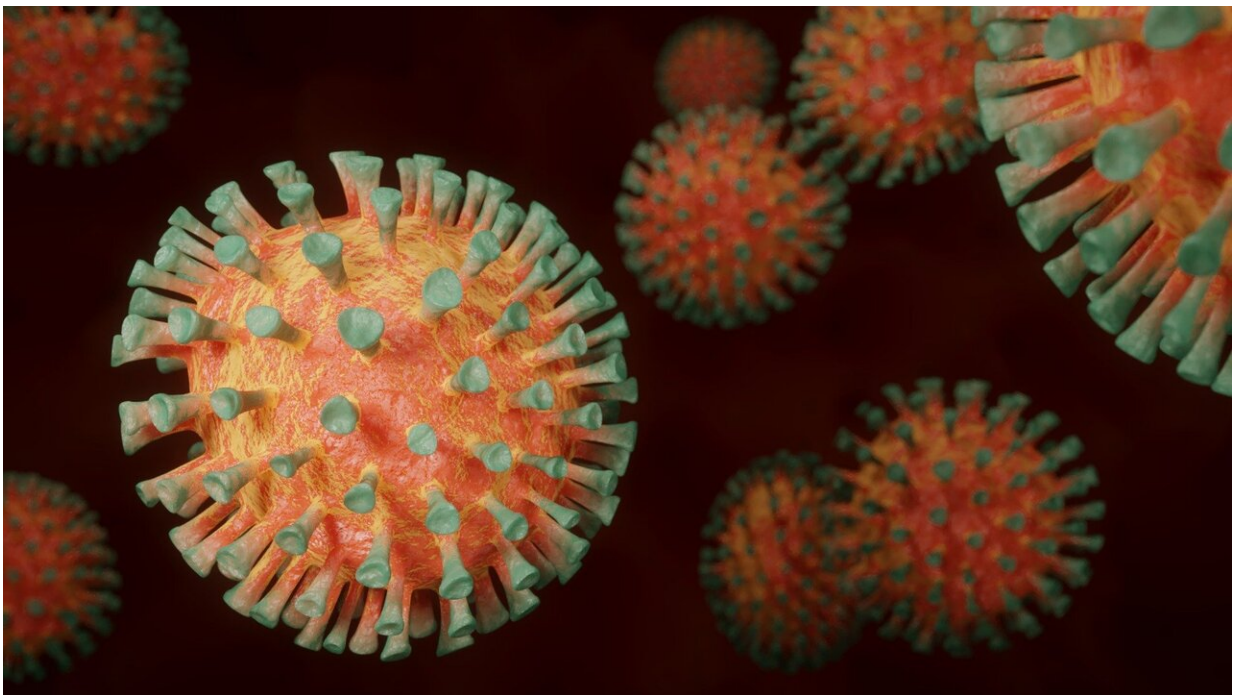


COVID-19 cardiovascular registry details disparities among patients hospitalized with COVID

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A new American Heart Association collaborative model for COVID-19 research, using data from the new AHA COVID-19 Cardiovascular Disease Registry, found Hispanic and Black adults with COVID-19 were far more likely to be hospitalized than their white counterparts, as were

people with obesity and COVID-19, according to three late-breaking research studies presented today at the American Heart Association's Scientific Sessions 2020.

The AHA COVID-19 Cardiovascular Disease Registry: Design, Implementation, and Initial Results

This abstract details the structure, implementation and initial results of the new American Heart Association COVID-19 Cardiovascular Disease Registry. Identifying a need to rapidly collect and provide insights into patients hospitalized with the novel coronavirus, volunteer leaders and staff of the American Heart Association created the registry within weeks of the declaration of the global pandemic. Hospitals began uploading [patient records](#) into the registry before the end of April. As of September 9, 2020, health data for more than 17,000 patients from 101 U.S. [health care](#) centers in 33 states have been saved in the registry.

More than 200 data points are collected on each patient record submitted to the registry, including patient demographics, [cardiovascular risk factors](#) and other comorbidities, medications prior to admission and treatments received during hospitalization including emerging COVID-19 therapies. In addition, disease severity measures, such as the need for intensive care unit management, mechanical ventilation or mechanical circulatory support, are being captured. Extensive serial laboratory data (information from blood tests, nasal swabs, saliva samples or other tests) are also being collected, including cardiovascular and inflammatory biomarkers, as well as results of cardiovascular testing performed during hospitalization.

The COVID-19 CVD Registry is powered by the American Heart Association's Get With The Guidelines program and pools de-identified health data about patients treated for COVID-19 at hospitals across the

country. The data is available for research and analysis through the Association's cloud-based Precision-Medicine Platform. The Precision Medicine Platform allows multiple teams of investigators to pursue different questions using the registry's data simultaneously, which expands research capacity, reduces costs and shortens the time to discovery and sharing of new information.

"We call it 'burst science,'" said James A. de Lemos, M.D., an author of all three studies and co-chair of Association's COVID-19 CVD Registry Steering Committee. "With this robust library of data on patients hospitalized and treated for COVID-19 here in the U.S., we can conduct many more analyses and research projects in a much shorter period of time."

"The registry is allowing quick collection, analysis and distribution of important information during this pandemic," said de Lemos, who is a professor of medicine and the Sweetheart Ball-Kern Wildenthal, M.D., Ph.D., distinguished chair in cardiology at the University of Texas Southwestern Medical Center in Dallas. "And these collaborative efforts have implications for accelerating and sharing research beyond the current COVID-19 pandemic."

de Lemos noted that "the rates of heart attack, heart failure and stroke in patients with COVID-19 were lower than we had expected," based on preliminary reports from smaller studies.

Co-authors are David Morrow, M.D., M.P.H.; Tracy Wang, M.D., M.H.S., M.Sc.; Fatima Rodriguez, M.D., M.P.H.; Heather Alger, Ph.D.; Christine Rutan, B.A.; Steven Bradley, M.D., M.P.H.; Mitchell S. V. Elkind, M.D. M.S.; and Sandeep Das, M.D., M.P.H. Author disclosures are in the abstract.

Racial and Ethnic Differences in Treatment and

Outcomes for Patients Hospitalized with COVID-19: Findings from the American Heart Association COVID-19 Cardiovascular Disease Registry

Researchers reviewed the data from about 8,000 patients with COVID-19 treated at 88 hospitals across the U.S. between Jan. 17-July 22, 2020. They found significant racial and/or ethnic differences:

- Among hospitalized COVID-19 patients in the registry, 33.0% were Hispanic, 25.5% were non-Hispanic Black, 6.3% were Asian and 35.2% were non-Hispanic white.
- On average, Hispanic patients were 12 years younger, and Black patients were nine years younger than white patients.
- Hispanic patients were more likely to not have health insurance.
- Black patients had higher rates of obesity, high blood pressure, diabetes and prior cerebrovascular disease.
- Black patients also were more likely to require a ventilator or kidney dialysis.
- Asian patients had the longest duration from symptom onset to hospital admission—an average of seven days, compared with five days among the other three population groups.

"The results highlight the disproportionate burden of COVID-19 especially among Black and Hispanic communities and imply there are factors in the U.S. that existed prior to a coronavirus diagnosis that are driving these disparities," said the study's lead author Fatima Rodriguez, M.D., M.P.H., an assistant professor in cardiovascular medicine at Stanford University Medical Center in Palo Alto, California.

The manuscript of this study is simultaneously published today in *Circulation*, the flagship journal of the American Heart Association.

Co-authors are Nicole Solomon, Ph.D.; Sandeep Das, M.D., M.P.H.; David Morrow, M.D., M.P.H.; Steven Bradley, M.D., M.P.H.; Mitchell S. V. Elkind, M.D., M.S.; Joseph Williams, B.S.; DaJuanicia Simon, M.S.; Roland Matsouaka, Ph.D.; Divya Gupta, M.D.; Ty Gluckman, M.D.; Marwah Abdalla, M.D., M.P.H.; Michelle A. Albert, M.D., M.P.H.; Clyde W. Yancy, M.D., M.Sc.; and Tracy Y. Wang, M.D., M.H.S., M.Sc. Author disclosures are in the abstract.

Association of Body Mass Index with Death, Mechanical Ventilation, and Cardiovascular Outcomes in COVID-19: Findings from the AHA COVID-19 Cardiovascular Disease Registry Analysis of data for about 8,000 patients in the registry found obesity in patients with COVID-19 is associated with a higher risk of blood clots and death, as well as a greater need for a ventilator.

Almost half (44%) of the patients were obese or severely obese. Rates of obesity, and particularly severe obesity (for this study, a Body Mass Index (BMI) $>40 \text{ kg/m}^2$ was the criteria for obesity) were much higher among patients in the COVID-19 registry than in a general population sample of U.S adults. The researchers noted this indicates that obesity is an important risk factor for needing hospitalization with COVID-19.

Compared with their peers who did not have obesity, severely obese patients were, on average, nearly 18 years younger and more likely to be Black. They also had about a 30% higher relative risk of in-hospital death.

Researchers also noted the relative risks of death and assisted breathing treatment (a mechanical ventilator) were highest among patients younger than age 50. This indicates that [patients](#) with severe obesity who were younger were not protected against the most critical complications of COVID-19.

"Overall, the new American Heart Association COVID-19 Cardiovascular Disease Registry illustrates COVID-19 prevention strategies are needed to specifically target Black and Hispanic communities, as well people with obesity, in order to reduce the risks of hospitalization and death," de Lemos said. "These groups should receive priority when a coronavirus vaccine becomes available."

More information: [www.abstractsonline.com/pp8/? ...
#!/9144/session/1458](http://www.abstractsonline.com/pp8/?...#!/9144/session/1458)

Provided by American Heart Association

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