DEPARTMENT OF HEALTH AND HUMAN SERVICES

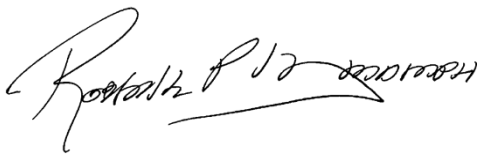
CENTERS FOR DISEASE CONTROL AND PREVENTION

Committees on Appropriations of the House of Representatives and the Senate,
Committee on Energy and Commerce of the House of Representatives,
and
Committee on Health, Education, Labor, and Pensions of the Senate

Report to Congress on

Paycheck Protection Program and Health Care Enhancement Act

Disaggregated Data on U.S. Coronavirus Disease 2019 (COVID-19) Testing
9th 30-Day Update



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Message from the CDC Director, Rochelle Walensky, M.D.

The Paycheck Protection Program and Health Enhancement Act requires CDC to report to Congress, within 21 days of enactment of the legislation and then again, every 30 days, on testing for COVID-19. In addition, Congress has asked CDC to provide data on COVID-19 cases, hospitalizations and deaths disaggregated by race, ethnicity, age, sex, geographic region, and other relevant factors to the extent that information is available. This report is the 9th update to be provided in response to that requirement, and the first report submitted under my signature.

The COVID-19 pandemic has further shone a spotlight on the persistent health disparities in this nation. There is increasing evidence that some racial and ethnic groups are disproportionately impacted by COVID-19. Inequities in the social determinants of health, such as poverty and healthcare access, affecting these groups are interrelated and influence a wide range of health and quality-of-life outcomes and risks. In order to address the public health consequences of these inequities, CDC is committed to efforts to collect and report demographic data on people impacted by COVID-19, as well as those who have been vaccinated for COVID-19 in the U.S. We have seen improvements in the completeness of demographic data CDC receives from public health departments and clinicians over the last nine months. However, there are still gaps. CDC is committed to addressing these gaps, not only for the COVID-19 response, but for all public health data.

Health equity needs to be the cornerstone of our public health work, and we need the best possible data to both identify the challenges and measure our progress as we implement solutions.

I hope you will read this report with interest.

Overview

The Paycheck Protection Program and Health Care Enhancement Act, in appropriating supplemental funds to the Department of Health and Human Services (HHS) for coronavirus response, states, in part:

> *Provided further*, That not later than 21 days after the date of enactment of this Act, the Secretary, in coordination with other appropriate departments and agencies, shall issue a report on COVID–19 testing: *Provided further*, That such report shall include data on demographic characteristics, including, in a de-identified and disaggregated manner, race, ethnicity, age, sex, geographic region and other relevant factors of individuals tested for or diagnosed with COVID–19, to the extent such information is available: *Provided further*, That such report shall include information on the number and rates of cases, hospitalizations, and deaths as a result of COVID–19: *Provided further*, That such report shall be submitted to the Committees on Appropriations of the House and Senate, and the Committee on Energy and Commerce of the House of Representatives and the Committee on Health, Education, Labor, and Pensions of the Senate, and updated and resubmitted to such Committees, as necessary, every 30 days until the end of the COVID–19 public health emergency first declared by the Secretary on January 31, 2020 (P.L. 116-139, page 7, Division B, Title I, 134 Stat. 620, 626).

The Centers for Disease Control and Prevention (CDC) prepared this 30-day update report in response to this requirement.

Executive Summary

This report contains data on demographic characteristics, including data on sex, age, race, ethnicity, geographic region and other relevant factors of individuals tested for or diagnosed with COVID-19. It also includes information on the number and rates of cases, hospitalizations, and deaths as a result of COVID-19. These data collected by CDC help target critical COVID-19 interventions.

This report contains the data we currently have available from reporting entities. As some data elements are regularly updated, web links throughout the document are provided for the convenience of the reader. The “Data Sources and Completion” section and Appendix A of this report provide detailed information on the data sources used to collect patient demographic data. The Recent Publications section summarizes a number of CDC studies that provide additional analyses of disaggregated COVID-19 data. Additionally, CDC has updated its age-adjusted rate ratios for cases, deaths, and hospitalizations for racial and ethnic minorities compared to non-Hispanic White persons: see Appendix C. Age-adjusted data provides additional granularity that can help focus prevention efforts.

As of February 8, 2021, there were a total of 26,852,809 cases of COVID-19 reported in the U.S., and as of week ending February 3, 2021, 421,378 confirmed COVID-19 deaths were reported to the National Vital Statistics System. New COVID-19 cases, hospitalizations, and

deaths across the U.S. significantly increased during the fall and into early January. While the numbers still remain quite high, in more recent weeks overall cases and hospitalizations appear to have decreased.

Key Findings

- COVID-19 has disproportionately impacted many racial and ethnic groups:
    - Cases: The non-Hispanic Native Hawaiian/Other Pacific Islander population had the highest cumulative case rate at 6,148.6 cases per 100,000. The non-Hispanic American Indian/Alaska Native population (5,329.9 cases per 100,000), the Hispanic or Latino population (3,542.9 cases per 100,000), and the non-Hispanic Black population (3,050.7 cases per 100,000) followed. The lowest case rates were observed among the non-Hispanic Asian population (1,975.9 cases per 100,000) and the non-Hispanic White population (2,927.6 cases per 100,000).
    - Hospitalizations: The cumulative age-adjusted hospitalization rate for non-Hispanic American Indian or Alaska Native persons was approximately 3.6 times that of non-Hispanic White persons; Hispanic or Latino persons (hereafter referred to simply as Hispanic) had an age-adjusted hospitalization rate approximately 3.2 times that of non-Hispanic White persons. Additionally, non-Hispanic Black persons had an age-adjusted hospitalization rate approximately 2.9 times the rate of non-Hispanic White persons.
    - Deaths: The cumulative death rate per 100,000 population was highest for non-Hispanic American Indian/Alaska Native persons at 198.4 deaths per 100,000. Non-Hispanic Black persons had a death rate of 152.2 deaths per 100,000 population, followed by non-Hispanic White persons at 130.9 deaths per 100,000 population, non-Hispanic Native Hawaiian or other Pacific Islander persons at 126.9 deaths per 100,000 population, Hispanic persons at 125.7 deaths per 100,000 population, and non-Hispanic Asian persons at 83.1 deaths per 100,000 population.
- Young adults age 18-29 years have the highest cumulative case rates, followed by older adults age 85 years and older. Adults age 85 years and older and 75-84 years have the highest cumulative rates of hospitalization and death.

Data Sources and Completeness

COVID-19 is a nationally notifiable condition, with state, local, and territorial health departments voluntarily sending case reports to CDC through the National Notifiable Diseases Surveillance System (NNDSS) to help monitor and mitigate the adverse effects of this pandemic. In addition to this case-based reporting, CDC uses three other primary sources of data in this report, all of which are collected by CDC. The Coronavirus Disease 2019 (COVID-19)-Associated Hospitalization Surveillance Network (COVID-NET) collects data on COVID-19-associated hospitalizations. The National Vital Statistics System gathers death certificate data from state vital statistics offices. The final data source used is COVID-19 laboratory testing data, which are reported to CDC. CDC uses these data sources to better understand COVID-19, monitor longitudinal trends, maintain situational awareness, project risk assessments, and inform

prevention approaches. Please see Appendix A, as well as the paragraphs below, for additional information about the primary sources of data in this report.

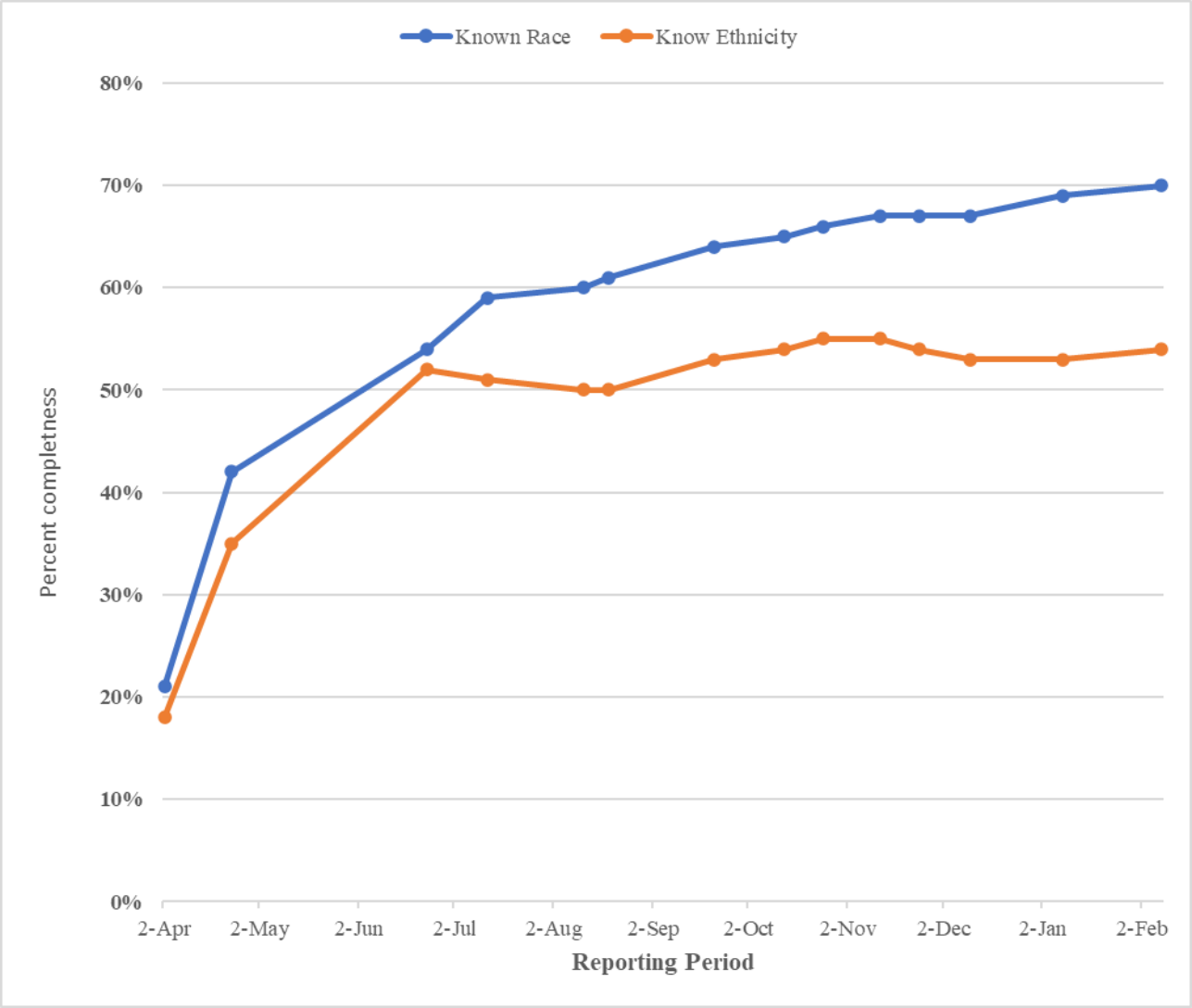
In addition to systematic data collection, CDC conducts focused investigations into outbreaks and other defined settings to gain insights into transmission, clinical characteristics, and prevention strategies. For example, numerous serosurveys are in progress to understand the changes in antibody levels in diverse geographic areas over time. Please see the Recent Publications section of this report for examples of recent studies that CDC has published.

Case Report Data

Case-based reporting received through the National Notifiable Diseases Surveillance System helps to determine case numbers, estimate infection rates, examine trends over time, determine geographic distributions, and identify outbreaks. Case report forms are completed by hospitals, healthcare providers, and laboratories. These reports are sent to designated health departments within each state; health departments de-identify the case reports before sending them to CDC. Case-based reporting uses standardized case definitions and defined demographic and clinical variables. However, while case report forms for notifiable diseases are required by state law, completion of demographic data, including race/ethnicity, is voluntary; no mandate requires that healthcare providers or health departments complete all data fields, including race/ethnicity, in the case report form. CDC relies on state, local, and territorial health departments to voluntarily report case data. CDC asks that state, local, and territorial health departments provide a set of minimal data elements in their notifications to CDC about individual COVID-19 cases. Missing data for some entries in the case report forms makes it more difficult to establish if the subset of data received are representative of the U.S. population. While some data fields are reliably reported (state, county, age, and sex data fields are between 98-100% complete), others are less reliably completed. The high number of COVID-19 cases has made it challenging for many state and local health departments to follow up and collect detailed data on every case. This contributes, in part, to the lack of completeness in race and ethnicity data.

As of February 8, 2021, CDC has received a total of 20,135,177 case report forms (inclusive of about 75% of all cases). Among these case reports, approximately 51% contain race *and* ethnicity data. Figure 1, below, shows the improvement in the percentage of case reports with complete race and ethnicity over time. Overall, from April 2, 2020 to February 8, 2021, there was an improvement in completeness of race and ethnicity in the case reports, from 21% to 70% for race and from 18% to 54% for ethnicity. However, this improvement has slowed since July. CDC is working with healthcare providers, electronic health record developers, laboratories, and state and local health departments to modernize disease surveillance by automating the generation and transmission of case reports from the electronic health record to public health agencies for review and action for the COVID-19 response. For example, expanded use of electronic case reporting, which make the submission of information from healthcare providers to public health departments seamless and automated, will reduce the burden of manually reporting COVID-19 cases, increase timeliness of reporting, and improve data completeness by pulling data directly from the medical record.

Figure 1: Percent of COVID-19 case reports with complete race and ethnicity data, April 2, 2020 through February 8, 2021; National Notifiable Diseases Surveillance System



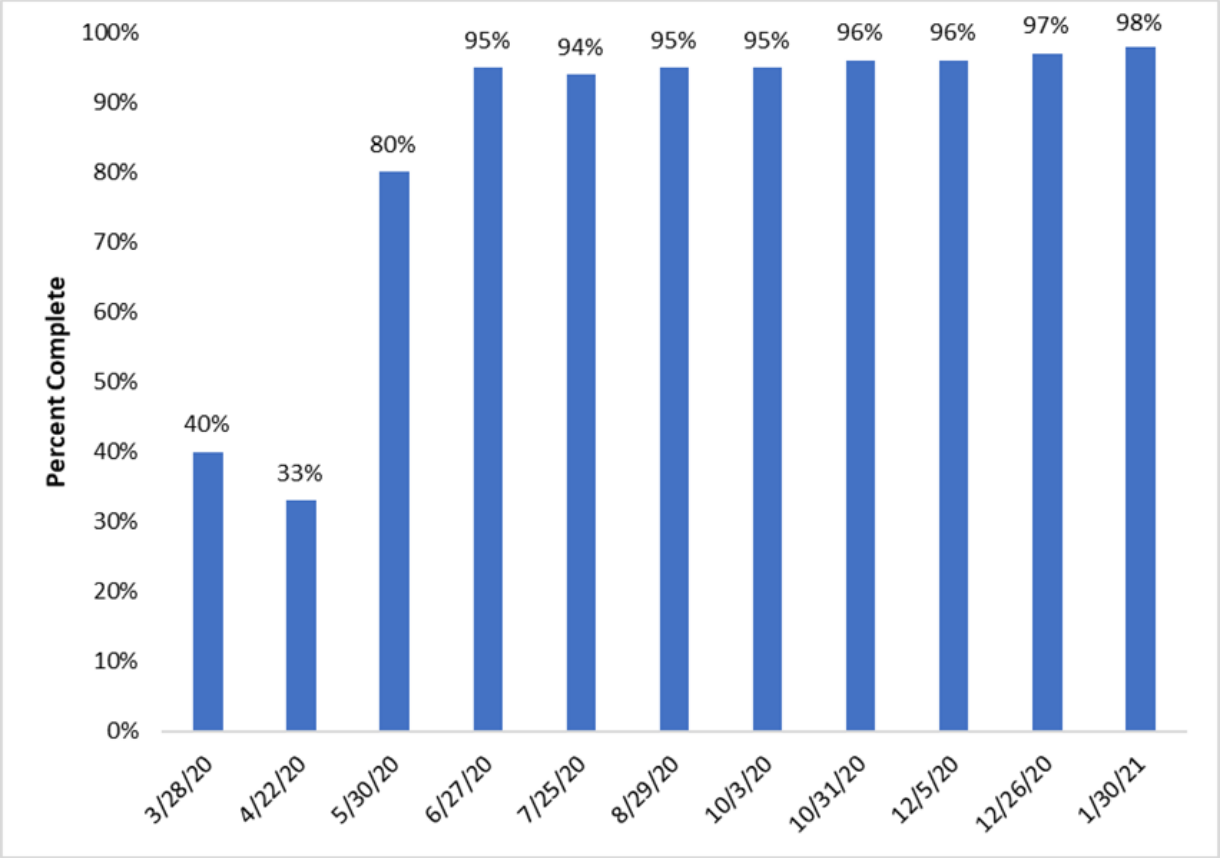
Data source: Data are cumulative and based on COVID-19 case-level data reported by state, local, and territorial jurisdictions to CDC. Please see Appendix B for a list of all reporting jurisdictions.

COVID-NET Hospitalization Data

COVID-NET[1] is a population-based surveillance system that collects data on laboratory-confirmed COVID-19-associated hospitalizations among children and adults through a network of over 250 acute-care hospitals in 14 states. This system produces high-quality information on hospitalization rates and risk factors for hospitalization because the data have high completion rates and survey a population similar to the total U.S. population. Completeness of race and ethnicity data in COVID-NET is 98% as of January 30, 2021 and has been approximately maintained at this level since June, as shown in Figure 2, below.

[1] https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covid-net/purpose-methods.html

Figure 2: Percent of COVID-19 hospitalizations with complete race/ethnicity data, March 1 – January 30, 2021; COVID-NET



Note: The percentage of hospitalizations with complete race/ethnicity data is based on cumulative numbers from March 1 up to each date indicated.

Mortality Data

CDC's National Center for Health Statistics collects death certificate data from state vital statistics offices for all deaths occurring in the United States. Provisional counts for COVID-19 deaths are based on mortality data in the National Vital Statistics System. The National Vital Statistics System captures all deaths from all causes across every state to track the characteristics of those who have died in the United States, help determine life expectancy, and allow comparisons of death trends with other countries. These National Vital Statistics System COVID-19 provisional death data are complete for age, nearly complete (>99.9%) for sex, and 99% complete for race and ethnicity. However, the time it takes for death certificates to be completed, registered, and coded varies from state to state. Currently, CDC receives information on approximately 63% of deaths within about ten days of the date of death. It can take as little as one week and as many as eight weeks or more for CDC to receive information from the death certificates registered by the states. These data are updated as more information becomes available.

As of February 3, 2021, a total of 445,264 deaths were reported by U.S. jurisdictions to CDC based on aggregate COVID-19 counts, while by comparison 421,378 confirmed COVID-19

deaths were reported to the National Vital Statistics System through death certificates as of February 3, 2021. Notwithstanding the reporting lag, the National Vital Statistics System provides the most complete demographic information, so it is the data source used throughout this report.

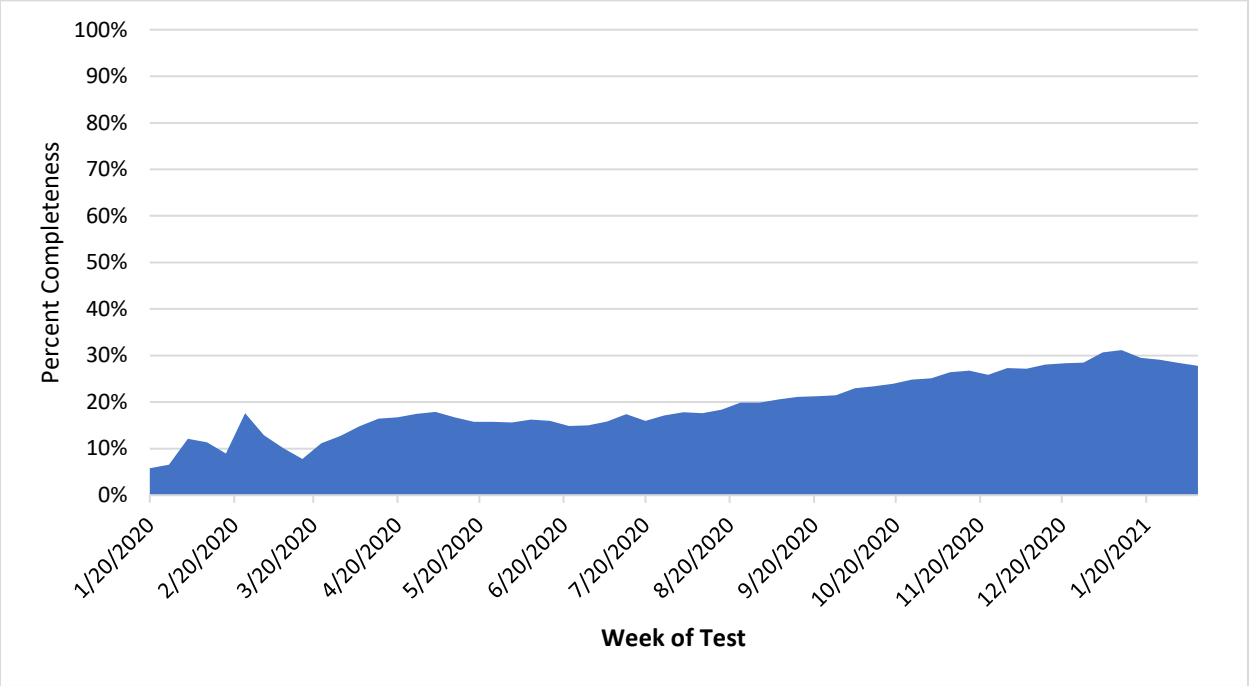
Testing Data

Diagnostic (reverse transcription polymerase chain reaction [RT-PCR]) test data are compiled from multiple sources, including commercial, hospital, and public health laboratories. Currently, 48 jurisdictions, representing approximately 94% of the testing volume in the country, have converted to COVID-19 electronic laboratory reporting (CELR), sending their testing data directly to CDC. The remaining jurisdictions are in the process of implementing this system and are sending their testing data to CDC by other means. It is important to note that the number of positive tests in a given state is not equal to the number of cases in that state, as one person may be tested more than once. For that reason, CDC distinguishes between testing data and case report data on its website. The daily count of cases, which can be found at the CDC COVID Data Tracker,[2] is based on case report data, not on testing data. Public health laboratories[3] in all 50 states, Washington DC, Guam, Puerto Rico, and United States Virgin Islands are now testing for COVID-19. Additional information about testing[4] is available on CDC's website. On June 4, 2020, HHS issued guidance[5] under the Coronavirus Aid, Relief, and Economic Security (CARES) Act specifying that laboratories must report additional demographic data, including patient race and ethnicity, to state and local health departments for all COVID-19 test results beginning August 1, 2020. Detailed implementation guidance for this requirement was published in the last week of July. As of February 8, 2021, data from 48 jurisdictions had been included in the CELR reporting dataset, including AK, AL, AR, AZ, CA, CNMI, CO, CT, DC, DE, FL, GA, GU, HI, IA, ID, IL, IN, KS, KY, LA, MA, MD, MI, MN, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OR, PA, RI, RMI, SC, SD, TN, TX, UT, VA, VT, WI, and WV. While data completeness for sex was 96% and for age was 69%, as of February 8, 2021 for all tests cumulatively reported in these jurisdictions, both race and ethnicity were known for only 25% (Figure 3). The percent of reported tests providing both race and ethnicity data as of February 8, 2021 was under 1% for three jurisdictions, ranged from 1% to 29% in 27 jurisdictions, ranged from 30%-39% in eight jurisdictions, ranged from 41%-60% in nine, and was 94% in one jurisdiction. There may be biases in the limited available data that further complicate interpretation of underlying trends.

While the collection of race and ethnicity data through test result reporting has been limited to date, CDC is working closely with the Association of Public Health Laboratories to assist jurisdictions with improving data quality by hosting weekly calls as well as providing one-on-one assistance. Additionally, updated guidance for reporting COVID-19 laboratory data is available on the CDC website.[6] CDC will continue to monitor for improvements in race and ethnicity reporting from laboratories.

[2] https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html
[3] https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/previous-testing-in-us.html
[4] https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/testing-in-us.html
[5] https://www.hhs.gov/sites/default/files/covid-19-laboratory-data-reporting-guidance.pdf
[6] https://www.cdc.gov/coronavirus/2019-ncov/lab/reporting-lab-data.html#how-to-report

Figure 3. Percent of tests with known race and ethnicity by week of reporting through February 8, 2021



Notes: The data presented above represent viral COVID-19 laboratory test (reverse transcription polymerase chain reaction) results from laboratories in the United States, including commercial and reference laboratories, public health laboratories, hospital laboratories, and other testing locations. The data represent weekly laboratory test totals—not individual people—and exclude antibody and antigen tests. The data are provisional and subject to change. This table includes data from the 48 jurisdictions in the CELR reporting dataset.

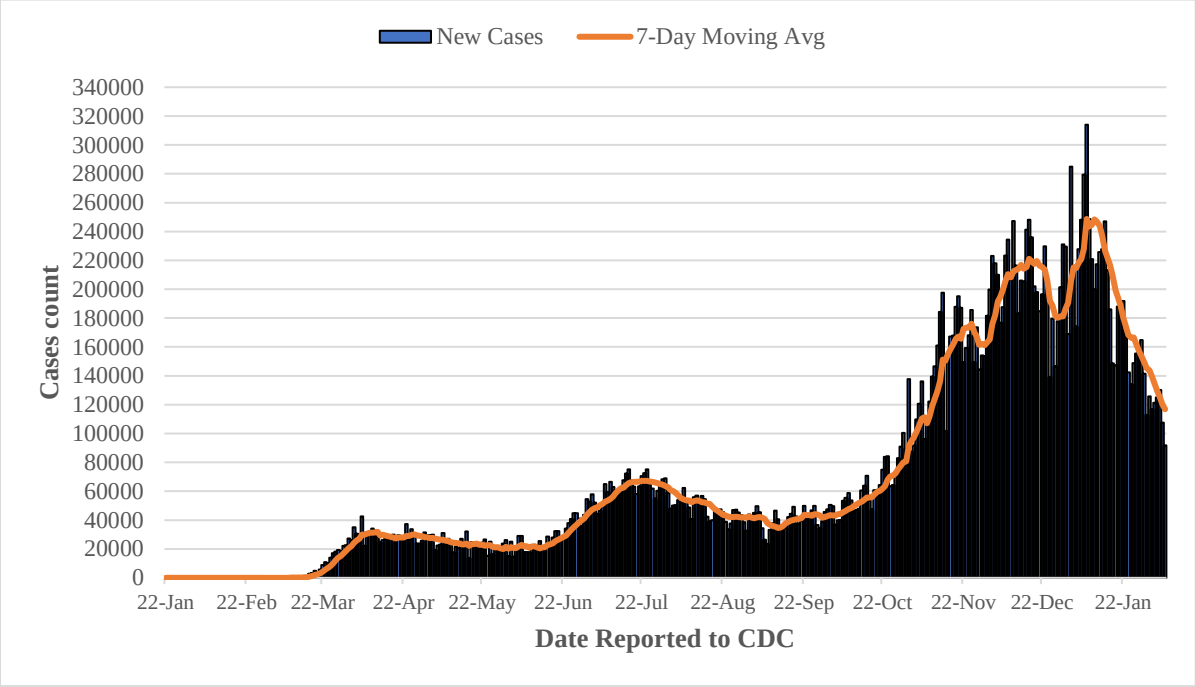
Trends in Reported Cases

All Cases

As of February 8, 2021 the reported number of probable and confirmed[7] COVID-19 cases reported in the U.S. since January 21, 2020 was 26,852,809. The cumulative case rate is 8,088 cases per 100,000 population. Figure 4, below, displays the number of new probable and confirmed cases reported each day in the U.S. since the beginning of the outbreak. Data on cases[8] are updated daily on CDC's website.

[7] https://wwwn.cdc.gov/nndss/conditions/coronavirus-disease-2019-covid-19/case-definition/2020/08/05/
[8] https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html

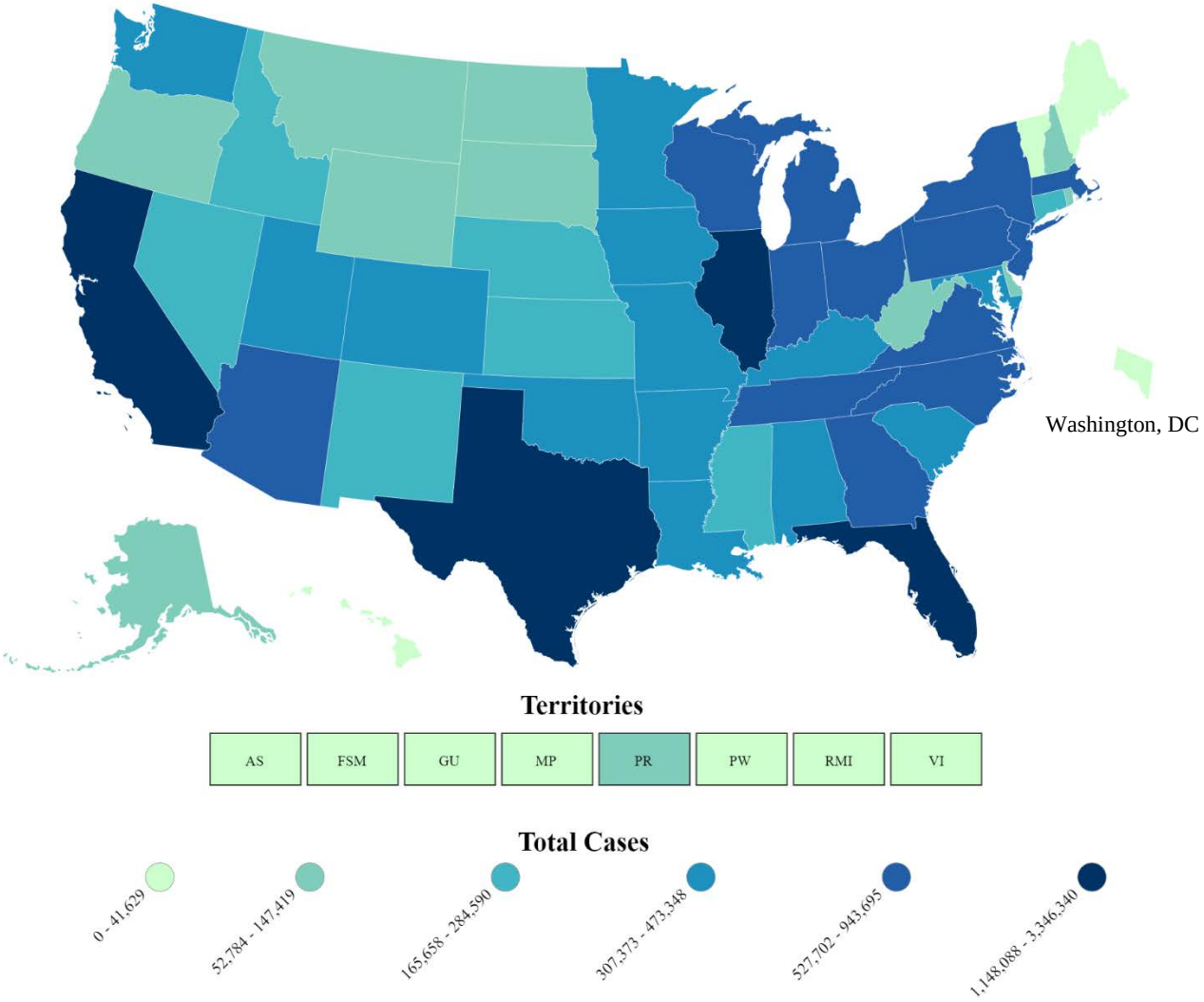
Figure 4: Daily number of COVID-19 cases reported to CDC through February 8, 2021



Data source: CDC COVID Data Tracker.

The map below highlights areas of the country with the greatest cumulative number of COVID-19 cases reported. As of February 8, 2021, 53 reporting jurisdictions each reported more than 10,000 cases of COVID-19. California reported the highest number of cases with 3,335,926 and Texas reported the second highest number of cases with 2,483,742 cases. Adjusting for population size, North Dakota had the highest number of cases per 100,000 population (12,884), and South Dakota had the second highest (12,347).

Map 1: Cumulative COVID-19 cases reported to the CDC, by state/territory January 21, 2020 through February 8, 2021



Data source: Data are based on aggregate counts of COVID-19 cases reported by state and territorial jurisdictions to CDC since January 21, 2020.

Cases by Sex

Table 1, below, outlines the breakdown of cases by sex. Among the cases for which sex was reported (98.8% of cases), there were slightly more cases among females than males, with 10,400,538 (51.7%) among females and 9,483,211 (47.1%) among males. The cumulative COVID-19 case rate is 6,134.3 cases per 100,000 population, and it is slightly higher among females at 6,243.5 cases per 100,000 than males at 5,866.2 cases per 100,000 population.

Table 1: Cumulative number of COVID-19 cases and case rates (cases per 100,000 population) by sex, through February 8, 2021

Sex	Number of Cases	Cases per 100,000
Female	10,400,538	6,243.49
Male	9,483,211	5,866.24
Unknown*	251,428	-
Total/National Average	20,135,177	6,134.29

* Indicates unknown sex in the case report form.
Data source: Data are based on COVID-19 case-level data reported by state and territorial jurisdictions to CDC. Case-level data include about 75% of total reported cases.

Cases by Age Group

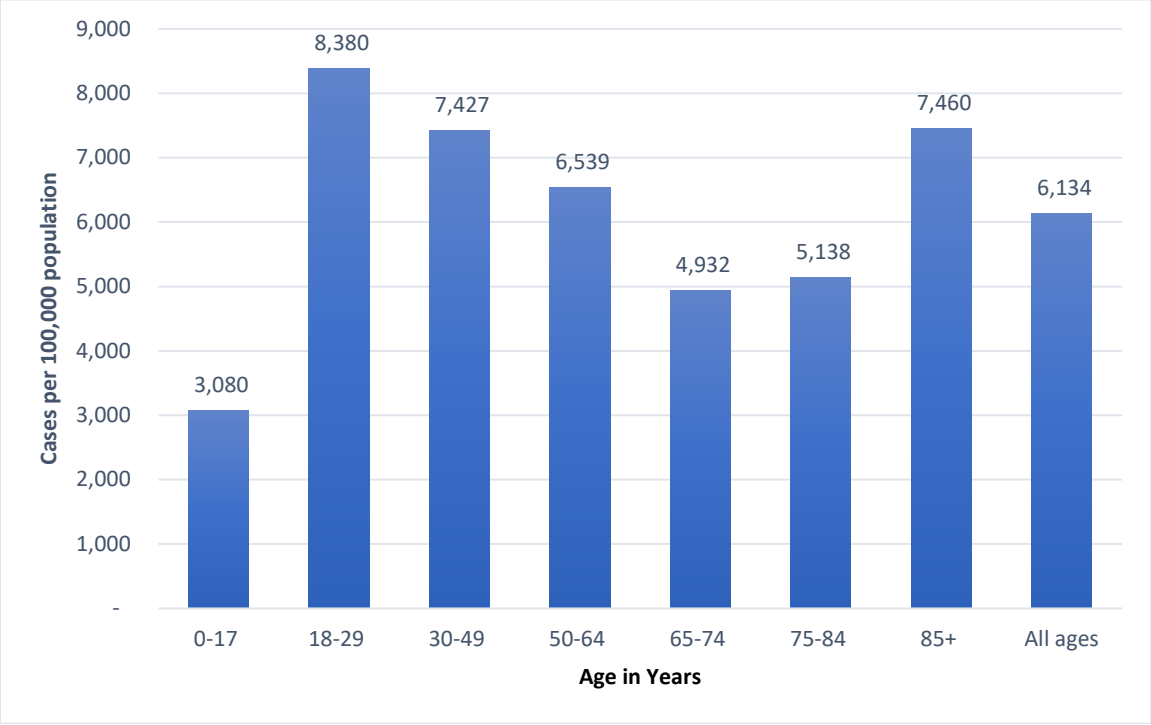
Table 2 and Figure 5, below, show the number of cases and case rate by age group. When looking at cases per 100,000 population, age 18-29 years had the highest rate of cases at 8,380, followed by adults age 85 and older at 7,459.7 cases per 100,000 population.

Table 2: COVID-19 cases and case rates by age group, through February 8, 2021

Age	Number of Cases	Cases per 100,000
0-17 years	2,249,754	3,080.2
18-29 years	4,502,462	8,380.1
30-49 years	6,275,179	7,427.3
50-64 years	4,114,505	6,538.7
65-74 years	1,552,669	4,931.7
75-84 years	820,493	5,137.8
85+ years	492,711	7,459.7
Unknown age	127,404	-
All Ages	20,135,177	6,134.3

Data source: Data are based on COVID-19 case-level data reported by state and territorial jurisdictions to CDC. Case-level data include about 75% of total reported cases.

Figure 5: COVID-19 case rates per 100,000 by age group, through February 8, 2021



Data source: Data are based on COVID-19 case-level data reported by state and territorial jurisdictions to CDC. Case-level data include about 75% of total reported cases.

Cases by Race/Ethnicity

Table 3 and Figure 6 below show the case rate by race/ethnicity reported to CDC from the National Notifiable Diseases Surveillance System. It is important to note that only 51% of cases had known race/ethnicity. There is no federal mandate requiring that healthcare providers or health departments fill out all data fields, including race/ethnicity, in the case report forms.

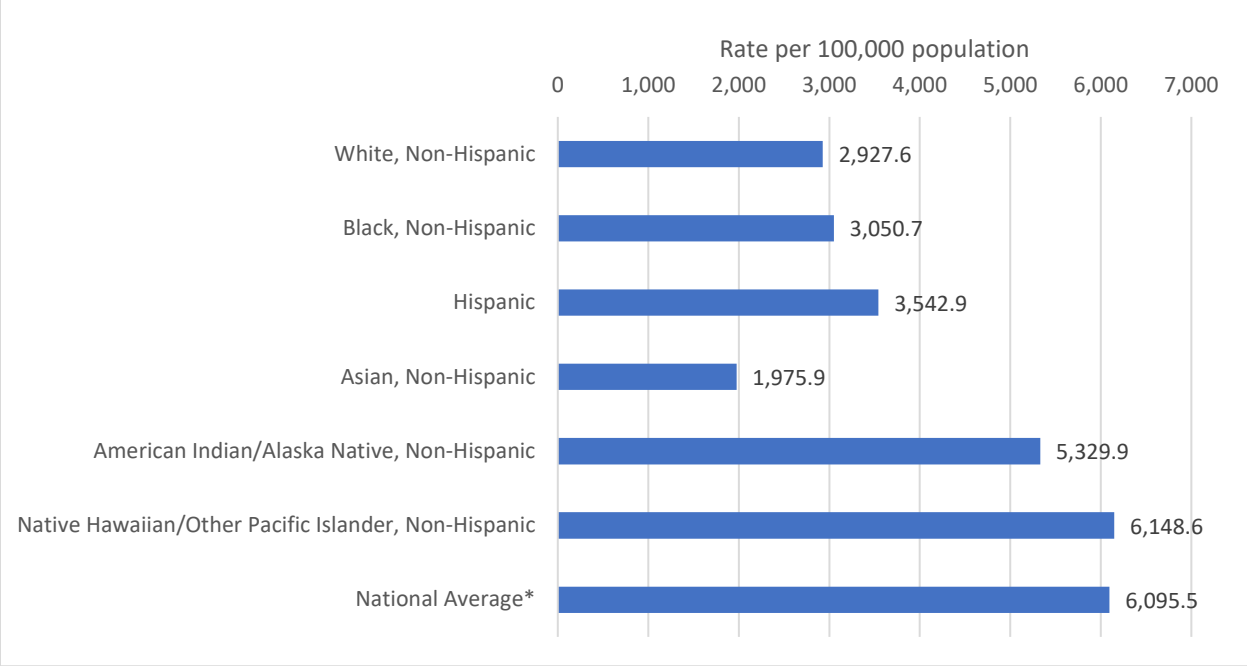
The non-Hispanic Native Hawaiian/Other Pacific Islander population has the highest case rate at 6,148.6 cases per 100,000, followed by the non-Hispanic American Indian/Alaska Native population (5,329.9 cases per 100,000), Hispanic population (3,542.9 per 100,000), and the non-Hispanic Black population (3,050.7 cases per 100,000). The lowest case rates were observed among the non-Hispanic White population (2,927.6 per 100,000) and the non-Hispanic Asian population (1,975.9 cases per 100,000). Rates for each racial/ethnic group are likely underestimated. While, for nearly half of reported cases, the designation of race or ethnicity was missing, the denominators used for calculating these rates are based on census data. Also, the degree of underestimation might not be consistent across race/ethnicity groups because the completeness of data might vary.

Table 3: COVID-19 cases and case rates by race and ethnicity, through February 8, 2021

Race/Ethnicity	Number of Cases	Cases Per 100,000
White, Non-Hispanic	5,776,381	2,927.6
Black, Non-Hispanic	1,255,266	3,050.7
Hispanic or Latino	2,145,999	3,542.9
Asian, Non-Hispanic	373,553	1,975.9
American Indian/Alaska Native, Non-Hispanic	129,777	5,329.9
Native Hawaiian/Other Pacific Islander, Non-Hispanic	36,640	6,148.6
Multiple/Other, Non-Hispanic	614,353	-
Unknown	9,675,804	-
Total/National Average	20,007,773	6,095.5

Data source: Data are based on COVID-19 case-level data reported by state and territorial jurisdictions to CDC. Case-level data include about 75% of total reported cases.
* Note that 51% of cases had known race and/or ethnicity, ranging between 0-100% in different jurisdictions, but the denominators used for calculating these rates are based on national census data. Therefore, case rates likely underestimate true rates, and the degree of underestimation might vary across the race/ethnicity groups.
** This rate is based on the total number of reported cases, regardless of whether race or ethnicity data were missing.

Figure 6: COVID-19 case rates per 100,000 by race and ethnicity, through February 8, 2021



Data source: Data are based on COVID-19 case-level data reported by state and territorial jurisdictions to CDC. Case-level data include about 75% of total reported cases. Note that 51% of cases had known race and/or ethnicity, ranging between 0-100% in different jurisdictions, but the denominators used for calculating these rates are based on national census data. Therefore, case rates likely underestimate true rates and the degree of underestimation might vary across the race/ethnicity groups.
* This rate is based on the total number of reported cases, regardless of whether race or ethnicity data were missing.

Cases by Race/Ethnicity and Age Group

Table 4, below, shows the case rates by age and race/ethnicity. Approximately 0.6% of case reports were missing age and 49% were missing race/ethnicity. For the non-Hispanic Native Hawaiian/Other Pacific Islander population, the highest rates were in persons aged 18-29 years (8,125.5 cases per 100,000) compared to other age groups. For Hispanic and for non-Hispanic American Indian or Alaska Native populations, persons age 30-49 years had the highest case rate (4,586.4 and 6,908.1 cases per 100,000, respectively) compared to other Hispanic or non-Hispanic American Indian/Alaska Native age groups. In all other racial/ethnic groups, the highest case rate was found among those age 85 years and older compared to other age groups.

Table 4: Case rates per 100,000 population by age and race and ethnicity, through February 8, 2021

Race/Ethnicity	0-17 years	18-29 years	30-49 years	50-64 years	65-74 years	75-84 years	85+ years	All ages
White, Non-Hispanic	1,503.7	4,122.2	3,297.1	2,993.3	2,513.6	2,883.8	**4,376.7**	2,927.6
Black, Non-Hispanic	1,317.0	3,379.6	3,762.3	3,615.5	3,392.3	3,705.6	**4,705.6**	3,050.7
Hispanic or Latino	1,667.2	4,459.8	**4,586.4**	4,342.1	3,497.6	3,383.7	3,669.4	3,542.9
Asian, Non-Hispanic	970.5	2,563.1	2,088.5	2,277.2	1,896.8	1,869.0	**2,924.2**	1,975.9
American Indian or Alaska Native, Non-Hispanic	3,349.9	6,195.8	**6,908.1**	5,499.7	4,554.5	4,484.0	5,023.0	5,329.9
Native Hawaiian/ Other Pacific Islander, Non-Hispanic	3,335.4	**8,125.5**	7,322.7	6,454.8	5,525.1	5,151.1	5,158.1	6,148.6
National Averages*	3,080.2	**8,380.1**	7,427.3	6,538.7	4,931.7	5,137.8	7,459.7	6,134.3

Data source: Data are based on COVID-19 case-level data reported by state and territorial jurisdictions to CDC. Case-level data include about 75% of total reported cases. Note that 51% of cases had known race and/or ethnicity, ranging between 0-100% in different jurisdictions, but the denominators used for calculating these rates are based on national census data. Therefore, case rates likely underestimate true rates, and the degree of underestimation might vary across the race/ethnicity groups. Bold numbers indicate the highest rate for each race/ethnicity.

* These rates are based on the total number of reported cases, regardless of whether race or ethnicity data were missing.

Summary of Case Data

COVID-19 daily case counts increased starting in mid to late September 2020 and reached a new peak in early January 2021. The seven-day average number peak of cases was January 8, 2021 at 248,706 cases, more than triple the late October seven day average of 80,324, and almost than quadruple the late July peak seven-day average of 62,740. In recent weeks, cases have steadily declined, with the seven-day average at 116,904 as of February 8, 2021. Ten U.S. states – AZ, CA, FL, GA, NC, NJ, NY, OH, PA, and TX – each reported between 24,000 and 124,000 cases in the last seven days.

States that have the highest cumulative case rates include North Dakota (12,884 cases per 100,000 population), South Dakota (12,347 cases per 100,000 population), Rhode Island (11,128 cases per 100,000 population), Utah (11,061 cases per 100,000), Tennessee (10,903 cases per 100,000), and Arizona (10,725 cases per 100,000).

Case data disaggregated by age and race/ethnicity show that Americans aged 85 or older had the highest case rates compared to their younger counterparts in White non-Hispanic persons, Black non-Hispanic persons, and Asian non-Hispanic persons. In Hispanic persons and non-Hispanic American Indian or Alaska Natives, individuals aged 30-49 years had the highest rates compared to other age groups, and in non-Hispanic Native Hawaiian/Other Pacific Islanders, the age group with the highest rate was 18-29 years. Incomplete race/ethnicity reporting may be a factor in these reported case rates, as without race/ethnicity disaggregation Americans aged 18-29 have the highest cumulative case rates across all age groups. Members of racial or ethnic minority groups generally have higher cumulative case rates compared to members of non-Hispanic White groups. Only non-Hispanic Asian persons and non-Hispanic Black persons age 18-29 (compared to only that age range) had lower case rates than non-Hispanic White persons.

Trends in Hospitalizations

COVID-NET collects data on COVID-19-associated hospitalizations, producing information on hospitalization rates that can be broken down by sex, age, and race and ethnicity. COVID-19-associated hospitalization rates by race and ethnicity are calculated using hospitalized COVID-NET cases with known race and ethnicity for the numerator and CDC National Center for Health Statistics bridged-race population estimates[9] for the denominator. Rates are adjusted to account for differences in age distributions within race and ethnicity strata in the COVID-NET catchment area.

Overall Hospitalizations

A total of 140,418 laboratory-confirmed COVID-19-associated hospitalizations were reported by COVID-NET sites between March 1, 2020 and February 6, 2021. The overall cumulative hospitalization rate was 430.7 per 100,000 population. Since the week ending November 7, 2020, the overall weekly hospitalization rate has remained elevated above earlier weeks in the pandemic. While a decrease in hospitalizations in January was seen among all age groups except those aged 0-17 years, rates remain quite high. Hospitalization data are subject to change as more hospital admission data become available.

Hospitalizations by Sex

Table 5, below, shows the rates of hospitalization by sex per 100,000 population.

[9] https://www.cdc.gov/nchs/nvss/bridged_race.htm

Table 5: COVID-NET hospitalization rates by sex, as of February 6, 2021

Sex	Hospitalizations per 100,000
Female	416.9
Male	443.6
National Average	430.7

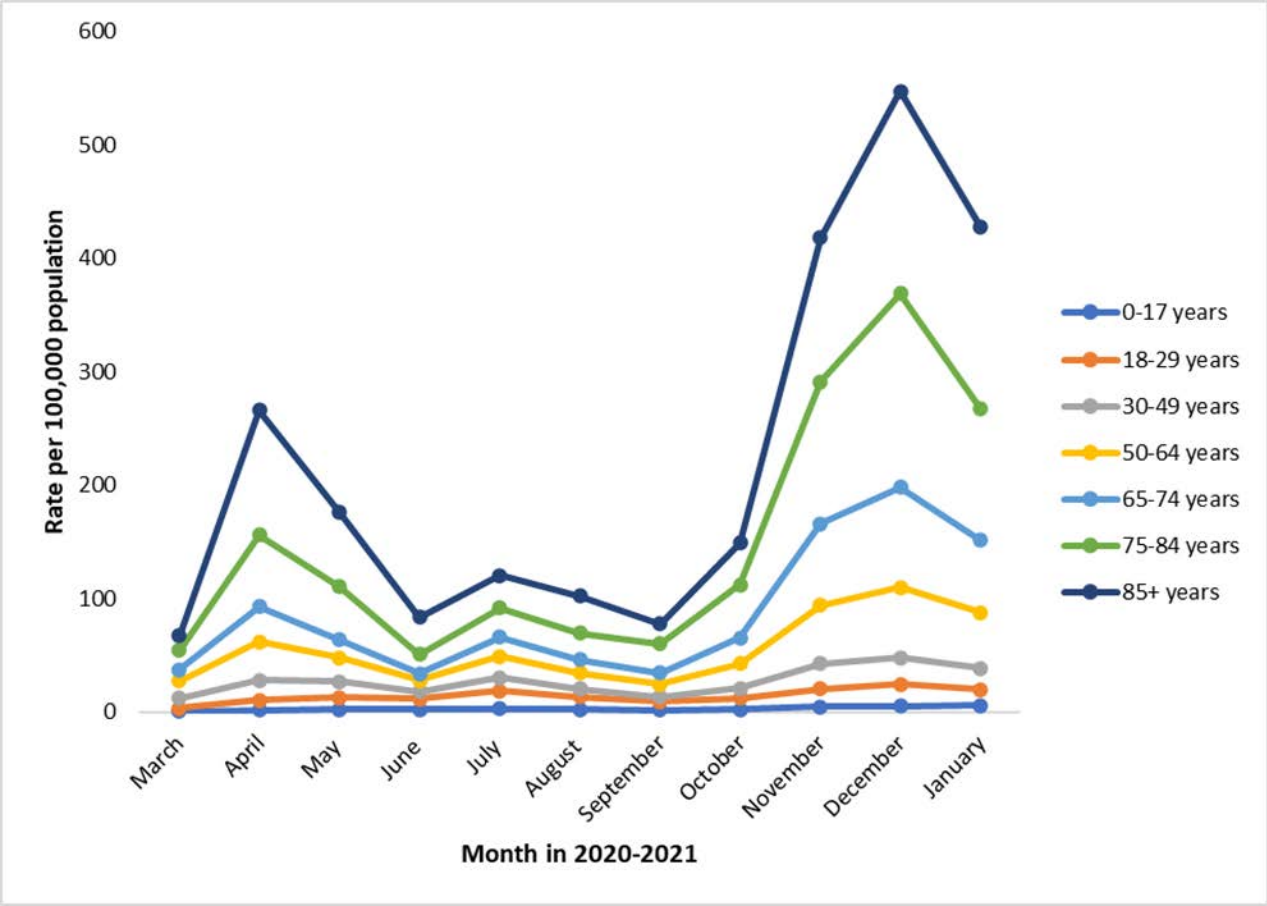
Hospitalizations by Age Group

Table 6 and Figure 7, below, outline laboratory confirmed COVID-19 associated hospitalizations by age group. The highest rate of hospitalization was among adults aged 85 years and older.

Table 6: COVID-NET hospitalization rates by age group, as of February 6, 2021

Age	Hospitalizations per 100,000
0-17 years	29.9
18-29 years	157.0
30-49 years	301.0
50-64 years	614.9
65-74 years	967.0
75-84 years	1,655.9
85+ years	2,472.0
National Average	430.7

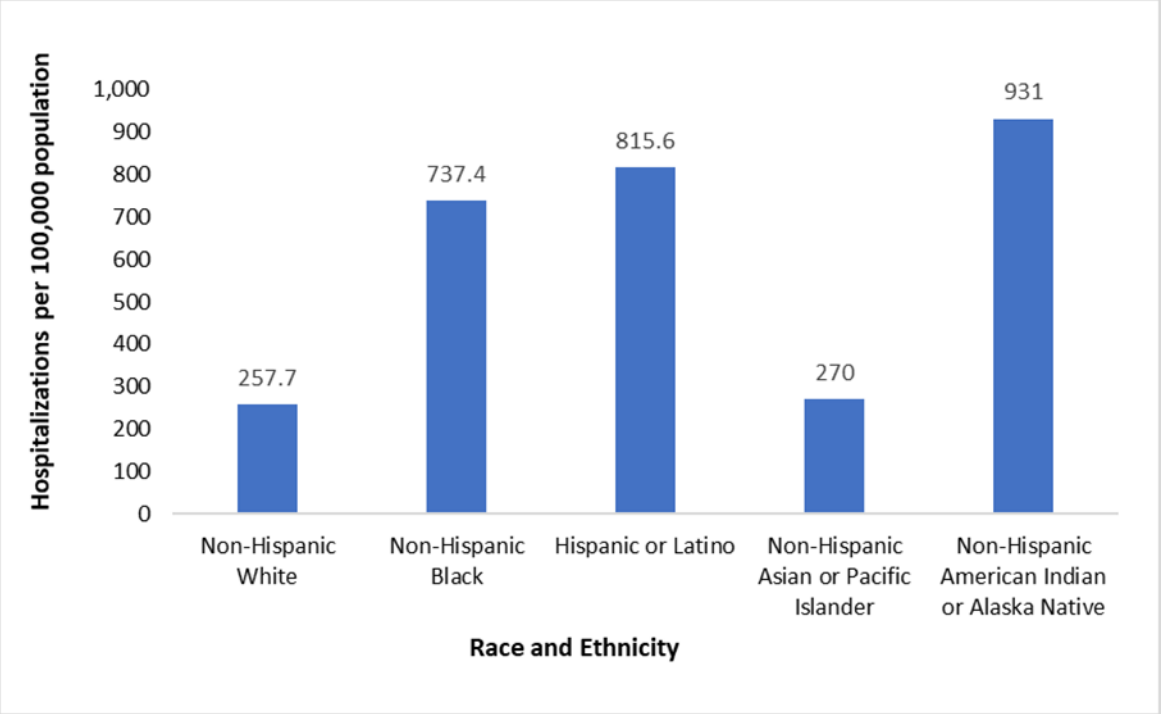
Figure 7: COVID-NET hospitalization monthly rates by age group, through January 31, 2021



Hospitalizations by Race/Ethnicity

Figure 8, below, shows the age-adjusted rates of hospitalizations by race/ethnicity in the COVID-NET catchment area. Rates are adjusted to account for differences in age distributions within race/ethnicity groups. Among the 140,418 laboratory-confirmed COVID-19-associated hospitalized cases, 137,883 (98%) had race and ethnicity data. When examining overall age-adjusted rates by race/ethnicity, non-Hispanic American Indian or Alaska Native persons had an age-adjusted hospitalization rate approximately 3.6 times that of non-Hispanic White persons; Hispanic persons had an age-adjusted hospitalization rate approximately 3.2 times that of non-Hispanic White persons; and non-Hispanic Black persons had an age-adjusted hospitalization rate approximately 2.9 times that of non-Hispanic White persons.

Figure 8: COVID-NET age-adjusted hospitalization rates by race/ethnicity, through February 6, 2021



Notes: Calculated using hospitalized COVID-NET cases with known race/ethnicity for the numerator and NCHS bridged-race population estimates[10] for the denominator. Rates are adjusted to account for differences in age distributions within race/ethnicity strata in the COVID-NET catchment area. Race and ethnicity are missing for 1.8% of cases. The COVID-NET data is collected through retrospective medical chart review and the Asian, Native Hawaiian, and other Pacific Islander racial categories cannot be easily distinguished in the medical charts.

Hospitalizations by Race/Ethnicity and Age Group

Table 7, below, shows the hospitalization rates by race/ethnicity and age. Non-Hispanic Black persons aged 85 years and older had the highest hospitalization rate at 3,635.7 per 100,000 population, which is 1.7 times higher than the hospitalization rate of their non-Hispanic White counterparts. Non-Hispanic American Indian/Alaska Native persons had the highest hospitalization rate in the 30-49, 50-64, 65-74, and 75-84 age ranges; 7.1 times higher than their non-Hispanic White counterparts in the 30-49 age range; 4.6 times higher than their non-Hispanic White counterparts in the 50-64 age range; 3.0 times higher than their non-Hispanic White counterparts in the 65-74 age range and 2.3 times higher than their non-Hispanic White counterparts in the 75-84 age range. Hispanic persons had the highest hospitalization rate among those aged 0-17 and 18-29 years old; 4.0 times that of their non-Hispanic White counterparts in the 0-17 age range, and 5.5 times that of their non-Hispanic White counterparts in the 18-29 age range.

[10] https://www.cdc.gov/nchs/nvss/bridged_race.htm

Table 7: Hospitalization rates per 100,000 population by age and race and ethnicity — COVID-NET, through February 6, 2021

Race/Ethnicity	0-17 years	18-29 years	30-49 years	50-64 years	65-74 years	75-84 years	85+ years	All ages
White, Non-Hispanic	13.5	62.2	125.2	331.9	630.1	1,274.8	**2,125.8**	300.8
Black, Non-Hispanic	41.9	231.8	489.5	1,122.5	1,862.2	2,778.9	**3,635.7**	630.6
Hispanic or Latino	53.1	340.1	657.9	1,288.3	1,895.1	2,523.8	**2,945.2**	583.3
Asian or Pacific Islander, Non-Hispanic	18.0	80.9	149.8	407.2	693.8	1,047.2	**1,592.0**	242.2
American Indian or Alaska Native, Non-Hispanic	38.9	298.7	895.1	1,510.1	1,904.6	2,955.2	**3,175.4**	836.7
All Races/Ethnicities	29.9	157.0	301.0	614.9	967.0	1,655.9	**2,472.0**	430.7

Notes: The "All ages" column represents the crude rates by race/ethnicity. Crude rates are calculated using hospitalized COVID-NET cases with known race/ethnicity for the numerator and NCHS bridged-race population estimates for the denominator. Bold numbers indicate the highest rate for each race/ethnicity.

Summary of Hospitalization Data

For the past three months, since the week ending November 7, 2020, the overall weekly hospitalization rates among all groups have remained elevated above earlier peaks in the pandemic. Though rates remained high in January, hospitalizations appear decreased among all ages except children aged 0-17 years. Hospitalization data are subject to change as more hospital admission data become available. The overall cumulative COVID-19 associated hospitalization rate was 417.2 per 100,000. Men had a higher hospitalization rate (430.0 per 100,000) than women (404.7 per 100,000). Hospitalization rates were highest in older adults, with the highest rates found among adults age 85 years and older (2,382.6 per 100,000) and age 75-84 (1,597.8 per 100,000). When examining age-adjusted hospitalization rates by race and ethnicity, non-Hispanic American Indian or Alaska Native persons had an age-adjusted hospitalization rate approximately 3.6 times that of non-Hispanic White persons. In addition, Hispanic persons had an age-adjusted hospitalization rate approximately 3.2 times that of non-Hispanic White persons. Finally, non-Hispanic Black persons had an age-adjusted hospitalization rate approximately 2.9 times that of non-Hispanic White persons.

Trends in Deaths

It can take several weeks for death records to be submitted, processed, coded, and tabulated in the National Vital Statistics System. Therefore, the data will likely not include all deaths that occurred during a given time period, especially for more recent time periods. Death counts for

earlier weeks are continually revised and may increase or decrease as new and updated death certificate data are received from the states by CDC. COVID-19 death counts shown here may differ from other published sources because of the data lag. These National Vital Statistics System COVID-19 provisional death data are almost entirely complete for sex and age, and over 99% complete for race and ethnicity. Appendix B shows total deaths by jurisdiction.

All Deaths

As of February 3, 2021, 421,378 deaths due to COVID-19 in the U.S. were reported to CDC, representing 128.8 deaths per 100,000 population. The largest observed peak in deaths occurred in December 2020 (20,639 deaths occurred Dec 20 to Dec 26). All weeks in December and the first week of January surpassed the previous peak occurring in April 2020 (17,101 deaths occurred April 12 – April 18). Recent reporting remains incomplete because of the data lag, and counts will be revised when more data become available.

Deaths by Sex

Table 8, below, shows the COVID-19 deaths by sex. There were 192,545 (45.7%) COVID-19 related deaths in females and 228,825 (54.3%) in males. The death rate among females was 115.6 deaths per 100,000 population and the death rate among males was higher at 141.5 per 100,000 population. Though the factors leading to these differences are not yet fully understood, they could reflect differences in the prevalence of underlying risk factors that contribute to more severe outcomes among male COVID-19 patients.

Table 8: Provisional COVID-19 death counts and rates per 100,000 by sex, reported through February 3, 2021

Sex	Number of Deaths	Deaths per 100,000
Female	192,545	115.6
Male	228,825	141.5
Unknown	8	--
All Sexes	421,378	128.8

Note: Number of deaths reported in this table are the total number of deaths received and coded as of the date of analysis and do not represent all deaths that occurred in that period. Counts of deaths occurring after the reporting period are not included in the table. Source: NCHS Provisional Death Counts[11].

Deaths by Age Group

Table 9 and Figure 9, below, show provisional death counts and rates through February 3, 2021. The mortality rate increased with increasing age and was highest for adults age 85 years and older at 2,048.8 deaths per 100,000 population.

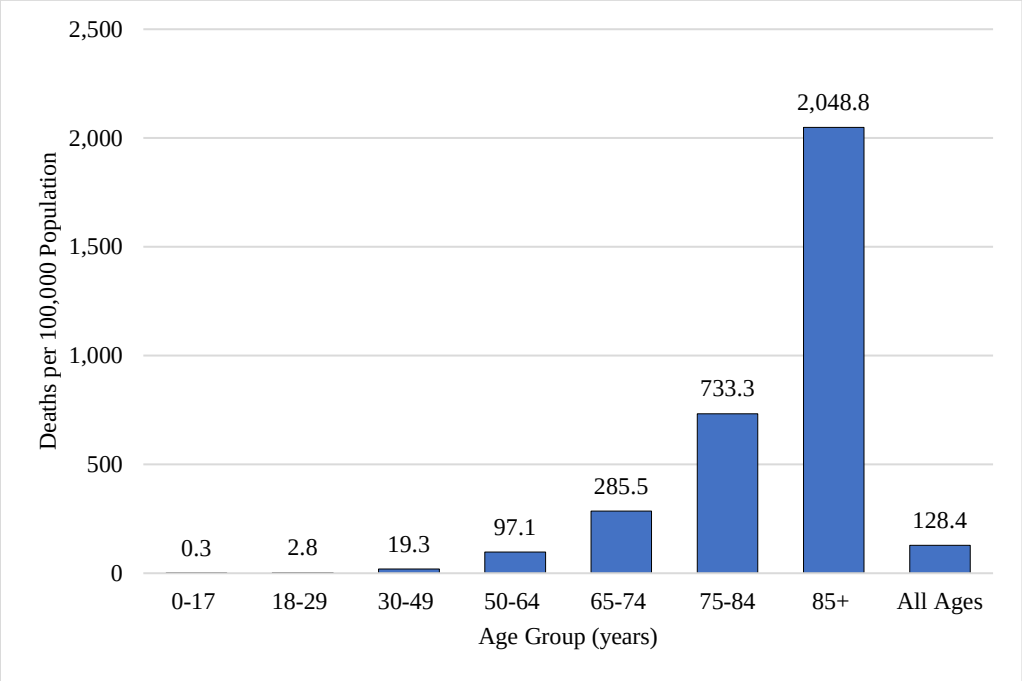
[11] https://www.cdc.gov/nchs/nvss/vsrr/COVID19/index.htm

Table 9: Provisional COVID-19 death counts and rates per 100,000 by age category, reported through February 3, 2021

Age	Number of Deaths	Deaths per 100,000
0-17 years	186	0.3
18-29 years	1,480	2.8
30-49 years	16,317	19.3
50-64 years	61,071	97.1
65-74 years	89,896	285.5
75-84 years	117,104	733.3
85+ years	135,324	2,048.8
All Ages	421,378	128.4

Note: Number of deaths reported in this table are the total number of deaths received and coded as of the date of analysis and do not represent all deaths that occurred in that period. Counts of deaths occurring after the reporting period are not included in the table. Source: NCHS Provisional Death Counts.[4]

Figure 9: Provisional COVID-19 death rates by age group, reported through February 3, 2021



Note: The death rates depicted in this figure are based on the total number of deaths received and coded as of the date of analysis and do not represent all deaths that occurred in that period. Deaths occurring after the reporting period are not included in the table. Source: NCHS Provisional Death Counts[12]

Deaths by Race/Ethnicity

Table 10 and Figure 10, below, show the death rates per 100,000 population by race/ethnicity. The death rate per 100,000 population was highest for non-Hispanic American Indian/Alaska Native persons at 198.4 deaths per 100,000, followed by non-Hispanic Black persons at 152.2 deaths per 100,000 population, non-Hispanic White persons at 130.9 deaths per 100,000

[12] https://www.cdc.gov/nchs/nvss/vsrr/COVID19/index.htm

population, non-Hispanic Native Hawaiian or other Pacific Islander persons at 126.9 deaths per 100,000 population, and Hispanic persons at 125.7 deaths per 100,000 population.

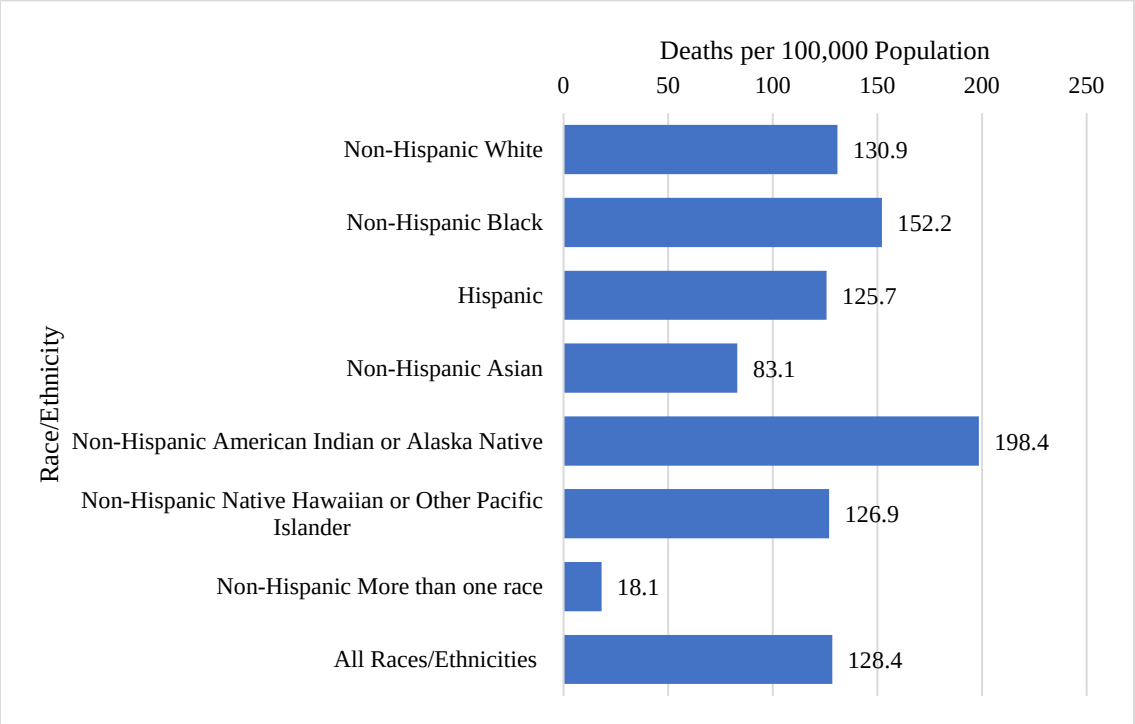
Table 10: Provisional COVID-19 death counts and rates per 100,000 by race/ethnicity, reported through February 3, 2021

Race/Ethnicity	Number of Deaths	Deaths Per 100,000
White, Non-Hispanic	258,341.0	130.9
Black, Non-Hispanic	62,607.0	152.2
Hispanic or Latino	76,136.0	125.7
Asian, Non-Hispanic	15,709.0	83.1
American Indian or Alaska Native, Non-Hispanic	4,832.0	198.4
Native Hawaiian or Other Pacific Islander, Non-Hispanic	756.0	126.9
Multiple/Other, Non-Hispanic	1,317.0	18.1
Unknown	1,680.0	-
All Races/Ethnicities	421,378.0	128.4

Note: Number of deaths reported in this table are the total number of deaths received and coded as of the date of analysis and do not represent all deaths that occurred in that period. Counts of deaths occurring after the reporting period are not included in the table. Source: NCHS Provisional Death Counts[13].

[13] https://www.cdc.gov/nchs/nvss/vsrr/COVID19/index.htm

Figure 10: Provisional COVID-19 death rates by race and ethnicity, reported through February 3, 2021



Note: The death rates depicted in this figure are based on the total number of deaths received and coded as of the date of analysis and do not represent all deaths that occurred in that period. Deaths occurring after the reporting period are not included in the table. Source: NCHS Provisional Death Counts[14]

Deaths by Race/Ethnicity and Age Group

Table 11 highlights the number of deaths by race/ethnicity and age group. Death rates increased with age in each racial/ethnic population and were highest among those age 85 years or older. Hispanic persons age 85 years and older had the highest death rate with 2,484.4 deaths per 100,000 population, followed by non-Hispanic Black persons age 85 years and older with 2,369.7 deaths per 100,000. The lowest death rates in each age group was observed among non-Hispanic individuals identifying with more than one race.

[14] https://www.cdc.gov/nchs/nvss/vsrr/COVID19/index.htm

Table 11: Provisional COVID-19 death rates per 100,000 by race/ethnicity and age category, reported through February 3, 2021

Race/Ethnicity	0-17 years	18-29 years	30-49 years	50-64 years	65-74 years	75-84 years	85+ years	All ages
White, Non-Hispanic	0.1	1.2	7.9	55.2	203.6	631.5	**2,004.8**	130.9
Black, Non-Hispanic	0.5	4.7	34.5	181.9	545.9	1,152.6	**2,369.7**	152.2
Hispanic or Latino	0.4	5.4	42.7	231.8	672.2	1,305.6	**2,484.4**	125.7
Asian, Non-Hispanic	0.2	1.6	10.7	72.4	246.1	589.3	**1,629.7**	83.1
American Indian or Alaska Native, Non-Hispanic	0.6	14.1	93.7	286.7	677.1	1,258.3	**2,132.6**	198.4
Native Hawaiian/ Other Pacific Islander, Non-Hispanic	2.0	14.5	61.9	253.1	527.3	747.5	**936.2**	126.9
Multiple/Other, Non-Hispanic	0.1	0.8	6.0	40.3	128.2	292.8	**595.0**	18.1
All Races/ Ethnicities	0.3	2.8	19.3	97.1	285.5	733.3	**2,048.8**	128.4

Note: The death rates depicted in this figure are based on the total number of deaths received and coded as of the date of analysis and do not represent all deaths that occurred in that period. Deaths occurring after the reporting period are not included in the table. Rates are not calculable for unknown race/ethnicity because population denominators are not available. Source: NCHS Provisional Death Counts.[15] Bold numbers indicate the highest rate for each race/ethnicity.

Summary of Death Data

Trends in deaths have followed similar patterns to cases, with a time lag. Between January 4, 2020 and February 3, 2021, 421,378 deaths were reported to CDC through the National Vital Statistics System. From an initial spring peak of 17,101 deaths the week ending April 18, weekly deaths declined steadily through the end of June, reaching 3,813 deaths for the week ending June 27. Beginning in early July until the beginning of August, deaths steadily increased to 8,267 during the week ending August 1, 2020. After a late summer and early fall decrease, deaths began rising again in October, and surpassed the previous April peak during the last week of December (20,639 deaths occurred Dec 20 to Dec 26). It is too early to fully evaluate trends in January and early February because of the lag in reporting, processing, and tabulating death data.

Older Americans continue to represent the largest proportion of deaths from COVID-19. People age 85 years and older represent 32.1% of deaths, followed by people age 75-84 years (27.8% of deaths), then people ages 65–74 years (21.3% of deaths), and people age 50–64 years (14.5% of deaths). Significant racial and ethnic disparities in deaths from COVID-19 are also apparent. Non-Hispanic American Indian or Alaska Native persons have the highest death rate (198.4), followed by non-Hispanic Black persons (152.2 per 100,000 population). These disparities could

[15] https://www.cdc.gov/nchs/nvss/vsrr/COVID19/index.htm

reflect underlying differences in risk factors as well as lack of access to care and increased risk of exposure to COVID-19.

Testing

Laboratory testing data, in conjunction with case reports and other data, provide vital guidance for COVID-19 mitigation and control activities. Testing data are critical to better understanding the impact of COVID-19 on groups that have been economically and socially marginalized.

All Testing

As of February 8, 2021 CDC received reports for 308,047,133 diagnostic (reverse transcription polymerase chain reaction [RT-PCR]) tests from public health departments, hospitals, and commercial laboratories from all jurisdictions through a variety of data reporting methods, including but not limited to COVID-19 Electronic Laboratory Reporting (CELR). Of these, 28,305,248 (9.19%) were positive for COVID-19. Of note, the number of positive tests is not equal to the number of cases because one person may be tested multiple times.

From January 29-February 4, 8,533,167 tests (1,219,024 per day) were reported, equivalent to 2,572 tests per 100,000 population. Of these, 7.7% were positive. This testing total is lower than the week prior (11,450,728 tests reported), and lower than two weeks prior (11,403,796). It is also lower than the seven-day testing total peaks in January (12,429,298), December (12,633,621), November (12,951,642), and October (8,542,677). However, it is higher than the seven-day testing total and peaks in September (6,772,427), August (6,183,931), July (6,636,180), June (4,857,776), May (2,911,926), and April (1,499,831). In other words, the quantity of testing has decreased slightly in early February and is lower than the last three months, but remains higher than in the first six months of the pandemic. While the national positivity rate decreased in later January and early February, it remains quite high in absolute terms. This underscores the need for communities – especially those with high numbers of cases and high test positivity – to encourage testing, wearing face masks, physically distancing, avoiding crowds (especially indoors), and practicing good hand hygiene.

Testing by Sex

The following table shows COVID-19 RT-PCR testing by sex, using only the CELR dataset. As of February 8, 2021, de-identified individual-level data from 48 jurisdictions were included in CELR. The reported testing positivity rate is higher for males (10.4%) than females (8.5%); this may at least in part be due to females receiving more tests than males cumulatively.

Table 12: Testing by sex, reported through February 8, 2021

Sex	Total Tests	Number of Positive Tests	Percent Positive
Female	159,088,414	13,528,716	8.5%
Male	118,931,758	12,325,553	10.4%
Unknown	12,569,996	936,488	7.5%
Total/National Average	290,590,168	26,790,757	9.2%

Notes: The data presented above represent COVID-19 diagnostic test results from laboratories in the United States, including commercial and reference laboratories, public health laboratories, hospital laboratories, and other testing locations. The data represent laboratory test totals—not individual people—and exclude antibody and antigen tests. The data are provisional and subject to change. The data may also not include results from all testing sites within a jurisdiction (for example, point-of-care testing sites) and therefore reflect the majority, but not all, COVID-19 tests in the United States. The data for each state are sourced from data submitted directly by the state health department via COVID-19 electronic laboratory reporting (CELR). This table includes data from 48 jurisdictions (AK, AL, AR, AZ, CA, CNMI, CO, CT, DC, DE, FL, GA, GU, HI, IA, ID, IL, IN, KS, KY, LA, MA, MD, MI, MN, MS, MT, NC, ND, NE, NH, NJ, NM, NV, NY, OR, PA, RI, RMI, SC, SD, TN, TX, UT, VA, VT, WI, WV).

Testing by Age Group

Table 13, below, show testing by age through February 8, 2021, using only the CELR dataset. The highest rates of positive tests were among those ages 0-17 years, followed by 30-49 years and 18-29 years.

Table 13: Testing by age group, reported through February 8, 2021

Age	Total Tests	Number of Positive Tests	Percent Positive
0-17 years	17,404,371	2,128,988	12.2%
18-29 years	44,034,461	4,498,156	10.2%
30-49 years	58,986,325	6,249,285	10.6%
50-64 years	42,276,534	4,202,114	9.9%
65-74 years	18,524,832	1,695,113	9.2%
75-84 years	10,501,481	940,742	9.0%
85+ years	7,633,156	596,068	7.8%
Missing	91,229,008	6,480,291	7.1%
All Ages	290,590,168	26,790,757	9.2%

Notes: The data presented above represent COVID-19 diagnostic test results from laboratories in the United States, including commercial and reference laboratories, public health laboratories, hospital laboratories, and other testing locations. The data represent laboratory test totals—not individual people—and exclude antibody and antigen tests. The data are provisional and subject to change. The data may also not include results from all testing sites within a jurisdiction (for example, point-of-care testing sites) and therefore reflect the majority, but not all, COVID-19 tests in the United States. The data for each state are sourced from data submitted directly by the state health department via COVID-19 electronic laboratory reporting (CELR). This table includes data from 48 jurisdictions (listed under Table 12).

Testing by Race/Ethnicity

As noted previously, the collection of race and ethnicity information for laboratory testing continues to be challenging. Both race and ethnicity were identified in only about 25% of reported tests in the 48 CELR jurisdictions. Percent complete for race and ethnicity was under

1% for three jurisdictions, ranged from 1% to 29% in 27 jurisdictions, ranged from 30%-39% in eight jurisdictions, ranged from 41%-60% in nine, and was 94% in one jurisdiction. Moreover, there may be biases (non-random distribution) in the available data that further complicate our ability to interpret underlying trends.

Table 14, below, provides the available information on testing by race and ethnicity. While these data are not nationally representative, Hispanic persons had the highest positivity rate. Given the incomplete data, caution should be taken in reaching conclusions based on these numbers. Also, as indicated in the column on the far right, percent positivity varies significantly across states.

Table 14: Testing by race/ethnicity, reported through February 8, 2021

Race/ Ethnicity	Total Number of Tests	Number of Positive Tests	Percent Positive*	Percent Positive Range*
Non-Hispanic White	38,916,450	3,746,869	9.6%	0.0% - 12.43%
Non-Hispanic Black or African American	7,748,544	860,948	11.1%	0.0% - 13.27%
Hispanic or Latino	18,719,781	3,386,690	18.1%	9.72% - 21.8%
Non-Hispanic Asian	3,839,217	283,961	7.4%	0.0% - 15.42%
Non-Hispanic American Indian or Alaska Native	550,944	62,412	11.3%	2.57% - 13.42%
Non-Hispanic Native Hawaiian or other Pacific Islander	200,093	27,079	13.5%	0.0% - 19.4%
Non-Hispanic More than one race	3,525,494	375,727	10.7%	0.0% - 20.25%
Unknown	217,089,645	18,047,071	8.3%	0.0% - 11.18%
All Races/Ethnicities	290,590,168	26,790,757	9.2%	--

Notes: The data presented above represent COVID-19 diagnostic test results from laboratories in the United States, including commercial and reference laboratories, public health laboratories, hospital laboratories, and other testing locations. The data represent laboratory test totals—not individual people—and exclude antibody and antigen tests. The data are provisional and subject to change. The data may also not include results from all testing sites within a jurisdiction (for example, point-of-care testing sites) and therefore reflect the majority, but not all, COVID-19 tests in the United States. The data for each state are sourced from data submitted directly by the state health department via COVID-19 electronic laboratory reporting (CELR). This table includes data from 48 jurisdictions (listed under Table 12).

* While the percent positive column is presented for all 48 jurisdictions, the percent positive range column (lower and upper bounds) is calculated from the nine states (CO, IA, IN, KS, MA, MH, MN,OR, SD) with the highest (over 40%) completeness for race and ethnicity data.

County Level Analysis

CDC developed a methodology to identify geographic areas where different racial and ethnic groups might be disproportionately affected by COVID-19. Using reported case data, we identified counties with high recent burden of COVID-19 cases. Using U.S. Census data, we identified counties with large populations of a specific racial and ethnic group relative to the

proportion in the U.S. population. Then, for each racial and ethnic group, we analyzed population proportion and recent burden at the county level to identify the top ten counties with both high recent COVID-19 burden and large proportional group representation. This methodology allows us to better understand the potential disproportionate impact on racial and ethnic minority groups and is critical to inform public health efforts that focus on responding to the pandemic and protecting communities placed at increased risk of COVID-19.

"High" recent burden was defined as greater than 100 newly reported COVID-19 cases per 100,000 population in the past two weeks, with more than five new cases in the same time period. Counties with greater than 100 new COVID-19 cases per 100,000 population in the past two weeks but with five or fewer new cases in the same time period would not meet the criteria for high recent burden. "Highest" recent burden was defined as 500 or more new COVID-19 cases per 100,000 population in the past two weeks.

Large group representation for each racial/ethnic group was defined as counties with a larger proportion of persons belonging to that racial/ethnic group than the 2019 national average, which are as follows: 18.8% Hispanic, 12.6% non-Hispanic Black, 5.9% non-Hispanic Asian, 0.7% non-Hispanic American Indian or Alaska Native, or 0.2% non-Hispanic Native Hawaiian or other Pacific Islander. Counties with population sizes above each of those racial/ethnic group averages were considered to have large group representation for that group. "Largest group" representation, also displayed below for each racial/ethnic group, was defined as counties with a larger proportion of persons belonging to that racial/ethnic group as follows: 46.0% or greater Hispanic, 37.5% or greater non-Hispanic Black, 17.7% or greater non-Hispanic Asian, 30.3% or greater non-Hispanic American Indian or Alaska Native, and 11.8% or greater non-Hispanic Native Hawaiian or other Pacific Islander.

Counties that are identified in the Top 10 table either have largest population/highest burden, largest population/high burden, or large population/highest burden (presented in that order). For each of these counties, the urbanization level of the county is provided. Urbanization level was defined using the 2013 NCHS Urban-Rural Classification Scheme for Counties and categorized as large metropolitan, medium or small metropolitan, or rural (nonmetropolitan).

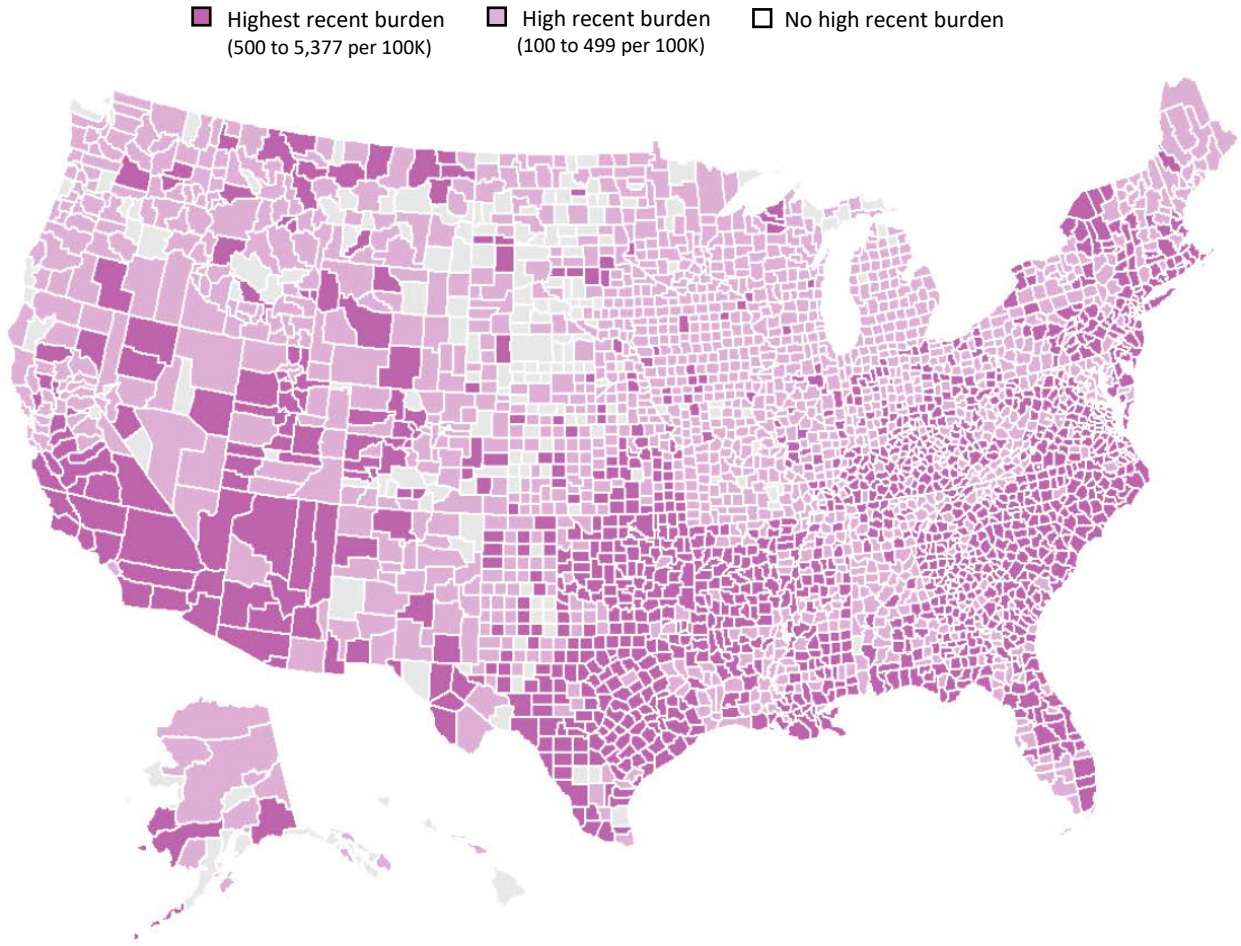
There are several limitations in this analysis. Large group representation within a county with high recent burden does not necessarily mean higher risk. Also, a county can have more than one racial/ethnic group with large group representation. Finally, in counties with smaller populations, the absolute number of new cases may be comparatively low even where new case rates are high.

Counties with High Recent Burden of COVID-19 (January 23, 2021 – February 06, 2021)
As of February 06, 2021, 2,945 (93.7%) counties had a high recent burden of COVID-19 cases. The map below shows the location of these counties in violet. The intensity of the color indicates higher burden relative to burden in other counties.

About 60.7% of the counties with high recent burden of COVID-19 are designated as rural. Across the country, there are more than 17 million people who live in rural counties without a Rural Health Clinic, more than 15 million in rural counties without a Federally Qualified Health

Center, and nearly 4.5 million in rural counties without an acute care hospital[16]. Most counties noted as rural are designated as health professional shortage areas for primary care and many rural counties are rated as highly vulnerable in CDC's Social Vulnerability Index[17]. Many rural counties do not have a physician, and many rural hospitals have closed, making access to care difficult.

Map 2: Counties with high recent burden of COVID-19, January 23, 2021 – February 06, 2021

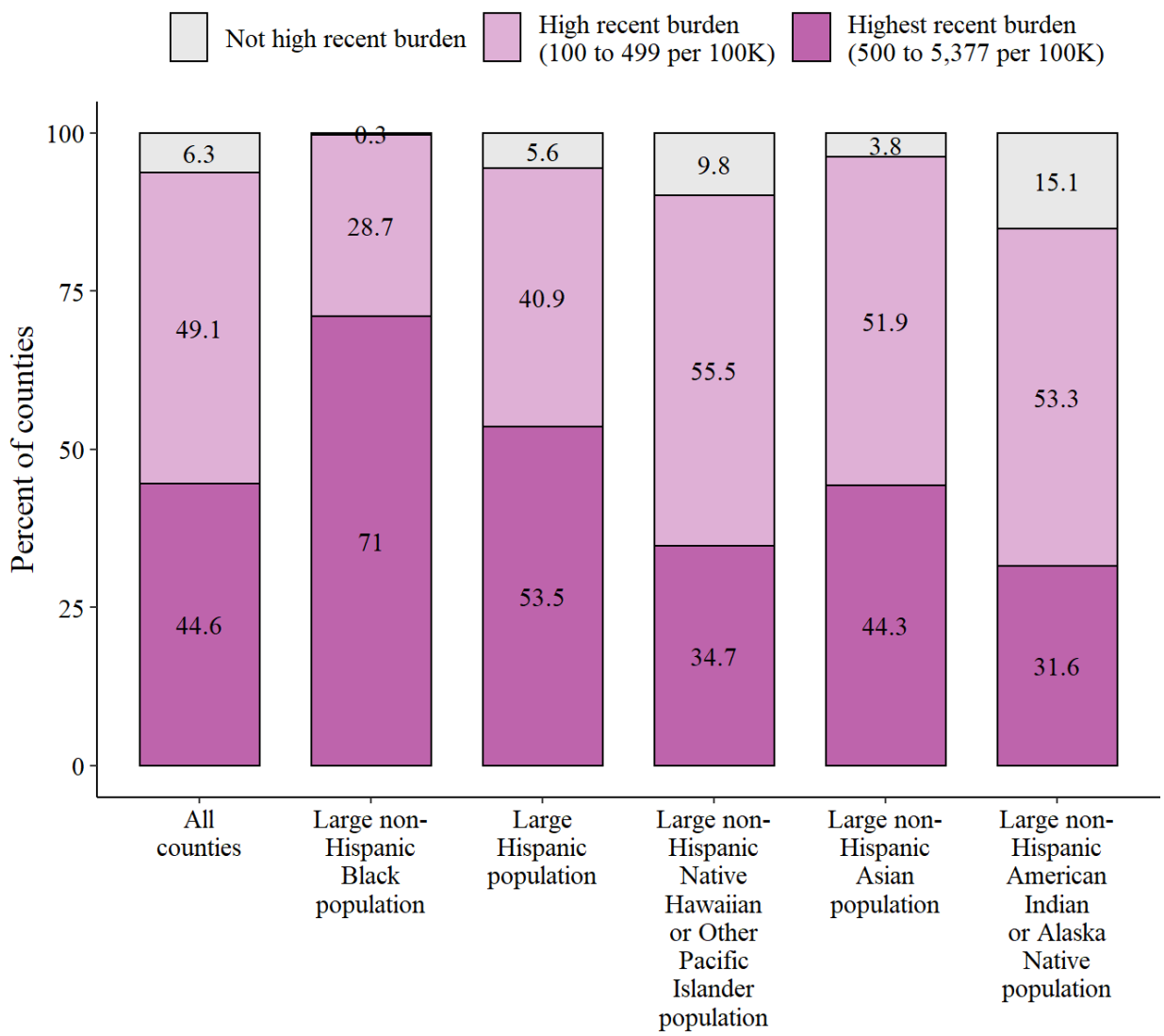


Distribution of High Recent Burden Counties across Race/Ethnicity Groups

Compared with the 93.7% of all U.S. counties that had a "high" or "highest" burden of recent COVID-19 incidence, 99.7% of counties with large populations of non-Hispanic Black persons had a "high" or "highest" burden, and 94.4% of counties with large populations of Hispanic persons had a "high" or "highest" burden.

Figure 11: Distribution of high recent burden counties among all counties and counties with large populations of selected racial/ethnic groups, January **23, 2021 – February 06, 2021**

[16] From https://www.shepscenter.unc.edu/wp-content/uploads/dlm_uploads/2018/01/AccesstoPrimaryCare.pdf.
[17] https://www.atsdr.cdc.gov/placeandhealth/svi/index.html



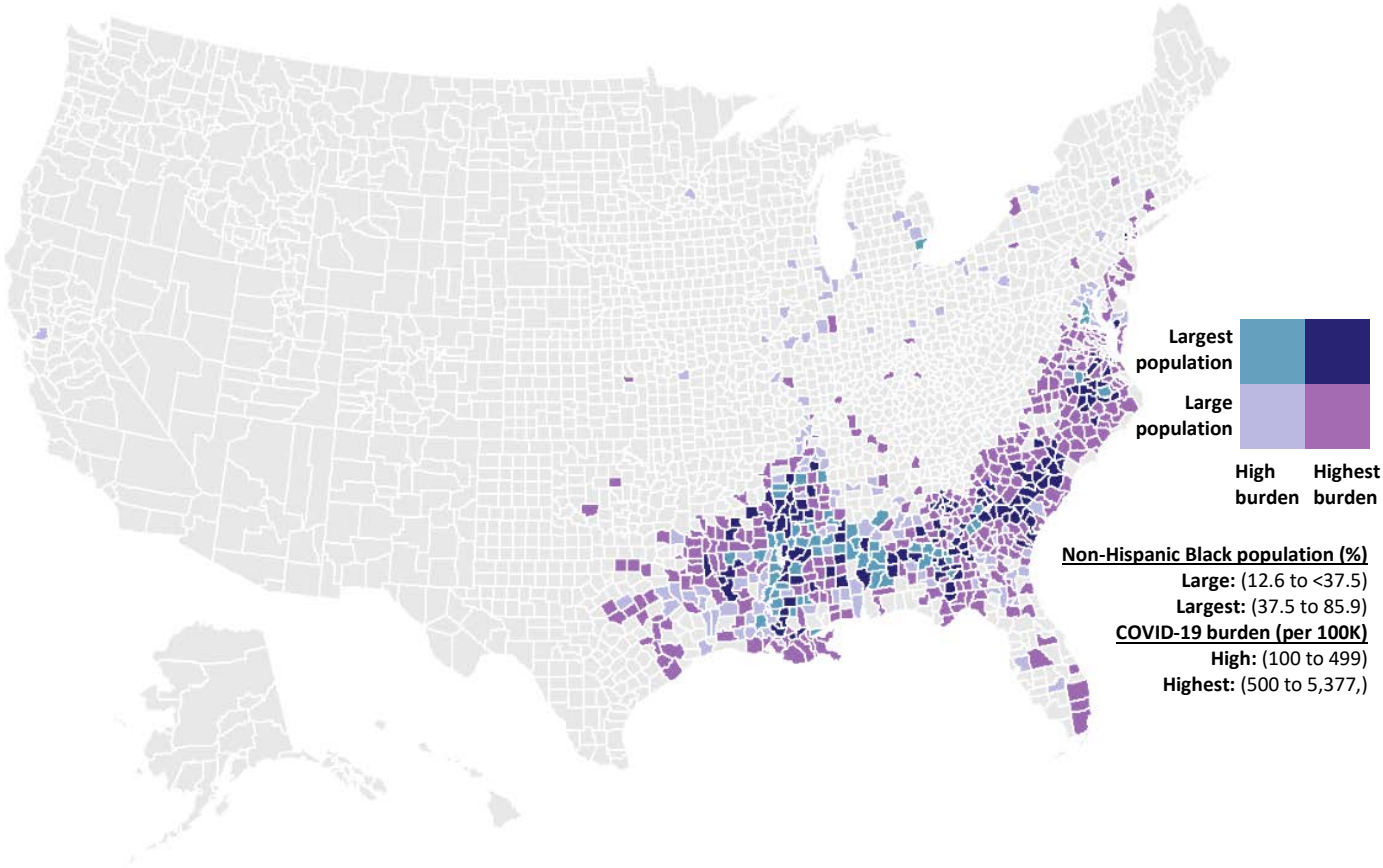
The sections below focus on counties for which there are large populations and high recent burden (high and highest burden combined) of COVID-19 cases for five racial and ethnic groups: non-Hispanic Black, Hispanic, non-Hispanic Asian, non-Hispanic Native Hawaiian or other Pacific Islander, and non-Hispanic American Indian or Alaska Native. Counties that are identified in each table provided in the following pages have the largest population/highest burden, largest population/high burden, or large population/highest burden (presented in each table in that order). For each of these counties listed, the urbanization level of the county is provided. Urbanization level was defined using the 2013 National Center for Health Statistics Urban-Rural Classification Scheme for Counties[18] and categorized as large metropolitan, medium or small metropolitan, or rural (non-metropolitan).

[18] https://www.cdc.gov/nchs/data_access/urban_rural.htm

Counties with Large <u>Non-Hispanic Black</u> Populations and High Recent Burden

Among 679 counties that had large non-Hispanic Black populations relative to the national average[19], 677 (99.7%) had high recent burden of COVID-19 cases. These 677 counties are pictured below. Colors are assigned based on group representation and COVID-19 burden relative to other counties. Counties in gray either do not have high recent burden or do not have large group representation.

Map 3: Counties with large <u>non-Hispanic Black populations</u> and high recent burden, January **23, 2021 – February 06, 2021**



The table below shows the top ten counties with large non-Hispanic Black populations and high recent burden of COVID-19. All ten counties had large non-Hispanic Black populations and high recent burden of COVID-19. The five counties where the non-Hispanic Black population is the predominant racial and ethnic group of the county are starred (*).

[19] In 2019, an estimated 12.6% of the U.S. population was non-Hispanic Black.

Table 15: Top 10 U.S. counties with large non-Hispanic Black populations and high recent burden of COVID-19

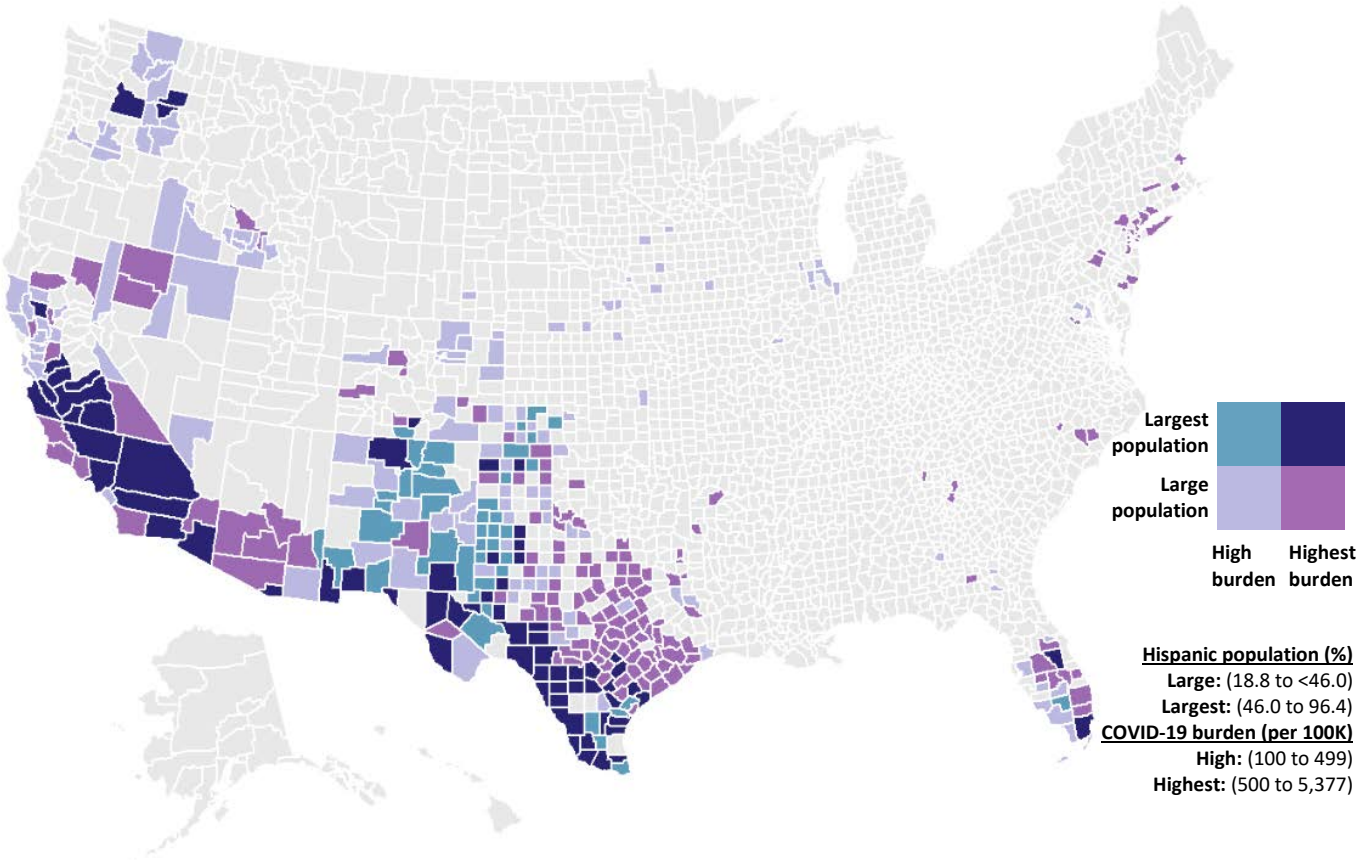
County	Urbanization level	Percent of population non-Hispanic Black	Non-Hispanic Black predominant group (*)	New cases per 100,000 in the past 2 weeks
Largest population, highest recent burden				
Hopewell City, VA	Large metropolitan	42.0		1,655.16
Monroe, AR	Rural	39.8		1,608.70
McCormick, SC	Rural	44.3		1,583.42
Greensville, VA	Rural	59.6	*	1,505.12
Petersburg City, VA	Large metropolitan	75.6	*	1,492.06
Danville City, VA	Rural	51.0	*	1,422.85
Nash, NC	Small or medium metropolitan	40.6		1,389.13
Halifax, NC	Rural	53.2	*	1,314.90
Wayne, MS	Rural	39.5		1,152.82
Desha, AR	Rural	46.8	*	1,146.63

Note: The list of counties with high recent burden can significantly change over time. Large group representation within a county with high recent burden does not necessarily mean higher group risk. Finally, in counties with smaller populations, even where new case rates are high the absolute number of new cases may be comparatively low.

Counties with Large Hispanic Populations and High Recent Burden

Among 430 counties that had large Hispanic populations relative to the national average, 406 (94.4%) had high recent burden of COVID-19 cases. These 406 counties are pictured below. Colors are assigned based on both group representation and COVID-19 burden relative to other counties. Counties in gray either do not have high recent burden or do not have large group representation.

Map 4: Counties with large Hispanic populations and high recent burden, January 23, 2021 – February 06, 2021



The table below shows the top ten counties with large Hispanic populations and high recent burden of COVID-19. All ten counties had large Hispanic populations and high recent burden of COVID-19. The ten counties where the Hispanic population is the predominant racial and ethnic group of the county population are starred (*).

Table 16: Top 10 U.S. counties with large Hispanic populations and high recent burden of COVID-19

County	Urbanization level	Percent of population Hispanic	Hispanic predominant group (*)	New cases per 100,000 in the past 2 weeks
Largest population, highest recent burden				
Caldwell, TX	Large metropolitan	53.8	*	4,920.57
Dimmit, TX	Rural	87.6	*	2,211.87
Zavala, TX	Rural	94.0	*	1,986.15
Maverick, TX	Rural	95.1	*	1,877.40
Upton, TX	Rural	54.4	*	1,688.91
Crockett, TX	Rural	66.0	*	1,686.20
Uvalde, TX	Rural	72.7	*	1,512.33
Starr, TX	Rural	96.4	*	1,432.00

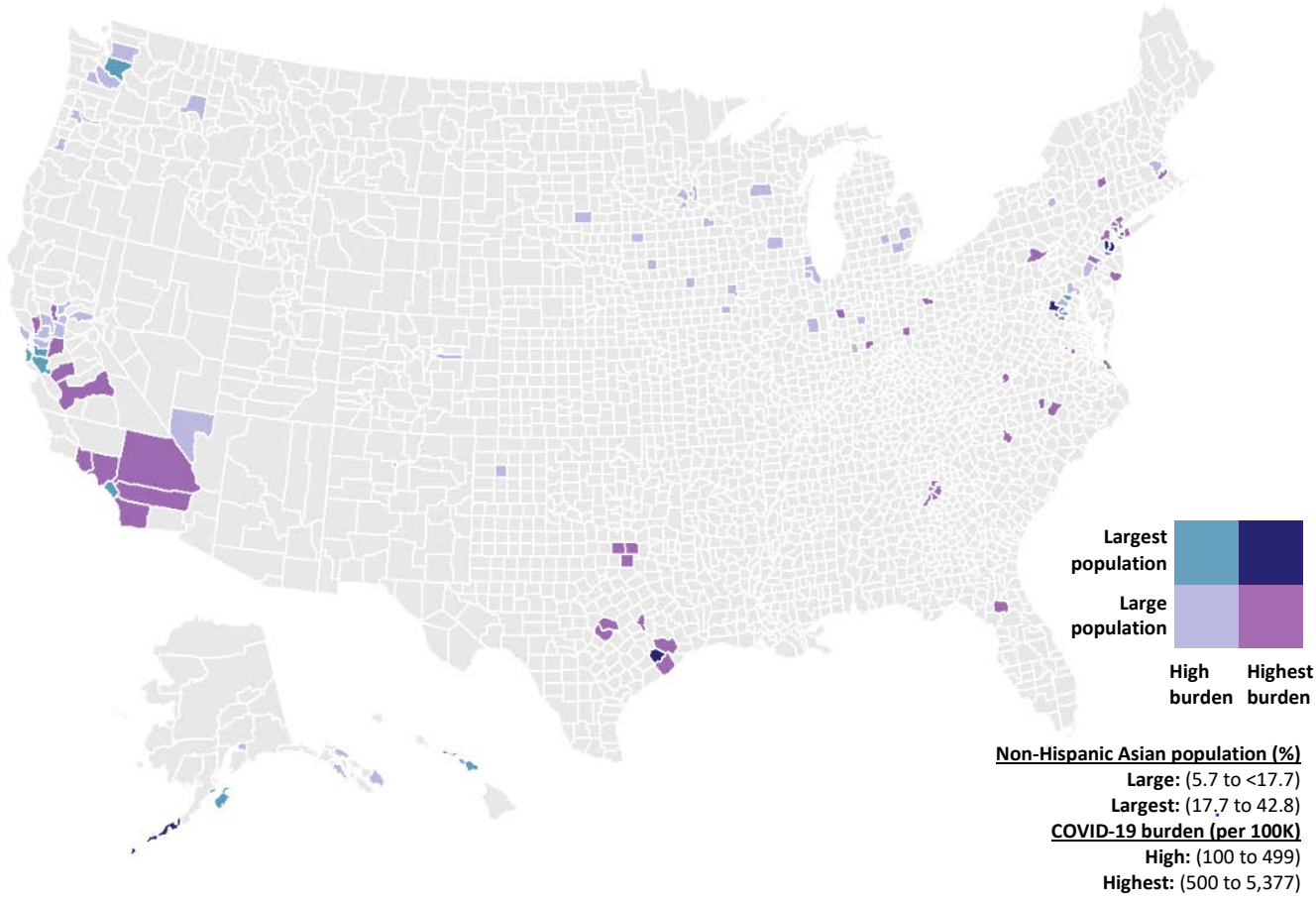
County	Urbanization level	Percent of population Hispanic	Hispanic predominant group (*)	New cases per 100,000 in the past 2 weeks
Largest population, highest recent burden				
Atascosa, TX	Large metropolitan	64.8	*	1,339.69
Culberson, TX	Rural	72.9	*	1,315.79

Note: The list of counties with high recent burden can significantly change over time. Large group representation within a county with high recent burden does not necessarily mean higher group risk. Finally, in counties with smaller populations, even where new case rates are high the absolute number of new cases may be comparatively low.

Counties with Large Non-Hispanic Asian Populations and High Recent Burden

Among 131 counties that had large non-Hispanic Asian populations relative to the national average[20], 126 (96.2%) had high recent burden of COVID-19 cases. These 126 counties are pictured below. Colors are assigned based on both group representation and COVID-19 burden relative to other counties. Counties in gray either do not have high recent burden or do not have large group representation.

Map 5: Counties with large non-Hispanic Asian populations and high recent burden, January 23, 2021 – February 06, 2021



[20] In 2019, an estimated 5.9% of the U.S. population was non-Hispanic Asian.

The table below shows the top ten counties with large non-Hispanic Asian populations and high recent burden of COVID-19. All ten counties had large non-Hispanic Asian populations and high recent burden of COVID-19. The three counties where the non-Hispanic Asian population is the predominant racial and ethnic group of the county population is starred (*).

Table 17: Top 10 U.S. counties with large, non-Hispanic Asian populations and high recent burden of COVID-19

County	Urbanization level	Percent of population Non-Hispanic Asian	Non-Hispanic Asian predominant group (*)	New cases per 100,000 in the past 2 weeks
Largest population, highest recent burden				
Aleutians East Borough, AK	Rural	42.8	*	5376.96
Aleutians West Census Area, AK	Rural	38.6	*	1170.71
Queens, NY	Large metropolitan	26.5		861.16
Loudoun, VA	Large metropolitan	20.1		821.19
Fort Bend, TX	Large metropolitan	20.7		736.55
Middlesex, NJ	Large metropolitan	24.7		723.53
Somerset, NJ	Large metropolitan	18.6		523.31
Largest population, high burden				
Fairfax, VA	Large metropolitan	19.9		459.33
Orange, CA	Large metropolitan	21.2		432.74
Santa Clara, CA	Large metropolitan	38.4	*	421.87

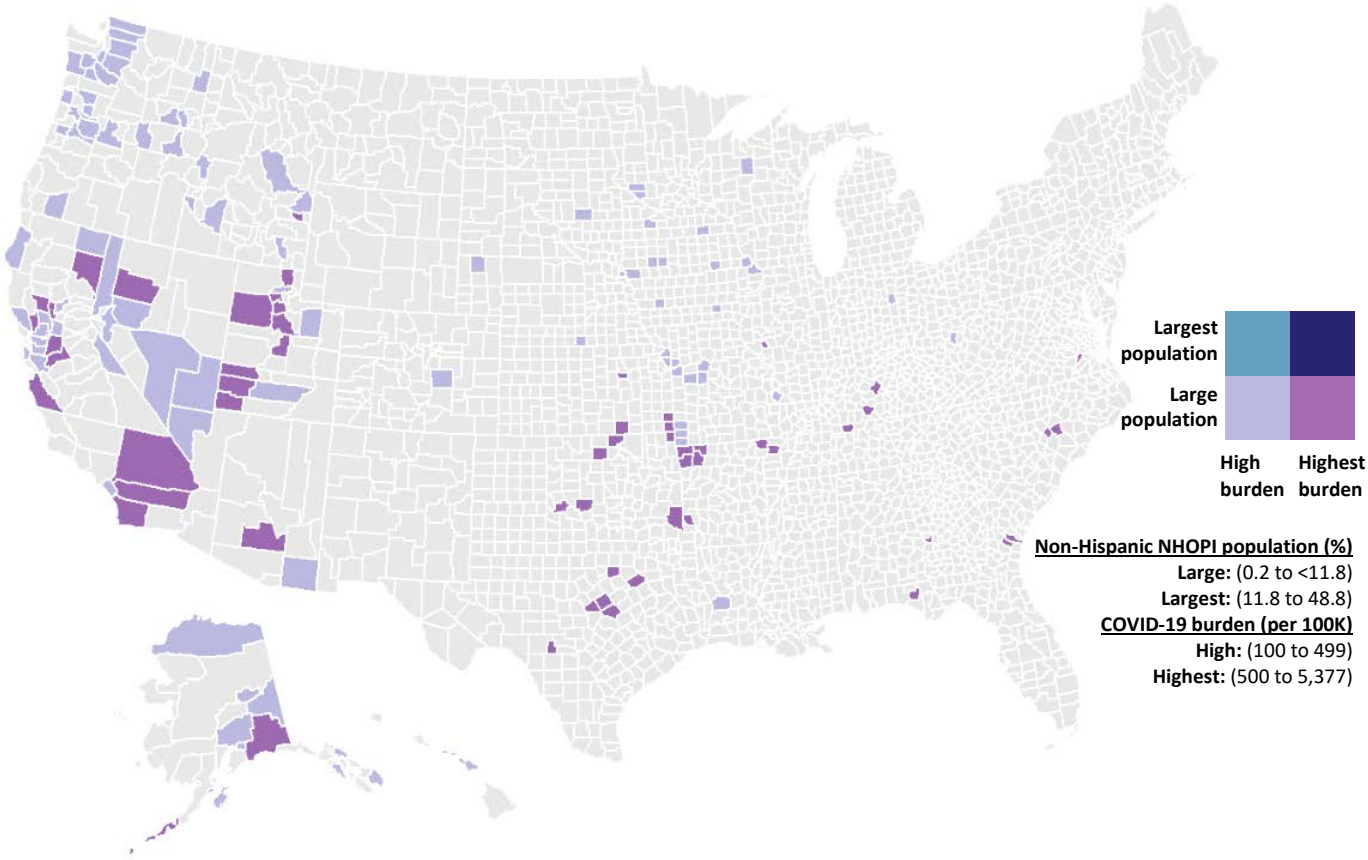
Note: The list of counties with high recent burden can significantly change over time. Large group representation within a county with high recent burden does not necessarily mean higher group risk. Finally, in counties with smaller populations, even where new case rates are high the absolute number of new cases may be comparatively low.

Counties with Large Non-Hispanic Native Hawaiian or other Pacific Islander Populations and High Recent Burden

Among 173 counties that had large (0.2% or more) non-Hispanic Native Hawaiian or other Pacific Islander populations relative to the national average[21], 156 (90.2%) had high recent burden of COVID-19 cases. These 156 counties are pictured below. Colors are assigned based on recent burden and group representation within the county relative to other counties shown. Counties in gray either do not have high recent burden or do not have large group representation.

[21] In 2019, an estimated 0.2% of the U.S. population was non-Hispanic Native Hawaiian or other Pacific Islander.

Map 6: Counties with large non-Hispanic Native Hawaiian or other Pacific Islander (NHOPI) populations and high recent burden, January 23, 2021 – February 06, 2021



The table below shows the top ten counties with large non-Hispanic Native Hawaiian or other Pacific Islander populations and high recent burden of COVID-19. All ten counties with large non-Hispanic Native Hawaiian or other Pacific Islander populations had high recent burden of COVID-19. The non-Hispanic Native Hawaiian or other Pacific Islander population is not the predominant racial and ethnic group in any of the counties identified.

Table 18: Top 10 U.S. counties with large, non-Hispanic Native Hawaiian or other Pacific Islander (NHOPI) populations and high recent burden of COVID-19

County	Urbanization level	Percent of population non-Hispanic NHOPI	Non-Hispanic NHOPI predominant group (*)	New cases per 100,000 in the past 2 weeks
Large population, highest recent burden				
Aleutians East Borough, AK	Rural	1.2		5,376.96
Lampasas, TX	Small or medium metropolitan	0.4		4,197.09

County	Urbanization level	Percent of population non-Hispanic NHOPI	Non-Hispanic NHOPI predominant group (*)	New cases per 100,000 in the past 2 weeks
Coryell, TX	Small or medium metropolitan	0.9		3,562.45
Chattahoochee, GA	Small or medium metropolitan	0.8		3,191.69
Buena Vista City, VA	Rural	0.4		1,619.37
Comanche, OK	Small or medium metropolitan	0.6		1,352.74
Aleutians West Census Area, AK	Rural	2.4		1,170.71
Garfield, OK	Rural	3.8		1,098.29
Cowley, KS	Rural	0.4		1,096.03
Johnson, TX	Large metropolitan	0.4		1,038.16

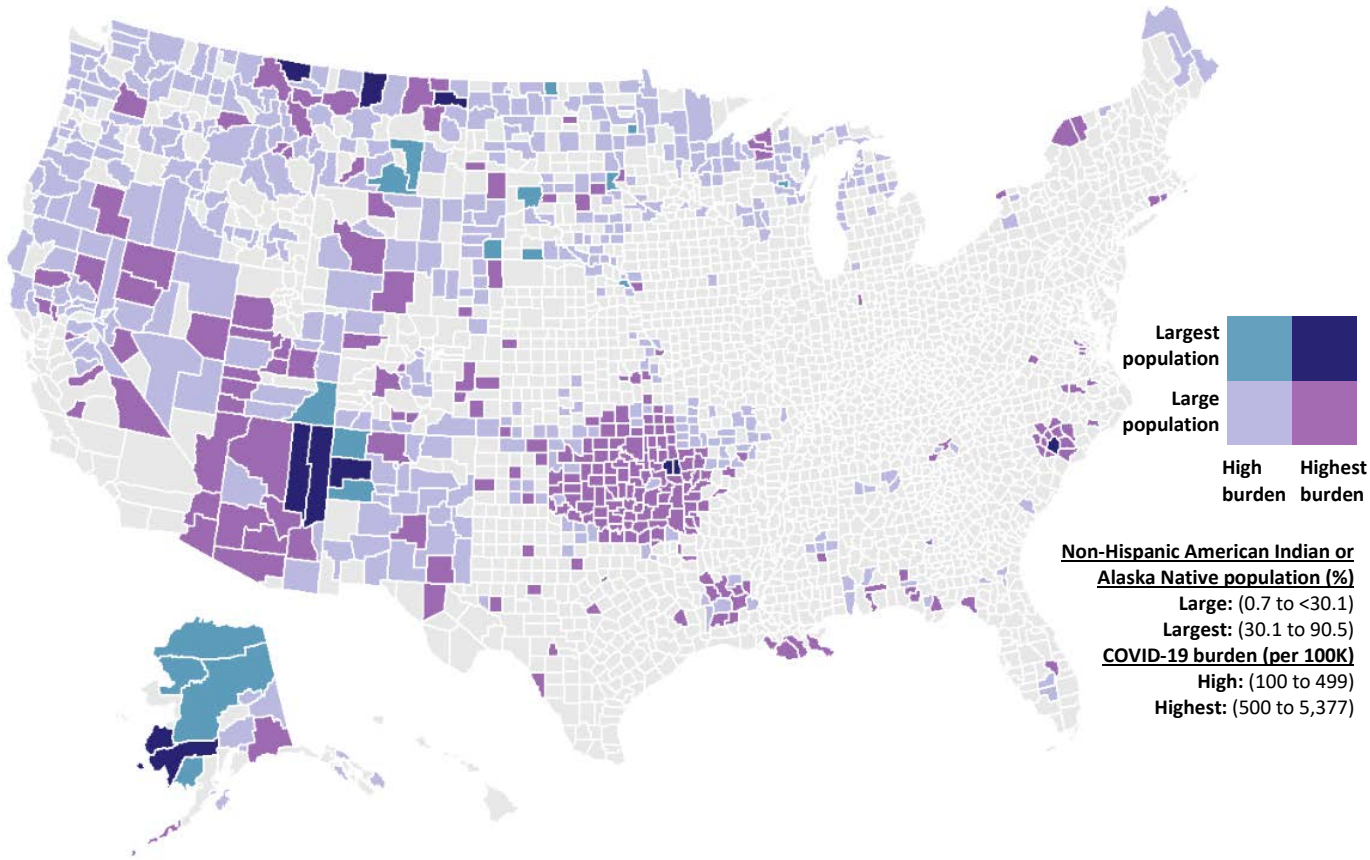
Note: The NHOPI population comprises a very small percentage of the total population in all these counties. The list of counties with high recent burden can significantly change over time. Large group representation within a county with high recent burden does not necessarily mean higher group risk. Finally, in counties with smaller populations, even where new case rates are high the absolute number of new cases may be comparatively low.

Counties with Large Non-Hispanic American Indian or Alaska Native Populations and High Recent Burden

Among 826 counties that had large non-Hispanic American Indian or Alaska Native populations relative to the national average[22], 701 (84.9%) had high recent burden of COVID-19 cases. These 701 counties are pictured below. Colors are assigned based on group representation and COVID-19 burden relative to other counties. Counties in gray either do not have high recent burden or do not have large group representation.

[22] In 2019, an estimated 0.7% of the U.S. population was non-Hispanic American Indian or Alaska Native.

Map 7: Counties with large non-Hispanic American Indian or Alaska Native (AI/AN) populations and high recent burden, January 23, 2021 – February 06, 2021



The table below shows the top ten counties with large non-Hispanic American Indian or Alaska Native populations and high recent burden of COVID-19. All ten counties with large non-Hispanic American Indian or Alaska Native populations had high recent burden of COVID-19. The nine counties where the non-Hispanic American Indian or Alaska Native population is the predominant racial and ethnic group of the county population are starred (*).

Table 19: Top 10 U.S. counties with large, non-Hispanic American Indian or Alaska Native (AI/AN) populations and high recent burden of COVID-19

County	Urbanization level	Percent of population non-Hispanic AIAN	Non-Hispanic AIAN predominant group (*)	New cases per 100,000 in the past 2 weeks
Largest population, highest recent burden				
Bethel Census Area, AK	Rural	82.2	*	1,504.17
Adair, OK	Rural	42.3	*	1,426.50
Apache, AZ	Rural	73.1	*	1,301.90
Blaine, MT	Rural	49.0	*	896.14
Kusilvak Census Area, AK	Rural	90.4	*	891.24
Navajo, AZ	Rural	43.7	*	887.32

County	Urbanization level	Percent of population non-Hispanic AIAN	Non-Hispanic AIAN predominant group (*)	New cases per 100,000 in the past 2 weeks
Largest population, highest recent burden				
Robeson, NC	Rural	40.1	*	829.85
McKinley, NM	Rural	74.2	*	693.04
Cherokee, OK	Rural	34.2		663.59
Roosevelt, MT	Rural	57.9	*	632.97

Note: The list of counties with high recent burden can significantly change over time. Large group representation within a county with high recent burden does not necessarily mean higher group risk. Finally, in counties with smaller populations, even where new case rates are high the absolute number of new cases may be comparatively low.

Recent Publications

CDC is committed to reducing COVID-19-related health disparities by engaging in scientific studies, developing evidence-based guidance, and improving public health practice. The following recent *Morbidity and Mortality Weekly Report* (*MMWR*) articles, as well as one *Journal of the American Medical Association* (*JAMA*) article, present CDC findings that can inform COVID-19 response efforts and help address needs among disproportionately-affected populations.

COVID-19 Cases and Transmission in 17 K–12 Schools — Wood County, Wisconsin, August 31–November 29, 2020[23]

The COVID-19 pandemic has disrupted in-person learning in the United States. Discontinuation of in-person schooling can result in many hardships and disproportionately affects families of lower socioeconomic status. During August 31–November 29, 2020, COVID-19 cases, spread, and compliance with mask use were investigated among 4,876 students and 654 staff members who participated in in-person learning in 17 K–12 schools in rural Wisconsin. School-attributable COVID-19 case rates were compared with rates in the surrounding community. Masking was required for all students and staff members at all schools, and rate of reported student mask-wearing was high (over 92%). COVID-19 case rates among students and staff members were lower than were those in the county overall. Among the 191 cases identified in students and staff members, one in 20 cases among students was linked to in-school transmission; no infections among staff members were found to have been acquired at school. These findings suggest that, with proper mitigation strategies, K–12 schools might be capable of opening for in-person learning with minimal in-school transmission of SARS-CoV-2.

COVID-19 Trends Among Persons Aged 0–24 Years — United States, March 1–December 12, 2020[24]

This CDC analysis found consistently lower COVID-19 incidence and positive test results among children aged 0-10 years than older age groups. In addition, the analysis did not find evidence that increases in incidence or the percentage of positive test results among adults were preceded by increases among preschool and school-aged children and adolescents. The incidence of COVID-19 among young adults aged 18-24 years remained higher than among all other age

[23] https://www.cdc.gov/mmwr/volumes/70/wr/mm7004e3.htm?s_cid=mm7004e3_w
[24] https://www.cdc.gov/mmwr/volumes/70/wr/mm7003e1.htm?s_cid=mm7003e1_w

groups throughout the summer and fall. These findings suggest that young adults may contribute more to community transmission than younger children. Communities and schools should fully implement and strictly adhere to recommended mitigation strategies, especially universal and proper masking, to reduce new cases of COVID-19 within the community while supporting safer operation of schools for in-person learning. CDC recommends that K–12 schools be the last settings to close after all other mitigation measures have been employed and the first to reopen when they can do so safely.

Data and Policy to Guide Opening Schools Safely to Limit the Spread of SARS-CoV-2 Infection[25] *(JAMA)*

The COVID-19 pandemic has greatly affected K-12 schools across the U.S. By March 25, 2020, all kindergarten to grade 12 (K-12) public schools in the U.S. had closed for in-person instruction. After initial closures, many schools pivoted to online education for the remainder of the 2019-2020 school year. For the fall 2020 school term, there was tremendous geographic and district-to-district variation in mode of K-12 educational delivery. Among 13,597 of 14,944 districts that provided school reopening plans, 24% were fully online, 51% were using a hybrid model, and 17% were fully open for in-person instruction (some districts included options for parents to opt out). Additionally, 51% of districts had students participating in school sports programs. As many schools have reopened for in-person instruction, school-related cases of COVID-19 have been reported, but there has been little evidence that schools have contributed meaningfully to increased community transmission. Accumulating data now suggest a path forward to maintain or return primarily or fully to in-person instructional delivery. Preventing transmission in school settings will require addressing and reducing levels of transmission in the surrounding communities through policies to interrupt transmission. In addition, all recommended mitigation measures in schools must continue and include requiring universal face mask use, increasing physical distance by de-densifying classrooms and common areas, using hybrid attendance models when needed to limit the total number of contacts and prevent crowding, increasing room air ventilation, and expanding screening testing to rapidly identify and isolate asymptomatic infected individuals. Staff and students should continue to have options for online education, particularly those at increased risk of severe illness or death if infected with SARS-CoV-2. Decisions made today can help ensure safe operation of schools and provide critical services to children and adolescents in the U.S. Some of these decisions may be difficult. They include potentially postponing school-related activities that can increase risk of in-school transmission, such as indoor sports practice or competition. With two vaccines now being distributed under Emergency Use Authorizations and more vaccine options anticipated to be available in the coming months, there is much hope on the horizon for a safer environment for schools and school-related athletic activities during the 2021-2022 school year.

Demographic Characteristics of Persons Vaccinated During the First Month of the COVID-19 Vaccination Program — United States, December 14, 2020–January 14, 2021[26]

During the first month of the U.S. COVID-19 vaccination program, nearly 13 million people, or 4% of the total population received at least one dose of a COVID-19 vaccine. Among persons with demographic data, 63% were women, 55% were aged 50 years or older, and 60.4% were non-Hispanic White, which likely reflects the demographic characteristics of people who were

[25] https://jamanetwork.com/journals/jama/fullarticle/2775875
[26] https://www.cdc.gov/mmwr/volumes/70/wr/mm7005e1.htm?s_cid=mm7005e1_w

recommended to be vaccinated in phase 1a, including healthcare personnel and long-term care facility residents. Demographic data were nearly complete for the sex and age of people vaccinated, but nearly half of race/ethnicity data was missing. More complete reporting of race and ethnicity data at the provider and jurisdictional levels is critical to ensure rapid detection of and response to potential disparities in COVID-19 vaccination. CDC is working with jurisdictions to use these types of analyses to help direct efforts to bring vaccines to their communities and ensure that none are left behind. As the vaccination program expands, it is critical to ensure efficient and equitable administration to persons in each successive vaccine priority category, especially those at highest risk for infection and severe health outcomes.

Trends in Outbreak-Associated Cases of COVID-19 — Wisconsin, March–November 2020[27]
From late August to mid-November 2020, the rate of COVID-19 cases in Wisconsin increased by an average of 24% each week. The growth rate during this time was the highest to date in Wisconsin and among the highest in the United States during that time. To identify reasons for the increase, investigators analyzed reported outbreaks in Wisconsin that occurred during March 4–November 16, 2020. During this time, a total of 57,991 confirmed COVID-19 cases in Wisconsin were linked to 5,757 outbreaks across the state in four main settings, including manufacturing or food-processing facilities, long-term care settings, correctional facilities, and college/universities. Cases linked to outbreaks accounted for nearly 1 in 5 (18.3%) of confirmed cases in Wisconsin during this timeframe. Prior to August, outbreaks were most often associated with manufacturing and food processing facilities or long-term-care facilities. However, starting in mid-August, the time when students returned to campus, there was a rapid increase in cases associated with outbreaks at colleges and universities in Wisconsin. Health departments should monitor cases of COVID-19 on college and university campuses. An increase in the number of cases could be used as an early warning for broader community spread. Health departments should work with long-term-care facilities, prisons and jails, and colleges and universities to promptly identify cases, and take steps to prevent further spread of COVID-19.

Opening of Large Institutions of Higher Education and County-Level COVID-19 Incidence — United States, July 6–September 17, 2020[28]
COVID-19 cases decreased in many counties across the United States in late summer 2020. In early September, U.S. counties with large colleges or universities experienced a 56% increase in COVID-19 cases after those institutions started in-person classes. Counties with universities with remote instruction experienced an 18% decline in COVID-19 rates comparing the 21-day periods before and after classes started. Counties without a large college or university had a 6% decrease in cases. Increases in infection with the virus that causes COVID-19 among college-age groups can result in increased community spread to older age groups who are more at risk for severe outcomes. Additional implementation of effective mitigation activities at colleges and universities with in-person instruction could minimize on-campus COVID-19 transmission and reduce county-level incidence

Participation in Fraternity and Sorority Activities and the Spread of COVID-19 Among Residential University Communities — Arkansas, August 21–September 5, 2020[29]

[27] https://www.cdc.gov/mmwr/volumes/70/wr/mm7004a2.htm?s_cid=mm7004a2_w
[28] https://www.cdc.gov/mmwr/volumes/70/wr/mm7001a4.htm?s_cid=mm7001a4_w
[29] https://www.cdc.gov/mmwr/volumes/70/wr/mm7001a5.htm?s_cid=mm7001a5_w

During August 22–September 5, 2020, a university in Arkansas reported an increase in COVID-19 cases. Sorority rush week was held August 17–22 and consisted of on- and off-campus social gatherings, including an outdoor bid-day event on August 22. Fraternity rush week occurred August 27–31, with bid day scheduled for September 5. On September 4, the university banned gatherings of 10 or more people, and fraternity bid day was held virtually. Investigators used network visualization techniques and tools to analyze where disease spread may have happened and found on- and off-campus congregate living settings and activities likely facilitated the rapid spread of cases. About one out of three patients reported involvement in a fraternity or sorority activity. Among 54 gatherings with spread of COVID-19 detected, 49 (91%) were linked by participation in fraternity and sorority activities. Women accounted for 86% of cases in linked gatherings, which could also reflect involvement in in-person activities during sorority rush week, and which happened before the banning of gatherings of 10 or more people. The report also found that most cases reported attending classes virtually (59%) and a very small percentage of cases occurred among faculty and staff, suggesting the rapid spread likely occurred outside of the classroom. These findings highlight the role that congregate living settings and extracurricular activities can play in the spread of COVID-19 at colleges and universities.

Performance of an Antigen-Based Test for Asymptomatic and Symptomatic SARS-CoV-2 Testing at Two University Campuses — Wisconsin, September–October 2020[30]

A CDC-supported investigation evaluated performance of a rapid antigen test for COVID-19 (Quidel's Sofia SARS Antigen Fluorescent Immunoassay) at two universities in Wisconsin by comparing its performance with that of a real-time reverse transcription-polymerase chain reaction (RT-PCR). Among people reporting COVID-19 symptoms at the time the samples were collected, the Sofia antigen test was less accurate than reported in the FDA Emergency Use Authorization (sensitivity of 80% vs. 97% in previous reports). For people who were asymptomatic at the time samples were collected, the accuracy was significantly lower – only 41% of RT-PCR-positive samples were also positive by antigen test and, in this population, the majority of positive antigen tests were "false positives" (when a test yields a positive result but the individual tested does not have the virus). CDC recommends considering confirmatory testing with an FDA-authorized molecular test, such as RT-PCR, following negative antigen test results in symptomatic people and positive antigen test results in asymptomatic people. This highlights the importance of considering confirmatory molecular testing (e.g., RT-PCR) following rapid antigen test results.

Rates of COVID-19 Among Residents and Staff Members in Nursing Homes — United States, May 25–November 22, 2020[31]

CDC's National Healthcare Safety Network (NHSN) data showed COVID-19 cases among nursing home residents and staff followed trends similar to those in surrounding communities. Researchers analyzed data from 15,404 nursing homes, reported to NHSN from May 25 to November 22. Facilities reported 572,135 cases. The rate of cases among nursing home residents increased during June and July, decreased in August and September, and increased in November. Rates among nursing home staff followed a similar pattern, with rates increasing during June and July, decreasing during August and September, and increasing again in November. The report suggests a potential link between rates of COVID-19 in the community and rates in nursing

[30] https://www.cdc.gov/mmwr/volumes/69/wr/mm695152a3.htm?s_cid=mm695152a3_w
[31] https://www.cdc.gov/mmwr/volumes/70/wr/mm7002e2.htm?s_cid=mm7002e2_w

homes. Results indicate nursing home mitigation strategies need to include monitoring of local rates of COVID-19 and increased efforts to minimize high-risk exposures in facilities. In addition, educating staff about the risk of community exposure and encouraging consistent use of CDC infection control guidance in all settings may address healthcare safety gaps and protect residents and staff. Prioritizing nursing home residents and staff members for vaccination, as recommended by the Advisory Committee on Immunization Practices, is an additional strategy to assist in slowing the spread in nursing homes.

Response to a COVID-19 Outbreak on a University Campus—Indiana, August 2020[32]
Going into the fall semester 2020, guidance for institutions of higher education related to COVID-19 largely focused on mitigation strategies, case investigation and contact tracing, as well as testing. A university with approximately 12,000 students, of whom 85% live on campus, implemented various public health measures to reduce the spread of COVID-19. Despite these measures, the university experienced an outbreak involving 371 cases during the first few weeks of the fall semester. Rather than sending students home, the university switched to online instruction and instituted a series of campus restrictions for a two-week period. During this time, it substantially enhanced testing, contact tracing, isolation and quarantine programs, as well as educational efforts. These steps resulted in a decrease in new cases, allowing in-person learning to resume two weeks later. Immediate, aggressive efforts to reduce disease spread through enhancing testing, timely contact tracing, ensuring spaces are available for patients to isolate and contacts to quarantine, expanding screening of people without symptoms, and promoting adherence to mitigation strategies can help control COVID-19 outbreaks while minimizing disruptions to in-person instruction.

SARS-CoV-2 Transmission Associated with High School Wrestling Tournaments — Florida, December 2020–January 2021[33]
On December 7, 2020, public health officials in Florida were notified of a person with a positive COVID-19 test who had attended two high school wrestling tournaments on December 4–5, 2020. The tournaments included ten participating high schools. A total of 130 wrestlers, coaches, and referees attended the tournaments. Out of the 130 tournament attendees, 54 people were tested. Of those tested, 38 cases were identified. As a result of student quarantine and isolation, an estimated 1,700 days of in-person school were lost due to this COVID-19 outbreak. The outbreak resulted in the suspension of all winter indoor and outdoor high school athletics in one county, affecting approximately 1,500 students. The level of new cases in county A, home of seven of the ten participating high school teams, placed the community in the highest category for transmission of SARS-CoV-2. The high community transmission levels as well as the impracticality of mask wearing and staying at least 6 feet apart at this event played a role in the size of this outbreak. Public health departments and schools should consider rates of COVID-19 in the community when deciding whether to continue school sporting activities. To avoid jeopardizing in-person education, high contact school athletic activities for which mask wearing and staying at least six feet apart are not possible or feasible should be postponed.

[32] https://www.cdc.gov/mmwr/volumes/70/wr/mm7004a3.htm?s_cid=mm7004a3_w
[33] https://www.cdc.gov/mmwr/volumes/70/wr/mm7004e4.htm?s_cid=mm7004e4_w

Time from Start of Quarantine to SARS-CoV-2 Positive Test Among Quarantined College and University Athletes — 17 States, June–October 2020[34]

To reduce the risk of COVID-19 spread as collegiate sports resumed, regional athletic conferences created testing and quarantine policies based on guidance from the CDC and the National Collegiate Athletic Association (NCAA). To help assess the amount of time between starting quarantine and the first positive test result after exposure, investigators analyzed data from 24 colleges and universities that contributed data on quarantined athletes. The investigators observed that once an athlete entered quarantine, the probability of testing positive among those who had no previous positive test decreased from 26.9% after day 5 to 14.2% after day 7 and 4.7% after day 10. These findings support new guidance from CDC in which different options are provided to shorten quarantine for people such as collegiate athletes, especially if doing so will increase adherence, balancing the reduced duration of quarantine against a small but nonzero risk for spread after the quarantine period. People released from quarantine before 14 days should continue daily symptom monitoring, avoid close contact, and wear masks when around others.

CDC Activities to Address COVID-19 Disparities

CDC continues to identify and engage in opportunities that align with the guiding principles of the CDC COVID-19 Response Health Equity Strategy[35] and support work that accelerates and bolsters efforts to reduce the disproportionate burden of the pandemic on communities of color. As part of this effort, CDC has funded three awards totaling almost $7 million to enlist established and trusted organizations and institutions in mobilizing racial and ethnic minority communities to adopt and sustain COVID-19 preventive and community mitigation strategies, including but not limited to improving chronic disease management and control, COVID-19 testing, facilitating contact tracing, promoting mask use, social distancing, and identifying mental health issues associated with COVID-19. The award recipients are the CDC Foundation, Asian and Pacific Islander American Health Forum, and PROCEED Inc. The projects support capacity-building activities and the dissemination of culturally responsive emergency response services among Asian and Pacific Islanders throughout the United States, African American communities in the south, and Hispanic/Latino communities in targeted geographic areas across the United States.

CDC also continues to review and enhance information and strategies that can help federal, national, state, and local organizations respond to the COVID-19 pandemic. On January 15, 2021, the National Resource Center for Refugees, Immigrants, and Migrants (NRC-RIM)[36] was launched. This site is funded by CDC through a cooperative agreement with the International Organization for Migration and maintained by the University of Minnesota. The website provides assistance and resources to state and local health departments working with refugee, immigrant, and migrant communities that have been disproportionately affected by COVID-19. At present, it includes three toolkits focused on Case Investigation and Contact Tracing, Health Communications, and Community Engagement. The NRC-RIM site also includes a COVID-19

[34] https://www.cdc.gov/mmwr/volumes/70/wr/mm7001a2.htm?s_cid=mm7001a2_w
[35] https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/cdc-strategy.html
[36] https://nrcrim.umn.edu/

Vaccine resource page, a translated materials library (with roughly 3,000 COVID-19 materials translated into approximately 100 languages), and a number of other COVID-19 health education resources. CDC and the CDC Foundation are developing a guidance toolkit for rural communities (including bilingual/bicultural communities) that is intended to help communities better manage community mitigation and contact tracing in a way that is locally relevant.

CDC continues to provide guidance and support for jurisdictions to increase vaccine awareness, access, and uptake. In January, CDC provided over $3 billion to jurisdictions to support COVID-19 vaccination through the existing CDC Immunization and Vaccines for Children cooperative agreement. CDC indicated that a minimum of 10% of the total funding received by each jurisdiction must be allocated for high-risk and underserved populations, including racial and ethnic minority populations and rural communities. Jurisdictions will use these funds to support activities such as amplifying messaging to promote COVID-19 vaccination, especially among underserved populations; funding local education campaigns and approaches to adapt CDC materials to community audiences, including a focus on racial and ethnic minority groups; strengthening vaccine education efforts to include addressing possible vaccine misinformation and increasing vaccine confidence and uptake, including with racial and ethnic minority groups; and funding local health department contracts to promote COVID-19 and other vaccinations to increase vaccine confidence in racial and ethnic minority groups and to increase accessibility for people with disabilities. CDC has also recently published an annex to the *COVID-19 Vaccination Program Interim Playbook for Jurisdiction Operations*.[37] This annex, titled *Considerations for Increasing COVID-19 Vaccination: Reaching and Increasing Uptake in Priority Populations*,[38] provides new guidance and recommendations regarding when and how to transition from vaccinating initial populations of focus to reaching and increasing uptake in additional priority populations. The Annex also provides jurisdictions with a framework for balancing equitable access, service delivery, and vaccine demand while engaging priority populations and increasing vaccine confidence.

In addition, CDC and its partners continue to actively disseminate information to increase vaccine awareness and confidence among racial and ethnic minority populations. Senior leaders from CDC have participated in speaking engagements to provide clear information about the role that vaccination plays in protecting the public. For example, CDC representatives recently spoke on a panel at a town hall titled “COVID-19 Vaccination: It Matters in Saving Black Lives.” The event was organized by the Minority Health Institute and the UCLA BRITE Center and included speakers from organizations like the 100 Black Men of America, the National Association for the Advancement of Colored People (NAACP) and the National Hispanic Medical Association. There were more than 2,000 attendees. On January 21, 2021, CDC also released vaccine communications toolkits for community-based organizations[39] and essential workers[40] to raise awareness about the benefits of vaccination and answer common questions and concerns.

[37] https://www.cdc.gov/vaccines/covid-19/covid19-vaccination-guidance.html
[38] https://www.cdc.gov/vaccines/covid-19/downloads/COVID-19-vaccination-program-playbook-annex.pdf
[39] https://www.cdc.gov/coronavirus/2019-ncov/vaccines/toolkits/community-organization.html
[40] https://www.cdc.gov/coronavirus/2019-ncov/vaccines/toolkits/essential-workers.html

Appendix A: Sources of Data for Race and Ethnicity

CDC's COVID-19 surveillance strategy relies on reporting from multiple sources, including states, hospitals, labs, nursing homes and others. Receiving data from multiple sources enables CDC to compile a more complete and textured picture of the epidemiology of this virus and its spread. Below is a description of each of the sources of data used in this report, including reporting entities and the strengths and limitations of each source for race and ethnicity data.

	Case-based Reporting	**COVID-NET Hospitalization Data**	**Mortality Data**	**Laboratory Testing Data**
Description	COVID-19 cases are reported to CDC through a standardized, response-initiated case report form and populate the National Notifiable Diseases Surveillance System. Cases are reported to CDC using a standardized case definition and defined demographic and clinical variables. A confirmed case is defined as confirmed COVID-19 illness if SARS-CoV-2 RNA is detected in a specimen from the patient using rRT-PCR test.[41]	Data set of laboratory-confirmed COVID-19-associated hospitalizations in children (people younger than 18 years) and adults used to estimate age-specific hospitalization rates on a weekly basis and describe characteristics of people hospitalized with COVID-19.	National Vital Statistics System data includes national-level mortality data with detailed demographic data	Laboratory test results are reported to CDC from two sources. One is the COVID-19 Electronic Laboratory Reporting (CELR), used by jurisdictions to report all diagnostic PCR testing, representing 94% of national testing volume. The other is Direct-Report ("Federal") data reported by public health laboratories, in house hospital laboratories, and several large commercial laboratories.
Method of Reporting	Either aggregate case count or detailed line level	Cases are identified by reviewing hospital, laboratory, and admission databases and infection control logs for patients hospitalized with a documented positive SARS-CoV-2 test.	Provisional death counts are based on death records received and processed by NCHS and include laboratory confirmed COVID-19 deaths and clinically confirmed COVID-19 deaths.	Either line level or aggregate positive and negative laboratory test results
Strengths	Utilizes a standard case report form that includes important	Population-based and represents 10% of the U.S.	Death counts for earlier weeks are continually revised and	Test result data allow for tracking infection rates over time, by

[41] Stokes EK, Zambrano LD, Anderson KN, et al. Coronavirus Disease 2019 Case Surveillance — United States, January 22–May 30, 2020. MMWR Morb Mortal Wkly Rep 2020;69:759–765. DOI: http://dx.doi.org/10.15585/mmwr.mm6924e2

	Case-based Reporting	**COVID-NET Hospitalization Data**	**Mortality Data**	**Laboratory Testing Data**
	demographic variables such as race/ethnicity Completeness of Race/ethnicity data reported by states is improving.	population (32 million people) 98% completeness for race/ethnicity.	updated death certificate data are received regularly. 99% completeness for race/ ethnicity.	location, and identifying groups of individuals at higher risk for infection.
Limitations	Case report form requires additional time to complete by clinician or health department Case report forms are not completed by clinicians or health departments for every case Extent and level and completeness varies While reporting of cases is required, reporting of demographic data is not currently mandated.	COVID-NET hospitalization data are preliminary and subject to change as more data become available. In particular, case counts and rates for recent hospital admissions are subject to lag. As data are received each week, prior case counts and rates are updated accordingly	It can take several weeks for death records to be submitted, coded, and tabulated. States report at different rates. Race/ethnicity is usually completed by funeral director Race/ethnicity requires information from family member or close contact to deceased	Data streams from commercial, hospital, and public health labs are incomplete. Diagnostic test data are compiled from a number of sources, and not all tests are directly reported to CDC. Currently limited breakdown of race/ethnicity and other demographic information for testing data reported to CDC.
Additional information	More information about case reporting can be found here.	More information about COVID-NET can be found here.	Data are provisional and updated on an ongoing basis. It takes extra time to code COVID-19 deaths. While 80% of deaths are electronically processed and coded within minutes, most deaths from COVID-19 must be coded by a person, which takes an average of 7 days. More information about NVSS mortality data for COVID-19 can be found here and information about the death data quality is also available.	As of August 1, 2020, all laboratories are required to report specific demographic data, including race/ethnicity, on COVID tests to HHS per guidance issued by HHS on June 4, 2020. This requirement originates from an authority established by Section 18115 of the CARES Act. More information about laboratory testing can be found here.

Appendix B: Case and Death Count by Jurisdiction Table

This table shows COVID-19 cases and deaths reported by U.S. States, the District of Columbia, New York City and other U.S.-affiliated jurisdictions through CDC aggregate data. New York State's case and death counts do not include New York City's counts as it is a separate reporting jurisdiction. Case counts and deaths for some jurisdictions appear significantly lower than aggregate data estimates reported to CDC daily by phone. Cases are cumulative through February 8, 2021 and deaths are cumulative through February 3, 2021

Jurisdiction	Abbrev	Total Cases	Total Deaths
Alabama	AL	472,423	7,804
Alaska	AK	53,279	249
Arizona	AZ	780,637	11,512
Arkansas	AR	306,736	4,721
California	CA	3,335,926	41,014
Colorado	CO	405,289	5,390
Connecticut	CT	259,372	5,827
Delaware	DE	80,594	1,014
District of Columbia	DC	38,035	1067
Florida	FL	1,745,655	24,826
Georgia	GA	940,991	11,582
Hawaii	HI	25,712	382
Idaho	ID	165,209	1,654
Illinois	IL	1,146,341	18,389
Indiana	IN	639,711	9,709
Iowa	IA	324,443	5066
Kansas	KS	281,562	4,057
Kentucky	KY	377,790	4,938
Louisiana	LA	411,812	7,439
Maine	ME	41,418	649
Maryland	MD	364,553	7,653
Massachusetts	MA	526,426	11,275
Michigan	MI	620,685	13,086
Minnesota	MN	468,118	6,289
Mississippi	MS	282,313	5,607
Missouri	MO	466,664	8,173
Montana	MT	95,790	1,348
Nebraska	NE	193,722	2,449
Nevada	NV	284,042	4,216
New Hampshire	NH	68,379	1,052
New Jersey	NJ	722,167	19,067

Jurisdiction	Abbrev	Total Cases	Total Deaths
New Mexico	NM	177,556	2,967
New York State (excluding NYC)	NY	842,972	19,229
New York City	NYC	643,890	23,737
North Carolina	NC	796,195	4,078
North Dakota	ND	98,184	1,546
Ohio	OH	920,217	15,932
Oklahoma	OK	403,185	5,124
Oregon	OR	147,122	1,737
Pennsylvania	PA	870,321	21,237
Rhode Island	RI	117,891	2,012
South Carolina	SC	466,373	5,521
South Dakota	SD	109,229	1,778
Tennessee	TN	744,600	9,401
Texas	TX	2,483,742	37,273
Utah	UT	354,608	1,762
Vermont	VT	12,900	158
Virginia	VA	530,825	7,210
Washington	WA	322,656	4,022
West Virginia	WV	124,708	1,852
Wisconsin	WI	600,782	6,777
Wyoming	WY	52,627	521
Territories			
American Samoa	AS	3	None Reported
Guam*	GU	7,664	129
Marshall Islands	RMI	4	None Reported
Micronesia	FSM	1	None reported
Northern Marianas*	CNMI	133	2
Palau	PW	None reported	
Puerto Rico	PR	96,161	1,538
U.S. Virgin Islands*	VI	2,466	24
TOTAL*	**-**	**26,852,809**	**423,071**

Data source: Total cases are based on aggregate counts of COVID-19 cases reported by state and territorial jurisdictions to CDC January 21, 2020 through February 8, 2021. Total deaths are based on provisional mortality data reported to the National Vital Statistics System through February 3, 2021 for U.S. States and the District of Columbia.

*COVID-19 death counts were reported by Guam, Northern Marianas, and the U.S. Virgin Islands to CDC and did not originate from the National Vital Statistics System.

Appendix C: Age-adjusted, Rate Ratios for Cases, Deaths, and Hospitalizations Compared to Non-Hispanic, White Persons

This infographic shows the age-adjusted, rate ratios for cases, deaths, and hospitalizations for racial and ethnic minorities compared to non-Hispanic White persons as of February 1, 2021. It is posted to the CDC website at https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-race-ethnicity.html.

Rate ratios compared to White, Non-Hispanic persons	American Indian or Alaska Native, Non-Hispanic persons	Asian, Non-Hispanic persons	Black or African American, Non-Hispanic persons	Hispanic or Latino persons
Cases[1]	1.9x	0.7x	1.1x	1.3x
Hospitalizations[2]	3.7x	1.1x	2.9x	3.2x
Deaths[3]	2.4x	1.0x	1.9x	2.3x

[1]Data Source: Data reported by state and territorial jurisdictions (accessed 02/01/2021). Numbers are ratios of age-adjusted rates standardized to the 2019 U.S. intercensal population estimate. Calculations use only the 51% of case reports that have race and ethnicity; this can result in inaccurate estimates of the relative risk among groups.
[2]Data Source: COVID-NET (https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covid-net/purpose-methods.html, March 1, 2020 through January 30, 2021). Numbers are ratios of age-adjusted rates standardized to the 2019 US standard COVID-NET catchment population.
[3]Data Source: National Center for Health Statistics provisional death counts (https://data.cdc.gov/NCHS/Provisional-Death-Counts-for-Coronavirus-Disease-C/pj7m-y5uh, data through January 30, 2021). Numbers are ratios of age-adjusted rates standardized to the 2019 U.S. intercensal population estimate.