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**Prologmena to Standard Error: A Critique of
Managed Care & Capitation Financed Health Care**

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Contents

Chapter 1

Prologmena to Standard Error

1.1 Introduction

Health care (finance) reform is very much a part of the daily news cycle. This book details the major flaws in the decades old experiment in managed care driven health care (finance) reform. Managed care has, on balance, been a disaster. Health care providers were supposed to be left alone to make client centered clinical decisions. They were. They also failed to do so. Health providers accepted insurance risks from managed care organizations and insurance companies, failed to acknowledge this to clients, and have, for the most part, denied their roles as insurers.

When a client visits their capitated health care provider they are meeting both their clinician and their insurer. Health care providers have systematically refused to acknowledge this dual, ethically and financially conflicted role. The mantra in physician's offices and hospitals across the globe is "The insurance company won't let me/you do/have that diagnostic test or treatment." The reality is that physicians and hospitals are the insurers and they are the ones denying the diagnostic tests and/or treatment services. Both physicians and hospitals are happy to have clients on their managed care rosters when clients do not come to their facilities. The situation changes when clients run up large health care costs for which the physicians and hospitals are responsible. As is the case for every insurer and policyholder, the relationship changes dramatically when the people paying premiums become claimants filing insurance claims.

To understand why transferring insurance risks to health care providers is a fundamentally flawed idea, we need to review basic insurance principles, correcting the flawed analyses that spearheaded the managed care revolution. To fix health care (finance) we must return to sound principles for managing risk. You have probably encountered the following concepts before but simply did not think of how they should apply them to insurance and managed care operations . If you can follow this chapter, the balance of the critique of managed care and capitation, will probably fall into place relatively easily. If you have difficulty with this section, please get a very basic statistics book and work on it a bit. I never encourage people to simply accept what I say, I want you to think about what I am saying so you will not be fooled when the architects of managed care trick out another flawed mechanism.

In the chapters ahead, I will logically detail the flaws in using managed care and capitation to finance health care services. However, it will be a fast and bumpy trip if you have trouble with the material below. The purpose of this book is not to provide the probability and statistical grounding, but to build on a modest subset of it.

While the trip ahead will be easier with a good background in statistics, millions of people with an excellent backgrounds in statistics have failed to grasp the fundamental flaws in transferring insurance risks to health care providers. These people include economists, statisticians, medical doctors, research analysts, wall street analysts, academicians, and hundreds of millions of clients. Cramer, the stock guy, just today (July 08, 2009) advised listeners to invest in managed care organizations. This is the equivalent to advising clients to invest in Lehmann Brothers, AIG, and other failed enterprises in 2007 and early 2008. If you liked the stock market crash of 2008 you probably like managed care. You are definitely in good company if you have some trouble along the way and you are certainly in a large group if you think managed care can work without transferring insurance risks to health care providers.

1.2 Measures of central location

Statisticians, insurers, and analysts in all fields need to summarize large sets of data. After the size of the data set (i.e. how many members are in it) analysts usually want to report where most of the data seems to be concentrated. Analysts call such measures, measure of location, centrality, centers of gravity, and other terms. The most common measure of location is the *Mean* value μ , or average value, for a set of numbers. The mean value is calculated as follows:

$$\bar{x} = \frac{x_1 + x_2 + \cdots + x_n}{n} = \frac{1}{n} \sum_{i=1}^n x_i \quad (1.1)$$

Another measure of the center of a set of data is the *median* value. The median for a set of numbers is the midpoint of the list of numbers when sorted from lowest to highest. This works well for small sets of data with odd numbers of elements but not for even numbers of elements. When the data set has an even number of elements we define the median to be the mean value of the two middle items. Some examples will help.

The set of numbers $\{1, 2, 6, 9, 15\}$ has a mean value 6.8 and a median value of 6, while the set of numbers $\{1, 2, 3, 4, 5, 7\}$ has mean value of 3.667 and a median value equal to the mean of the two center observations $\{3$ and $4\}$, or 3.5.

1.3 Measures of variation

Knowing the location of the center of the data is not enough. We also want to know how far away from each other, and the center, the data points lie. We define several measures of variation, saving the most important for last.

1.3.1 The range and interquartile range

The *range* is the simplest measure of variation. It is the difference between the highest value and the lowest value in the data. The equation to calculate the range is:

$$\text{Range} = \text{Maximum} - \text{Minimum} \quad (1.2)$$

The first and third *quartiles* Q_1 and Q_3 : The first quartile is the median value of the partial set of numbers that are at, or below, the median for all observations and is denoted by Q_1 . The third quartile is the median value of the set of numbers that are at, or above, the median for all observations and is denoted by Q_3 . These quartiles give us a more refined idea about the way the data is spread out. Each quartile contains $\frac{1}{4}$ of the data points so the region between the first and third quartile has half the points and half the points are further away than these boundaries.

The *Interquartile range* (IQR) is the difference between the value of the third quartile and the first quartile, $\text{IQR} = Q_3 - Q_1$.

1.3.2 The variance and standard deviation

The variance σ^2 of a set of numbers for a *population* with N members is the average of the sums of squared deviations between individual values and the mean value. In symbols:

$$\sigma^2 = \frac{(x_1 - \mu)^2 + (x_2 - \mu)^2 + \cdots + (x_N - \mu)^2}{N} \quad (1.3)$$

or, more succinctly,

$$\sigma^2 = \frac{1}{N} \sum_{i=1}^N (x_i - \mu)^2 \quad (1.4)$$

The standard deviation: σ is the positive square root of the variance, and is used as a measure of variation, or dispersion, in a set of data, because of some pleasant mathematical properties and because it is measured in the same units as individual members of the set of data.

$$\sigma = +\sqrt{\sigma^2} \quad (1.5)$$

In succinct form, the standard deviation for a population is:

Memorize this

$$\sigma = \sqrt{\frac{1}{N} \sum_{i=1}^N (x_i - \mu)^2} \quad (1.6)$$

When calculating the value of the variance for a *sample*, versus a population, we correct for a known bias resulting from an under-representation of extreme values in samples. To calculate the sample variance we use the sample mean in place of the population mean, and we divide by $n - 1$ not n where n is the sample size.

$$s^2 = \frac{(x_1 - \bar{x})^2 + (x_2 - \bar{x})^2 + \cdots + (x_n - \bar{x})^2}{n - 1} \quad (1.7)$$

or, more succinctly:

$$s^2 = \frac{1}{n - 1} \sum_{i=1}^n (x_i - \bar{x})^2 \quad (1.8)$$

The sample standard deviation s , is derived from the sample variance the same way that the population standard deviation is derived from the population variance, by taking the positive square root:

$$s = +\sqrt{s^2} \quad (1.9)$$

When analyzing sets of numbers it is convenient to specify a standard summary. The most common seven-number summary for a set of data includes the smallest value (the minimum), the first quartile Q_1 , the Median (Q_2), the third quartile Q_3 , the maximum value, the mean, and the variance.

The definitions of the variance and standard deviation for populations and samples have confused millions of statistics students. We need yet another, very similar, measure of dispersion to understand why we use insurance to manage risk rather than handle risk individually. Unfortunately these critical measures of dispersion look very similar, which causes a great deal of

confusion. Using one measure of dispersion in place of another is a common error, even among otherwise well schooled analysts. The rationale for managed care and capitation uses variances and standard deviations, when it should be using *standard errors*.

Population variances (standard deviations) and sample variances (standard deviations) tell us how far from the mean value an *individual* member of the population (sample) is likely to lie. Insurers are almost never interested in single policyholders. Instead, most insurers, write large numbers of policies. Even when insurers write policies for companies, such as workers compensation, or health insurance, that cover all an employer's employees, they tend to write many policies for many different companies, not just one.

What we want to know is: **“How far from the true population mean loss ratio, do estimates of the population loss ratio based on different sizes of insurer portfolios lie?”** In short, how does insurer portfolio size effect how close an insurer's loss ratios are to the true population mean loss ratio?

1.3.3 How providers must perform when they become insurers

We need to stop for a moment, to let an important concept sink in. When insurance companies underwrite policies, whether homeowners, health, workers compensation, liability, or auto insurance, they take samples of the population of all possible policyholders. Their operating results are estimates of the true population operating results for the population of all possible policyholders from which they chose their sample (portfolio).

The short path to providers as insurers

When health care providers accept capitation contracts, they elect to underwrite a subset of the policies/risks the risk ceding insurer underwrote. The risk assuming health care providers' operating results are also estimates of the true population operating results. There is no magical process here that saves the health care provider from being the insurer on the policies/risks it

has agreed to underwrite. By signing enough capitation contracts to cover all its policyholders the risk ceding insurer leaves the insurance business. By signing capitation contracts, risk assuming health care providers become insurers, functioning as insurers and clinicians until the capitation contract is completed or canceled.

A rose by any other name

Since the same insurance principles apply regardless of the names on the office doors, we want to compare the estimates of the true population operating results derived from a risk retaining insurer's portfolio of insurance risks with the estimates of the true population operating results derived from risk assuming health care providers' sub-portfolios of insurance risks. We want to know which estimates are better (i.e. closer) to the true mean. We also want to explore how risk assuming health care providers manage their insurance operations, the impact of insurance operations on providers' financial viability, service quality, and service quantity. In short, we are developing measures of efficiency for insurance operations that allow us to compare risk retaining insurers, risk ceding insurers, and risk assuming health care providers.

Providers as claims agents

As insurers, health care providers must decide which service claims to honor and which to reject. The ethical conflict in doing this should be clear. Clients do not understand that their trusted health care providers are actually their insurers and that these same providers are making claim resolution decisions as well as clinical decisions. Will your provider order an expensive but definitive test or will they not test at all? Will they use a cheaper, less discriminating test? If the expensive test will cost your provider \$1,000 and not testing costs \$0, what will your provider do? Will your provider substitute a cheaper test, even though that test is less likely to result in a diagnosis when you have a life threatening disease? Will you even know this is happening? Does your provider explain that they have a financial interest in which tests and treatments they provide or do they say that your insurer or health plan is making such decisions?

Faced with this dilemma many providers assert that the insurer will not

allow them to order expensive tests and treatments. This is almost never true in managed care and capitation financed care. The risk ceding insurer does not care which test the provider uses because the provider, not the insurer, is responsible for the costs. The provider, not the insurer, is responsible for the costs for treatment that result when the diagnostic test is positive. As we shall see in our discussion of diagnostic testing, withholding expensive diagnostic testing exposes each client to the same, small risk, of a false negative result, but it exposes the health care provider to a very high probability of one or more errors in their clinical practice.

Health care providers make millions of insurance claim decisions every day. This occurs in offices, hospitals, nursing homes, and clinics. Providers, not insurers, are limiting access to care, substituting cheap tests and services, and all too often denying critical diagnostic and treatment services at the same time that they are encouraging their clients to believe that these decisions are being made by some clerk in an insurance company.

We shall demonstrate that risk assuming health care providers are far more likely to have high or low costs than large, risk retaining insurers, when the same portfolio is parceled out to numerous providers. The high costs in some sub-portfolios would, if retained by the insurer, be offset by low costs for other sub-portfolios. Risk assuming health care providers do not benefit from these compensating deviations, while the insurer would.

1.4 Sampling and parameter estimation as it applies to insurance operations

Statisticians use data from random samples to produce estimates of population means that are very close to the true value of the population mean (Statistical Inference). This is the fundamental principle upon which insurance is based. This is also the fundamental flaw in managed care and capitation. When we take samples of size n from a population of size N , have correctly specified the population, and correctly chosen the sample (randomly), we can produce estimates of population means that are unbiased and whose expected values, across large numbers of samples, equal the true population means.

This process of estimating population means is so much a part of our daily lives that we pay scarce attention to it. In particular, most analysts and the public simply fail to see that it is this process that supports insurance and does not support managed care and capitation.

1.4.1 The standard error of the distribution of sample means

If we draw a sample of size 1 from all 300,000,000 Americans who are potential health insurance policyholders, we will not get very close to our true population mean cost for health care services. The worst we can do is choose the potential policyholder with the highest or lowest costs. We are more likely to choose a value somewhere in the middle. If we draw a sample of size 2 and take the average costs for these two potential policyholders, we will, in a probabilistic sense, get somewhat closer to our population mean cost. A sample of size 3 will get us even closer as will samples of size 5, 6, 6... High value on some selections may be offset by a low value on other selections. Of course we could choose low (high) values on all our selections, but this is not very likely.

If we keep drawing samples of larger and larger sizes, we will get estimates \bar{x}_{n_i} , $i = 1, 2, 3, \dots, n, \dots, m$ of the true population mean μ that converge, in a probabilistic sense, to the population average costs, μ . I am speaking heuristically here - motivating the more precise language that will be developed later. Each time we increase sample sizes there is a chance that we will move further away from the true mean. If a sample with $n-1$ members was below the true population mean and we chose as our next sample member the smallest value in the population, our estimate would be even lower for our sample of size n than it was for our sample of size $n-1$, i.e. further away from μ than we were before.

We want a measure of how far from the true population mean loss ratio our estimates will be if they are selected from samples of varying sizes. For this, we need another measure of variation. This new measure is more complicated than the variances and standard deviations we have already described. The *standard error of the distribution of sample means* (s_e , for short) is this measure. In essence, when we use samples to calculate estimates for true

population means, which is one of the most fundamental statistical concepts, we can calculate a measure of how far from the true population mean we are likely to be based solely on information derived from our sample.

So, having set the context, our last and most important measure of variation is calculated as follows:

$$s_e = \sqrt{\frac{s^2}{n}} \tag{1.10}$$

1.5 The standard error and insurance

The formula for calculating the standard error reveals that we can get arbitrarily close to the true population mean μ if we simply increase sample sizes. An insurer can get arbitrarily closer to the true population mean loss ratio simply by writing more of the same policies. If we have two different sample estimates, derived from samples of different sizes, m and n , where m is much larger than n ($m \gg n$) – say 100 times larger – the estimates we derive from samples of size m are almost certainly going to be much closer, again in a probabilistic sense, than estimates derived from samples of size n . We will not go into all the details here, but no matter how we define ‘close’ we can see that bigger sample sizes bring us “closer” than small sample sizes.

We need to be a bit more precise here. For any sample, when we calculate the sample mean, it is either at, below, or above the true population mean. A sample of size one could have a mean value exactly equal to the population mean. It is not likely, but it could happen. The advantage of large samples is that although they can be far off the mark, they rarely are. The larger the sample, the less likely it is that the sample mean is far from the true population mean. But any specific sample produces an estimate \bar{x} that is either above, below, or equal to the population mean μ .

Health care providers manage insurance risks in small samples from the population of all possible health insurance policyholders. Health insurers manage insurance risks in small samples from the population of all possible health insurance policyholders. Health insurers tend to have operating results (Loss ratios) that are closer to the true population loss ratios than the loss

ratios of risk assuming health care providers. Close to the population mean is good. Less than the population mean is better. Higher than the population mean is bad. Much higher than the population mean is very, very bad. Insurance is this simple.

The implications of this simple insight are quite profound. Even big insurance companies and their executives prefer results close to the mean to taking chances that their costs will be excessively high. Stability is good, too much fluctuation is bad. Stock and bond holders do not like insurers with wobbling operating costs. They get nervous. Investors like steady, year to year accumulation in the assets of the companies in which they invest. So do holders of corporate debt. Just consider what has happened at AIG since Maurice “Hank” Greenberg left the helm.

1.5.1 Comparing standard errors for different portfolio sizes

Suppose s_{e_m} and s_{e_n} are the standard errors for samples of size m and n respectively. We can take the ratio of s_{e_m} to s_{e_n} as follows:

Very important

$$\frac{s_{e_m}}{s_{e_n}} = \frac{\sqrt{\frac{s_m^2}{m}}}{\sqrt{\frac{s_n^2}{n}}} \quad (1.11)$$

The sample estimates of the population standard deviation we derive from our samples of size m and n , will not, in general, be equal. However, both s_m^2 and s_n^2 are unbiased estimates of σ^2 . What this means is that in a lot of repeated samples, the average of all the sample estimates of σ for a sample of the same size, approaches the true population variance σ . If we assume that the differences in s_m^2 and s_n^2 for both samples is negligible in comparison with the differences in sample sizes, we can simplify this equation as follows:

$$\frac{s_{e_m}}{s_{e_n}} = \sqrt{\frac{n}{m}} \quad (1.12)$$

and since we have already said that m is 100 times larger than n , the ratio is $\frac{1}{10}$. If a sample size of n will get us about 5 units away from the true

population mean, in a sense to be more fully explained below, a sample of size m will get us about 0.5 units away from the true population mean.

As we shall see, this result bears directly on the ability of health care providers to manage insurance risks. Large insurers have much larger portfolios (collections of insured policyholders) than the portfolios accepted by health care providers in capitation contracts. One insurer may literally transfer insurance risks to hundreds, even thousands, of health care providers: hospitals, nursing homes, home health agencies, physicians, nurse practitioners, psychiatrists, medical supply companies, and pharmaceutical dispensaries.

Each of these entities accept little pieces of the risks the insurer took on when it wrote the policies. But each of these health care providers is very small compared to the insurer, and is far less efficient at managing the risks it has assumed than the insurer would be if it simply retained all these risks. Using our example, if the insurer contracts with 100 different health care providers, each of those providers will have bigger swings in their loss ratios than for the entire portfolio. Some health care providers will have lower costs, some higher, but all must be prepared for the possibility that their costs will be higher because they simply do not know what will happen as the contract matures.

1.5.2 A numerical example

Let's put some more numbers to this phenomenon. Suppose our risk transferring insurer has long term (20 years) operating results that fluctuate about the mean population loss ratio of 0.70 ($\frac{\text{Dollars of losses}}{\text{Dollars of Earned Premiums}}$) by 0.05. What does this mean? It means that the annual loss ratios over a 20 year period have dipped as low as 0.65 and gone as high as 0.75 during the previous 20 years. Based solely on the smaller portfolios assumed by risk assuming health care providers, they can expect to have wider fluctuations in terms of the costs they will incur while providing care to their capitated clients. How much wider might this be? If there are 100 capitating contracters, each accepting 1% of the original risks, the spread could be \$0.50 per dollar of insurer premiums. Since the insurer can't give each provider enough to cover losses that could run as high as \$1.20

\$1.00 of its premium revenues, some provider may suffer severe revenue inadequacies while other

If there were just 16 health care providers accepting all the risks, the spread would be about \$0.20 per dollar of insurer premiums. If we assume that the capitation payment includes a risk premium of \$0.05 and a profit provision of \$0.05, we can see that in a bad year the health care provider may suffer costs so large that they will make no profit at all, sustaining actual operating losses on their capitated clients, of .10 of the insurer's premiums, $\frac{1}{7}h$ of the contract revenue of the provider.

No matter how you slice and dice an insurance portfolio, disaggregation of insurance risks creates inefficiencies. Much like the markets for mortgage backed derivatives, which collapsed in the Fall of 2008, you cannot keep pulling profits out of smaller and smaller pieces of any commodity. At some point there is simply no marginal value to be derived from the sale of an insurance portfolio. When health care providers accept insurance portfolios the variability in costs may be many times greater than for the insurer, dwarfing the slim provisions for profit in the health care providers' capitation payments.

A parable of care

Suppose two psychiatrists contract with a risk ceding insurer to handle all the psychiatric needs of the insurer's policyholders. Each psychiatrist has a different geographic region that they service, though we shall assume that the regions are very similar. One day, a (wo)man enters the local high school with a gun and kills 3 teachers and 22 students. The psychiatrist responsible for that school's geographic region is on overload for the next 2 months, dealing with traumatized teachers, students, families, and the general public.

The second psychiatrist continues to see his/her usual clients and a few spillover clients, but he/she certainly is not overwhelmed. Although the actual increases in service demands have affected only one of the psychiatrists, both of them should have been prepared for just such a possibility. In practical terms, both psychiatrists should have been able to handle such an excessive load when they signed their capitation contracts because their agreement was to cover the service needs of their geographic region, no matter how much service was required.

The only way both psychiatrists could be prepared to meet these service demands would be to have unused resources: Time, waiting room space, un-

booked appointment times, and reserve capacity in terms of equipment, and clerical and administrative staff. This means that both psychiatrists, as soon as they signed their capitation contracts, should have begun to operate inefficiently so that if and when a tragic event occurred they would be prepared to handle it.

1.5.3 Can risk ceding insurers compensate risk assuming health care providers?

One might argue that an ethical insurer would certainly pay their risk assuming health care provider partners an amount that would compensate them fairly for the risks they are assuming. After all, the companies transferring these risks are experts in the insurance business. Certainly they would have planned ahead for this problem and factored such costs into their rates. In practice this cannot be, and is not done because to do so the risk transferring insurer would have to pay out more to the providers for their risk management services than the insurance markets will bear for risk management services. If an insurer gets paid \$0.05 per dollar of earned premiums for managing insurance risks and has to pay out \$0.10 per dollar to health care providers to manage those same insurance risks, it would lose money on every capitation contract.

Others might argue that the insurer can just charge more for its risk management services in the marketplace. This, unfortunately is not true. If the risk transferring insurer tries to charge \$0.10 per dollar of earned premiums to support its practice of off-loading risk to health care providers, a traditional, risk retaining insurer would see an opportunity to wrest policyholders away. By simply retaining their risks, this second insurer would be able to charge less for exactly the same benefit plan. The risk retaining insurer could then charge a lower amount for its policies, and the risk transferring insurer would lose business because its charges for insurance would be higher than the risk retaining insurer's rates. So, for a variety of very clear and compelling reasons, risk transferring insurers cannot compensate health care providers for their risk management services.

1.6 Looking ahead

But, we are well ahead of ourselves. This is only a teaser, the whole story is far more fascinating. I hope to have motivated you to take your reading of the balance of this book very seriously. Please spend the time it will take to understand why managed care and capitation are such dangerous and inefficient practices. Understanding this may just save your life or the life of someone you know.

The complete story of the flaws in managed care and capitation involves a number of disciplines. This accounts for the fact that it has not already been corrected. Few people want to take on such strong opponents. Just as there were obvious flaws in the finance system that led to the Wall Street meltdown of 2008, the flaws in managed care and capitation practices create unnecessary risks for health care providers and consumers. Just as the mortgage crisis quickly spun out of control, the coming crisis in health care finance and health care is spinning out of control. The practices that have led to large profits for a very few, and compromised health care for many, are unsustainable. The balance sheets of managed care companies and the health care providers they contract with do not accurately portray the financial status of these companies. The crash is coming, it is just a question of when.

A partial list of the disciplines involved in failing to disclose the flaws of managed care and capitation include:

- Insurance
- Actuarial science
- Accounting
- Economics
- Risk theory
- Probability theory
- Statistics
- Finance

- Utility theory
- Operations research
- Medicine, and
- Nursing

1.7 Why analysts are slow to accept such obvious flaws

If the world were a perfect place, the failure to disclose these flaws would be a simple matter of incorrect assumptions and analyses. Sadly, this is not really the case. Insurance actuaries and financial analysts are well versed in the impact of portfolio size on risk. Both these professions understand completely that the risk associated with small portfolios is greater than the risk associated with large portfolios. Actuaries routinely add on higher risk premiums for insurance policies that cover smaller portfolios of risks. Large employers pay smaller risk premiums than small employers when they buy health insurance for their employees.

Financial analysts fully understand that interest rates on financial instruments should be higher if these instruments are inherently more risky than other instruments. The interest rates for junk bonds are higher than the interests rates for corporate bonds. The interest rates for corporate bonds are higher than the interests rates for government bonds. No magical potion exists that makes insurance risk portfolios any different than any other risky investment.

Accountants, physicians, nurses, hospitals, and other health care providers have vested interests in maintaining a veil of secrecy about the true nature of managed care and capitation financed health care. Were any of these professions to disclose the flaws, they would be acknowledging that they acted improperly in the past. Accountants would have to acknowledge that their review of corporate financial statements was flawed, potentially overstating assets and understating liabilities. Health care providers would have to acknowledge that they were indeed, acting as insurers, a clear ethical conflict.

Managed care operations would have to acknowledge that they unethically and illegally lured health care providers to illicitly operate as insurers.

Attorneys, many of whom work for insurers and health care organizations understand that the potential for litigation is astronomical. Clients suing health care providers for deceptive practices and failure to diagnose and treat in a timely and appropriate matter. Health care providers suing managed care operations and insurers for luring them into the insurance business. Clients suing health plans directly. Similarly, stockholders of companies affected by this fraud might sue management and Boards of Directors for fiduciary failings.

There are literally trillions of dollars of equity in major financial organizations that will evaporate as fast as the equity in Lehmann Brothers when the financial world correctly appraises the value of insurers, managed care operations, and health care providers. Pension funds, heavy investors in managed care, insurance, and health care operations would face yet another hit on their net value. Individual investors will take a hit as well.

1.8 Could I be wrong?

Of course! Pigs could also fly. But I am not wrong. Your health and well being, just as mine, are being compromised daily by the failure to develop a more efficient and effective health care finance system. Neither you nor I, regardless of the quality of health insurance we think we have bought, are guaranteed that when we need it most it will be available. If we are injured in an auto accident, plane crash, or simply lose consciousness we will get the lowest level of care available in the community in which the accident or illness occurred. The ideal case is arriving at a health care facility with a personal physician, our family and friends, and insurance cards in hand. The worst case scenario is arriving as an unknown person, with no identification at all - a very likely possibility if we become acutely ill, are mugged, or are injured in an accident. Arriving with everything in place occurs in scheduled appointments when we are well - not accidents and illness episodes which tend to be poorly predicted.

1.9 Why do I think I am right and so many others so wrong?

Well, it could just be that I have a colossal ego. Perhaps I imagine that I know something that nobody else knows. That could be true. But there is another, somewhat more plausible explanation. As the folks at Smith Barney used to say, I got what I know the hard way - I earned it.

1.9.1 About me

I probably spent a lot more of my time in school than you, acquiring two bachelor's degrees (mathematics and nursing), three master's degrees (applied mathematics and statistics, social work, and psychiatric mental health nursing), and a PhD (nursing).

Among the major areas I studied: engineering, mathematics, physics, social work, nursing, sociology, and philosophy.

I have also worked in a lot of different professions: Social Work, Insurance (sales and reinsurance, private passenger auto, homeowners, and workers compensation ratemaking and reserving), Statistics, Education, Planning, Research, Nursing, Public health, Social services, Administration; and Regulation; and on and on.

What has this given me that most other people do not have? I see the perspectives of many different disciplines. I understand the experiences and the knowledge bases of the actuarial; social work; medical and nursing; statistical; accounting; financial; and mathematical professions. I understand the mindset of insurance claims adjusters and managers. I grasp the legal, ethical, and financial implications of contracts. I have been a third party health care provider and I have analyzed claims coming in for health related treatment expenses in homeowners, private passenger auto, workers compensation insurance, and reinsurance.

I understand the legal ramifications of contracts that are inherently unfair and against the public interest. Capitation contracts are unfair and legally indefensible because the agents transferring the risks know what they are doing while most health care providers accept these risks remain ignorant of the

1.9. Why do I think I am right and so many others so wrong?

fact that they have entered the insurance business. Lawyers would describe these contracts as “contracts of adhesion” and they can be overturned in the courts because they clearly favor the more knowledgeable and powerful signatory at the expense of the less informed and weaker signatory. Our system of jurisprudence has methods for dealing with patently unfair contracts. Our legal system endorses the idea that such contracts do not have the same legal standing as fair contracts between fully informed signatories.

I have also worked on the preparation and analysis of financial statements for large insurance companies and small, not-for-profits. I understand that when something looks fishy, sounds fishy, and smells fishy, it probably is fishy. Certainly, after watching the financial collapse of September, 2008, no well informed citizen should ever put blind trust in the hands of people who have not earned it. The designers, promoters, supporters, and defenders of managed care and capitation are precisely the sort of people that manipulated mortgages, sold stock in worthless enterprises, and swindled billions of dollars from investors.

Even with this background, I too found it hard to overcome the popular fallacy that health care providers were not insurers. I first had this inkling back in 1974, while working on a health care planning study for the Town of Shelter Island, under the auspices of the Departments of Family and Community Medicine at the State University of New York at Stony Brook. Despite those initial qualms about managed care and capitation, and my extensive experience in insurance ratemaking and reserving during the 1980s, the full realization did not occur until the Summer of 1997. Just before I entered nursing school the light bulb went off. This was not a supernova experience, much more like a dull ache. I still had trouble explaining my concerns and convincing myself, that I was right and everyone else was wrong.

Above all else, I have always been fascinated by the Danish poet and author Hans Christian Andersen’s fairy tale, ”The Emperor’s New Clothes.” If you are not familiar with it, it is a story about an emperor who unwittingly hires two swindlers to create a new suit of clothes for him. There are no clothes and the Emperor is so powerful that nobody, save a small child, is willing to tell the emperor that he is naked. The Emperors of Managed Care, like Hans Christian Andersen’s “Emperor”, have no clothes.

I have also always been fascinated by cognitive dissonance: the inability

of people to accept the fact that the world is not the way they imagine it to be. Cognitive dissonance is an uncomfortable feeling that comes from maintaining two or more incompatible ideas. Cognitive dissonance theory suggests that people try to reduce dissonance by either changing their attitudes, beliefs, and behaviors, or by rationalizing their attitudes, beliefs, and behaviors.

So, health care providers could either accept the fact that they are accepting and managing insurance risks or rationalize that despite the obvious, they are not. Clients could recognize that their health care providers benefit by denying them access to diagnostic and treatment services and start demanding real insurance or they can continue to imagine, despite overwhelming evidence to the contrary, that they can still trust their health care providers. Actuaries could accept the fact that they have been on the wrong side for decades or develop ever less convincing rationalizations for why risk assumption by health care providers is not a bad thing.

Politicians, rarely cited as examples of logic, objectivity, or integrity could acknowledge that they have no desire to fix the health care (finance) system because they have investments in too many of the most dysfunctional players, or they can continue to blather out nonsense about the downside of government sponsored health insurance, the inefficiencies of a single payer system, and the threat of creeping socialism if the United States does what every other major industrialized country has done, develop a working health care system that provides insurance for all.

You can disagree with some of my views on insurance or quibble about numerical examples I use, but it will be impossible for you to find meaningful fault with the underlying mathematical basis of this book.

1.10 End note

In this book we will use the tools and techniques that actuaries, statisticians, economists, health policy experts, stock market analysts, and financial analysts should have used decades ago to analyze managed care and capitation and how they effect resources available to health care providers and consumers. This analysis should have been done before the first legislation was

passed that facilitated the penetration of managed care organizations, bolstered the competitiveness of health maintenance organizations, and fostered the development of our current integrated health care delivery systems. The path to fix this severely dysfunctional system is far greater and more complex than it would have been without these flaws and the decades of mismanaged health care that were their consequences.