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## Public Reporting Reduces PCI Rates in AMI Patients

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Acute-MI patients are less likely to undergo PCI in states requiring cath labs to publicly report their data than in states that do not, a new study shows [1]. The reporting requirements made no apparent difference in overall mortality but did correlate with a small increase in mortality from ST-elevation MI (STEMI).

"There has been a lot of concern in the cardiology community about public reporting and whether or not it might disincentivize people from taking care of the sickest patients, particularly if risk-adjustment models didn't give people enough credit for taking care of the sickest patients," Dr Karen Joynt (Harvard University, Boston, MA) told heartwire.

The authors chose to focus on acute-MI patients because "we were worried about people who actually have an indication for a PCI. . . . There are great data for PCI in STEMI and reasonable data for high-risk non-STEMI that PCI can improve hard outcomes," she said. "We certainly worry about the folks who really do need access to this technology and that decreasing access could have some real outcomes."

Prior studies on the effect of public-reporting requirements have relied on PCI registries that do not include information on patients considered for PCI who did not ultimately undergo a PCI. So Joynt and colleagues analyzed Medicare data on all patients admitted to acute-care hospitals with an acute MI. The study compared PCI and mortality rates between 49 660 patients in states that require public reporting (New York, Massachusetts, and Pennsylvania) and 48 142 from nearby nonreporting states (Maine, Vermont, New Hampshire, Connecticut, Rhode Island, Maryland, and Delaware) in 2010.

Overall, the study results suggest that requiring centers to report all of their data on PCI deters them from performing some PCIs. The patients with acute MI were less likely to receive PCI in public-reporting states than in the nonreporting states (risk-adjusted odds ratio 0.82;  $p=0.003$ ). Joynt et al offer two possible explanations for how the reporting requirement causes a decrease in PCI procedures. "It is possible that many of the foregone procedures were futile or unnecessary, and public reporting focused clinicians on ensuring that only the most appropriate procedures were performed. Alternatively, public reporting may have led clinicians to avoid PCI in eligible patients because of concern over the risk of poor outcomes," the authors explain. "Our data cannot definitively differentiate between these two potential mechanisms."

## Possible downside to reporting seen in STEMI patients

The difference in PCI rate was greatest among the 6708 patients with STEMI (61.8% vs 68.0%; OR 0.73;  $p=0.002$ ) and the 2194 patients with cardiogenic shock or cardiac arrest (41.5% vs 46.7%; OR 0.79;  $p=0.03$ ).

The overall mortality among patients with acute MI was the same in the reporting and nonreporting states, and they were the same for the non-STEMI, cardiogenic shock or cardiac arrest, and >75-years subgroups. However, for the STEMI patients, the adjusted odds ratio of mortality in the reporting vs nonreporting states was 1.35 ( $p=0.04$ ). "This was the group that had the biggest drop in their PCI rate, so it certainly makes us worry that the drop in PCI in the STEMI group did have real clinical consequences," Joynt said. "In any subgroup analysis, you never know exactly what to make of it, and the numbers are small, but it makes sense that if you drop the rate of PCI in a population in which you know that PCI saves lives and you see this bump in mortality, it worries you that there is something real going on because it fits together clinically." Public reporting [is not] an unmitigated bad, but public reporting may have had side effects.

Joynt suspects that the study showed no difference in mortality in patients suffering cardiogenic shock or cardiac arrest because "these patients have an almost even odds of mortality—close to 50%—and we're not very good at realizing which of the procedures in that group are futile." Because the study relied on Medicare data, the median age was 80, and in older patients undergoing cardiogenic shock "there may not always be much you can do."

"What it should tell us is not that public reporting is an unmitigated bad, but that public reporting may have had side effects," she said. "Public reporting could still decrease mortality overall in an all-PCI group, but if you take a step back and look at just acute MIs, there does seem to be a clinical consequence in the drop in rate."

## Changes from prereporting requirements

Joynt et al also conducted a longitudinal analysis comparing outcomes in Massachusetts before or after reporting requirements were implemented in 2005. Prior to that, the odds of an acute-MI patient getting a PCI in Massachusetts were about the same as in the states that still don't require public reporting (40.6% vs 41.8%). But after Massachusetts began requiring reporting, the odds of an acute-MI patient getting a PCI decreased compared with the nonreporting states (41.1% vs 45.6%; OR 0.81;  $p=0.03$  for the difference between odds ratios).

The biggest shift in Massachusetts was in the 6081 patients with cardiogenic shock or cardiac arrest. Before the reporting requirement, 44.2% of those patients in Massachusetts underwent PCI vs 36.6% in the nonreporting states (OR 1.40) but after the requirement began, only 43.9% of Massachusetts acute MI patients underwent PCI while that rate increased in the nonreporting states to 44.8% (OR 0.92;  $p=0.03$  for the difference).

between odds ratios).

## Understanding the decision to perform PCI or not

Joynt said she and some of her colleagues "would now like to do some qualitative work to try to understand how clinicians really think about this stuff." They are investigating how hospitals respond to being labeled an "outlier" based on their publically reported PCI data. "That has happened, and it's a big deal. The cath lab may be shut down and it's a big to-do," she said. "Our goal is to find a way to preserve transparency and accountability and decrease the 'side effects.'

Transparency and accountability are here to stay regardless, so we ought to find a way to have clinicians and policy makers to do it right.

"It's a tricky balance," Joynt said. "People are going to be worked up in both directions here. From this study, some will say [based on the change in STEMI mortality with public reporting], 'Shut down public reporting,' and others will say, 'But overall the mortality didn't change, so public reporting is great.' My personal opinion is that transparency and accountability are here to stay regardless, so we ought to find a way to have clinicians and policy makers to do it right, rather than fighting about whether we should be doing it at all."

In an accompanying editorial [2], Dr Mauro Moscucci (University of Miami, FL) writes that "the study by Joynt et al confirms the possible unintended consequences of public reporting, while highlighting its association with (or lack of association with) clinical outcomes. In addition, these findings may help spearhead a new focus on procedures that, while perceived appropriate based on current-use criteria, might not result in added benefit in selected patients."

### References:

1. Joynt K, Blumenthal D, Orav EJ, et al. Association of public reporting for percutaneous coronary intervention with utilization and outcomes among Medicare beneficiaries with acute myocardial infarction. JAMA 2012; 308:1460-1468.
2. Moscucci M. Public reporting of PCI outcomes and quality of care: One step forward and new questions raised. JAMA 2012; 308:1478-1479.

Source: [www.theheart.org](http://www.theheart.org)

Published on : Wed, 10 Oct 2012