

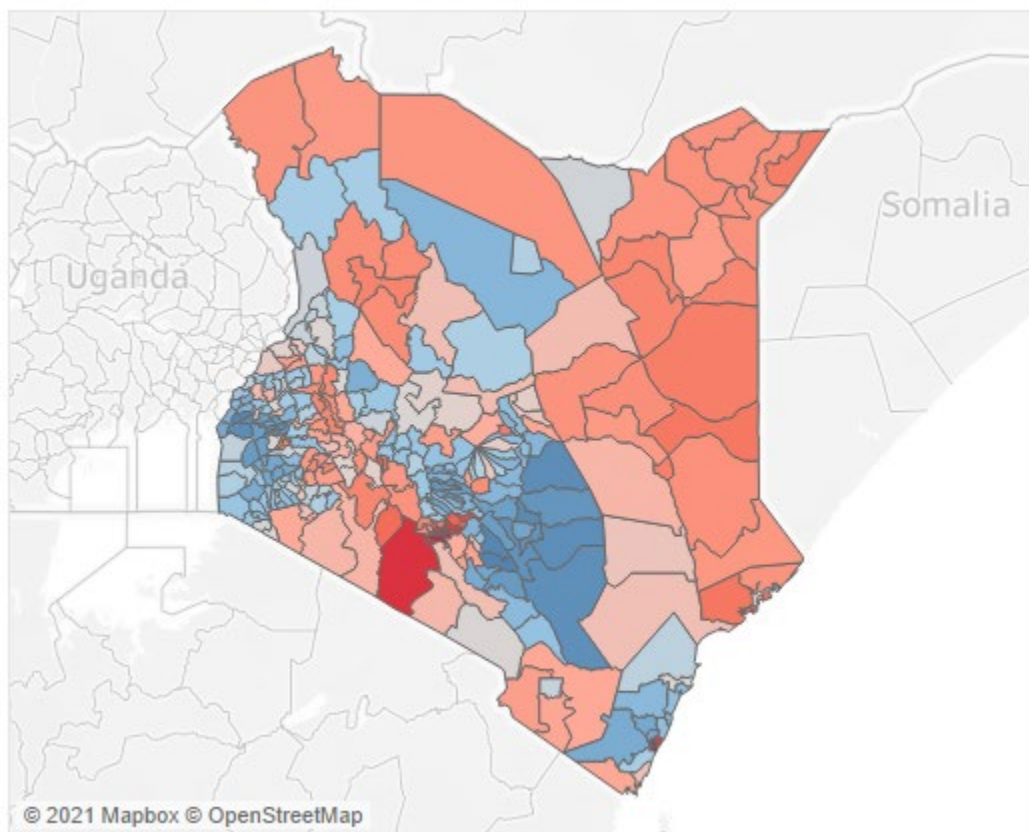
ASSESSING THE RISK OF COVID-19 IN KENYA

As COVID-19 vaccines are becoming available, governments will need to assess the number and location of the most vulnerable people within their populations. However, problematically, tracking data for most low- and middle-income countries are only available at the national level. To support the COVID-19 relief effort, the Gender, Climate Change, and Nutrition Integration Initiative (GCAN) was commissioned to develop a subnational dataset of key COVID-19 risk indicators and potential risk hotspots.

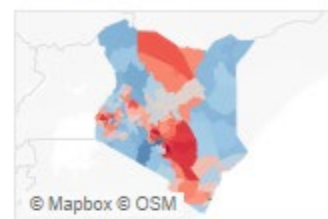
Based on patient data compiled and analyzed worldwide, the science community's consensus is that key COVID-19 risk factors include age, sex, and obesity. Being old, male, and obese increases both vulnerability to infection and the likelihood of negative outcomes. Based on each indicator's COVID-19 death hazard ratio, a composite index for the second-level subnational administrative units was constructed using exploratory factor analysis (a statistical technique that reduces the number of variables). The results of the subnational risk index (map a) and the risk indicators (maps b, c, and d) are presented visually below, resulting in hotspots (the redder colors) and cold spots (the bluer colors).

The three risk indicators show somewhat different patterns. The age-related risk is high in the country's central region, including Machakos and Kitui Counties. The sex-related risk is the highest (i.e., more male) in North Horr (Marsabit), and the obesity-related risk is the highest in Mwea (Kirinyaga). The overall risk index is notably high around Nairobi and Mombasa.

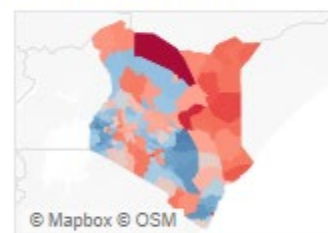
a. Risk index in Kenya



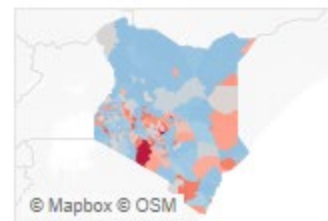
b. Age-related risk



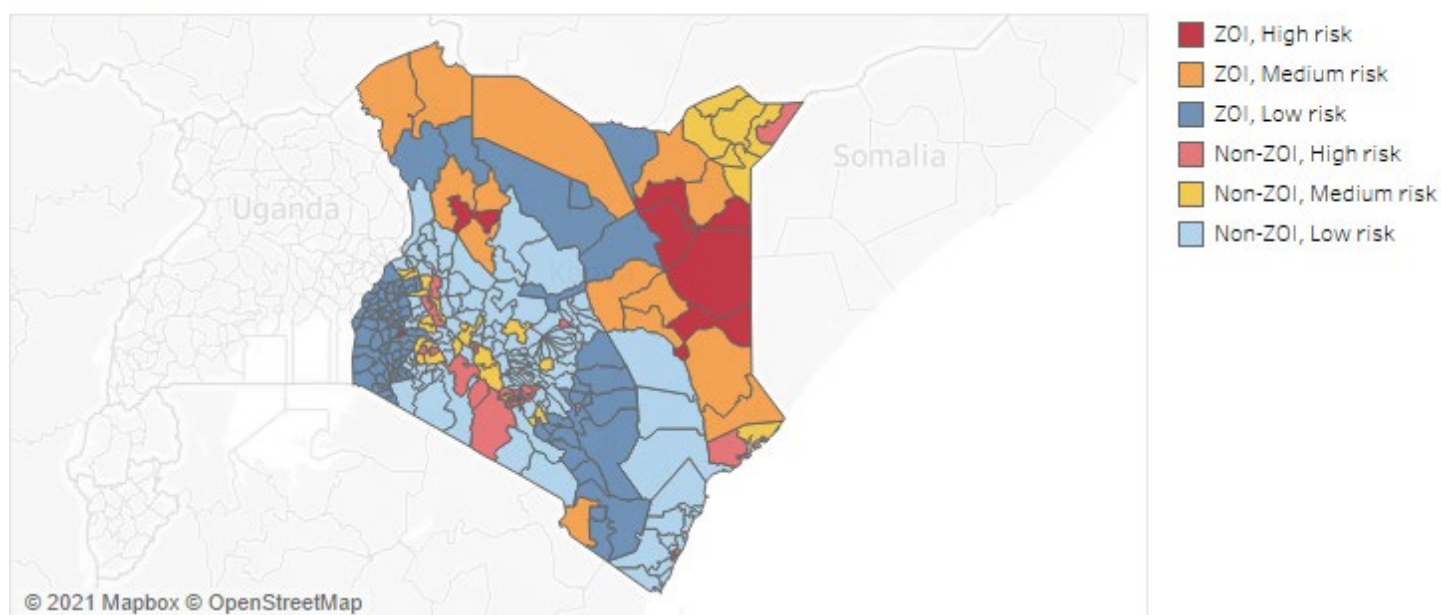
c. Sex-related risk



d. Obesity-related risk



e. Risk index classes



f. Distribution of adult population in each class of risks



The above figures categorize the risk index values into areas of low, medium, and high risk (map e) and visualize the number of adults (≥ 18 years old) in each category (figure f). ZOI indicates the zone of influence of the U.S. Government's Feed the Future program. Areas of high risk are Garissa (Daadab, Garissa Township), Kajiado (Kajiado North/West), Kericho (Belgut), Kiambu (Juja, Kiambaa, Kiambu, Limuru, Ruiru, Thika Town), Kisumu (Kisumu Central, Kisumu East), Lamu (Lamu West), Mandera (Mandera East), Meru (North Imenti), Mombasa (Changamwe, Jomvu, Kisauni, Likoni, Mvita, Nyalii), Nairobi (Dagoretti North/South, Embakasi Central/East/North/West, Kamukunji, Kasarani, Kibra, Langata, Makadara, Mathare, Roysambu, Ruaraka, Starehe, Westlands), Nakuru (Nakuru Town East/West), Narok (Narok East/North), Turkana, Uasin Gishu (Kapseret, Kesses, Moiben), and Wajir (Eldas, Wajir East/South/West). In ZOI, divisions in Garissa, Wajir, and Turkana Counties have high risk levels. These hotspots show similarities with counties with reported, high number of COVID-19 cases, including Nairobi, Mombasa, Kiambu, Nakuru, and Kajiado¹.

The total number of adults in the high-risk areas is about 7 million (26% of the country's total adult population), of which 28% (2 million) are located in rural areas. Given the relatively high estimated risk in rural areas, interventions targeting agricultural laborers should be encouraged, including socially distanced farming practices. Other notable vulnerabilities in rural areas relate to the household structure and composition (i.e., more than twice as many rural households in Kenya live with elders than urban households do), and the porous borders with neighboring countries. To mitigate the transmission risk, testing capacity and healthcare facilities need to be strengthened at border counties and markets², especially during the post-harvest season.

This publication was prepared by Jawoo Koo (IFPRI), Carlo Azzarri (IFPRI), Aniruddha Ghosh (CIAT), and Wahid Quabili (IFPRI), under the Gender, Climate Change, and Nutrition Initiative (GCAN). GCAN was made possible with support from Feed the Future through the U.S. Agency for International Development (USAID) and is associated with the CGIAR Research Program on Climate Change, Agriculture and Food Security, which is carried out with support from CGIAR Fund Donors and through bilateral funding agreements. The fact sheet has not been peer reviewed. Any opinions are those of the authors and do not necessarily reflect the views of IFPRI, USAID, or Feed the Future. Copyright © 2021 International Food Policy Research Institute. Licensed for use under a Creative Commons Attribution 4.0 International License (CC BY 4.0).

¹ Coronavirus Tracker. Nation, 2021. <https://nation.africa/kenya/covid>. Accessed 9 February 2021.

² COVID-19 in Kenya: Indices on County Healthcare Capacity and Populations at Risk. Institute of Economic Affairs, 2020. <https://www.ieakenya.or.ke/publications/research-papers/covid-19-in-kenya-indices-on-county-healthcare-capacity-and-populations-at-risk> Accessed 9 February 2021.