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Excluding high-risk cardiac patients from public reporting linked to improved outcomes

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A number of states - including Massachusetts and New York - mandate public reporting of mortality outcomes following certain cardiac procedures. While such reporting was originally intended to increase transparency and improve quality of care, a new study led by researchers at Beth Israel Deaconess Medical Center (BIDMC) and the University of Washington has shown that public reporting may in fact disincentivize physicians from offering potentially lifesaving treatment to patients who are at the greatest risk of mortality and poor outcomes. However, reforms to public reporting policies can mitigate these undesired effects, the authors report in a paper published online today in *JAMA Cardiology*.

The researchers analyzed the hospital discharge records of more than 45,000 cardiac patients who suffered a severe heart attack complicated by life-threatening cardiogenic shock. The researchers found that physicians were much more likely to perform percutaneous coronary intervention (PCI) - a procedure used to treat narrowed coronary arteries - after this subset of high-risk patients was excluded from public reporting criteria. More important, the researchers also saw a significant decrease in mortality among these critically-ill patients, suggesting that certain reporting policies may discourage physicians from performing risky procedures even when patients could benefit from it.

"The drop in mortality we observed suggests that changing the policy to exclude the sickest patients changed physician behavior and may have also improved public health," explained corresponding author Robert

Yeh, MD, MSc, an interventional cardiologist, Director of the Smith Center for Outcomes Research in Cardiology at BIDMC and Associate Professor of Medicine at Harvard Medical School. "Our previous work found that elderly patients or those presenting with shock or cardiac arrest were even less likely to undergo a potentially lifesaving procedure in states with public reporting."

In 1992, New York was the first state to publicly report mortality outcomes following PCI. In 2006, on the basis of concern that physicians were not treating patients in order to avoid risk, the New York Department of Public Health changed this policy and began excluding patients with cardiogenic shock from the publicly reported PCI risk-adjusted mortality analyses.

"This change in policy in New York provided us with a unique opportunity to study the effects of excluding certain patients from public reporting on physician behavior," explained James McCabe, MD, Medical Director of the Cardiac Catheterization Laboratories at the University of Washington, who co-led the study with Yeh. "We were able to design a study that compared treatment strategies and outcomes before and after the policy change in New York, and simultaneously compare these to what was happening in other states that did not change their policies."

Using several comprehensive hospitalization databases, the authors identified all patients with acute myocardial infarction and shock from January 1, 2002 through December 31, 2011 in several states. They compared New York data - before and after the reporting requirement changes made in 2006—with data from Massachusetts, Michigan, New Jersey and California. Massachusetts is a public reporting state; the other three states are not.

They found that after the policy change in New York in 2006,

cardiologists were 28 percent more likely to perform high risk PCI, a significantly greater change than the 9 percent increase seen in comparator states. Simultaneously, the in-hospital mortality rates among patients with heart attacks complicated by shock declined by 24 percent after 2006, compared to only 9 percent in the other states.

"There is great enthusiasm for expanding public reporting of procedural outcomes, but the manner in which these policies are implemented can determine whether they ultimately prove beneficial or harmful to patient health," said Yeh. "We hope this study can help shape future policies aimed at improving both transparency and outcomes for cardiac procedures."

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