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**UAMS Researchers to Test Conway Wastewater,  
Patients for COVID-19 Variants of Concern**

LITTLE ROCK — University of Arkansas for Medical Sciences (UAMS) researchers are taking steps to identify genetic variants that make COVID-19 more contagious.

Arkansas this week identified its first patient with the more infectious United Kingdom virus variant; it has yet to see other more contagious variants from South Africa and Brazil.

“We previously had not found variants of concern in Arkansas because no one has really been looking,” said David Ussery, Ph.D., director of the Arkansas Center for Genomic Epidemiology & Medicine at UAMS.

In a recent presentation sponsored by the Arkansas Research Alliance (ARA), Ussery said he hopes to substantially increase Arkansas’ genomic sequencing of SARS-CoV-2, first by pilot testing methods using wastewater from Conway and virus samples from COVID-19 patients at UAMS and Baptist Health Medical Center in Little Rock.

Ussery said he began a “Genomic Epidemiology of SARS-CoV-2 in Arkansas” project last spring, with support from the UAMS Translational Research Institute and the ARA. This has resulted in a [recent publication](#) of SARS-CoV-2 genomes from UAMS COVID-19 patients, as well as ongoing comparisons of more than a half-million SARS-CoV-2 genomes sequenced so far. The work also led to a recent \$50,000 ARA grant and a \$70,000 gift from UAMS’ Phillip Palade, Ph.D., a professor in the College of Medicine Department of Pharmacology and Toxicology. The project also involves collaboration with Atul Kothari, M.D., at the Arkansas Department of Health.

“Only genomic testing will answer the question of whether any of the fast-spreading variants are present in Arkansas,” said Ussery, the Helen Adams & Arkansas Research Alliance (ARA) Endowed Chair in Biomedical Informatics.

Ussery hopes to leverage the pilot testing program into a larger grant from the National Institutes of Health, and he is pursuing other funding sources to expand his team's study of variants of concern.

“There are seven wastewater treatment plants that probably handle half of the state’s population. If we could get those seven on board for routine monitoring that would help a lot,” Ussery told an audience of 170 at the virtual ARA Project Scope event.

He said additional funding will be needed for genomic sequencing infrastructure.

“There needs to be infrastructure both for conducting the sequencing and also computational infrastructure for storing the data,” he said.

Additional funding could also help with the purchase of a \$200,000 device that can process up to 9,000 virus samples a day.

“A piece of equipment like that could put Arkansas on the map,” he said.

The Translational Research Institute is supported by an NIH National Center for Advancing Translational Sciences Clinical and Translational Science Award.

UAMS is the state’s only health sciences university, with colleges of Medicine, Nursing, Pharmacy, Health Professions and Public Health; a graduate school; 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 including its hospital, regional clinics and clinics it operates or staffs in cooperation with other providers. UAMS is the only adult Level 1 trauma center in the state. *U.S. News & World Report* named UAMS Medical Center the state’s Best Hospital; ranked its ear, nose and throat program among the top 50 nationwide; and named six areas as high performing — COPD, colon cancer surgery, heart failure, hip replacement, knee replacement and lung cancer surgery. UAMS has 2,876 students, 898 medical residents and four dental residents. It is the state’s largest public employer with more than 10,000 employees, including 1,200 physicians who provide care to patients at UAMS, its regional campuses, Arkansas Children’s Hospital, 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](#).

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