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Session 57PD
Prescription Drugs – Strategies to Contain Costs

Track: Health

Moderator: KEVIN M. DOLSKY
Panelists: JOANNE L. ALDER
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KYLE VANCE-BRYAN†

Summary: Various strategies are being employed to address the rapidly increasing pharmacy benefit expense.

Panelists provide insight into the factors driving the cost increase and how these factors are being addressed. Strategies include drug utilization review, manufacturer contracting, benefit design, formularies, pharmaceutical pricing, therapeutic substitution, physical education, and introduction of new pharmaceuticals. Also discussed are pharmacoeconomic benefit considerations when studying integrated medical and pharmacy expenses.

MR. KEVIN M. DOLSKY: Our first panelist will be Kyle Vance-Bryan. Kyle is a pharmacist. He's responsible for developing and managing clinical programs for all clients of Prime Therapeutics, Inc. Prime Therapeutics is a pharmacy benefits manager. He has extensive experience in clinical content development for disease state management programs, outcomes analysis and research, therapeutic class management assessment and development, pharmacoeconomic modeling, patient/physician education development, and formulary management.

Our second panelist is Joanne Alder. Joanne joined Milliman U.S.A. in January of this year. She has previously worked in the U.K. Joanne's experience includes

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

traditional actuary work for U.K. and other European health insureds. She has worked with applications of actuarial techniques in the U.K. and in the United States. She has several years experience in the U.K. health care and disability market as part of an integrated team including clinicians, hospital managers, and actuaries. In addition to her North American actuarial credentials, Joanne is a Fellow of the Institute of Actuaries.

Our third panelist is David Axene. David is a partner with Ernst & Young in San Diego. Since he joined Ernst & Young in 2001, he's been part of the National Actuarial Services group, specializing in health care issues. David provides a broad scope of advisory service to clients, including health clients, health providers, various governments and government programs, employer plans, health care technology companies, and medical device suppliers. David, as many of you actuaries know, is internationally recognized as a health care and managed care expert.

I am Kevin Dolsky and am the Moderator. I am president of Actuarial & Health Care Solutions. Let me start out this topic by providing a little bit of background on the issues that our panel will dig into further. I think we're all aware of the difficulty that people have in financing pharmacy benefits. The Centers for Medicare & Medicaid Services (CMS), formerly the Health Care Financing Administration (HCFA), conducted a study which indicated that from 1993 to 1998, insured pharmacy programs' expenses more than doubled. Each year from 1993 through 1999, the rate of inflation exceeded the previous year. In 1999, inflation was generally greater than 20 percent. Many have experienced some relief in 2000, perhaps in the high teens. My research in 2001 indicates that any relief we saw in 2000 has not continued, that the rate of inflation in various plans that I have reviewed is generally in the 14-21 percent range, probably something around an average of 18 percent. A couple of other statistics in relation to that: There~~'s~~ have been a number of studies that measure new drugs, old drugs, and product utilization. If we take the simple measure of utilization as being a prescription filled, the rate of utilization increase on the data that I have reviewed in 2001, is about half of the 18 percent or around 8.5 percent. The rate of inflation in the cost per prescription written is about 8.5 to nine percent. You'll see that the various studies range from 40 to 60 percent of the total cost increase resulting from cost per prescription increase, and the other portion is utilization. The range seems to depend on what they have reviewed and how they're defining each portion.

A couple of other interesting statistics about pharmacy cost follow. Most recently, generic inflation has been exceeding brand. Generic still has a long way to go, however. The average generic fill cost is something in the range of $14 to $18 after discount. The average brand fill in 2001 is in the range of $75 to $80 after discount. You may have plans that vary, but generally, generics represent about 40 percent of the prescriptions and about 11 to 12 percent of the cost.

The typical under-65 population in 2001 would average something like 8,000 prescriptions per 1,000 people, at a cost of something like $55 per prescription. A review of the pipeline of new drugs in testing, approval, and various stages of development, would indicate that we're in for a lot more of the same inflation in the next five years as we have had recently. If we connect the drug cost with the general session information of yesterday about population aging, along with the fact that the age slope of prescription drugs is even steeper than the age slope of medical and hospital costs, the result is even more future inflation. Finally, the most recent inflation data comes from the retail surveys, which would seem to indicate that since September 11 there is a substantial spike in anxiety and depression drugs somewhere in the neighborhood of 20 percent. There may be other categories such as antibiotics that may spike also, but those are just some statistics to set the table.

Our first speaker will be Kyle Vance-Bryan. Kyle will speak from the clinical perspective, and he'll tell us among other things that sometimes we get good value, sometimes we don't get good value, and sometimes we are not spending enough on pharmacy.

MR. KYLE VANCE-BRYAN: The title of my presentation is, "A Clinical Perspective with Physician and Consumer Considerations." I want to lay out a clinical framework for you, and I'll start by saying that the key message that I hope you take away from my presentation is that pharmacy benefit management must balance cost containment with quality-driven health and disease-related outcomes. Most of my presentation is focused on the fact that in order to deliver and execute pharmacy benefit management tools, you have to have a significant level or at least some level of physician and consumer or patient satisfaction with what you're doing, and hopefully I will convince you that there are a lot of issues that need to be addressed at the clinical level regarding pharmacy benefit management.

FACTS

I want to start by going through a number of what I'll call facts. Some of these are perhaps a bit controversial, and my colleagues who come after me will address some of these in more depth, but this will lead into the messages that I really think are important at the end of my presentation.

First , we're well aware that drug spending is increasing and continues to increase at a very dramatic rate—both in terms of ingredient cost trend and also from up trend. Secondly, increases in per capita drug utilization are the main driver. It's an extremely important point to recognize that, and there are many components of increased drug utilization that can probably be dealt with pharmacy benefit management tools and some that are very difficult to deal with that are more societal issues.

A very small number of diseases and/or therapeutic categories of pharmaceuticals drive most (greater than 75 percent) of drug spend or drug trend—this is an

important point. Another important point is that the pharmaceutical industry, in terms of its marketing to providers and members, is significantly driving the drug trend more than people understand. It's important for you to realize that most large pharmaceutical companies today spend more on their marketing efforts than they do on their research and development efforts combined.

We have had a rather dramatic increase in delivery into the marketplace over the last decade and that will continue to drive some completely new and what I will call "novel drugs" into the marketplace. These are drugs for which there were no alternatives when they came into the marketplace and offer significant benefits to persons with diseases above and beyond what we've had in the past. Two very good examples are a biotechnologically derived drug called Enbrel for arthritis and a new breakthrough drug called Gleevec, for cancer.

Going back to my initial comment, we see an increase in backlash and this is in certain areas in the country, maybe more than others. I'm from Minnesota where we have a very high managed care penetration. We see increasing backlash by providers, consumers, and regulators, against barriers to not only general medical, but pharmaceutical access—if it's perceived that those barriers are blunting any quality-driven access that the patient or physician would believe appropriate.

PHARMACY COST TRENDS/DRIVERS

I want to go back and provide some factual information briefly around each of the facts that I tried to point out. We know, based on data available from different sources, that there are three major drivers of per month per member (PMPM), and they are increased utilization, drug type mix, and price inflation. Far and away the most important of these is increased utilization. I'm going to come back to this over and over, but I submit to you and I want you to understand this is mainly from a clinical component. At the very same time that we see historical increases in trends that we have not seen in the past as far as utilization of pharmaceuticals is concerned. In the United States we still dramatically under diagnose and under treat most of the diseases that are drivers of increased pharmaceutical utilization.

The data in Chart 1 will hopefully convince you that on a per-capita basis we are using more and more pharmaceuticals on a yearly basis. A lot of this is being driven by an increase in the percentage of aged population, but if you look from 1992 to 1998, you see an increase in per-capita consumption from 7.3 to 9.6 and a dramatic increase in the total number of prescriptions per year.

THERAPEUTIC CATEGORIES DRIVING TREND

I mentioned that relatively few diseases or therapeutic classes are driving greater than 75 percent of what we see in terms of PMPM trend or integrating cost. The diseases would be related, and this is not necessarily in rank order, but the most important: for central nervous system diseases, particularly depression, Selective Serotonin Reuptake Inhibitors (SSRIs) are a class of drugs most commonly used

and a very good branded example is Prozac, although Prozac just recently went generic.

In the cardiovascular area, we have a number of diseases that we're concerned about: hyperlipidemia, hypertension, and congestive heart failure. The most important from a pharmacy benefit management perspective is hyperlipidemia. Classes of drugs used for treating this disease are the statins. Lipitor is an example of a branded drug you might recognize. For respiratory and allergy associated diseases, a very good example is nonsedating antihistamines. Claritin is the best example of this drug, particularly from a direct-to-consumer advertising perspective. Next to consider is Endocrine and diabetes. I'm going to use diabetes as an example and come back to it several different times. Diabetes and the increases in the number of diabetics in the United States right now, which is essentially unparalleled in history, is related to the fact that one out of every five Americans is overweight. Obesity is the number one risk factor for Type II diabetes, which is driving most of the costs in this area. Finally, there are infectious diseases. Prior to September 11 and the issues with Anthrax and other related problems, we already have huge issues in infectious diseases in that many of the anti-infectives that we have are losing their effectiveness because of resistance. We've had many new products come to the marketplace in the last few years and that will continue. I'll try to come back to that, but these are very expensive propositions in terms of pharmaceuticals.

DIRECT-TO-CONSUMER ADVERTISING

Direct-to-consumer advertising, is a big focus area for most of the major pharmaceutical companies. It is extremely effective in driving market share of their products. Whether the market share being driven by direct-to-consumer advertising actually has any long-term benefit in terms of health outcomes is controversial. In 1991, $55 million was spent on direct-to-consumer advertising. In 2000 (this data is from projected data that was developed from a modeling panel in the year 2000), there was about $3 billion in expenditures related to direct-to-consumer advertising.

NEW, EXPENSIVE DRUGS

Additionally, newer, more expensive drugs capture market share rapidly. A very good example of this would be the cyclooxygenase (COX-2) drugs, Celebrex and Vioxx. I don't know how many of you have followed those two from a drug cost containment issue, but those are COX-2s that were released into the marketplace about two years ago and from many books of business, those two drugs represent about 50-55 percent of the total market share for the NSAID classes of drugs. NSAIDs are nonsteroidal anti-inflammatory drugs like Ibuprofen, Motrin, those kinds of things. They are incredibly expensive compared to the older generic products, and current data suggests that they're not as safe as was presented in the early data that allowed their release into the marketplace. In fact, they may have some side effects that can increase risks associated with heart disease. Nonetheless, 40 new drugs were approved by the Food and Drug Administration in

(FDA) in 1999, and there is an increasing number in a short period of time of new molecular entities (NMEs). It's important to recognize that the NMEs here are novel drugs like Enbrel and Gleevec, and there are many others. These are not generic drugs, so there will be very little competition for a long time, and these are expensive drugs that probably have very significant benefits on overall health- and disease-related outcomes.

INCREASE IN NEW DRUGS

Why do we have an increase in the novel, very expensive drugs coming into the marketplace? For two years, the FDA has significantly revamped its approval process through the hiring of many new employees and the development of new processes over about an eight- or nine-year period that reduces its time for review of a new product submission by the pharmaceutical industry from 2.6 to 1.4 years. The time for pharmaceutical companies to do the clinical trials to submit data to the FDA is also dramatically decreased and continues to decrease, meaning more and more new novel drugs are introduced at an ever-quickening pace.

In the end, what does all of this mean, and what is the message that I want you to take from this? Despite what I've said, pharmacy benefit management must not be used as simply a tool to contain pharmacy costs. Why is that? It's because managing pharmaceutical utilization as an investment perspective is really required to drive the best possible and affordable and/or disease-related outcome from the patient perspective. When I say "managing pharmaceuticals from an investment perspective," I mean like any investment—some investments are good, some are bad, regardless of the up-front investment cost. The same is true of pharmaceuticals. Evaluating cost is clearly important in trying to manage that, but managing cost in the terms of global health care outcomes is really the message.

Why is that? Because if you simply focus on pharmacy benefit management as a way to manage costs, you fail to leverage the impact of appropriate pharmaceutical utilization on driving cost effective and quality health and/or disease outcomes. This ultimately becomes a discussion about appropriate pharmaceutical utilizations. Why is that an issue? Well, there are a lot of reasons it's an issue.

This is an excerpt from a paper originally published in *The Journal of the American Pharmaceutical Association*. The lead author is a gentleman by the name of Lisle Bootman. He happens to be the Dean of the College of Pharmacy at the University of Arizona. He's done a lot of follow-up work to his initial paper, but the bottom line is he published a paper in 1996 that looked at what we spent in the United States in 1994 in pharmaceuticals. He asked, for every dollar that we spent on pharmaceuticals, if there were expenditures that had to occur because the drug was used inappropriately, or the patient had a side effect, or it was the wrong drug for the disease, or the patient had some other reason that he or she shouldn't be on the product.

The bottom line is, and this is an astounding conclusion, in 1994, for every dollar we spent in the United States to purchase a pharmaceutical, we spent more than a dollar to pay for the negative or unintended consequence of the drug therapy, so it's not about just what you pay for the pharmaceutical, it's what happened after somebody paid for it. Was the drug used appropriately or not used appropriately? It's been verified in subsequent work not only by Dr. Bootman, but also by others.

This is again the appropriate utilization issue. There are two major papers written about the issue of U.S. injury and deaths related to preventable drug error. The first one looked at ambulatory drug errors over about a 10-year period from 1983 to 1993 and reported that there was an 850 percent increase in the United States in fatal ambulatory drug errors. The second paper, the 1999 Institute of Medicine Report, is driving the move at the physician level to use electronic prescribing tools. The main reason is that written prescriptions cause a lot of harm and ultimate mortality to some patients because the pharmacist can't read the prescription. Prescription errors kill 7,000 people a year in the United States and cause endless harm in addition. This study also suggests that about $77 billion a year is spent on the unintended consequences of drug therapy. The key point of this is that most, if not all of these injuries and deaths, are preventable based on the current science that we have as far as pharmaceutical sciences and existing technology are concerned.

UNDERDIAGNOSED, UNTREATED DISEASES

Despite the fact that we see very troublesome issues related to spiraling costs of pharmaceuticals, we still see significant under-diagnosis and under-treatment of most of the major diseases that we talk about driving our quality of lives. The ones that I'm going to highlight and want to talk about in some detail in just a moment are hyperlipidemia and hypertension. Hypertension is one of the most important risk factors for stroke and for relative heart disease. Asthma is a very big killer and an increasing killer in our children. The increasing prevalence of asthma is probably related to increased pollutants in the air, yet we dramatically underutilize steroids, and we've had steroids for decades. We also have an increasing population of Americans with diabetes related to weight control issues. The numbers of overweight and obese individuals in this country have increased. We know from the scientific data available that a little bit more than six percent of the American population has diabetes, but currently only three percent are diagnosed, and of those three percent that are diagnosed and being treated, 50 percent never achieve their clinical goal. What are the consequences of not achieving tight blood sugar control if you're diabetic? You lose your kidneys, you lose your eyesight, you lose your ability to feel normally with your fingers, your touch and sense go away, and many other problems. We know from studies that were done six and seven years ago, that all of the complications of diabetes are completely preventable by the appropriate use of pharmaceuticals to tightly control blood sugar. Then, finally, depression often is under-diagnosed and under-treated.

To speak specifically about hyperlipidemia, I'll point out for the health plans. I come from a company that primarily represents large Blue Cross/Blue Shield plans. In our health plans, the number two category of drugs driving the plans' costs are the statins, the drugs that are used primarily to control hyperlipidemia. That's gone on for the last two or three years, but has primarily been of notice in the last year or so. Hyperlipidemia, as I mentioned earlier, is a major risk factor for heart and cerebral vascular disease. We know from studies done a long time ago, and many studies done with more eloquence recently, that lowering cholesterol lowers the overall incidence of heart attack and stroke. I don't need to talk to you about the implications from a quality of life perspective of a heart attack or stroke. Over the past decade, there has been a significant reduction in the U.S. death rate due to heart attack and stroke. The average life span in the United States has jumped to 77 from 74 about two and a half years ago. The number one driver of that has been control of lipids and also the control of hypertension of blood pressure.

Statins are the fastest growing class in terms of drug utilization data in 2000. This is all driven at least at the physician level by practice guidelines called the National Cholesterol Education Program Guidelines (NCEP). These are the guidelines that your cardiologist and your primary care practitioner have been using for the last five or six years to try to appropriately diagnose and use drugs to control cholesterol. I want to point out to you though that we now have new guidelines called the NSAID-III guidelines. These were just approved and put into place in the last couple of months. From a physician's perspective and the consumer or patient perspective, we now know that we need to control cholesterol more tightly than we have in the past, and we have a broader population of people that are at significant risk for heart attack and stroke. The most important point here is that most of the experts that have looked at the new NCEP III guidelines believe that despite the fact that before these guidelines statins were already the number one and number two drug based on utilization of most health plans, statin use will probably triple over the next three years related to these guidelines.

What about weight loss drugs? I talked about diabetes a couple of times. It's important to understand that of the total diabetic population, the most important driver of diabetes is being overweight. Up until recently there were no weight loss control drugs approved for the management of diabetes. That's no longer the case. A drug called Xenical was recently approved as adjunctive therapy for Type II diabetes. Health plans that have not chosen to cover weight loss drugs because they are either "cosmetic" or "lifestyle" will probably have to rethink their strategies related to this. Trying to blunt access to a diabetic patient receiving Xenical based on its approval or indications of diabetes is going to cause some problems—meaning treatment for diabetes with this weight loss drug is not cosmetic any more. Therefore, you can expect increased demand on utilization of Xenical. You'll probably see that occur for the other weight loss drugs as well, as the strategy by the pharmaceutical industry is to broaden their indications.

Finally, once a product is on the market and approved, the indications tend to broaden, inappropriately so from an outcomes perspective as far as quality of life and health-related issues is concerned, but again the cost issue comes up. Angiotensin converting enzyme (ACE) inhibitors are drugs that have been around for about ten years now, originally approved for hypertension, they are very effective at controlling blood pressure. However, we also have drugs that are older called diuretics and beta blockers that are actually the first line of therapy for hypertension and not ACE inhibitors. The bottom line is that a number of studies have recently shown that prescribing to the diabetic population an ACE inhibitor or a newer class of drugs called ARBs that do the same thing as ACEs, can protect the diabetic patient from kidney damage. Kidney damage is one of the most expensive long-term complications from diabetes and kidney failure is one of the most important risk factors for death for the diabetic patient. These drugs prevent that and should have impact on cost on the medical side. There are many more examples of new products for broadened indications.

Herceptin and Glivec are a couple of new drugs in the cancer area, and Enbrel and Remicade are new drugs for arthritis. There is a new drug from Eli Lilly called Forte that's not on the market right now for osteoporosis. Most analysts and clinicians familiar with this drug believe that it will be a blockbuster drug because it actually not only sustains bone density but may increase it over time—it's probably the first drug to do that. There are also several new drugs in the infectious diseases area.

Is the increase in cost associated with increased drug utilization offset by decreased overall medical costs? This is part of the bottom line from a cost containment perspective. I would tell you that despite the fact that many people will tell you yes, you should spend more on pharmaceuticals. You probably see a return on investment above and beyond what you spent on a pharmaceutical related to that specific disease. There are a number of studies to show this, particularly for congestive heart failure, asthma, and diabetes. This is, by the way, the pharmaceutical industry party line. You spend more on pharmaceuticals. You will have a better outcome in terms of return on investment because of offset costs later.

ARE THE BENEFITS OF NEW DRUGS WORTH THE COST?

This is a paper that you might be extremely interested in from an actuarial perspective. It was just published within the last three or four weeks in *The Journal of Health Affairs*. The author is Frank Lichtenberg. Dr. Lichtenberg is the Courtney C. Brown Professor of Business at Columbia University—he is not a clinician. This is a study that did exactly what the question at the top is suggesting: Are the benefits of new drugs worth the cost?

MEPS is the Medical Expenditure Panel Survey which was a survey done by the United States government. It involved about 23,000 participants and addressed all aspects of health care utilization, including prescription drugs. Dr. Lichtenberg wanted to address the hypothesis that since many new pharmaceuticals coming

into the marketplace are either slightly more effective, slightly safer, or both, or offer new treatment options (Gleevec is a good example of that), one might expect that these pharmaceuticals would lower morbidity, meaning have less side effects, and lower mortality, meaning people would live longer after taking these products, and actually would decrease spending on other medical services. His study concluded that people treated with newer drugs were significantly less likely to die by the end of the survey, and the survey was actually conducted using 1996 data. Participants were also shown to experience fewer work loss days using newer versus older drugs, and the use of newer drugs tends to lower all types of non-drug medical spending and result in substantial net reduction of total cost of treating the condition.

MR. DOLSKY: Our next speaker is Joanne Alder. Joanne is going to discuss how we can use formularies to manage cost and how actuaries can participate in the process of formulary development.

MS. JOANNE L. ALDER: I'm going to talk today about formularies, and a lot of what I'm going to say actually endorses what Kyle has already said to you, but from a more actuarial perspective. First of all, I'm going to start with a brief background on formularies. I'm not going to talk about whether or not formularies have been successful or whether, indeed, they ever have the potential to be successful given the way that you set them up to start with. Then I'm going to move on slightly and talk about whether we are measuring the right things. When we make decisions to put drugs onto formularies, are we even looking at the right measures or are we building in failures to begin with? Finally, I'm going to look at what actuaries can add to this process. Are actuaries as bold as they could be in this process?

First of all, we've had lots of talk of drug cost increases between 15 and 20 percent. These current steep trends started in the mid-1990s. Formularies were one of a whole range of cost containment measures introduced to help control this spiral. They've had some success, but mainly when used as a much wider utilization management program. The majority had limited cost containment powers. Why is that? My main point is that this limited cost containment was due to poor decision making. There was really no rational basis for putting drugs onto formulary.

To combat it, once drugs were on formulary there was very limited communication to consumers. I would contend that U.S. health care consumers are probably the most sophisticated in the world—and yet they get most of their information from TV advertising. It's no surprise that study after study shows that consumers really have no idea of the issues with generic and brand name drugs. They really have no idea of the cost benefits outcome of different drugs.

There are also a lot of misaligned incentives. In addition to not communicating properly to consumers, we didn't bother to inform physicians, we didn't bother to build in incentives and incentivize physicians to prescribe generic drugs in the way

that we wanted them to. Finally, I suspect that many of us think that for all the great ideas that we can come up with as actuaries and as benefit plan designers, no matter what we do, there's a whole room full of people in drug companies all coming up with ideas to fight anything that we come up with. In response to formularies, drug companies came up with rebates, bundling, and a whole range of measures in order to make sure that their drugs were actually on our formulary.

Are we measuring the right things? I've already said that the basis for formularies was not always rational. A lot of companies based it purely on acquisition costs. We can't just look at the cost of administering a drug or the acquisition cost of that drug and expect to know the whole story. We need to look at proper cost-benefit models to decide whether or not the outcomes further down the road in prescribing that drug now are actually going to lead to greater cost savings. We've been avoiding making business decisions. I think a lot of companies stood back from the formulary process and said, okay, we don't want to be accused of doing this purely on a financial basis. We're going to turn this over to the physicians. We're going to let them make the decisions as to what goes onto the formulary, and the last thing we want to do is have consumers ringing up saying, "I'm not getting this drug because it's too expensive." And because we didn't invest any time in coming up with decent models to justify this decision, we couldn't afford for that to happen.

There are companies that did get a bit more sophisticated and look at pharmacoeconomic approaches. More specifically, the great cost per quality adjusted life year (QALY) gains. This is a standard output that all drug companies use to justify their drug. However, if you look at some surveys, although many companies admit to actually collecting this data and studying this data, only 23 percent of HMOs and PPOs in a survey that I read actually use pharmacoeconomics data to translate into real actuarial data. This says to me that there's something wrong with this data. We can't use it to make real business decisions, but we actually want to look at bottom line numbers. However, these QALYs are causing enormous concerns in many drug companies.

I'm going to give you a couple of examples now—one from the U.K. and one from the U.S.—that talk about how processes are currently underway to put drugs onto, I'm going to use the word "formularies," even though that's not really how it works in the U.K. The National Institute for Clinical Excellence (NICE) was a body set up by the U.K. government in 1999 in response to pressures.

First of all, when Viagra was introduced there were a lot of people jumping up and down in the U.K., saying this is going to bankrupt the National Health Service (NHS). I saw some projections that said 50 percent of all men between the ages of 15 and 35 are going to be lining up outside their doctor's office to get Viagra. Clearly this is a lifestyle drug; that was how it was presented.

One of the main reasons NICE was set up was to look at what should be made available on the NHS. Could we pay for all the drugs that everybody requested at

any time? And the answer was no. More and more expensive drugs were coming onto the market whose benefit was not proven and whose cost was certainly very high and nobody really knew how best to allocate the NHS's office. So NICE was set up and its purpose was to look at all medical interventions coming onto the market and decide whether or not they should be paid for by the NHS. So, in theory, the NHS can afford to have a much longer time horizon than most health plans. People aren't going to disenroll in five years' time. You're looking after people from the day they were born until the day they die. You can afford to consider a whole range of costs including social services costs, working days lost—anything that can be paid for anything that has an impact on the economy, you can afford to consider.

In practice, the NHS actually has a shorter time horizon than most health plans because they are subject to a one-year budget so they're never going to say that everybody can have this drug today because we're going to have cost savings in 20 years' time. There will be a different government in 20 years' time, so nobody cares what it's going to cost them. So they solicit submissions from all interested parties including drug companies, patient groups, doctors, anybody that has a vested interest, and they consider all the evidence, they look at economic models, they focus on the great quality and they decide whether or not this drug should be available. The NHS is saving here, and is very concerned with what NICE is doing because they see that this is not just something that is going to happen in the U.K. If this proves to be successful, then many other governments and many other companies are going to be looking to do the same thing, so they are trying to modify the NICE guidelines, not without some success.

My second example is actually from the U.S. This is the Regents Group and the Regents Group had formulary submission guidelines that are extremely detailed and they demand clinical and cost evidence for all new drugs that go on their formulary, and they have a rolling program to look at all the drugs that are currently on their formularies. They demand that the drug companies come up with economic models to justify those drugs being on their formularies, and they give them a great deal of flexibility in the way that they come up with these models. They look at different time horizons, they do a lot of sensitivity analysis, all the things that gladden the hearts of actuaries, but they still don't get actuaries involved. This is still run by the clinicians and the economists. The actuaries have a very hands-off approach to avoid the charge that they're only interested in the bottom line, which, of course, we are because we're actuaries. So they're still short on business decisions, and they're still struggling with ways in which to translate the data that they get into real business decisions.

So what could actuaries do? I think all the skills we have are crying out to be used in this arena. One of the things that we do know how to do is look at business costs and business risks. We have to use modeling techniques—both complicated ones and very simple ones. These are all things that need to be used in this area. As Kyle said, we don't really know whether the benefits of some drugs outweigh the costs, because nobody's really done the modeling in a way that we as actuaries

understand. We need to look at the cost of preventative testing, and we need some general models of the big-ticket diseases—things like diabetes and asthma. I was actually involved in a project for the French government in which we were looking at the cost of preventative testing for diabetes. We were looking at what would happen if we went out into the population and tested everybody that we think should be tested for diabetes, because, in France, the underreporting of diabetes is far greater than it is here, and it is a growing problem, and so we built a large model that said, okay, what are the costs of going out testing all these people, administering drugs, and what are the benefits down the road? What are the benefits after 5, 10, 15, or 20 years—and are they worth it? Then, of course, you have to translate it into real government action, which is always a bit more complicated.

One idea that I'm going to throw out to you here for the U.S. is actuarial certification. Should we be trying to satisfy the models that are out there by economists? Should we be trying to set up our own models? Should we be bringing some basic standards to the modeling that are going on to help the decision-making process?

Some of the basic standards brought to the process are approval of methodologies, appropriateness of assumptions, and classification of risks. None of these are new things, but they are not being applied in this area.

I have some conclusions for you. Formularies have had limited success. I don't think anybody would argue with that or maybe you would. We are making some movements in the right direction. We are trying to do proper cost-benefit. We are trying to make rational decisions, but we still have a long way to go. There are many opportunities for actuaries to get involved here, and they are not being met at the moment. There are no actuaries involved in the NICE process. I suspect most of the people on the NICE committee have not even heard of the word actuary, and I suspect the same is happening over here. Actuaries should be knocking on the door of the pharmacy and therapeutics committee to say, "We can help here."

And, finally, this is a general point, don't forget communication. No matter how clever we are, how many models we come up with, unless we communicate those to the doctors and finally to the consumers, we are not going to get anywhere with cost containment.

MR. DOLSKY: David Axene is our next speaker. David is going to review a number of the things that have been used in their success to manage cost and also give us some new ideas for that.

MR. DAVID V. AXENE: When Kevin first contacted me to ask to work on this particular panel, I happened to be working with a couple of clients who were really struggling with this issue, and I was wondering what I would be able to add because it didn't seem we were able to solve the problems that the clients were

being faced with. All I could think about was trying to get back to the basics and, lo and behold, that's what I decided to talk about today.

I don't know if you follow sports, but you often hear a successful basketball coach telling his or her players, "Let's get back to basics; make sure we understand the basics of what we're doing." If you look at businesses in search of excellence, oftentimes businesses will say, "Let's get back to the basics," and I think that we have to get back to the basics of pharmacy management to understand why it hasn't worked.

BACKGROUND

At the risk of repetition, let's go over some background issues. Pharmacy costs continue to outpace trends and other health costs, both utilization and cost. I don't know how big your drug trends are, but I saw my highest drug trend last week—87 percent, a 300,000-member HMO with 87 percent pharmacy trends, utilization and cost combined, working with a major pharmacy benefit manager (PBM) at the same time. You may not be experiencing 80 percent, but if you're experiencing more than 15 or 20, don't be surprised.

The significant new product introductions continue. You just have to open up a newspaper or a magazine to see that. I was working with a large pharmacy producer who specializes in exotic drugs and they are introducing two this month. Because of that, they had to cancel all of the meetings we were going to have because they had every available person hitting every available media to make sure that their drug is well announced.

The direct-to-consumer marketing campaigns have already been discussed, so I won't spend any time on that. You all know about everything because you see it in the newspaper, probably. A consumer-sensitive market creates additional uncertainties. I mean that the consumerist movement has told everybody that you're entitled to everything that you want when you want it, and a patient's bill of rights is going to help you achieve that. Most health plans and carriers are very concerned about their profitability. My 87 percent friend is about to go bankrupt as a result of drugs.

BENEFIT DESIGN CHANGES

So what's been tried already? Let's make sure that we're all on the same historical page. Benefit design changes. We've done the old cost shift; we've increased co-pays. We've even introduced dual-tier and triple-tier and I even saw a quadruple-tier program recently where people are defining new co-pays to just try to transfer the cost away from the health plan to the patient. If you go back to the early to mid-1960s, maybe the early 1970s, we tried that on medical, it was called cost containment. We tried to raise deductibles, and we found out that that didn't work real well. Take a hint: It probably isn't going to work real well. Some of you have even been brave and put a few maximum limits on drugs. Well, that's probably not going to work real well either, because there's an affordability issue with a patient's

bill of rights coming around the pike. Benefit design changes are probably limited in their ability to do any good, as has been widely demonstrated by most of the companies we represent.

FORMULARY APPLICATIONS

Formularies. Joanne talked about formulary applications. We've had closed formularies. Those were formularies where if the drug wasn't on the list, you didn't get it reimbursed. We had diagnostic-specific formularies for every diagnostic category and then we also have therapeutically equivalent formulas for diagnostic-specific situations; they list all the drugs that are therapeutically equivalent. It's a more sophisticated type of formulary. Those have been tried and many of them are failing, though many of them are actually succeeding a little bit.

PHARMACY DISPENSING FEE AND COSTS OF GOODS NEGOTIATIONS

If I hear a client say one more time, "I got great pharmacy contracts because I got 85 percent of average wholesale price (AWP), plus a buck or two bucks or whatever," I think I'll croak. Who knows what AWP is? I don't know if you're aware of it, but AWP really doesn't say a whole lot about the cost of a generic drug. With the pharmacy people helping build some of the AWP books, what do you really have there? I really don't know. There are some pharmacy networks that are promoting themselves, yet I'm not sure I'm seeing significant savings.

PBMs AND REBATES

Most PBMs are owned by the drug company and have programs to use their drug, especially their high-margin drugs, and they get a rebate. This program that had the 87 percent trends had a PMPM for their under-age 65 population in excess of $35 PMPM with a product 50 percent pay on the drug cost, with an $0.87 rebate from their PBM. I'm really thankful for that $0.87, by the way.

PROVIDER INCENTIVES

A lot of the risk pools have probably been put out of business because of the Stark legislation, so what has been tried hasn't been really working that well.

PHYSICIAN COMMUNICATION PROGRAMS

Physician communication programs are in place to help them better understand the cost of drugs. This is one that we have really undertried; we have really not gotten the programs where they could be. I think that the drug communication if it has done one thing, it has probably helped the physicians to understand how expensive the drugs are. Dealing with an anecdote involving myself, just one person and how little my doctor understood the cost of drugs, I helped him understand the cost of a specific drug, and he was surprised. No one had ever showed him that material before. I asked, "Doesn't your risk pool through your HMO that I'm a subscriber of, don't they send you things to see the cost of the issues?" He said, "Yes, but I don't understand the report." So even the communications programs have been ineffective.

EXCLUDE DRUGS/SIGNIFICANTLY CUT BENEFITS
Some people have chosen to exclude drugs completely and significantly cut benefits. Some of the Medicare Risk contracts and Medicare + Choice chose to do that early on, but even there they had to add something.

Now that I've imparted all the encouraging news, what should we do now? I really think that there is something that we can do, and I hope that some of what I'm about to say will make sense. It's filled with some good news, and it's filled with a bit of alarming news also.

BROAD, MULTI-INITIATIVE APPROACH
Since no single approach works, I'm convinced we have to do a multi-initiative approach. I'm afraid we're going to have to hit it from all angles. We need to impact all drivers of utilization and cost, not just a few. It isn't just a utilization or cost issue, it's a much more complicated issue, one requiring clinical/ pharmacist input. We (today's speakers) did have, I think, one preparatory phone call, but I can't believe how similar we are in what we're saying. The issue of getting the clinical perspective is real important. After all, it's the doctors who issue the drugs. They're the ones who prescribe them.

PROVIDER FOCUS
Providers need current evidence-based input on what drug works best for a given problem, and if there are several with comparable effectiveness, which are the most cost effective? In other words, if you have 10 drugs and they're all similarly effective, why don't you pick the cheap one? This particular approach has been tried by various organizations. It's a form of a therapeutic formulary that basically ranks the drugs by cost. It's a very simple approach. If you communicate to the doctors and give them a sheet where the drugs rank, it's a very obvious way that they can become informed from the beginning.

The doctors also need more information on what drugs the patient is already taking that might complicate the recovery process. I don't know if you've listened very carefully to the ads on TV about the drugs and towards the end they list all the things that scare you so you'll never take the drug that they just advertised. Frankly, I have no idea if any patient could ever know if they were taking those other ones because they have a hard time understanding what drugs they're taking already.

Providers need much less direct marketing from the drug companies. I used to live in Seattle and Group Health Cooperative is a large HMO in Seattle covering a good portion of the population. The doctors are actually employees of the health plan. About 10 or 12 years ago, they stopped the drug reps from coming to talk to the doctors, and it was very interesting; they found that their utilization went down shortly after they did that.

HEALTH PLAN/PAYER FOCUS
In addition, we need to focus on the health plans and the payers. Payers need more current information as to what is a fair price of a prescribed drug and how that drug could and should be used. There isn't very good information on what the appropriate price should be for a drug. Yes, there are the charge prices, but there isn't really good information of what a fair price is other than what the drug companies are trying to promote.

They need better information on therapeutic effectiveness. It's basically a hit-and-miss methodology to ask a medical management department or a chief medical officer of a health plan what they use to determine whether or not they should do this. They need to be able to update and redesign their benefit plans to keep pace with an ever-changing marketplace. The patients' bill of rights is going to cause some interesting changes in the way that people get things; the right to access. I think that understanding that is going to help health plans to better do this, but the health plan needs more current information.

PATIENT FOCUS
We patients also need some information. As a patient, I know I would like to have information to make sure that I'm getting the right drug. Patients need improved access to understandable information. I don't understand half of what I read. With all the warnings at the back end, does this one have fewer problems than that one? How do I know what's the right one? Who can help me? I would love an advocate. I would like somebody who can provide unbiased information about that. I don't trust the drug companies; I often don't trust my doctor; I often don't trust the health plan; I usually don't trust the government; I don't know who to trust when it comes down to this issue, but when my health or my family's health is depending upon somebody giving me good information, who am I going to trust? I don't want to risk my family's health on some incompetent guy who's trying to sell a drug.

Patients need to assure access while maintaining the appropriate cost barriers to minimize overuse.

PRESCRIPTION DRUG COMPANY FOCUS
Let's not forget about the drug companies. I think we need to have a focus on the drug companies to be sure that they're motivated to develop the new drugs. Yes, I am very thankful that they are developing drugs that I might need someday, but I also think that there's an appropriate cost to society that we can pay or may want to pay. Since September 11, we've had a few other things on our mind and now we have a Cipro epidemic going on in our country where most health plans aren't even seeing the costs of what's happening. I know in our neighborhood there are doctors going house to house handing out prescriptions so that you can go down and buy your Cipro because they say, "Don't turn it in to the health plan; just go buy it because you're going to need it down the road." I don't know if they're getting a commission off of that or not. I think they're just trying to help us, but just wait until some of those bills start showing up to the health plans.

We need enhanced value propositions. Actuaries should be a part of the standard development process, and collaboration with payers to better understand the episodic management process would be beneficial to all.

EPISODIC PLANNING MODEL

So what should we do? This is where I really want to tell you what I think is important. It's a merger of disease management and pharmacoeconomics. There's an interesting article in the October issue of *The Acutary* on it. A couple of us tried to do this for both medical devices, and we found out that other people are patenting that information, so that even if we use the techniques that we were using as actuaries, we might not be able to do it without paying a royalty to the person at the University of Texas who is patenting the process.

Some of these are new actuarial methods, but we have to be careful to take care of those and make sure that we have the capability to do that. Just in the past month and a half, two drug companies have come to me as a result of that paper and have asked me, "Will you help us do something that people will believe?" So there's encouragement that some people want to learn how to do that kind of analysis because everybody, even within the pharmacy business, is starting to see that maybe it's not as good as they had thought it would be.

We need an evaluation tool to help determine the appropriateness of various treatment protocols. In other words, what drug should be used? This provides an excellent opportunity for collaboration between actuaries, pharmacists, pharmaceutical companies, and payers. I don't know if people will. I think that there's a tremendous opportunity to do that, but let me share with you in closing a couple of the things that alarmed me.

I'm sure most of you have heard of disease management programs. I think that a well-run disease management program saves money, but did you know that a well-run disease management program drives up drug costs? The most common disease management programs show that there's a noncompliance problem of patients exiting the hospital to take the drugs that they were prescribed. Sixty-five percent of the drugs that were prescribed for certain diagnoses are never taken by the patient. The disease management program is going to eliminate that problem. It says there's going to be a tremendous uptick in utilization as people start to take the drugs. By focusing just on the pharmacy utilization, you're going to miss something, or by focusing on the disease management program, you might miss something.

Somebody also mentioned medical errors. How many people remember how many deaths were caused by the tires on the Ford Explorer? Initially there were 14 deaths. Now more deaths have been found, but it all started with 14 deaths. There are 7,000 deaths a year from pharmacy inappropriateness and errors. There are over 200,000 deaths through medical errors period, yet there are 7,000 just from

drugs. What we have here is something that is a political football or hot potato that's about to be passed around the industry, and we as actuaries need to find a way to do alleviate that.

One of my favorite economists, Dick Doyle, is also a physician and he has said that medical management is the introduction of common-sense business practice into medicine. Well, pharmacy management is the introduction of common-sense business practice into the practice of medicine also, and I think that there's a lot that needs to be done. The question is, who will take the next step? I don't know whether it will be you as a consultant, you as a health plan, or you as a pharmacist—but something has to be done. I don't think we can afford our 87 percent trends any longer.

MR. ROBERT C. MAGUIRE: Can you say something about what's being done on the political action or legislative fronts? For example, the direct advertising to consumers used to be forbidden. Then, I believe the pharmaceutical manufacturers' lobby got that to be allowed again. Is there anything working in the other direction? Is there anyone working to get patent law overhaul or Canadian-style price controls?

MR. VANCE-BRYAN: I can make a couple of comments on that. Many of you may be aware that a health plan, I believe, in the western part of the United States recently went to the FDA and asked to have the nonsedating antihistamines by legislative authority be moved to an over-the-counter status, and that is still under consideration. I understand that historically it's unclear whether the FDA has that prerogative or not. I think at least the people that I know that are legal experts in this area think there's a 50/50 chance of that happening any time soon. One of the things that we didn't talk about today is the fact that we tremendously underutilize generic medications in the United States—in fact, worldwide. There are a lot of reasons for that, and one of the most important reasons is it is obvious that the pharmaceutical industry does everything it can to preserve its patent life including making it difficult for the generic companies out there to survive. Quite a bit of activity has occurred at the legislative level within the last six months, primarily on a national level, but also at some state levels to try from a citizens' perspective to do something about the pharmaceutical industry effectiveness at blunting access to products that should be patented in a more timely fashion. An example of that would be Prilosec. Prilosec was supposed to already have gone generic and the company has successfully blocked the generic versions coming into the marketplace.

I guess the other thing that I would comment on is that relative to driving appropriate use of pharmaceuticals, meaning the kind of consultation that my colleague here was talking about and that I alluded to, there are some Health Insurance Portability and Accountability Act of 1996 (HIPAA) issues and some patient confidentiality issues that may make it difficult to intervene in terms of trying to let physicians have information that could be helpful from a safety

perspective. Let's say that a pharmaceutical is recalled from the market for some safety reason. An example would be Baycol. Most physicians do not have online access to those to whom they have prescribed Baycol. As a pharmacy benefit management company, we certainly can link the prescribing of Baycol to the physician and back to the member and can provide that information as a safety component allowing the patient to contact the physician and do something about the Baycol. As it currently stands, and I think there are some discussions about that, HIPAA would prevent a PBM or any health plan from providing that information to a physician unless the patient volunteered up front to allow that. Clearly, I think it's a big problem from a clinical perspective, and I think there is a lot of stuff going on and it would just be specific to the particular issue you wanted to address.

MR. DAVID J. BAHN: One of the concerns that I have as the three of you were basically describing very sound, very appropriate clinical-medical programs, disease management, pharmacy management, etcetera, in the very good sense of the word, is the concern as a health plan from our own standpoints—it is a concern that has been voiced with all of the preventive programs over the years. For example, Dave, you said that if we put in a good pharmacy program, as you describe it, disease management and pharmacy costs are going to increase and hospital costs are going to decrease. We put that in. We have the high pharmacy costs, the employee or spouse changes jobs and my competitor down the street gets the lower part of the lower hospital cost while I had to eat, if you will, the higher pharmacy costs. This is not to say we shouldn't do it. It's just a difficulty and an item of concern that needs to be managed as we convert overall to sound pharmacy benefit programs.

MR. VANCE-BRYAN: No, I understand what you're talking about, but hopefully some of the other guys' customers will come see you, too, to make up for that, but maybe it will be a wash, but still what is best for society? I think that the best quality care is the most cost effective care, but, yes, there's going to be market fluxes unless we do something like the Canadian system where there's one payer.

MR. HOWARD CONWELL MAYBERRY: I just have a quick question on one of the drivers that you have for trend. It seems to me that if you reduce the clinical study time that it would reduce the cost of drugs over a period of two or three years, and I just don't quite understand why you have that as an increase for drug costs.

MR. VANCE-BRYAN: You're correct that from the pharmaceutical industry perspective, the faster you can get the product to the marketplace, it should decrease the cost and decrease the time for that company to recoup its investment cost. The reason that potentially drives up drug spend from the health plan or payer perspective is that either it's a product that is only incrementally or marginally safer or more effective than products that are already available. For example, if you look at products in the hyperlipidemia area, we started out very early on with products like Lescol, which were effective at lowering lipid levels by on average 20 percent,

and now we have Lipitor that's been on the market for a few years that is effective at lowering lipid levels by 50 percent. Then we have a product that's going to come to the marketplace next year called Crestor, that lowers lipid levels by 65 percent. Those are all statins, and they just get incrementally better in terms of being slightly more effective as time goes by or more safe, but incrementally they're also more and more expensive, and the point is that from the payer's perspective, you pay more even though there are lower cost drugs that could in some cases do the same job. Not everybody needs a 50 percent reduction in lipid levels. A lot of people just need a 20 or 25 percent reduction.

MR. AXENE: Plus, there's the other issue that the manufacturing cost of the drug has nothing to do with the price they charge.

MR. DOLSKY: I also think, with reference to the fast track of drugs and the FDA approval process, that reference generally has not been to the price of the prescription, but rather been to the impact on PMPM cost of more drugs getting approved. In 1999, for example, more drugs got approval, more become covered under the plans and it generated inflation in that way and that's generally the way the fast track is measured as an impact.

MR. DANIEL R. PLANTE: In light of the events of September 11, we've heard that there is a general increase in depression in America and I'm assuming accompanying that are increases in prescriptions written for SSRIs and now with the issue of Anthrax and Bayer working 24 hours a day producing more Cipro, I'm guessing there will be increases in prescriptions for Cipro. To what extent do you believe those two drug classes are going to increase a client's drug costs over the course of the next 12 months?

MR. VANCE-BRYAN: That's a very good and timely question. I can only tell you that we have been carefully monitoring claims for antibiotics, particularly Cipro. We've also been monitoring claims for doxycycline and penicillin, which many of you may know, at least so far, is equally effective as Cipro against the strain of Anthrax that's been problematic. We're primarily seeing significant bumps in Cipro prescriptions, but our health plans are mainly in the Midwest and we don't see a significant enough increase that we think it's going to have any major impact. The depression question, we are not specifically addressing that. We may begin to do that within the next few weeks, so I couldn't tell you the impact of that. I guess I would tell you that I would be surprised that it would be dramatic in terms of an impact. It may turn out that that's the case if this problem continues to spread and evolve as it appears to be doing.

MR. AXENE: I probably take a more pessimistic perspective than our pharmacist colleague. Early results I see is that there has been a definite bump in September, even for half a month in September, and early October, so I think it's going to be a meaningful thing, and I don't think it's going to go away. I'm fairly pessimistic

about it. I do think it's regional. I think that it probably decreases the further you are from New York City.

MS. ALDER: I think I would agree with Dave. Not being from New York myself, I haven't seen any data yet, but I have seen reports that say that prescriptions for antidepressants are on the rise. I've seen some incredible statistics that say that 1.5 million people in New York City are expected to need some kind of counseling. Even if you take a small portion of that and say that some of those are going to go on to use antidepressants, then that's still a very large increase in the number of antidepressants. How long that will go on is anybody's guess and, of course, is going to be much related to whether or not there are any more incidents.

MR. AXENE: I was going to add one other thing. With the economic impact as a result of September 11 (layoffs and the sluggish economy) I think that there are some domino effects here that we too often would ignore in an economic depression. There is a tendency for overconsumption, and I think that's a part of it that will be real easy to ignore if you don't look at the economic fallout of it. At the end of October, close to a third of United Airlines employees are no longer going to be employed. We're dealing with about 50,000 or 60,000 people right there, and that's just one business. If you take a look at the occupancy rates of resorts, the occupancy rates in hotels, you'll see that we have encountered something that unfortunately could be as significant as 1929.

MR. DOLSKY: I would add one thing. Since the retail survey came out around 10 days ago, and this hasn't been quantified yet, on the antidepressants and anxiety drugs subsequent to September 11if you believe what the clinical people say about how much impact the anxiety and depression issues have on all kinds of other medical care expenses, the advice that I provide my clients is that I suspect that not only pharmacy trends should increase, but if you look to the last quarter of this year and into next year, you're probably going to have a lower single-digit increase in trend resulting in overall health plan costs.

MR. BRIAN WEIBLE: David, I like your comment about the AWP schedule and equate that to what HMOs or PPOs paid years ago as far as the discount of unpaid claims reserves for medical services always being a moving target, and that's been replaced to a large extent by the resource based relative value schedule , which is a little more defined. Do you know of any other alternative payment schedules or who would be best suited to develop an alternative data unearned premium? Also, to Joanne, do they pay AWP in the U.K. or how do they reimburse?

MS. ALDER: In the U.K. it's extremely complicated, but the way that I understand it is that the NHS negotiates a price with the drug companies and that price is purely on negotiation. There is no standard reimbursement. I'm not sure whether that price is determined nationally or whether it's determined at the health authority level. I would guess that it is determined nationally for large-ticket items.

MR. AXENE: I wish I knew of a solution to that. I've been trying to develop something myself that makes sense. There's a bunch of information—I think there's a Red Book and there's a Blue Book, there are two different books, but those are all published by the drug industry. I've seen some private efforts to try and do something, but I don't know of a good one. Recently a health plan tried to negotiate some costs down with a national drug chain of stores, and they found out that that pharmacy was able to buy things at 50 percent of AWP, which I thought was real interesting because some of the biggest discounts I'd heard in the health plans probably were getting down to the 80 to 85 percent of AWP. The drugstore itself was able to buy it at 50 percent. Perhaps a drugstore chain might be the best source, I don't know.

MR. WEIBLE: Has anyone heard on the Medicare issue about how they plan to possibly pay for prescription drugs, what they plan to pay? Do they plan to pay AWP minus 20?

MR. DOLSKY: I don't have an answer to that. Those are excellent questions. Regarding David's point about the pricing of pharmaceuticals, I don't think he was necessarily making a joke. The retail prices of pharmaceuticals are very unusually priced. They seem to have nothing to do with anything other than what you can get. You can look at all kinds of examples and further, the AWP doesn't have a lot to do with anything. In fact, the retail price you would pay at a pharmacy for many, if not most drugs, is lower than AWP if you just walked in there with cash and were going to pay. It really is an unusual pricing scheme. I think there's a challenge in this for actuaries in that just as William Hsiao came up with RBRVS and rationalized physician reimbursement, if there's one among us to do that for pharmacy, that is certainly something that is needed.

MR. VANCE-BRYAN: I want to come back and address the question about ciprofloxacin again . I hope everybody realizes that, to my knowledge, and this is based on watching CNN early this morning, we have 10 cases of actual Anthrax infection in the United States so far, one confirmed death, and two suspicious deaths. One of the problems with the antibiotic issue that I'm sure you all know, Anthrax is not contagious; also, taking antibiotics until you know you've been exposed is actually dangerous. Ciprofloxacin is not indicated in children, and a very serious problem in adults is that quinolones can cause or be associated with tendon ruptures, like your Achilles heel. So taking a quinolone and ciprofloxacin unless you really need it is not a good thing to do. The most important point that I want to make is that we have many people dying every day in United States hospitals because we no longer have effective antibiotics. That's the problem. If you go in for knee surgery or any kind of procedure that is done on an outpatient basis, people are developing infections that they're dying from every day in the United States and it's getting worse. Today we have streptococcal pneumonia, which is the most important infectious killer in adults with pneumonia. Twenty percent of the strains are not appropriately treated any more with penicillin and that wasn't the case just

a few years ago, and there are many other organisms that are worse than streptococcal pneumonia.

Chart 1

Pharmacy Cost Trends / Drivers

- People are using more drugs