Pay for Performance and Public Reporting: Risks to Patients Outweigh Benefits

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ABSTRACT

Nearly all public and private-sector third-party payers have called for a new medical services delivery system based on the use of pay for performance (PFP) and public reporting (PR) programs (PFP/PR). These programs seek to drive physicians to comply with quality and efficiency standards created by third parties, through financial incentives and disincentives, increased regulation, and public labeling of doctors as inefficient or substandard. The programs and their metrics are being created in committees subject to significant political influence and corporate control.

Based on numerous studies reviewed here, PFP and PR benefit third parties but put patients at risk. Compliance with "best practice" standards does not improve patient outcomes. Adverse effects include physician avoidance of high-risk patients and system gaming by physicians and hospitals. These effects have a disproportionate effect on patients in minority and lower socioeconomic groups. Administrative and claims source data used in such programs are often inaccurate and invalid. Risk-adjustment methods are not adequate to fully account for the complex features of the highly variable patient population in the United States.

Given the lack of demonstrated benefit and the significant risks of injury to individual patients, the Take Back the Profession Advisory Group (TBPAG) at the AMA recommends immediate cessation of PFP/PR in the public and private sectors.

Introduction

Governments face pressures from increased entitlement spending on Medicare and Medicaid, and private firms from the cost of employee benefits. Centrally designed and implemented pay for performance (PFP) and public reporting (PR) programs (PFP/PR) are proposed as a solution to perceived quality gaps[1] as well as excess spending, by groups such as the Institutes of Medicine (IOM) and the Institute for Healthcare Improvement (IHI). It is frequently asserted that 100,000 Americans die every year from medical errors and receive only 50% of "appropriate" medical care, while paying excessively.[2]

In treating an individual patient, it is understood that the risks of treatment must be outweighed by the benefits, considering available evidence, physician training and experience, and patient preferences. Programs designed to improve the health of "populations" must also weigh risks and benefits.[3] But as PFP/PR programs proliferate, their benefits are unclear and liabilities are appearing. Petersen et al.[4] have reviewed numerous studies.

Competent studies on PFP demonstrate that such programs simply reward health professionals who are already performing well, rather than improving care of those who are "under-performing."[5] PR programs of outcomes from coronary artery bypass grafting (CABG) have led, to "gaming" of the system and to exclusion of high-risk patients in order to appear to meet standards, as detailed below.

As performance measures proliferate, doctors spend time "teaching to the test"[6] and focus more time on ensuring compliance than on providing patient care. Expensive systems such as electronic medical records place further economic burdens on hospitals and physician practices while often returning few or no improvements in outcomes or measurable cost savings.[7] They do, however, provide easy-to-manage information to the government and others who use the data to rate doctors' compliance.[7]

Further, such programs risk interfering with the economic viability of a physician's practice (as identified in the AMA's Principles and Guidelines on Pay for Performance), thus reducing patients' access to care. Werner and Asch point out that "in its current state, performance measurement is better suited to improving measured care than improving the care of individual patients."[8] Additionally, they note that performance measures may create only a small clinical benefit after great effort, the measures may not be prioritized to areas with greater clinical benefit, and doctors' attention may be diverted from larger individual needs of a patient in favor of compliance with narrow sets of measures.

Certainly the issues of medical quality and excess cost require careful consideration and innovative solutions. Solutions that work for patients must be found when problems exist. However, the patient safety problem has been greatly exaggerated to justify such PFP/PR programs. Clement McDonald has commented that the often-reported "100,000 deaths due to medical error"[9] number was largely exaggerated.[10] The same study in New York that produced this number was replicated in Colorado and estimated less than half that number of deaths (44,000).[11] The IHI has claimed to have saved 100,000 lives without offering significant supporting data,[12] and it has now embarked on a mission to stop five million episodes of "medical harm" over the next two years.[13] The leader of IHI, Donald Berwick, was initially opposed to PFP[14] but now supports the program.[15]

Healthcare spending has increased and now stands at 17% of the national economy, but few recipients of those services would consider them unnecessary. No one would disagree that there is room for improved quality; medicine is about constant improvement in practice. Few would also disagree that dollars could be better spent. The key question is this: Who decides on such use—third-party payers, or patients based on the advice of their physicians?

Advocates of PFP/PR have used patient safety to justify their programs while a former AMA president has commented that the real intent is to limit spending.[16] PFP/PR programs propose to solve an economic problem with clinical solutions through third-party practice of medicine—without asking what is the cause of the economic problem. PFP/PR would simply perpetuate and expand the current centrally planned economy that started with the creation of Medicare and the reliance on employer-owned, third-party–payment policies. This situation has led Americans to believe that a small copayment or low annual out-of-pocket expense is all that is required to receive as many medical services as they choose. The most powerful constraint on spending—consumers spending

their own money—has thus been removed from the equation. Instead of empowering consumers, PFP/PR would try to solve the problem by enlarging it. The suggested "consensus-building organizations" and "health-care transparency" are just new terms for more central planning.

Compliance with Performance Measures Does Not Improve Patient Outcome

Werner and Bradlow[17] demonstrated that compliance with Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) performance measures for acute myocardial infarction (AMI), congestive heart failure (CHF), and pneumonia did not measurably improve patient outcomes. The authors later note in a reply to letters that "three of the performance measures used by the Hospital Quality Alliance that were studied are not based on evidence from randomized controlled trials.… When the potential benefit from a measured intervention is uncertain or small, *there is increased risk that the inaccuracy of performance measures will outweigh the benefits* [emphasis added]."[18,19] Despite the failure of compliance with process measures to improve outcome, the authors suggested creation of still more measures, an approach that has been questioned.[20]

Williams et al.[21] evaluated performance on 18 JCAHO performance measures for AMI, CHF, and pneumonia, which were later adopted in the Centers for Medicare and Medicaid (CMS) Premier Project. Sixteen of 17 process measures showed increased compliance, yet inpatient mortality did not change. The authors point out that inpatient death was not an accurate indicator of efficacy of these process measures since it included all sources of death, not just that from pneumonia, CHF, and AMI. They then state that the inpatient death "would not be expected to mirror trends observed for process measures," but they do not state the value of the process measures. It is fairly certain that if a positive impact on death had been seen in these three conditions, it would have been reported, since these researchers had access to the Diagnosis Related Groups (DRG) data.

Fonarow et al.[22] evaluated the association between performance measure compliance and outcome for heart failure more directly. They demonstrated that compliance with "best practices," designed to decrease mortality and re-hospitalization, produced no improvement in outcome at 60 and 90 days after discharge. These measures included: (a) use of discharge instructions for patients; (b) evaluation of left ventricular systolic function; (c) angotensin converting enzyme (ACE) inhibitor or angiotensin II receptor blocker (ARB) use; (d) adult smoking cessation counseling; (e) anticoagulant use at discharge in atrial fibrillation; (f) prescription of beta-blocker at discharge (not part of the original measure set).

After adjusting the measures and outcomes for risk, there was no improvement in mortality for any indicator from the original American College of Cardiology/American Heart Association (ACC/AHA) set. When mortality and re-hospitalization rates were combined, there seemed to be a small beneficial effect for compliance with ACE inhibitor/ARB usage, but the rates of re-hospitalization were not reported separately and compliance did not independently reduce mortality. Despite assurances from the ACC/AHA in 2003 that these measures would improve outcomes,[23,24] they did not help.

Further, the ACC/AHA did not envision at that time the usage of beta-blockade as a means of improving outcome, although it appeared to have an effect without inducement of its use by a PFP program. Determining the reasons for lack of improvement in outcomes after application of the clinical practice guidelines is beyond the scope of this analysis, but could include poor studies serving as the basis for selection of the performance measures; poor patient compliance with recommended therapy; physician judgment excluding patients from application of the guidelines; or other unknown reasons. Alarmingly, members of the ACC and AHA offered in an editorial reply: "However, the absence of such a relationship [compliance improving outcome] for the other ACC/AHA performance measures does not refute their value. *The purpose of process-of-care performance measures is not to improve outcome directly but to improve the provision of appropriate care processes* [emphasis added]."[25] They do not explain how "provision of appropriate care processes" is beneficial to patients who see no improved outcome as compliance with performance measures is improved.

Peterson et al.[26] did report an improved outcome in inpatient mortality for AMI based on compliance with a composite of nine ACC/AHA measures. However, this was for composite of measures only, and there were significant exclusions in the study group for transfers, hospitals with fewer than 40 cases, "early" death, and low-risk patients. Thus, results are difficult to interpret due to study bias.

Further, the study purported to show improved inpatient mortality, but correlated this with compliance on discharge medication use (five medications), further clouding interpretation of the results. Further, this was a study of hospitals voluntarily participating in the "CRUSADE" trial, (biasing the source of data), and there still were significant compliance variances between one hospital and another.

Glickman[27] recently reported the failure of compliance with process measures to improve AMI mortality for patients in the CRUSADE trial of PFP. For CMS measures, compliance rates rose in hospitals equally whether or not they received financial incentives. For non-CMS measures, compliance rates also rose in both paid and unpaid participants, but more so for two of six of these indicators. Despite compliance rates above 90% (for CMS composite scores), by the end of the study outcomes for patients did not improve.

Bradley et al.[28] found that "hospital performance on the CMS/JCAHO process measures for AMI explained only 6% of the hospital-level variation in short-term, risk-standardized mortality rates for patents with AMI." They concluded that this "finding suggests that a hospital's short-term mortality rate cannot be reliably inferred from performance on the publicly reported process measures."

Poghack et al.[3] raise serious questions about whether adherence to a HbA1c level <7% will result in improved outcome. They indicate that the macrovascular benefits for patients with type II diabetes (90%-95% of diabetics) remained to be defined. Despite this, the National Committee for Quality Assurance (NCQA) has advocated public reporting of the rates of achieving levels <7%. The authors state the unintended consequences of adherence to such a guideline include targeting individuals marginally above the target value, selection biases, patient safety, and less regard for patient preferences.

Landon et al.[29] demonstrated that compliance with process measures for chronic disease at community health centers did not improve outcomes. Measure compliance improved for diabetes, hypertension, and asthma, yet the measured outcomes of hospitalization rates for asthma, blood pressure control, and control of gylcosylated hemoglobin did not improve.

Compliance with CMS and JCAHO Performance Measures May Actually Harm Patients

One publicly reported quality measure is administration of antibiotics within 4 hours of presentation to an emergency

department, when it is unclear whether the patient has pneumonia or CHF. The 4-hour antibiotic rule is part of the "Hospital Compare" performance measures, compliance with which Werner and Asch[8] found to have little or no impact on hospital mortality. Early antibiotic use may be leading to false negative sputum cultures.[6,18] Inappropriate antibiotic use may increase the incidence of *Clostridum difficile* colitis. The Surgical Infection Prevention (SIP) standard of ceasing an antibiotic by 24 hours after surgery ends was designed to decrease *C. difficile* colitis.[30] These two measures appear to be somewhat at odds with each other, if they have any beneficial effect at all. In fact, there has been reluctance among many surgeons to arbitrarily stop post-operative antibiotics at 24 hours in surgical patients as required by the SIP measures,[31] as this may lead to an increased rate of infection.[32-34] The Society of Thoracic Surgeons had recommended cessation of antibiotics 48 hours after sternotomy due to concerns of a higher rate of infection if antibiotics were stopped at 24 hours. CMS did not change its standard from 24 to 48 hours for some time.[35] Further, JCAHO delayed acceptance of the use of ARBs as alternatives to ACE inhibitors for CHF and AMI[36] as an alternative to ACE inhibitors when felt appropriate by a physician.[36]

Wachter reports that due to the inpatient pneumococcal vaccination program, many patients are inappropriately receiving multiple doses of vaccine to ensure compliance.[6] In the same report, Wachter also points out that administrators who focus on ensuring compliance with PR measures may divert attention from more urgent clinical problems such as AMI or septic shock. Further, the need to comply with multiple standards may inappropriately increase the use of pharmacologic agents in the elderly, leading to patient harm or financial hardship for the patient.[6,37]

Use of information technology to ensure compliance through computerized physician order entry and electronic medical records may inordinately increase time at the computer and decrease time with the patient by the doctor and nursing staff.[6,38] The phenomenon of copying and pasting progress notes and the negative impact on care has also been reported.[39] Further, the costs of information technology may divert valuable resources from patient care. Blumenthal recently reviewed the benefit of health information technology and reported benefits to health systems of guideline compliance, surveillance of disease conditions, reduced medication errors, and decreased utilization of care. However, physician workload was negatively impacted and other problems appeared, including *increased* incidence of certain medication errors, and increased mortality in a pediatric ICU setting that was later disputed.[7]

PFP/PR Leads to Gaming of the System to Allow Better "Grades"

Rather than improving actual quality, PFP/PR-induced compliance with "best practices," as defined by third parties, may simply represent "gaming" the reporting system.[40] Epstein[41] points out that physician bonuses for performance have been shown to increase documentation without changing quality of care. Lindenauer et al.[42] showed modest improvement in compliance with process measures, without improvement in outcomes, based on a financial bonus for compliance in Medicare's "Premier Pilot evaluation." However, several authors noted that compliance may have been achieved merely by having physicians and hospitals "teach to the test," reallocate care toward rewarded dimensions of quality at expense of others, or by "sophisticated gaming of quality measures" without actually improving quality.[43,44]

In response to these criticisms, Lindenauer et al.[42] state that "more thorough documentation of patient ineligibility rather than more frequent use of recommended interventions might explain why improved performance on quality measures does not always lead to improved patient outcomes," thus providing a specific description of "gaming."

Gaming behavior has been amply demonstrated in a British PFP program in which a group of family physicians, given bonuses to meet certain objectives, simply excluded large numbers of patients by exception reporting.[45] Physicians may select patients so as to improve their rankings, note Werner and Asch.[46] Such behavior, described more completely below, should be considered a form of gaming.

PFP/PF Induces Physicians to Avoid High-Risk Patients

In 1989 New York began to report mortality in patients undergoing CABG, and some have credited this lowering mortality from 3.52% in 1989 to 2.78% in 1992.[47,48] However, in 1999 Burack et al.[49] demonstrated that public reporting of CABG outcomes led to denial of surgical treatment to high-risk patients in New York. Werner and Asch[46] described a 31% increased transfer rate from New York State to the Cleveland Clinic for CABG surgery, and an increase in racial disparities in those who received CABG. Further, they noted that Pennsylvania cardiologists had more difficulty finding a surgeon for CABG, as surgeons in that state were also reluctant to operate on high-risk patients, given public reporting of outcomes. This has called into question the purported improvement in outcomes, given the exclusion of those patients likely to increase a surgeon's mortality rating.

In a recent survey,[50] 82% of internists reported that they would avoid high-risk patients as well as patients who are poorly compliant with treatment recommendations, if quality measure data were made public. Moscucci et al.[51] compared the case mix of patients undergoing percutaneous coronary intervention (PCI) in Michigan, which did not have PR, compared to New York, which did. There were fewer PCIs in New York for patients with AMI or CHF.

PFP/PR Likely to Harm Minority Patients More

Patients belonging to minority groups, especially black patients, are reportedly subject to "disparities" in care.[52,53] Liu et al.[54] have described a decreased rate of referral to or use of high-volume hospitals for complex surgery for non-white, Medicaid and unfunded patients. Casalino[55] recently raised concerns that PFP would increase racial disparities in care.

Werner et al.[56] have reported that New York heart surgeons began avoiding nonwhite minorities immediately following institution of PR on CABG-related mortality. Their rate of CABG was 19% lower than expected from 1992–1995, and the racial disparity took 9 years to recover to its baseline. This differential was not observed in states without such reporting, or for the incidence of PCIs in non-white patients in New York. PCI outcome was not reported publicly in New York during the study period.

Fitzgerald[57] writes that in West Virginia only those patients who keep appointments, receive recommended screenings, take medications as directed, and follow "health improvement" plans are eligible for an "enhanced plan" in Medicaid with better benefits. He points out that many socioeconomic factors may interfere with patient compliance with these requirements. Like these provisions, PFP could have unintended consequences in jeopardizing access of minorities and low-income patients to superior care.[50]

PR of measures including pressure sores and ability to walk or self-feed has not appeared to improve these outcomes in nursing homes.[46] PR programs divert resources, and by creating a false sense of security about the benefits of quality reporting programs may

minimize attention to the true causes of low quality in nursing homes where poor and minority patients are more likely[58] to be placed. Angelleli et al.[59] observe that nursing homes that receive lower quality ratings are more likely to exit the Medicare and Medicaid markets, compromising still further the quality of care received by their black residents.

Some have suggested that quality reporting and use of quality measures will decrease racial disparities.[52] However, other centrally planned government programs, such as forced integration through school busing, the "War on Poverty," and the Federal Emergency Management Agency have failed to solve racial disparities in educational achievement, incarceration rates, and aid to Hurricane Katrina victims in New Orleans. Any possible gains for minorities through PFP/PR would probably be more than cancelled out by avoidance of high-risk patients and other adverse effects.[60]

Inaccurate Data, Poor Risk-Adjustment Methods

PFP/PR programs at this point rely chiefly on administrative and claims data, which have been found to be inaccurate in characterizing the complex features of medical care.[61,62] Problems with such data include inaccurate diagnoses as defined by ICD-9 methodology, missing co-morbidities, failure to accurately distinguish complications arising during inpatient stays from presenting diagnoses, and failure to control case mix.[63] Sherman et al.[64] found that administrative data have only a 20% positive predictive value for accurately identifying hospital-acquired infections. Based on administrative data, case volumes for CABG procedures were over-reported by as much as 20% for all patients, and under-reported by as much as 16% for Medicare in one study.[65]

Difficulties with risk adjustment of patient populations has also made comparisons between those populations difficult.[66] Thus, the effect of more complex patients may not be accurately reflected in reported data for PFP/PR. This has led to the additional burden of requiring doctors to document "present on admission" diagnosis data in hospital records.[67] This shifts administrative burden for coding from hospital administrative staff to physicians. Risk adjustment may not account for various social factors such as race and economic status.

Werner and Asch further note that even with the best risk adjustment of data, physicians may still shy away from high-risk patient groups to improve their reported ranking.[46] Boyd et al. reported the significant difficulties of properly controlling for numerous high-risk variables in older patients, and cautioned against using PFP in this population.[37] These patients often meet "exclusion" criteria for data gathering purposes in PFP/PR, thus minimizing any putative benefit of these programs for these patients. Pogach reported a similar problem based on the presence of co-morbid conditions in one-third of diabetic veterans, thus interfering with the accuracy of HgbA1c reporting in these patients and negating any benefits these "excluded" patients may receive.[68]

Conclusions

Hayward[69] recently pointed out that performance measurement is significantly different from use of clinical guidelines to educate doctors about treatment options. He states that "basic guidelines are rarely appropriate as 'all or nothing' performance measures," and that "the reasons that guidelines often make poor performance measures are non-intuitive and easily forgotten by those who do not take care of patients." He concludes that the selection of process measures appears to be a highly political and high-stakes process. Influential parties such as major corporations and health insurance companies are in controlling positions at bodies creating PFP/PR standards.

While the AMA has promulgated stringent Principles and Guidelines on PFP, these are often forgotten or blatantly ignored as third-party payers (employers, health insurers, and government regulators) feel increasing pressure to do whatever they can to control their escalating costs. The best example of this is the continuing development of cost-of-care measures for low back pain by the AQA (originally, the Ambulatory Care Quality Alliance), despite the absence of valid quality measures for back pain. I personally led several surgical specialty societies at the AQA to prevent this, but these efforts were overruled by representatives of third-party payers. The AQA also operates without defined due process or voting methods, and does not record the votes of involved parties. Thus, third parties that claim to be advocating for accountability and transparency in daily medical practice are not offering a transparent, accountable, fair, or scientifically sound process for centrally determining how medicine is practiced.

Corporations are responsible to their stockholders, and government responds to political pressure. The programs they propose to solve their economic problems are fraught with danger to patients. Physicians must serve their patients, and avoid doing them harm.

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The Take Back the Profession Advisory Group (TBPAG) is a coalition of Delegates and Alternate Delegates to the AMA House of Delegates from various state and specialty medical societies. The group is working to ensure that physicians retain control of their profession, to protect and serve the best interests of their patients. The group is not an official arm of the AMA.

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