

# Short hospitalizations for heart attacks may increase readmissions in US

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Patients treated for acute heart attacks in the United States are readmitted within 30 days more often than in other countries, a finding explained in part by significantly shorter initial hospitalizations, according to an international study led by researchers at Duke University Medical Center.

The study, published in the Jan. 4, 2012, issue of the [Journal of the American Medical Association](#), found that 60 percent of severe heart attack [patients](#) enrolled in the United States were discharged in three days or less, yet 14.5 percent of the U.S. patients required another stay within a month. By comparison, 54 percent of [study participants](#) in other countries spent at least six days in the hospital, leading to a 9.9 percent 30-day readmission rate.

The findings provide data for U.S. policy makers, hospital officials and doctors who are working to determine the appropriate length of stay for patients with severe heart attacks and the best way to coordinate their care after they've been released. Given recent trends to use readmission rates for heart attacks as a measure of hospital quality, the data add new insights on the predictors of readmission.

"Readmission should be avoided if at all possible, everyone agrees on that," said Dr. Manesh R. Patel, M.D., assistant professor of cardiology at Duke and senior author of the study. "It may be that the total number of days a patient spends in the hospital in the first 30 days may reflect the amount of care required. In places other than the United States, you

may initially stay longer and get much of that care coordinated at the beginning."

Patel and colleagues examined the admission and discharge data of 5,745 [heart attack patients](#) from 17 countries enrolled in a study called the Assessment of Pexelizumab in [Acute Myocardial Infarction](#). Patients all suffered a severe form of [heart attack](#) referred to as a STEMI, or ST segment elevation [myocardial infarction](#), in which the coronary artery is completely blocked by a clot.

Among these patients, having blockages in numerous arteries and living in the United States were the two main factors predicting whether they'd be readmitted to the hospital. Patients with multiple blockages had almost twice the risk of readmission compared to those without, and patients in the United States had 68 percent increased risk of readmission compared to study participants from other countries.

Readmission rates in the United States were by far the highest among the countries studied. Patient populations were largely similar across nationalities, although U.S. participants were slightly younger and had a higher prevalence of previous coronary artery disease.

When the data were adjusted to account for the length of stay, the difference between U.S. readmission rates and those in other countries was greatly diminished, suggesting that the shorter length of stay in U.S. hospitals impacts readmissions.

"This speaks to how health care is provided in the United States," Patel said. "In the [United States](#), care is episodic, not always coordinated, and it's not clear in many cases whether the patient is seen again by the same doctor or care team within the first seven days after discharge. When they are discharged quickly, they are at risk for being readmitted because the system may not be in place to effectively manage them when

issues arise."

The study authors noted that 30-day hospital [readmission rates](#) for patients with heart attacks have been used by the U.S. Centers for Medicare & Medicaid Services as a quality measure since 2009. The issue is complicated by rising health care costs and pressure to keep the length of expensive hospital stays to a minimum.

"We don't know if simply making the stay longer would help - we don't know that at all," Patel said. "We just know that when the stay is shorter, the correlation is associated with more readmissions."

Robb D. Kociol, M.D., lead author of the study and now advanced fellow in heart failure and transplant at Tufts Medical Center in Boston, said the retrospective study provides fodder for additional research that could eventually determine the best way to care for people with severe heart attacks.

"One of the limitations with our study is there are probably other cultural differences in terms of health insurance coverage or primary care providers that we don't capture here," Kociol said. "If anything, this suggests we need to look more at the differences internationally to optimize outcomes."

**More information:** JAMA. 2012;307[1]:66-74.

Provided by Duke University Medical Center

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