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HEALTH TOPICS FOR THE NON-HEALTH ACTUARY

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Panelists: EARL L. HOFFMAN
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Recorder: ANDREA FESHBACH

- An overview of issues and recent developments:
  - Alternative delivery systems
  - Managed care
  - Traditional group insurance
  - Actuarial issues of AIDS
  - Medicare and retiree medical benefits
  - COBRA, the uninsured, etc.
  - Recent developments

MS. ANDREA FESHBACH: Today's health care environment presents a multitude of issues to be addressed by both health and nonhealth actuaries. While health actuaries are continually faced with these issues, it is also important for non-health actuaries to stay informed. Our mission is to cover the universe of health issues in a short time. By necessity, the presentations will be broad rather than deep.

You might keep in mind some themes that underlie much of the discussion about health care today. One of them is what I think of as "Less is More" -- that sometimes better quality health care can be less expensive than traditional alternatives. Managed care, preventive medicine, wellness, and putting certain limitations on benefits are all examples of this.

You will also hear about mechanisms that change who provides the care rather than changing what care is provided. Examples of this include care provided by a network physician rather than a non-network physician, and care provided by a home health nurse rather than a family member.

Another issue in health care today is a change in where the money goes. The universe of interested parties in terms of money includes individuals, employers, insurance companies, HMOs, PPOs, hospitals, doctors, other providers, and last but certainly not least, taxpayers. Many of today's issues involve changing who in this group pays more and who receives the benefits.

The fourth issue is that today there really is not an integrated national health care system. At this point, we seem to be moving toward one, but it is unclear whether it is going to be primarily a private system or one imposed by the federal government.

Our panelists will be discussing retiree and Medicare issues, alternative delivery systems, managed care, the current status of traditional group insurance, and

AIDS. Before the panelists begin, there are a few other topics that I would like to briefly discuss. These issues are HMO solvency, the uninsured (which includes COBRA), and long-term care.

The issue of HMO solvency is a very hot topic right now. Due to the financial difficulties experienced by several HMOs, HMO regulations are undergoing increasing scrutiny. Up to this point, the federal government has mainly been concerned that if an HMO goes belly up the enrollees do not have to pay providers for what they thought was going to be covered care. This does not prevent insolvency, and thus far it also has not looked to capitated providers in terms of their solvency. However, measures at the state level to deal with HMO insolvency are beginning to develop. These measures include guaranty funds, minimum net worth regulations, and replacement coverage.

HMO state guaranty funds generally require that all HMOs in the state pay, for example, a percentage of premium volume to make up losses if another HMO fails. At the current time, Illinois and Alabama have established such funds, and they are under consideration in Minnesota, Florida, and Wisconsin.

Some states have recently instituted or stiffened minimum net worth requirements. For example, in Wisconsin the minimum net worth requirement is currently 3% of annual premium. You can compare that with the Wisconsin traditional indemnity coverage requirement of 10% of annual premium.

Replacement coverage provisions deal with HMOs that have Medicare contracts. Recently some HMOs with Medicare contracts have chosen to drop the contracts, leaving beneficiaries somewhat in the lurch. Minnesota, for example, is considering a requirement that HMOs that drop such contracts arrange replacement coverage for enrollees and pay preexisting condition charges for six months. This prevents these people from becoming part of the uninsured population.

The uninsured population issue is, to some extent, a "who pays?" issue. The uninsured population is made up of approximately 37 million individuals. Some of these individuals are unemployed, but not covered by Medicare or Medicaid. Some are employed, but with small employers that don't offer health insurance. Others are employed, but they are part-time or temporary employees and their employers only cover full-time employees. Still others may be self-employed individuals.

Various proposals aim to serve each of these different groups or sometimes several of these groups. Various states are considering risk pools to help fund care for the uninsured. In fact, today the Massachusetts legislature may be sending a bill to the governor requiring that employers of five or more employees provide health care coverage worth approximately $1,600 a year per employee. Otherwise, they must pay that amount in additional payroll taxes to a fund. In addition, the employers must fund a pool for hospital costs of the indigent. This may be the harbinger of things to come. At this point, only the state of Hawaii has any kind of mandatory requirements in this area.

One uninsured coverage measure that we are already dealing with is COBRA. This provision continues insurance coverage to people who terminate employment or somehow lose coverage from their employer because of death, divorce, or coming of age. Thus far, it is clearly evident that a well-administered COBRA system costs a lot less than a poorly administered one because if you administer it poorly, it tends to let in a lot more people.

COBRA coverage is a relatively new concept, but some plans are beginning to generate experience data. These plans are finding that COBRA continuance falls into two categories: the people in poor health who are generating large claims and are keeping COBRA coverage because they need the insurance; and a group which you might call a "bridge group." These people are individuals who just take coverage for a few months until they obtain coverage someplace else.

Insurance companies are finding that their experience with individual conversion policies is affected by COBRA. Before COBRA, people sought these policies after being dropped from a group. Now people seek these policies after their COBRA continuation coverage ends. In the initial period after COBRA implementation, a lot of people turned to COBRA coverage first. As a result, there was an initial drop in individual conversion coverage. Now conversion coverage is increasing again, but experience has been quite poor since the "bridge" people are not there to bring down the averages.

Pricing or designing any type of plan for the uninsured is a challenge because plan design should incorporate enough cost sharing to provide incentives for appropriate care, but not enough cost to prevent people, especially indigent people, from seeking this care. Generally these plans include incentives for appropriate care, such as use of hospital emergency rooms only when necessary. When pricing these types of plans, you have to look out for high costs, especially with new entrants. The uninsured are generally a sicker population and have a backlog of unmet health care needs. In addition, they are also relatively unsophisticated consumers of health care. Consequently, the hospital emergency room might be the first place they'd go for any kind of care.

Finally, I'll make a few comments on long-term care. In a nation where the median age continues to rise, increasing attention is being given to long-term care. Most retirees believe that Medicare will provide for their needs, but to a large extent, that is not the case. Long-term care insurance is stepping in to fill the gap. The benefits may be for actual nursing home care, for home health care, or for elder day care.

The pricing for this long-term care coverage depends on various factors. Some of the first considerations are the time limit of coverage, the length of the elimination period, the maximum benefit period, whether coverage is for skilled nursing facilities only or custodial care as well, and whether an initial hospital stay is required. In addition, the supply of nursing home beds, physician practice patterns of a particular community, and demographic considerations such as marital, health, and economic status of the potential insured should also be considered.

Our next topic, which will be covered in more depth, will be Medicare and retiree coverages. Our speaker is Earl Hoffman, the Second Vice President and Actuary of the Group Division of Northwestern National Life Insurance Company. He is responsible for group pricing, product development, and health valuation. He has a BA from Johns Hopkins, an MS from the University of Minnesota, and is a Member of the Actuarial Committee of the Minnesota Comprehensive Health Association. What he likes best about being a health actuary is that there is never a dull moment.

MR. EARL L. HOFFMAN: The health insurance actuary of today must consider the Tomorrowland of new medical technology and the Frontierland of managed care and alternative delivery systems. Throw these in with the Fantasyland of

Medicare politics and ambiguous court rulings, and you have the Adventureland of today's retiree medical coverage. What began as a rather low-cost benefit to a manageable number of retirees in the expanding business climate of the late 1960s has become a potentially large balance sheet liability for a growing, unmanaged benefit.

Any discussion of retiree medical coverage requires some background about Medicare today. By "retiree," I mean not only the retired employee, but also his or her spouse at retirement age. Medicare pays out about $100 billion for medical coverage to all beneficiaries including disabled workers. Medicare pays approximately 77% of acute care expenses incurred by retirees over age 65. Overall, Medicare outlays are expected to grow by 8.7% annually over the next five years.

Since 1983, Medicare has reimbursed hospitals with fixed payments per admission based on patients' diagnostic related groups (DRGs). Except for outlier claims, hospitals cannot bill Medicare for additional charges they incur. The DRG method of hospital payment has been a powerful incentive to hospitals to hold down inpatient costs, as shown by the large drop in Medicare hospital days per thousand after this method of payment was implemented. However, the low rate of increase of Medicare payments in recent years has caused a host of complaints from hospitals about inadequate payments and has furthered the shift of hospitals towards specialization. Only half of all hospitals will make money on Medicare patients this year, as compared to two-thirds just two years ago.

At the same time that DRGs have helped contain hospital costs, Medicare Part B expenses, largely physician and outpatient care, have soared, showing an average 17% per year increase from 1976 to 1986. In this area, the political hot potato is the Medicare-approved amounts. These are the maximum physician charges for various surgical and medical procedures that Medicare will consider when calculating its benefits. Physicians may "balance bill" their patients for charges in excess of the approved amount. This excess then becomes a significant component of the cost of retiree health plans.

About 45% of physicians enroll with Medicare as "participating"; that is, they agree to accept the approved amount as payment in full for all services in an entire year and agree not to "balance bill" their patients for additional charges over the approved amount. However, almost 75% of all physicians are "on assignment"; that is, the physician has agreed to accept the approved amount as payment in full for that bill only. This is an increase from 68% in 1985 and 50% in 1978. Obviously, the vast majority of physicians wish to preserve their freedom to bill patients in excess of the Medicare-approved amount, even though in practice they usually accept the limit. Some reasons for the increase in the assignment rate are mandatory assignment of physicians' lab services since 1986, and caps imposed by Medicare on amounts that physicians may balance bill to patients.

From its start, the Reagan administration promoted the capping and transfer of Medicare risks to private payors in its Private Health Care Option. The first fruition of this initiative is TEFRA risk contracts or Competitive Medical Plans (CMPs). These are plans that have agreed to accept a fixed monthly payment, based on the age and location of the retiree, in exchange for accepting the entire Medicare risk. The Medicare beneficiary pays a monthly premium in addition to the regular Part B premium to receive not only the Medicare benefits, but also full coverage of copayments and some additional benefits such as

preventive care, out-of-hospital prescription drugs, and vision care. HMOs usually offer the CMPs, but can provide similar coverage outside of the CMP.

How successful have HMOs/CMPs been since they were introduced in 1985? Presently there are 135 of these plans enrolling 967,000 Medicare beneficiaries or 3.5% of total beneficiaries. About 12% of all beneficiaries who have access to an HMO/CMP actually enroll in one. It would appear that these plans have significantly decreased the rates of hospitalization and the length of hospital stays. Hospitalization rates for enrollees of HMO/CMPs are from 5% to 35% lower than the rates for similar Medicare beneficiaries that are not in these plans. While HMOs/CMPs have successfully applied hospitalization utilization review to the Medicare population, it is also true that they have been enrolling a generally healthier population. This result is understandable, since by joining an HMO/CMP a retiree often has to give up his or her regular physician and allow a gatekeeper primary care physician to make referral decisions.

All has not been smooth sailing with HMO/CMPs in the last year. Although the basis of payment to HMO/CMPs has increased 13.5% for 1988, the increases are by no means uniform. HMO/CMPs in many areas feel they are not getting what they need from the capitation formula, particularly after 1987's small 4.5% increase. Twenty-nine HMOs with 8% of the HMO/CMP enrollment decided to drop their CMP plans for 1988. The HMO/CMPs have been offering a package of benefits worth approximately 125% of the basic Medicare Part A and Part B benefits. Yet they have been receiving from the Health Care Finance Administration (HCFA) only 95% of the average area cost of Medicare benefits, adjusted by the age and sex of the enrollees. The difference is supposed to come from the added premiums they charge the retiree plus the managed care savings. However, many HMO/CMPs are finding that the low premiums they charge are not realistic for the large additional benefits they provide.

At the same time that these HMO/CMPs are maturing, Congress is working on the first significant expansion of Medicare benefits in many years. Both Houses of Congress have passed separate legislation, and it is likely that a bill will be signed by the President. The House version contains separate Part A and Part B out-of-pocket limits totalling about $1,800 for 1989, and a benefit paying 80% of outpatient prescription drugs above a separate $500 deductible. The Senate version has a combined Parts A and B out-of-pocket limit of $2,030, and a $600 prescription drug deductible. Both bills extend coverage of posthospital care in skilled nursing facilities, but neither limits the liability of the beneficiary to pay for physician charges above Medicare-approved amounts.

Both bills purport to require retirees and other beneficiaries to pay the entire cost of the added benefits through higher premiums. For the first time, the concept of an income-related supplemental premium has entered Medicare legislation as part of the premium to fund the additional benefits. This could be a sign of how Congress will look at financing future benefit additions, while refraining from using general revenues or adversely affecting less affluent retirees.

This is the Medicare environment that our employer-sponsored retiree health plans have to contend with. For the most part, retiree health plan design has been something of an afterthought with employers. Benefit provisions tend to follow those of the active employee plan. The big difference, of course, is that benefits of retirees are linked to Medicare benefits in one of three ways: (1) coordination of benefits, in which the plan pays all of the expenses not paid or

covered by Medicare up to the amount of the plan benefit as if there were no Medicare; (2) integration, also referred to as carve-out, in which the plan subtracts the amount which Medicare pays from its normal benefits; and (3) exclusion, in which the plan applies its deductibles and copayments to just the difference between the total charges and what Medicare pays.

Of these three methods, coordination of benefits is the richest, often filling in benefits after Medicare up to 100% of eligible charges. Integration is the least expensive, since under this method the combined Medicare/retiree plan benefits will never exceed what the retiree plan would have paid alone. Exclusion falls somewhere in between. Integration is the most common form of benefit, followed by coordination; exclusion is relatively uncommon.

The fact that the retiree plan is secondary to Medicare means that there is only limited value to such standard health cost containment strategies as second surgical opinions and hospital utilization review. Unless the hospital stay is over 60 days, the retiree plan need pay no more than the Part A deductible for hospital expenses. Although there would be some savings to the retiree plan by reducing hospital admissions, controlling lengths of stay once an admission is approved may be meaningless to the plan unless the stay is very long, like over 60 days. In the upside-down world of coverage supplemental to Medicare, reducing hospital stays by plan design could actually result in more outpatient care under Part B, with higher cost to the retiree plan. This reasoning probably accounts for the fact that only half of the employers with retiree plans have any cost containment mechanisms built into them.

Preferred provider organizations are almost nonexistent with these plans. Employers have not put PPOs into these plans partly in recognition of the mobility of today's retirees, and partly because most older people have built long relationships with their doctors who understand and know how to treat their problems. This is especially true of the relatively small percentage of retirees who account for a disproportionate amount of the claim expenses.

Another example of the special needs of retiree plans is outpatient prescription drugs. Even if pending legislation were to pass, these drugs would not be covered until $500 to $600 had been paid. Most employer-sponsored retiree plans have the same benefit as for active employees. Yet retirees make far heavier use of these drugs, estimated at an average of $310 per year for 1987 and estimated to grow by almost 40% in the next four years. Most of the expense is for maintenance drugs.

So far in this discussion, I've said very little about the situation with early retirees or dependents under 65 who are not eligible for Medicare. On a nationwide average, about one-third of all people covered under retiree plans are under age 65, but the lack of Medicare primary benefits for them translates to far higher costs per individual. This is a segment of the retired population for which managed care could have a major impact, especially since health problems often cause early retirement.

Retiree plan experience falls victim to the usual problems of any medical plan: inflation, cost-shifting, overutilization, and cost of new technology. There are also some unique difficulties. To paraphrase an old political saying, "When Medicare sneezes, retiree plans often catch pneumonia!" The retiree plan's benefits are influenced by changing Medicare deductibles and copayments. Perhaps more important than these is the level of Medicare-approved charges to

physicians. Their rates of increase in recent years have been quite low, about 1% to 3% per year and much lower than the inflation experienced by health plans in general. If physician dissatisfaction with low approved charges grows, it's very likely that the current high physician assignment rate will drop. When that happens, there will be more "balance billing" by doctors, and retiree health plan costs will grow rapidly, unless the employer can change its plan.

As if design issues were not enough, retiree plans have been hit with a host of legal and accounting problems, centering around two issues: the right of an employer to change or even terminate its plan; and the proper recognition of plan liabilities.

Recent court rulings on the vesting of benefits and the employer's right to change benefits have gone both ways. However, the rulings have tended to support the position that the employer cannot change benefits and possibly cannot even change retiree contributions to the plan, unless it has made its right to do so abundantly clear in all plan documents and oral communication to prospective retirees. In the wake of the celebrated LTV bankruptcy case, Congress amended COBRA to allow bankruptcy as a qualifying event for continuation of coverage for retirees. The possibility exists that Congress may even extend some ERISA-type security to retiree health plans.

On the accounting front, FASB is moving toward requiring advanced recognition of accrued liabilities of retiree medical coverage. This could create huge balance sheet liabilities and advanced funding in place of what has always been pay-as-you-go expense. Table 1 shows the result of a valuation my company performed for one of its groups last year. This covers only the closed block of existing retirees of the group at the time of the valuation (May 1987). You'll note that the current cost of benefits is only about $40,000, but the present value of benefits for this closed block of retirees is about $480,000. This is even under some fairly low trend assumptions.

As you can see, we were very optimistic last year about the trend. We have learned since then. Note also the wide variation in the employer's liability which is the total present value less the part that's going to be funded by retirees (Line C). This varies from 52% to 76% of total plan liability depending upon whether the retiree plan contributions are frozen or increase at the rate of medical trend. This illustrates the importance to employers of retaining flexibility in setting retiree contributions for medical coverage. If this had included accrued liabilities for the current active employees, the ratio of liability to current cost would have been much greater. In hypothetical situations, recently published studies have shown that the average annual accrued costs can be as much as six to fifty times as much as the annual pay-as-you-go cost. Obviously, the situation varies considerably by the richness of the plan and the demographics of the employer, but the prospect of medical inflation in excess of investment yields can create a large liability.

All of these vesting and accounting concerns are coming at a time when available tax-favored funding vehicles are limited. The 1984 Deficit Reduction Act put a severe crimp in use of 501(c)(9) trusts to fund retiree medical expenses by preventing the use of assumptions about future medical trend in determining employer prefunding costs. In addition, the employer is taxed on the investment income earned by the trust. Another vehicle, using section 401(h) of the IRS code, allows limited funding through the employer's pension plan and does allow tax-exempt investment income accumulation. However, the maximum contribution

TABLE 1

ILLUSTRATION OF RETIREE MEDICAL PLAN LIABILITY

ASSUMPTIONS: CLOSED BLOCK OF RETIREES AND THEIR DEPENDENTS, AS OF 5/1/87
MEDICAL TREND: 12% IN 1987, GRADING DOWN TO 6%
INVESTMENT YIELDS: 7.5% PER YEAR
CURRENT ANNUAL COST (1987 EXPECTED CLAIMS): $40,578

ASSUMED ANNUAL RATE OF INCREASE IN RETIREE CONTRIBUTIONS

	0%		6%		W/MEDICAL TREND	
	$	% OF TOTAL PLAN LIABILITY	$	% OF TOTAL PLAN LIABILITY	$	% OF TOTAL PLAN LIABILITY
(A) MAY 1, 1987 TOTAL PLAN LIABILITY (PRESENT VALUE OF FUTURE BENEFIT PAYMENTS)	481,806	100%	481,806	100%	481,806	100%
(B) MAY 1, 1987 PLAN LIABILITY TO BE FUNDED BY RETIREES (PRESENT VALUE OF FUTURE RETIREE CONTRIBUTIONS)	116,968	24	192,275	40	231,383	48
(C) MAY 1, 1987 PLAN LIABILITY TO BE FUNDED (A) - (B)	364,838	76	289,531	60	250,423	52

for retiree medical through a 401(h) vehicle is limited to 25% of normal pension plan contributions. This limitation could provide too little for retiree medical accrued cost. Various proposals have surfaced in Congress to allow more extensive tax-advantaged funding, either by the employer or by the employee, through an "individual medical spending account" similar to an IRA. However, I feel the prospects for these will remain dim as long as the federal deficit reduction retains the political spotlight.

Given this difficult situation, what are employers doing now with their retiree plans? Some movement for change is afoot, along the following lines:

- Changing plan documents to state clearly and unambiguously to all future retirees that the employer can change the benefits and/or employer contributions at any time before or after retirement.

- Redesigning plan benefits. Many employers are decoupling their retiree plans from active plans. Integration and exclusion plans are replacing more of the plans that fully coordinate with Medicare up to 100% of charges. Given the high prescription drug costs relative to other expenses, some employers are including incentives in their plans for retirees to use generic drugs or mail order prescription filling services for maintenance drugs.

  Finally, some employers feel that retiree plans should have the same cost containment features as active employee plans. For early retirees, a plan's hospital utilization review would be the only such cost containment. For Medicare-eligibles, there is also the preadmission certification by the Medicare Professional Review Organizations (PROs). However, these PROs only certify for a limited number of procedures, and an employer's plan review can prove to be a cost-effective supplement to the PRO.

- The present method of employer provision for retiree medical could be called, in pension terms, defined benefit. Usually all retirees get the same benefits regardless of length of service. In fact, depending upon the employer's contribution scale, early retirees may actually get more benefit from the employer in dollar terms than those who retire at age 65, since the early retirees are not initially covered by Medicare. Employers are starting to look at a defined contribution approach, in which the employer pays a fixed dollar amount or a fixed percentage of total plan cost per year per retiree. To put these contributions in line with pension benefits, the contributions may be determined in a way which varies the fixed employer contribution by the retiree's length of service.

In summary, today's benefits manager, faced with the difficult legal, political, and actuarial issues of retiree health plans, sometimes feels as if he or she is on a thrill ride like the Matterhorn Bobsled. But with some prudent plan changes and a little political pixie dust like better tax-advantaged funding vehicles, these problems may be able to fly away to Never-Never Land.

MS. FESHBACH: John Seidenstricker is the Director for Group and California Care HMO in the Corporate Actuarial Department of Blue Cross of California. He has been there for a little over a year and is responsible for actuarial work for group insurance and HMOs. Before that time, he was one of the actuaries for American Medical International's group health services. This was an attempt by a hospital corporation to integrate the provider and the insurer. He had been there for about a year when AMI decided to withdraw from the business and

shut down the operation. John's topic is alternative delivery systems in managed care.

MR. JOHN R. SEIDENSTRICKER: I would like to give you a little background on the environment we are working in right now. As of January 1, 1988, the average rate increase for health insurance ranges anywhere from a 10% increase up to about a 70% increase, with the norm being somewhere in the 12-25% range. More specifically, 31 million retirees and disableds on Medicare were greeted by a 38.5% increase at the beginning of the year; 11 million federal workers and retirees received a 31% increase; 1.2 million New York state and local government workers had increases of 40-57%; and the private sector is not immune either. For example, J.C. Penney is expecting increases of 15-30% for medical costs, and IC Industries is expecting about a 23% increase.

With these kinds of increases, health insurers are obviously excited, but that's not quite the whole case either. In 1987, the health industry had an estimated loss of $1.25 billion. The BC/BS Associations across the country contributed about a billion dollars of that, and BC of California contributed its fair share of that portion. In the commercial environment, Lincoln National had an approximate $74 million loss -- $23 million in the traditional field and $51 million on HMO products. Travelers has estimated about a $55 million loss. For the first nine months of 1987, CIGNA had an estimated $48 million dollar loss, most of that coming in HMOs. Aetna Life and Casualty had approximately a $24 million dollar loss on their HMOs. If you examine the HMO environment, including recent press on Maxicare and various other HMOs, HMOs are not doing well either.

As a result, there have been some changes in the market, and not everyone wants to stay in the market. TransAmerica sold their health insurance business to Provident Life & Accident in Tennessee. Kemper Insurance got out of the health insurance business. Provident Mutual in Pennsylvania withdrew from the large group health market. As you can see, there is a lot of turmoil going on. All of this is taking place in an environment in which the general rate of inflation has been increasing at a rate of 4% for each of the last five years.

This is also an environment in which managed care has been instituted. In 1984 only about 4% of the insured population was enrolled in some type of managed care program. By 1987, that number had grown to 29% of the insured population. Of that 29%, about 75% of enrollees were in a fee-for-service type of plan which included some type of utilization review. The other 25% of enrollees were split between PPOs and HMOs.

Managed care was intended to help contain costs and to help provide better coverage. The question is: is it working? I think that from the statistics it is fairly clear that it's at least not as effective as it was hoped to be.

One of the things contributing to the lack of effectiveness is the general medical environment. New methods of treatment continue to be developed. Several years ago, if you needed some diagnostic services to determine what was wrong with you, you'd go to the doctor, and he'd take an x-ray. A few years after that, they came up with CAT scans that were about twice as expensive. Most recently, they've developed magnetic resonance imaging which is twice as expensive as CAT scans. As medical technology continues to grow and develop, costs also increase. Drug therapies are another area in which the development of new drugs has increased costs.

Another contributing factor to the ineffectiveness of managed care is the cost of malpractice insurance. Physicians are very concerned with malpractice, and in our current legal environment, they have good right to be concerned. To protect themselves against the possibility of malpractice, they tend to order additional tests and services. This increases the insured's cost.

Costs are not only increasing, but are also being shifted by providers. Since the federal government instituted DRGs and various other cost-cutting measures, providers are trying to find other places to make up lost revenue and keep their profits up. As a result, there is a continual cost shift from various sectors to various other sectors. One of those sectors being hit is the health insurance industry.

Finally, we are dealing with a generally aging population. Baby boomers are growing older, and as the population ages, there are more chronic disorders involving longer and more expensive care. As the proportion of retirees to active employees continues to increase, a lot of those costs are being shifted over to some of the active plans.

In the managed care environment, there have been some factors that have contributed to the increases seen recently. When managed care was first instituted, there were some abuses present in the medical delivery system. Any managed care program that tried to contain costs could quickly attack some of those early abuses, eliminate them, and hold down costs. I think most of those have been eliminated at this point, and so it's more difficult to find the quick fixes.

Efforts of the managed care environment to control overall utilization have not, in general, been very successful. They have pushed down on one part of the system and the other part of the system has popped up. As they control the inpatient costs and put restrictions on what you have to do to get into the hospital or have the hospital stay paid for, providers have shifted to an outpatient environment where there is not as much managed care control. As a result, the utilization of some outpatient care has skyrocketed and will continue to skyrocket. Similarly, as hospitals receive limited reimbursement for inpatient stays through Medicare DRGs, they can alter the pricing structure and make up the difference on their outpatient charges. Consequently, cost and utilization for outpatient services have continued to go up dramatically. In general, HMOs just have not been as effective as had originally been expected. I'm not quite sure what has contributed to that, but that is the consensus.

What is managed care? Why isn't it working, if indeed, it is not? Managed care can have a range of definitions, and anybody that you talk to will come up with a different one. I've broken it into basically three types of managed care:

1. Some form of utilization review. Ordinarily this would be put in place with a traditional fee-for-service type program which would have certain other features, such as preadmission screening for inpatient hospital stays. Under this approach, the insurer or a separate entity will screen the admission and determine whether an inpatient setting is required and how many days' stay are expected to be needed for that. This preadmission screening is followed by concurrent review programs in which a review organization performs periodic checks to make sure that any continued stays are medically necessary. These organizations are also involved with discharge planning which includes working with providers to discharge the patient at the earliest practical time.

2. Second or third opinion programs which require that physicians receive review organization approval before scheduling surgery for a patient. A patient may need to get a second opinion to determine whether surgery is really the best course of treatment or whether an alternate course of treatment could be followed.

3. Individual case management through which a review organization or an insurer works with providers of care on specific cases, usually very high cost cases, to find alternate methods of treatment in a less costly environment.

About 75% of what we currently call managed care programs include some form of utilization review. This provision tends to be somewhat antagonistic to the provider. Physicians generally do not like a third party telling them how to practice medicine or what they can and cannot prescribe. One physician was quoted as saying, "It is ridiculous to assume that some nurse at the end of an 800 number can manage a patient's treatment better than a physician." I think that is a fairly good representation of the way physicians feel about preadmission screening. The screening is generally performed by licensed nurses over the telephone. They find out the diagnosis from the physician and the hospital, and then screen to determine what is payable.

There are various legal concerns with utilization review programs. For instance, there is concern that a third party who is determining what will or will not be paid for certain benefits could be accused of having a tortuous interference with the care. A fairly recent court ruling held that the physician is still responsible. In 1986 the California Supreme Court ruled that physicians do retain authority for their patients' treatment. In the court's ruling, it was held that a physician who complies without protest to the limitations imposed by a third party payor cannot avoid his ultimate responsibility for the patient's care. He cannot point to a health care payor as a liability scapegoat. This court decision supports physician responsibility, but there are still questions about physician liability and of third party payor liability in that regard.

Some people are of the opinion that utilization review is mostly public relations. They feel that it cannot work effectively unless the utilization review is done in the physician's office at the time of diagnosis or treatment and is done with the physician's full cooperation. How to get to that point is undecided at this time.

Individual case management of very high cost cases may be an effective way to control costs. The idea of individual case management is to examine a particular case and to possibly provide extra contractual benefits in lower cost settings. For instance, home health care typically is not provided unless it follows an inpatient hospital stay and a licensed registered nurse's care is needed. With individual case management it may be agreed that someone doesn't need to be hospitalized, but that they do need some I.V. treatments. It may be determined that a home health setting is the best way to provide this care, and the insurer will agree to pay for it. The payor typically works with the utilization review programs to identify the cases that may be subject to case management, and a full range of treatments is available. Case management gets into things like social work and psychological benefits for family members, physical therapy and rehabilitation, and any number of other kinds of things.

There are some legal ramifications involved since extracontractual benefits are being paid. The agreement of both the policyholder and the subscriber is

necessary. The policyholder must agree to provide the benefit and pay for the benefit, and the subscriber must agree to waive any other benefits that they might be eligible for under the normal policy in place of the case management. It must also be recognized that just because these benefits are provided in one situation does not create an obligation to provide similar benefits in other situations.

Another form of managed care is the PPO. The idea of a PPO is that you have some form of alternate reimbursement arrangement with providers which presumably provides lower cost reimbursement to the "preferred" physicians in return for increased patient volume. It is, in general, an open choice by the subscriber at the time of service. The typical way to reimburse physicians is to provide some form of discount from billed charges. Hospitals would provide a percentage discount from billed charges, a per diem rate, or the DRG payment rates that have been adopted by the federal government under Medicare.

A problem with these kinds of arrangements is their proliferation. A provider can sign up with any number of PPOs and can have hundreds of PPO contracts. When it comes time to treat any given patient or to figure out what will be reimbursed, providers really have no clue. So, they continue to practice medicine in their own way, but they are afraid that patients will dry up if they don't join the PPO. Consequently, they sign up with any PPO that comes along.

In order to really influence the treatment provided by providers, some form of exclusivity is necessary. It is estimated that if you want to get attention and affect how physicians practice medicine, you need to control about 20% of their income. The belief is that if you have that much clout over their income and their lifestyle, you will then have their attention and can affect the way that they are delivering care. Similarly, to influence patients, which is what the physician receives in return, there must be a 20% benefit differential to channel patients to given providers. Therefore, plan design becomes very important in educating the employee or the beneficiary on where they ought to go for care.

On the provider side, you have some problems with the outliers. These are the very high claims cases that expose providers to significant liability under a DRG or per diem arrangement. Some way must be developed to assess that liability. I think that PPOs need to evolve, developing forms of partnership in which both the providers and the insurers can be in a "win" situation. One way to accomplish this is to set up various risk-sharing pools. Under this approach, a certain amount of money is contributed to a pool. Depending on the actual costs and utilization, any profits or gains are shared by the providers and the insurers. Another way to do this is to set up various corporations where the physicians have some equity interest in the overall results which gives them incentive to hold down costs.

HMOs are the third form of managed care. In the basic HMO model, physicians are capitated and receive a flat payment for any enrollee signed up in their plan. That effectively transfers the risk to physicians. There are certain limitations on that risk so that they do have some degree of protection. Hospitals in an HMO are typically paid either on a per diem or a DRG basis. There is also typically some kind of pooling of hospital costs so that physicians who are holding down utilization can receive some of the gains from that arrangement.

These forms of managed care are all evolving today and are producing new hybrids. These hybrids include the triple option plan, which is a way of

combining fee-for-service, PPOs, and HMOs to give the employee an opportunity to choose any one of these types of plans. Triple option plans generally have some kind of common administration so that the employer is not dealing with three separate insuring entities. Thus far, triple option plans have generally required selection of a plan at the time of enrollment. I think that we are moving or will be moving towards systems in which the employee can make that selection at the time of service. These systems will be some hybrid of a PPO or an HMO.

One type of model will be a gatekeeper PPO in which the employee has the choice of a physician, but then that primary care physician controls access to the rest of the system. Any inpatient or referral services would have to be obtained through the primary care gatekeeper, and presumably the gatekeeper would refer only in cost-effective ways. Another way of doing that is having an HMO, but giving enrollees the ability to opt out of the HMO for certain services. It would involve reduced capitations to the providers and some kind of risk pool.

Alternate delivery is really a way of setting up some form of managed care for specific services. It's estimated that 15% of employees account for 90% of health care costs. You can have very expensive treatments, such as transplants that can run $175,000, premature births, coronary bypass operations, AIDS, and mental health. These treatments can all be very expensive, but apply only to a limited segment of the population that has disproportionate costs.

For instance, in the chemical dependency and mental health fields, costs have been increasing at about 40% a year and are completely uncontrolled at this point. Part of the reason is that it is difficult to define what a mental health care problem is or what the proper treatment is. It is estimated that one in five of the general population may have some form of mental health problem although only about one-half of one percent seek help. Even with that, as much as 30% of the total number of hours of health care are going towards mental problems.

Part of the reason for the increase is that as hospitals have been squeezed in the managed care environment, they have looked for alternate sources of revenue. There has been a corresponding dramatic increase in the number of acute care psychiatric hospitals. Between 1986 and 1987, there was an approximate 25% increase in the number of beds available for psychiatric acute care. A per day charge for one of those beds could be as much as $400. If someone spends 30 days as an inpatient in a detoxification program for some kind of drug dependency problem, you're looking at a $12,000 bill. People with mental health problems or chemical problems also tend to have much higher claims costs in general. These costs are estimated to be as much as 70% higher than costs for people without mental health problems in a similar plan. So in designing some form of mental health benefit, the cost of that benefit may actually offset other costs of the health plan.

Various organizations are developing and are marketing capitated mental health and chemical dependency programs. Typically these programs involve payment of a certain amount for anyone going into a course of treatment. The treatment would be comprehensive including inpatient detoxification which is typically much less than the ordinary 30-day inpatient programs. This care would be followed with intensive outpatient counseling. It can also include family support programs so that when the person leaves inpatient detox, they return to an environment that will support them. Proponents of these programs claim that they have a better success rate than the standard treatment.

Hospice benefits, prenatal programs, and drug benefit programs are all other examples of alternate delivery systems which attempt to pull expensive pieces from insurance programs. These conditions can be treated in other settings and can be handled by specialty carriers who are willing to accept certain risks in a capitated program.

Where do we go from here? One of the critical needs is for data. In order to successfully administer a plan, manage the care, and really control costs, you need to know what's going on. In order to sign up the proper providers, to monitor their compliance with the programs, and to convince the employers that you are doing the job for them, you need data. The data that you need is different from what has been provided by the traditional insurance company. You need much more specific information on which providers are under what programs for which courses of treatment.

Another upshot of all this is that employers are again beginning to look for guarantees concerning health care costs. In the recent past, many employers moved away from paying an insurance company for taking on risk. They did this in part because they believed that cost increases could be controlled through managed care. Since employers are still facing huge cost increases, perhaps managed care is not the answer. Now employers are back to looking for guarantees, possible long-term guarantees from various insurers. It's something that's evolving. The answers are not clear.

MS. FESHBACH: Our next speaker is Leslie Strassberg who is the Assistant Vice President of Group Underwriting and Actuarial Services for Empire Blue Cross and Blue Shield of New York City. This is the largest Blues plan in the country. He's responsible for pricing for all of Empire's experience-rated groups and products. Previously, Leslie was a consulting actuary for A.S. Hansen and was a student while at New York Life and U.S. Life. His topics today are challenges to traditional group insurance and AIDS.

MR. LESLIE STRASSBERG: First of all, let's tie some of the comments about managed care into what's happening to the traditional fee-for-service market. (See Table 2).

TABLE 2

COMPARISON OF MEDICAL CARE PRICE INDEX TO THE CONSUMER PRICE INDEX 1982-1987

	(1) Consumer Price Index	(2) Medical Care Price Index	Ratio of (2)/(1)
1982	6.0%	10.7%	1.78
1983	3.2	10.4	3.25
1984	4.3	6.2	1.44
1985	3.6	6.2	1.72
1986	1.9	7.5	3.95
1987	3.7	6.6	1.78
Average 1982-1987	3.8%	7.9%	2.08

Source: U.S. Bureau of Labor Statistics

This table compares the consumer price index to the medical care component of the consumer price index since 1982. As you can see, the rate of inflation in medical care continues to outpace that of the rest of the economy. For example, from 1982 to 1987 the consumer price index rose at an annual average of just 3.8%.

For the same period, the medical care price index, which is a component of the consumer price index, rose 7.9%. In fact, if you look at the third column, the medical price index rose at a rate faster than the consumer price index each year during the period. The lowest difference was 1.4 times the consumer price index in 1984, and the highest difference was in 1986 when the medical care price index was nearly four times that of the consumer price index.

Let's talk about hospitals and look at Table 3. Typical supply and demand logic doesn't really describe what has happened with hospital prices in the 1980s. While there has been a small decrease in both the number of hospitals and the number of hospital beds during the 1980s, there has been a sharp decrease in occupancy rates during this same period. The 75% rates of the early years of the decade have been replaced with rates in the 60% range, and these rates are projected to slide even further.

TABLE 3

SUPPLY AND USE OF HOSPITAL SERVICES
IN THE UNITED STATES 1980-1987

	Number of General Care Hospitals	Number of General Care Hospital Beds	General Care Hospital Beds Per 100,000 Population	General Care Hospital Bed Occupancy Rate
1980	5,830	988,387	436	75.6%
1981	5,813	1,003,435	443	76.0
1982	5,801	1,012,191	447	75.3
1983	5,783	1,018,482	427	73.5
1984	5,759	1,017,057	426	69.0
1985	5,732	1,000,678	419	64.8
1986	5,678	978,375	410	64.3
1987	5,611	958,312	398	64.9

Source: *Hospital Statistics*, published by the American Hospital Association 1981-88

One would ordinarily suspect that this oversupply would result in price pressure that would eventually lead to lower prices. Unfortunately, this has not been the case. Hospitals are apparently raising prices to replace the lost revenues of empty beds, and consumers are then paying the increased prices. This is demonstrated by the fact that hospital prices have more than doubled between 1980 and 1986 (Table 4). This represents an alarming 12.6% average annual rate of increase. If you contrast that figure with the CPI at 3.8% and the general medical care price index at 7.9%, you can see what is eating into the benefit dollars.

TABLE 4

INPATIENT EXPENSES PER DAY

	Inpatient Expenses Per Day	Rate of Increase
1980	$245.12	
1981	284.33	16.0%
1982	327.37	15.1
1983	369.49	12.9
1984	411.10	11.3
1985	460.19	11.9
1986	500.81	8.8
1987	538.96	7.6

Source: *Hospital Statistics*, published by the American Hospital Association 1981-88

In terms of supply of physicians, the number of physicians in the United States has doubled in the past 25 years (See Table 5).

TABLE 5

FEDERAL AND NONFEDERAL PHYSICIANS
BY MAJOR CATEGORIES FROM 1963-1985

Category	1963	1970	1983	1985
Total Physicians	276,475	334,028	519,546	552,716
Federal	21,914	29,501	19,404	24,547
Nonfederal	253,226	301,323	496,947	528,169
Patient Care	246,951	278,535	423,361	448,820
Nonpatient Care	14,777	32,310	43,436	48,320
Primary Care	137,975	136,637	208,753	223,952
Male	257,818	308,627	449,958	471,991
Female	17,322	25,401	69,588	80,725
U.S. Graduate	238,571	270,637	398,142	424,345
Foreign Medical Graduates	30,925	57,217	112,005	118,875
Canadian Graduates	5,644	6,174	7,863	8,066

Source: Physician Characteristics and Distribution in the U.S., 1986 AMA

The number of physicians has gone up from 276,000 to about 552,000. Distribution of physicians around the country continues to be a problem as many rural areas and urban ghetto areas lack adequate physician resources. Some specialties and some regions arguably have overadequate physician resources.

Cutthroat competition for patients as well as overutilization of many surgical procedures are the manifestations of this phenomena. As in the case of excess hospital capacity, increased prices have enabled physicians to maintain income while patient traffic has dwindled.

Lots of market pressure is eventually going to force some change. The traditional indemnity insurance benefit plan, while still a major factor in the health insurance market, has been faced with serious declines in market share over the past five years. Many experts predict that in the early 1990s, all the traditional fee-for-service insurance programs will be reduced to a mere 5% market share. Contrast that to 1985, when the fee-for-service product represented about 72% of the market.

Most experts are predicting a revolution in the health insurance industry over the next years. We are already seeing it. Managed care, HMOs, PPOs, etc., are increasing their market share in leaps and bounds. This growth comes at the expense of the traditional unmanaged fee-for-service insurance program. These market pressures will eventually change the whole group insurance market.

Let's leave medical coverage for a minute and think about how insurers sell their medical coverage. Typically, medical coverage is the nucleus of a program with life, accidental death and dismemberment, long-term disability, and other coverages tacked on. Whether an insurer gets the entire package including life, LTD, and other products usually depends on the carrier's capabilities on the medical side. Since typical profit margin on medical runs from 1-3% of premium, an insurer hopes to do better on the other products in the package which may have higher profit margins.

With managed care products substituting for traditional indemnity medical products, insurers are having to deal with a new nucleus. Although it has yet to be proven, HMO margins are "expected" to exceed those on the indemnity side; thus, this new nucleus is potentially attractive.

This is the major reason why some group insurers are willing to put all or some of their group insurance book of business into so-called joint ventures as the price of generating managed care arrangements. Insurers are given the choice between an insurer-controlled book of business with a very low profit margin and dwindling market share, and joining their interests with some other entity such as a hospital chain or an HMO-type chain. In these arrangements, profit margins are shared, but the profit margins are expected to be larger. It is an easy decision for an insurer to make. It's basically to join some kind of managed care scenario or to get out of the market. A lot of insurance companies have elected to do the latter and get out of the market.

What has developed is a highly competitive market which promotes cost considerations as a key to new products and services, innovative financing arrangements, increased selective provider contracting, and utilization controls. In an effort to become more market-driven and responsive to client demands, nearly every major market participant now offers some kind of customized service including dedicated claims adjudication functions, entry into various types of delivery networks, data and utilization controls and analysis, and account-specific management reporting of utilization data.

Over the next few years, the health insurance marketplace will undoubtedly be characterized by intense competition, much more so than in the past five or ten years. This will necessitate new strategies for insurers to remain competitive. This highly competitive market is the result of several strong trends that have developed recently. Chief among these are the sharp upward spiral of health care costs, the rise of alternative health care delivery systems, and government intervention into health care.

This rapid evolution will undoubtedly add to the critical need for qualified health actuaries. Insurers and other health care providers will naturally require sophisticated actuarial expertise in order to understand and to quantify the new risks of the business and to develop clever pricing models which recognize this risk. This process is well underway as far as multiple-option health benefit plans are concerned. Most large health insurers have already implemented complex and dynamic pricing plans which recognize the interdependencies of employee choice, optional contributions, and adverse selection. A similar process is underway within the walls of major health insurers in terms of development of book rates and retentions for various delivery systems. A key factor is figuring out what profit margins the market will endure. Subsidies for start-up product lines from insurer surplus funds will undoubtedly evaporate over the next couple of years. This will place direct profit performance objectives not only on actuaries, in terms of our role as technical experts, but on others who actually manage the health insurance business. The strong are likely to prosper and the weak will gradually drop out of the market.

Now let's take a look at the AIDS epidemic. AIDS is really a comedy of errors. It's a situation that has placed a large burden on the health insurance industry. We must figure out just what our roles are in terms of who we insure, why we provide insurance for people, and what we are going to do to provide care to those who have already contracted the virus and will undoubtedly run up tens of thousands, if not hundreds of thousands of dollars, in hospital bills. First, let's look at some background information.

In the mid- to late-1970s, the AIDS epidemic was first noticed among Europeans who had been working in Africa and also among American homosexual men (Table 6). By the early 1980s, researchers in the United States, particularly those at the Centers for Disease Control in Atlanta, realized that these diseases were not isolated phenomena, but manifestations of the same disease. It wasn't until about 1983 that the probable cause of AIDS was identified in France at the Pasteur Institute, and arguably, by staff members at the National Institute of Health in the United States.

AIDS is caused by a virus which is called HIV or Human Immunodeficiency Virus. It attacks a very specific category of cells in the human body called T4 Helper Lymphocytes. The disease selectively kills off cells which normally prevent infection from invading the body. Once these cells are destroyed, a person is unable to ward off even minor infections.

To date, AIDS primarily has been a disease of homosexual men and intravenous drug users. As of February 29, 1988, 89% of all adult cases of AIDS have been from one of these two risk groups. There are other risk groups which are not nearly as prominent, including hemophiliacs and other recipients of blood plasma, people who have sexual contact with people infected with AIDS, and the children of infected individuals.

TABLE 6

AIDS CASES REPORTED AS OF
DECEMBER 28, 1987 BY TEN LEADING METROPOLITAN AREAS

Metropolitan Areas	Cases
New York	11,961
San Francisco	4,433
Los Angeles	4,072
Houston	1,654
Washington, D.C.	1,541
Miami	1,372
Newark	1,320
Chicago	1,190
Dallas	1,067
Philadelphia	974
Nation	49,743
Empire Blue Cross and Blue Shield	4,833

Sources: *AIDS Weekly Surveillance Report* from the Centers for Disease Control, December 28, 1987

Empire Blue Cross and Blue Shield -- Preliminary Analysis of Paid Claims Data from January 1, 1982 through December 31, 1987

Next let's take a look at the scope of the disease. As of December 28, 1987, 49,743 cases had been reported to the Centers for Disease Control (CDC) in Atlanta. Breaking this figure out by standard metropolitan area, New York City leads the field with nearly 12,000 cases, San Francisco and Los Angeles have a large number of cases, and the other cases are spread across the country.

My employer, Empire BC/BS, would rank number two if it were a city rather than an insurer. As you can see, nearly 5,000 cases have been identified in our massive database. Just to give you some perspective, Empire BC/BS insures approximately 10 million people.

The rate of increase in this disease has been very high over the years. The rate has doubled annually over the last few years, but now the rate of increase has slowed. We can expect somewhere around 30-40,000 new cases reported to the CDC in 1988. This is an alarming number since this is just the reported cases. We are quite sure that a large portion of cases either are misreported as something else or don't get reported at all. Many of you probably remember that the epidemic was first reported in San Francisco and New York City back in the early 1980s. It really did not become terribly newsworthy until about 1983, and then suddenly it became in vogue to start reporting about it.

At Empire BC/BS, we performed a study (Table 7) of our huge database and found the number of cases to be 4,833. We've broken these cases into cohorts by year of diagnosis. As you can see, the rate of increase in the number of cases in our database has been quite alarming. 1987 is an incomplete year, and that's why it looks like the number of cases is leveling off. In actuality, once all claims run out and reporting lags run their course, we're looking at 1,700 or 1,800 cases. These are only cases that we are over 99% sure are AIDS.

TABLE 7

EMPIRE BLUE CROSS AND BLUE SHIELD
AIDS CASES BY YEAR OF DIAGNOSIS/COHORT

Cohort	Cases	Reported Dead
1982	113	40
1983	328	114
1984	612	141
1985	986	110
1986	1,369	200
1987	1,425	247

NOTE: 1. 1987 Projected to reach 1,800 cases

2. Reported dead includes only those claimants who were reported to have died in the hospital (discharged dead) while covered by Empire Blue Cross and Blue Shield.

Source: Empire Blue Cross and Blue Shield -- Preliminary Analysis of Paid Claims Data from January 1, 1982 through December 31, 1987

Let me go describe how we decided to count these cases as AIDS cases as opposed to other cases that we found in our data. We first built a database of various people who met certain diagnostic criteria and grouped them together for analysis. Three categories were established. Category 1 is what you see in Table 7. We are basically sure these people have AIDS. What we've defined as sure cases of AIDS is very similar to the criteria used at the CDC in Atlanta.

- o One hospital admission for pneumocystis carinii pneumonia was classified an AIDS case.

- o One hospital admission for immune or T Cell deficiency was called an AIDS case, provided that the patient wasn't over age 60.

- o One hospital admission for AIDS as a diagnosis, as defined by new ICD-9 Diagnostic Codes, was also classified an AIDS case.

- o One hospital admission for each of two distinct but different tertiary AIDS markers was also categorized as AIDS. There are various diseases associated with AIDS which include opportunistic infections such as protozoal, fungal, and bacterial infections. These are hideous diseases that invade and conquer the human body. It's possible that someone has a disease like that and doesn't have AIDS. However, we decided that if someone had two diseases like that, it was almost certainly an AIDS case.

Category 2 was defined as a likely AIDS case, but one for which we didn't have conclusive evidence. This includes people that had Hepatitis B, which is a disease that invades the body in much the same way that AIDS does. Category 3 was composed of cases which were unlikely, but possibly AIDS cases. I won't describe the criteria used for this category. More people are Category 2 currently than in 1982. And the same is true, although the rate of increase is lower, for Category 3. That leads us to believe that since the real AIDS cases

are increasing at such a high rate, if the number of cases in Categories 2 and 3 are also increasing that quickly, then most likely those cases are also AIDS. Table 7 includes only the ones we knew for sure were AIDS cases.

Table 8 includes statistics on hospital utilization by year-of-diagnosis cohort. The 1987 data, though, is very incomplete at this point. This data is based on the total utilization of the cohort to date. For example, virtually everyone in the 1982 cohort is dead, and therefore you have virtually all the claims that this cohort will ever experience shown there. The same is true with the 1983 cohort. Something like 99% of the people in that cohort are now dead. So our average number of inpatient days and our average hospital charges in total are fairly complete and 1984 is virtually complete. Somewhere over 95% of that cohort is probably dead. Over 90% of the 1985 cohort is now dead. As I said, 1986 and 1987 are still subject to underreporting, especially for the 1987 cohort in which approximately 50% are still alive.

TABLE 8

PER CASE HOSPITAL UTILIZATION BY COHORT

Cohort	Average Number Inpatient Days	Average Hospital Charges
1982	74.8	$47,000
1983	73.9	49,400
1984	69.5	45,700
1985	60.1	42,700
1986	52.3	36,100
1987	35.8	25,800

Note: Data for Cohorts 1986 and 1987 are still substantially incomplete.

Source: Empire Blue Cross and Blue Shield - Preliminary Analysis of Paid Claims Data from January 1, 1982 through December 31, 1987

Let me turn to Table 9.

TABLE 9

COHORT 1985 -- LENGTH OF STAY PER INDIVIDUAL INPATIENT CLAIM

Days	Number	% of Total
0	238	6.7%
1-4	769	21.7
5-9	638	18.0
10-14	465	13.1
15-19	402	11.3
20-24	328	9.2
25-29	200	5.6
30-34	132	3.7
35-39	89	2.5
40-44	74	2.1
45-49	49	1.4
50-54	29	0.8
55-59	23	0.6
60+	111	3.1
TOTAL	3,547	100.0%

Source: Empire Blue Cross and Blue Shield -- Preliminary Analysis of Paid Claims Data from January 1, 1982 through December 31, 1987

We felt we could do the best data analysis due to the completion of claims run out on this group. We did some research here about length of stay by individual inpatient claim. As you can see, about 21.7% of the total claims fall into the 1-4 day category, about 18% of the total claims are in the 5-9 day category, and 3.1% of the claims have lengths of stay above 60 days. These statistics really speak for themselves. The bottom line is, expect a lot of hospitalizations and long lengths of stay.

In Table 10, we again analyzed the 1985 cohort and looked at total inpatient days per claimant.

TABLE 10

COHORT 1985 -- TOTAL INPATIENT DAYS PER CLAIMANT

Days	Number	% of Total
0	7	0.7%
1- 10	55	5.6
11- 19	108	11.0
20- 29	131	13.3
30- 39	95	9.6
40- 49	87	8.8
50- 59	88	8.9
60- 69	76	7.7
70- 79	86	8.7
80- 89	52	5.3
90- 99	43	4.4
100-109	30	3.0
110-119	25	2.5
120-129	23	2.3
130-139	27	2.7
140-149	12	1.2
150-159	3	0.3
160-169	15	1.5
170-179	4	0.4
180-189	3	0.3
190-199	1	0.1
200+	15	1.5
TOTAL	986	100.0%

Source: Empire Blue Cross and Blue Shield -- Preliminary Analysis of Paid Claims Data from January 1, 1982 through December 31, 1987

This is basically a hospitalization continuation table. As you can see, about 1.5% of the claimants, or 986 claimants, had 200 or more hospital inpatient days. Fifty percent of the claimants had total hospital inpatient days above 50, which is a lot of hospital days. Most non-AIDS hospital inpatient stays are very short. For example, I think Empire BC/BS averages around six and one-half days per stay.

Table 11 is another analysis of the 1985 cohort which shows half-year intervals around the date of diagnosis of AIDS. The interval that's marked I is the

interval where AIDS has been established as a diagnosis. What you see is utilization of hospital benefits only that go back eight half-year intervals and forward five more half-year intervals. There is a lot of hospital utilization around the time of diagnosis, but there is a significant amount of hospital utilization prior to diagnosis, during the pre-AIDS stage. Many of the people infected with HIV go through a period of ARC or AIDS-Related Complex. Some of these cases never progress to full-blown AIDS, but many of them do.

TABLE 11

COHORT 1985 -- UTILIZATION OVER TIME IN 6-MONTH INTERVALS

Interval	Days	People	Days per Person	Percent of Days	Percent Active
-8	89	22	4.05	0.2%	2.2%
-7	313	58	5.40	0.5	5.5
-6	339	90	3.77	0.6	9.1
-5	404	110	3.67	0.7	11.2
-4	363	117	3.10	0.6	11.9
-3	1,161	145	8.01	2.0	14.7
-2	2,464	219	11.25	4.2	22.2
-1	6,621	447	14.81	11.2	45.3
1	32,502	986	32.96	54.9	100.0
2	9,074	349	26.00	15.3	35.4
3	3,717	161	23.09	6.3	16.3
4	1,798	83	21.66	3.0	8.4
5	362	22	16.45	0.6	2.2
6	42	3	14.00	0.1	0.3
TOTAL	59,249	986	60.09	100.0%	

Note: Six-month increments are set relative to the admission date of the claim which caused the claimant to be classified as a probable AIDS case. All claims (including the marker claim) with an admission date within the six-month period after the admission date of marker claim are placed in interval 1. Other claims were similarly categorized. For example, claims with an admission date in the period of 12 months to six months prior to the identifying claim would be in interval -2.

Source: Empire Blue Cross and Blue Shield -- Preliminary Analysis of Paid Claims Data from January 1, 1982 through December 31, 1987

Let me talk a little about the impact of AIDS at Empire BC/BS. At the present time, about 2.5% of our hospital premium is for AIDS cases. About $5 billion worth of premium is in force, and approximately $3.5 billion of that premium is for hospital coverage. It is evident that major dollars are being expended towards AIDS.

The future projections on this disease vary from "don't worry about it -- the epidemic is subsiding" to the Masters and Johnson hypothesis that we are about to see a full-scale invasion into the heterosexual population. A public health service study done in 1986 projected that there would be about 270,000 cases by 1991. It's hard to say whether that's accurate or not. The CDC probably has

the best statistics on it. In their 1987 study, they estimated that between 945,000 and 1,400,000 people in the United States have been infected with HIV. However, just having the HIV infection or having a positive antibody test for HIV is not a guarantee that you have AIDS or that you will die from AIDS. It is a guarantee that you have been infected with the virus and can spread that disease to others, especially those that you have intimate sexual contact with. About 42% of the estimated 945,000 - 1,400,000 people who have been infected with HIV are projected to actually become symptomatic and contract AIDS. There is a very, very long incubation period for the disease. The CDC estimates that virtually no one gets AIDS within two years of infection. Only about 10% get AIDS within five years of infection. So, I'm using the 42% figure as the number within eleven years of infection. Eventually those T-4 cells get wiped out, and the death rate after someone actually gets AIDS is about 100%.

There are an estimated 2,500,000 homosexual men in the United States, and between 20% and 25% of these people are estimated to be infected with HIV. There are also about 2,500,000 to 7,500,000 bisexual and "partially homosexual" people of which about 5% are projected to become infected with HIV. About 25% of an estimated 900,000 regular IV drug users are already infected with AIDS. In addition, 5% of an estimated 200,000 occasional IV drug users are infected. There are about 12,400 Americans with Hemophilia Type A who require repeated transfusions of clotting factors, and approximately 70% of these people are infected with HIV. There are also about 3,100 Hemophilia B patients in the United States. These people require less frequent transfusions, and approximately 35% of these people are estimated to be infected. Then there are about 142,000,000 people who are classified as heterosexuals without any specific identifiable risk characteristics. Approximately .02% of one percent of this category are currently infected with AIDS. Those are the statistics on AIDS, and that concludes my presentation.

MR. JAMES A. LOFFREE: Two years ago, our company decided not to continue in the medical business. From what I have heard today, I'm glad we made that decision. We did stay in the stop-loss business and remarkably have done quite well despite the fact that it's a very highly leveraged business. One of the things being talked about two years ago was the great fear behind utilization reviews and the fact that there would be a sentinel effect. John, do you have any statistics at all as to whether that has been successful?

MR. SEIDENSTRICKER: I don't know on the sentinel effect. I don't have any good statistics on utilization review. I think some of the things I was saying in general about utilization review would apply to the sentinel effect. There were some easy abuses that were eliminated, but the provider system is very resilient. When you push down on one side, physicians find ways to make that up. There have been shifts in site of care from the inpatient setting to an outpatient setting, but physicians are finding ways to work with the new systems to still keep the costs up.

MR. DANIEL M. MATERN: You mentioned that mental health is becoming an increasing proportion of our hospital bills/health costs. I heard something about putting in DRGs for that. It sounds like a very interesting concept. Have you been instituting that?

MR. SEIDENSTRICKER: We have not. Earl may be able to comment on that.

MR. HOFFMAN: It could be an interesting concept, but I think one of the problems is defining what mental health care is and therefore, what treatment is. It may be difficult to get a hospital to accept a DRG for that mental health treatment and to know when the treatment is over. What we've been seeing and what some of these alternate providers are saying is that an inpatient setting isn't necessarily the proper place to treat mental health. Outpatient counseling can be as effective or more effective, but you may need to establish limits on outpatient care.

MR. MATERN: Right, but if there are limits on outpatient care and not on inpatient care, the doctors who want more money may pull the patients into the hospital setting.

MR. HOFFMAN: That's right, but the point I was trying to make is that up until now mental health care has been one area in which there has not been a significant attempt to manage the care and to manage the cost. Various providers are setting up groups to try to do that. Their approach seems to be more a capitated arrangement, where for a given fee, they will pay for whatever inpatient care and outpatient counseling is needed. They also take on the responsibility to ensure that any inpatient days are really needed. They are paid a single capitation fee, and then are at risk.

MR. MATERN: Is that like a utilization review?

MR. HOFFMAN: Part of their program would include utilization review. There are groups of psychiatrists/psychologists who have set up corporations to provide mental health care. An insurer can offer this benefit as part of their program, which would typically be the only mental health benefit. If you want/need mental health benefits, you have to go through one of these providers. They have a panel of physicians who screen admissions to determine what the appropriate course of treatment is, develop a course of treatment, and carry out that treatment.

MR. MATERN: That sounds very interesting.

MR. HOFFMAN: It is one of the alternative delivery systems that is being investigated. In California, I know of several corporations that have been set up to try to provide that kind of care.

MR. MATERN: At our company, we have something called an "employee assistance program." If you read the fine print, it means counseling.

MR. HOFFMAN: "Employee assistance programs" typically would refer to inpatient settings for more intense psychological programs, if that were needed. For instance, if some kind of detoxification program were needed, I don't believe that the EAPs themselves would provide that. Someone who has that kind of problem could go to the EAP as a first step and talk to somebody to identify if they really needed help. Then they would need to be referred somewhere else to get that help.

MR. MICHAEL ROBERT RAHN: In his talk, Mr. Hoffman mentioned 401(h) as a prefunded vehicle for postretirement medical liability. He also mentioned a 25% limitation. The contribution to that account is limited to 25% of the total cost. Beginning with a defined benefit plan that is fully funded for tax deduction purposes, the obvious conclusion there is 25% of zero is zero. I've heard

several consultants say that the IRS did not intend that to be the case and that they should use the underlying entry age normal cost in full funding calculations for that purpose. Through informal checking with the IRS, we have yet to find someone to say that that is their intention. Would you care to offer an opinion on that?

MR. HOFFMAN: I wasn't aware of the limitations that the IRS places on the 401(h) contributions to a fully funded plan. Is there anyone who has experience with that and could add something? I think the reasonable interpretation would be 25% of the normal contribution to the plan as if it were not fully funded.

MR. RAHN: What I am saying is that is a liberal interpretation of how a 401(h) is written, but I don't know. I guess that's open to debate.

MR. ALFRED J. LEBEL: I'm curious about the study on AIDS that Mr. Strassberg presented. Of cases that you described as "sure" AIDS cases, what proportion were actually identified by ICD-9 codes as being AIDS?

MR. STRASSBERG: I don't have those statistics handy, but a very small proportion of those cases were identified by the ICD-9 codes for AIDS. The reason is that those codes are fairly new. I believe that those codes only came into existence during 1987; perhaps it was 1986 though. Prior to that time, all of the evidence that we had put together was through detective work and our database.

MR. LEBEL: So do you think you'll see an increase in the use of those codes in the future, even though the use is small now?

MR. STRASSBERG: Undoubtedly.

MS. FESHBACH: From what you've heard, you can probably conclude that the health care industry is in a state of change. It is also coming under increased scrutiny. If the AIDS presentation is any indication of what's coming, it is an increased challenge as well.