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Session 133OF
The Future of Managed Care

Track: Health

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Summary: Health plan costs and rate increases are rapidly rising—again. Consumers, regulators, and politicians have forced changes in the way managed care companies work to contain costs. Significantly increased litigation threatens the core of how managed care organizations do business. Managed care companies are attempting to change their image and priorities and to become more consumer friendly organizations. This session considers all of these issues and how they affect the future of managed care.

Panelists discuss these topics and also present their views on whether managed care has changed forever or if we are experiencing a temporary swing in the pendulum.

MS. DARLENE H. DAVIS: I want to introduce two very fine speakers. Harry Sutton will be speaking after my introduction. Mr. Sutton worked for 25 years with the Prudential, developing its entry into the HMO field. Until his retirement in 1989, Mr. Sutton worked for 16 years as a leading consultant in the HMO industry with Towers Perrin. After retirement, Mr. Sutton joined Alliance Life in the HMO reinsurance business, relating particularly to developing ancillary indemnity products with HMOs. In addition to his regular work, Mr. Sutton has been frequently involved in dealing with regulators and HMOs. He also works for professional actuarial associations providing commentary on state and federal legislative changes. These assignments involve looking at social, political, and tax systems and alternative benefit plans for major segments of the uninsured population.

Richard Migliori joined United Health Group in 1996. In December, 2000, Dr. Migliori became Chief Clinical Strategist for Ingenix, the health intelligence business unit of United Health Group. Dr. Migliori leads the design and implementation of unique

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Note: The chart referred to in the text can be found at the end of the manuscript.

knowledge-based products for the company and for the industry, for the informatix and data mining arm of United Health. By leveraging the data and information gathered across the enterprise through analysis and application development, Dr. Migliori will continue the development of multiple market segments, including pharmaceutical companies, health insurers and other payers, care providers, large employers and governments.

I'm looking forward to hearing from both of these gentlemen on the future of managed care. The basic assumption we're starting with is that the health care system is under fire from both within and without, and we'll talk much more about that later. The issues of group dynamics go to the heart of the challenge for actuaries. What role do we play and how do we partner with others? This session will lay out some aspects of the future vision from a more focused medical activity point of view, which Dr. Migliori will give us. We'll also get a broader vision of change viewpoint from Harry Sutton. My challenge to you is what can we, as actuaries, do to facilitate and anticipate this change? In the current environment, we have costs and prices climbing. There are the external forces, governmental regulations, BBA for seniors, HIPAA, tobacco laws, the interest of stakeholders or consumers, providers, employers, insurers, and, in some cases, stockholders and cooperative incentives are not aligned. The stakeholder focus from employees and consumers is, "We want more choice, more information, low or lower costs, expensive treatments, and the best health care that somebody else's money can buy." The stakeholder focus from providers is — more patients, less intervention, easy administration and more profitability. Their focus is "Let's do it my way, and we know best."

Employers want low health care cost, their company's profit protected, and a competitive advantage in hiring. In times of full employment, it's "perks are us." In times of unemployment, it's "just be happy you have a job." Insurers and shareholders want a reasonable and predictable regulatory environment, a reasonable risk management and profit. What's wrong with a little profit?

Looking ahead, we see increased consumerism, continued medical technology advances, and communication at the speed of your Internet connection. Consumerism is boomer buying power, the desire to live longer, and the willingness to pay to get it. Consumer-centric is defined as defined-contribution programs, and choices in benefits for the consumers. You can even construct your own network as well as benefits. Nontraditional competitors are proliferating with a lot linked to some national actuarial consulting companies for credibility when dealing with the key issues on everyone's mind: selection and risk.

Medical technology gives us blockbuster drugs, specific disease-focused drugs and drug therapy. This brings broad "quality of care" questions regardless of the insuring mechanism, which the medical industry needs to address. The Internet is information access and communication focused. It is very expensive to retrofit in health plan systems, and when is it going to work? When are we going to be a truly wired world? Or, is it going to work?
As you listen to these gentlemen, ask yourself: What do we as actuaries do to

facilitate and anticipate these changes?

MR. HARRY L. SUTTON, JR.: I have to tell you that my definition of managed care is prepaid health care HMOs. I'm probably recognizable as an advocate. I'm not saying that HMOs have done the greatest job in delivering high-quality health care all the time, but I'm going to talk about the trends and their enrollment, some of the problems, and I'll give just a few thoughts about the future. In the future, if patients' protection with unlimited lawsuits were passed in Congress, and employers are concerned about being sued themselves, the whole structure of how we provide health care to employers in the United States might change. This could dramatically affect the HMOs because the employer could be accused of pushing his employees into a plan that provides poor quality care or refuses care. They could all be sued.

I'm going to talk about four items. First, is growth trends in the HMO industry. Second is what I call dichotomous public reaction to health plans. Third, will high cost health trends continue? I'll give my opinion on the cause of these trends. Finally, I will take a look at future change.

Growth trends in the managed care industry are due to a number of things. The number of HMOs has been shrinking for two reasons. One is mergers that are creating some very large HMOs cover 20 or 30 million people. They have revenues in the $20–30 billion range. It has to cost a lot to digest and reorganize it. Each year we lose 20 to 50 HMOs that go out of business. In 2000, we were involved with two insolvencies that affected 300,000 or 400,000 people. Many of them enrolled in other HMOs, and many went back to indemnity; however, all these things have caused some reduction in HMO enrollment.

Because of lousy earnings, many HMOs have been looking at their business. If they have clients that are continually losing money and they don't think they're going to get a big enough rate increase, they'll terminate the group. The big example is the Federal Employees Health Benefits Program (FEHBP). Over 100 plans used to enroll federal employees, which is now mostly a sign of competency. You could say going out to market, "I covered the federal government in my area," It's a marketing tool. The losses that they've had in those plans, in some cases, exceed the value in marketing. In addition, many plans have been sued for overcharging, which doesn't accommodate their desire to continue with the federal government.

Almost a total decrease in the last couple of years could be attributed to Medicare reductions in service areas. Many HMOs are getting out of Medicare and many of them are increasing premiums or reducing benefits, particularly drug benefits. In some areas, many plans have practically gone bankrupt on Medicaid because of the states varying premium rates, mandating premium rates, and so on. Certainly the growth in Medicaid has stopped. It varies a lot by states, and I think Medicaid enrollment will continue dropping. Medicare is up in the air right now because there are big increases in reimbursement. It's hard to say whether that's enough to keep the HMOs in or start them growing again.

If you look at the top ten or fifteen for profit companies across the country, you'd see that their profits have gone up, with a couple of major exceptions. Most of the small HMOs are still losing money. I don't want to talk negatively about PacifiCare, although its stock is way down, and it is having some problems. It's going to become a multi-line insurance company like United Health Care or Metro. What we're seeing is HMOs getting into the indemnity business, and the indemnity carriers were all either converted to HMO companies or merged with HMO companies. We're now seeing multi types of business carriers go out and sell every kind of a product the employer might want.

Looking at the public reaction to health plans, surveys find that it consists of general public satisfaction. If an employer offers only one option, and it's an HMO, the employees can become dissatisfied because they know there's a limited choice. So there is some movement towards more choice or point of service (POS) plans. The POS enrollment in the surveys is greatly overstated. There are a lot of employers that offer POS, but not many people take it.

People in poor health have dissatisfaction with their health plan no matter what it is. Maybe it is a little more if it's an HMO, but they're just unhappy because they don't feel well. Large employer complaints have increased. According to the Hewitt study, prior to 1998, less than 20% were dissatisfied with their health plan. After 1998, 22% or more were dissatisfied. I think part of that was very poor administration in dealing with the employer, dealing with the employees, explaining the benefits, answering the questions about what's eligible and what isn't. That was caused by health plans merging frequently and employers changing HMOs occasionally. It's very difficult for the employees to keep changing how their benefits are administered. We've had three administrators in my own company. I was covered under a retiree Medicare plan, and my employer cancelled out of that. As a retiree from my ex–employer, I had it. Then I had to switch to a different kind of a plan run by a TPA. Then we had to change TPAs. I've never experienced such a mess. I'm also on Medicare, which doesn't help anything.

Early in the game, at least with HMO enrollment, retiree enrollees were allotted their own premium plans, and they were very satisfied because they had some prescription drug benefits and they didn't have to pay anything. It seemed like a great deal, and they didn't complain about their health care much, at least according to Towers Perrin. I will show you some stuff indicating that employees really don't have an idea whether they're in an HMO or an indemnity plan or a PPO. I'll show you a little bit of data about that.
The public concern is, in my opinion, exacerbated by a limited number of doctors. Dr. Migliori and I agree; it's not the AMA; it's a certain conservative leadership of the AMA that would like to form unions and get rid of HMOs so that the doctors can do whatever they want. It would protect the doctors. Part of it is the media. The *Wall Street Journal* did an editorial bashing HMOs . I still haven't calmed down enough to write them a nasty letter.

Other groups against HMOs consist of people like Mr. Jefferies who want the Canadian health care system. The people who live near Montreal all want the

Canadian health care system because it's so much better, everybody's covered, and it's free. Other than that, it's okay.

The maximum period of HMO growth went up until about 1997, and then the rate of increase started to turn down. The first decrease actually occurred in the year 2000. It was down about 0.3%, but that has increased between 1999 and mid-2000 to about 0.9%. There's roughly 81 million enrollments, and 1% of that is 800,000. Most of that is Medicare and a few other things on the fringes, like companies going insolvent.

It's estimated by InterStudy Publications that there will only be 468 HMOs at the high point in 2001. InterStudy is only a survey, so they don't know of every HMO. Now they're estimating 2001 to be down to 468; roughly 25 plans are shutting down, and a number of others are merging. As for concentration, let's discuss the 14 largest for-profit HMOs. That excludes Kaiser, which is odd, because they have 7 million members. (For some reason, the table I am working from included only for-profit HMOs.) Some 294 of the HMOs, out of roughly 550, are owned by these 14 companies. If you add Kaiser, which has about eight area HMO locations in the United States, you're going to see that over 60%, almost two-thirds of all the HMO memberships are now owned by 15 carriers. The little ones are going to have a hard time surviving except where they dominate a particular metropolitan area. Minnesota has large HMOs, like HealthPartners with about 800,000 members. Medicare, which used to be managed by United Health has cancelled a lot of groups and gotten out of Medicare. They have about 700,000 members. Blue Cross has a couple of hundred thousand members. They aren't big in the metropolitan area where the other two players are big. They aren't growing and part of the reason is because a majority of all the members in the HMOs are self-insured now, so they don't count as HMO members in the surveys. You have to be on a risk premium to be counted as an HMO member.

The next topic is public reaction to health plans. Generally, surveys find the public is dissatisfied with health care. The surveys show that people are less satisfied if they have no choice of plan. If they're locked into any one plan, they're unhappy with it, which is why many large employers might have an HMO, and they might offer a point of service (POS) plan with it that's still going to be controlled by an HMO to a degree. Satisfaction with the plan is lower among enrollees in poor health, as I mentioned.

The figures shown in Figure 1 are from 1998. The difference in satisfaction between the different types of plans has gone down slightly, no matter what kind of a plan the person is in. I think it's because of the difficulty in getting claims paid and looking at the explanation of benefits (EOBs) as they change doctors or carriers or claim administrators. People are just kind of unhappy in general.

A recent issue of *Health Affairs* had a study of people's reactions to the quality of their health care, based on what kind of a plan they're in. Part of the problem was they didn't know if they were in an HMO or an indemnity plan. They didn't know the difference. They could be in a PPO, which is an indemnity. They thought it was an

HMO. The survey showed that there actually were 48% that thought they were in an HMO, but a third of those people were not in an HMO. Of those who were not in an HMO, 10% thought they were in an HMO. So when you unscramble it and change their satisfaction rates to coincide with what they were actually in, there's very little difference between the two. Part of the problem was they didn't know what they were in in the first place.

The next subject is high-cost trends, and that includes some of the most interesting stuff I'll discuss. For almost ten years, medical costs went up faster than premium rates. The HMOs do not raise premiums much, or they lower premiums in order to grow and get a bigger enrollment. Then, when they lose a lot of money, they stop growing and they have big increases in premiums. We went through the exact same cycle in the 1980s. In 1987, 90% of the HMOs in the U.S. (and there were a lot more than there are now, because a lot of them got out of the business), lost money. Actually, in the years 1999 and 2000, more than 60% of the HMOs in the U.S. lost money. Some of the HMOs are owned by the big carriers. For example, if Aetna has 50 HMOs, each one is counted separately. So some of them lost money, but, in the aggregate, the big players have been making money for the last two years.

Let's discuss the reversal of premiums. It didn't start until the year 2000. Even in 1999, the average premium rate increases were only 4.8%, while underlying claim costs went up 6.6%. This is for total spending, not just HMOs. This is indicative of the whole health care insurance business. Actually, in 2000, for the first time, premium rates went up 8% and medical costs went up only 6.5%, so they gained a 2% margin on the premium rate if their health care costs followed the national trend.

Under-65 costs had low increases in 2000. Total Medicare expenses, because of the Balanced Budget Act, dropped for the first time in Medicare's history in fiscal year 1999. The source of the increases was prescription drugs, and the margin becoming a bigger part of it. I believe the reason for the increase is a sharp increase in hospital costs. There were some discussions at the other meetings about this. There was a period when hospital costs dropped in the mid-90s. The premium catch up is still out there. In other words, there are some plans, even though they might have had a 10%, 12%, or 13% increase in premiums, their costs still rising enough that they haven't gotten over the top yet. They're still losing money. PacifiCare and Humana are probably two of those. If you wanted a cheaper health plan, this was the solution in 1994.

HMOs have generally been cost effective. There have been a few that didn't try to manage anything, and went out of business, but the comparisons of premium rates between HMOs and indemnity plans misses one thing. The premiums might be 10% lower in the HMO business, but the benefits in the HMOs, on an actuarial basis, would be 15% higher because they don't have big deductibles or co-insurance in them. They have co-payments, and the co-payments are increasing. By and large, the benefits are much larger in HMOs. Comparing prices between all HMO's and all indemnity doesn't make sense without adjusting for the difference in benefits. The

savings in HMOs is for the patient, but not the employer. The difference in premiums is what the employer is looking at, but the employee is looking at the difference in out-of-pocket expenses.

Most of the surveys show that roughly one-third of the HMOs have the same quality of care as indemnity. One-third shows it's worse, and one-third shows it's better. I'd say two-thirds are in favor of HMOs because the HMOs have 25% more benefits or lower premium costs. HMOs reduced hospital inpatient use, and that's where they originally made their savings. They could cut hospital use in half in a state like Minnesota, and you can ask Dick about that. When I started back there in 1974, Blue Cross hospital utilization rates were about 850 days per 1,000. It's under 400 and mostly because they can't control mental health stuff in our state laws, like some of the HMOs can. Our HMOs in Minnesota are down to 260 or 270 days per 1,000, even though they are lightly managed HMOs according to the Milliman & Robertson manual.

The HMOs have negotiated prices. I don't think they negotiated the doctors down. The hospitals didn't know what to expect when they negotiated prices. They looked at their Medicare cost reports. If you take the average cost per day in a hospital and a Medicare cost report, even taking out the Medicare piece of it, the average length of stay was so much longer for service. It was somewhere between three and four days for HMOs. They shifted a lot to outpatient. The cost per day was based on charges. Cost under charges was much higher per day, so the hospitals didn't know how to negotiate and didn't understand what HMOs would do for costs. It's partly the provider problems. I think some of the insurance carriers that said, “We're paying capitations, so why don't we just not raise the capitation? We won't have to raise our premium rates, so we'll get more business.” Then the physicians start losing money, or the hospitals start losing money. That's what's happening in California. Negotiating hospital mergers that we talked about will be more difficult. If they monopolize particular services, they can raise the price on those services. Managing ambulatory care is critical. The number of physician visits for an average member has doubled since the HMO business started in the late 1970s. Patient protection has loosened controls where they can tighten up. All I know is employers will not be willing to pay 20% more in 2002 than they did in 2001.

What will change? There will be no more gatekeepers. There will be other people to help you gain access, but they won't be gatekeepers. They won't be as visible; nevertheless, the patient and the doctor, particularly the primary care physician, needs help on where the best place to go is to provide the service to his patients. E-health plans and medical savings plans (MSAs), things I spent a lot of time on over the year, will not work. Employers have lowered control standards. I think they will ask their clients to tighten up on the utilization controls, even though the employees won't like it and the HMOs won't do that. Reinhart, in an interesting paper in one of the *Wall Street Journal's* sections on the future of health care, stated that he sees four different tiers of prices. There are four different network types: HMOs, POS plans, PPOs, and straight indemnity plans, and they have four different options in each one. They go out and sell to a small employer that can have any or all of the 16 options. They let employees choose them. It's similar to

the uninsured, self-pay, low income people. Even Medicaid will be in tightly controlled HMOs because the states will always underpay for care for Medicaid. You're going to have to provide a chintzy benefit for chintzy care, because that's what they already have.

The small employers' low incomes will be tightly closed because they can get good HMO benefits at a relatively low price, and the employees would rather have all the benefits paid, even if they're giving away some of their choice of where they go. Medium-sized employers, HMOs and POS plans, and the large employers can still maintain an indemnity, if they're willing to spend a lot of money for it: risk adjusters for multiple carrier options, competitive bidding for huge employers like Medicare. On the other hand, in our area, almost none of our big carriers will quote on a medium-sized group of say 1,000 to 2,000 employees, unless they get the whole group. That's United Health Group, Blue Cross and Health Partners. Much of their business is self insured rather than on risk. They will only take the whole group because they do not want to face the problem of selection with five carriers, and each getting 20% or 30% of the group. Somebody might be getting all the sick people and somebody might be getting all the well people. They don't want to take that chance.

There is expanded e-communications, enrollment through the Internet, and so on. Future health care has one problem. The American demand is for unlimited health care, no matter what your doctor wants to do, and no matter how expensive it is, even if it is done to keep you alive for one more month. It's unlimited health care, as long as you don't have to pay for it. They want the government to pay for it or your HMO to pay for it. They perceive that it's free. On the other hand, society's problem is to provide a reasonable quality total array of health care on a population basis with a constraining budget. We're up to 14% or 15% of gross domestic product (GDP). England is at 6%, but there are a lot of problems with their health care system. Germany is at 9%. They're older than we are. Somehow the U.S. is going to have to get control of the whole health care system and the word is going to be *rationing*.

DR. RICHARD J. MIGLIORI: One of the things I was really impressed with was the content of this meeting and the focus on professional standards, the changing of the exams, and the focus on professional development.

I'm going to use this opportunity to dispel some rumors. The first rumor is true, though. We did stop pre-certification at United Health Group. The second rumor that we did this in spite of rising health care costs is false. We did it because of rising health care costs. The third rumor is the one that's most troubling. We used a little definition of what managed care is. The way we describe it is it's a collection of products, irrespective of the alphabet soup that is dedicated to improving the quality, improving the service, and protecting the affordability of health care. We didn't step away from that challenge by stopping pre-certification programs. We're just going to go about it in a different way. Let me share that with you.

We've heard other perspectives at other sessions regarding the various players

within the health care environment. Some of the players are the suppliers, the hospitals, and the physicians. Those things are quite evident. Second, is the consumer or the patient and his or her perspective. Their perception becomes our reality. They're the ones that end up convincing their employers, particularly in these tight labor markets, to do the things that will compel them to stay with that employer. So consumerism is real. Interposing ourselves in the exam rooms and in the operating rooms really has no attraction for them. As for regulatory pressures, it is going to cost nearly $22 billion to get HIPAA implemented.

The Balanced Budget Act, which did such a great job of containing health care costs, turned the responsibility for supporting a hospital structure that still runs at only a 60% capacity across the country. It turned the financial responsibility over to the commercial environment. There was plenty of cost shifting somewhere in the range of about $17 billion last year.

Finally, there is market pressure. We've done nothing to suppress double-digit health care costs, but I'm bringing in coals to Newcastle if I bring that up with you.

Besides having that lack of attraction with all of those parties, we have also had some dissatisfaction with the way it was working. I'm referring to the denial rate from ification programs. Only 3% of the calls that came in were ever denied. Half of them were because of benefit ineligibility, and half of that was on the basis of medical necessity. In fact, when we looked at medical necessity denials, 5% of physicians were responsible for over 50% of the denials. We're spending $108 million a year to get this done. Ticking people off didn't seem like a good use of our money.

The other thing that struck us was we weren't delivering what we promised to the community. This data comes from a health plan that has a commendable status from the National committee on Quality Assurance (NCQA). There were great scores, and yet 70% of the people in this program were not getting any prescriptions for their moderate to severe asthma. Think of what those nurses, who spent the $108 million saying yes and no on the front line, could have been doing if they were out recruiting patients and getting patients with moderate to severe asthma on the medications. These are the patients that show up in the ERs and in the intensive care units.

The other thing that we were able to notice as we profiled various markets is when you start plotting out hospital performance, (by looking at severity-adjusted data for the same market basket of diagnosis-related groups (DRGs). There is marked variation not only in cost per day, but also in length of stay. The length of stay varies from as little as four-and-a-half days to as many as seven-and-a-half for doing the same work.

United Health Group took a very different approach. It recognized that it wasn't in an environment in which it was providing health care. It is the doctor's job and the hospital's job to create that environment. Our job is to create a marketplace or an exchange system, whereby people who want care could effectively go to people

who deliver care. You create a market environment where you eliminate waste and increase speed. That market had some branding. We wanted to have an experience for the patient, so the patient was given broad choices. After all, that was a big dissatisfier that could be narrowed. That gave some control. You get control by having a choice and having information that can direct what you do. The information that was needed was very simple. First is information about the current and future health care status. Second is information about all available treatments that are legitimate for the problems. Third is information about the physician.

The last thing is confidence in the quality and the speed of health care services. The only other person in the exam room is the physician. They also need an experience too because they have to maintain the stable networks. You've seen what happens when doctors get up and walk away from a network. You want them to have the ability to devote their full attention to the patient without being distracted by the network. Second, you want to make them look extremely competent and skilled. How do you do that? You give them ready access to information about the same three elements. You tell them about that patient and his or her future. This gives them the opportunity to manage risks instead of manage care and to predict the future. The second element is emerging medical science. These guys will continue to practice medicine the way they did on the last day of their residency unless they have access to learning. It becomes an obligation. The third is information about their individual practice, and how they can sharpen their sword and continue to improve. I'm going to show you some evidence later on that shows, given the information, how these guys will perform better, without any other form of stimulus.

Finally, there is a relationship that is very much transparent, but it's professional, respectful, predictable and hopefully indispensable. In order to achieve such a model, we ended up having to apply an engineering diagram. We wanted to convert a service industry into a manufacturing industry. The way to do that is to look at a series of transactions that occurs in health care. Health care starts when patients recognize they have a problem, either because an ambulance helps them recognize it or because they recognize it and want to prevent something.

Next, in encountering the physician, there's some discretion that's applied in terms of the care that's delivered. The third step is the documentation of what happened in the exam room. It is the way in which the claim was coded. The last part is the part that our industry gets to play in. It is the contracting.

If you look at that series of events, it can be described with a series of ratios. Patient demand is expressed as the needs per member of that population. The care that's rendered can be expressed as a “services rendered per need.” The coding per service is really the way in which you establish a claim and the dollars per code is the way in which you contract. When you satisfy this mathematical equation and simplify it, you get a per member, per month (PMPM) expression of health care costs. The reason for doing this isn't just to create a DuPont equation for the health care industry; it's needed to help align the resources required in order to affect the measurement or the influence of each one of those steps. Any health

cost management system needs to address all four of these elements, because if you suppress one, you make it up with another. For instance, if you have an effective way of managing fee schedules, they'll make it up in terms of either coding or utilization. Likewise, changes in patient demand end up with other forms of milling of the system.

We applied a variety of different information management tools to help us uncover and to transform data into information. There's only one way we could do that. We had to gain the capabilities by applying people within our own organization who could help us understand what is going on and help us plan decisions. We started recognizing further that we were in a managed risk environment. Understanding those contingencies and those events became very important to us.

One of the tools that we used to adapt this was first to understand patient demand. This is a predictive modeling tool. We'll go through a series of screens and look at patients that we have responsibility for and recognize what we paid last year. We'll make a prediction of what the costs will be in the upcoming year. The way we do it is we look at a variety of indicators based on the types of disease that patients have, as well as a variety of things around certain health-care seeking behaviors. Are they using the emergency rooms? Are they seeing multiple specialists? Are they seeing multiple primary care doctors, pharmacies, and so on? Then we have a variety of interventions that drill off of those things. We rank these patients. We rank them according to relative risk. Once we rank them according to relative risk, we then apply a model that says that you still have to call in for health care, but it's to check eligibility. In the past, we used to try to have a model where we would look for approved or denied health care on the basis of whether or not it's medically necessary. We don't do that any longer. What we do instead is check eligibility. Then we initiate one or more of a series of processes dedicated to managing a patient. For high-risk patients, we approach them and attract them into programs in which we close those gaps in care. We also educate. We take the opportunity for that contact to educate, as well as prepare them for what's about to happen to them. In the hospital, the nurse's role is no longer to say this is how many days you have. Their role is to be very specific. It's to make sure that the hospital recognizes that this patient is its highest priority. If Dr. Sutton has ordered a CAT scan, the nurse will find out why it isn't done yet. It can't wait for tomorrow. After all, the doctor has prescribed it as medically necessary. Shorten that length of stay, but not by getting rid of the days on the end. Speed up the delivery of care in that environment. We learned that from the hospitals.

As Harry was saying earlier, hospital costs are reduced because of the prospective payment system that taught hospitals that if you manage the conduct of care and a variety of other things, you shorten that length of stay and reduce costs.

Look at what we did with those patients. Take asthma. We were able to reduce inpatient admits for the same population of patients before and after the intervention by 24%. We also reduced the dollars expended per asthmatic patient in the population. We rooted out the people who needed the treatment and put them on the prescribed medicines. We noticed something else going on. First off, we

started asking the parents of these kids whether or not there was a change, and one of the things they noticed was that these kids weren't waking up in the middle of the night suffocating. The second thing is they weren't missing school. Third, parents weren't missing work because they had a sick kid. You can see the significant reductions that occurred with each one of those.

There is more evidence that this kind of model can work. This is done in Chicago. What we saw was that, over time, the patients that we predicted as having a higher cost rate, did have progressive utilization of hospital services over time. But for those patients that we enrolled in the program versus 20% of the patients that were randomly left in the conventional model of care, we were able to blunt the impact of the disease on their life by filling in the gap with care. There were no denials. We were getting out to these people and managing their issues before they become a catastrophe.

The other side of things is managing the physician's natural reflex to health care. The only way to do that is to provide the physician with information about his or her practice, a balanced set of indicators about quality, resource efficiency, the pharmaceutical news, their billing practice, the satisfaction, and their ability to grow their practices. Remember, there are 700,000 physicians in this country, many of whom practice. I used to walk out of my exam room and see three surgeons on each side of me that could do the same thing I did. I had to find ways to make myself look more attractive to the patients who were in need of a doctor. One of the things that these tools can do for the doctor as well is help them promote their practice, besides giving them a notion of how they perform.

A tool that Ingenix uses is called Pathways. What it does is it takes a severity-adjusted basis and looks at the way in which a doctor approaches clinical problems. Severity adjusts it, but then looks at the efficiency of the practice. It recognizes how much the PMPM cost is, and for one doctor, it was about a 23% increase. He was 23% higher in the cost of care rendered to his patients. It wasn't because we're dealing with smaller numbers. It wasn't because his patients were sicker. In fact, on a severity-adjusted basis, using ambulatory care groups (ACGs), we were able to determine that this doctor's patients were 23% less sick. When you look at this, you recognize that it wasn't occurring in this doctor's own practice. In fact, the number of visits to this doctor's office was rather low, and so were the dollars expended. The money was being spent on specialists, emergency room visits, and on the hospital. The doctor looked around at the practice and went out and talked to the receptionist. It seems like the receptionist was worried about keeping that schedule on time, and when patients would call in with problems, the natural response was specialist, ER, or hospitalization. This practice changed.
We were able to do this in the same community on a very focused and intense system and go back and change these behaviors for this pilot group of physicians who were offered these kind of data.

This is also true in the pharmacy. For doctors who are approached with these kinds of data about their resource consumption, do they use the generics, or do they use the stuff on preferred drug lists or formulas? The trend was less than it was for

doctors who were left on conventional systems. This can also work for quality. One of the things the doctors face is the consistent burden of patients in the waiting room. When people are presented with a variety of problems, sometimes they don't always go back and make sure that all the Ts are crossed and the Is are dotted. For instance, we looked at the use of ace inhibitors for congestive heart failure, beta block use after heart attacks, mammography etc. We went out and showed the doctors their own practices. We showed them what portion of the patients who seemed eligible from the demographic data to get a service actually got a claim for that service. We were able to do it because we were always fee for service, and so we get good claims data. We showed the doctors not only their portion, but what they did in the past and what the others are doing in the community. Then we gave the doctors the names and addressees of the patients they had seen during the course of the year who needed this service and didn't have it, so the doctors could call and ask the patient to come back and get the mammograms. It made the doctor a hero. With each one of these things, time after time, we've seen continued improvement by making quality personal.

We also went back to these hospitals. We took those nurses who had done pre-certification and got them out to the field to move health care along faster. It was not done to challenge whether or not a heart bypass was necessary, but why a heart bypass that was recognized as important on Friday had to wait until Monday. So it changed the way we contracted with hospitals. We recognized a very different reimbursement when they held Saturday catheterization—they opened up their heart labs on Saturdays rather than waiting until Monday. Otherwise, you have a sitting time bomb on the ward with a constricted artery waiting a whole weekend.

We also can use this same kind of profiling data to show how competitive health plans are with others. This was provided to us by Reden and Anders. They are helping health plans understand how they compare in their ability to achieve cost or comparable rates versus their competition. They can also show health plans where they stand in terms of MCR. What that does is provide health plans that are having problems with their gross margins. They can understand whether it's a pricing issue or a contracting issue.

The technology that's allowed us to do this is the use of something called Clusters or Episodes of Care. Episodes of Care allows you to take a look at the entire health care package delivered to a patient with a problem; essentially they are measuring health care in the way in which people get it. You take in the physician visits, hospital admits, clinical laboratory data, home care data, and a variety of other things that are within the context of the patient's problem and lump them together. For instance, somebody might have ischemic heart disease. They grab each and every event that occurs in health care and say that these various claims are all related to an episode of ischemic heart disease that occurred on a certain date. The purpose of doing that is that you finally can get your arms around the product of health care. You can define a patient’s problem, resolve it, and then measure it in terms of its cost. It is measured in terms of the length of time to resolution, and it is measured in terms of its level of satisfaction.

In order for us to manage this way, we organized our data systems in the following fashion, and this is where you come in. Our data is first organized in our databases in accordance with episodes. It's a library, a collection of health care problems organizing all of our claims data. We then use a variety of applications, some of which I showed you earlier, to look for variation. We look for variation in the quality of care as practiced by physicians; it is variation according to the physician in terms of resource consumption for a given problem. There is also variation in terms of health care for patients. We must start recognizing who our patients are that are going to be problems in the future or that need to have something addressed immediately. We then take that variation and pass it against a set of intervention rules. Intervention rules allow us to recognize that a given piece of variation can be corrected with a certain clinical adaptation. They put somebody on a drug, eliminate duplicate drugs, and so on. We then use effective forms of case management or contract management for physicians. We organize and understand variation, and we apply the rules for correction and then contact the patient or physician based on the need.

We can also use this same kind of episode treatment suite to understand where the future lies in terms of pricing, as well as health care cost consumption. You cluster that previous mathematical equation into episode frequency and episode cost. You can manage in that way. Understanding demand is an area that patients don't want us to fool with. After all, it's their perceived demand. We can alter their health status, but it's their perceived demand versus what happens once they engage the system where we can invoke more intense management.

If you look at health care in this way, you see some very interesting things. We're watching America get sicker. About 3% more people are becoming patients per year, per member of that population. In other words, the number of people that can label themselves as patients, people who access the system, has grown about 3%. They're also growing in different ways. If you look at the variety of diseases that cause people to become patients, you'd see the distribution by the type of problems that people try to solve. Some of these problems have seasonality. They occur on an annual basis, as seen by looking at quarterly graphs for each of the different type of problems. You can actually see trends in the type of problems that we face. Another consideration is how much it costs to resolve a problem. For oncology, the cost per patient is going up dramatically. Why? Those episodes of care now include a variety of things such as injectables, which drive the cost. By looking at the content of these episodes, you can also start doing things like applying guidelines where appropriate.

One of the things that we have addressed in this model is the ability to look at the episode of care and compare it to an ideal episode of care for that same problem. We then look at the variation in what's happening. What things are areas of comission. In other words, a given doctor who will do both a CT and an MRI for low back pain becomes evident, and you can show the doctor by claim. Likewise, what kind of care is deficient? For instance, is a doctor not giving beta blocks to those who suffered myocardial infarctions (MIs)? Now, with the incorporation of clinical laboratory data, we're also able to show adverse events. You can still go back and

break out these episodes and start tracking whether it's hospital claims (and if it is hospital claims, what kind they are), or physician claims that build up these episodes as you build these models.

What this allows us to do is to adapt the following model, which is to start managing health care in the way in which it's being purchased. Instead of trying to find ways to avoid risk at this end of the pool, you go to the deeper end of the pool and start pulling people out and playing lifeguard by managing the risk. The way to do that is to pull people and segregate them according to their predictive modeling into the type of service they are likely to need. Then adapt their clinical protocols and measure compliance of those clinical protocols for the treatment of those diseases, as described by the academic scientists within medicine. Use the profiling tools that we talked about, Pathways, clinical profiles, etc. To measure that, you have compliance, and then finally use performance metrics.

Let me close by saying the following. We are now in the process of using HIPAA 1500 forms, and we're getting a pretty good sense of the implied health care status of the Americans just by looking at the claims. More recently, we've adapted the actual incorporation of the resulting data from lab tests, so that not only could you find people that have had HBA1Cs for their diabetes, but you can identify those people whose HBA1Cs are too high, implying that their diabetes is out of control.

The future is going to include looking into the genetic map and making predictions. There is already evidence that there we have the ability to predict which type of anti-lipid therapy is most appropriate for a patient based on looking at the genetic type. That work is going on now with some scientists at Yale through a company called Geneson. They're able to improve the responsiveness to drugs when their doctors don't use whatever drug comes into their mind, but actually start using the drug that is tailored to, for example, the genetic profile for the genes responsible for controlling cholesterol in their body. That type of risk management is the kind we want to see.

We view the future of managed care as not being over. We have to really redirect ourselves and use information in order to support a motivated marketplace for health care. Eliminate the waste that's involved in creating excess costs. Let's face it, health care is getting better because the scientists are making it better, and there will be an underlying trend in growth. You can provide the most affordable path to getting that care. In doing so, we again have to turn to the scientists with our numbers. They can take that claims data we provide and convert it to information by using tools such as episode grouping technology and effective actuarial science to start predicting those contingencies. We think we can be more proactive rather than reactive as we've been in the past.

MR. JOHN E. RAGAN: We do some things like this, Dr. Migliori for the primary care physician summary. It had the adjustments. Have you ever run into issues with providers when you give them this type of information? There are providers that the marketplace likes; a lot of patients go to this provider. Some patients might think that a physician is trying to deny services. Patients think they are being denied

what they should get because they're not referring them to a specialist. They're sending them to an emergency room. This type of representation may go against what some of the patients might want. Have you ever dealt with anything like that?

DR. MIGLIORI: That's a very good question. The advantage of measuring in that methodology, where you can look at a physician's practice, has its first appeal to the physician. It helps them to shape how they practice and for one doctor, it was actually a threat to his income because the health care expenditures were not only high, but also coming out of his own pocket. So that helps to change things. The other level of interest is, of course, our credentialing units. Look at that data—the quality of care data and as well a the fraud data. You can start examining whether we have a doctor that's an opportunist or a doctor who gives incomplete care. Or do you have a doctor whose practice we really want to promote because they are outstanding in every dimension? The third level will be interventuality. In Minneapolis, it already occurs. It's where you give the consumer the information that we can measure. You don't want to give them every piece of information that you have because there are some things that are just an explainable variance. The patient might not understand them. Much can be poorly interpreted by the unsophisticated viewer. However, when the doctor knows that the patients can see, and they're worried about their market share, they do respond.

MR. RAGAN: One other question I had is, do physicians have meetings like the Society of Actuaries does? If so, can you give me a copy of some of the slide handouts that they do?

DR. MIGLIORI: Yes, they're usually union meetings.

MR. JOHN J. LYNCH: I'm trying to think of how we shoehorn these types of interventions into a 12-month ratio and see that appears on the appropriate spreadsheet. Almost every new intervention is going to have a new term course increase even though it may have a very terrific long-term benefit. How do you package that as something to sell?

MR. SUTTON: The product that people are buying is one that tries to assure completeness in what gets delivered, but the other issue is that information is also intense around the appropriate use of resources. You still have to rely on your conventional tools to tell you what the history is and to start predicting the future. We made certain assumptions about preventive risk, but we can also make some assumptions about decreases and the catastrophic exposure we have as a result of early intervention. Nevertheless, it's still left with the same actuarial science around predicting risk as well as looking at your historical benefits. We hope that by looking at the claim population, your reinsurance models, as well as our premium models, can help us do a better job of anticipating what the future is going to be by looking at the claims in some detail. It's not like driving through your rearview mirror.

FROM THE FLOOR: Doctor, I want to applaud you in your efforts to improve quality of care. I'm especially interested in your profiling and network profiling. My

question is, when you find a doctor who is significantly below quality, do you have any insight on how to deal with that? If you eventually have to get him out of the network, how do you address that?

DR. MIGLIORI: That's a great question. Do we discipline? Yes. The result you saw was without disciplining. When you give doctors information about their practice, they naturally want to do the right thing. There are a small minority of opportunists out there. That kind of individual gets a face-to-face look at the data, then a re-examination a quarter or two later. If there are failures to improve either because they can't or they won't, sometimes we do make the decision that maybe we have a different business model in mind and we move on. Another requirement is that the benefit designs for the individual make it harder, or at least more expensive, for people to go outside of the network. If patients want to see another doctor, they can, but they're going to be paying a larger deductible up front. You have to work not only on the doctor, but also on the community by making sure that there's a clear advantage to use the network-based doctors.

MR. KEVIN M. DOLSKY: I have an observation for you to comment on. Harry concluded with the R word, *rationing*. I'd appreciate both of your insights on this. Harry also concluded by saying that they drove the bike off the cliff and said, "Hey, everybody take care of me." The R word that is left out in this discussion is *responsibility*. You said, at one point, that you'd pull somebody out of the population based on these metrics. You'd intervene on their behalf. Would you comment on whether there are differences between you and the whole? The consumerism part is great, we'll take care of people better, but the other side of that is the responsibility.

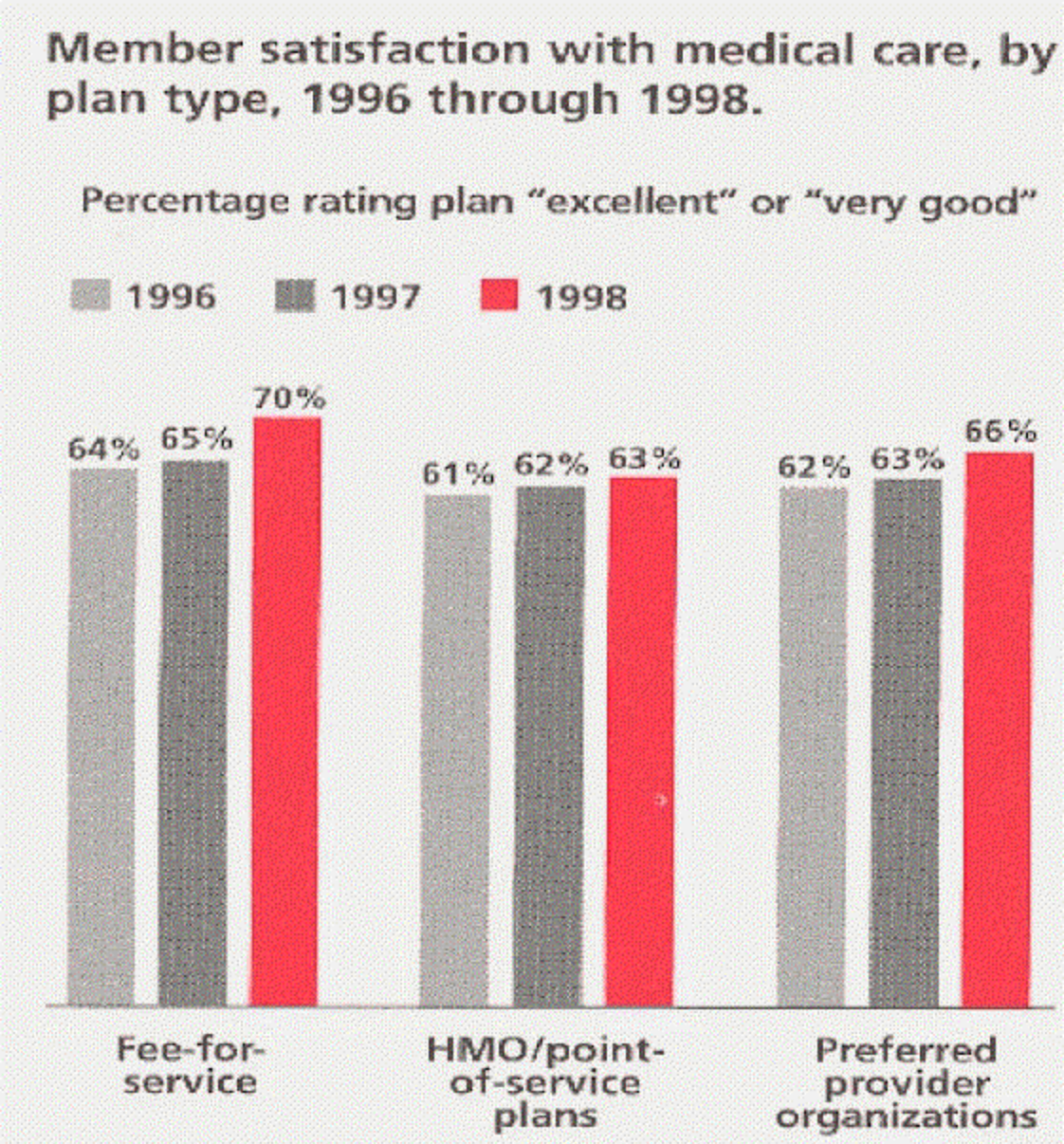
DR. MIGLIORI: That's very important. The notion here is to remember that there are two people in the exam room. We've got to get people controlled, but you also have to get people to get engaged. Patients have just as much responsibility there. I hope that by giving both parties, the physician and the patient, access to the same information about the patient's current and future health care needs and his or her risk behaviors that caused the health problem, as well as us contacting them, you can entice some of that. If not, we'll have a challenge in terms of affordability. One of the areas in which we are starting to make an impact is by creating the benefit designs that make people very interested in the choice of care that they receive. That makes a big difference. The biggest impact we had in pharmaceutical trends, which we still keep somewhere between 10% to 11% a year, has been on the basis of a three-tier formula. Patients can get every drug and most of the products that we offer, but if they choose something that's on a nonpreferred list, they spend more out of pocket. It doesn't change the utilization rate, but it does influence the decision. So when you give both the physician and the patient the information about their medications as well as information about the patient's out-of-pocket expense, we think that's a way to help engage the patient in more responsible behaviors.

MR. SUTTON: I think what we're edging into is the question of public health. We don't enforce educating children on how to eat. When McDonald's is in the school,

the kids throw their vegetables and fruit away. We have a whole society that tends to overindulge. It's like getting on your motorcycle and riding off the end of the cliff, and then saying, “I've just fallen over the cliff. I can't move. Pick me up and fix me and make me well again.” I don't know how you get rid of that psyche. Other societies are much more rigid. In my younger days, I skied. I met a doctor in France, and she said, in France’s system, you have to get prenatal care. If you don't get prenatal care, your delivery won’t be paid for. You’d have to pay for it yourself. So once everybody learns that that system is there, they use it because they can't afford not to.

DR. MIGLIORI: The day and age when the patient can be kept at a distance from the underlying costs is gone. The old model of same co-pay, no matter what kind of service you get or no co-pay, comprehensive care and leaving all the responsibility to the doctor needs to be re-examined. There's another responsible party. It's the patients. If they don't understand the cost, and it's not translated to them in terms of out of pocket expending, they're going to have the employer bearing the cost of this benefit.

Figure 1


Member satisfaction with medical care, by plan type, 1996 through 1998.
Percentage rating plan "excellent" or "very good"
1996
1997
1998
64%
65%
70%
61%
62%
63%
62%
63%
66%
Fee-for-service
HMO/point-of-service plans
Preferred provider organizations