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**News Release**  
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**UAMS Researcher Co-Authors *Nature Communications* Article  
Showing Higher Heart Failure Rates in Some COVID-19 Patients**

LITTLE ROCK — Patients previously hospitalized with COVID-19 had a 45% higher risk of heart failure than other hospitalized patients, according to the first national study of its kind, which was co-authored by a University of Arkansas for Medical Sciences (UAMS) researcher.

Lead author Husam M. Salah, M.D., at UAMS said the findings reported in [\*Nature Communications\*](#) also revealed an even higher risk of heart failure for younger, white patients previously hospitalized with COVID-19, surprising the research team.

“We were seeing this increased trend in heart failure among patients previously hospitalized for COVID-19, but until our study, we did not have evidence to confirm the relationship to COVID-19,” said Salah, chief medical resident in the College of Medicine Department of Medicine. “Inflammation of the heart muscle and the coronary arteries as well as formation of small clots in the coronary arteries caused by COVID-19 may be major players in the association between COVID-19 and heart failure.”

Previously hospitalized COVID-19 patients under age 65 were at 53% greater risk of heart failure compared to a 38% increased risk in those 65 and older. Patients who were white (all ages) saw a 49% increased risk compared to a 36% risk in nonwhite or Hispanic patients.

“This really surprised us,” Salah said. “We don’t have an explanation. It might be that these patients had a more severe cardiac inflammatory response.”

The study analyzed de-identified data of 587,330 patients in the National COVID Cohort Collaborative (N3C) database, created by the National Institutes of Health (NIH) and its National Center for Advancing Translational Sciences, which also funds the UAMS Translational Research Institute.

The study of the heart failure association with previously hospitalized COVID-19 patients was the first using such a large-scale nationally representative population, according to the article.

“The N3C was one of the very few databases that had nationally representative de-identified COVID-19 related data,” Salah said.

The findings will be of value to doctors who treat previously hospitalized COVID-19 patients, he said.

“As a physician, it’s important to know the complications of COVID-19,” he said. “Knowing the association with heart failure will help guide the care for previously hospitalized COVID-19 patients.”

UAMS is among the early contributors of de-identified patient data to the N3C. It continues to aid the national effort with expertise and leadership by Fred Prior, Ph.D., chair and distinguished professor in the College of Medicine Department of Biomedical Informatics, and Ahmad Baghal, M.D., Ph.D., who directs the Arkansas Clinical Data Repository, a UAMS database of historical patient data.

Their efforts have been supported by the UAMS Translational Research Institute, led by Laura James, M.D., who co-chairs the National Center for Advancing Translational Sciences Clinical and Translational Science Awards Program Steering Committee.

“The *Nature Communications* article is a great example of the translational research that is possible with the N3C,” said James, also UAMS associate vice chancellor for Clinical and Translational Research. “It is especially gratifying to see the N3C database contributing to such important work with a UAMS researcher as part of the team.”

Other study co-authors are from Duke University, University of Colorado Anschutz, Johns Hopkins University, University of North Carolina, North Carolina State University and Palantir Technologies.

UAMS is the state's only health sciences university, with colleges of Medicine, Nursing, Pharmacy, Health Professions and Public Health; a graduate school; a hospital; a main campus in Little Rock; a Northwest Arkansas regional campus in Fayetteville; a statewide network of regional campuses; and seven institutes: the Winthrop P. Rockefeller Cancer Institute, Jackson T. Stephens Spine & Neurosciences Institute, Harvey & Bernice Jones Eye Institute, Psychiatric Research Institute, Donald W. Reynolds Institute on Aging, Translational Research Institute and Institute for Digital Health & Innovation. UAMS includes UAMS Health, a statewide health system that encompasses all of UAMS' clinical enterprise. UAMS is the only adult Level 1 trauma center in the state. UAMS has 3,047 students, 873 medical residents and fellows, and six dental residents. It is the state's largest public employer with more than 11,000 employees, including 1,200 physicians who provide care to patients at UAMS, its regional campuses, Arkansas Children's, the VA Medical Center and Baptist Health. Visit [www.uams.edu](http://www.uams.edu) or [www.uamshealth.com](http://www.uamshealth.com). Find us on [Facebook](#), [Twitter](#), [YouTube](#) or [Instagram](#).