

Coronavirus and Health Disparities in Construction

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OVERVIEW

Coronavirus Disease 2019 (COVID-19) has spread around the world, including the [United States](#). While this pandemic has affected each of us, some groups may be disproportionately impacted by the virus. Currently available information and clinical expertise indicate that older workers and workers of any age who have certain underlying medical conditions (e.g., heart or lung disease, diabetes), and other factors (e.g., smoking, obesity) might be at higher risk for severe illness from COVID-19.

At this point, it is unknown how many construction workers have become sick or lost their lives due to the COVID-19 outbreak. To assess the potential risk of severe illness from COVID-19 in the construction industry, this Data Bulletin provides updated employment and health information among construction workers by analyzing available national survey data. The employment numbers were estimated from the Current Population Survey, while medical conditions and other risk factors were obtained from the National Health Interview Survey. This Bulletin focuses on older workers, Hispanic workers, black workers, and workers with underlying medical conditions or other [risk factors defined by the CDC](#). Term definitions are included at the end of this report.



THIS ISSUE

This issue provides updated employment and health information on construction workers at higher risk in the COVID-19 pandemic, including older workers, Hispanics, blacks, and those with underlying medical conditions or other risk factors.

KEY FINDINGS

About 1.4 million construction workers (12.3% of the total 11.4 million) were age 60 or older in 2019, of whom 628,000 were 65 years or older.
Chart 2

In 2019, 30.4% of construction workers were Hispanic, compared to 17.7% of workers in all industries.
Chart 4

Nearly one in five (19.7%) construction workers had a respiratory disease, and one in four (25.8%) had cancer, diabetes, or heart, kidney, or liver disease.
Chart 7

One in five (21.0%) construction workers smoked cigarettes in 2018, compared to 14.1% of workers in all U.S. industries.
Chart 9

Nearly 60% of the construction labor force had at least one factor (age 65+, medical condition, or others) for higher risk of severe illness from COVID-19.
Chart 12

NEXT DATA BULLETIN

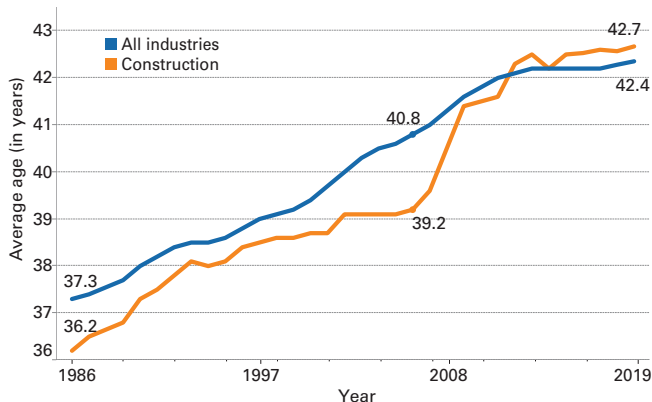
Impact of COVID-19 on the Construction Industry and its Workers

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Numbers in text and charts were calculated by the CPWR Data Center.

According to the CDC, older age is associated with [increased risk of severe illness due to COVID-19](#), which presents a significant challenge given that the overall U.S. workforce is aging. From 1986 to 2019, the average age of U.S. workers increased by five years, from 37.3 to 42.4 (chart 1). In the past, construction workers were typically younger than the average U.S. workforce, but in recent years this pattern reversed. The average age of construction workers jumped 3.5 years between 2006 and 2019, compared to an increase of 1.6 years in all industries combined. By 2012, the average age of construction workers exceeded that of workers in all industries, and it remained higher through 2019 (42.7 vs 42.4 years).

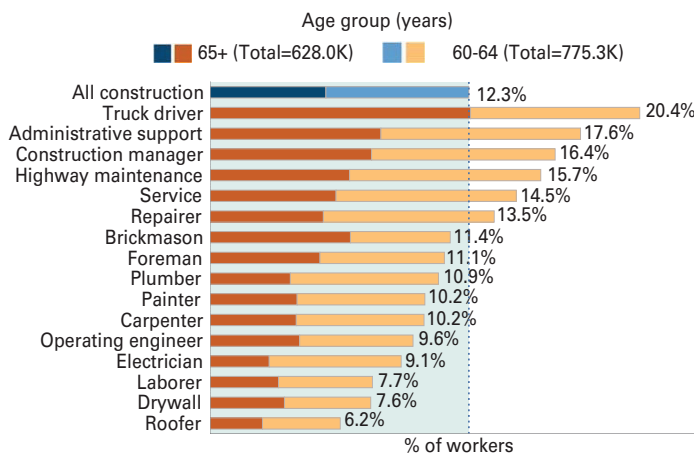
Within construction, age varies by occupation. Over 15% of truck drivers, administrative support workers, construction managers, and highway maintenance workers were age 60 or older in 2019, compared to only 6% of roofers (chart 2). Workers in some occupations, such as highway maintenance, may be more likely to work on [essential](#) projects during the COVID-19 pandemic.

1. Average age of workers, construction vs. all industries, 1986-2019



Source: U.S. Bureau of Labor Statistics. 1986-2019 Current Population Survey.

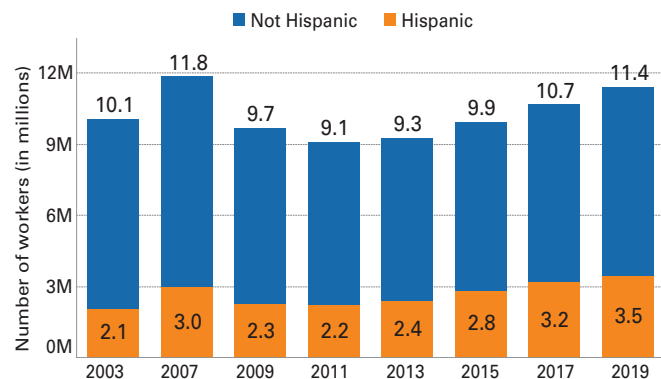
2. Percentage of workers age 60 years and older, by selected construction occupation, 2019



Source: U.S. Bureau of Labor Statistics. 2019 Current Population Survey.

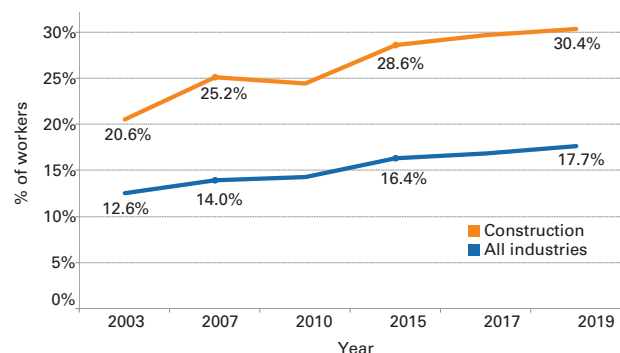
While data are still limited, racial and ethnic disparities have been identified amid the COVID-19 outbreak, indicating that [Hispanic and black populations are more vulnerable](#). The proportion of Hispanic employment in construction has been consistently higher than that in all industries combined. The number of Hispanic construction workers increased after the Great Recession and reached 3.5 million in 2019 (chart 3), accounting for over 30% of the construction workforce, about 72% higher than the proportion of Hispanic workers in all industries (chart 4). Hispanic ethnicity varies by construction occupation. The percentage of Hispanic workers was particularly high among drywall installers (68.8%), painters (58.3%), and roofers (51.4%) (chart 5).

3. Number of construction workers, by Hispanic ethnicity, selected years from 2003-2019



Source: U.S. Bureau of Labor Statistics. 2003-2019 Current Population Survey.

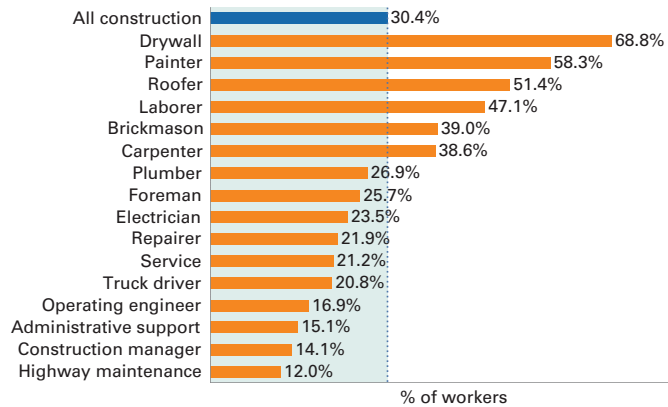
4. Percentage of Hispanic workers, construction vs. all industries, selected years from 2003-2019



Source: U.S. Bureau of Labor Statistics. 2003-2019 Current Population Survey.

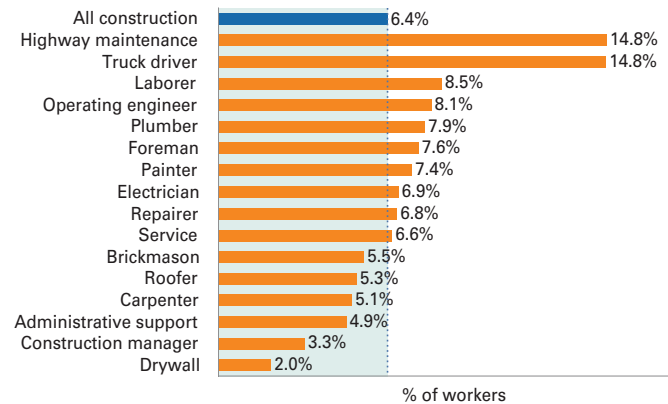
Although black workers made up less than 7% of the construction workforce, they accounted for nearly 15% of truck drivers and highway maintenance workers (chart 6); work in both occupations is considered [essential](#) in the COVID-19 pandemic at present.

5. Percentage of Hispanic workers, by selected construction occupation, 2019



Source: U.S. Bureau of Labor Statistics. 2019 Current Population Survey.

6. Percentage of black workers, by selected construction occupation, 2019*

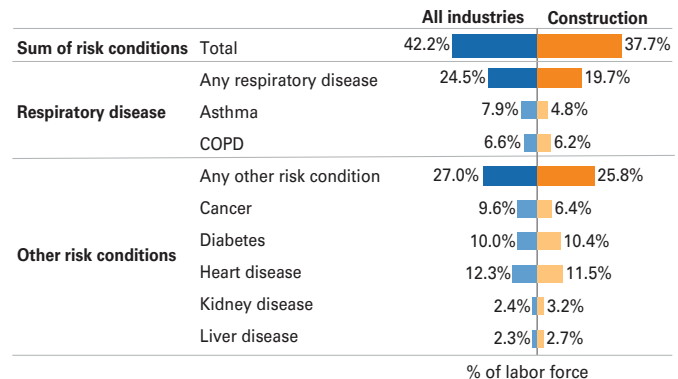


Source: U.S. Bureau of Labor Statistics. 2019 Current Population Survey.

*Workers included in this chart reported black as their only race.

Construction workers with certain [medical conditions](#) may also have a higher risk for severe illness from COVID-19. In 2018, nearly one in five (19.7%) construction workers had a chronic respiratory disease, while one in four (25.8%) had cancer, diabetes, or heart, kidney, or liver disease (chart 7). Overall, 37.7% of construction workers had at least one of these *risk conditions*, though this proportion was lower than that of workers in all industries (42.2%). (This difference could be explained by the *healthy worker effect*).

7. Percentage of labor force with risk conditions for COVID-19, construction vs. all industries

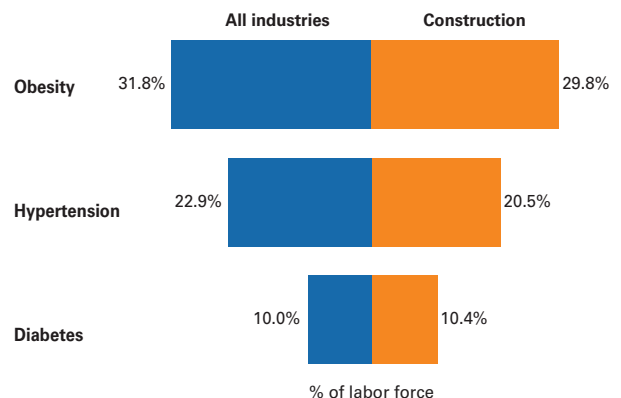


Source: National Center for Health Statistics. 2018 National Health Interview Survey

*Risk conditions are not mutually exclusive.

Hypertension, diabetes, and obesity have also been identified as *comorbidities* that commonly occur among hospitalized COVID-19 patients, based on [a new study](#) conducted in the New York City area. Such comorbidities may increase the burden of illness for a significant proportion of construction workers if they are infected with the virus; in 2018, 29.8% of construction workers were obese, 20.5% had hypertension, and 10.4% had diabetes (chart 8). As was true of patterns illustrated in chart 7, most of these potential comorbidities were slightly less common among construction workers than among U.S. workers overall.

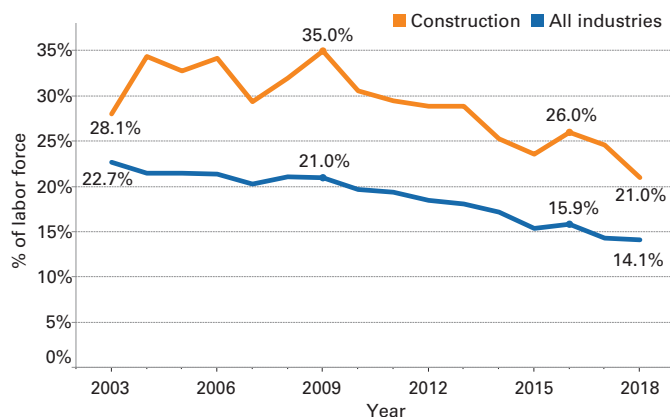
8. Percentage of labor force with comorbidities commonly observed in hospitalized COVID-19 patients, construction vs. all industries



Source: National Center for Health Statistics. 2018 National Health Interview Survey

Some other risk factors, such as [current smoking](#), [severe obesity](#), and [e-cigarette use](#), also likely increase the chances of severe illness from COVID-19. The prevalence of current cigarette smoking has been consistently higher in construction than in all industries combined. Over one in five (21.0%) construction workers were current cigarette smokers in 2018, compared to 14.1% of workers in all industries. On average, the percentage of cigarette smokers was 54% higher in construction than in all industries combined from 2003 to 2018 (chart 9).

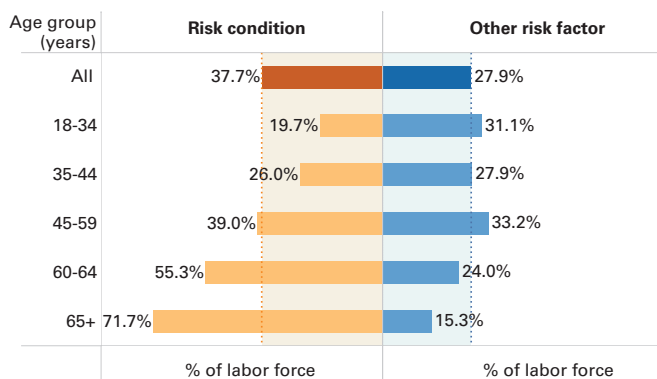
9. Percentage of current cigarette smokers in the labor force, construction vs. all industries, 2003-2018



Source: National Center for Health Statistics. 2003-2018 National Health Interview Survey.

By age group, older construction workers are more likely to have a risk condition for COVID-19, while younger workers are more likely to report other risk factors mentioned above. In 2018, 71.7% of workers age 65 and older and 55.3% of workers age 60-64 had a risk condition, compared to 37.7% of all construction workers combined (chart 10). In contrast, about one in three construction workers age 45-59 (33.2%) and age 18-34 (31.1%) reported other risk factors in 2018, compared to less than one in six (15.3%) workers age 65 or older.

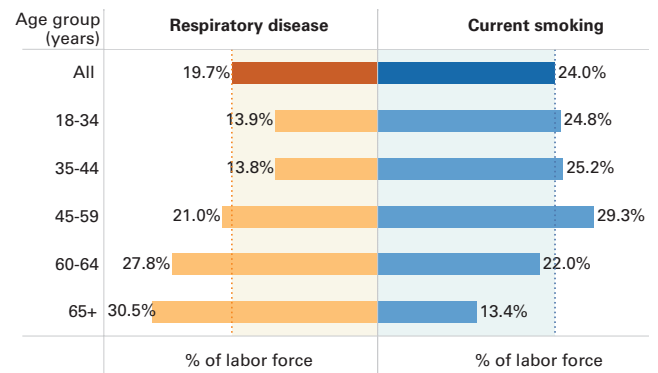
10. Percentage of construction labor force with higher COVID-19 risk, by age group



Source: National Center for Health Statistics. 2018 National Health Interview Survey.

Specifically, older construction workers were the most likely to have a respiratory disease, while middle-aged workers were the most likely to smoke. In 2018, more than 30% of construction workers age 65 or older had a chronic respiratory disease, compared to 19.7% of all construction workers combined (chart 11). However, workers age 65 or older were half as likely to smoke as workers age 45-59 (13.4% vs 29.3%).

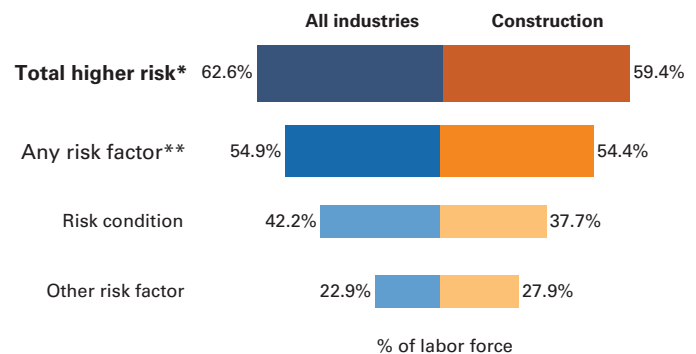
11. Percentage of construction labor force with respiratory disease or current smoking, by age group, 2018



Source: National Center for Health Statistics. 2018 National Health Interview Survey.

In summary, the majority (59.4%) of the construction labor force had at least one characteristic associated with higher risk of severe illness from COVID-19, including old age (65 years or more), a medical risk condition, or another risk factor (chart 12).

12. Percentage of labor force with higher COVID-19 risk, construction vs. all industries



Source: National Center for Health Statistics. 2018 National Health Interview Survey.

*Category includes persons age 65 or older, or with any risk factor.

**Category includes persons with a risk condition or other risk factor.

The findings show that the aging workforce trend is continuing in construction. In 2019, about 1.4 million construction workers were 60 years or older. Moreover, certain medical conditions and other factors increasing risk for severe illness from COVID-19 are prevalent among construction workers. Together, workers with underlying medical conditions, other risk factors or old age (65+) account for nearly 60% of the construction workforce. This is a significant challenge for the construction industry since most construction jobs cannot be done from home. In addition to the results included in this report, job hazards, essential projects, and [inadequate health insurance](#) coverage among construction workers could escalate the risk of COVID-19 and have a greater impact on some workers, especially Hispanic and black workers and those employed in high-risk occupations.

In the [planning of health and safety responses](#) and the ultimate reopening of workplaces during the COVID-19 pandemic, it is crucial to provide construction workers with protective equipment and materials, as well as education and training against the virus and other hazards in the workplace. Construction employers should be aware of the unique needs of potentially vulnerable groups of workers in the industry. In particular, some commonly reported chronic health conditions among construction workers may have no visible signs or symptoms and may go unnoticed by employers.

To help construction employers and workers plan, prepare and respond to the COVID-19 outbreak, CPWR has compiled related resources in the [COVID-19 Construction Clearinghouse](#), including CPWR-NABTU COVID-19 Standards for U.S. Construction Sites, available in [English](#) and [Spanish](#); links to the latest information from key agencies like the [CDC](#), [NIEHS](#), and [NIOSH](#); and resources from industry partners like [American Road and Transportation Builders Association](#), [Construction Industry Alliance for Suicide Prevention](#), [Laborers' Safety & Health Fund of North America](#), and [Milwaukee Tools](#).

ACCESS THE CHARTS & MORE

View the [charts](#) (including supplement charts) in PowerPoint and the [data](#) underlying the charts in Excel. Downloading will start when you click on each link.

DEFINITIONS

Current Population Survey:

All industries – respondents who were 16 years or older and 1) did any work for pay or profit or worked 15 hours or more as unpaid workers, or 2) had jobs but were not working temporarily during the reference week. The construction industry was included, and military service was excluded.

Construction workers – respondents who met the above criteria and whose main job was in construction.

National Health Interview Survey:

Labor force – the sum of employed and unemployed persons who were 18 years or older and reported industry information (excluding military service).

Risk conditions refer to a respiratory disease or any other conditions listed below:

- **Respiratory disease:**
 - **Asthma** – (1) diagnosed by a doctor or health professional, or (2) had an asthma attack or emergency room/urgent care visit for asthma in the past 12 months.
 - **COPD** (chronic obstructive pulmonary disease) - diagnosed by a doctor or health professional (includes emphysema and chronic bronchitis).
- **Other risk conditions** include heart disease, diabetes, cancer, kidney disease and liver disease.

Other risk factors:

- **Smoking** refers to currently smoking cigarette, cigar, cigarillo, pipe (e.g., water, regular) and/or hookah.
- **Current cigarette smoking** refers to smoking at least 100 cigarettes in their lifetime and still currently smoke.
- **Current e-cigarette use**
- **Severe obesity** is defined by a body mass index (BMI) of 40.0 or higher.

Higher risk refers to (1) a risk condition, (2) a risk factor, or (3) 65 years or older.

Comorbidities:

- **Diabetes**
- **Hypertension** – diagnosed by a doctor or health professional and having this condition in the past 12 months.
- **Obesity** is defined by a body mass index (BMI) of 30.0 or higher.

Detailed information on the NHIS is available at <https://www.cdc.gov/nchs/nhis/data-questionnaires-documentation.htm>.

Information regarding people who are at higher risk for severe illness from COVID-19 is available on the CDC website <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-at-higher-risk.html>.

The [healthy worker effect](#) (HWE) is a “phenomenon initially observed in studies of occupational diseases: Workers usually exhibit lower overall death rates than the general population because the severely ill and chronically disabled are ordinarily excluded from employment”. This can mask increased risk of disease among workers under study.

DATA SOURCE

U.S. Census Bureau, Current Population Survey (CPS), 1986-2019

*2018-2019 CPS datasets were downloaded through IPUMS: Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren. Integrated Public Use Microdata Series, Current Population Survey: Version 7.0 [dataset]. Minneapolis, MN: IPUMS, 2020. <https://doi.org/10.18128/D030.V7.0>

National Center for Health Statistics, National Health Interview Survey (NHIS), 2003-2018

REFERENCES

Brown, S., Brooks, R.D., and Dong, X.S. Data Bulletin: Health Insurance Coverage in the Construction Industry. [2020]. The Center for Construction Research and Training. <https://www.cpwr.com/sites/default/files/publications/DataBulletin-April-2020.pdf> (Accessed April 2020).

Centers for Disease Control and Prevention. Coronavirus Disease 2019 (COVID-19): COVID-19 in Racial and Ethnic Minority Groups. [2020]. <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/racial-ethnic-minorities.html> (Accessed April 2020).

Centers for Disease Control and Prevention. Coronavirus Disease 2019 (COVID-19): COVIDView, A Weekly Surveillance Summary of U.S. COVID-19 Activity. [2020]. <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html> (Accessed April 2020).

Centers for Disease Control and Prevention. Coronavirus Disease 2019 (COVID-19): Interim Guidance for Businesses and Employers to Plan and Respond to Coronavirus Disease 2019 (COVID-19). [2020]. <https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-business-response.html> (Accessed May 2020).

Centers for Disease Control and Prevention. Coronavirus Disease 2019 (COVID-19): People Who Are at Higher Risk for Severe Illness. [2020]. <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-at-higher-risk.html> (Accessed April 2020).

ConstructConnect. COVID-19 Construction Activity Report. [2020]. <https://www.constructconnect.com/covid-19-construction-activity-report> (Accessed April 2020).

Glantz, S. Reduce your risk of serious lung disease caused by corona virus by quitting smoking and vaping. [2020]. University of California San Francisco Center for Tobacco Control Research and Education. <https://tobacco.ucsf.edu/>

[reduce-your-risk-serious-lung-disease-caused-corona-virus-quitting-smoking-and-vaping](#) (Accessed April 2020).

Jordan, R., Adab, P., and Cheng, K. Covid-19: risk factors for severe disease and death. [2020]. BMJ. <https://doi.org/10.1136/bmj.m1198> (Accessed April 2020).

Krogstad, J.M., Gonzalez-Barrera, A., and Lopez, M.H. Hispanics more likely than Americans overall to see coronavirus as a major threat to health and finances. [2020]. Pew Research Center. <https://www.pewresearch.org/fact-tank/2020/03/24/hispanics-more-likely-than-americans-overall-to-see-coronavirus-as-a-major-threat-to-health-and-finances> (Accessed April 2020).

Lardieri A. Hispanics and Blacks Are Hardest Hit by COVID-19 in New York City. U.S. News. [2020]. <https://www.usnews.com/news/national-news/articles/2020-04-08/coronavirus-disproportionally-kills-hispanics-and-blacks-in-new-york-city> (Accessed April 2020).

Last J. A Dictionary of Epidemiology. 3rd ed. [1995]. Oxford, UK: Oxford University Press.

Levitt, L., Schwartz, K., and Lopez, E. Estimated Cost of Treating the Uninsured Hospitalized with COVID-19. [2020]. The Henry J. Kaiser Family Foundation. <https://www.kff.org/uninsured/issue-brief/estimated-cost-of-treating-the-uninsured-hospitalized-with-covid-19/> (Accessed April 2020).

Poston, B., Barboza, T., and Reyes-Velarde, A. Younger blacks and Latinos are dying of COVID-19 at higher rates in California. [2020]. Los Angeles Times. <https://www.latimes.com/california/story/2020-04-25/coronavirus-takes-a-larger-toll-on-younger-african-americans-and-latinos-in-california> (Accessed April 2020).

Richardson, S., et al. Presenting Characteristics, Comorbidities, and Outcomes Among 5700 Patients Hospitalized With COVID-19 in the New York City Area. [2020]. JAMA. <https://doi.org/10.1001/jama.2020.6775> (Accessed April 2020).

Vazquez J. Hispanic Community in NYC ‘Disproportionately’ Impacted by COVID-19: Officials. [2020]. NBC New York. <https://www.nbcnewyork.com/news/coronavirus/hispanic-community-in-nyc-disproportionately-impacted-by-covid-19-officials/2365896/> (Accessed April 2020).

World Health Organization. Tobacco and waterpipe use increases the risk of suffering from COVID-19. [2020]. <http://www.emro.who.int/tfi/know-the-truth/tobacco-and-waterpipe-users-are-at-increased-risk-of-covid-19-infection.html> (Accessed April 2020).

Yancy, C. W. COVID-19 and African Americans. [2020]. JAMA. <https://doi.org/10.1001/jama.2020.6548> (Accessed April 2020).

ABOUT THE CPWR DATA CENTER

The CPWR Data Center is part of CPWR—The Center for Construction Research and Training. CPWR is a 501(c)(3) nonprofit research and training institution created by NABTU, and serves as its research arm. CPWR has focused on construction safety and health research since 1990. The Data Bulletin, a series of publications analyzing construction-related data, is part of our ongoing surveillance project funded by the National Institute for Occupational Safety and Health (NIOSH).

Besides cpwr.com, visit CPWR's other online resources to help reduce construction safety and health hazards:

- Choose Hand Safety
<http://choosehandsafety.org/>
- Construction Safety and Health Network
<https://safeconstructionnetwork.org/>
- Construction Solutions
<http://www.cpwrconstructionsolutions.org/>
- Construction Solutions ROI Calculator
<http://www.safecalc.org/>
- COVID-19 Construction Clearinghouse
<http://covid.elcosh.org/index.php>
- Exposure Control Database
<http://ecd.cpwrconstructionsolutions.org/>
- Stop Construction Falls
<http://stopconstructionfalls.com/>
- The Electronic Library of Construction Occupational Safety and Health
<http://www.elcosh.org/index.php>
- Work Safely with Silica
<http://www.silica-safe.org/>