M. C., de Valk, H. A. G. & Vono de Vilhena, D. | *Max Planck Society/Population Europe*, Population & Policy Compact 25, Policy Brief | May 2020 | tags: policy
<https://population-europe.eu/policy-brief/demography-and-coronavirus-pandemic>

Covid-19: A new challenge for migration policy

Migration Policy Practice: Special Issue, Vol. X, Number 2, April–June 2020 | Published jointly by the *International Organization for Migration* (IOM) and *Eurasyllum* Ltd | April 2020 | tags: policy, migration

<https://iussp.org/sites/default/files/mpp-41.pdf>

Covid-19 Crisis Through a Migration Lens

Migration and Development Brief No.32 | Published by the *World Bank* | April 2020 | tags: policy, migration

<https://openknowledge.worldbank.org/handle/10986/33634>

Use of the Demographic and Health Survey framework as a population surveillance strategy for COVID-19

S.V. Subramanian (Harvard Center for Population and Development Studies) and K.S. James (International Institute for Population Sciences, Mumbai, India) | *The Lancet* | April 29, 2020 | tags: policy, monitoring, data

[https://www.thelancet.com/journals/langlo/article/PIIS2214-109X\(20\)30213-8/fulltext](https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(20)30213-8/fulltext)

***Impact of Covid-19 on African migration: Thoughts, perspectives and ways out of the blind alley**

Amal El Ouassif | *Policy Center for the New South*, Policy Brief | April 14, 2020 | tags: policy, migration

<https://www.policycenter.ma/publications/impact-covid-19-african-migration-thoughts-perspectives-and-ways-out-blind-alley>

***Migration and Immigration: Uganda and the COVID-19 Pandemic**

Agnes Igoye | *Public Integrity*, as part of “The State of the Republic: A Dialogue Series”, edited by Donald E. Klingner | April 14, 2020 | tags: policy, migration

<https://doi-org.ezproxy.sussex.ac.uk/10.1080/10999922.2020.1753383>

***Mapping Risk Factors for the Spread of COVID-19 in Africa**

Series of maps on Covid-19 risk factors in Africa | *Africa Center for Strategic Studies* | April 03, 2020 | tags: spreading, data

<https://africacenter.org/spotlight/mapping-risk-factors-spread-covid-19-africa/>

***Mobility analysis to support the Government of Ghana in responding to the COVID-19 outbreak**

Initial insights into the effect of mobility restrictions in Ghana using anonymised and aggregated mobile phone data | *Ghana Statistical Service* | April 03, 2020 | tags: policy, spreading, Monitoring

<https://statsghana.gov.gh/gsspublications.php?category=MTkwMDE4Mjl2Ny4xMDg=/webstats/90r897632o>

Technical Brief on the Implications of COVID-19 on Census

UNFPA technical brief | March 25, 2020 | tags: policy, data

<https://www.unfpa.org/resources/technical-brief-implications-covid-19-census>

Comments, Editorials, Opinions, Blogs, News

***Africa faces difficult choices in responding to COVID-19**

Titus Divala, Rachael M Burke, Latif Ndeketa, Elizabeth L Corbett, and Peter MacPherson | *The Lancet* | May 12, 2020

[https://doi.org/10.1016/S0140-6736\(20\)31056-4](https://doi.org/10.1016/S0140-6736(20)31056-4)

UPDATE: A world turned upside down. COVID-19, urban poverty and older people in Chennai, an Indian Metropole

Penny Vera-Sanso (Senior Lecturer, Development Studies and Social Anthropology, Birkbeck, University of London) | *British Society of Gerontology* | May 11, 2020

<https://ageingissues.wordpress.com/2020/05/11/update-a-world-turned-upside-down-covid-19-urban-poverty-and-older-people-in-chennai-an-indian-metropole/>

*** Promoting youth engagement in Africa during the COVID-19 pandemic**

News article for Research in Action | *International Development Research Centre (IDRC)* | May 07, 2020

<https://www.idrc.ca/en/research-in-action/promoting-youth-engagement-africa-during-covid-19-pandemic>

* **How do you manage Covid-19 with a population density of 130,000 people per square kilometre?**

Faith Taylor (Lecturer in Physical Geography Education, King's College London) | *King's College London* | April 29, 2020

<https://www.kcl.ac.uk/how-do-you-manage-covid-19-with-a-population-density-of-130000-people-per-square-kilometre>

* **Covid-19 responses in Africa: Ok, one size doesn't fit all. Now what?**

Andries du Toit (Director of the Institute for Poverty, Land and Agrarian Studies at the University of Cape Town) | *African Arguments* | April 28, 2020

<https://africanarguments.org/2020/04/28/covid-19-responses-in-africa-ok-one-size-doesnt-fit-all-now-what/>

* **Our research shows why it's vital to protect older South Africans from coronavirus**

Alexandra Parker (Researcher of urban & cultural studies, Gauteng City-Region Observatory) and Julia de Kadt (Senior researcher Gauteng-City-Region Observatory) | *The Conversation* | April 26, 2020

<https://theconversation.com/our-research-shows-why-its-vital-to-protect-older-south-africans-from-coronavirus-136648>

* **African migration to China may never be the same again**

Roberto Castillo (Assistant Professor at the Department of Cultural Studies at Lingnan University, Hong Kong). He is the editor of AfricansInChina.net (@africansinchina). | *African Arguments* | April 23, 2020

<https://africanarguments.org/2020/04/23/african-migration-china-never-same-again/>

* **One size fits all? Why lockdowns might not be Africa's best bet.**

James Fairhead (University of Sussex) and Melissa Leach (Director of the Institute of Development Studies). | *African Arguments* | April 22, 2020

<https://africanarguments.org/2020/04/22/one-size-fits-all-why-lockdowns-might-not-be-africa-best-bet/>

Centring sexual and reproductive health and justice in the global COVID-19 response

Kelli Stidham Hall, Goleen Samari, Samantha Garbers, Sara E Casey, Dazon Dixon Diallo, Miriam Orcutt, et al. | *The Lancet*, Comment, 395(10231), pp.1175-1177. | April 11, 2020
[https://doi.org/10.1016/S0140-6736\(20\)30801-1](https://doi.org/10.1016/S0140-6736(20)30801-1)

* How Africa's Age Structure Will Affect the Impact of Covid-19

David K. Evans and Eric Werker (both Center for Global Development) | *Italian Institute for International Political Studies* (ISPI) | April 9, 2020
<https://www.ispionline.it/en/pubblicazione/how-africas-age-structure-will-affect-impact-covid-19-25703>

Coronavirus will play out very differently in world's poorest nations

By: Adam Vaughan (chief reporter at New Scientist magazine) | *New Scientist* | April 03, 2020
<https://www.newscientist.com/article/2239612-coronavirus-will-play-out-very-differently-in-worlds-poorest-nations/>

* Covid-19 in Africa: Know your epidemic, Act on its politics.

Alex de Waal (Research Programme Director for the Conflict Research Programme at LSE and Director of the World Peace Foundation at Tufts University) | *London School of Economics* | March 31, 2020:
<https://blogs.lse.ac.uk/crp/2020/03/31/covid-19-in-africa-know-your-epidemic-act-on-its-politics/>

How to Tackle Coronavirus in Slums

By: Mark Weston (writer, researcher and consultant) | *Global Dashboard* | March 27, 2020:
<https://www.globaldashboard.org/2020/03/27/how-to-tackle-coronavirus-in-slums/>

Covid-19 Resource Hubs relevant for Demography

Population Europe: The Network of Europe's leading Demographic Research Centres

Demography and Covid-19
<https://population-europe.eu/news/demography-coronavirus>

International Union for the Scientific Study of Population

Demographers' contributions to the understanding of the COVID-19 pandemic

<https://iussp.org/fr/node/11297>

International Conference on Family Planning

Covid-19 and reproductive health

<https://icfp2021.org/covid19>

Population Council

Responding to the Covid-19 pandemic

<https://www.popcouncil.org/research/responding-to-the-COVID-19-pandemic>

Migration Data Portal

Migration data relevant for Covid-19 pandemic (regular updates)

<https://migrationdataportal.org/themes/migration-data-relevant-covid-19-pandemic>

*African Population and Health Research Centre

APHRC Covid-19 Situation updates in Sub-Saharan Africa

<https://aphrc.org/covid-19-situation-updates/>

Suggested citation

Quak, E.. (2020). *COVID-19 Demography Evidence Summary No.1*. K4D Evidence Summary. Brighton, UK: Institute of Development Studies.

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

The 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.

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