CHERP Policy Brief

Volume 2, Issue 3: Spring 2005

Pitfalls of Publicly Reported Quality Information

Rachel M. Werner, MD, PhD
CHERP Investigator

Public reporting of health care quality information is well-intentioned but currently does not meet the goal of improving the care received by patients.

Context: Ideally, public reporting of health care performance makes it easier for patients to judge the quality of physicians and hospitals. By allowing patients to seek high quality care and avoid low quality care, and by providing physicians and hospitals with feedback on the care that they deliver, such reports could raise the level of care for all patients. Based on this hope, clinical quality measurement and reporting has grown in recent years. Despite the increasing availability of quality information, however, the majority of patients and physicians do not use it to make health care decisions or referral choices. The actual effects of public reporting on health care delivery remain unknown, and the potential unintended and negative consequences of public reporting are largely unexplored.

Case Study: New York CABG Report Cards

One method for reporting quality information is the health care report card. Health care report cards come in two forms: those that measure outcomes and those that measure process. Report cards consisting of cardiac surgeons' and hospitals' risk-adjusted mortality rates following coronary artery bypass graft (CABG) surgery are examples of outcomes-based quality reporting. CABG is commonly performed to prevent heart attacks or chest pain. The surgery restores blood flow to the heart muscle by bypassing blocked arteries within the heart with a vein or artery from another part of the body.

New York State began publishing CABG report cards in 1991 for the purpose of improving the quality of CABG care. The report cards were designed to enable health care consumers to select high quality providers and give providers benchmarks and incentives to improve the quality of care they provide. The CABG report cards in New York did not work exactly as intended. In fact, published research suggests that surgeons in New York avoided performing CABG on patients perceived as being high risk, resulting in fewer surgeries among the patients who most needed the procedure. Given that evidence, and given that providers have been shown to view racial and ethnic minority patients as high risk, Werner and colleagues examined the impact of New York's surgeon-specific CABG report card on racial and ethnic disparities in receipt of CABG surgery.

CHERP
Center for Health Equity Research and Promotion

VA HSR&D Center of Excellence

www.cherp.org

Prior to the initiation of CABG report cards, New York appeared to have fewer racial and ethnic disparities in CABG than the comparison states.

Disparities in CABG increased in New York after report cards were released while there was little change among the comparison states.

Data

- Werner and colleagues used hospital discharge information from New York State, which had instituted a system of public performance reporting for CABG surgery, and similar data from several comparison states which had not (California, Colorado, Connecticut, Florida, Iowa, Kansas, Maryland, Massachusetts, Montana, New Jersey, South Carolina, and Wisconsin).

- The researchers created a data set consisting of 310,412 patients who had been hospitalized with heart attack (acute myocardial infarction, AMI) from 1988 to 1995 in New York and 618,139 patients hospitalized with AMI in the comparison states. AMI results when blood flow to the heart muscle is compromised. Patients with diagnosed AMI are uniformly hospitalized; therefore, the release of the New York report card would have no effect on the population of patients represented in the data of hospitalized patients.

- Werner and colleagues then compared the differences in rates of CABG, cardiac catheterization and percutaneous transluminal coronary angioplasty (PTCA) among whites, blacks and Hispanics in New York and the comparison states. PTCA is performed by cardiologists to open blocked coronary arteries and it can be a substitute for CABG. Cardiac catheterization is also performed by cardiologists to diagnose coronary artery disease and it is required before CABG. While CABG outcomes were being publicly reported during the study period, the outcomes for PTCA and cardiac catheterization were not.

Results

- Before the release of the report card in New York, white patients with AMI received CABG significantly more often than black patients with AMI (3.6% of white patients vs. 0.9% of black patients). White and Hispanic patients underwent CABG at statistically similar rates (3.6% of white patients vs. 2.9% of Hispanic patients). However, the racial and ethnic disparities in New York were slightly lower than those found in the comparison states.

- The release of report cards in New York coincided with a statistically significant increase in CABG racial and ethnic disparities. After the release of the CABG report card, the difference between white compared to black patients in the rates of CABG increased by 2.3 percentage points and the difference between white compared to Hispanic patients increased by 2.5 percentage points.

- After adjustment for trends in comparison states, the net increase in disparities was 2.0 percentage points in white compared to black patients and 3.4 percentage points in white compared to Hispanic patients. Over the same time period there was no similar increase in disparities among the comparison states. The table below provides more detail about the percentage difference in CABG rates for AMI before and after the New York report cards.

Table 1. Percentage difference in CABG rates for AMI

	CABG Before Report Card (1988-1991)	CABG After Report Card (1992-1995)	Significance (1988-1991 to 1992-1995)
Whites vs. Blacks			
New York	2.7	5.0	$p<.001$
Comparison states	3.4	3.7	$p=.79$
Whites vs. Hispanics			
New York	0.7	3.2	$p=.008$
Comparison states	2.1	1.2	$p=.36$

- The increased racial and ethnic disparities in New York after CABG report cards between 1992 and 1995 resulted in 19% fewer CABG surgeries among black and Hispanic patients. That these changes were observed in New York, which instituted CABG reporting, but not in other states which did not, does not prove that CABG reporting was the cause, but it is strongly suggestive.

- The researchers investigated whether the decreased rate of CABG in New York was compensated by a reciprocal increase in the rate of PTCA, an alternative procedure performed by cardiologists. They found that the racial and ethnic disparities between white compared to black and Hispanic patients in the use of PTCA for AMI did not significantly change in New York versus the comparison states over the study period.

- The researchers also investigated whether the increasing disparities in New York CABG rates might be related to changes in cardiologists' behavior by examining changes in cardiac catheterization, a required test before CABG surgery. In white compared to black patients, there was a small and statistically non-significant increase in disparities in cardiac catheterization. In white compared to Hispanic patients, there was a small and statistically non-significant decrease in disparities.

- Some surgeons stopped performing CABG surgery after the release of report cards. If these surgeons cared for a disproportionate share of black and Hispanic patients, the observed increase in disparities could be due to these surgeons' exit from the market. However, the observed increased racial and ethnic disparities in CABG in New York persisted even after excluding the hospitals where these surgeons worked.

- Similarly, if black and Hispanic patients were disproportionately transferred from one hospital to another for CABG surgery after the release of report cards, the increased disparities could be due to situations where the patients could not be tracked after their transfer. After excluding all patients who were transferred after admission for AMI, the observed disparities in New York CABG use remained.

- In the period 1992-2000, New York's sudden increase in CABG disparities waned until it matched that of comparison states. The reasons for this attenuation are unknown. Surgeons might have come to understand that race and ethnicity are not true markers of risk. Surgeons might have stopped avoiding "high-risk" patients as they realized that the information in the report card had little impact on physician selection by patients and referring physicians. Whatever the cause, the result was that the sudden increase in observed health disparities in New York disappeared over time.

Implications

These findings remind us that even well-meaning and theoretically sound practices, such as performance measurement and public reporting, can have unexpected negative consequences.

Quality report cards may continue to make sense, but they need to be improved, not only by increasing their impact on patients' selection of high quality physicians, but also by diminishing physicians' incentive to select patients based on their perceived risk. In the case of CABG report cards, appropriateness criteria could diminish surgeons' incentive to avoid high-risk patients and their incentive to operate on low-risk patients who may not need the surgery.

It is also possible that focusing the attention of report cards on processes of care, rather than outcomes of care, would diminish patient selection by physicians, since quality indicators measuring processes of care may be less dependent on individual patient characteristics. As a corollary, it should be remembered that adjusting report card rankings for case mix may also be relevant for process-based measures.

CABG disparities were not mitigated by use of PTCA.

Cardiac catheterization rates remained stable after the advent of CABG report cards.

Surgeon exit and patient transfers did not affect the level of racial or ethnic disparities in the receipt of CABG.

The initial increase in racial and ethnic disparities in CABG diminished over time.

Finally, if publicly reported quality information seeks to facilitate the selection of high quality physicians, those measures must be promoted widely, understandably, and credibly. At the same time, participation must be mandatory and quality measurement and reporting must be universally adopted.

An alternative worth exploring, which has been used successfully by the VA, is to privately report quality information by releasing the information only to the physicians who are being rated. This may lead physicians to improve their performance without giving them incentive to avoid patients they perceive as being high risk.

This issue of the CHERP Policy Brief is based on the following publications: Werner RM, Asch DA, Polsky D. *Racial Profiling: The Unintended Consequences of Coronary Artery Bypass Graft Report Cards*. Circulation 2005 Mar 15;111(10):1257-63; Werner RM, Asch DA. *The Unintended Consequences of Publicly Reporting Quality Information*. JAMA. 2005 Mar 9;293(10):1239-44; and, New York State Department of Health. *Coronary Artery Bypass Surgery in New York State*, 1992-1994. Published in 1996 the report is available on the following Web site: www.health.state.ny.us/nysdoh/consumer/heart/coronary.pdf.

Published by the Center for Health Equity Research and Promotion (CHERP), a VA HSR&D Center of Excellence. Christine Weeks, Editor. Michael J. Fine, MD, MSc, Director. David A. Asch, MD, MBA, Co-Director. The mission of CHERP is to reduce disparities in health and health care among veterans and other populations.

Policy Briefs contextualize and analyze the research publications of CHERP investigators. CHERP is a cooperative center consisting of faculty from the VA Pittsburgh Healthcare System, Philadelphia VA Medical Center, the University of Pittsburgh, and the University of Pennsylvania School of Medicine. For more information visit www.cherp.org or contact the editor via email: christine.weeks@med.va.gov.

CHERP
Center for Health Equity
Research and Promotion

VA Medical Center, 9 East
3900 Woodland Avenue
Philadelphia, PA 19104-4155