



HHS Public Access

Author manuscript

JAMA. Author manuscript; available in PMC 2018 January 09.

Published in final edited form as:

JAMA. 2017 October 17; 318(15): 1439–1440. doi:10.1001/jama.2017.12087.

Taking the “Public” Out of Public Reporting of Percutaneous Coronary Intervention

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Public reporting of outcomes for percutaneous coronary intervention (PCI), a procedure performed more than 500 000 times each year in the United States, has been implemented in 5 states over the past 2 decades as part of a broader movement to enhance transparency and accountability in health care. The evidence to support public reporting, however, is mixed.¹⁻³ First, there is little evidence that reporting improves quality of care; second, it is unclear if patients actually use the data in decision making; and third, there have been unintended consequences linked with this policy. Therefore, as PCI reporting initiatives gain momentum on a national level, it will be essential to consider whether reporting to clinicians and institutions rather than to the public or whether moving toward disease-based outcome measures instead of procedure-based outcome measures might strengthen the aims of reporting initiatives while attenuating unintended consequences.

Evidence on Public Reporting of PCI Outcomes

Although public reporting initiatives for PCI were designed with the intent of improving care quality, their effect on patient outcomes is not clear. For example, an investigation of Medicare beneficiaries found no change in 30-day acute myocardial infarction (MI) mortality rates following the implementation of a public reporting program in Massachusetts.¹ A subsequent study showed that patients undergoing PCI in reporting states were at a lower risk of death during hospitalization.³ In contrast, an analysis of patients with MI across all age groups and insurers in multiple states found higher rates of in-hospital mortality in public reporting than in nonreporting states.² When stratified by whether patients underwent revascularization, mortality in public reporting states was lower in patients receiving PCI, consistent with other analyses,³ but higher in those not receiving PCI, relative to nonreporting states.

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Conflict of Interest Disclosures: Both authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest.

Why, in some studies, is public reporting associated with better outcomes in patients receiving PCI, but poorer outcomes for those not selected for this procedure? The former may reflect improvements in care quality and procedural performance, but globally, these patterns suggest that patients with greater severity of illness are less likely to be referred for PCI in reporting vs non-reporting states. It is clear that PCI utilization declines following implementation of public reporting programs.¹ Even though this reduction in PCI use is desirable in futile or inappropriate cases, the reduction is most pronounced in critically ill patients with cardiogenic shock and cardiac arrest, who likely stand to benefit the most from attempted revascularization.^{1,2} In fact, even since policy has shifted to exclude patients with cardiogenic shock from public reports, these patients are still significantly less likely to undergo PCI in reporting compared with nonreporting states.^{4,5} Risk aversion to performing PCI among patients with more severe illness is a reality of public reporting initiatives.

There is now more than a decade's worth of evidence that the “public” component of public reporting clearly affects physician behavior by increasing risk aversion in states that report PCI outcomes, likely to the detriment of high-risk patients. Even interventional cardiologists acknowledge that knowing mortality statistics will be made public influences their decision to perform PCI.⁶ Beyond risk aversion, up-coding of high-risk variables in PCI may occur in public reporting states, which inflates predicted risk and improves risk-adjusted outcomes in the absence of actual improvements in care.⁷ This is likely a consequence of the pressure clinicians feel to optimize outcomes due to fear of embarrassment or reduced referrals if poor outcomes are publicly disclosed. Given these challenges, a shift in the current PCI reporting approach to one that focuses on the reporting of outcomes to clinicians and institutions, rather than to the public, may be more likely to improve quality of care.

Strategies to Improve Care Quality and Reduce Risk Aversion

While it seems counter to the initial intent of PCI reporting initiatives, nonpublic, cross-institutional reporting would facilitate transparency and accountability among clinicians and institutions, without the pressure that public dissemination of outcomes data imposes on providers to avoid high-risk PCI cases and “game” documentation. Contemporary examples of such initiatives exist. In Michigan, the use of nonpublic, peer-reviewed PCI collaborative quality improvement programs to share information among physicians and institutions has been associated with improvements in care quality and PCI outcomes, as well as decreased risk aversion compared with public reporting.⁸ On a national level, the Veterans Affairs (VA) hospital system has used its own nonpublic national clinical quality initiative—the Clinical Assessment, Reporting, and Tracking (CART) program—that facilitates transparency among clinicians to improve care quality and outcomes in VA cardiac catheterization laboratories.⁹ Establishing formal programs to report PCI outcomes among institutions in a nonpublic manner could foster peer-driven quality improvement, an effort that certainly warrants further consideration and study.

Another potential way to improve reporting methods is to focus on disease states rather than on procedures. A disease-based approach better captures the spectrum and diversity of pathophysiological and clinical presentations, instead of conflating them in to a single procedure. Reporting outcomes for conditions such as non-ST-elevation MI, ST-elevation

MI, and MI complicated by cardiogenic shock, irrespective of whether a patient is treated with PCI, surgical revascularization, or medical therapy, would encourage use of the most appropriate therapy and diminish physician and health care center concerns about adversely affecting publicly reported measures of procedural success. Furthermore, disease reporting provides a much more comprehensive, patient-centered assessment of patient care and incentivizes clinicians beyond interventional cardiologists to improve the quality, delivery, and systems of care. It also may be easier for patients to understand outcome reports of a disease, rather than a procedure. It would not, however, address other methodological issues such as how to account for critically ill patients being transferred from one hospital to another, although this concern may become less relevant as hospitals more frequently join integrated care networks.

Notably, public reporting of PCI outcomes was implemented in part to provide patients with information to make informed decisions about their care. Despite the investment of resources to ensure the public availability of outcomes data, in general, patients do not appear to use this information in a way that meaningfully influences where they choose to receive care.⁶ For emergency care, such as PCI for acute MI, patients may have limited ability to select hospitals. Furthermore, there is no evidence that public reports affect physician and hospital referral patterns. In fact, reporting of PCI outcomes only appears to affect physician behavior substantially, and there is compelling evidence that it is not always in a positive way. As professional societies as well as news and media organizations begin to engage in public reporting of numerous procedures on a national level, there needs to be a thoughtful discussion about whether such actions may unintentionally propagate risk aversion and “gaming,” respectively, resulting in worse outcomes for the critically ill and inaccurate assessments of care quality and performance.

The Path Forward

Transparency in health care is incredibly important. Public reporting plays a crucial role in this effort. However, the effect of reporting may be beneficial for some conditions (and procedures), but not for others, within medical and surgical fields. Thus, it is important that individual public reporting programs are continuously evaluated and improved to ensure that they actually enhance care quality and outcomes. Simultaneously, physicians and policy makers need to acknowledge when there is not convincing evidence that public reporting initiatives are unequivocally beneficial to patient care, and they should be amenable to and advocate for other, innovative approaches.

For PCI in particular, there is clear evidence that reporting has had repercussions, likely driven by physician awareness that outcomes data will be made publicly available. Now is the time to implement and assess formally whether private reporting initiatives, disease-based reporting, or both can maintain the strengths of original reporting programs while mitigating their undesirable consequences in order to improve patient care.

Acknowledgments

Dr Wadhera is supported by the National Institutes of Health Training Grant T32HL007604-32, Brigham and Women's Hospital Division of Cardiovascular Medicine, and the Jerome H. Grossman, MD, Fellowship in

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