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Media Contacts:
Leslie W. Taylor, 501-686-8998
Wireless phone: 501-951-7260
leslie@uams.edu

Yavonda Chase, 501-686-8994
Wireless phone: 501-416-0354
Yavonda@uams.edu

UAMS-Led Study Links Mental Health Conditions to Higher Costs, Severe Maternal Morbidity During Labor, Delivery

LITTLE ROCK — Women with mental health disorders are 50% more likely to experience a severe clinical condition while giving birth compared to women without a mental health disorder and have an average of $458 in additional costs per delivery, according to a study led by Clare Brown, Ph.D., MPH, at the University of Arkansas for Medical Sciences (UAMS).

Researchers say women with a stress- or trauma-related mental health disorder are 87% more likely to suffer a severe clinical condition while giving birth, and have a per-delivery cost that is $825 more expensive compared to women without a stress- or trauma-related disorder.

"The findings underscore the importance of identifying and treating mental health conditions among pregnant individuals or those who may become pregnant, not only to lower costs per delivery, but also to increase the chances that the mothers have a healthy delivery," said Brown, assistant professor in the Fay W. Boozman College of Public Health.

Brown, a senior research fellow at the Institute for Medicaid Innovation in Washington, D.C., led the study along with three co-authors from the institute. The paper was selected for publication in a special issue of the prestigious, peer-reviewed journal *Health Affairs*. Brown will speak on the study at a virtual briefing held Oct. 8, which will feature five studies from the perinatal mental health special issue.

Rates of severe maternal morbidity, including heart failure, cardiac arrest, hysterectomies or a need for mechanical ventilation, have nearly tripled in recent decades. There has been a corresponding rise in the number of women diagnosed with perinatal mood disorders and serious mental illness during pregnancy.

Using publicly available hospital discharge data from 2016 and 2017, the study examined cost, length of stay and rates of severe maternal morbidity for the delivery hospitalization among women with various mental health conditions.

The study adjusted its outcomes for multiple characteristics such as age, race or ethnicity, delivery type, and several other factors including whether births were covered by Medicaid or private insurance. It also accounted for hospital-specific factors, such as location and academic teaching status.

"Adjusting for these characteristics allows us to more confidently say that the increased costs associated with the mental health conditions are associated with the conditions themselves rather than other factors of the mothers or of the hospitals," Brown said.

Of the 11 different mental health conditions studied, anxiety, depression, bipolar disorder and stress- and trauma-related disorders were the most common. Across more than 7 million represented hospitalizations, 5.9 percent of pregnant women had one of these 11 conditions.

A key takeaway from the study was that 68% of women with stress- and trauma-related disorders had a diagnosis of an unspecified post-traumatic stress disorder.

So-called safety bundles aid providers with screening, diagnosis, and treatment of anxiety and depression, and Brown suggested that it may be important for safety bundles to be expanded to additionally consider trauma- and stress-related conditions.

"We need to continue to promote safety bundles that have trauma-informed care in mind," Brown said. "It's not something that everyone would need, but for someone who has experienced a traumatic event, such safety bundles could potentially be very valuable in preventing adverse outcomes."

The study recommends that health care providers and perinatal programs adopt trauma-informed care approaches, improve care between pregnancies and extend insurance coverage and postnatal care especially for women with noted physical and mental health conditions.

Brown received support for the study from the Arkansas Center for Health Disparities, which is supported by the National Institute on Minority Health and Health Disparities of the National Institutes of Health.

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* recognized UAMS Medical Center as a Best Hospital for 2021-22; ranked its ear, nose and throat program among the top 50 nationwide for the third year; and named five areas as high performing — colon cancer surgery, diabetes, hip replacement, knee replacement and stroke. *Forbes* magazine ranked UAMS as seventh in the nation on its Best Employers for Diversity list. UAMS also ranked in the top 30% nationwide on *Forbes'* Best Employers for Women list and was the only Arkansas employer included. UAMS has 2,876 students, 898 medical residents and six 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

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