EDITOR'S NOTE:

This EBRI Issue Brief/Special Report is based on two Employee Benefit Research Institute-Education and Research Fund (EBRI-ERF) educational briefings held in March 1995. The purpose of the briefings was to provide an understanding of the role of risk and solvency in the health care system. The speakers for both briefings were provided by the American Academy of Actuaries.

At the first briefing, Donna Novak, ASA, with the Blue Cross Blue Shield Association, presented definitions of terms dealing with insurance and risk, and William Bluhm, FSA, with Milliman & Robertson, discussed the major constructs of health plan types and how risk moves through the constructs. At the second briefing, William Thompson, FSA, with Milliman & Robertson, discussed basic issues surrounding health plan solvency, and Peter Perkins, FSA, with Trigon Blue Cross Blue Shield, discussed the factors involved in implementing solvency standards.

The first section of this report, based on William Bluhm’s presentation, discusses what is risk for health plans and who takes the risk. The next two sections are edited versions of the presentations given by William Thompson and Peter Perkins and discuss solvency issues related to health care plans. The last section of the report is an excerpt from the American Academy of Actuaries’ glossary of insurance terms as presented by Donna Novak.
# Table of Contents

William Bluhm, FSA

- The Risks 3
- Insurance Risks 3
- Risks from Managed Care 3
- Business Management Risk 3
- Antiselection Risks 4
- Regulatory and Legal Risks 4
- Investment Risk 4
- Who Takes Risk? 4

## II. Solvency and Health Care Plans .......... 5  
William Thompson, FSA

- Introduction 5
- Solvency 5
- Risk Takers 5
- Multi-Line Insurance Companies 5
- Health Insurance Companies 5
- Health Maintenance Organizations (HMOs) 6
- Preferred Provider Organizations (PPOs) 6
- Exclusive Provider Organizations (EPOs) 6
- Physician Hospital Organizations (PHOs) 6
- Independent Groups 6
- Employers 6
- Government-Sponsored Programs 6
- Evolution of Managed Care 7
- Discounts 7
- Geographical Differences 7
- Minimizing Risks 8
- Causes of Insolvency 8
- Pricing 8
- A Few Big Claims 8
- Market Pressures 9
- Insufficient Rate Increases 9

## III. Monitoring and Managing Solvency .......... 13  
Peter Perkins, FSA

- Introduction 13
- Regulators 13
- Financial Statements 13
- Licensing Requirements 13
- Balance Sheet 14
- Asset and Reserve Values 14
- Reinsurance Regulations 14
- Insurance Regulatory Information System (IRIS) 15
- Insurance Company Examinations 15
- Risk-Based Capital (RBC) 15
- The Health Organization RBC 16
- Differences from the Life and Health Formula 17
- Funding and Premiums 17
- Rapid Growth 18
- Assessments 18
- Company Affiliations 18
- Valuation Variations 18
- Physician Incentives 19
- Management and Solvency 19

## IV. Insurance Terminology .................... 20  
Donna Novak, ASA

- Product Design 9
- Antiselection 9
- Monitoring Utilization and Quality 10
- Assessments 10
- Mandates 10
- Cost Shifting 11
- Expenses 11
- Investments 11
- Timing 12
- Liabilities 12
- Basic Management Plan 12

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*EBRI Issue Brief* (ISSN 0887-137X) is published monthly at $300 per year or is included as part of a membership subscription by the Employee Benefit Research Institute, 2121 K Street, NW, Suite 600, Washington, DC 20037-1896. Application to mail at second-class postage rates pending in Washington, DC and other offices. POSTMASTER: Send address changes to: *EBRI Issue Brief*, 2121 K Street, NW, Suite 600, Washington, DC 20037-1896. Copyright 1995 by Employee Benefit Research Institute. All rights reserved, Number 165.
I. What Is Risk and Who Takes Risk?

By William Bluhm, FSA
The American Academy of Actuaries

The Risks

Health plans either guarantee reimbursement for health benefits or, in the case of health maintenance organizations (HMOs), guarantee the provision of care directly. There are a variety of financial risks connected with these guarantees. These include insurance risks, risks inherent in managed care arrangements, business risks, antiselection risks, regulatory and legal risks, and various investment risks. While each risk does not necessarily occur everywhere, they all exist somewhere.

Insurance Risks

Insurance risks arise from the insurance process: the pooling of risks and the advance funding of expected average costs.

Foremost among insurance risks is the possibility that the funding of these risks (be they “premiums” to an insurer or “contributions” to an employer’s self-funded program) may be inadequate for the costs that actually occur. This can arise either because the average cost was misestimated in advance, or because the cost was accurately estimated but the actual costs were raised by an unusually large (but random) number of high-cost claims.

Insurance risks may be greatly impacted by health care reform in a variety of ways. For example, limitations on increases in premium levels (premium rate caps) could significantly increase the risk of inadequate income by health plans. Also, unanticipated assessments may be impossible to predict and fund adequately.

Risks from Managed Care

Managed care can involve additional financial risks because of the managed care process. This process includes risks regarding the provider network (such as insolvency of the participating providers) and the financial risks associated with provider reimbursement (such as misestimation of the amount of care to be provided by particular providers). Managed care arrangements can also reduce the risk to the health plan by passing part of the insurance risk on to providers, for example, through capitated reimbursement arrangements. It is becoming more common for managed care plans to provide rate and performance guarantees to large policyholders. This increases risk to the plan, since it may not be able to profitably operate within these guarantees.

Business Management Risk

While all the risks being discussed could be considered business risks, there are specific financial risks arising from the management of health plans. One basic risk is that management will not have the experience or capability to effectively manage the benefit delivery system. Plan management must choose a strategic plan and effectively combine the various areas of expertise that are necessary to provide health care benefits. This includes marketing and advertising, benefit design, legal issues, accounting and auditing issues, financial and actuarial management, customer relations, claim processing, and government reporting.

Another major business management risk is that the capital and surplus levels chosen by company management in the conduct of business will not be sufficient to absorb incursions due to other financial risks.

An additional major risk to certain types of managed care plans is that the health plan may not be able to attract a sufficient number of covered persons to cover its fixed costs under declining enrollment.
Antiselection Risks

Sometimes people are given a choice regarding their health plan. It might be a choice of deductible, a choice between a comprehensive plan versus a basic coverage plan, a choice between a plan with specific benefits versus another without these benefits, etc. These choices may involve different coverage levels and different premium costs. For example, insured individuals may be required to pay more per month in order to have a lower deductible plan.

Typically, people tend to be fairly good at evaluating the cost of various choices in light of their probable value. Generally, when people make choices that are financially beneficial to them, this same choice is financially harmful to their health plan. Actuaries refer to this as “antiselection” or “adverse selection.” The management of this risk is a major part of how actuaries help benefit providers with risk management.

Regulatory and Legal Risks

Rate caps that limit health plan income are another potential source of risk to health plans. In the absence of an effective mechanism to fund or otherwise pass that risk along to others, premium rate caps may increase the risk of health plan insolvency. Other mandates regarding premiums, benefits, or other contractual provisions may have a similar impact.

Investment Risk

The basic formula underlying corporate solvency is:

(assets) minus (liabilities) = capital and surplus.

A corporation’s assets may take various forms. There are financial risks associated with these assets that the assets will not produce income as expected or be worth what was expected. An additional risk is that the cash flows from the assets will not be available at the appropriate time, including the risk of being liquid when needed as cash.

Who Takes Risk?

There are many kinds of risk takers in the health care delivery insurance marketplace.

These include providers of benefits and those who contract with these providers. The providers of benefits include insurance companies, HMOs, health service corporations (e.g., Blue Cross Blue Shield plans), physician-hospital organizations, self-insured employers, trusts of various types, health care providers themselves, and possibly new benefit providers yet to be created. Entities contracting with benefit providers are also at risk. These include insured individuals, reinsurers (who are insurers for insurance companies), and health care providers. The primary purpose of solvency standards is to protect risk takers from the possible catastrophic consequence of the risk that the benefit provider becomes insolvent and is then unable to fulfill its obligations. Of particular concern to regulators is keeping insured individuals from bearing the risk of insolvency themselves.
II. Solvency and Health Care Plans

By William Thompson, FSA
The American Academy of Actuaries

Introduction

I'm going to try to do three things: answer the question, “What is solvency?”; identify the risk takers who comprise the various health care plans that we are concerned about; and describe some of the events and situations that might contribute to solvency problems for health care plans.

Peter Perkins will then discuss some of the tools and mechanisms that can be used to make solvency less of a problem. I'm not saying the problem will go away, but it will be less of a problem.

Solvency

What is solvency? Solvency is defined as “the ability to pay all your legal debts.”

A health care plan needs to have enough money to pay the claims it owes or render the care that it promised to render to its members according to its contracts. The corporate environment solvency measure is: assets minus liabilities equals capital and surplus. Looked at another way, the money that you have minus the money that you owe is the money that you've got left over. You need to have some money left over to absorb fluctuations, fund growth, and fulfill other obligations.

In using the equation, one of the issues is how to measure assets and liabilities in order to determine solvency. There are different ways to measure solvency. Statutory accounting, which is used for many insurance-regulated entities, is a fairly conservative measure.

Typically, the insurance laws set limitations that tend to understate assets and overstate liabilities, so that when a company is in a position where it shows solvency, it is a very safe value. This conservative measure is used to protect the policyholders.

GAAP (Generally Accepted Accounting Principles) accounting is another way of measuring solvency in this formula. GAAP may be a more realistic measure, because it was developed by accountants, who are more interested in producing the bottom line, generally with a little less margin, than statutory accounting provides.

There may be other bases for measuring solvency; for example, sometimes internal management designs its own accounting structures. The second issue relates to solvency for health care plans. I want to identify some of the risk takers that we need to be concerned about in terms of solvency issues.

Risk Takers

Multi-Line Insurance Companies

These companies provide a variety of services, including life insurance, health insurance, pensions, and property casualty lines.

Health may be a big line of business for them or small one. It's part of their operation but is not their exclusive purpose for being. It's one of their many services.

Health Insurance Companies

These companies specialize in health care; it is their sole purpose for being. Included in this group are Blue Cross Blue Shield plans, which are sometimes called health service corporations. Peter [Perkins] can talk about these organizations in detail because he works for one of them. They are similar in some ways to health...
insurance plans. Traditionally, they’ve been a lot more tightly regulated. Historically, Blue Cross plans have been an insurer of last resort, but that role has evolved somewhat.

Health Maintenance Organizations (HMOs)

HMOs are rapidly growing as managed care providers. With managed care plans, the structure is different from that of traditional health insurance companies. Whereas the insurance companies are in business to pay claims, HMOs and certain other managed care entities are in business to arrange for health care. They have a different legal structure. Insurers reimburse for claims; managed care plans promise to deliver health care to their members. They arrange for and finance the health care. They are responsible for the delivery of care, not just the payment for it.

HMOs, typically, have networks of providers who deliver care. If the doctors that a patient might want to see are not members of the HMO, he or she wouldn’t be covered for the treatment they provide.

Preferred Provider Organizations (PPOs)

PPOs are like HMOs in some ways, but they have opt-out features, where patients who go to a doctor who is not in the network can get some reimbursement for care from that provider at a lower benefit level.

Exclusive Provider Organizations (EPOs)

EPOs are closer to the insurance company version of an HMO. Patients need to go to one of the exclusive providers who have contracts with the plan. EPOs are tied in with an insurance company; they provide reimbursement for services as opposed to the arrangement for care.

Physician Hospital Organizations (PHOs)

A PHO is a network consisting of a hospital and its medical staff that bond together through contractual arrangements to provide health care. They may provide that care directly or they may contract with an employer or groups of employers and provide health care for their employees for a certain amount. Or they may establish contracts with HMOs to be among the providers for the HMOs and provide coverage to some of the HMOs’ members. A PHO is basically an affiliation of a hospital and doctors acting together as a single entity to contract for and manage health care.

Independent Groups

One of the new trends in health care is that providers are starting to take more risks and are arranging to deliver health care themselves for certain fixed costs. These providers include individual doctors, small practice groups of four or five doctors in a single specialty, or multispecialty groups practicing in clinics.

Employers

A number of employers, through self-insured, self-funded mechanisms, are bypassing some of these other vehicles, saying, “We don’t want to deal with the insurers. We don’t want to have to pay their overhead and profit margins. We are going to provide health care ourselves for our employees.” They are taking the risk for providing all of the health care benefits for their employees. In this case, they have taken on an insurance role, where they assume risk. If they lack sufficient funds to cover the obligations that occur, there are solvency issues within the employers’ self-funded health plans.

Government-Sponsored Programs

Medicare and Medicaid programs have an effect on all other risk takers through their financing mechanisms. Solvency issues in Medicare and Medicaid are sometimes
a bit different from issues involved in other health insurance plans.

**Evolution of Managed Care**

Under a traditional plan, you can go to any doctor that you want, whenever you think you need health care and have that health care service paid for. It's probably not the right way to look at health care anymore.

There's very little management of care in these plans. There are few arrangements that require providers to accept discounts or financial incentives, profit-sharing deals, or other financial ways of involving them in cost containment. These are the highest cost situations. The consumer pays retail for everything and has freedom to do whatever he or she wants.

Some preferred provider organizations (PPOs) when they first started were kind of discount mechanisms in which a network of doctors could participate if they gave the plan a discount of X percent. Some savings were achieved through the discounting mechanism, but there were no incentives to do anything to manage the care, to control utilization. Does this person need to go into the hospital, and, if so, for how long? A lot of that kind of control was nonexistent in some of the earlier versions. There was more control in HMOs and some other plans, and there is more today than in the past. Virtually all of the HMO-type of arrangements manage care to some extent.

**Discounts**

The financial arrangements that a health plan has with the providers sets the price. The size of the network can affect the finances. A very small network plan often offers a bigger discount or financial incentive to its providers, because these providers know they have a lock on the members. One reason for participating in this plan is that they know they're going to have access to members because of the smaller network. In a bigger network that includes most of the doctors in a community there is less incentive. The financial savings, discounts, or revenue reimbursement arrangements a plan would get would be similar to those of a fee-for-service arrangement or less.

**Geographical Differences**

It is also important to gauge the extent of management of care—how aggressively managed is the plan? Some plans manage care very well. I'll use an example based on numbers seen in the Northeast. First, look at a fee-for-service type of insurance plan, an indemnity plan for insured members. The number of days of inpatient hospital care they'll use per year may be in the range of 450 days per thousand members.

In contrast, some of the independent practice association style HMOs, which deal with doctors in the community, particularly fairly large network plans, tend to be using about 350 inpatient hospital days per thousand members per year. Some of the more tightly managed HMO plans are down to the range of 250 days to 300 days per thousand members per year.

However, the 250 days to 300 days per thousand in a relatively well-managed HMO in the Northeast would be abysmal for an indemnity plan in southern California, where the indemnity plans are running about 250 days and the HMOs are under 200 days. So it’s very different geographically. Health care is a cottage industry. Medicine is not practiced the same way across the country. There's no single playbook that works for everybody. Local practice patterns vary substantially.

Management of care means different things. In Southern California, people understand managed care a little bit more and are more receptive to it. The following situation occurred in the Northeast a number of years ago, when a health plan presented capitation to the
physician network. The providers basically told them: “If you mention the “C” word, all deals are off.” Now they’re actively participating in capitation arrangements. It’s a matter of culture and understanding. As providers participate more in managed care, understand it, and learn how it works, better integration and more management will follow.

Some providers have arrangements that limit risk. Under a traditional indemnity insurance plan, for example, providers are reimbursed for their services. They take little, if any, risk themselves, because they are paid on a fee-for-service basis. The patient comes in and sees them. They deliver care. They submit the bill to the insurance company and are reimbursed.

Some managed care arrangements shift the risk through mechanisms such as capitation. Instead of being paid for each patient visit, a physician receives a fixed amount per member per month. The health plan furnishes a list of people that the physician is responsible for treating. The plan gives the physician X dollars per member per month and that is all. If nobody’s sick or seeks medical advice, that’s all money in the physician’s pocket. If everybody gets sick and a number of services are needed, there may be a shortfall.

Basically, what happens in these situations, through capitation or other financing mechanisms, is risk shifting. The doctors, hospitals, and health care providers are being required to assume the function of an insurance plan. They are taking more and more insurance risk.

Minimizing Risks

Following are some of the causes of insolvency and the precipitating events that can lead toward insolvency.

One of these items by itself doesn’t necessarily mean a plan is going to become insolvent. In some cases it may, depending on the nature of the event. Normally, it takes a number of these operating together over a long period of time before a situation occurs where a plan may become insolvent. There are several precipitating events.

Pricing

A problem can occur when the rates aren’t set right. Generally, the concern is that the rates are too low, so that the plan is losing money, but there’s also a concern that if the rates are too high, the plan isn’t competitive, it does not get the market share and the membership it needs, and it cannot cover some fixed costs.

There is a pricing problem on both sides, but the market tends to establish a relatively narrow corridor in which the health plan can afford to charge rates and be competitive in the marketplace and yet be able to cover all its costs.

Another situation that can affect a plan’s solvency is that the product or service was underpriced because of incorrect assumptions.

Rates are set based on assumptions about risk. Rates may not be set right because of incorrect assumptions about the real expected experience in the covered group, demographics, or the covered group’s health status.

A Few Big Claims

Even though the rates are set right, reflecting what is expected, nothing ever happens exactly the
way that was expected. Experience may bounce up and down from that expected line, causing fluctuations.

A plan may have had a bad year. A plan that expects one or two heart transplants or serious illnesses may have a year when four or five of these events occur, and the next year there may be none. In that year when more happens than expected, bad results will occur because of the fluctuations. That becomes a problem. You need a cushion to absorb the fluctuations, a shock absorber.

Market Pressures

Competitiveness is important. Rates need to tie into the marketplace. A plan can be underpriced due to market pressures, which becomes a dangerous situation. Sometimes plans price in anticipation of what might happen in the future. “We’re going to price this way because we know we’re going to manage the care better next year. We’re going to do this, that and the other thing that will become a source of profits.” Hopefully, the plan will do these things and there will be certain improvements. If not, there will be problems.

Insufficient Rate Increases

Rates need to change. Typically, there is an upward trend in health care costs, so every year health plans need to increase their rates. The necessary rate increases required to cover the changes in costs are needed on a timely basis and at the right levels to maintain the plan in focus. It is important to know how much rates need to be changed.

Sometimes regulatory issues with health plans, insurance plans, and HMOs, which are regulated mainly by the states, put limits on how much rates can be raised and how long it takes to go through the rate filing processes. These issues affect a plan’s ability to make the changes that are deemed necessary to maintain a plan with stable, appropriate prices.

Product Design

What benefits does the plan provide? Not every plan provides exactly the same coverage for all the same things. Suppose, knowing what services the plan intends to cover, what the marketplace is saying, and what the competition is, the plan managers decide to provide richer benefits. If these differences in benefits are not adequately reflected in the rates, a pricing problem will occur. Or, if it is decided somewhere in the middle of the year to enrich this or that benefit, and the rates remain unchanged, they will start getting out of sync. The rates and the benefits provided need to be tied together.

Antiselection

People will sometimes select against a given plan. In many situations, employers offer more than one health plan, or a Blue Cross plan may be offered in one location, an HMO in another, and another plan somewhere else.

Employees are very good at selecting the plan that will work best for them and not necessarily the best for the plan. Antiselection will occur, whenever there are multiple choice situations, because people will pick and choose, finding the situation that’s best for them. This needs to be reflected in plan design.

Also, there are many dual income families, where a working husband and wife both have health insurance options. They will go with one employer’s plan or the other based on which one looks better for them, or alternatively, both of them enroll in their own plan as an employee and enroll their spouse as a dependent under their plan, and through coordination, they get everything paid for from everybody.

With more and more plans requiring employees to contribute to the premiums, double dipping costs more now than it used to, and it is happening less frequently. However, when it happens, this phenomenon can also work against the enrollee.

1 Also known as adverse selection.
Monitoring Utilization and Quality

What does it take to manage hospital care? In-patient hospital care is normally the first thing that health care plans try to manage.

Does a patient need to be in the hospital or not? If so, how long should he or she be there? Precertification and concurrent review determine the appropriateness of care. How well or poorly a plan manages care affects the expected values. If the expected values are set at one level but care is being managed at a different level, a mismatch results, creating financial and solvency problems and raising a question about the reasonableness of the targets that were set.

If a Southern California type of target were set in the Northeast, it wouldn’t work right away, because the physicians, hospitals, and providers are not accustomed to the way that care can be managed. They may be able to get there eventually, but not overnight. What is needed is a way of moving utilization toward the optimal levels over time.

Incentives to encourage physicians to become a little bit ambitious, to manage care well, need to be set at a level that is realistically attainable. If the point at which you set them is too much of a stretch, but no longer an incentive, it’s just a dream, and nothing happens.

Another related item is the expertise of the providers. How much do they know about managing care? That will influence the targets that can be set and the results that can be attained.

Managed care is very much a data driven operation. A health plan needs information. It needs to know who is doing what to whom. The physicians, hospitals, and providers need to know how they are doing. How often am I doing this, versus how often are my peers doing it? That’s a very powerful tool.

Well-managed plans have a lot of data that they are able to communicate to their providers in a way that the providers understand and can act on. Without that, you don’t get some of the rewards intended for the managed care plan. The solvency of certain provider entities within the health plan is another issue. A PHO may have a contract with an HMO. The HMO is the health care plan bringing in the premium, but it may assign a certain amount to the PHO to handle certain care. The HMO needs to be concerned about the PHO’s solvency. If the HMO has made promises to its members to deliver care, it’s going to provide care to those members. It has now subcontracted with the PHO to deliver certain components of that care for a certain rate.

If the PHO can’t provide the care for that amount and goes under, what does that do to the HMO? To the extent that there are subcontractors under the PHO and among the various providers, the PHO’s insolvency becomes an issue that affects the HMO’s solvency concerns as well.

Assessments

A number of states have guarantee funds that are used to assure that, if an insurer in the state becomes insolvent, certain promises that have been made to policyholders are kept. Regulators fulfill this responsibility by assessing all of the other insurers in the jurisdiction to pay for this insolvency. To that extent, if an insurer goes under, everybody else has to pay for it. This creates a cost to the other players and affects their solvency, because it comes out of their operations as well.

Mandates

Mandated benefits are another item affecting solvency. All states have adopted at least one and most have many mandated benefits an insurance plan—an HMO or certain other regulated entities—must provide. Mental health and substance abuse benefits are common man-
dates. Others that have recently become commonly accepted are coverage of dependent and adopted children and similar benefits.

Sometimes mandates are adopted and become effective almost immediately. In some cases, the mandated coverage needs to be provided at once, before an insurer has a chance to change rates. So there may be a mismatch for a time.

Cost Shifting

The most obvious examples of shifting costs from one payer to another are Medicare and Medicaid, which have negotiated arrangements for provider payment. Medicare, for instance, tells hospitals how much they will be paid when they treat a Medicare patient. The hospital’s actual cost to treat that person may be quite a bit higher. If the hospital charged other patients its normal fees, it would have a shortfall. To cover the costs that Medicare doesn’t pay, the hospital shifts some of that shortfall to the other payers. Thus, Medicare and Medicaid, with their reimbursement structure, have shifted some of their costs to other payers.

A certain amount of cost shifting occurs through negotiated reimbursement arrangements. A hospital may have a “favored nation” deal with an HMO, giving it exclusive rights to all the in-patient care for this HMO’s members. In order to do that, the hospital gives the HMO a 25 percent discount from the regular charges. This may result in a shortage that needs to be made up somewhere else. Through various reimbursement arrangements the hospital spreads the lost revenue due to the discounts across different categories of players. It costs a certain amount to operate the facilities. Hospitals are essentially fixed cost operations, with limited variable costs. They need to get their revenue from somewhere, if not from one category of patients, from another—that’s cost shifting.

Expenses

Basic management protocols and expense management concepts apply here. A health plan needs an astute manager of its expenses. When premiums come in, the health plan needs to pay its health care costs. It also needs to run its operations using a portion of these premiums. A plan also needs to assure that its operational expenses do not get out of line with its revenue, which can create solvency issues as well. Consequently, health plans need to exert prudent expense management.

Does a health plan want to spend more money to do a tighter job of utilization management? Does it want to invest more money in data collection and reporting in order to get more information to the providers? Does it want to hire more utilization review personnel to look at care a little more aggressively? Is that a good place to spend money because some savings can be achieved by reducing Medicare costs? Or does the plan want to have a nice marketing convention someplace? Where and how should the money be spent?

The plan size has implications for expenses. There are certain fixed expenses associated with any health plan operation. A plan needs to have a certain number of members to spread these fixed costs. If it can’t be expanded enough to include a sufficient number of members to cover these fixed expenses, an expense shortfall will flow through to the bottom line, which will flow through into the capital and surplus, forcing management to ask how solvent the plan is.

Investments

As was mentioned earlier, assets minus liabilities equals surplus. Some of a plan’s revenue comes from investment income earned on assets. Therefore, it’s important to evaluate the assets the plan is holding, whether they be stocks, bonds, or other instruments.

How much is the plan earning—what is its rate of return? I assume that it will earn a certain rate of
return on its assets that can be recognized as income for pricing purposes. If it doesn't get that income, then there is a shortfall. I also assume that the assets themselves have a certain value. Some insurance companies are heavily invested in real estate. Real estate values have gone down, creating some solvency issues. What is the value of the assets the plan is holding, and do they have the value they need to support the business?

Timing

A health plan has ongoing expenses and expects a certain amount of income to come from its investments. If these investments are long term and not very liquid in terms of generating current income to fund operations on a timely basis, they may be said to have all the value they need but still cause a cash flow problem.

Liabilities

**What does the health plan owe at any point in time? It needs to hold adequate reserves to cover its promises to pay for medical services.** Let’s assume that we’re back at December 31st, 1994, when all the insurance companies and plans are doing their financial statements. At the end of the year, a plan has certain promises that have been made. It has promised to provide health care for people during 1994. Some people may have seen doctors or have been in the hospital at some time during December, but their bills haven’t been paid yet. The health plan has a liability at the end of the year to make these payments. So the value of these liabilities needs to be recognized on the plan’s balance sheet.

First, the plan needs to understand that it has a liability. There are some players—especially the new players who are taking more risk for the first time—that don’t understand this. They deal more on a cash basis and it gets them into trouble. Plan managers need to understand that they have an obligation and they need to be able to measure it properly. Related to that, it is necessary to establish appropriate margins so there is more than a 50–50 chance of being right. It is important to be right more often than not, to protect the plan’s solvency.

Another liability issue exists for managed care arrangements that have incentive funds for providers. These arrangements work something like this: doctors are told what services the plan wants them to perform and how they will be paid. If, at the end of the year, they exceed this target, the plan gives them a certain incentive payment. The health plan needs to set up an accrual liability for these incentive payments—these promises that have been made to the doctors if the plan is doing well.

For example, a plan estimated it’s going to cost $100 per member per month for medical care. If it’s actually costing $80, the plan should not spend that $20 if it promised to give one-half of it back to the doctors. The health plan needs to set up a reserve for that payment. Therefore, the plan must recognize all of these promises as it establishes its financial statements. Otherwise, the potential for solvency problems exists down the road, when the bills come in and there are no funds on hand to pay them.

Basic Management Plan

Management needs to focus on the operations of the plan, monitor what the experience is doing, and focus its main efforts and most of its attention on running the plan. Managed care requires a lot of continual attention. Health care related arrangements can get out of control very quickly if they aren’t watched.
III. Monitoring and Managing Solvency

By Peter Perkins, FSA
The American Academy of Actuaries

Introduction

Bill has described the different kinds of health plans and some of the risks and solvency issues they face.

What I'd like to do is to give you an overview of some of the tools that regulators and company management have to monitor and manage the solvency risks they share. First, I'll share a list of the key solvency monitoring tools used by the regulators. Next, I'll give you some insight into a tool that is under development right now by the National Association of Insurance Commissioners (NAIC), the health organization risk-based capital (RBC) formula. Then I'll discuss what management can do to manage solvency risk.

Regulators

Let's start with the regulators, i.e., state regulators, insurance departments and, in some states, health departments that have jurisdiction over these different medical coverage entities.

The regulators' goal is twofold. First, they try to establish minimums for certain financial amounts such as reserves that carriers must put on their books. There are also limits on business activities or capital thresholds that are intended to set a series of baselines for companies. The second regulatory goal is monitoring and trying to watch for problems. The regulators' role in this goal is to avoid insolvencies rather than wait to deal with them after they occur.

Financial Statements

The cornerstone to monitoring insurance companies and HMOs and other carrier types is the financial statement. These statements are done quarterly, with the most complete one done at the end of the year. This year-end statement contains the details about what the company did the previous year. For example, the annual statement quantifies what was sold and how much was put on the books for reserves.

The NAIC establishes a set of rules and regulations on how the annual statement is to be completed. These rules describe what forms to use, what assumptions to make, and what values to show and where. The benefit of this approach is that it provides a consistent measurement across the industry and shows clearly how certain numbers were calculated and where they are reported on the statements. With this structure, once you find your way through the statement to a particular item, you know what you're looking at.

And just as surely as these rules and regulations for financial statements are consistent, they're inconsistent! NAIC prescribes different rules for insurance companies, life and health companies, property casualty companies, HMOs, and some Blue Cross Blue Shield plans.

There is consistency within a carrier category and to a lesser degree across the industry as the statements are used to focus on unique aspects of different carriers' business.

The insurance financial statements are also source material for some other measurements, the insurance regulatory information system (IRIS) ratios and RBC. These will be discussed later.

Licensing Requirements

Next in the regulator's solvency toolbox are licensing requirements. These are regulatory requirements that have to be met before a carrier can begin operation or can be issued a license to do business in a state and sell policies.

There are two aspects of licensing. One is the financial aspect, which requires that carriers have a minimum amount of capital before they start selling...
business. These minimum capital regulations, which vary by state, establish what that minimum is and what form it can take, i.e., whether it be cash, financial promises from a parent company, or some other form. With these minimums, regulators know an entity has some financial backing to start with.

Also, when a company files for an insurance license, it has to file and explain the qualifications of its officers and owners and provide some background information on them. The license applicant must also file a three- to five-year plan including sales projections, earnings expectations, and future sources of capital. With this information, the regulator can try to anticipate problems. Is the plan overly aggressive? Is it optimistic? And what kind of capital structure can be expected in the future?

Balance Sheet

There are many regulations dealing with the insurance company balance sheet. Investment regulations have three general elements. One, they state what kind of investments a plan is not allowed to make, i.e., certain kinds of highly risky investments that they don't want to see in the investment portfolio. Two, the regulations may allow investment in certain kinds of securities but only in limited amounts. For example, a plan could be allowed to invest in foreign securities or foreign equities but only up to a certain percentage of its total assets or surplus level. This is the regulators' way of saying, don't put all your eggs in one basket. Three, investments may be allowed but may not be shown on the annual statement or may be shown only to a limited degree.

Asset and Reserve Values

What asset valuation regulations try to prescribe is consistency in valuation. They also want to make sure that there is margin in the amounts reported for the assets.

For some investment securities, regulations prescribe whether the security is held at book value or market value. For assets held at a market value, the amounts reported can go up and down quite a bit. Therefore, a fairly complicated formula is employed to smooth out these fluctuations, so that if a security has a big increase in market value, it's still considered a "paper profit" at that point. This formula sets up a reserve to in effect hold back some of the increase. Using Bill's formula—what you have minus what you owe equals what you have left—solvency is having something left. These asset value rules are intended to state the "what you have" conservatively.

Bill said earlier that a lot of what goes on in health plans is collecting money today for a future promise. The regulator, in establishing valuation rules, says, "If you're going to make these promises, and collect money to do something in the future, we're going to require that you set up certain kinds of reserves, and certain amounts of money, if you will, so that there's a high probability that you can make good on those promises."

So valuation law—or regulations and law—establishes what amount has to be set aside, some minimum bases to use to calculate them, and a minimum basis for some of the mortality or morbidity assumptions employed.

Finally, in some cases, an actuarial certification says not only has a company met the minimums that are prescribed but that additional testing has been done that looks at future premiums, future payouts, and investment returns and their liquidity. The testing projects all these elements forward to see if there's a good chance that a company will have the cash available to keep its promises.

Reinsurance Regulations

Companies can share risks. If they want to sell a particular coverage but don't want to assume the risk for 100 percent of the claims, they can shift some of the risk to a reinsurer.
A small company might want to engage in a particular line of business but may not have the capacity to accept the total risk.

Regulators want to know a couple of things about a reinsurance transaction. First, they want to know that the entity to whom the risk is transferred can accept it. There are some licensing requirements that reinsurers have to meet to establish that they are capable of assuming the risk. Second, some regulations on contracts are intended to assure that the risk really was transferred. For example, regulators don’t want to find that a risk was transferred, but there was a low limit on how much the reinsurer was ultimately going to pay. Arrangements such as this suggest there wasn’t a true transfer of risk; the regulations are designed to preclude or limit this type of arrangement.

Finally, some reporting requirements are in place to make sure that reinsurance transactions are reported in a way that indicates clearly to the regulators who has what risk so that they can see who directly made the promise and who else has accepted some of the risk.

Insurance Regulatory Information System (IRIS)

We’ve created a lot of laws and a lot of information. IRIS was developed by NAIC to use some of the numbers from annual statements. IRIS is a series of ratios that compares different lines in a balance sheet, or an income statement, with other lines to look for warnings signs. For example, a ratio will show the amount of liabilities relative to certain kinds of assets. If the ratio is above some threshold, it might not mean that there’s a problem but rather suggest that the company, or the regulator, look further into a company’s financial strength.

Regulators also look at the time series of ratios. Thus, if things seem to be growing inordinately rapidly, or deteriorating inordinately fast, that’s not necessarily a sign of a problem, but it’s a sign that you might want to investigate further. For example, if it was seen that premiums had grown 25 percent or 30 percent a year, but liabilities or some other valuation amounts had not grown at the same rate, this might suggest some increased financial risk. That’s what the IRIS intends to uncover.

Insurance Company Examinations

I’ve reviewed a lot of regulations, laws, and numbers, but there hasn’t yet been any human involvement. The insurance company examinations are another regulatory tool that provides the opportunity for a human to come in and look at and audit a company in terms of its financial statements and its market conduct, sales practices, advertising, etc.

These examinations are regularly scheduled, typically, every three years. The insurance regulators send in a team of auditors who first make sure that all the rules on the financial statement have been followed, because the statement is the cornerstone of the regulators’ information. They’ll also look into some of the assumptions used where there isn’t a precise rule concerning what number to use or what assumption to make. They’ll examine work papers and other documentation to see if there’s a sound foundation for the numbers in the financial statement. At that point they will pass judgment, giving the statement a clean bill of health or requiring restatement of some items.

Risk-Based Capital

RBC is a minimum surplus level. Using Bill’s “technical” formula, it’s a measure of whether the money that is left over is enough. RBC is calculated for each specific company for its unique characteristics.
Its use implies that, given the product mix that a company has sold, and given the investments that it has made, there is a series of risk factors that attempts to measure the volatility and variability of these products and investments. This calculation determines the minimum surplus level that this company should have.

These calculated RBC amounts establish a minimum surplus amount that is compared with what a company has in surplus. Depending on these relative amounts, a series of regulatory actions will be invoked. For example, if the RBC amount is X and a company has two or three times that, that's probably a clean bill of health.

As a company’s surplus starts to approach that RBC amount, the regulators can invite themselves in to talk to company management and see what kind of plans they have to build their capital. As capital falls even further toward the RBC level or below it, the regulators have an ultimate threat, which is to pull the insurance license and either reorganize the company or try to sell it.

The licensing requirements are not consistent for all types of carriers. As a matter of fact, RBC is a good example of where they’re not consistent. A RBC formula for life and health companies was developed that focuses on life insurance and supporting assets. There’s a property and casualty RBC formula that’s focused on the coverages property and casualty companies primarily sell (however, they can sell health insurance).

There is an HMO RBC formula of sorts that is not necessarily consistent and in sync with these others. It is a patchwork, where it’s not really a level playing field. I think in some cases, simply defining where these PHOs or other new coverage providers should be regulated is difficult. Regulators must determine whether these providers represent something that’s not really insurance. Debates are going on now in the states as to where these new entities should fall in.

Virtually every state has HMO licensing requirements, many of which are through the insurance departments, some through health departments, some through both. California regulates HMOs through the Department of Corporations.

PHOs and some of the other provider organizations that are coming into play now are generally not regulated entities. The individual providers have a license to practice medicine and deliver care, but the entities that they have formed—PHOs, for example—are legal entities that have been formed by a contract between the hospitals and the physicians. I think with very rare exceptions—I don’t know of any specific cases—these entities are not regulated as health care plans.

PETER PERKINS: The NAIC saw these new entities being developed and determined that, at least in terms of RBC, a formula was needed that would level the playing field. This formula would recognize that, regardless of the corporate structure and ownership status, when an entity is created, some minimum amount of capital should be set that NAIC can watch.

Note that if there is a RBC formula for all health organizations that requires them to file some kind of annual statement, it’s a kind of chicken and egg sort of thing. There are many new ideas on how to fund health care. Therefore, the new formula specifically didn’t say “health insurer” or HMO RBC. It was intended to be for any entity that is in the health coverage business.
Differences from the Life and Health Formula

The health organization RBC formula started with the life and health formula, primarily because a lot of health insurance is already sold through life and health companies. But the life and health formula wasn’t specific to health insurance. It distinguished between disability and all other health insurance and between group and individual policies. It was fairly straightforward but probably not sensitive to many issues involved in some of the entities other than life and health companies that focus on health coverage.

The life and health formula was adjusted for the health industry. The first adjustment was to reflect the wide variety of coverages available. Comprehensive medical coverages and disability are the most obvious types of health insurance, but there are also long-term care policies, Medicare supplemental policies, cancer policies, etc. These policies range from very expensive to inexpensive in terms of premiums, and the volatility of their claims varies.

For example, dental coverage includes cleanings, fillings, and similar treatments that are predictable and easy to anticipate. With a cancer policy the frequency of occurrence is low, but, when a claim occurs, it probably will be costly. There’s a lot of variability in these policies.

The health organization RBC formula was developed to make more distinctions than merely between disability and other and individual and group. It was designed to include factors that reflect the volatility of a number of different benefit and coverage types.

There are many ways that medical and dental care can be managed that can impact the volatility and the predictability of the costs.

Going back to the capitation example, a plan agrees to pay a physician a certain amount a month, and the physician is, in effect, responsible for managing the cost of a patient’s care. Volatility in that situation is probably not nearly as great as it would be in a less managed environment, where there is perhaps a discount arrangement or preauthorization for hospitalization but little control over cost changes beyond that.

Therefore, the health organization RBC formula said, “This modest managed care, which employs discounts and a utilization approval process, isn’t much different from traditional benefit care. Something like a capitation arrangement carries with it much less risk than that assumed by an entity that’s paying charges. And so the formula adjusted some of the risk factors to reflect this difference.

Funding and Premiums

A great deal of health coverage is sold through employers, and there are many different funding arrangements in terms of how the premiums are paid to the health plan and how much risk the employer and the health plan assume.

For example, a fully insured arrangement, where the employer pays a premium to a company and the company covers claims costs, is fairly predictable for the employer. He pays the monthly premium, and the carrier assumes all the risk.

At the other extreme, there are administrative services only arrangements, where the employer accepts the risk of the claims cost, and the carrier has no claims risk. However, the carrier might have a little expense risk, because it promises to pay claims for a certain amount per person or a certain amount per claim. And the health organization RBC formula tries to be sensitive to that as well.

One way to get in financial trouble is to limit a plan’s ability to change premiums. It’s a financial advantage to watch experience and costs emerge and be able to react to that, that is, to raise or lower premiums.

There are two kinds of premium limitations. One is premium guarantees that say, for instance, a rate is good for six months, a year, five years, or until the policyholder reaches age 65 or for the rest of his or her life. The health organization RBC formula needed to be sensitive to promises that a rate would be good for two,
three, or five years. However, because a lot could change during these years, there’s an increased risk, and the RBC amount is adjusted upward for that.

The other premium limitation relates to the regulations that might slow a plan’s ability to react to experience. In some states a rate can only be changed after the state approves it. That requires the carrier to submit a justification for the rate change. The regulator looks at the justification and might ask questions. To the extent that these regulations extend the time between the request for a rate change and its implementation, this process acts like a premium guarantee. You have to be sensitive to that. This is a state-by-state issue.

Finally, the NAIC wanted to design the health organization RBC formula so that if there is reinsurance that transfers risk to a real reinsurer, a company would be able to lower its RBC amount.

The proposed health organization RBC formula attempts to do two things. Since it’s for all health organizations, it’s trying to include all of the entities that are selling, and it tries to tailor some of the factors to the risks that health organizations experience.

Rapid Growth

There are a few other changes in the health RBC formula that differentiate it from the life and health formula. One is its allowance for rapid growth. Many health organizations are going to be fairly small and grow rather quickly at the beginning.

Considering how premiums are set, a plan that is growing rapidly is going to experience a large increase in its claims costs over time. This rapid growth can tend to mask its ability to discern how much of the increased payments cost is due to volume and how much is because utilization is higher than assumed. Or how much is because the plan is insuring people who are sicker or older than assumed. If a company is growing rapidly, it runs the risk of missing an important observation and miscalculating. Therefore, the RBC formula allows for rapid growth as an added risk.

Assessments

To the extent that assessments for guarantee funds, or reinsurance pools, are known ahead of time and fairly constant, they wouldn’t be a risk. They would be recognized and could be reflected in prices.

The health organization RBC formula says if there is a history, in a given state or area, of assessments being large one year and small the next, then there is an increased risk of an unanticipated need for money. The formula is sensitive to that risk.

Company Affiliations

For affiliated companies, the life and health formula said that if a big insurance company has some HMOs that are in a separate corporation, they would be considered investments and not necessarily recognized as part of the business risk or the insured business risk.

The health organization RBC, on the other hand, takes all like companies that are under the same corporate umbrella, sums up their insurance operations, and determines the risk these operations represent. This makes the health organization RBC a little more sensitive to the business risks being measured.

In the case of a life and health insurance company, the RBC formula would look at the company’s holdings and apply the appropriate RBC factors. There would be a line for “other” or “subsidiaries,” and it might have a unique risk factor.

Valuation Variations

I talked about requirements that actuaries certify that reserves are adequate and reasonable. There is a feeling that if valuation and reserve amounts have that level of scrutiny, there is probably less risk of insolvency,
because at least another set of eyes is required to look at the situation.

**Physician Incentives**

The RBC formula does try to measure the accruals for the physician incentives. It considers these arrangements as a gradient of managed care. Let’s start from the basics. If a company just pays claims, it really doesn’t have any managed care. If it introduces some preadmission approvals and some fee schedules, it has some modest cost management. Maybe it has reduced a bit of the utilization risk and the cost risk.

The next point on the gradient is for withholds. If a company has incentive arrangements that benefit physicians, that can be recognized as a way to control the volatility of claim costs. The ultimate, at least for the RBC formula, is capitation.

In developing some of these health RBC factors, NAIC obtained financial results data from HMOs and indemnity plans and perhaps some PPOs. Among HMOs, Kaiser was a significant provider of information.

NAIC looked at these data to see if the volatility of earnings and claims costs historically for the HMOs was less than that of indemnity plans. So if you model that stability into the future, you might find a lower risk factor for HMOs than for indemnity plans.

**Management and Solvency**

How does management deal with solvency risks? We’ve talked about most of the strategies. They can limit risk by buying reinsurance, or sharing risk with the providers. They can establish investment policies that are approved by their board that say they won’t invest in certain things and will limit investment in other areas to a certain amount.

They can add margins to prices or to reserves. Rate increase is obvious. Some managed care programs have shown that administrative measures can have an impact on solvency. You could have a large claims management protocol that, after a claim for a certain diagnosis or above a certain dollar amount is received, would invoke large case management and have a nurse look at charts, talk to the physicians and to the patient, and try to move the patient to a lower cost setting. The protocol might, in some cases, even bend the contract rules to allow coverage for a particular piece of equipment that might not necessarily be covered but would save costs.

You’ll find that some things can be done on the claims side even after the fact to address solvency issues.
IV. Insurance Terminology

By Donna Novak, ASA
The American Academy of Actuaries

Administrative Services Only (ASO) Agreement
Contract for the provision of certain administrative services (but not health care coverage itself) between an insurer and a group employer or other plan sponsor. Such services often include actuarial activities, benefit plan design, claim processing, data recovery and analysis, employee benefits communication, financial advice, medical care conversions, and preparation of data for reports to governmental units.

Admitted Assets
Assets of an insurance company permitted by supervisory authorities to be included in the company’s balance sheet, thus included in the surplus.

Antiselection/Adverse Selection
The tendency of individuals to choose insurance plans that will produce the greatest financial advantage to themselves.

Assessment
An amount charged to an insurer in a jurisdiction, through regulation or government programs, to cover losses attributable to such programs. For example, amounts attributable to losses from reinsurance pools, state guaranty funds, or insolvency funds.

Asset Risk
The risk that the amount or timing of items of cash flow connected with assets will differ from expectations or assumptions as of the valuation date, for reasons other than a change in investment rates of return. Asset risk includes the risk of default or other financial nonperformance.

Capital and Surplus
The excess of a corporation’s assets over its liabilities.

Capitation
Method of payment for health services in which a health care provider or hospital is paid in advance a fixed amount for each person to be served for the period, regardless of the actual number or nature of services provided to each person.

Case Management
The assessment of health care needs, development of a plan of care, coordination of those services assessed to be needed, and appropriate monitoring/followup of the extent and quality of the services needed.

Cash Flow Testing
The process of projecting and comparing, as of a given date called the valuation date, the timing and amount of asset and obligation cash flow after the valuation date under a variety of economic scenarios.

Claim Liability
The actuarial present value as of the valuation date, of future claim payments under the benefit plan for claims that have been incurred on or before the valuation date and have accrued payments through the valuation date. Sometimes imprecisely used to include claims reserves as well.

Claim Reserve
The actuarial present value as of a valuation date of future claim payments under the benefit plan for claims that have been incurred as of the valuation date but have not yet accrued. Sometimes used to include claims liability as well.

Community Rating
A method of rating that produces identical rates for all members of an identified pool or class, based on the expected costs for these members as a group. Typically, rates may vary only by certain broad classifications within the community, such as family status (single versus family coverage), and occasionally by geographic areas.
Cost of Health Care
All salaries, expenses, and payments incurred to deliver, or to contractually commit to deliver, health care to a covered life.

Cost Plus
Insurance arrangement whereby a policyholder is charged the amount of claims paid plus the insurer’s retention.

Credit Risk
Risk associated with the possibility of a loss on an investment security, either in whole or in part.

Duration
Policy Duration: The period of time between the date of issue of a policy and the valuation date.
Claim Duration: The period of time between the date a claim was incurred and a valuation date.

Earned Premium
The portion of premium for a policy or group of policies attributable to the period of coverage between valuation dates.

Equivalent Premium
The total amount of premium that would have been paid to an insurer if a self-insured, cost-plus, or minimum premium plan had been fully insured. Includes, but is not limited to, paid claims, claim reserves and liabilities, administrative and other expenses, and other retention charges.

Extended Elimination Period Reinsurance
A type of reinsurance in which the reinsurer’s loss is a proportional share of either the claim in excess of a dollar limit or periodic payments after a given elapsed time after the claim is incurred. Typically used in long-term disability insurance.

Exclusive Provider Organization (EPO)
An arrangement similar to an HMO, requiring use of participating providers. The main difference from an HMO is that an EPO is an insurance contract regulated as such, rather than under HMO regulations.

Health Maintenance Organization (HMO)
An organization that coordinates, and usually provides, the delivery of comprehensive health care to an enrolled population, licensed under enabling legislation that is separate from that of other insurers.

Health Risk Adjustment
See Risk Adjustment

HMO
See Health Maintenance Organization

Incurred Losses
The amounts paid or payable for claims covered by a policy or group of policies attributable to the period of protection.

Individual Insurance
A type of insurance policy sold directly to individual persons or to individual families, in contrast to insurance that is sold through employers, associations, or other organizations.

Lives
When used in the risk-based capital formula, lives refers to the people covered by a health plan, including the dependents of a primary insured.

Loss Ratio
The ratio of claims to premiums during a specified period.

Managed Care
An organized system for delivering cost-effective health
care that incorporates benefit design features, financial incentives for providers (e.g., reimbursement methods that extend beyond discounted fees), and controls on utilization.

**Minimum Premium Plan**
Combination approach to funding an insurance plan aimed primarily at premium tax savings. The employer self-funds a fixed percentage (e.g., 90 percent) of the estimated monthly claims, and the insurer insures the excess.

**National Association of Insurance Commissioners (NAIC)**
National organization of state insurance regulatory officials of the 50 states, the District of Columbia, American Samoa, Guam, Puerto Rico, and the Virgin Islands, charged with regulating insurance. NAIC has no official power but wields influence. The association was formed to promote national uniformity in insurance regulations.

**Nonadmitted Assets**
Assets of an insurance company not permitted by supervisory authorities to be included in a company’s balance sheet.

**Performance Guarantees**
A binding commitment by a health plan to provide a level of service or cost during the policy or contract period. Often a financial penalty results when the performance levels are not met.

**Physician Hospital Organization (PHO)**
A PHO is a network consisting of a hospital and a physician group (usually the hospital’s medical staff) that bond together through contractual arrangements to provide health care. They may provide that care directly or they may contract with an employer or groups of employers and provide health care for their employees. They may also establish contracts with HMOs to be among the providers for the HMOs and provide coverage to some of the HMOs’ members. A PHO is basically an affiliation of a hospital and doctors acting together as a single entity to contract for and manage health care.

**Premium Equivalent**
See Equivalent Premium

**Proportional Reinsurance**
A type of reinsurance wherein the liability incurred by the reinsurer is directly proportional to the size of the original direct claim. “Quota Share” is a type of proportional reinsurance.

**Rate Guarantees**
A binding commitment by a health plan to maintain a premium amount charged for a specified period of time.

**Reinsurance**
The transaction whereby the assuming insurer, for a consideration, agrees to indemnify the ceding company against all, or a part, of the loss that the latter may sustain under the policy or policies it has issued.

**Reinsurance Agreement**
Any contractual arrangement or treaty whereby some element of risk contained in insurance contracts is transferred from a primary or (ceding) insurance company to a reinsuring (or assuming) insurance company in return for some consideration.

**Reinsurer**
The insurer that assumes all or a part of the insurance of reinsurance risk written by another insurer.

**Reserves**
A measure of an insurer’s liability, present and future, for a particular obligation.

**Risk Adjustment**
Process of transferring money between carriers needed
to account for the differences in the expected or actual costs of the various carriers’ risk pools, based on a risk assessment.

**Risk Assessment**
A means of determining objectively whether an individual or group represents a risk that is reasonably close to the average and, if not, of quantifying the relative deviation from the average.

**Risk-Based Capital (RBC)**
Provides an elastic means of setting the minimum capital standards for insurance companies to support their overall business operation in light of their size and risk profile. A company’s RBC is calculated by applying factors to various asset, premium, and reserve items, where the factor is higher for those items with greater underlying risk and lower for less risky items.

**Risk Categories**
(C-1) Asset risk with respect to the insurer’s assets
(C-2) Pricing risk of adverse insurance experience with respect to the insurer’s liabilities and obligations
(C-3) Interest risk with respect to the insurer’s business
(C-4) General management risk

**Risk Charge**
A generic term often used to describe the charge made to cover the costs of the funding method used (stop loss, retroactive rating, etc.); payments to the insurer for the use of capital; or payments to the insured for taking risk.

**Withhold**
The portion of a health care provider’s negotiated fee that is not paid to the provider at the time a service is rendered but is instead held at risk. It is paid to the provider only if the aggregate cost of health care provided to a group of covered persons is at or below a target figure. If actual costs exceed the target figure, the withhold is retained by the insurer up to the amount necessary to recover the difference between the actual cost and the target cost.
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ISSN: 0887-137X 0887-1388/90 $.50 + .50.