Data sources

This document contains detail about data presented in the Covid-19 Response Dashboard. Data are pulled from aggregators such as Johns Hopkins University and Our World In Data, where possible, and augmented with other indicator- or region-specific data as needed.

Sources for country-level data

Unless otherwise noted, *country-level* data for all countries in the dashboard come from the following sources:

- **Tests conducted:** Data pulled from Our World in Data. Underlying sources vary by country. Unknown quality of reported data.
- **New cases:** Data pulled from Johns Hopkins University. Underlying sources vary by country. Unknown quality of reported data.
- **Number of people vaccinated:** Data pulled from Our World in Data. Underlying sources vary by country. Unknown quality of reported data.
- **Deaths:** Data pulled from Johns Hopkins University. Underlying sources vary by country. Unknown quality of reported data.
- **Recoveries:** Data pulled from Johns Hopkins University. Underlying sources vary by country. Unknown quality of reported data.
- **Population count:** World Bank, 2019.
- **Covid-19 Vulnerability Index:**
    - African countries: Data pulled from the Surgo Foundation, with various sources for the different component indicators used to construct the index.
    - United States: Data pulled from the Surgo Foundation, with various sources for the different component indicators used to construct the index.
- **Indicators of essential health services and health care capacity:**
    - DTP3 vaccination rate: Data taken from UNICEF and WHO, 2019, typically sourced from official reports by WHO Member States.
    - Essential Health Services Index: Data taken from World Health Organization and the United Nations groups.
- **Policy indicators**
    - Stay-at-home orders, restrictions on gatherings, mask requirements and school openings: Data compiled from the Blavatnik School of Government, University of Oxford, from publicly available sources.
- **Vaccine equity indicators (US only):**
    - Total vaccinations by race and ethnicity: Data pulled from the Centers for Disease Control and Prevention (CDC) and Kaiser Family Foundation (KFF), sourced from the states.

- Proportion of vaccinations with reported race/ethnicity: Pulled from the CDC and KFF, sourced from each state.

As noted on the Indicator Definitions page, we calculate **test positivity rate, proportion vaccinated (all ages and ages 5+ by race/ethnicity), case-fatality ratio,** and the number of **tests conducted**, **new cases,** and **deaths per 1 million population** based on the data listed above.

Sources for region-level

Region-level indicator values are calculated from the country-level data, listed above. For Africa and Latin America, region-level indicators are left missing when fewer than 5 countries in the region are reporting data.

Sources for U.S. state-level data

Population counts for U.S. states come from the U.S. Census Bureau, 2019, including population counts by race/ethnicity and by age (used to calculate vaccination rates by race/ethnicity). Other state-level data come from a range of sources, as noted in the table.

Table: Detailed list of data sources for U.S. state-level data

Indicators		
Testing data	**Stay-at-home orders, restrictions on gatherings, mask requirements, and school openings**	**Vaccine equity**
Number of diagnostic specimens tested (PCR testing), pulled from the U.S. Department of Health & Human Services, derived from state and jurisdictional health department reports.	Data compiled from the Blavatnik School of Government, University of Oxford, from publicly available sources. Unknown quality of data.	State data for (1) proportion of all vaccinations going to each race/ethnicity category and (2) proportion of vaccinations with reported race/ethnicity information are both pulled from the Kaiser Family Foundation (KFF), sourced from KFF analysis of publicly available data from state websites. We convert the proportions of vaccinations by race/ethnicity (number (1) above) into numbers of first-dose vaccinations by race/ethnicity, multiplying by the total number of first-dose vaccinations in the state, as reported by Our World in Data. For example, if a state administered 1 million first doses and 20 percent went to Blacks, we would calculate 200,000 first-doses among Blacks (1 million * 20 percent). We calculate proportions of the population vaccinated by dividing the number of vaccinations by the relevant population size, from the 2019 Census.

Licensing

Most data in this dashboard are available for all uses, as long as cited appropriately. Please see the individual sources for relevant licensing details.

Citations

We gratefully acknowledge the contributions of the following researchers, aggregating data presented in this dashboard.

- *Our World In Data*

  Ritchie, Hannah, Esteban Ortiz-Ospina, Diana Beltekian, Edouard Mathieu, Joe Hasell, Bobbie Macdonald, Charlie Giattino, Max Roser, Breck Yunits, Ernst van Woerden, Daniel Gavrilov, Matthieu Bergel, Shahid Ahmad, and Jason Crawford (2020) – "Coronavirus Pandemic (Covid-19)". Published online at OurWorldInData.org. Retrieved from: 'https://ourworldindata.org/coronavirus'.

- *Johns Hopkins Coronavirus Resource Center*

  Published online at https://coronavirus.jhu.edu/, as reported in the following: Ensheng Dong, Hongru Du, Lauren Gardner (2020) - "An interactive web-based dashboard to track Covid-19 in real time". Published online at the Lancet Global Health. Retrieved from: 'https://www.sciencedirect.com/science/article/pii/S1473309920301201?via%3Dihub'.

- *Oxford Covid-19 Government Response Tracker*

  Hale, Thomas, Noam Angrist, Emily CameronBlake, Laura Hallas, Beatriz Kira, Saptarshi Majumdar, Anna Petherick, Toby Phillips, Helen Tatlow, Samuel Webster (2020). Oxford Covid-19 Government Response Tracker, Blavatnik School of Government. Available: www.bsg.ox.ac.uk/covidtracker