

## VIEWPOINT AND COMMENTARY

# Cardiac Surgeon Report Cards, Referral for Cardiac Surgery, and the Ethical Responsibilities of Cardiologists

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Public reporting of clinical outcomes data is but one response to calls for increasing transparency in health care. Cardiac surgical operations are among the most commonly performed complex operative procedures. Risk-adjusted cardiac surgery mortality rate data for individual cardiac surgeons are currently available for >25% of the U.S. population as well as for Great Britain and Ireland. Although cardiologists are the primary source of referral of patients for cardiac surgery, surveys of cardiologists and analysis of market share data indicate this information is not being used to refer to cardiac surgeons with the lowest mortality rates. We review the ethical principles that should obligate cardiologists to discuss and use outcomes data, when available, in selecting cardiac surgeons to whom they refer their patients. (J Am Coll Cardiol 2012;59:2378-82) © 2012 by the American College of Cardiology Foundation

There has been growing international interest, particularly in developed countries, in providing greater transparency in health care. Public reporting of clinical outcomes data is one response to calls for increasing transparency in health care. Because heart surgery is among the most commonly performed complex surgical procedure, the publication of individual cardiac surgeon performance data has been at the forefront of this movement (1). However, the implications of these “report cards” or “scorecards” (1) for clinical practice are still being understood, and the merits of cardiac surgeon report cards and of healthcare transparency, more generally, continue to be debated. Thus far, however, there has been little discussion about how the existence of cardiac surgeon report cards might bear on the ethical responsibilities of cardiologists who are the source of the vast majority of patient referrals for cardiac surgery. In this article we argue that in an environment where cardiac surgeon report cards exist, cardiologists have an ethical obligation to use such report cards to refer clinically appropriate patients to the best available cardiac surgeon. We believe that strong grounds for this ethical obligation exist, whether or not patients themselves make use of such report cards in evaluating and making decisions about individual cardiac surgeons.

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## Development of Cardiac Surgery Report Cards

In 1989, the New York State Department of Health (DOH) developed a registry to collect clinical data on all patients undergoing the most common of cardiac operations, coronary artery bypass graft (CABG) surgery, in New York State. Data on demographic characteristics, risk factors, and complications were prospectively collected at each hospital under the supervision of the director of each cardiac surgery program (2). The DOH, with its Cardiac Advisory Committee, developed a multivariate logistic-regression risk-adjustment model that compared mortality rates for hospitals and individual surgeons after adjusting for the severity of presenting illness and coexisting conditions. Data on risk-adjusted mortality rates were provided to individual hospitals. The data included crude, expected, and risk-adjusted mortality rates for both hospitals and individual surgeons. In 1990, the DOH made the 1989 data on hospital outcomes publicly available. *Newsday* sued the DOH under the state’s Freedom of Information Law to gain access to surgeon-specific data on mortality rates (3). These data were published in 1991, and in 1992, it was decided that data on operative mortality rates would be compiled for the most recent 3 years and would be attributed by name to surgeons who performed  $\geq 200$  CABG operations in the preceding 3-year period (4). Current reports include risk-adjusted mortality rates for isolated CABG surgery and for the combination of isolated CABG, isolated valve surgery, and combined CABG and valve surgery for each cardiac surgeon.

The Pennsylvania Health Care Cost Containment Council was formed by statute in 1986 to address the problem of growing healthcare costs. Strategies used to control costs

included giving comparative information about the most efficient and effective healthcare providers to individual consumers and group purchasers of health services and giving information to healthcare providers that they can use to identify opportunities to contain costs and improve the quality of care that they deliver. Since 1992, the Council published the *Consumer Guide to Coronary Artery Bypass Surgery* (now referred to as *Cardiac Surgery in Pennsylvania*). Each volume lists, by surgeon and by hospital, the number of CABG surgeries performed in a calendar year, the in-hospital mortality rate for patients treated by each surgeon and each hospital, and the risk-adjusted expected range of in-hospital mortality rates. In 2005, Pennsylvania began including risk-adjusted mortality rates of individual surgeons for valve surgery with or without CABG surgery (5). California passed a law in 1991 under which statewide hospital outcomes data were collected by the state's Office of Statewide Health Planning and Development and released in 1993. In 1995, it established a voluntary program designed to collect and report CABG mortality rate data for participating California hospitals. The first CABG report appeared in 2001, based on 1997 to 1998 data. It was replaced by a mandatory program that began collecting CABG data in 2003 from all hospital cardiac units, and it reports risk-adjusted outcomes annually at the hospital level and biannually at the surgeon level (6). New Jersey issued its first CABG surgery report on hospitals and surgeons in 1994 (7). Massachusetts has publicly reported risk-adjusted CABG surgery outcomes for hospitals since 2002 and for individual cardiac surgeons since 2004 (8,9). Currently, >25% of the U.S. population lives in states that publicly report surgeon-specific risk-adjusted cardiac surgery outcomes (10).

Developments in the public reporting of surgical performance have also taken place in other countries. The most noteworthy of these is the United Kingdom, where, in April 2006, the Healthcare Commission (subsequently renamed the Care Quality Commission) and the Society of Cardiothoracic Surgeons of Great Britain and Ireland launched a website with information on the outcomes of heart surgery. The Heart Surgery in the United Kingdom Website (11) provides public information about survival rates for CABG and aortic valve replacement operations. There have also been calls to publish surgeon report cards in Australia, Mexico, the Netherlands, and New Zealand (12).

### Ethical Arguments for Cardiac Surgeon Report Cards

Three main ethical arguments support the publishing of individual surgeon performance information (13). First, surgeon report cards enable patients to make better informed decisions about surgery and, therefore, can be seen as required by notions of informed consent and respect for patient autonomy. Patients are entitled to be told about risks of surgery that are material to them, and the risks involved

in surgery depend, in part, on which surgeon is performing the operation. Thus, the provision of surgeon performance information to patients who see this as material to their decision making about surgery is required by widely accepted conceptions of the ethical doctrine of informed consent (14). It is sometimes suggested that failing to make surgeon report cards available to patients does not constitute a failure to respect patient autonomy because many patients (in countries with national health schemes, such as the United Kingdom and Australia) do not have a choice of surgeon and therefore would not be able to act on such information. However, even with the availability of a single surgeon, patients should have the option to decline the surgery if they believe that the risk-benefit relationship is too unfavorable because of a high mortality rate for that particular surgeon. Furthermore, lacking an opportunity to act on risk information does not remove one's moral entitlement to it if one still regards this information as relevant to one's decision. A commitment to respecting patient autonomy is not only about helping patients make informed *choices* between different interventions and therapies and respecting those choices when made, this commitment also involves helping patients *understand* what it is they are consenting to (15).

Second, report cards help surgeons meet their professional accountability obligations by demonstrating to the community that surgical care is being provided to requisite levels of quality. The surgical profession is granted a monopoly on the provision of surgical procedures in particular countries, and it is plausible to think that, in exchange for this monopoly control, the surgical profession has a reciprocal obligation to demonstrate to the community that its services are of an acceptable standard (13).

Third, surgeon report cards are believed to improve the safety and quality of patient care overall (13,16). Studies from the United States have demonstrated that cardiac surgery mortality rates decreased significantly after the introduction of surgeon report cards (17). Similar results are now emerging from studies in the United Kingdom after the introduction of surgeon report cards there (18). Thus, there appears to be a positive relationship between surgeon report cards and improvements in the quality of surgical care. There are empirical studies providing evidence in support of several different mechanisms for this, including the following: underperforming surgeons become more strongly motivated to improve their skills; hospitals restrict the operating privileges of surgeons with consistently poor performance; hospitals use surgeon report cards as tools to help identify problems with their surgical procedures; patients are less likely to choose surgeons with poorer outcomes (12).

#### Abbreviations and Acronyms

**CABG** = coronary artery bypass graft

**DOH** = Department of Health

## Current Situations

Despite the increasingly widespread availability of cardiac surgeon report cards, available evidence, in the form of surveys of New York and Pennsylvania cardiologists and a market share analysis of New York State cardiac surgery programs, suggests that cardiologists do not use the cardiac surgery report cards when referring their patients for cardiac surgery. Hannan et al. (19) surveyed New York State cardiologists in 1997 regarding their impressions and use of the publicly reported New York State cardiac surgery outcomes data. Although cardiologists found the reports easy to read and understand, 78% of cardiologists did not discuss the reports with patients before making referrals to surgeons. Confirming the lack of influence of publicly reported outcomes data on referral to cardiac surgeons in New York, Jha and Epstein (20) found that no relationship between the published risk-adjusted mortality rates of surgeons and their market share over time.

Pennsylvania cardiologists were similarly surveyed about the *Consumer Guide*. Eighty-two percent of cardiologists were aware of the *Guide*, and 84% thought risk-adjusted mortality rate to be very or extremely important. However, 87% of Pennsylvania cardiologists reported that the *Consumer Guide* had minimal or no influence on their referrals. Two-thirds of cardiologists did not discuss the *Consumer Guide* with a single patient (21).

Although it could be argued that, as the actual consumers of the service, it is the responsibility of patients to select surgeons on the basis of their individual interest in and concern about outcomes data, this information is probably beyond the scope of most patients to understand and interpret. A survey of patients who underwent cardiac surgery in Pennsylvania found that <1% of patients reported that the data in the *Consumer Guide* had a moderate or large impact on their selection of a surgeon (22).

## Responsibilities of Cardiologists

We argue that cardiologists have an ethical obligation to use cardiac surgeon report cards to refer patients to the best available cardiac surgeon. Similar to one of the arguments for publicizing surgeon performance information, this argument derives from considerations of the safety and quality of patient care. Cardiologists have an overriding responsibility to promote the welfare of their patients (see the American College of Cardiology code of ethics, especially sections 1.3 to 5) (22). Because the welfare of a patient will be maximally promoted by referring that patient to the best available surgeon, cardiologists have a responsibility to refer their patients to the surgeon with the best risk-adjusted outcomes. As a frame of reference, for the most recent New York State data (2007 to 2009), the risk-adjusted mortality rates of individual cardiac surgeons for isolated CABG ranged from 0% to 13.4%. For all CABG and valve procedures combined, risk-adjusted mortality rates ranged

from 0% to 14.6%. However, even referring to surgeons with less extreme variation in outcomes can provide an important benefit to patients. For example, for every 50 patients referred to a surgeon with a risk-adjusted mortality rate of 3% instead of a surgeon with a mortality rate of 1% (assuming nonoverlapping confidence intervals), 1 patient will unnecessarily die (number needed to harm = 50). Stated differently, referring to a surgeon with 1% mortality rate instead of a surgeon with a mortality rate of 3% results in a relative risk reduction of 67%. That is far greater than the 16% relative risk reduction derived from statins for secondary prevention (23), the 28% relative risk reduction derived from implantable cardioverter-defibrillators for secondary prevention (24), and all other recent major improvements in the treatment of cardiovascular disease.

We further argue that cardiologists also have an ethical obligation to advise their patients that they are using cardiac surgeon's report cards as a basis for referrals. Similar to another of the ethical arguments for publicizing surgeon performance information, this argument derives from considerations of respect for autonomy. Patients are better able to comprehend the risks that they will be exposed to when undergoing cardiac surgery if they are advised about the basis of the referral to a specific cardiac surgeon. They are also better able to provide informed consent when they are advised of the basis for referrals to specific cardiac surgeons.

## Potential Objections

The argument that we have presented is likely to be seen by many as controversial, and various objections to it might be raised. Here we anticipate and briefly respond to some objections that seem to us to be especially worthy of consideration. These are skepticism about the accuracy of report cards, issues of conflicting loyalties, a question about responsibilities, and a concern about collective action.

**Skepticism about the accuracy of report cards.** The most widely voiced objection that we are aware of is that cardiologists may be skeptical of the accuracy of report cards of cardiac surgeons. In particular, they may suspect that risk adjustment on cardiac surgeon report cards is not performed correctly. Indeed, evidence suggests (21) that most cardiologists are fairly skeptical about the accuracy of cardiac surgeon report cards. It might be thought that if report cards are unreliable, then cardiologists should not refer patients to surgeons with the best available report card data because patients may be misled into thinking that such surgeons are the best available surgeons when this may well not be the case.

Our response to this objection is that, although we agree that it is important that concerns about the accuracy of report cards are addressed, we do not think that the appropriate way to do this is by withholding report card information from patients. Rather, the appropriate way to do this is by a cardiologist referring patients to the cardiac surgeon with the best available report cards and also

providing the patient with information about their reasons for skepticism about report card data. The potential harm of this approach is minimal. Statistically, referring to the surgeon with the best risk-adjusted outcomes is extremely unlikely to result in a worse clinical outcome for an individual patient compared with referring to a surgeon with inferior outcomes. The most likely outcomes are that a patient will have better or at least equivalent results using a surgeon with the best published outcomes rather than a surgeon with inferior outcomes. Thus, the risk-benefit ratio for referring to the cardiac surgeon with the best risk-adjusted outcomes is favorable from the patient's perspective.

As we argued earlier (14), patients are entitled to be informed of report card data, when available, to enable them to provide effective informed consent. If there are reasons to be concerned about the limitations of the accuracy of report card data, cardiac patients are also entitled to be given these reasons for the purposes of providing effective informed consent. The requirement that cardiologists who are skeptical about report cards provide reasons for their concerns to patients has the added benefit of encouraging cardiologists to be clear to others and to themselves about their reasons for skepticism.

**Issues of conflicting loyalties.** Many cardiologists may prefer to refer patients to cardiac surgeons operating at their own institutions, even when they are aware that there are better cardiac surgeons available operating elsewhere. They may be doing so because they feel a sense of loyalty to their own institutions and that the value of such loyalty is generally more important than their moral responsibility to refer patients to the best surgeons. They may also be encouraged by others working in their own institutions to hold this attitude for issues relating to institutional prestige, economics, and collegiality. However, we think that it is clear that loyalty to one's own institution should not override responsibilities to patients in cardiology or any other area of medicine. The overriding responsibility of all medical professionals is, and always has been, to promote the welfare of patients. In the case of cardiologists, the American College of Cardiology code of ethics makes this very clear, stating that "1.3 Patient welfare must be paramount in the practice of medicine." The code (21) also informs us that "1.5 A member shall use his or her best efforts to protect patients from harm by recommending and providing care that maximizes anticipated benefits of care and minimizes possible risks of harm from such care." The *only* way for cardiologists to fulfill this ethical obligation when referring patients to cardiac surgeons is to refer patients to those available surgeons who have the best outcomes, regardless of which institutions they work for because these are the very surgeons who are best able to maximize the anticipated benefits of care and minimize the possible risks of harm from such care.

**A question about responsibilities.** It might be supposed by some that, even though patients have a right to access information about cardiac surgeons' performance abilities, it

is not the responsibility of cardiologists to provide that information to them. However, the American College of Cardiology code of ethics informs us that "1.6 A member must strive to make pertinent medical information available to the patient to enable the patient to make informed choices about health care" (25). So it is very clear that the organization that represents the profession of cardiology in the United States considers that cardiologists' responsibilities include providing patients with relevant information to enable patients to make informed choices about health care. Because such relevant information includes report card information, it also seems clear that the responsibilities of cardiologists include the provision of report card information.

**Collective action problems.** It is often pointed out that not every patient can be operated on by the best surgeon. In emergency situations, it may be unsafe to transfer patients to another institution for surgery. Extreme geographic isolation may also make referral to the highest quality cardiac surgeons impractical. It also seems clear that if every cardiologist in a given area referred all of their patients only to the best available cardiac surgeon, then that surgeon would soon have a very long waiting list and would, effectively, not be available for patients who needed to be operated on in a timely fashion. It might be thought to follow from these considerations that cardiologists would be best serving the interests of patients by referring them to average surgeons who are available instead of the few with statistically superior outcomes who are always in demand and hard to book. Our view, however, is that cardiologists should not attempt to pre-empt the market, as it were, by only advising patients of the existence of average surgeons who are definitely available. Rather, they should advise patients of the best available surgeon and of the waiting time required for that surgeon, as well as advising patients of the best of those available surgeons who can be booked more expeditiously.

## Summary

Cardiac surgical procedures are among the most commonly performed complex operations. As surgeon-specific outcomes data become more widely available, cardiologists have an ethical obligation to discuss these data with their patients who require cardiac surgery and provide them with the option to be referred to the surgeon with the best outcomes.

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**Key Words:** cardiac surgery ■ referral ■ report cards.