Quill & Scope

Volume 2 *Volume II* Article 4

2009

The Problems with Physician Profiling: What Have We Learned?

Heidi Charvet
New York Medical College

The Problems with Physician Profiling: What Have We Learned?

Heidi Charvet

Introduction to Physician Profiling

In recent years, demand for information about the cost and quality of health care has grown significantly.[1] Although many factors have contributed to this trend, the continuous rise of health care costs and the widespread proliferation of managed care organizations (MCOs) may explain the importance of this information to both consumers and health care organizations.[2] In an effort to improve transparency, manage utilization, increase quality, and ultimately reduce costs, physician profiling emerged in health care as "an analytical tool that uses epidemiological methods to compare cost, service use, and quality of various physician practice patterns".[3] Three major groups currently utilize physician profiles: health plans, physicians, and consumers. All of these groups have distinctive purposes for reviewing physician profiles. In addition, the actual form and content of the data they investigate can vary widely. Despite their differences, all of the groups share at least two significant concerns with physician profiles: the data itself and the interpretation of this data. These problems have been so complex and severe that they have impeded the adoption of physician profiles as an acceptable tool for quality improvement and cost control. In summary, despite its ostensible promise, physician profiling has had little positive impact on cost and quality and instead has been responsible for the propagation of seemingly endless controversy, mistrust, and misinformation.

> ***"All of the groups share at least two significant concerns with physician profiles: the data itself and the interpretation of this data."***

Utilization of Physician Profiling by Health Plans

Utilization of physician profiles by health plans is often an effort to "hold [the physician] accountable for what happens to a specific group of patients".[4] In addition, health plans may review physician profiling data when appointing medical staff and issuing clinical privileges.[6] Commonly, the physician profiles generated by health plans come from claims-based data made up of diagnostic and procedural codes rather than clinical data from medical records.[5] Health plans may use administrative data to help improve the efficiency and effectiveness of health care delivery by carefully tracking the collective costs incurred by a physician when providing health services to his or her patients. Costs may be divided into service-type categories and also include information about referral rates, hospital admissions, and preventive care rates. A percentage of the physician's compensation may then be based on his or her performance.[6]

Utilization of Physician Profiling by Physicians

For most U.S. physicians, health plans and hospital-based provider organizations are the only sources that provide them with information about practice patterns. Typically, this data is a combination of claims data and consumer survey data. In 2001, only limited numbers of indi-

vidual physicians were currently receiving information about their own practice patterns in relation to the patterns of their peers.[7]

Utilization of Physician Profiling by Consumers

In 2001, at least 30 states had physician profiling programs in place that were available to consumers.[8] The DocFinder Web site, run by Administrators in Medicine, is one central source available to consumers with data directly available for at least 18 states.[9] DocFinder includes facts like the name and address of the physician, medical school and specialty, listing of disciplinary actions taken against the physician, and possibly other information related to insurance, contact information, and malpractice.[8] Many other web sites currently exist with similar data widely available for consumer use. Although the majority of public data does not contain information related to physician-based quality measures and instead focuses on basic educational information and legal issues, some states have made quality data available to consumers.[10]

Problems With Physician Profiling: The Data

Despite the potential value of physician profiling, experts agree that there is much work left before the current system is considered suitable for its goals.[11] One of the major problems with physician profiling is the quality of the data chosen for creating profiles. The data itself is statistically problematic because it is frequently claims-based, lacking validity and reliability, based on too small of a sample size, and does not appropriately account for patient and physician characteristics that may impact the results.[12]

Claims-based data used for physician profiling are not collected exclusively for performance assessment and as a result, may be irrelevant or inadequate for profiling. For example, claims data may be unable to properly and fully characterize an episode of care and may fail to reveal a patient's baseline status. In addition, codes contained in claims data do not articulate "patients' compliance, their desire for care, or their socioeconomic status".[12] Additionally, there are often several physicians involved in the care of a single patient and the nature of claims data does not identify which physician ordered a particular service, a drug, or admitted a patient to a hospital.[13]

Another major problem with data used for profiling is its lack of reliability due to the relatively small number of patients in physician panels.[4] The use of insufficient sample sizes suggest that inferences cannot be drawn from the data and results in overall uncertainty about the statistical significance of the data.[5]

Case-mix adjustment tends to present many challenges to quality research in general, but it is especially problematic for the creation of physician profiles. Many physician profiles are not at all risk adjusted for patient characteristics[14] and others only adjust for age and sex; this is only slightly better than not risk adjusting altogether. When effort is made to adequately account for patient characteristics, there often remains a question of statistical reliability and validity based on the modeling that is implemented. With the goal of analyzing the accuracy of risk-adjustment models utilized by many MCOs to profile primary care physicians (PCPs), Thomas et al. (2004) found only moderate reliability among six different models commonly used by health plans for risk adjustment.[13] The authors argued that health plans should be careful in how they use profile information since they could not prove the rankings were valid.

Just as patient characteristics have been found to be important when dealing with physician profiles, the characteristics of the physicians themselves that are unrelated to clinical decision making are not always accounted for. Factors like specialty, practice location, and the fraction of practice devoted to procedures are variables that should be included in the analysis of profiling data.[12]

Problems With Physician Profiling: Interpretation and Misuse

The chief problem related to the statistical interpretation of physician profiles is that there are often no significant differences in terms of quality of care measurements between individual physicians.[15] Several studies have found that very little variation in utilization or clinical measures can be attributable to individual physician practice style variation after case-mix adjustment.[6] This suggests that there are many circumstances where it would be inappropriate to draw any conclusions from the data. Thus, it may be a huge waste of resources to even create physician profiles. However, despite the plethora of problems related to the data, physician profiles continue to be created and not accepted for what they truly represent. Wrongful interpretation of these profiles may result in adverse outcomes including: changes in physician behavior that lead to a decline in quality of care, lack of consumer understanding of profiles, and inappropriate decision-making by health plans.

The finding that little variation between physicians is actually due to individual practice style and a greater variation is attributable to patient characteristics led the authors of one study to conclude that physicians could easily improve their own profiles by deselecting sicker and difficult to treat patients.[4] Following the release of public report cards regarding coronary artery bypass graft (CABG) surgery in New York, the disparity in utilization of CABG surgery between whites and minority patients became greater.[10] The public reporting of outcome data specific to individual physicians has also has been shown to lead to withholding of procedures from patients deemed at higher risk.[16]

Another major concern related to the public distribution of profiles is that consumers utilizing the information may not fully understand its legal and statistical complexity. One analysis suggested that, "It is inappropriate and pointless to [publicly distribute physician profiles], since patients will have difficulty separating what is a genuine and serious professional fault from what amounts to a mere administrative peccadillo."[17] For example, information detailing changes in physicians' hospital privileges without explanation might provoke negative reactions by consumers who may not realize that these changes are often made for administrative reasons and not necessarily because the physician is incompetent.[8]

One final problem regarding the interpretation of physician profiles relates to the inappropriate utilization of profiling for decision-making. Use of profiling tools for hiring, firing, and disciplining of physicians is an unsuitable purpose because the data may not be statistically sound. One study concluded that provider profiling utilized by MCOs is adequate for providing "confidential feedback to physicians on their own practice efficiency performance" but not "adequate for taking punitive action against the low efficiency physicians [by] dropping them from the health plan's provider panel".[13]

Other Problems With Physician Profiling

Since the goal of physician profiling is often to give physicians feedback improving quality of patient care, it is important to evaluate whether or not physicians actually do respond to profiles in a way that substantiates these efforts. Unfortunately, many health plans efforts may be in vain; one study reports that less than 25% of PCPs find profiles useful for improving patient care and even less report using profiles to change their practice.[18] Another study that mailed profiles to physicians in an effort to change prescribing patterns did not lead to changes in prescribing patterns over a two-year period.[19]

Consumers and other purchasers have also been shown to ignore profiling data. Based on a review of the literature on all types of profiling, one study reported that consumers "rarely search out the information and do not understand or trust it; it has a small, although increasing, impact on their decision making".[20] Since profiling has been estimated to cost between $0.59 to $2.17 per member per month for health plans to implement, one wonders if their efforts are truly worth it.[4]

Implications For the Future

The utilization of profiling by the health care industry has the capacity to help increase transparency, manage utilization, increase quality, and reduce costs. However, given the tremendous problems that are associated with its use, policymakers and health professionals should follow several recommendations before accepting physician profiling as an adequate tool. First, data must be drawn from a variety of sources, be statistically reliable and valid, be adequately risk-adjusted, and have a sufficient sample size. Second, profiles should be interpreted carefully and should have accompanying educational materials for both consumers and health plans to help guide the appropriate use of profiles. Lastly, all key stakeholders should be involved in the further creation of physician profiles so that resources are not wasted on providing information that is eventually ignored. If all these recommendations are followed and further research supports the continued use of physician profiling, it may one day be considered to be an effective and worthy investment.

REFERENCES

[1] Cowper PA, Peterson AD, DeLong ER, Wightman MB, Wawrzynski RP, Muhlbaier LH and Sketch MH. 2001. The impact of statistical adjustment on economic profiles of interventional cardiologists. *Journal of the American College of Cardiology*, 38[5]: 1416-1423.

[2] Fiscella K and Franks P. 1999. Influence of patient education on profiles of physician practices. *Annals of Internal Medicine*, 131: 745-751.

[3] Ahwah I and Karpiel M. 1997. Using profiling for cost and quality management. *Healthcare Financial Management*, 51[7]: 48-53.

[4] Hofer TP, Hayward RA, Greenfield S, Wagner EH, Kaplan SH and Manning WG. 1999. The unreliability of individual physician "report cards" for assessing the costs and quality of care of a chronic disease. *JAMA*, 281[22]: 2098-2105.

[5] Nickerson C and Rutledge RW. 1999. A methodology for choosing a physician profiling system: the case of first option health plan. *Journal of Health Care Finance*, 26[2]: 5-13.

[6] Spoeri RK and Ullman R. 1997. Measuring and reporting managed care performance: lessons learned and new initiatives. *Annals of Internal Medicine*, 127[5]: 726-732.

[7] Coye MJ. 2001. No Toyotas in health care: why medical care has not evolved to meet patients' needs. *Health Affairs*, 20[6]: 44-56.

[8] Sutton JH. 2001. Physician data profiling proliferates. *Bulletin of the American College of Surgeons*, 86[5]: 20-24.

[9] "Administrators in Medicine." DocFinder. 2005. Accessed 12 Dec. 2006. *http://www.docboard.org/docfinder.html*

[10] Werner RM, Asch DA and Polsky DP. 2005. Racial profiling: the unintended consequences of coronary artery bypass graft report cards. *Circulation*, 111: 1257-1263.

[11] Mannion R and Davies HTO. 2002. Reporting health care performance: learning from the past, prospects for the future. *Journal of Evaluation in Clinical Practice*, 8[2]: 215-228.

[12] Kassirer JP. 1994. The use and abuse of practice profiles. *NEJM*, 330[9]: 634-636.

[13] Thomas JW, Grazier KL and Ward K. 2004. Economic profiling of primary care physicians: consistency among risk-adjusted measures. *Health Services Research*, 39[4]: 985-1003.

[14] Flynn KE, Smith MA and Davis M. 2002. From physician to consumer: the effectiveness of strategies to manage health care utilization. *Medical Care Research and Review*, 59[4]: 455-481.

[15] Wayne K, Rutter CM, Lin E, Greg S, Von Korff M, Bush T, Walker E and Ludman E. 2000. Are there detectable differences in quality of care or outcome of depression across primary care providers? *Medical Care*, 38[6]: 552-561.

[16] Narins CR, Dozier AM, Ling FS and Zareba W. 2005. The influence of public reporting of outcome data on medical decision making by physicians. *Archives of Internal Medicine*, 165: 83-87.

[17] Kluge EW. 2000. Physicians' practice profiles and the patient's right to know. *Journal of Evaluation in Clinical Practice*, 6[3]: 235-239.

[18] Rider EA and Perrin JM. 2002. Performance profiles: the influence of patient satisfaction data on physicians' practice. *Pediatrics*, 109[5]: 752-757.

[19] Sketris IS, Kephart G, Cooke CA, Skedgel CD and McLean-Veysey PR. 2005. Use of physician profiles to influence prescribing of topical corticosteroids. *Canadian Journal of Clinical Pharmacology*, 12[2]: 186-197.

[20] Marshall MN, Shekelle PG, Leatherman S and Brook RH. 2000. The public release of performance data: What do we expect to gain? A review of the evidence. *JAMA*, 283: 1866-1874.