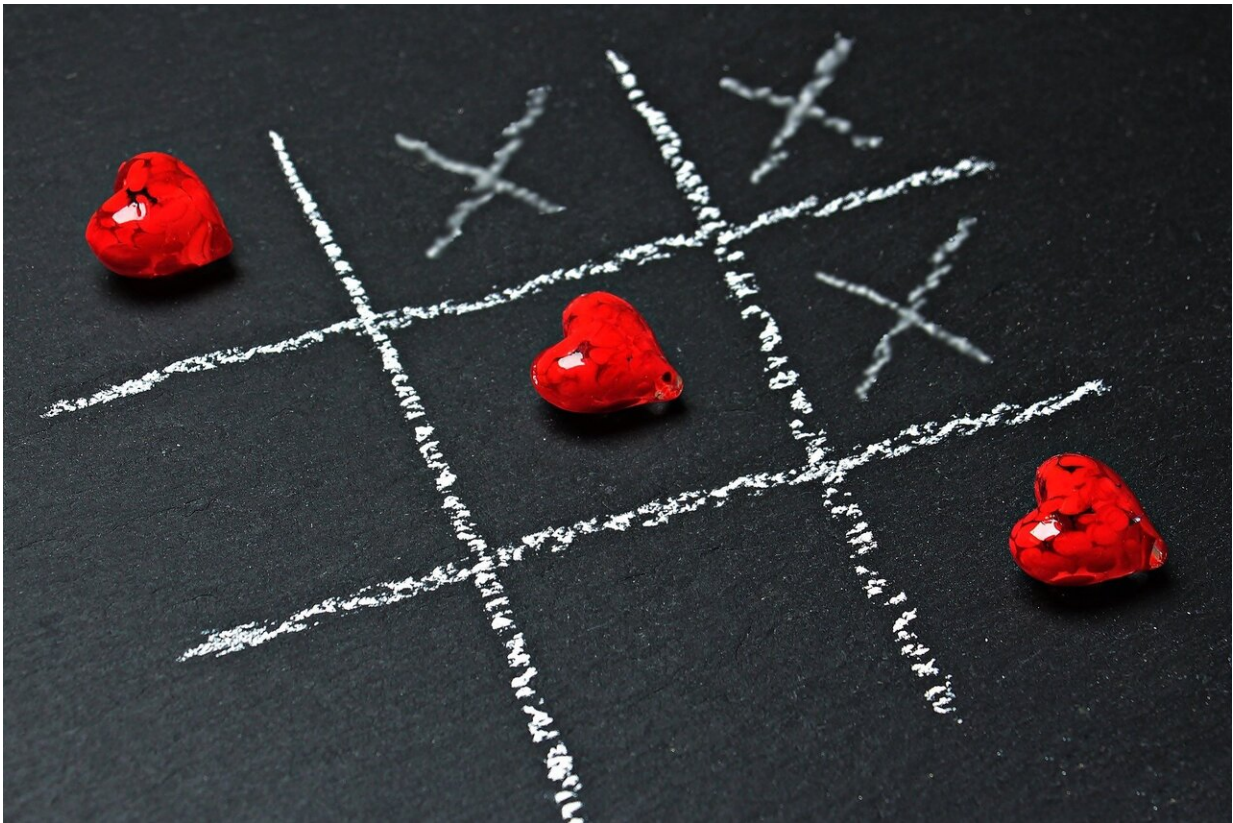


Women and Black adults waited longer in ER for chest pain evaluation

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Women (ages 18 to 55) waited longer to be evaluated for chest pain in the emergency room (ER) and received a less thorough evaluation for a possible heart attack than men in the same age range. Similarly, people

of color (89% non-Hispanic Black adults in this study) with chest pain waited longer before being seen in the ER than white adults with chest pain, according to new research published today in the *Journal of the American Heart Association*, an open access, peer-reviewed journal of the American Heart Association.

According to a 2021 American College of Cardiology/American Heart Association guideline, [chest pain](#) accounts for more than 6.5 million ER visits annually in the United States, plus nearly 4 million outpatient visits. The [American Heart Association and the American College of Cardiology](#) introduced new guidelines dedicated solely to [chest](#) pain to help doctors identify people who are highest risk for [heart attack](#) and to help reduce unnecessary testing in those who aren't. Chest pain is the most frequent symptom of heart attack for both men and women, however, women may be more likely to also exhibit accompanying symptoms such as nausea and shortness of breath.

"Chest pain is the most common symptom of heart attack in adults of all ages. Despite a decline in the number of overall heart attacks, this number is rising among [young adults](#). Young women and young Black adults have poorer outcomes after a heart attack compared to men and white adults" said Darcy Banco, M.D., M.P.H., lead author of the study and chief resident for safety and quality in the department of medicine at the NYU Grossman School of Medicine in New York City. "Whether or not the differences in chest pain evaluation directly translate into differences in outcomes, they represent a difference in the care individuals receive based on their race or sex, and that is important for us to know."

To learn more about the initial evaluation in the ER of younger people with chest pain, researchers analyzed a nationally representative sample of more than 4,000 patient records, representing more than 29 million ER visits among adults aged 18-55 years old seen in an ER for chest pain

between 2014 and 2018. The data was collected by the National Hospital Ambulatory Medical Care Survey, a routine and standardized survey of emergency departments across the U.S. focused on understanding why people go to the ER and the care received in the ER.

Records were included in the analysis if any of these were listed as reasons for the ER visit: chest pain; chest pain and related symptoms; chest discomfort, pressure or tightness; burning sensation in the chest; or heart pain. Race was also listed in the records. For this analysis, participants were divided into two groups: 1) white or 2) people of color (any race or ethnicity other than white), of which 89% were noted as non-Hispanic Black. Analysis by other race or ethnicity categories was not possible due to the small number of people in the racial and ethnic groups other than non-Hispanic Black.

The researchers found:

- Women waited almost 11 minutes longer to be seen by a [health care](#) professional compared to men (48 minutes vs. 37 minutes, respectively).
- Women were less likely to have an electrocardiogram (measures electrical activity of the heart) than men (74.2% vs. 78.8%, respectively).
- Women were less likely to be admitted to the hospital or an observation unit than men (12.4% vs. 17.9%, respectively).
- Compared with [white women](#), women of any other race or ethnicity waited 15 minutes longer for their initial evaluation (58 minutes vs. 43 minutes, respectively), while men of any other race or ethnicity waited 10 minutes longer than white men (44 minutes vs. 34 minutes, respectively).
- After adjusting for age and other factors, researchers noted women and people of color waited longer for initial evaluation, but there were no significant sex or [racial differences](#) in the odds

of receiving an electrocardiogram or cardiac enzyme testing.

- Additionally, women were less likely to be admitted to the hospital than men.

"We anticipated we might see differences later on in care (such as calling in a specialist or admitting someone to the hospital), rather than in the early evaluation (such as time to first physician contact and electrocardiogram ordering)," Banco said. "We were also surprised to find differences in wait time by race, as the rate of heart attack among Black adults versus white adults is similar."

Harmony R. Reynolds, M.D., senior author of the study and director of the Sarah Ross Soter Center for Women's Cardiovascular Research and associate professor of medicine at the NYU Grossman School of Medicine, noted, "Minutes count when someone has a heart attack. Calling an ambulance is also helpful because emergency medical technicians can treat chest pain and heart attack right away. People who arrive to the ER by ambulance often receive urgent care and attention sooner compared to people who arrive to the ER on their own."

The study reported several limitations: most adults with chest [pain](#) who are seen in the ER do not have a heart attack, and while large, this database did not include enough people in the targeted age range (18-55 years) diagnosed with heart attack to allow examination of differences in ER treatment among only those people who had a [heart](#) attack; and it was not possible to review the details of each encounter to understand the reasons for delays as there was not information available on evaluations or treatments done by emergency medical services prior to arrival at the ER, specific reasons for any delays, or the results of cardiac testing.

Additional research is needed to discover the underlying reasons for these delays and to find opportunities to improve care, researchers said.

"The findings raise many questions for future research. Do differences in wait time vary with location? Are the differences related to variation in hospital care quality, or are these differences applicable to all ERs? Lastly, do differences in wait time translate to differences in outcomes," Banco said.

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