

Emergency department openings and closures impact resources for heart attack patients

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A new study has found that hospital emergency room closures can adversely affect health outcomes for heart attack patients at neighboring

hospitals that are near or at full capacity. Conversely, when a new emergency department opens, health outcomes for patients at those so-called "bystander" hospitals improve.

The [national study](#), believed to be the first to evaluate the impact of emergency department openings and closures on bystander emergency departments, looked specifically at outcomes for [heart attack patients](#). But researchers said the findings have implications for all patients, particularly in communities where inadequate health resources contribute to disproportionately poor [health outcomes](#).

The study, funded by the National Heart, Lung, and Blood Institute (NHLBI), part of the National Institutes of Health, was released today in the September issue of *Health Affairs*.

"A [hospital](#) closure or opening impacts the quality of care that the neighboring hospital can provide to its new patient population," said Nicole Redmond, M.D., Ph.D., M.P.H., a medical officer in the Division of Cardiovascular Sciences at NHLBI. "Hospital closures stress the healthcare infrastructure, especially if the hospital is already caring for a socially and medically complex patient population and working at full capacity. As a result, such closures may inadvertently increase the health disparities that we are trying to mitigate."

Scientists used Medicare data between 2001 to 2013 to examine treatment and health outcomes for more than 1 million patients across 3,720 hospitals—including in [rural areas](#)—that had been affected by the closure or opening of an emergency department. The authors said they focused on heart attacks because of the known benefits of timely treatment.

The primary measures of health outcomes were 30-day, 90-day, and one-year mortality rates, as well as 30-day readmission rates. Researchers

also examined if a patient received an angioplasty and/or stent to open a narrowed or blocked blood vessel that supplies blood to the heart—procedures that can be affected by delayed care or constrained hospital resources.

Researchers found that when the closure of an emergency department was particularly onerous—that is, it resulted in an increased [travel time](#) of 30 minutes or more to get to another hospital—health outcomes for patients in the bystander hospitals were negative. The one-year mortality rate for patients in those hospitals increased by 8% and the 30-day readmission rate increased by 6%. The likelihood of the same patients receiving the cardiac procedure declined by 4%.

On the other hand, researchers found that when an emergency department opened and reduced that driving time by at least 30 minutes, the patients in the bystander hospitals experienced a reduction in one-year mortality by 5%. Researchers also found that the likelihood of these patients receiving the cardiac procedure improved by 12%.

The findings from the study are significant and sobering, according to Renee Hsia, M.D., the lead study author who also is an emergency physician at Zuckerberg San Francisco General Hospital and Trauma Center and a professor of emergency medicine and [health](#) policy at the University of California, San Francisco.

"We now have evidence that hospital closures affect other hospitals, and they do so in different ways," said Hsia. "Hospitals that are already crowded will likely be unable to maintain the same quality when a nearby emergency department closes."

She noted that opening hospitals, specifically in areas of high need, could be a potential way to improve outcomes.

Still, to achieve long-lasting improvements that benefit patients, Hsia said policymakers need to address some of the problems that can occur in a market-driven healthcare system.

"Patients will go to other hospitals when they experience healthcare crises," she said. "It is crucial that we provide solutions that can help equitably serve all Americans."

More information: Renee Y. Hsia et al, Emergency Department Closures And Openings: Spillover Effects On Patient Outcomes In Bystander Hospitals, *Health Affairs* (2019). [DOI: 10.1377/hlthaff.2019.00125](https://doi.org/10.1377/hlthaff.2019.00125)

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