

Outcome rates for individual surgeons: Concerns about accuracy, completeness, and consequences of disclosure

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THE OUTCOMES MOVEMENT AIMS to improve the quality of health care by "gauging the effectiveness of medical interventions . . . through the assessment of patient outcomes."¹ This effort has traditionally focused on "processes, not individuals"²; however, medical claims databases now easily allow the determination of outcome rates for individual physicians. The (U.S.) Health Care Financing Administration (HCFA) has recommended the rating of individual doctors on the quality of patient care that they provide and the subsequent publication of these data.³ New York and Pennsylvania have released risk-adjusted mortality rates for individual surgeons performing cardiac bypass surgery.⁴ The American Medical Association has recently shifted its stance to support the release of physician-specific outcomes data to the public, provided physicians under review and relevant physician organizations review the data before release.⁵

Cautions, however, have been raised in response to such policies.^{2, 6, 7} Despite the assertion that rates do not need to be "perfect,"³ the publication of inaccurate rates could have serious implications for individual physi-

cians. Moreover, as Berwick⁷ notes, ". . . improvement depends on learning from information about performance. Yet, . . . the same information can easily be used to make and enforce judgements that provoke fear and prevent learning." This article will describe some concerns about the accuracy, completeness, and consequences of disclosing outcome rates for individual physicians. Because the release of outcome rates will have the greatest effect on surgeons, we focus primarily on this group.

ACCURACY OF OUTCOME RATES

The accuracy of outcome rates could be compromised by confounding patient factors, imprecise stipulation of surgical procedures, and overconfidence in the individual success rates. First, variations in outcome data, such as mortality rates, may result not from differences in surgical skills but rather from confounding patient factors. Surgeons who operate on patients with advanced disease or associated medical conditions will appear to have higher mortality rates. To accurately establish the link between cause and effect, studies must take into account potential patient confounders, such as severity of illness⁸ and comorbidity.^{9, 10} Although instruments to measure these factors have been developed, their accuracy has been questioned.¹¹⁻¹³ Thus before mortality rates are used to describe a physician's quality of care, appropriate adjustment for patient confounders must be ensured.¹¹⁻¹³

Second, the procedure whose outcome is being measured must be precisely stipulated because morbidity rates for similar surgical procedures may not be directly comparable. For example, although an outcome rate for a surgeon performing total hip replacements might be published, there are two main types of total hip replacement,¹⁴ cemented and uncemented, with different indications and different outcomes. Thus the type of implant may affect the outcome. Therefore it is essen-

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tial that outcome rates be measured and identified as being for a specific procedure.

Third, the level of confidence that can be placed on individual success rates must also be considered. As Garnick et al.¹⁵ have noted, "For low volume surgeons, outcome data includes a large component of chance, so there is a real possibility of incorrectly labelling a surgeon as having poor outcomes." Consider two doctors each with one death out of 100 patients, i.e., both with the same raw mortality rates of 1%. One physician's very first patient died (with no deaths for the next 99), whereas the second's one hundredth patient died (with no deaths in the first 99). If, for example, mortality rates are published for these physicians after 10 patients each, one will be labeled as having a 10% mortality rate and the other with a 0% mortality rate when, in fact, they may well be providing an equal level of care. Thus even when accurate rates can be determined, the fragility¹⁶ of the rates should be acknowledged in some manner, such as with confidence intervals.

COMPLETENESS OF OUTCOME RATES

Accuracy of outcome rates is essential. Outcome rates, however, should not be restricted to mortality but should also include measurement of health status, appropriateness, patient preferences, and patient satisfaction.

First, important outcomes, in addition to mortality, must be considered. Mortality by itself is not a sufficient measure of quality. Mortality rates for most procedures performed by doctors are low. In addition, many procedures are carried out primarily for the purpose of improving a patient's quality of life.¹⁷ Therefore a complete representation of the quality of care delivered by any given doctor must include measurement of morbidity and health status.

Second, measurement of a physician's quality must consider not only effectiveness rates but also medical suitability, that is, "the appropriate use of an intervention in a given situation."¹⁸ Up to one third of some operations, such as carotid endarterectomy and coronary artery bypass surgery, may be performed for inappropriate indications.^{18,19} Thus simply reporting outcome rates does not account for the appropriate use of a given procedure, which is an integral component of the quality of care delivered to patients.

Third, medical care must not only be technically appropriate but also take into consideration patient preferences.²⁰ By definition, preferences are individual choices. In choosing treatment, patients make "trade-offs" with respect both to time and quality of life considerations. For example, individuals place different emphasis on short-term and long-term health benefits; therefore in deciding about treatment, they may trade off long-term survival for a reduced risk of death immedi-

ately after a procedure.²¹ Furthermore, trade-offs are made between risk of death and reduced functional outcomes or quality of life.^{22,23} Promising attempts have been made to assist patients to incorporate their preferences for given outcomes into health care decision making.²⁴ Although patients may be interested solely in mortality rates, means must be devised to also measure the success with which physicians balance and accommodate patients' preferences.

Fourth, quality of care also includes patient satisfaction, which depends on many factors including the physician's interpersonal skills.²⁵⁻²⁷ Establishing a means to measure a patient's satisfaction is still a current research challenge.^{28,29}

CONSEQUENCES OF DISCLOSING RATES

Because it is highly unlikely that all of the concerns regarding accuracy and completeness will ever be fully overcome, the potential risks of disclosing outcome rates should be considered. First, disclosure of false or incomplete information could completely destroy a surgeon's practice. This potential harm justifies a higher standard of accuracy than for hospital rates because the rates reflect on individual surgeons.

Second, surgeons may hesitate to operate on patients with severe or advanced disease. If the methods of adjustment for patient confounders are inadequate, surgeons may be less likely to operate on patients who may adversely affect their outcome rates. Thus severely ill patients may have difficulty receiving adequate medical care.

Third, those physicians who are independent contractors and are at risk of harm with disclosure will probably not participate in such a program and may disallow the collection and/or publication of their success rates. Third-party payers, however, probably have the right to set participation as a precondition for reimbursement; thus many physicians may be required to participate in disclosure of outcome rates.

Fourth, the publication of doctors' success rates could plausibly increase injustice in nonpublic health care systems. For example, if outcome rates become known in a system financed by the private sector, demand for those doctors with good outcomes will increase. These doctors will tend to raise their fees, thus placing their higher quality care out of reach of patients with modest means. This trend may be exacerbated if individual doctors are permitted to make public their own outcome rates; this sort of "advertising" has been encouraged by the (U.S.) Federal Trade Commission and falls under the protection of the antitrust law.³⁰ In addition, in systems with both public and private financing of health care, the publication of outcome rates may cause a shift of highly successful doctors from the public to the private system where they can demand higher fees and thus

may decrease the quality of care in publicly funded health care programs.

Finally, although this article has concentrated primarily on surgeons, if outcome rates are to be available, then the quality of care provided by all doctors should probably be evaluated. Surgical procedures are easier to inspect than, for example, care delivered by family physicians or psychiatrists. However, the mechanism of collecting outcome rates should be applied to all doctors and even potentially to all providers of health care.

In conclusion, before they make this information available, agencies that advocate the publication of outcome rates for individual physicians should ensure that the rates are accurate and complete and that the consequences of disclosure have been addressed.

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