

## **Professional Caregiver Insurance Risk**

### **Financial Implications of Health Care Provider Insurance Risk Assumption**

Health care costs are rising faster than the growth of most modern economies, sparking global efforts to reduce health care costs. One approach involves having health care providers share risks with insurers. Advocates suggest that risk sharing reduces incentives to over-treat, treat defensively, and eliminates fraudulent billings for services never provided. Good policy requires accurate statistical data, analysis, and recommendations, and valid arguments. Philosophers and mathematicians have warned about logical fallacies for millennia, but fallacious reasoning and flawed statistical arguments used to support risk sharing finance mechanisms persist. This article examines the impact of insurance risk transfers to health care providers. A critical statistical analysis of the core assumptions underlying risk transferring health care finance mechanisms reveals fundamental weaknesses and recognition of these weaknesses may improve the quality of public debate, health policy, and health care..

### **Logical Fallacies of Distribution**

Logical fallacies of *distribution* occur when we assume that what is true about individual members or subgroups are true of groups as wholes. We commit the *fallacy of division*, when we assert that what is true of a group, such as the loss ratio on an entire portfolio of insurance risks, is true of individual policyholders or sub-portfolios. If the average loss ratio for an insurer's entire portfolio is \$0.75 per dollar of premium, it should be obvious that the loss ratio for any individual policyholder or any arbitrary subset of insurance policies, is unlikely to be \$0.75. Despite this, precisely such assumptions lie at the heart of many proposals for changing the financing of health care services.

Flawed debate and decisions occur throughout the world as politicians and financial analysts employ fallacious arguments and flawed statistical assumptions about health insurance, health care finance, and health care policies, throughout the world. Such arguments underlie health care financing

problems in the US, Canada, and Great Britain, and in many other industrialized countries.

Health care finance mechanisms that involve implicit or explicit insurance risk transfers include: Individual health accounts (IHAs); efforts to shift fiscal accountability of the British National Health Service to local planning boards and health care providers; managed care and health maintenance organizations, consumer directed health care, and the most explicit, the global capitation contract.

### **Professional Caregiver Insurance Risk**

Professional Caregiver Insurance Risk (PCIR) refers to the transfer of health insurance risks from health insurers, such as Blue Cross and Blue Shield, Medicare, and Medicaid to health care providers such as hospitals, doctors and advanced practice nurses, and long term care facilities. These mechanisms are often blamed for reduced service quantity and quality and advocates always seem bewildered that consumers believe that these mechanisms are responsible for service degradation. This article explains why these mechanisms must fail and why service degradation is inevitable.

Risk sharing advocates assume, either implicitly or explicitly, that the average loss ratio for the risk assuming health care provider's sub-portfolio of risks will be the same as the loss ratio for the insurer's entire portfolio. The fallacy arises because it is not true that when we divide an insurer's entire portfolio of insurance risks among many health care providers, that each provider will have the same actual loss ratio (Costs/Revenue) as the insurer would have if it retained all its insurance risks.

The flaw is appealing and not without a statistical rationale. If the sub-portfolios are selected at random, the *expected loss ratios* are the same for providers and insurers. The problem is that nobody has their expected loss ratio, both providers and insurers have *actual loss ratios*. The actual loss ratios for each health care provider will be different than the actual loss ratio for the insurer's entire portfolio. In fact, half the providers will have actual loss ratios above/below the actual loss ratio for the insurer and the true loss ratio for the population.

This flaw is sufficient to question capitation, but there are additional issues. Provider sub-portfolios are not random selections from insurer's portfolios. Geography, employment affiliation, patient self-selection, and known health care needs, influence the composition of sub-portfolios and health and illness experiences within sub-portfolios. We cannot assume that each sub-portfolio even has the same expected loss ratio as the entire portfolio because the sub-portfolios are likely to be biased samples from the population and will result in biased estimates of the true population loss ratio.

The issue we will explore in detail, is the influence of provider's sub-portfolio size on variation around the true population loss ratio under the assumption that the sub-portfolio is a random sample. Using statistical sampling theory we can demonstrate that small insurers are less efficient than large insurers and that this inefficiency means that small insurers cannot provide the same insurance benefits as large insurers even when randomly sampling from the same population. Risk assuming health care providers are small, inefficient insurers, and these inefficiencies result in reduced service capacity.

### **Average Cost Based Reimbursement Plans**

Many current and proposed health care finance mechanisms involve paying health care providers an *average* amount per client in return for which providers assume the unknown costs of furnishing services. I call these mechanisms *Average Cost Based Reimbursement Plans (ACBRPs)*. The Medicare Prospective Payment System and Diagnosis Related Groups (DRGs) systems pay health care providers scheduled amounts based on primary and/or secondary diagnoses. Since each patient within the same diagnostic categories has *actual costs* rather than schedule or average costs, providers are accepting insurance risks, the unknown costs of services, in return for an insurance premium, the scheduled payment. Insurance risks exist even if we do not see or plan for them, or if we call them something else.

Under fee-for-service payment systems, health care providers (physicians, advanced practice nurses, and bedside nurses) make more money by working harder, longer, and delivering more

services. Provider risk assumption advocates suggest that fee-for-service plans encourage unethical providers to increase their income by providing unnecessary services or by collecting money for services never provided. They suggest that providers who accept the responsibility for the variable costs of health care will have no incentive to provide unnecessary services and cannot bill for services not provided, so provider insurance risk assumption will reduce health care costs. They ignore the fact that unethical providers can increase their net income by accepting insurance risk transfers and failing to provide services their clients need and that it is easier for unethical providers to defraud clients than health insurers because clients expect their health care providers to act in their best interest. If we cannot trust providers not to defraud insurers, why should we trust providers not to defraud clients? Advocates also ignore the possibility that insurance transfers introduce new inefficiencies and increase health care costs.

Under risk transferring mechanisms, unethical providers can increase their net income by providing fewer services, using lower cost and lower quality diagnostic and treatment protocols, and by delaying, deferring, or denying diagnosis and treatment for rare, but costly, conditions. Insurers use precisely these approaches, routinely paying small claims and denying or delaying payments for large claims. Unethical, risk assuming providers can elude detection by offering enough services to appear legitimate and still benefit because there is a chasm between the minimal services necessary to appear to be a good provider and the more aggressive diagnostic and treatment services offered by expert, caring, and dedicated providers. Of greater concern, flaws and inefficiencies in these finance mechanisms necessitate that even the most ethical of providers deliver fewer services.

Risk assuming health care providers incurs lower costs when they provide fewer services. The longer the office is open, the more aggressive the diagnostic and treatment services, the worse the risk assuming provider's financial results. Despite these flaws, most health finance analysts fail to question the core principles of risk transfers to health providers.

This article cannot address all these problems. I mention them so readers will understand the complexity of the issues involved. The rest of this article focuses on explaining the relationship between health insurers and health care providers based solely on portfolio size.

### **Capitation Agreements**

Capitation agreements are often used to pay providers for the services they deliver to clients. Global capitation agreements obligate insurers to pay providers a fixed payment, each month, for every member of a sub-portfolio of the insurer's policyholders. Risk assuming providers accept the fixed payment in lieu of the unknown costs of providing health care services to the policyholders in their sub-portfolios. Capitation agreements are very complicated, involve limits on the amounts insurers have to pay and limits on the type, quantity, and quality of services providers must deliver. Global capitation contracts are rare, but we will assume full risk transfers, since limited transfers add complexity without improving our analysis.

Capitation agreement proponents assert that they allow providers to make clinical decisions, at the point of care, without being second-guessed by insurers, freeing providers from the obligation to justify individual clinical decisions. This does not work because disputes about the obligations of insurers and providers are common, as are short falls in provider revenues. Approaching this analysis in terms of global transfers, avoids the clutter of details that arise when the full value of the insurer's and provider's actual losses are indeterminate, pending retrospective audits that may take years to complete.

Many mechanisms involve hidden insurance risk transfers. When physicians and nurse practitioners work for health care providing organizations, their work, clinical decisions, costs, and revenues are subject to clinical and financial review. While they are not financially liable for the costs they generate, they may lose their jobs if their costs consistently exceed peer's costs. Every nursing unit has a fixed operating budget and this requires nurses to manage uncertain costs of care with fixed resources. Nurses and nurse managers who exceed budget, face financial reviews so they are not

immune from the impact of employer insurance risk assumption and intra-organizational risk transfers. Diagnosis Related Groups (DRGS) systems used around the world to pay for health care services, pay fixed amounts based on diagnoses, and this creates an insurance risk transfer. The most problematic transfers involve providers who are directly responsible for health care costs: medical practices, hospitals, and other health care facilities that participate in prospective payment systems or capitation agreements.

### **Health Care Services as Commodities**

Many policy analysts suggest that health care is unlike other economic commodities, because consumers willingly consume more health care services than they 'need' and that the laws of supply and demand do not apply because consumers confuse more health care services with more health. Analysts also suggest that most consumers have health insurance which pays most of the costs of the services they consume. Consumers who would not pay, out of pocket, for a massage every day may seek massages if they only pay a small fraction of the market costs and their insurer pays the rest. Their argument is that the marginal cost and marginal utility of one extra unit of massage are not in proper balance when insurers pay most of the additional marginal costs. Other analysts suggest that we can reduce health care costs if we put consumers in 'control', making them more circumspect about their health care service purchasing decisions by using devices that hold consumers liable for the first few hundred or thousands of dollars of costs each year. Putting consumers in 'control' is another way of shifting insurance risk management from insurers to other entities. Problems include consumers' tendencies to defer early diagnosis and treatment to save money and the 45 million Americans who cannot afford minimal health care services or insurance. It should be clear that consumer 'control' will not work for this group at all.

Other analysts suggest that rising health costs are the result of market failures because consumers do not know how to evaluate the clinical consequences of their and their health care

providers' decisions. Given choices between expensive diagnostic and treatment protocols and inexpensive protocols, many consumers want expensive protocols because they think they are better and/or their insurers will pay most of the costs. Such tangential considerations have merit but interfere with sober reflection, cluttering up discussions of far more critical issues. We will assume that we have a perfectly efficient health care delivery system and a perfectly efficient health insurance marketplace. These assumptions allow us to avoid more fallacious reasoning, that if we change some aspect of these systems we can fix any problems that arise, and that the persistence of problems proves the health care system is resistant to change.

By assuming efficiency in every aspect of care delivery and financing, we can focus on the effects of insurance risk transferring payment mechanisms on the financial stability of health care providers when the only sources of variation are individual's random needs for health care services.

### **A Brief Primer on Risk and Insurance**

Theoretically everyone can buy health insurance. In practice, many people cannot because they cannot afford the price willing insurers want to charge. Unlike other markets which seem to efficiently allocate goods and services to those who want (need) them most, health insurance becomes more expensive the more you need it and the more you expect to use it. Markets allocate goods and services based on willingness to pay, not need. I may 'need' a Rolls-Royce but I am unwilling to pay for one. As well, Rolls-Royce acquisition costs do not rise with the intended frequency of use, as insurance does.

There are two aspects conflicting objectives in rate making for insurance policies, fairness to individual policyholders and achieving risk sharing across large and disparate populations to keep premium rates low enough that most people can buy insurance. Insurance rates are *actuarially fair* when they reflect the risk characteristics of individual policyholders. Insurance rates *spread risk* when many policyholders who generate no losses or very small losses are included in the same premium category with a small number of people who will have high losses. Insurance rates are *actuarially*

*sound* if they allow insurers to continue operations without becoming insolvent.

These two objectives are inversely related. The more accurately the premium reflects individual risk characteristics the less risk sharing occurs. HIV+ policyholders will generate higher future health care service costs than HIV- policyholders. If we allow HIV status to be used to price insurance we will accurately reflect the future costs of writing insurance policies for HIV+ policyholders but the policies will be very expensive and many HIV+ people will not be able to afford insurance. Excluding HIV- people from this class means that little risk spreading will occur.

We can preclude the use of HIV status in setting insurance premiums, by using geography, age, or gender to rate risks. Our premiums will be lower for HIV+ policyholders but the non HIV+ policyholders will subsidize their costs since we spread the risks of high utilization costs across a population that includes both groups. Since HIV+ status is rare, the premiums will probably be low enough that both groups can afford to buy policies. This tension between accurate risk pricing and risk spreading always exists. We cannot solve this problem either, so we assume that everyone is covered by a standard policy

Let's review some very basic ideas about insurance. Insurers have to collect sufficient money in premiums to cover their costs. We shall distinguish only three costs: Losses and loss adjustment expenses; non-loss related operating costs; and a contingency for profits. Insurers whose premium revenues do not cover these costs will not survive very long.

Insurance works because of “risk sharing”. This is a very simple concept, but the underlying principles and theories are elegant, complex, and beyond this article. To fully understand insurance requires an appreciation of probability, statistics, economics, finance, theory of interest, and utility theory to name just a few. Let's take a simple example of risk sharing to achieve a common good. Suppose I fall through the ice a few feet away from two other people. Each of the people could jump into the water and attempt to save me. Each is likely to fail. If they cooperate, one may could stay on

safe ground and hold on to the other person, who can then reach me and pull me to safety. If the second person falls through the ice, we may both be pulled to safety by the third person. The bystanders can accomplish something together, with less risk for all of us, than either can achieve alone.

Assume all three of us have a small probability of a fatal illness that will cost \$5,000 to treat, but that at least one of us will become ill. None of us can afford to pay \$5,000 so if we get it, we die. If we all chip in \$1,667.00 there will be enough money to cover the costs for one of us. Sadly, if two or more of us get ill, only the first gets treated, but that is still better than all of us dying. By joining together, we assure the survival of at least one – something none of us can accomplish alone. The essence of insurance is joining together, through insurers, so that many people can pay modest amounts and reduce the risk of rare, though extreme, financial losses.

### **Why Insurance Works**

The Central Limit Theorem (CLT) explains how insurers achieve risk reduction for their policyholders and themselves. The CLT shows why estimates obtained from random samples accurately reflect population parameters. By increasing sample sizes, we produce sample estimates that are arbitrarily close to true population parameters. More sample members – more accurate estimates. In our case we are interested in obtaining estimates of the true population loss ratio (e.g. incurred losses/earned premiums) for the entire population of health insurance policies. We assume the loss ratio is normally distributed –  $N(\mu, \sigma)$  and explore how portfolio size affects insurers operating results.

With everyone covered by a single class plan the loss ratio distribution reflects the high variation in frequency and severity of losses arising from individual policyholders. Every possible class plan we implement results in some people paying more than they should and others paying less than they should. We assume that no insurer can skim the market, systematically selecting lower than average risks, so that in our efficient insurance market, every insurer's portfolio is a random sample from the same population.

By writing policies, insurers select random samples from the population of all policies. At year end each insurer calculates an estimate of the true population loss ratio, its *actual loss ratio*. The more policies the insurer writes, the closer its actual loss ratio should approach the true loss ratio.

### **How Insurer Size Affects Insurer Operating Results**

We assume that the true loss ratio is 75% of premium revenue, that premiums are actuarially sound, that non-loss related operating costs are 20% of the premiums, and that there is a 5% profit provision in the premiums. The standard deviation is not important because it is independent of insurer portfolio size. The *standard error* for each insurer is  $\sigma/\sqrt{N}$  where N is the size of the insurer's portfolio, the number of policies it writes.

Insurers writing more policies have smaller standard errors than insurers writing fewer policies. Since portfolio selections are random, insurers writing fewer policies tend to have lower or higher loss ratios than insurers writing many policies because their loss distributions have fatter tails than insurers writing more policies and these fatter tails are what we want to examine. With these assumptions we can see the flaws in capitation agreements, keeping in mind that we are always referring to random samples and standard errors for the estimates of the true population loss ratio. We want to know the probability that actual loss ratios fall far from true loss ratios at year end based solely on portfolio size.

If insurer A writes 100,000 policies per year while insurer B writes 10,000 policies, how will the actual loss ratios for A and B be distributed around the true loss ratio? We can calculate a confidence interval around the true loss ratio as a function of portfolio size by using the standard error of the estimate of the mean loss ratio for insurers A and B. Their actual loss ratios will vary around the true loss ratio in accordance with the CLT. 68.26% of their distributions of actual loss ratios will fall within one standard error of the true loss ratio; 95% will fall within 1.96 standard errors; and 99% will fall within 2.58 standard errors of the true loss ratio. To compare A and B we need a common system of measurement, the probability that A and B will have loss ratios above specific loss ratios.

Table 1 shows the probability that each insurer's actual loss ratio exceeds fixed loss ratios in the first column. Insurance company CEOs are loathe to explain why there were no profits, or worse, why there were operating losses during the year. We can compare insurers by assuming that the probability that insurer A will keep the probability of operating losses below 0.01 and then find the probability that insurer B will have losses that exceed the same levels. Insurer A can achieve this by writing enough policies so that its standard error equals \$0.0215 ( $\$0.05/2.326$ ) since this will reduce to 0.01 the probability of a net loss at year end. Insurer B would like to achieve the same probability of avoiding a loss but cannot because it has a larger standard error and more of its upper tail lies to the right of insurer A.

### Comparing Insurers Actual Loss Ratios

Insurer B's standard error is based on writing  $1/10^{\text{th}}$  the number of policies written by insurer A so we insurer B's standard error as \$0.068 ( $3.162 * \$0.025$ ). Table 1 shows the probabilities of losses exceeding those specified in the first column for insurer A and insurer B.

Although we refer to 'insurers' the reader should begin to think of risk assuming health care provider in place of insurer B and note that regardless of how the insurance risk transfer arises, risk assuming health care providers become small, inefficient, insurers when they accept capitation contracts. Everything we suggest about insurer B applies to risk assuming health care providers.

How do A and B match up? Both insurers have a 50% probability that their actual loss ratios will exceed \$0.75. Since we are only interested in the potential for losses exceeding this level we only consider the upper tail, the other tail being symmetric.

Actual Loss Ratio	Probability of Insurer A Loss Ratio Exceeding Actual Loss Ratio	Probability of Insurer B Loss Ratio Exceeding Actual Loss Ratio
0.75	0.50000	0.50000

0.76	0.32190	0.44150
0.77	0.17610	0.38430
0.78	0.08150	0.32950
0.79	0.03140	0.27820
0.80	0.01000	0.23110

Insurer B has higher probabilities of losses exceeding the actual loss ratios in the first column than insurer A and also has a larger probability of lower loss ratios than insurer A as we move below \$0.75 but that is desirable. Based on portfolio size, B's CEO has a much higher probability of having to explain operating losses ( $P = 0.231$ ) than A's CEO ( $P = 0.01$ ). We shall explore more serious implications below.

### **Health Care Providers are Small, Inefficient, Insurers**

When health care providers accept financial risks they enter the insurance business whether they know this, plan for it, or adjust to it soon enough to prevent severe losses. Because they accept smaller portfolios from health insurers, their standard errors are larger than the standard errors of the insurers transferring these risks, and their operating results, as insurers, are more volatile than the original insurers. A further complication is that the experiences of risk accepting health care providers are worse than insurer B's experiences because the providers, unlike insurer B, only get \$0.75 of each premium dollar.

If the health care provider, like the insurers, seeks an operating profit of 5% on revenues, we can make this situation clearer. When the actual loss ratios for insurers A and B (Health care provider) are exactly \$0.75, everyone makes a profit of 5%. But the profit is based on two different amounts: 100% of premium for insurers and 75% of premium for providers, while the loss ratios are calculated in terms of insurer premiums. A 5% rise in the insurer's loss ratio entails a 6.67% rise in the provider's loss ratio because of the smaller denominator. The actual amount the provider has available to cover its

operating costs and maintain a 5% profit ratio, is \$0.7125 per dollar of insurer premium. If the insurer's loss ratios are \$0.80, i.e. an extra 5 cents per premium dollar in costs, the insurers will break even, but the provider's losses will be \$0.7625, not \$0.7125. Since the provider receives only \$0.75 from the insurer, it loses money for break even point losses for insurer B.

Despite the problems caused by transferring insurance risks to health care providers, there is no end to the creativeness exhibited in devising risk sharing mechanisms. Running an insurance operation is a complex endeavor, best left to organizations without the obvious conflicts health care providers have by virtue of their obligations to their clients. Turning health care providers into small, inefficient health insurers does not achieve health care cost reductions, it actually increases the inefficiencies in paying for health care services, and significantly reduces providers' service capacities as providers struggle to avoid operating losses.

From a purely statistical standpoint, the larger the pool of insureds, the greater the spread of risks, the lower the costs of individual insurance policies for those who need them most, and the more efficient and stable the insurer's operations. Health care providers ought to operate efficiently clinically and reimbursement practices should promote clinical efficiency, not inefficient insurance operations.

### **How Can Small Insurers Compete with Large Insurers?**

Small insurers are at a competitive disadvantage compared to large insurers, so they cannot operate exactly the same way or they will face severe operating losses. How can small insurers manage their operations and compete with their larger, more efficient rivals? There are three ways to overcome their greater operating variability. Small insurers can implement policies to reduce loss costs by instituting more aggressive claims control policies; reduce their standard errors by better underwriting, identifying and writing policies for more homogeneous policyholders; and/or identifying and writing more policies for lower risk policyholders. The best way is to shift the actual loss ratio by selective underwriting, identifying lower than average risk policyholders and writing policies for them in

preference to their higher risk peers. Many insurers avoid high risk policyholders by strategically locating their offices, targeting specific neighborhoods they believe will have lower loss characteristics, will mak fewer claims or make lower cost claims than other neighborhoods. Insurance regulators try to restrict insurers from such predatory practices but insurers do their best to write lower risk policyholders.

In efficient insurance markets, small insurers have no secret knowledge. Insurer B cannot influence its standard error nor write lower risks because insurer A can do the same thing. The only choice for insurer B, and one increasingly taken by insurers in all lines of business, as seen in the aftermath of the World Trade Center collapses and Hurricanes Katrina and Rita, is more aggressive claims management. Insurer B can reduce its probability of operating losses if it systematically shifts its expected loss ratio down by refusing to pay some claims insurer A would pay. Insurers can implement more aggressive claims management policies by delaying or denying claims that should be paid under its insurance contracts, either shifting the loss costs to future periods or eliminating them entirely. Such aggressive claims management will fail long term because informed policyholders will migrate to insurers that actually stand behind their policies, but such practices will work for short periods of time and recognizing this helps us see additional problems caused by provider risk assumption.

Insurer B will not implement such draconian claims practices unless preliminary estimates of its yearly loss ratio indicate a large loss. If Insurer B's loss ratio projections are below average, it need not take any corrective action at all. However, when it is clear that the annual loss ratio is going to be very high, insurer B will take drastic action to stem their losses. When an insurer begins aggressively denying claims it used to honor, affected policyholders will respond immediately, because they know their claims are legitimate and they may know that similar claims were paid in the past. They can complain to insurance regulators, seek arbitration, file lawsuits against the insurer, and publicly expose

the insurer's poor operating practices.

Risk assuming health care providers are far better positioned to benefit from implementing aggressive claims management policies than insurers. Risk assuming providers, like any insurer, see immediate benefits from more aggressive claims control and they certainly have a higher probability of having to implement more aggressive claims control practices to compensate for their inefficient insurance operations. If providers continue to practice the way they did before entering into capitation agreements they will have much higher probabilities of excessive losses than insurers of equal size and far higher probabilities of losses than insurers that write 10; 100; 1,000; or even 10,000 times as many policies as the provider assumes. To avoid these operating losses, providers must reduce the level of services they expect to provide over the course of the year or risk becoming insolvent by year end, failing to fulfill their contractual obligations to the insurer, and failing to meet the needs of their clients.

Risk assuming health care providers have little influence over portfolio selection so their primary way of managing losses is by limiting access to diagnostic and treatment services. Because they are clinical experts and professionals, most clients assume that they are acting in their best interests because most clients do not understand the radical shift that has occurred. Unlike their relationships with their insurers, clients do not know whether their health care provider is denying a legitimate claim because they do not know whether a specific diagnostic or treatment protocol should be implemented. Risk assuming health care providers control the information clients have about whether a claim exists and is being denied. By the time clients realize that their claim for services has been denied, they may have changed providers due to a change in employment, or due to a decision by the provider not to sign on for another capitation contract with their insurer. Clients do not really understand that their health care provider's financial interests and their own interests as patients conflict dramatically.

As we have seen, providers, *qua* insurers, need to minimize losses to compensate for their

greater variability. Clients want to maximize the services they get on their policies. Every clinical decision is a claims decision with potentially adverse financial and clinical implications. Health care providers defrauded insurers by subjecting clients to unnecessary diagnostic and treatment procedures or by filing claims for services never provided, will have few qualms about fraudulently denying services to clients. In fact, it takes a lot of socialization to the insurance business before insurance employees stop looking at high cost claims as unjustified efforts by claimants to get benefits they do not deserve. Providers have no such socialization, rarely their insurance obligations, and often see high cost clients as seeking more than they deserve, confusing the capitation payment with revenue from the patient under fee-for-service.

Insurance companies are regulated and required to acknowledge claims and justify claim denials or delays. Few regulations govern risk assuming health care providers and these providers control the information clients need to realize that their legitimate claims are being denied. In a worst case scenario the client is denied early intervention until no treatment will work. There have been many cases in which costly illnesses were ignored by clinicians, resulting in the untimely deaths of patients or far worse outcomes than would have occurred with appropriate and timely intervention. Unfortunately, in many cases, even when a legitimate claim has been denied, there is no paper trail that supports the fact that the denial has occurred because the provider did not perform the necessary diagnoses or deliver treatments.

## **Conclusions**

Health care providers accepting capitation contracts, managed care contracts, prospective payments, and reimbursements based on the DRG systems around the world are accepting insurance risk liabilities. Because they are managing insurance risks they need to blend their clinical practices with insurer practices such as claims settlement and rate making. These extra operating costs due to their insurance roles come out of the same funds allocated to cover health care services, do nothing to

enhance clinical efficiency, and leave providers vulnerable to operating losses due to their inefficient insurance operations. Even if the insurer's premium revenues are adequate, health care providers have higher probabilities of costs exceeding their revenues than insurers managing the same exact portfolios.

In an efficient health care system, risk assuming health care providers must reduce the level of care they provide to compensate for their inefficient insurance operations. For every dollar of insurance premiums the amount that goes to fund clinical services is lower when capitation contracts are used than when insurers retain insurance risks and reimburse equally honest and efficient health care providers for the costs of their services.

Since risk transfers are inherently inefficient, they should not be used and most certainly should not be used on the assumption that they will reduce health care costs because each dollar of premium buys fewer health care services under capitation than without capitation.

Statisticians can contribute to health care finance policy discussions by accurately assessing health care finance proposals in terms of the efficiencies or inefficiencies they are likely to cause.