

Physician Payment and the Game of Risk

Kevin Grumbach, MD

Dr. Malady has long found satisfaction as a family physician by taking on patients with difficult clinical problems that frustrate many of his colleagues. When the human immunodeficiency virus epidemic first surfaced in his community, Dr. Malady sought out continuing medical education in the care of patients with human immunodeficiency virus and has earned a reputation for his skillful care of patients with acquired immunodeficiency syndrome. Working in a community where most residents—until recently—had private, fee-for-service insurance, Dr. Malady never had to worry about how the high-risk character of his patients affected the financing of their care. If patients needed more visits, the insurance plan would pay. If they needed referrals to specialists or for hospitalization, the insurance plan would defray most of the costs.

This environment has suddenly changed for Dr. Malady. Because of the rapid growth of managed care in his community, Dr. Malady joined a local independent practice association (IPA) last year to compete for managed care patients. Recognizing Dr. Malady's excellent reputation, the IPA was extremely pleased when Dr. Malady first decided to join the IPA. This week, however, the chief executive officer (CEO) of the IPA called Dr. Malady into his office for a chat and told Dr. Malady that his patients are causing the IPA to "bleed red ink." The IPA is receiving a fixed capitation payment from health maintenance organizations (HMOs) for each patient enrolled in the IPA. Dr. Malady's ill patients are costing the IPA more than the IPA receives in capitation payments for their care. The CEO informs Dr. Malady that his practice is no longer an asset for the IPA and that his contract with the IPA will not be renewed.

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From the Department of Family and Community Medicine, and the Institute for Health Policy Studies, University of California, San Francisco. Address reprint requests to Kevin Grumbach, MD, Box 1364, University of California, San Francisco, CA 94143-1364.

A momentous change in health policy in the United States has been the shifting of financial risk from the payers of care to providers of care. As in Dr. Malady's case, many physicians in the United States are experiencing the vertiginous effects of a system doing a rapid about-face as to who bears the financial risk for the costs of health care. With traditional fee-for-service insurance, insurance plans (and ultimately, the subscribers and their sponsors paying the insurance premiums) bore all the risk. Physicians provided care without being accountable for the costs of that care, with the assurance that they would be reimbursed for most of these costs if patients had comprehensive private insurance. As insurance plans move to pay physicians and other providers by capitation, rather than fee-for-service, the risk shifts. Now physicians face a predetermined payment per member per month (or pmpm in the new jargon of managed care), regardless of the actual costs incurred by the practice in caring for the patient. In the new payment equation, sicker patients mean higher costs in time and money—but not higher revenues—for capitated providers.

This new dynamic of risk bearing generates two common responses. One strategy is that of the CEO in the above vignette: avoid high-risk patients. This approach has a long, if not always distinguished, history among insurance underwriters. An alternative response is to consider ways to adjust capitated payments to reflect the underlying risk profile of the patients enrolled in a particular practice or plan. Dr. Malady, for example, might suggest to the CEO that insurance plans pay the IPA a higher capitated rate for Dr. Malady's high-risk patients than the plans pay for patients who are generally in good health. By adjusting risk payments in this way, Dr. Malady—and the IPA—would not be financially penalized for caring for patients who are sicker than average. In this article I will review the concept of risk in health insurance and discuss approaches to risk rating and risk adjustment.

Risk Rating of Insurance Premiums

Insurance is fundamentally a vehicle for distributing risk. Under voluntary insurance, individuals are willing to pay a regular premium rather than face the possibility of incurring a large catastrophic expense. In this traditional notion of insurance, much of the willingness to participate in an insurance pool is due to the unpredictability of the occurrences covered by the insurance policy. For example, I might prefer to pay \$500 per year for automobile collision insurance rather than face the potential of a \$10,000 repair bill if my car is totaled in an accident. If I never have a major accident during the lifetime of my car, I will wind up paying far more in insurance premiums than I receive in reimbursements from the auto insurance company. The unpredictability of knowing whether I will be one of the people who actually has a major accident makes me willing to participate in the insurance plan.

Insurance underwriting developed as a method for reducing the unpredictability of insured events. Automobile collisions are not, in fact, completely random events. A history of motor vehicle accidents can predict, to a degree, drivers who are more likely to experience accidents in the future. Certain classes of drivers, such as teenagers, are more likely to be involved in accidents than other drivers. Insurance underwriters use this type of predictive data to charge different drivers different rates for automobile insurance. This general approach to modifying charges for insurance premiums based on risk is known as experience rating. Rates are based on the experience of a particular individual or group of individuals in regard to the events covered by the insurance policy.^{1,2}

Experience rating came relatively late to the private health insurance market in the United States. Blue Cross and Blue Shield, which dominated the health insurance market until the 1950s, based their premiums on the policy of community rating.^{1,2} With community rating, a single premium applies to all subscribers in a geographic area purchasing an equivalent level of coverage. Premiums are not indexed to the differences in health risk among individual subscribers or groups of subscribers. Community rating distributes the costs of health care more evenly among an insured population. Healthy subscribers subsidize the expenses incurred by ill individuals within the insurance pool. With experience rating, however, there

is less subsidy from the healthy to the ill. Higher-risk subscribers pay higher premiums, although within the high-risk group there might still be some degree of distribution of financial risk; for example, someone with a catastrophic illness will still likely pay less in premiums than he or she incurs in insured medical costs.

Community rating in the United States gave way to experience rating under the pressures of an increasingly competitive health insurance market. Commercial insurance companies challenged the traditional Blue Cross and Blue Shield plans by marketing to healthier groups and offering these groups lower premiums. Higher-risk groups, such as the elderly, soon found themselves largely priced out of the health insurance market. (This development helped set the stage for the enactment of Medicare in 1965.) By the 1990s, most Blue Cross and Blue Shield plans had abandoned community rating and adopted the experience rating methods of their commercial competitors. In addition to using experience rating to charge higher premiums to higher-risk subscribers, insurance companies have also used assessment of individuals' medical histories to deny coverage altogether to high-risk patients or to exclude preexisting conditions from the insurance policy coverage.

The use of risk rating has contributed to the destabilization of health insurance in the United States. Owners of small businesses have had the premiums for their employees' health insurance increased threefold or more after one employee has a serious illness, such as cancer, diagnosed. Self-employed individuals with chronic diseases who seek to purchase insurance often find themselves in the ranks of the uninsurable—denied coverage because of their health risk. The ethics of charging higher premiums to higher-risk individuals or excluding them from coverage altogether has also come under criticism.³ Charging a reckless driver a higher premium for automobile insurance might seem justified; an individual's health risk might be as much a matter of their genetic endowment or environment as of their individual choice of behavior.

Risk Adjustment of Capitation Payments

The traditional underwriting approach of measuring risk in order to experience rate premiums is a method of adjusting the amounts of money

paid for insurance coverage by the actual enrollees in health insurance plans (and by employers, in the case of employment-based private health insurance). This form of risk rating constitutes an effort by insurance companies to shift financial risk back to certain patients for the higher health care costs that are, to a degree, predictable for these patients. Newer strategies for risk adjustment deal with the other side of the health care financing coin: payments from the insurance pool to the providers of care.

Recall the story of Dr. Malady and his IPA that introduced this article. In this situation, funds have been collected from individual enrollees and their sponsors and placed into insurance pools represented by managed care insurance plans. The enrollees in these plans consist of individuals of varying degrees of health risk. (Indeed, some of the enrollees and their employers might have been charged higher premiums than others because premiums were experience rated for each employer-employee group.) The problem confronting Dr. Malady is that he and his IPA will receive the same monthly capitation fee regardless of the health risk of the patient choosing him as a primary care physician. The key question for the modern-day risk adjuster in the era of managed care is, given a fixed amount of money in an insurance pool being paid to providers and groups of providers in capitated aliquots, can capitation rates be adjusted up for higher-risk patients and down for lower-risk patients to give providers fair compensation for their panel of patients and minimize the incentive to avoid high-risk patients?

Unlike the goal of risk-rating health insurance premiums, where the objective is to distribute payments from patients to insurers according to the health risk of individual patients, the goal of risk adjustment of capitation rates is to distribute payments from insurers to providers in accordance with patients' health risks. This distinction is key. Risk rating deals with money flowing into the insurance pool and financially penalizes the higher-risk patients; risk adjustment deals with money flowing out of the insurance pool and attempts not to penalize financially physicians and other providers caring for higher-risk patients. Fee-for-service methods of payment in the past essentially served as an intrinsic risk adjuster for provider payments. Sicker patients generated more bills, leading to higher reimbursements for

physicians and other providers caring for these patients. The shift from fee-for-service to capitation has meant a shift of financial risk to physicians, raising concerns about the need to modify capitation rates based on patients' health status.

Two issues dominate the debate concerning risk adjustment. The first concerns the methods for adjusting payments, and the second the question of how good these methods must be at measuring health status and predicting the costs of needed care.

Methods for Risk-Adjusting Payments

Dr. Malady, for example, might propose adopting the tools of insurance underwriters and adjusting capitation payments based on the experiences of his patients in terms of their past use of services. The problem with this approach is that it is difficult to untangle the amount of past service use reflecting a patient's true need for care from that reflecting a physician's discretionary practice style. Some physicians have a greater proclivity to hospitalize patients than other physicians, even when patients have equivalent clinical conditions.⁴ Increasing the capitation rate to a physician because his or her patients had high rates of hospitalization in the past year might simply reward a physician for an inappropriately costly practice style.

Researchers have attempted to develop measures for assessing health status and the risk of requiring costly care that do not rely on measures of prior use of services that could be influenced by differences in practice style. The simplest approach to risk adjustment uses such basic demographic data as age and sex. It should come as no surprise to family physicians that individuals at either end of the life cycle (newborns and senior citizens) have the highest rates of physician visits. Knowing the age and sex distribution of a population of patients, however, does not permit very accurate prediction of the distribution of medical costs among these patients. Studies indicate that measuring sex and age allows one to explain only about 5 percent of the variation of costs among a large group of patients.^{5,6}

Two additional methods have been proposed to attempt to measure individual health status more directly and precisely. One approach relies on recording diagnoses generated from past visits and entering these diagnoses into a computer-

based formula that calculates a case-mix score for each patient.⁷ An alternative method attempts to avoid provider-generated data completely by directly asking patients about their health. This method relies on questionnaires that inquire about patients' perceptions of their overall health, activity limitations, role functioning, and related facets of well-being.⁸ Although each of these techniques improves upon the explanatory power offered by basic demographic data, they remain relatively weak at predicting costs, explaining only between 10 and 12 percent of overall variation in costs among patients. Simultaneously measuring both diagnosis-based scores and self-assessed health status could boost the explanatory power slightly toward explaining about 15 percent of variation in costs.⁶

Both the diagnosis-based score and the patient survey risk-assessment techniques were developed and refined for use in health services research, not for their application to payment policies. They differ in their technical requirements, limitations, and administrative expense. The diagnosis-based score depends on routine collection of comprehensive diagnostic information, which in practical application is feasible only for practice organizations or systems of care that routinely collect this type of data (eg, through standard encounter forms that are completed at each visit and entered into a computer data base). Physicians can potentially game this method by generously checking off diagnoses. The self-assessed health status measures require the expense of contacting patients to elicit information, usually through self-administered written questionnaires. Surveys of this type are costly to perform and are subject to sampling bias caused by the inevitable lack of response among a substantial portion of the population surveyed.

How Much Adjustment Is Enough?

One of the major challenges in predicting health care costs is that relatively few patients account for a huge proportion of overall costs. In any single year 58 percent of all health care expenditures are concentrated among 5 percent of the population.⁹ How predictive do these methods need to be for adjusting payments in the real world rather than for academic research projects? Is explaining 15 percent of variation in costs good enough?

Although 15 percent might seem a relatively

meager amount of variation to explain, no risk adjustment will ever explain 100 percent of cost variation. Some events will continue to occur in a relatively random manner; for example, no technique will predict which patients will have appendicitis in the coming year. This random component of health risk does not pose a problem for applied health policy, however, because of its very random nature. These random events should distribute themselves relatively equally across groups of patients enrolled with different physician groups or plans. To the extent that any one provider or provider group experiences a concentration of patients with randomly occurring, high-cost medical needs, this adverse risk pattern must be chalked up to bad luck. Additionally, some component of cost variation is due to differences in physician practice patterns. Risk-adjustment methods should not explain so much of the variation in costs that they explain away practice style variation that is unrelated to underlying differences in patient need.

Unfortunately, much of the 85 percent of unexplained variation in costs in these models does not appear to be due simply to randomly occurring illnesses or differences in physician practice style. When researchers have compared large groups of patients enrolled in different health plans or provider groups, substantial differences in average costs between groups are found even after using the types of methods described above (and using other techniques to adjust for potential differences in physician practice style).^{5,6} The health insurance market appears to segment patients into different risk groups in ways that are not well measured by conventional risk-assessment techniques and are not completely random.

Some of this risk segmentation would not necessarily occur by design. For example, a family physician who has been in practice for many years is more likely to have a higher-risk population of patients than a colleague who newly enters practice. The former physician will have patients who will have aged with the practice and developed chronic illnesses; patients in poor health are also more likely to stay with an established physician rather than switch to a new one. Much of the risk segmentation, however, does occur by design through marketing and structuring of services to attract low-risk enrollees. As long as marketing techniques stay one step ahead of risk-adjustment

techniques, large profits stand to be made by selectively enrolling low-risk patients.

Raising the Stakes

To appreciate fully the attractiveness of risk selection, it is necessary to move up the health care financing "food chain." Up to this point I have used the example of capitation payments to an individual physician and an IPA group to illustrate the dynamics of shifting financial risk and adverse risk selection. This dynamic is intensified at the level of large health plans such as health maintenance organizations (HMOs).

The entry of the Medicare program into managed care provides a dramatic case study. Medicare has encouraged beneficiaries to enroll voluntarily in HMOs that receive a monthly capitation payment for each enrollee. In this situation, the Medicare program represents the insurance risk pool, with the HMO representing an organized provider group (rather than simply an individual physician or physician group, as in the case of Dr. Malady) accepting capitation payments to care for enrolled patients. In determining the capitation rate for an HMO, Medicare adjusts the rate based on demographics (age and sex) as well as proxy measures for disability (eg, residence in a skilled nursing facility). Medicare calculates the average cost of caring for Medicare fee-for-service beneficiaries in a region and adjusts these costs by these methods to arrive at an adjusted average per capita cost (AAPCC). Medicare then sets the capitation rate at 95 percent of the AAPCC, based on the assumption that HMOs should receive less than 100 percent of the AAPCC because of likely selection of lower-risk enrollees or more efficient delivery of care.

When the federal government hired a consultant to audit Medicare HMOs, the investigators found that the HMOs had enrolled a much lower-risk population of Medicare beneficiaries than anticipated. Moreover, the AAPCC methodology fell far short of accurately measuring this difference in risk. Based on their health status at the time of enrollment, the patients who enrolled in the HMOs would have generated only 89 percent of the average Medicare beneficiary's annual cost for care had they remained in the fee-for-service system—even after adjusting for age, sex, and disability.¹⁰ The 95 percent of AAPCC capitation rate therefore overpaid the HMOs by 6 percent.

The investigators concluded that in the month of June 1992, Medicare paid contracting HMOs \$31 million more than the risk status of their enrollees warranted. At this level, risk selection—and risk adjustment—become a high-stakes game.

The Medicare HMO experience illustrates the degree of risk selection that can occur in a competitive insurance market, even when insurance plans are prohibited from using the more blatant techniques of risk rating and selection discussed earlier, such as denying coverage to applicants on the basis of medical history. Although Medicare does not allow this type of outright exclusion of applicants, by holding enrollment events at centers for active seniors with exercise guru Richard Simmons as the guest host, HMOs try to ensure that their enrollees will come from the ranks of the relatively fit.

Conclusion

A unifying assumption underlies much of payment policies in the 1990s, whether the context is capitation payments to physicians and IPAs, Medicare HMO contracting, or large employers negotiating premiums with private insurance plans. This assumption is that plans and provider groups that bear financial risk will have an incentive to become more efficient in delivering care. With capitation and related forms of payment, organizations that provide better value for the money will be able to retain a substantial share of their revenues in the form of higher profits or higher incomes for physicians. The IPA that can organize its physicians to practice an economical style of medicine while maintaining a high quality of care and patient satisfaction will, in theory, be rewarded with a large population of enrolled patients and high earnings for its physician members.

The rub, of course, is that there are potentially more expeditious ways to keep expenditures down than by engaging in the toil of modifying physicians' practice patterns—the most obvious method being enrolling an intrinsically low-cost population of patients. The risk of risk-shifting policies is that they will reward organizations that succeed at marketing and risk selection rather than those that innovate in enhancing the efficiency of care provided. The allure of marketing services to low-risk populations becomes difficult to resist as the stakes of risk sharing are raised and profit-making firms dominate the medical marketplace.

Capitation payments to IPAs or individual physicians now often place primary care physicians at financial risk, not only for the services they directly provide, but also for the costs of specialty care, laboratory services, and in many cases hospital care.¹ Just as the majority of HMOs are now for-profit corporations, for-profit physician management corporations are fast buying up IPAs and physician groups. In a trillion dollar health care economy, billions of dollars of profits stand to be made as long as risk-selection techniques stay a few percentage points ahead of risk-adjustment formulae. Health care payment becomes an elaborate game where one side moves to avoid risk and the other side counters by attempting to adjust for it.

Ultimately, the context in which risk adjustment operates is as important an issue as the technical aspects of risk-adjustment methods. When financial risk is modest and a professional ethos of caring for patients in need is paramount, relatively insensitive methods of risk adjustment might play a helpful role in smoothing out the inevitable bumps of differences in case mix and disease burden among different groups of patients served by different groups of physicians and other providers. In a high-stakes game of profit-oriented health care commerce and sophisticated marketing strategies, these same risk-adjustment instruments might not measure up to the task of ensuring a level playing field.

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