

### Race, Ethnicity, and Age Trends in Persons Who Died from COVID-19 — United States, May–August 2020 (MMWR)

**Bottom Line:** An updated analysis of COVID-19-associated deaths reported to the National Vital Statistics System from May-August continues to demonstrate disproportionate deaths among non-Hispanic Black and Hispanic/Latino persons, with widening disparities in the latter group.

**Details:** Prior analysis of reported deaths due to COVID-19 from February to May demonstrated disproportionate impacts in certain racial/ethnic groups and among persons aged  $\geq 65$  years. This updated report presents trends in COVID-19-associated deaths reported to the National Vital Statistics System from May-August by 51 US jurisdictions. 114,411 COVID-19-associated deaths were reported during this period; 53% were among males and 78% were among individuals aged  $\geq 65$  years. Fifty-one percent were among non-Hispanic White (White) individuals, 24% among Hispanic/Latino individuals, 19% among non-Hispanic Black (Black) individuals, 3.5% among non-Hispanic Asian individuals, 1.3% among non-Hispanic American Indian or Alaska Native individuals, and 0.5% among either Native Hawaiian, Pacific Islander, or multiracial individuals; from May to August, the proportion of deaths among White and Black individuals decreased (from 57% to 52% and 20% to 17%, respectively), although Black persons continue to be overrepresented in COVID-19-associated deaths. The proportion of deaths among Hispanic/Latino individuals increased from 16% to 26%, reflecting widening disparities. From May to August, the proportion of COVID-19-associated deaths in the South and West regions increased (from 23% to 63% and 11% to 21%, respectively); deaths decreased in the Northeast and Midwest regions (44% to 4% and 22% to 12%, respectively). Deaths among individuals  $\geq 65$  years of age and in nursing homes also decreased during this period (from 82% to 78% and from 30% to 17%, respectively).

#### **Key Takeaways:**

- This analysis demonstrates continued disparities in COVID-19-associated deaths among non-Hispanic Black and Hispanic/Latino individuals, likely due to increased SARS-CoV-2 exposure risks as a result of the inequitable distribution of social determinants of health.
- Decreasing proportions of deaths among individuals  $\geq 65$  years of age and those in nursing homes suggest a continued shift towards younger and noninstitutionalized populations.
- Findings should inform the development of public health messaging and mitigation efforts, including early detection of SARS-CoV-2 infection among disproportionately impacted groups.

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### Seroprevalence of SARS-CoV-2 Immunoglobulin Antibodies in Wuhan, China: Part of the City-Wide Massive Testing Campaign (Clinical Microbiology and Infection)

**Bottom Line:** A SARS-CoV-2 testing campaign of over 61,000 healthy residents with no prior history of lab-confirmed SARS-CoV-2 in Wuhan, China found that less than 3% had detectable antibodies in May.

**Details:** In this study, nucleic acid and viral antibody testing was performed as part of a city-wide SARS-CoV-2 testing campaign in Wuhan, China. Results from a sample of 61,437 residents of a single district are reported here. Residents with confirmed SARS-CoV-2, those under quarantine, and hospitalized patients were excluded. Of the residents sampled, 2.39% (n=1470) tested positive for at least one SARS-CoV-2 antibody; of those, 0.53% (n=324) were positive for immunoglobulin M (IgM) and 1.95% (n=1200) were positive for immunoglobulin G (IgG), the latter of which represents the most long-lasting antibody against SARS-CoV-2. 0.08% (n=54) tested positive for both types of antibodies and 0.013% (n=8) tested positive for SARS-CoV-2 by PCR and were asymptomatic. Age and sex differences in testing positive for antibodies were observed, such that females were more likely than males to carry antibodies for all age groups except  $\leq 19$ , a finding observed in another study in Wuhan but not elsewhere. Individuals 20-29 had the lowest positivity rates. Though the authors note several limitations, such as the exclusion of particular groups, the quality of testing kits, and a large number of tests conducted in a short period of time (thus increasing the likelihood of human error), the results suggest that 2.39% of Wuhan's 11 million residents (n=269,200) were asymptomatic carriers of SARS-CoV-2.

#### **Key Takeaways:**

- Based on these findings, most residents of Wuhan are still susceptible to acquiring SARS-CoV-2, necessitating continued prevention and mitigation measures.
- The finding that more females tested positive for SARS-CoV-2 antibodies relative to males in most age groups warrants further study.

### Genomewide Association Study of Severe Covid-19 with Respiratory Failure (NEJM)

**Bottom Line:** In this genomic analysis study of hospitalized COVID-19 patients, gene variants in chromosomes 3 and 9 were associated with severe disease; type A blood was associated with a higher risk and type O blood was associated with a protective effect, relative to other blood groups.

**Details:** In this study, genotyping was performed on hospitalized COVID-19 patients receiving at least supplemental oxygen from Italian and Spanish hospitals (n=1610) and control participants (blood donors with unknown SARS-CoV-2 status and historical healthy individuals from these settings; n=2205) to identify potential genetic factors involved in the development of COVID-19. Analyses identified associations between the

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risk of severe COVID-19, genetic variants in chromosome 3, and ABO blood group at chromosome 9. A genetic variant on chromosome 3, which is involved in the development of a protein that interacts with angiotensin-converting enzyme 2 (ACE2), which allows SARS-CoV-2 to attach to and infect cells, was higher among patients receiving invasive mechanical ventilation as compared with those only on supplemental oxygen. Patients with blood type A had an increased risk of severe COVID-19 compared to other blood groups (odds ratio, 1.45; 95% CI, 1.20-1.75), while those with blood type O had a decreased risk (odds ratio, 0.65; 95% CI, 0.53-0.79).

### Key Takeaways:

- Findings from this study and [several others](#) suggest that patients with type A blood have an increased risk of becoming infected with SARS-CoV-2, and of having severe COVID-19 with respiratory failure, while patients with type O blood have a decreased risk of both becoming infected and having severe disease.
- More research is needed to understand the mechanisms by which risk and protective effects associated with blood type are conferred.