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## Session 110PD Disease Management

**Track:** Health, Managed Care

**Key Words:** Managed Care

**Moderator:** GREGORY TODD SWIM

**Panelists:** STEVEN FREEDMAN, M.D.<sup>†</sup>  
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**Recorder:** GREGORY TODD SWIM

*Summary: Panelists discuss the special programs implemented by HMOs to treat members with known chronic conditions, such as congestive heart failure, diabetes, end-stage renal disease, neonates, AIDS, asthma, cancer, and cystic fibrosis. Experts describe the goals and methods for such efforts, implementation issues, success factors, health status improvements (if any), reactions from patients and providers, and the financial effects.*

**Mr. Gregory Todd Swim:** The speakers for this panel discussion are Dale Rayman with Towers Perrin and Dr. Steve Freedman with William M. Mercer. Dale will present first.

**Mr. Dale A. Rayman:** I'll start with a high level view of healthcare benefits management to give an idea of where disease management falls within the spectrum of healthcare costs and quality management strategies. Then I'll talk about how disease management programs operate. I'll give a little background on the disease management process and spend a little time on some specific disease management programs. If I have time, I'll talk about the challenges of monitoring and measuring the success of disease management programs. I worked on an assignment earlier this year to review ROI in disease management programs. The client had nine programs. An analysis showed only one had a positive return. The client cancelled all of their disease management programs. That was a knee-jerk reaction because I think it was still too early to determine how these programs work.

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

First of all, what is the length of measurement? Some of these programs take a while to actually get a return, so you have to actually wait a while before you see positive impact from your population. In addition, they weren't measuring the productivity savings or replacement cost savings for the employer and so forth. We'll talk a little bit about that. There is another challenge in measuring results and trying to normalize populations for severity of illness, which is a big challenge when looking at outcomes analyses. How do you adjust your populations for those who are not going through the program versus those who are going through the program? How do you adjust for different levels and states of disease?

I took an employer of a fully insured health plan and asked, "What are the methods you have used throughout the 1980s and the early 1990s to control costs?" Some had temporary success and some have had long-term success, but there is no question right now that after a lull in the healthcare trend, we're starting to see trends climb again. Employers have definitely focused on controlling the healthcare trend.

What is the current state of affairs? From an employer standpoint, how are we trying to control healthcare costs and managed healthcare costs and quality? It has become more of a total health approach. We're looking at both medical and disability. Could spending more on healthcare actually reduce disability costs or increase productivity for the firm using a total health-management approach?. In Chart 1, I've broken down the key program components: 1) medical management, 2) benefit design, 3) contribution strategies, and 4) network development and maintenance/provider contracting.

I won't go through the other ones. I have not taken the time to actually diagram benefit design and contribution strategies, but the focus is on medical management or care management, and within that we have three types of programs. The first is defined as health risk-management programs, which are programs you would try to impose on all of your membership for your plan. We're basically looking at programs that apply to individuals regardless of whether they have contact with the healthcare system or not. We have health promotions, disease prevention, and so forth, even for individuals who don't activate contact with providers. That would be your first circle. Within that, we actually have members who do make contact with the healthcare system, and for those members you're looking at utilization and quality management. You're looking at things like precertification, focused education, concurrent review, etc. Within that, you have a select group of members who tend to be higher cost members to whom you would apply either large case management or disease management.

How many of you have actually consulted under disease management or actually worked for an insurance carrier and implemented a disease management program? This is a relatively new area. I'm hoping to learn as much here as you expect to learn as well. From a cost standpoint, if you look at any large number of health statistics or health claims, you'll see that a very small percentage of your members, and this is a fairly well-known fact, account for a very large percentage of your claims. Typically large case management would apply to maybe 0.2% or 0.4% of your members, and they would account for roughly 25% of your claims. So a very small percentage of members account for a very large percentage of your claims. About 2% of your members account for about 40% of your claims.

There's a real distinction here between large case management and disease management. I think a lot of people who aren't familiar with disease management just think it's old hat, or we already have a large case management program which focuses on managing very high-cost cases. Disease management is not large case management, and we'll make that distinction several times throughout this presentation.

Large case management tends to focus primarily on just a very high-cost, in-patient type care. Disease management is looking at different states of a disease, which we will talk more about when trying to prevent individuals or members from progressing from a mild state to a more severe state of the disease; therefore becoming very high-cost members. Disease management is probably going to focus more on these first few levels to distinguish them from large case management.

Since large case management and disease management are different, what is disease management? Several experts looked at the current way of delivering healthcare and saw that it was an episodic model in which a person gets sick; you treat that individual for the episode, and that individual gets better. That delivery system, or that model, does not necessarily meet the needs of chronically ill patients because you treat them and they don't get better. They have their disease. There are many diseases for which there is no known cure, but you can change the level of severity of the disease. Hence, a new model evolved that focused on managing disease, and it became known as disease management. The key part of the definition is that disease management brings together a number of different concepts, including practice guidelines. They are really trying to assist the practitioner and the patient with better decisions.

On a number of assignments I've seen health plans put in disease management programs where they haven't taken the time to see whether their provider network is prepared to support that disease management program. As a result, the returns are significantly understated because the providers are out there but don't

understand their role. Sometimes it's easier to educate the patient because, if they're sick, you can make contact with them. The physician tends to be much less accessible, and we'll talk about that in a little bit.

Patient compliance is a large part of the management of some of these diseases. When we talk about diabetes and congestive heart failure, the patient has to be a team member. Patient compliance is so important. One of the most dramatic illustrations of that was given in an article I read about Greg Louganis, the gold-medal Olympic diver who has AIDS. He is part of a campaign to go around the country and try to teach AIDS patients to take their drugs. You might think there is no better motivation for taking your drugs than the fact that you have AIDS. If you don't take your drugs, you're going to die. However, the compliance rate was something less than 65%. There's a defensiveness about being sick or having the disease, so when you talk about a three-times-a-day dosage, the statistics show that patients are very likely to take their morning dose and their evening dose because they tend to be home. However, they carry that midday dose with them and get tied up with work or other things in the middle of the day, so they tend to miss that midday dose. Many patients think they can just double-dose in the evening, but that's not compliance. That's not the way the drug is supposed to work.

Sometimes we are told not to eat an hour before and an hour after the medication, but many of us don't comply with that. We'll say, "OK, it's been a half an hour and I'm still OK." AIDS patients do not appear to be significantly more motivated than the rest of us about taking medication. That's a large part of basic compliance with these diseases. That's where there has been a dramatic change in utilization of medical services as far as emergency room and inpatient stays.

Technology is a large part of it, and it is not an inexpensive aspect. Technology requires a lot of investment and there's no question that the potential with the Internet is significant. For many health plans, the disease management programs today are insurance-focused. They really don't integrate or encourage information-sharing between the nurse specialist and social workers or the physicians and providers. It's still a very fragmented system.

There are certain barriers and certain important drivers in the current environment for disease management programs. One of the biggest barriers and drivers is the reimbursement mechanism. In a regular fee-for-service-type environment, fee-for-service hospitals and fee-for-service physicians are not financially rewarded for disease management. They're already busy with everything else. What they realize is if they do disease management, the patient will come to them less often. The patient will be taken care of, and they're not reimbursed for disease management or keeping the patient or helping the patient with compliance. In a fee-for-service

system, they wonder why they should be doing this. At the same time, there is more risk-sharing in certain parts of the country. There is capitation, and there is a financial reward for the physicians if they can collect the capitation and keep the patient healthy. Also, there's a big motivation from the insurance company standpoint because intuition tells us that we can get gains from disease management, in terms of dollars, better patient lifestyle, or quality of life, and large employers would like to see these gains. There is an incentive for the insurance carrier because they can either maintain or grow market share if they run these programs properly.

Looking at the disease management process, the first thing we have to do is identify the candidates for the program. And that's our identification step. Typically, what's used to identify the patient is claims data. It's not as if you have your membership base and there's a little flag that says these 200 people have diabetes and so many people have asthma and so forth. You have to find those individuals. The identification process typically relies on claims information. Everyone knows that claims information is not high-quality information. But you can look at diagnosis codes, diagnostic related groups, procedure codes, and national drug codes (every prescription has a national drug code). Drug information is usually better information than claims information. It's very good information for identifying patients. The problem you have with some drug data is that there are many drugs that are approved for more than one condition. You need to confirm the identification once you identify a certain potential candidate.

Regarding health-risk appraisals, I can remember a decade ago working for an insurance carrier where we piloted a health-risk appraisal form in which people actually took a test, scored, and got certain points. If they got enough points they were high risk. The thing is back then we didn't know what to do with the information once we found out things like they didn't wear their seat belts. We were focused on hospital stays back then, and that was a high part of the cost. One thing I can say about health-risk appraisals is they have evolved significantly since the early days and are much more sophisticated tools for identifying high-risk patients, as well as identifying patients who have a potential for high risk or high cost before they get there. However, once you do that assessment you have to have an individualized, actionable plan for that individual. You can't just say, "So what if it's high risk?" Then you have to do a confirmation, or validation, if they have that disease. The next step would be to stratify them, because not all people with diabetes are going to be put in this program because there's a cost for this program. You may decide those in moderate states and the severe states will be in the program but not the individuals in a mild state. There's a stratification that will involve some kind of ranking system for those patients and their disease state. There are various ways to rank those. It can be utilization or cost, inpatient

admissions, length of stay, cost per stay, outpatient visits, or total cost for care. There are different ways of ranking those individuals to decide to whom you will actually apply intervention.

There's another step before you get to intervention. That's actually marketing the program to the individual. You can't just stratify them and decide unilaterally that you want them in the program; you somehow have to get them to buy it. This especially applies to patient compliance. You have to sell them on that if you want the most effective results. There must be a step in there for marketing the program to the patient and then the actual intervention. I know a lot of you who work for insurance carriers are really concerned, especially in small groups, that your small group plan will tend to jump carriers every two years because of costs. Therefore, do you have the patient long enough to get the results or the outcomes of these programs? Are you going to apply your disease management programs just to severe state individuals or the moderate and severe state? You may do a mailing to anyone with a mild state or more severe state. You may do telemonitoring with individuals in moderate or severe states, and you may have a home-care team dedicated to individuals who are severe-state or high-cost individuals.

Once the disease is identified and the individual is confirmed and stratified as mild, moderate, or severe state, the next thing to do is a patient interview. That is normally done by telephone. What you're trying to do is determine the patient's level of knowledge. Once you've identified the person and confirmed the disease state, you can have a telephone interview to find out how much they know about their disease. You can talk to them and educate them about self-care, symptoms, compliance, etc. We're just going to touch briefly on some of these programs and results. We won't get into these programs. There's lots of literature out there on how some of these programs work. I'm going to talk about some best practices. Congestive heart failure impacts about 4.8 million Americans per year, accounts for about 400,000 deaths, and is one of the key areas for disease management. As far as some best-practice results, Independence Blue Cross reduced inpatient admissions and emergency room (ER) visits by 50%. Cardiac Solutions has seen a 70% reduction in hospitalizations and a 68% reduction in ER visits. Some insurance carriers are finding out that once they identify their candidates, they do not have enough membership within a certain disease to put in the investment to really make it work and get the maximum return. They're actually outsourcing that to boutique vendors. I would liken that somewhat to the pharmacy or mental health industry a few years back. A lot of small insurance carriers have said that there's a lot of expertise in PBMs. There is the discounting, the drug manufacturer contract, and everything else. You'll see a lot of boutique vendors in this area. The cornerstone of most congestive heart failure programs is patient and physician education, and, as I mentioned before, the patient education is often easier. You

can educate them. The physician is a little tougher because they're less accessible but you can send letters to the physicians' office and offer lectures, especially if you've chosen a specific set of doctors who will handle your disease management program. For instance, United in our Atlanta marketplace has a specific group of cardiologists and other heart doctors that are the core of their disease management program in Atlanta for congestive heart failure. You can actually work with a specific group of doctors, and you can also get to them through pharmacy retailers or the medical director. If the patient is in a severe state, the most common way is to have trained nurses who specialize in congestive heart failure programs and cardiac care who work with the patient. They have numerous resources available and access to prescription drugs, and they can train the patient on taking in less salt and help him or her gain greater mobility.

Diabetes affects about 4% of the U.S. population, but accounts for about 15% of healthcare spending. Your average diabetes patient is costing about four times as much as a normal nondiabetic patient. As I mentioned before, few diseases demand as much from the patient as diabetes does. A large part of managing diabetics care is self-management. I know that because I have friends and family members who are diabetics. When they don't comply with their treatment plan, usually that's when they end up in the ER. Diabetics need to have a clear understanding of their disease and how it impacts them. They need to do food management, exercise, blood-glucose monitoring, and, in some cases, intensive insulin management.

Asthma is another very common area for disease management. Probably one of the best practical illustrations of a good asthma management program is Oxford Health Plans. They have a very comprehensive program. There has been a lot written on their programs. That's one of the places to look if you're looking for a very effective asthma management program. I'm just going to touch on monitoring and measuring.

As I mentioned, measuring these programs is very difficult. First, there is the consideration of getting the return. How long do you want to measure? If you're measuring out several years because you're looking at mild-state patients and so forth, moderate-state patients may take a while to get a return. Then you basically have to apply a discount rate. Typically, when you're measuring, you won't find many incentive guidelines on what to measure and how to measure it, but they are starting to come out. There's not a lot there that shows the newness of the evolution of these programs. There are some recently published guidelines that have come out from the Food and Drug Administration. I think they are proposed guidelines on the way to actually look at savings. When you're looking at what to measure, you're basically going to measure three things. The first is savings from direct

medical costs that would have been incurred if the program had not been implemented. That one is fairly obvious. That's just a medical cost savings.

The second one is the individual income lost because of illness, or what would have been lost because of illness. There is the employer's salary replacement cost or retraining cost if the person is not coming back. You have those costs on the employer and the patient side as well.

The third aspect, which is much more difficult to measure, is the estimated monetary value of patient satisfaction with enhanced quality and duration of life. A lot of the evidence of the measurement so far is not really firm. Basically, intuitively, it seems as if there would be savings from disease management, but the results are yet to be strongly proven.

**Dr. Steven Freedman:** I'm a physician who works with William M. Mercer in San Francisco. Prior to that I worked with Kaiser for 13 years in northern California doing self-care programs, self-promotion, and disease management programs. Now I work primarily with employers. Part of the focus of my presentation will be, why do employers care about disease management? I'll also go over some of the issues of why disease management is important to health plans. I'm going to review the need for disease management, the prevalence of the disease, the cost of the disease, and some results. I'm going to give you a very broad overview of what programs within health plans and by boutique vendors have shown the best practices. I'll also discuss some of the pitfalls and implementation. If we have time we'll discuss the role of actuarial analysis.

Disease management means a lot of different things to different people. I think it's a comprehensive, integrated approach above all. I want to emphasize two other aspects of it. Number one is that it's proactive. As Dale mentioned, so much of medical care is acute illness, episodic, and reactive. Disease management is a proactive outreach, getting to people before they have to come in, before they're hospitalized, and before they go down the tube, so to speak. It's also focused much more on outcomes, which has been a completely new approach in medicine in the last ten years. Disease management has really embraced the outcome-oriented approach. In general, we're talking clinical outcomes and financial outcomes.

What's the need for disease management? Disease management, in general, goes after people with chronic conditions. Forty-five percent of American adults have chronic conditions; 75% of the costs in American healthcare are attributable to chronic disease. In terms of why employers care about this, productivity is really influenced by the presence of chronic disease. Take depression as an example. For every dollar an employer spends covering the healthcare costs of depression, it costs



them \$5 to cover the productivity detriment, absenteeism, and reduced productivity on the job. It's similar for back pain, arthritis, and asthma; there are more dollars spent in indirect costs than direct costs. And that's even true in diabetes, which is one of the biggest disease management targets. When I went to medical school they said if you have a patient whose sugar is out of control or moderately out of control, it doesn't really interfere with their quality of life. It certainly is not going to affect their productivity. The opinion in the late 1970s was "Don't worry about moderate elevations of blood sugar." A study was done at Harvard and published in the *Journal of the American Medical Association* in 1998. The study looked at the implications of fair control of diabetes versus good control over 12 weeks. This was a double-blind controlled study. Twelve percent more stayed employed when they were controlled, and they had greater productive capacity. They were absent less and there was less restricted activity. In chronic condition after chronic condition, it is clear that productivity is affected. We don't have good data for every condition, but we do for diabetes, arthritis, some for migraines, and a few other conditions.

Why disease management? As in Sutton's law, go where the money is. Number one, it's where the money in healthcare is; number two, it's productivity. It affects the productivity of workers. Number three is quality. The quality of chronic disease care in American medicine is not good. The average care is disappointing in terms of what an American in any healthcare plan receives. It doesn't matter whether it's indemnity or managed care or HMO. When they studied the numbers that I'm going to tell you about, in general, you don't see much difference between types of plans, and, if anything, the managed care plans have somewhat better results because they have some programs for these things.

In terms of quality, you have different ways to look at healthcare quality; it means a million things to a million different people. The Institute of Medicine defined it. They basically said you can categorize quality problems in healthcare along three lines. Overuse means people are getting a procedure that they don't need or an unnecessary surgery. Misuse is people getting the wrong thing or something done at the wrong time, such as drugs that interact or surgery done by a surgeon who does not have a good record after surgery. Underuse is people not getting what they need. Underuse is a prevalent problem with the care of chronic disease. There are a lot of omissions in care, especially getting too little care. One is not getting the right tests. Quality is a problem in every industry, including medicine. There are a variety of reasons that contribute to that. One is providers are hurried. The average provider has seven minutes with each patient. It's hard to get everything done for chronic disease in seven minutes. Besides being in a hurry, they often forget. Providers are human like everyone else. There's not a lot of information technology to remind them. Guidelines either don't exist or haven't

been implemented. Dale referred to the fragmentation of care. We have situations where a patient has had a heart attack. The cardiologist thinks that the internist is managing the cholesterol while the internist thinks the cardiologist is managing it. As a result, the patient walks around with high cholesterol. There is a lack of information technology and reimbursement policies. Fee-for-service tends to favor overuse. Certain capitated arrangements tend to favor underuse.

What are some of the numbers? Why would you need a cardiac disease management program when American patients are seeing cardiologists at the best medical schools? Why would you need a disease management program? For example, beta blockers are a class of blood-pressure drugs. If used after a heart attack, they reduce the risk of death by 40% over the next 5 years. It costs \$10 a month. It's an inexpensive medicine. Fifty percent of the nation's heart attack patients are not taking beta blockers, and if you look at the variance between plans, it varies between 20% and 80%. So, in some plans 80% percent of heart attack patients are not getting their beta blockers.

A simple aspirin a day reduces the risk of heart attack in the next 5 years by 60% but about one-third of patients aren't taking aspirin.

Sixty percent of patients who have had heart attacks do not have their cholesterol controlled. The state of modern American medicine, for the reasons of time, and I think in large part because of the lack of information technology, leads to these quality problems.

A similar situation exists for diabetes. When a study was done of diabetic control numbers, it showed that 70% of diabetics are poorly controlled. I refer to some of the system factors. The lack is information technology. There are the physician factors. They don't have the guidelines. There are also patient factors. They'll refer to the compliance problem in healthcare. It's not just a problem with AIDS drugs; it happens with every drug. A study of compliance shows that less than half of medicines are taken as prescribed. Across the board, 10% of hospitalizations nationwide are the result of poor compliance with medications. Twenty-five percent of nursing home admissions are from poor compliance.

Does disease management help? There is a meta-analysis of a bunch of published studies. When you do disease management you get good results by working on all aspects of the system—the patient, the provider, and the healthcare system. You can reduce ER visits and admissions by about three-fourths. You can reduce specialist's visits by half. Diagnostic visits are reduced. The thing that is increased with disease management is pharmaceuticals. You have the problem with compliance. When you work on disease management, you get an increase in

pharmaceutical costs, which explains the interest of the pharmaceutical companies in running disease management programs.

What kind of cost results correlate with those numbers that I gave you? If you look at the cost in aggregate, you see that, in general, a good disease management program gives you a 20–30% reduction in cost for that group of patients. For asthma it is 30% and for heart failure it is 35%. Diabetes requires intensive nurse management and lots of support. You get less return in the first year, but the return grows over time. The problem with diabetes is that over the next 5 to 20 years, diabetics have heart attacks; they have kidney failure and end up on dialysis. They also have amputations. When you treat diabetes well, these problems are all preventable and all those costs and admissions are avoided. For diabetes, you can save 30–40% over the long term, and for catastrophic care you can save about 20%. In summary, you should do disease management because you can improve health, control costs, and increase productivity. From the point of view of an employer, you increase satisfaction.

From the point of view of a health plan, you can increase satisfaction. This is a different approach to managing care. It is different from utilization management. People are calling in and being told by a nurse or someone on the phone that they don't need a procedure. At the other end of the spectrum someone calls and says, "We're concerned about your diabetes, and we want to help you. We noticed you're not getting what you need. We have a medicine for you, and a lab test. It's a way to satisfy. We determine what kind of care people get, how care is delivered, and we involve the patients in care, and improve quality." I will go over just a couple of these in the interest of time.

I think that self-management is fundamental. Dale gave an example of diabetes and the importance of the individual's involvement in his or her own care. When I was seeing patients on a daily basis, I would see a diabetic who had fair control of diabetes maybe three times a year. That same patient may spend 15, 20, or 30 minutes a day managing his or her disease. Day in and day out, he or she would check his or her sugar, insulin, and so forth. The bulk of management of any chronic disease is in the patient's hands, and they have, obviously, the biggest vested interest. The problem is they usually don't have information skills or the motivation. In a good disease management program, all those things are increased. Guidelines are critical. Oftentimes, guidelines aren't in place and aren't adhered to. Stratification is matching the service to the intensity of the individual's disease. If they have mild diabetes, they might need a little telephonic support and reminders with lab slips. If the person has a severe case of the disease, they might need regular case management and reminders. It's this whole omission problem. Patients forget to get their lab tests, and doctors forget to order them. What people

need are just-in-time reminders. If you send a notice to a doctor and say your patient needs a mammogram and just send it by mail, you increase the rate of mammograms by about 5%. If you put it on the front of the chart as the doctor is walking in, you can increase the rate of mammograms 30–40%. It has been studied. What you need are some just-in-time reminders. Patients need them too.

Does disease management work? I think heart failure is the low-hanging fruit. As Dale pointed out, congestive heart failure is a common illness. Seventy percent of admissions for heart failure are thought to be unnecessary and are the result of poor compliance or poor care. If you get a good disease management program, you can reduce admissions by half or more and save 30–50%. Asthma has less ROI, and Dale referred to that. You have the moderate and severe cases of conditions. For severe cases, you get more ROI. Just imagine a case manager working with a severe asthmatic who's in and out of the hospital three or four times a year. That case manager, who of course has a significant investment, provides a pretty good ROI to save those ER visits and admissions. On the other hand, people talk about population management or population-based healthcare. For every asthmatic, you might apply a little bit of case management or telephonic structuring or teaching in the office, even for mild asthmatics. What happens there is that you have to devote a fair amount of effort to those mild asthmatics to avert just a small number of hospitalizations. It's really the long-term ROI that you're looking for when you take a population-based approach to healthcare management. The obvious thing then is, are you going to be responsible or is the payer responsible for those low-risk individuals over time? That's going to determine whether they go with a low-risk stratification. In other words, if people are floating in and out of health plans, or they're changing jobs, either the health plan or the purchaser is going to be more interested in the high-risk population for immediate return. If, on the other hand, the employer keeps their population of workers indefinitely, they might be much more inclined to say we're interested in low risk to decrease the burden of disease over time.

HIV is an area where, although the incidence is low, the opportunities for quality improvement are huge. When you get those HIV-positive patients on medicines that cost \$8,000–10,000 a year, you must get them to comply, which is a chore as Dale mentioned. When you do that, even though you're spending \$8,000–10,000 a year, you can still save 30–40% because those medicines improve the clinical state and reduce all the admissions and infections.

Catastrophic care is really case-management deluxe. It's taking the 1% of people who generate the 30% of costs at the top of the spectrum and applying aggressive proactive case management. That's a different model than the case management that's normally in use, which is very episodic. If, in the long term, you can increase

the patient's skills, they can reduce costs by about 20%. There are lots of different ways to deliver disease management services. You can do it in the health plan or the managed care organization. You can do it with a vendor or with PBMs. The health plans are easier to integrate into the care system. They have not invested a lot in disease management to date for a variety of reasons. Health plans are slow to change even when they are investing. In terms of the best results in disease management, you would find them with outside vendors. Carve-out vendors have the stronger programs. Their biggest issue is confidentiality. When a patient gets a letter from a carve-out vendor that does diabetes, for example, they ask, "How did you get my name? You mean, my employer knows I have diabetes?" There are those sorts of issues to work around. It can be sent from the plan or it can be publicized that every individual who the employer has is going to get a letter from a company. There are ways to get around this, but confidentiality is clearly an issue, as is integration with the health plans. PBMs also do disease management, but their biggest disadvantage is they are very narrow programs. They affect compliance. They increase the number of people taking drugs, but that's pretty much the nature of what they call disease management.

These issues may come up in questions. One of the biggest is that people have multiple diseases. Forty percent of diabetics have another chronic disease. No one likes getting three calls from three different disease management companies. Other challenges in disease management are analyzing the data, creating performance measurements, and standardizing them. One of the things we are seeing with a lot of the disease management vendors are risk arrangements, where they are willing to go at risk for the achievement of certain financial or clinical outcome goals. Monitoring these has really turned into a challenge. When employers look at disease management, their basic strategy should be identifying their burden of disease. What's driving your illness? Then look at what kind of care your employees or members are getting. If you're doing this for a health plan, it's the same thing. If cardiac is driving the cost, what do you want to do? How good is the cardiac chronic disease care? An employer could have two strategies. They could either drive the performance improvement of the plan or they could carve it out as Dale mentioned. It is like pharmacy or mental health. The big employers have the ability to drive performance improvement by setting performance guarantees and so forth. We want to see this rate of mammograms, we want to see this rate of flu shots, and as the next step, we want to see this rate of patients on beta blockers after a heart attack.

When selecting vendors, whether it's a health plan selecting a vendor because they're carving out disease management or it is a purchaser that focuses on their processes that lead to the results, determine what the outcomes are that they get. Determine the ROI.

I think there is an indispensable role for actuaries in chronic disease. There are three main roles that I think are most apparent. You may think of more. I would like to hear about it. Let me just set the stage. Right now if you look at the advertising or talk to a health plan or a disease management company, they all promise they're getting great results and saving money. They're all getting a ROI of \$4 to \$1. How do you judge that? We need sophisticated analysis focused on three areas. One is the burden of disease. Determine which conditions a given health plan or an employer should focus on by analyzing claims, analyzing pharmacy costs, and so forth. Second, and even more complex, look at the performance of the programs. They're saying they are saving x number of dollars on cardiac claims. Is the way they're analyzing the claims legitimate? Are they really saving that amount of money? Are they really getting the financial and clinical results that they claim they're getting? Will my client really get the financial and clinical results claimed? The third aspect is these arrangements. Because they are new and somewhat unproven, they involve risk arrangements. I think there's a huge role for actuarial analysis. In sum, everybody talks about win/win situations. I think diabetes, when it's well executed, is a win to the fifth power. It's good for plans; it's good for employers; it's good for patients; it's good for providers; and it's good for actuaries, too.

**From the Floor:** What's the cost per patient for somebody to be in one of these programs? I know it's going to range all over the place, but is it \$1,000 or \$5,000 a year?

**Dr. Freedman:** When you ask about the cost, do you mean the cost of administering the program or the cost of care for that person?

**From the Floor:** I mean the cost of the program. There are a lot of disincentives for the individual, especially in a small group market and even a large group market because there are all these other people out there who are trying to think of what's best for them. The cost of the program might be low enough, even \$1,000. There are a lot of people who are paying a lot more than that for a personal trainer for their physical health. I could see that you could market directly to individuals and say, "Join this program if you have heart disease or whatever if the cost isn't prohibitive or if the insurance companies pick up some of the costs." That way somebody might join it and stick with the program for the rest of their life versus just as long as they're employed. That's kind of the thought process.

**Mr. Rayman:** As far as personal trainers, I think that's more of a vanity thing, and I'm not sure if they see that as kind of a trade-off. They may see that if they're investing in a personal trainer. They're going to get direct returns for something that their employer wouldn't invest in for them. If the employer is offering a medical

plan and the employee has coverage, it is less likely that the employee will take care of their medical needs because they know they have a fallback. If they do run into a need, they can contact the medical system and their employer will pay for that for them.

The question of cost is a good one. Many of these programs are currently sold on a per member, per month (PMPM) basis. There are small groups and large groups. It depends on the programs that you're buying. There's high-risk maternity. These various programs have a cost. The employer is happy to pay for it if they feel they're going to get a return in medical claims savings. I've seen programs ranging from \$0.50 PMPM to as much as \$4 PMPM, depending on what you're purchasing when it's done on a PMPM basis. You're spreading the cost over your entire population, regardless of whether they have the disease or not. I think large employers are becoming more savvy because they are finding a fairly small percentage of their membership in some of these programs. They're starting to say, "We'll buy the program on a per patient basis or per participant basis." You have to market them. You have an incentive now to get them in there if you want to get our money. You actually have to sell them on the program and get them in there. They're starting to buy on a per-participant basis. I have not seen what those costs run. If you take a diabetes program and say diabetes is 4% of your population, then I would think that something in the range of your PMPM cost divided by 0.04 would gross it up for just the potential candidates for a diabetes program.

**Dr. Freedman:** I would agree with what Dale just said. You have to keep in mind that there are different levels of programs. If it's just informational education, this is what you need to do to treat your own disease. They can easily be \$0.50, \$1, or \$2 PMPM as soon as you start getting into interventions with nurse lines, follow up, and a lot of lab diagnostics. By managing that care on a personal level and getting nurses and physicians and other support people involved on a regular basis, the cost starts going up dramatically.

**Mr. Swim:** I think marketing the programs directly to individuals is a novel idea. It's the same barrier that employers have with buying disease management or health management services. They say, "I'm paying my health plan for that." I think that some individuals are activists and are really interested in managing their conditions. I'm not aware at this point of any of the big vendors doing any kind of direct-to-consumer marketing yet.

**Mr. David J. Hutchins:** What about provider acceptance? Do you have problems with doctors saying, "Hey, you're getting in my business." How do you reduce that resistance if it is there?

**Dr. Freedman:** I've had a fair amount of experience with that. A lot of people would have thought that it would have been really easy, for example, within Kaiser Permanente. It's a staff model HMO. Doctors are employed. They have a contained population. People are resistant to change. Even when you could say, "I have something for you that improves quality and will save you time," it's hard to get more than 20% or 30% of doctors to change what they're doing. Doctor acceptance of disease management is a real struggle. I'll give you two strategies that I think can help with that. One strategy is detailing. The best way to get doctors to change their prescribing behavior is to send out a pharmaceutical detail person. They change what doctors prescribe. Over the years, academics have studied that and now there is such a thing as academic detailing. Within Kaiser or CIGNA, you might have opinion leaders, doctors, or pharmacists going around to the doctors and saying, "You know, this is what the guidelines say about the approach to depression. Try this medicine." It changes prescribing habits of doctors pretty well. There is that kind of detailing. The best-in-class disease management companies do some detailing.

Maybe we should focus more on the patients who have the vested interest, who are more likely to change, and who want to be involved in their care. Many of the disease management companies have said, "We'll focus on the patient." You might need to say to the patient, "We notice that you had a heart attack. Patients who have had heart attacks ought to be taking a beta blocker; we notice you're not." Next time you go to your doctor why don't you say, "Doc, is there any reason I'm not on a beta blocker? Can I take a beta blocker?" They coach most patients on how to say it, which is key because you don't want it to be confrontational. If you say, "Why didn't you give me a beta blocker? The nurse on the phone told me I must have one," that won't work. When they teach them the right way to do it, they can increase the rate of prescribing 30–40%, which is a lot more effective than going directly to the physicians. One of the best ways to change physician behavior is to do it through the patients.

**Mr. Swim:** Just to follow up on that point. I think you're all familiar now with the impact of direct-to-consumer advertising by the pharmaceutical companies. I would submit that with all due respect to Dr. Freedman and his colleagues that the medical profession has lost a little bit of control. I don't know if that's good or bad, but the patients are getting more involved in their own condition and, frankly, they are now more often going to the doctor and actually requesting a particular drug based upon a TV commercial. Now that may not be the best practice, but clearly getting patients more engaged in their own condition is probably a good thing. I think we're seeing a paradigm shift where the medical providers are losing some control to the patient. In the end, that might be a more collaborative approach to medicine.



**Mr. Rayman:** If I could just add my comments. First, there is the defensiveness by the doctors. The reason that the medical industry exists right now is because these diseases are there. They have to treat these patients. Disease management or other approaches make the system that much more efficient. It also eliminates their jobs. In areas where there's an oversupply of physicians, there's an issue. Along the lines of sharing information, I think it's kind of like going back to clinical guidelines. Doctors may have initially viewed that as cookie-cutter medicine. However, there has become a real acceptance because the purpose of clinical guidelines is to apply more consistency where it has actually improved the quality of care. There's not necessarily one best way to treat a patient, but there are definitely not 17 different ways to treat a patient. In the past, there might have been 17–20 different ways, but we're now seeing that there are 2 or 3 approaches that produce a better outcome. Part of it is an educational process. I think other ways of changing physicians' behavior include reimbursement strategy, aligning the compensation so they do receive rewards or do share in the savings, and also profiling information. If you show physicians that here is information that shows how they compare to their peers and how they are tending to fall into the fourth quartile, they want to know very quickly why that's true. They are willing to change their behavior or change how they treat their patients. You suddenly find the fourth quartile physicians jumping into the first or second quartile.

**Mr. John M. Bragg:** I'm going to try to add one more point about the role for actuaries to Dr. Freedman's list. This has been a wonderful presentation. There is something new in the actuarial world known as actuarial counseling. I happen to be chairman of the Actuarial Counseling Task Force. It's actuarial counseling with individuals. There's a tremendous need for it. The individuals do not understand their programs. They especially don't understand their health insurance programs. The SOA has just come forth with a grant to do a market research study on this subject, and it is going to be done through focus groups. These people could be thought of as your actuarial family doctors. That sort of describes what this person would be. It's strictly on the side of the individual to try to help them with all kinds of problems. An actuarial counselor could very easily encourage the patients to participate in these programs. As everybody on the panel has already said, it's the patient cooperation that is so important. Isn't that correct?

Anyway, I just think that this actuarial counseling, if we get it off the ground, could really help by getting people to participate in these programs.

**Mr. Rayman:** I think adding the actuary to the healthcare team may have some value. I think they are people who understand some of these issues as well as the whole benefit structure. When you talk about employees not understanding their

benefits, I think a lot of these healthcare teams understand the clinical side. There's also a need for an understanding of the benefit side.

**Mr. Bragg:** They do not understand their programs. They think they are being managed occasionally, and they're not.

**Dr. Freedman:** When I was seeing patients regularly, I would have liked to have an actuary in the room hundreds of times. I never thought of it until you said that. People don't understand risk at all. You might tell a 35-year-old woman that she really doesn't need a mammogram. First, her risk of a false/positive compared to a true positive is 100 to 1. But at age 35, the risk of breast cancer is about 1 in 400. It goes up year after year and there is controversy as to whether you need one at 40 to 50 years of age. However, people don't understand. Women who are in their 50s have a legitimate concern about breast cancer, and we all want to help reassure them. The fact is that they're at much higher risk for cardiac disease. People having surgical procedures don't understand the risk versus not having surgery and all that. So much of it has to do with how it's explained and whether you have teaching tools and so forth. In general, my experience over the years is that 5% of the people understand when you start talking about risk. Only 30% of doctors understand risk. You should get the actuaries in.

**Mr. Swim:** As soon as somebody finds out you're an actuary, the first thing he or she asks you is how long he or she is going to live. Somehow they really think we know the answer to that question. There's a perceived level of respect or whatever for some of our training. I agree that there is the issue of understanding your plan, understanding how to navigate the plan, and understanding how your plan works and what's good for you. Whether we're the right cost structure to do that kind of thing or not I don't know, but clearly there is a need.

**Mr. Bragg:** It can be done with a focus group. There are two aspects of the focus group: what is needed, and how to pay for it.

**Mr. Timothy M. Ross:** You mentioned that the PBMs are trying to improve compliance. I've seen one example in which people with ulcers who are on a chronic H<sub>2</sub> therapy actually receive mailings to encourage them to see their doctor about the *H. pylori* regimen of antibiotic use and testing. This would work to seek a cure as opposed to a chronic therapy for ulcers. That's another example. I forget exactly what the cost of H<sub>2</sub> therapy is, but it's about \$0.25–0.50 PMPM. At a cost of \$50 a month, a few hundred dollars in therapy has a potential to have a very good cost-benefit ratio over time.

Dr. Freedman is one of your former associates who is still at Kaiser in Ohio. I think he functions 50/50 as a local medical director and a national expert doing data and population-based treatment. He presented a couple of examples. Because of the nature of Kaiser and the staff model, it is able to identify patients, and it can incorporate certain information very efficiently into the scheduling process. For example, if a patient has been identified as having a cardiac risk, the doctor is reminded to tell the patient to take an aspirin every day. It is a very simple thing that has a huge apparent cost-benefit payoff. The same fellow has done a number of fairly interesting cost-benefit studies to show the value of improving compliance in diabetes and asthma. There are some very good cost benefits.

**Mr. Rayman:** I think it's interesting. There was a study in which they measured patient compliance in asthmatics. They prepared a very special device with which asthmatics actually called in to monitor when they were actually taking their medication. This is actually published information. You can actually pull this study up on the Internet. About 40% of the asthmatics actually called in and said they took their medication correctly. The sponsors of the study created an inhaler that would enable them to know when the participants actually blew it out into the air versus actually taking it. Forty percent of them were actually just blowing it out into the air and using up the substance as opposed to actually taking the medication.

**Dr. Freedman:** I think I heard a comment on that. The actuator would track the date and time when the people took their dose. The story was that in the hour before they came in to see their asthma doctor, they had discharged most or all of the medicine for that month.

**Mr. Rayman:** I guess the other comment pertains to PBMs. Dr. Freedman indicated that PBMs have very good disease management programs, but they tend to be very narrow in scope. The reward is in taking medications. To the extent that they can increase compliance, they could add to the administration fee because you're charging the pharmacy cost. The ingredient cost, and the dispensing fee plus that administration fee, goes to the PBM. They're not really at risk for the medical costs. Many insurance companies don't take that risk. I think you have to broaden the program to get the results. Include the insurance carrier or the health plan as well as the PBM.

**Ms. Sheree Swanson:** I have a client who has studied a couple of disease management programs with their PBM and found that at least one of the programs was out of date and one of the drugs on the program shouldn't have been on there anymore. They've really slowed down in even implementing some of these because of some of the problems they've had.

**Ms. Virginia C. Wang:** I'm curious as to what you think an appropriate time would be to structure some of these risk-arrangement performance guarantees before you really are seeing any changes in the cost to the employers. At the start of the program there is a lot of initial cost involved to administer the program and to get the patient compliance rates up. What would be an appropriate time period? Should it be the typical 12 months or do we really need to draw it out to arrangements of several years?

**Mr. Swim:** In my experience I would say that it's fair to allow a 12-month period to establish a baseline where none existed before. Then after 12 months, start tracking results against what type of baseline information you develop. In some cases there are data out there that people try to triangulate off of in order to develop certain guarantees. The problem is that the measurement and the tracking are usually very difficult. You get into a contentious situation if you put a lot of money at risk up-front in the first year without a good definition of how you're going to track it. I've found it works best when you try to establish a neutral period where you actually track results through 12 months and then start establishing results going forward off of that baseline.

**Mr. Rayman:** I think you would also want to develop a sliding scale so that basically you expect, as Dr. Freedman is pointing out, your return on diabetes programs to actually increase after three or four years versus the first year. Depending on the level that your risk corridor is at, meaning the fees you put at risk or whatever, you'd actually want to structure that guarantee so that it increases. For those of you who work for health plans, I think you'd want to actually test your programs, even on a pilot basis, with some of your population to see what kind of returns you're getting before you actually go out there and start putting fees at risk. Take an organization like Cardiac Solutions or Diabetes Treatment Centers of America. They're already going at risk for their fees, but they have a lot of experience. They know what kind of returns they can generate.

**Dr. Freedman:** In the first year, I think there should be a risk arrangement about clinical parameters, clinical processes, and clinical outcomes. In the first year, we want a certain percentage of patients invited to participate, a certain percentage participating, a certain percentage getting the tests, a certain percentage on aspirin for their heart, and so forth. At least they know that there are clinical quality performances being aggressively monitored and that there is a risk arrangement for those numbers as well. In general, those numbers are a little easier to get than the financial numbers, and they are a little less contentious.

CHART 1  
IMPROVING HEALTHCARE QUALITY  
THROUGH DISEASE MANAGEMENT

