RECORD, Volume 31, No. 2*

2005 New Orleans Health/Pension Spring Meeting
June 15–June 17, 2005

Session 67 Seminar
Financing Chronic Care Seminar: Chronic vs. Acute Care, Introduction and Macro View

Track: Health

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Summary: This session takes a fresh look at the issues related to "acute care focus" and the challenges of providing coordinated care for chronic conditions in the United States. This three-part seminar encourages a deeper exploration of this topic from a multidisciplinary perspective. Some of the issues examined include predicting the incentives of costs for an individual with a chronic disease; current obstacles that stand in the way of health-care-system improvements for chronic illnesses; the impact of the aging U.S. population on the chronic and/or expensive conditions most often included in disease management programs (e.g., heart disease, diabetes, asthma, psychiatry and chemical dependency); a comparison of health-care-cost trends between chronic and nonchronic condition members of a health plan; and the prevalence of chronic conditions within the insured population and the influence of possible confounding factors (such as catastrophic claims) on trends.

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Note: The chart(s) referred to in the text can be downloaded at:
http://handouts.soa.org/conted/cearchive/neworleans-june05/067_bk.pdf.

MR. STEVE SIEGEL: I'm one of the research actuaries with the SOA. This seminar originated with a call for papers that was issued last year, seeking authors to weigh in on the delivery and financing of chronic care. We're pleased to have such a distinguished group of authors here today, who responded with their work and views on this important topic.

The motivation for the call for papers had its roots in an effort by the SOA to study this further. I'd like to introduce our first speaker today, Dr. Joel Shalowitz. Dr. Shalowitz is a professor of health-industry management and the director of the program in health-care-industry management at Northwestern University's Kellogg School of Management. Dr. Shalowitz will provide us with international perspectives on the problems and challenges of chronic disease.

Our second speaker will be Jake Priester. Jake is coordinator at the Center on Aging at the University of Minnesota School of Public Health, responsible for managing research projects on long-term care and aging. He'll discuss the failings of the current system in regard to chronic care.

DR. JOEL SHALOWITZ: I get a lot of questions about who we are and what this thing is at Kellogg. Let me explain it. It's not a promotion or commercial, but an explanation. Many of you know the Kellogg School of Management at Northwestern is not a traditional M.B.A. program, but a school of management, where students combine functional majors, such as accounting , finance, marketing and so forth, with an industry-specific type of majors, such as health-industry management. For example, a student would graduate with majors in finance, marketing and health-industry management. It's more like a pluralistic undergraduate degree. If I were running a program like marketing, I would be called a department chair. As it is, I'm called a program director. That is who I am and what the background of the program is.

I was asked to talk about some of the costs of chronic disease from an international perspective, and this seems to be a hot recent topic. In doing some international work over the past few years, I've done a lot of other reading and gone back into the literature and in fact found that this is not a new problem. If you look back, there's a book that UCLA'S Milton Roemer, who passed away a couple of years ago, wrote called *Health Care Systems in World Perspective,* and what he said was that with the reduction of infant mortality rates, the conquest of most epidemic diseases and the increased longevity of the population, a much greater proportion of the people are inflicted with certain diseases that are chronic and require more medical care. It's expensive beyond the means of many individuals, and therefore we need public action. This was from 1976. The attention to chronic disease, its costs and public implications are not new.

The World Health Organization (WHO) though has realized that it is a current and growing problem and has come up with definitions for chronic disease. It has a new and expanded definition. It's from 2002, and what it's saying is that we can't look

at chronic disease in the traditional way as we have in the past. We look at heart disease, diabetes, cancer and asthma. These are all important, but we can't consider them in isolation. These all work together. Often people have multiple conditions simultaneously.

Chronic conditions therefore include noncommunicable diseases, of which those are a part, and persistent communicable conditions. Now people are obviously living with AIDS and HIV infections for long periods of time. There also are long-term mental disorders, and I'll return to those a little bit later because that's one of the categories of diseases that WHO is targeting. You might have seen something in the news about the national problem, about mental disorders being underdiagnosed and undertreated. Finally, there are ongoing physical and structural impairments. As we're transporting more people across vast spaces, including underdeveloped countries, transportation accidents are becoming significant. I knew somebody who was doing research on trucking accidents in Ghana, for example. These injuries are becoming prevalent. WHO estimates that by 2020, chronic conditions, including injuries and mental disorders, will be responsible for 78 percent of the global disease burden in developing countries. That's huge.

What we're seeing is the typical communicable diseases that we know in different countries, such as infectious diarrhea, which was a huge burden in 1990, becoming far less prevalent, and now we're talking about noncommunicable conditions. Mental disorders are growing also. There's a shift in the kinds of diseases that we're looking at. Obviously, you're actuaries, and you understand the challenge in computing health-care costs, particularly in these other countries.

What is it costing around the world? The chronic conditions that we typically consider in this country, such as asthma, chronic obstructive pulmonary disease (COPD) and congestive heart failure, are many of the same chronic diseases that exist around the world and are a huge burden on different countries. For example, one country that you're probably not going to study, for whatever reason, is Estonia. In Estonia, asthma accounts for 1.4 percent of direct health-care cost, most of which, by the way, is pharmaceuticals. Diabetes is prevalent in Taiwan, as are HIV and AIDS in India. We had a recent conference at Kellogg on this subject. Yes, we are a socially responsible business school. It's not an oxymoron. HIV and AIDS in India are huge. It's not just in sub-Saharan Africa. We talk about hypertension in the United States, and you know what a huge burden of illness that is as a chronic condition.

One of the issues is that this is what exists. This is the current burden of disease of chronic conditions in the world and different parts of the globe. Last year, I was living in Toronto. I was fortunate enough to get a Fulbright scholarship at York University, and I gave a grand rounds at a couple of places. One was St. Michael's Hospital, and at the end, you obviously ask for questions. One of the residents said, "Pharmaceuticals are costing a lot. What if we just didn't have any new pharmaceuticals? What if we just said 'No more new pharmaceuticals?' What would

happen?" Who says that, particularly a resident? I think he was an oncology fellow, which is even more radical. I was thinking about that and came up with the following data.

The point that I want to get across is that even with the current burden of chronic disease in this country and other countries, we're not treating everybody who needs to be treated. For example, this statistic is from not more than a month ago: two out of three Americans with Type 2 diabetes weren't in control of their blood sugar. You do the math. What if we treated everybody and got to 75 percent compliance? What would that do to the cost of pharmaceuticals for diabetes? That's just diabetes. What about heart disease? Cholesterol-lowering drugs can help people, and only 50 percent of high-risk patients who visit doctors receive statins. I take these from newspapers, but there's tons of this stuff in the literature. Let's say that we treated everybody appropriately with statins, to 75 percent. Let's not even say we're going to be really good. If we're only at 50 percent, we're talking about a 50 percent increase to 75 percent of the use of statins.

This is more recent. This is from last week or so in the *Wall Street Journal.* We're not treating people with mental illness appropriately. What if we were? What would be the effect on health-care costs?

This is probably because my wife is a pediatrician, so I can't forget kids, otherwise I can't go home. Let's not forget that when we talk about chronic diseases, we're not just talking about things people develop at older ages. We're also talking about treating kids successfully for all kinds of disease, including genetic diseases and deformities from which they formerly died. They are living longer, and they are living with chronic disease. In response to this, MetLife and Merrill Lynch have online calculators where parents can calculate the long-term health-care costs for their kids. This was just in the paper the other day. We're not just dealing with older or middle-aged people when we talk about chronic disease. We're also talking about kids.

Why are chronic diseases increasing? I showed you that the burden is increasing, and it's not just relative to the decrease in infectious diseases that we know. Why are they increasing? Again, WHO has looked at the demographics, and it's a couple of things.

Throughout the world, birth rates are declining, life expectancies are increasing, and populations are aging. For example, in the 1950s, the expected number of children a woman would bear over her lifetime was six; today, the total fertility rate has declined to three. Life expectancies have increased over time, and developing countries are obviously becoming more developed. We're dealing with not only an aging population, as everybody knows, but the kids are not there replacing the elderly. The birth rates have gone down a lot. What are some of the major chronic conditions affecting people all over the world? You know about cardiovascular disease, hypertension, stroke, diabetes, cancer, COPD and musculoskeletal

conditions. As I said, mental illness is something that WHO has particularly targeted for attention because it thinks it's underdiagnosed and undertreated globally, and blindness and visual impairments also are included.

When you're talking about chronic disease, the comment I made about children notwithstanding, you're also talking about the effects of an aging population. You can't talk about dealing with chronic disease without looking at some aging statistics and how that's affecting the demographics of chronic disease. Aging, according to another WHO publication, can be defined as a progressive, generalized impairment of function, resulting in a loss of adaptive response to stress and in a growing risk of age-associated disease. It's like a slow decline. We are all aging. George Bernard Shaw said, "Do not try to live forever. You will not succeed," although, in California, people probably don't take that to heart. Somebody once said that dying there is optional.

When we talk about aging, how old is old? That's a fair question, not only in general because people want to know, but for research purposes. Where do you do the research and cut off the line? Strangely enough, there is no consensus. Obviously, we've done Social Security at age 65, and we've chosen that. From a research perspective, WHO, realizing that there are problems, classifies older as starting as age 60. However, the Organisation for Economic Co-Operation and Development (OECD) bumps it up to 65, giving us another five years. Understand when I start to present some other data on aging that there are different definitions, only by five years, but when you do the research, you have to be careful about how aging is defined. Depending on where you are, 70 is now the new 50. We're all getting a little bit younger.

Where are the people aging? I don't want to convey any prejudice, but in Italy, the large Italian families went out a long time ago. Italy for a number of years has had one of the lowest birth rates in the world. Japan, for the past 10 to 15 years, has had the most rapidly aging population of any developed country in the world. In fact, these are the countries that had more than 10 million inhabitants in 2002 that will have the highest proportion of persons above age 60 by 2025: Japan, Italy, Germany, Greece, Spain, Belgium, United Kingdom, Netherlands, France and Canada. The United States, interestingly, is not there. But I want you to remember this when we're looking at demographics because we're talking about financing chronic care. Where's the money going to come from?

What are some important trends in population aging that influence our look at chronic disease? First, population aging is two things: Not enough kids are being born, and people are living longer. We have to look at both of those. Second is that the fertility rates are decreasing, and longevity is increasing. That's the cause. Here are some great statistics. By 2025, 120 countries will have reached a fertility rate below replacement level (2.1 children per woman). Currently 70 countries are at this level. It's interesting for me because I remember one of the essays I wrote when I was in high school to get into college, which was on what the biggest

problem was. Do you remember Paul Erlich, who wrote *The Population Bomb*? I wrote my essay on the problems of population, and Malthus scared the heck out of me. I walked on his grave in Westminster Cathedral because I got angry. I thought the population was terrible. I don't know why I blamed him. Things have changed in the world. We had this population explosion because a lot of people were being born, and now the replacement age is going down. Over half of the world's older population lives in Asia, and I'll show you some statistics in a minute.

The fastest-growing segment worldwide is over 80. In the United States, it's over 85, and in some other countries, such as Japan, it's also over 85. Again, how old is "older older?" It's either 80 or 85, just as we talked about either 60 or 65.

Aging is basically a disease of women because men don't live long enough to age that much. When we talk about nursing homes, for example, we talk about taking care of elderly women. Over age 80, there are fewer than six men for every 10 women. In developed countries, it can be less than half. In Brazil and South Africa, women are about two-thirds of the population over 75. We have to realize that this is a condition of women, and therefore we have to gear our health-care services appropriately and then calculate the cost based on the diseases that are going to particularly affect women at those ages.

Of all the things that I say, if you want to walk out now, remember this sentence: "While developed countries grew affluent before they became old, developing countries are getting old before a substantial increase in wealth occurs." Think about that because it has huge implications internationally. Where are the developing countries going to get the money? We have a cushion. From the time I was in college, I've heard when the Medicare Part A trust fund was going broke. I thought, "I'm not even going to get out of college, and it's going to go broke" and then medical school and then residency and graduate school, and now I'm convinced by the time I need it, it's not going to be there, but they keep doing things. I think we're running out of things to do. We, the world, don't have the same cushion when we're looking at developing countries. They have grown old before they've gathered the wealth. That's going to be a huge problem in financing chronic care. Where's the money going to come from?

Important general social issues and trends in other countries with respect to chronic disease and aging are urbanization, migration of young to cities, smaller families, more women in the work force and the increased trend for the elderly to live alone. What do these have to do with aging and long-term care? Remember where the aged are now? They're in Asia. Asia is a collectivist society, where people tended to live in nuclear families for long periods of time, in the home. They take care of the elderly, particularly the mother obviously. Young people are going to the big cities now. You just have to pick up the *New York Times* and *Wall Street Journal* to see these tales of younger people going from rural areas in China to the big city to earn a living and go back. This is typical of developing countries. They're leaving the nuclear family.

Who is going to take care of the older people if the younger people have to go outside of their geographic area to earn a living to bring the money back? This is a huge trend nationally. There's a big gap. In developed countries such as Japan, the trend was not quite that, but women are entering the work force in increasing numbers. They're not staying home to take care of the elderly parents, as they once were. I told students about 15 years ago, "If you want a great opportunity, set up nursing homes in Japan." It's a huge business now.

Japan's external trade organization, in Canada, is looking at some joint ventures of western organizations setting up long-term-care facilities in Japan. You have to look at the demographics. They're there. All these things are changing. The other thing about women in the work force, and it's in this country, too, is there are huge inequalities. Look at our marginal tax rate. The fact is that it's often the woman who is the second wage earner, and the second wage earner is taxed at the higher marginal tax rate of a joint return, and the question is whether it's worth it to go to work for the marginal amount of money that you're earning after this higher margin of taxes.

To foster more ability of women to return to the work force and work productively, we have to look at things like marginal tax rates to be able to encourage women to work productively, but also to have couples be able to afford care if they want to return to the work force.

Shalowitz page 8, Slide 2 gives you a quick idea of where people are, the distribution of the population by age 60 now and then, and it's growing in Asia proportionately and shrinking in Europe. The other side of this is where's the money going to come from? Remember what I said about people aging? We're wealthy in our country before we age, but there they're aging before they become wealthy.

One of the problems in Europe that was set up after World War II was that people typically work fewer hours than in the United States. They retire at much earlier ages than in the United States. This was done for a particular reason, and that was after World War II you had a huge growth in the birth rate of young people, so those people needed to take over jobs as people rolled over, but you had to retire older people for younger people to enter the work force. This was part of the whole social structure, and that's why Europe has this low rate, and North America is somewhere in the middle. In Africa, people have to work pretty hard, and I'll show you some data on that in a second.

When we deal with chronic disease, we're also talking about long-term care. I know this is a separate kind of session that you do when you do long-term care, but you can't talk about dealing with chronic disease and the cost without talking about long-term care, just as you can't do it without talking about aging. I want to take a brief detour to long-term care but tie it in also to chronic care.
Again, WHO has its own definition for long-term care. It's both formal and informal

activity, and the activity is both by informal caregivers and professionals. It takes place either in institutional settings or in the home. I want to go through those couple of settings. You know what activities of daily living (ADLs) and instrumental activities of daily living (IADLs) are. This is not to refresh your memory but just to remind me to point out that from internationals' perspectives, they use these features, too. They use ADLs and IADLs in determining functionality on an international scale. It's not just something that we use in this country.

Remember that definition for aging? We are talking about a natural decrement in function, but if something happens where individuals deteriorate more quickly, we're talking about this difference between the natural decrement in function and an abnormal decrement and what happens when you cross the disability threshold and somebody needs to take care of the patient.

What are some problems that we have internationally dealing with chronic care? First is the failure to empower patients. We hear all kinds of consumerism and that we don't empower patients, but this has an important effect on the cost-effectiveness of care. If we empower patients, and they are part of the process, care costs less, and it's more effective. The second is that we don't ask patients what they want: Do you want us to do this dangerous procedure, or don't you want it?

Some of you are familiar with the old studies that Jack Wenberg at Dartmouth did on patients with prostate problems. They said, "We can do this prostate operation, and you're not going to get up to urinate. However, you might become incontinent and impotent, and all kinds of other stuff. Here are the risks. Do you want to have the prostate operation?" Guess what? A lot of people said, "I'll get up once or twice a night. It's okay. It's fine. I'd rather preserve the other stuff." This has to do with end-of-life treatment, cancer treatment and so forth. What do people want out of their health-care system? We often don't ask them.

Another problem is the failure to change from an acute-care model to one of integrated care along the service and time continuum. Pretty much every health-care system in the world is set up as an acute-care system centered largely on hospitals. I know that there are other examples, and it's a bit of an overstatement, but if you think about it, about 30 years ago, there was a WHO conference in Alma Alta, which, those in public health know, was a landmark event, looking at primary health care. There have been articles published recently that we just don't have primary health care in the world. It's still basically a high-tech, acute-care kind of problem, with fragmented systems in different countries.

If you look at studies that are done on health systems in different countries, the No. 1 consistent complaint among people is that they are dissatisfied with the continuity of care. This is across countries. This is not just in the United States, where obviously we have this problem. We have to change the way that we deliver the care.

Failure to address prevention is a problem. We talked a lot about this at this general conference. Another problem is the failure to implement adequate information systems. Again, we're talking about computerized physician records, physician order entry systems and all kinds of high-tech stuff. Do you know what? In developing countries, they don't have this. I'm not talking necessarily only about high-tech stuff, but low-tech stuff. In developing countries, they develop things like patient registries for people who have had tuberculosis and have had the one-shot treatment, and who they are, where they are, what village they came from and how often they need follow up. You can keep a book. Before we had computers, we had books. Remember those little things that you open up?

There's a failure to align financial incentives across the continuum of care and reward health care and not episodic treatment. Chronic care is about rewarding whole episodes of care across the continuum. We still reward physicians in parts of the health-care system largely for just doing their part and their part only —not looking at the whole continuum of services. It's a novel idea that we should pay doctors for keeping people well instead of treating them when they get sick. But that's too radical.

There's a failure to assure sustainability of programs. What's happened internationally is that there are some well-meaning foundations and groups that buzz into a country and say, "We're going to do good," and they may put in an immunization program or treatment program and say, "We're out of here. We did our good," and there is no sustainability. There's no follow-up; there are no sustainable information systems for recall. There are no nurse practitioners, for example, in place that can do follow-up and population monitoring. They just come in and do their thing, and they're gone. Sustainability from a chronic disease standpoint internationally is a huge problem.

These data show that the stuff works. Substantial evidence from over 400 studies shows that counseling, education, information, feedback and supporting patients and asking them their opinions works, and including patients in treatment and planning makes the delivery of care for chronic conditions more effective and more efficient. That's for our U.K. person. It's from the *British Medical Journal*.

There are quality-of-care concerns in regulatory responses with institutional care. We have this in the United States, but it exists elsewhere—for example, the use of pharmacologic and physical restraints; pressure ulcers; dementia care, which can be inappropriate or insufficient; lack of privacy and basic patient rights; high staff turnover; and a shortage of qualified people. Over my career I've practiced a lot, taking care of nursing home patients. My background is in internal medicine. I've taken care of a lot of nursing home patients, and you see the quality or lack of quality and skill base for people who are taking care of people in the nursing home, and one of the reasons is that not only is there a shortage, but they're underpaid.

What have some countries done? Australia has looked at reaccreditation, and there are new and higher standards in Austria. There are quality regulations in Germany, national regulator care standards in the United Kingdom and quality findings in Australia and the United States. But the one that I want to highlight briefly is what's happening in Sweden. In Sweden, they said, "These people are underpaid. They're important. We have to institute a training program for them. These are the caregivers in chronic-care institutional settings. We have to pay them more. We're going to raise the rates and increase the pay." That's exactly what they've done. It's a little too soon to see what the outcome is, but they've made a decision as a country that this is a recognized problem. They need to ramp up the teaching and the quality of the people, and they need to pay them more.

On the other hand, it's nice to say that we can increase institutional effectiveness and so forth, but you have to have the places to take care of people long term. There are widespread institutional shortages in countries like Japan and Spain. I mentioned Japan before. There are localized shortages in other countries. There is a growing but still inadequate supply yet in Germany and Japan, stable in some countries, declining in other countries.

Regarding home care issues, they're not in an institution. How do we take care of people with chronic disease at home? Most people prefer to be taken care of at home rather than in some type of institution, but there's often a lack of consumer information about what's available. You know the guilt trip from your mom, "Whatever you do, don't put me in a nursing home!" Largely, that's probably well-founded. There's a lack of consumer information, not only in the United States, but also internationally. What available services are there? No studies have been done for example in Austria and the United Kingdom.

There's limited access to services that support informal primary caregivers, for example, respite care, training and counseling. This is for not the formal, but the informal caregivers. Remember the Medicare Catastrophic Coverage Act, which was passed in 1988 and repealed in 1989? That was quick. There was talk there about funding respite care, which would have been revolutionary, but we don't have a law.

There have been recent policies for quality assessment and improvement in other countries. Considering home-based options first is mandatory. For example, in the United Kingdom, you have to look at the home-based option before you look at the institutional option. You can take targeted approaches to the disabled elderly rather than all at risk of institutionalization. This is a huge disease management question: Whom do you target? Do you target everybody at potential risk, do you do all risk management, or do you do particular case management? That's a battle that's been going on. The individual management is done more in Sweden, the United Kingdom and to a large degree in the United States. You can enable private-sector growth by increasing more funds. There's not enough time now, but I invite you to look at the experience of Germany, where they've given people more money that's a little bit

more discretionary, so people can spend it on home care if they don't want to be institutionalized. They're coming up with more money.

What are the financial issues? This is your thing, but how do you come up with financing chronic care? There are a lot of different ways, and I'm just laying out the problems. I'm the introductory lecturer for this series that's going to last all afternoon. I don't have to answer any questions. I just have to raise them, right? The academician has to know the good questions to ask, not necessarily be able to answer them.

First of all, how do you raise the money? Is it by individual contribution on some basis, or is it by general taxation? Different countries have different philosophies. If you talk to Gordon Brown, the Chancellor of the Exchequer, which is the most wonderful title in the world, he has particular opinions on how money should be raised for the national health service. What about universal, or need-based, versus means-tested? You know what that means. Different countries do this differently.

What about caregiver payments, for example, in Australia and the United Kingdom, or increased payments that can be used to compensate the caregivers as I mentioned in Germany? Is it part of the health-care system in a country, or is it part of the social welfare system? That can depend on how the whole thing is funded or how it's integrated in the particular country, but as you look at an individual country, you have to ask these questions. Where is it? How is it housed?

Rising incomes and net worth of the elderly, particularly in the developed countries, lead to increasing user responsibility for payments. A lot of the governments in the developed countries are shifting the financial responsibility to the people who are receiving the services.

There's a minor role for private insurance. Long-term-care insurance is obviously a different subject. It's important but completely different. A lot of countries are dancing around it. It's most prevalent even though not prevalent in the United States. It's probably all that I want to say about that right now.

This is a great formula. The rising number of the elderly, plus the macroeconomic downturn periodically in the world, plus no accounting for indexing of benefit rates equals unsustainable financial solvency. That's what we're seeing in Germany and Japan, for example, in their health-care systems. They're running at unsustainable rates. A lot of the deficits that are being run by EU countries, particularly, have to do with their health-care expenses, and a lot of their health-care expenses are these chronic diseases.

By 2050, to maintain a constant ratio between working and pension-aged populations would require Germany's population to consist of 80 percent immigrants or their progeny or require the average Japanese to work until age 83. That ties back to that slide I showed you of how many people are working over age

60. That's when I said I'd do this later. That's just incredible!

Suggested financial changes to Social Security benefits include eliminating early-retirement schemes, making benefits actuarially neutral (e.g., pensions reflect actual time working), raising standard retirement ages, increasing childcare subsidies, eliminating tax discrimination against female participation (due to higher marginal rate for two-worker families), enhancing the role of part-time work and offering midlife enhanced job training.

Additional mechanisms include universal payments from general taxation or social insurance plans. In Guinea-Bissau, not a country that you probably know but which is located in Western Africa, they have capitated providers to take care of patients with HIV and AIDS. Other mechanisms include the old excise taxes, particularly tobacco, and local community financing, which can pay extra premiums for the poor, implementing prevention and disease management programs, issuing bonds and soliciting charitable contributions.

The next slides are to show that public expenditures on long-term care split between institutional and home care are different. What you have to know is if you've seen one country, you've seen one country. Every country has its own system and its own culture. People as recently as this morning asked, "What do you think is the best country for health care?" There's no specific answer, but some countries have a better fit with their culture. Which country has the best cultural fit and takes care of its population and population needs? I'll leave you with that question.

There are measures to improve efficient delivery of chronic care. We talk about preadmission screening and enhanced flexibility to individualized services. You know that in the United States, Medicare has this three-day rule where patients have to be in the hospital three days during the benefit period before they're eligible for skilled nursing benefits. By the way, that's traditional Medicare. You don't have to fool with this nonsense in Medicare HMOs. You can put the patient in the most appropriate site immediately. That's one of the great things I loved about the Medicare HMOs: It gave the doctor the freedom to practice appropriate cost-effective medicine, enhancing the flexibility.

What about allowing payment for home care services as an alternative to institutionalization? Think about that. There's enhanced coordination of care, such as case management. You can support family caregivers. There's disease management, which I'll be talking about briefly but you'll hear more about later. Here's the big "however." All of these things were adopted to some degree in Japan after 2000, and some were adopted in other countries, but they're still a problem. These are absolutely, positively necessary, but they're not sufficient, or possibly they haven't been done correctly. These are some measures, but they've done a lot of these things. For example, in Japan, they've had to keep raising premiums, and that hasn't been working.

You can go to the OECD Web site at www.oecd.org/dataoecd/53/62/34897775.pdf, and there's a document called "Consumer Direction and Choice in Long-Term Care for Older Persons." It tells you what's going on in different countries.

The extent to which countries rely on formal against informal care has little relation to the extent to which public care is financed. It's all over the place. Shalowitz page 17, Slide 2 gives you an idea of how long-term care is financed in different countries, all over the place, with no particular relation to how they finance general care.

Now we'll talk about disease management. There is a Disease Management Association of America (DMAA) located in downtown Chicago and Washington, DC, and it's cosponsoring this session. This is from the Web site. If you're interested, this is the definition of disease management. It's a wonderful Web site. Disease management includes a bunch of things: population identification process; evidence-based practice guidelines; collaborative practice to include physicians and nonphysicians; patient self-management education (which I mentioned is extremely important); process and outcomes measurement, evaluation and management; and routine reporting/feedback—the whole total quality management-type process.

But disease management also exists around the world, in Australia, Germany, Singapore, the United Kingdom and South Africa. In India, there are several pharmaceutical companies that have diversified in their types of services. Some of them own hospitals, for example. Some of the disease management programs are sponsored like they are in the United States by pharmaceutical companies. One of them is Ranbaxy. The Ranbaxy Web site has articles and newsletters, one of which talks about the company's focus on integrated disease management. Other countries also are looking to disease management.

Here are two examples. One you can look at is www.patient.co.uk. That's a U.K. representative. These are examples of international disease management programs. The other comes from an article in *Health Affairs* last year, and basically what it said is when Germany opened up its health-care system from the regional-based Krankenkasse, the Sickness Funds, to one where people could choose their funds, there was this adverse selection question, and funds weren't taking people with chronic diseases because they were going to cost more. The government realized this is a problem, and what it did in 2002 was institute these disease management programs, where it was funding this risk-structured compensation category, making it more attractive. The government realized there is a risk adjustment in health care. We have to pay more for these people so that the health-care funds will pick them up. That's what it did.

Of the disease management programs abroad, one looked at the United States, Brazil, Mexico and Poland in diabetes and showed that in Poland, Mexico and Minnesota, these disease management programs were effective. If you look at

WHO, what it's talking about in summary is a concerted effort among the community, professional health-care workers and patients and families linking everybody together to produce better outcomes for these chronic conditions.

I told you a whole bunch of stuff. How do we know if they're going to succeed or not? We go way back. I showed you Milton Roemer back in 1976. Odin Anderson, a giant in the field, who was many years at the University of Chicago and who also passed away a few years ago, in 1972 said, "As the survival rate from acute and short-term disease increases, there will be an increase in long-term and intractable chronic illness. Thus, other indices of payoff need to be brought into an evaluation of the effectiveness of health service. These indices involve relief of pain, relief of anxiety, measures of satisfaction and a graceful adjustment to inevitable disabilities as a person ages. In other words, these are quality of life rather than quantity of life measures and will require a concept of payoff as yet undetermined." This is eloquent. He was that kind of guy—a deep thinker in 1972. What are some of the other measures? My goal is to die before there's a technology breakthrough that forces me to live to 130. Again, it's quality, not quantity. No, I don't want to live forever, but I'm sure I don't want to be dead forever, either.

I leave you with the following thought: Truth is often stranger than fiction. Many of you have seen this, but I just couldn't resist: Roto-Rooter acquires hospice care provider. Many of you know that Roto-Rooter is a division of a large company in Cincinnati and bought Vitas Hospice. The world has produced some strange acquisitions and mergers in this field.

MR. REINHARD (JAKE) PRIESTER: I want to shift the discussion this morning to America's health-care system. As Dr. Shalowitz clearly pointed out, the issues of chronic care, chronic illness and so on are shared by the rest of the world. What I want to do is to focus on the deficiencies related to chronic-illness care in America's health-care system and to outline briefly some of the steps that we might want to take to improve chronic-illness care in this country.

I'd like to start with a hypothetical case about Mrs. Hill, who was a 75-year-old widow with obesity, diabetes, congestive heart failure and arthritis. She lives alone in Milwaukee on a limited income. Mrs. Hill has three scheduled visits per year with her primary care physician, who works at a multispecialty clinic. Several years ago, he referred her to a diabetes education program at a clinic that was not far from her house. Though she attended the program, Mrs. Hill has failed to follow through with the recommendations. She consistently tells her primary care physicians that she will do better with the suggested recommendations to change her diet and exercise, however, her diabetes and hypertension are poorly controlled as they have been for years. Her physician has never discussed with her the cost of her medications, and Mrs. Hill has never mentioned to her physician that at times those costs exceed her budget.
Over the past several years, Mrs. Hill has been seen multiple times in the urgent-care center at the clinic where her primary care physician works with complaints of

fatigue, joint pain and shortness of breath. At the center, she sees a different clinician each time. It's never her own primary care physician. While the center's staff always has her medical chart, Mrs. Hill believes that it may be incomplete. For example, they don't seem to know about all of the medications that she's taking and sometimes prescribe her drugs that she already is taking.

Four times in the past two years, Mrs. Hill has been hospitalized for congestive heart failure. She has been told to weigh herself daily and to call her physician if she gains "too much weight." But she isn't sure what that means. She doesn't own a scale, and no health-care professional has ever asked her if she owns one.

Mrs. Hill is treated with Coumadin to prevent strokes. She recently saw her orthopedic surgeon, who works at a different clinic across town, about her persistent knee pain, which is caused by her arthritis. The surgeon, apparently unaware that she was taking Coumadin, gave her samples of a pain medication that caused her to have a significant gastrointestinal bleed that required hospitalization.

During this most recent hospitalization, the staff performed a geriatric evaluation of Mrs. Hill. That evaluation revealed first that Mrs. Hill only sporadically takes her diabetes and blood pressure medications because of the high cost of those medications. Second, Mrs. Hill has yet to follow up with the cardiologist, as she was strongly urged to do after her last hospital admission, for heart failure. Indeed, since that admission was at a hospital with which her clinic is not affiliated, her primary care physician was not even aware of that hospitalization.

Mrs. Hill is depressed regarding her poor health status and her limited financial resources. She has prescriptions for 11 different medications for her various health-care conditions. However, she is not being actively treated for depression.

When she was discharged from the hospital, she was given prescriptions for heart medications, diabetes medications and antidepressants that cost a total of $300 at her pharmacy. At her next visit with her primary care physician, the geriatric evaluation from the hospital had not yet been forwarded to her clinic. She was found to have elevated blood pressure and high blood sugar. Mrs. Hill again told her doctor that she would work harder on modifying her diet and on increasing her exercise. She was scheduled for a return appointment in four months.

Mrs. Hill is a hypothetical patient, but she is a typical patient. Our health-care system is designed primarily to treat patients with acute conditions or acute diseases. Those are discreet diseases or discreet injuries that are short-term, that have a distinct beginning and that typically end with restoring the patient's health, though sometimes they end in death.

However, most patients that come to America's health-care system, such as Mrs. Hill, have chronic conditions that are fundamentally different from acute conditions. Thus, Mrs. Hill represents the paradox that exists in our health-care system. We are

still practicing acute care in a world of chronic conditions. Whereas our health-care system is designed to treat and care for patients with acute conditions, the majority of patients that come to America's health-care system are like Mrs. Hill or have, like Mrs. Hill, a variety of chronic conditions.

In this talk, I'm going to provide a brief overview of chronic conditions, which in a large way supplements the information that Dr. Shalowitz provided. I'll discuss the deficiencies in America's health-care system in providing chronic care and then briefly outline some of the changes that are needed to improve chronic care.

Chronic care is the primary challenge for America's health-care system. It is estimated that currently 125 million Americans have one or more chronic conditions. For one out of six Americans, the chronic condition inhibits their daily life. It affects their ADLs or their IADLs, as Dr. Shalowitz talked about.

Seventy-five percent of all health-care expenditures are for people who have chronic conditions, and those numbers are projected to increase. By the year 2020, an estimated 157 million Americans will have one or more chronic conditions. About 80 percent of total health-care expenditures will be dedicated to people with chronic conditions.

Chronic conditions account for the majority of health-care utilization. Patients with chronic conditions on average use more health-care services than patients or people without chronic conditions. Patients with chronic conditions account for 72 percent of all physician visits, 80 percent of total hospital days, 88 percent of all prescriptions and, as you would expect, about 96 percent of all home care visits.

As I mentioned, chronic conditions differ dramatically from acute diseases or injuries. One way to define chronic conditions is that they are conditions that last at least six months. But typically, they last a lifetime, such as diabetes, arthritis, congestive heart failure and so on. They accumulate with age, so that 85 percent of Americans who are age 65 or older have at least one chronic condition. Forty-five percent of people age 65 or older have two or more chronic conditions. Chronic conditions are rarely cured. You do not restore people with chronic conditions back to their health status before they got the condition. Instead, they are generally progressive. It's a downhill progression for people with the condition.

Chronic conditions don't just affect the person's body. They, in fact, impact their entire lives. Patients with diabetes and arthritis live with their conditions. They need to adapt to their illnesses. They have to change their diet, their lifestyle, their life's expectations and so on. To some extent, chronic conditions shape individuals' lives and also the lives of their family members.

There are a number of goals that we can identify for good chronic care. One is that we should manage the chronic condition as well as possible to reduce the extent and the frequency of exacerbations. Second is to minimize the transition from

impairment to disability to slow the rate of decline. Third is to encourage patients to play a more active role in managing their disease, which was mentioned by Dr. Shalowitz. Additional goals for good chronic care are to coordinate medical care and to integrate it with long-term care, that is, the supportive services that most patients with chronic conditions need. Finally, it's to provide chronic care in a culturally sensitive manner, which is going to become more of an issue in America as we become a more diverse society.

Let me shift to the deficiencies in America's health-care system that interfere with our ability to achieve or to promote the goals of chronic care that I just mentioned. I would categorize the deficiencies in America's health-care system into three groups related to structure and function; deficiencies related to personnel; and deficiencies related to payment, that is, the financing and reimbursement system that we have.

What I mean by structure and function of the health-care system is how the components of the health-care system, that is, the health-care professionals, the clinics, the hospitals and other institutions as well as the financing system, are configured and how they relate and integrate with one another. The foremost reason why America's health-care system cannot provide optimal chronic care is that the system is based on an episodic acute-care model. While the system does not ignore chronic conditions, it continues to respond to them as if they were acute and episodic, treating symptoms as they occur.

To care for persons such as Mrs. Hill is often a poorly connected string of physician/patient interactions. Consequently, the system ignores the fundamentally different approach that is needed to care for persons with chronic conditions. We respond to them as if they were acute diseases and acute conditions. However chronic care involves the long-term management of the condition. It involves responding to the myriad ways in which the condition affects individuals' lives and health. It involves coordinating the patient's health and long-term care, the other nonhealth-care-related services.

The second deficiency related to the structure and function of America's health-care system is the fragmentation. Fragmented care is the hallmark of our current system. Patients with chronic conditions often have multiple caregivers who work independently, without full knowledge of what the other is doing. Think back to Mrs. Hill, her orthopedic surgeon and her primary care physician. Both physicians treat the same patient, but they're not aware of each other. They don't communicate. They don't share information that is there.

This side-load approach that exists in our system often leads to duplication: duplication of diagnostic tests, duplication of procedures, duplication of drugs that are ordered for a patient and other inefficiencies.

Each clinician ends up being responsible for his or her own aspect of a patient's

care, but no one is responsible for overseeing all of the patient's care. Even when physicians attempt to do that, as I believe Mrs. Hill's primary care physician attempted to do, they're often hampered because they don't have all the information they need to do so.

Two additional deficiencies that are related to the structure and function are the restricted roles of patients and families in our current system and the failure to optimize information technology, and again, both of these were mentioned by Dr. Shalowitz. I'll just emphasize a couple of them.

In our acute-care system, patients still remain the passive recipients of care that is provided by their health-care professionals. However, good chronic care requires more active, more engaged patients. I think we can argue to some extent that Mrs. Hill may be somewhat responsible for the poor care that she receives because she doesn't communicate well with her health-care professionals, either. She doesn't provide them with the information that they need to make the most appropriate decisions for her.

Our health-care system lags behind other industries in the use of information technologies. It's estimated that hospitals and other institutional providers in America's health-care system devote about 3 percent to 5 percent of their operating budget to information technology, which is far behind what is the case in the financial sector and other industries.

As a result, we still have paper prescriptions. Doctors still jot down prescriptions on a paper pad. Many organizations still continue to use paper medical records. Information technology has been shown, however, to streamline communication, to reduce medical errors and to provide timely information to the decision makers, but by and large, the health-care system has been behind the curve in the use of adopting and implementing information technology.

Let me shift to deficiencies in personnel. This relates both to work force shortages and to the training of health-care professionals. Work force shortages affect patients with chronic conditions more than they affect other patients, again because patients with chronic conditions have more interactions with their clinicians. There are shortages among primary care physicians and gerontologists, which are two disciplines that are of vital importance to patients with chronic conditions. There also exist shortages among regular nurses and advanced-practice nurses, both of whom could assume a greater role in caring for patients with chronic conditions.

In terms of health professional training, primarily for physicians it remains firmly grounded in the acute-care model. As a result, clinicians often don't have the needed skills to care for patients with chronic conditions. Our health education system is extremely good at providing health-care professionals, primarily physicians, with the technical skills to do well in diagnostics and to provide procedures and so on. The health education system is not nearly as good in training

our physicians in the methods of doctoring, in managing illnesses, in partnering with their patients, in working in interdisciplinary teams or in counseling their patients. All of those elements are critical, however, for good chronic-illness care. The training still often takes place in acute-care settings such as hospitals and other institutions. But most chronic care is provided in noninstitutional settings.

Deficiencies that relate to payment relate both to misaligned financial incentives and to coverage gaps that exist. Financial incentives for both providers and health plans are currently at odds with good chronic care. Our fee-for-service-dominated system provides no financial reward for avoiding hospitalizations, for reducing the need for health-care services and for health-care interventions. But those are precisely the goals and the indicators of good chronic care. It's to avoid having patients such as Mrs. Hill have to go to the hospital because her diabetes and her hypertension were not well-controlled.

There are also important coverage gaps that exist in most benefit plans in our country. Important services are often not covered—services such as assessment, monitoring and counseling. Until recently, Medicare did not cover outpatient prescription drugs, which was a major oversight for patients with chronic conditions.

Let me shift briefly to some of the changes that we might need to consider for changing our health-care system to improve chronic-illness care. Changes are needed in the definitions of the fundamental concepts that underlie our health-care system, the fundamental building blocks, how we think about our health-care system and how we design it. Changes also are needed in terms of approaches to care.

We need to rethink patients' roles and responsibilities relative to their chronic conditions. Patients live with these conditions 24 hours a day, 7 days a week, 365 days a year. They need to become more actively engaged in managing their conditions. After all, they are best-positioned to know what works and what doesn't work and to recognize any changes in their bodies and their conditions. They need to become much more active in the management and the care than we have had them be in the acute-care system. It requires shared decision-making with their clinicians and ongoing communication, not only communication during the visits, but also communication between the visits they have with their clinicians.

Chronic care requires a new concept, a different concept, of time. We need to move away from the discreet short-term encounters or interactions with the health-care system to long-term illness episodes that span months or often years. We also need to recognize that the payoff horizon for chronic care is different. Upfront investments such as aggressive monitoring of patients with diabetes are not going to be recovered until far down the road, until 10 or 15 years from now, in reduced complications and fewer hospitalizations for those individuals with diabetes.

Chronic care can be provided in many different settings. They need not be the most expensive acute-care settings, such as hospitals and clinics. In fact, most chronic care is provided in the patient's home, often by informal caregivers such as family members. Because a lot of it is communication—the counseling, the managing and so on that goes back and forth—chronic care can be done through virtual visits, over the phone, by e-mail and by telemedicine. It need not be the patient in the clinician's office.

Good chronic care involves the efficient use of health-care professionals. There are many chronic-care services that can be provided by nonphysicians. There have been a number of studies that have shown that advanced-practice nurses can provide good-quality chronic care for a variety of chronic conditions. But we don't use them nearly enough in our system. Chronic care can also be provided by nonprofessionals, including family members, though they need to recognize the limit of their expertise and need to know when a clinician needs to be involved in treating the patients and responding to changes in their condition.

Because so many patients have more than one chronic condition, care has to be coordinated and will in fact often be provided by interdisciplinary teams. That includes physicians, nurses, social workers, case managers and other health-care professionals.

For good chronic care we have to amend our expectations. We have to move away from a focus on cure, which is often not possible for patients with chronic conditions, to the long-term ongoing management of the disease. Because decline is often inevitable, we should measure our success by slowing the rate of that decline or by adopting measures of success such as those mentioned by Odin Anderson in one of the last slides that Dr. Shalowitz had. It's a completely different measurement of what success means for patients with chronic conditions. We're not going to be able to restore many of these patients back to perfect health. We will have to deal with that slow, gradual decline that often impacts them for their entire lives.

Good chronic care is going to require increased use of information technologies and of the various tools that already exist out there, such as electronic health records and computerized physician order entry systems. But we need to pay attention to the problem of providing too much information, as well as the problem of providing too little information. It could easily swamp decision-makers with too much irrelevant information in treating individual patients. The goal for the use of information technology is to get the right information to the right people at the right time so that they can make appropriate decisions in the care for individual patients. That individual does not necessarily mean only the clinician. It may be the clinician as well as the patient or a family member.
Regarding the payment system that we have, changes that can be made at the provider level are to expand coverage so that clinicians are, in fact, financially rewarded for monitoring, for counseling and for providing those other services that

are essential to good chronic care. Currently we have a health-care system that rewards clinicians for doing things, for ordering drugs or for performing a procedure. Much more of good chronic care is the counseling, the communications and the managing, but physicians are currently not reimbursed for that.

The longer-term goal is to pay for outcomes that are based on the health status of the patient, that are clinical indicators as well as quality of life and patient satisfaction.

Changes in financing at the payer level, that is, at the health plan level, are to make chronic care for health plans profitable and affordable. The current incentives for health plans are often to avoid enrolling patients who have chronic conditions because they are the most expensive patients to enroll. They are the most expensive members in a health plan. At a minimum what we need to do is to assure that persons with chronic conditions remain enrolled in a particular health plan long enough so that any investment that plan makes in preventing that gradual decline is, in fact, recovered by that same plan.

Go back to the example of aggressive diabetes management. If a health plan is going to put a program like that into place for its enrollees who have diabetes, and the payoff is 10 to 15 years down the road, the enrollees need to be in the same plan 10 to 15 years down the road, otherwise the financial reward goes to some other health-care plan. There's no business case, if you will, for a health plan to currently implement those programs as part of good chronic care.

Here are a few words to summarize. One is chronic disease is here to stay, not only in this country, but in the rest of the world. It is the challenge to our health-care system based on the number of people who have chronic conditions, based on the amount of resources that we devote to patients with chronic conditions.

There is good evidence that we can do better. There are models that exist that show we can more efficiently and effectively provide chronic-illness care.

Changing the payment system is a necessary but clearly not a sufficient component of improving chronic-illness care. More money or becoming more efficient by itself is not going to improve the system. Much more must be done in the way of health professional education, work-force policy, changing the roles of patients and their families and changing the roles of clinicians to bring the health-care system into alignment with the reality of chronic conditions.

Most important, what we need at the foundation of our health-care system is a new model of care. We need to have a chronic-care model rather than the short-term acute-care model function as the heart of our health-care system.

MR. MARTY STAEHLIN: I wonder if you could help me try to understand. I made these notes, so you may not agree with them, but I think I heard you say there are three kinds of doctors that we need. We need chronic-care commercial physicians,

we need geriatric physicians for Medicare, and we need pediatric care. But we have three funding mechanisms—Medicare, Medicaid and commercial—and I don't know if they think the same, but the way they go together, they also have different chronic-care burdens. I don't know if you could comment on how this would fit together. How you would start to recommend solutions that we need to start thinking about caring for those populations in a different way and possibly compensating the physicians who deal in those places?

DR. SHALOWITZ: Harry Sutton is sitting here, and if you don't know him, he's one of grand old men of the HMO field and is like a living legend. I truly mean that. You can ask him about the old HMO models. From about 1984 to about 2001, my medical group was involved with, at one time, three Medicare HMOs plus a number of commercial plans. The Medicare HMO gives the physician the opportunity to manage populations of care, and what it also provides is the opportunity to be financially rewarded for managing across continuums of care. What people often focus on is the capitation a physician receives. In a truly well-designed HMO plan, the physician shares in other cost savings across the continuum of care. If there are bed days that are saved, for example, by more appropriately putting somebody in a skilled nursing facility as opposed to a hospital, by delivering home care as opposed to institutional care or by ordering cost-effective drugs as opposed to more expensive drugs that aren't going to do better, the physician will financially share in those cost savings, with the understanding that there are quality reviews.

It was always mystifying to me that in the fee-for-service sector, there's the problem of overutilization and quality. As a matter of fact, Don Berwick, who is one of the gurus of health-care quality, said that there is probably more of a risk of quality problems with overutilization in the fee-for-service sector than there is in underutilization in the HMO sector. We're interested in quality in both sectors, but in the HMO sector, you didn't have to worry about overutilization because the financial situation is built in. So why not focus all of your time and attention on quality and not on the people who are gaming the system?

Those are the appropriate financial incentives that will encourage physicians over the course of patient care. One of the issues that you point out, and it's right on target, is where are the financial incentives to do chronic disease management if patients are going to turn over with health plans? In some markets when they're just starting, the turnover in patients is 40 percent. You saw that even in a stable market, it can be as low as 15 percent, 20 percent or 25 percent. If your business is turning over like that, what's the incentive to do long-term care? The answer is that you focus the incentives long term on the primary care doctors, not on the payer. People tend to stay with the primary care doctors across many different health plans, so if the primary care doctors are incentivized across these different health plans to provide cost-effective care, they will. It's worth it to me to spend that extra five minutes to twist the patient's arm almost literally to get that flu shot, or to tell the patient, "I care if you stop smoking," not "Smoke all you want." I get more money every time you come in with your bronchial conditions. I always

thought there was some conspiracy movie that could be made that the American Medical Association (AMA) is conspiring with the tobacco industry to increase business. That would be a perfect conspiracy kind of thing.

MR. ROGER LOOMIS: I heard once that they're looking at actual health outcomes that are superior where there are fewer specialists and subspecialists in any given community. Do you guys know anything about that? Are specialists doing more harm than good?

MR. PRIESTER: That's a good question whether specialists are doing more harm than good. I'm not sure if there is a clear answer to that question. It goes back to one of the things that Dr. Shalowitz just mentioned, which is if one looks at impacts or negative impacts on the health of a population, one can look at the overuse of health-care services, the underuse of health-care services and then the misuse of health-care services. All of those provide inappropriate care for patients and have negative health impacts on them. The relative weight of those I think is debated, though there probably are studies that suggest that the overuse is a greater risk for the health of patients, and it's the specialists who tend to do more for patients in terms of prescribing drugs and providing procedures and in terms of doing things for patients. That might be a larger problem for us than the underuse. Clearly the underuse applies to people who are uninsured, but when you look at people who do have health-care insurance, it's the overuse of health-care services, which specialists are probably more responsible for than generalists, that is a major risk for individuals.

DR. SHALOWITZ: The data in the literature are mixed. Let me just say that out front. There was an article a number of years ago in *The New England Journal* that looked at the quality of care postmyocardial infarction, and I think it was basically looking at beta blockers and aspirin use. This was before ACE inhibitors came into this. It divided the physicians surveyed into three categories. There were cardiologists, internists and family practitioners. The results were as you would figure. The family practitioners had the lowest use, internists the next and cardiologists the highest use. That was the factual outcome of this.

The conclusion is that all of these people ought to see cardiologists, and I'm sitting there thinking that the best cost-effective strategy may be to educate internists and family practitioners better and that this is the appropriate standard of care. We can bring up the quality without increasing the cost. When you see a lot of this stuff in the literature, you see weird conclusions being drawn that are self-serving. Most of you are actuaries or have some economic background. Regarding the studies that have come out like the one in *The New England Journal*, whose brain was working that day? For example, the emergency room is the most cost-effective place to deliver care to patients. I'm sorry if I'm offending anybody, but it was written by an economist who was looking not at price and what payers pay but at marginal cost. In marginal cost, it's probably not a bad place to provide care. But as somebody who on behalf of my medical group pays emergency room claims, I can tell you it's

far from being the most cost-effective place from either a quality or cost standpoint to take care of patients. There are a lot of weird conclusions being drawn in the literature you have to be careful about, and there are alternate explanations and recommendations.

FROM THE AUDIENCE: I saw in the news last week that the CDC had sent a team of epidemiologists to West Virginia, and they called it a S.W.A.T. team to study the obesity epidemic. I thought that was an interesting example of how the public-health system is set up for studying acute diseases and not chronic. I was wondering if you had any comments, or if you knew more about that issue?

MR. PRIESTER: Could you repeat again the particular thing you referred to?

FROM THE AUDIENCE: The CDC sent out a team of epidemiologists to West Virginia to study the obesity epidemic there. They were there for three weeks collecting data. They went into schools and looked at lunch programs and did the normal assessment of an infectious outbreak but applied to this chronic condition.

MR. PRIESTER: It's interesting that it structured it that way, as if it was an immediate response to a particular discreet problem. Clearly the obesity problem in this country is one that's been growing for a long time, is going to be with us for a long time and is a quintessential chronic condition in a way, so it requires not an acute response and not the kind of structural responses that are in the existing acute-care model. I'm surprised that they would do it that way, especially coming from a public-health sector, which uses much more of the chronic-care model, the long-term model, focusing on populations rather than a quick response for an individual patient in need of care at this time. It just doesn't fit at all the problem they need to deal with.

MR. STAEHLIN: I have one quick question that I know there is no answer to, but Dr. Shalowitz talked about privacy. I know we don't have a definition of chronic, but why shouldn't Mrs. Hill have her own Web site so that any physician who treats her can type in "Mrs. Hill" and see where she's been last week and what kind of stay she needs? I'm serious. Why shouldn't people, especially who possibly are publicly funded by Medicare and Medicaid, paid for by tax dollars, have to register and get appropriate care?

MR. PRIESTER: Developing some sort of system where the clinicians can share information related to a patient where they're all treating the same patient, but perhaps different aspects of his or her care, would be a great move. That would be a step in the right direction and getting the right information to those clinicians at the right time. My first response to you is I doubt if Mrs. Hill has a computer or knows how to use one, but she has as much need to access that information as her clinicians do. A Web-based system is going to be good for part of the system, clearly for helping the clinicians and health-care providers to share that information, but you also need to get the patient in the loop as well. You may have

to think a bit more creatively as to how to do that. The goal is the right one.

MR. STAEHLIN: All she needs is a library card because libraries have kiosks and can train people to get them on the Internet and enter all that information.

DR. SHALOWITZ: I would say if my 79-year-old mother can use e-mail, anybody can, and I love my mother dearly. I don't meant that in a bad way, but there's another option. This is being done, as long as my subject was international, and that's the smart card. There are smart cards being used in certain European countries where Mrs. Hill doesn't have to use the Internet. She has a smart card that she brings with her to the physician. It's not only the downloadable information, but it has the software on it, as well. As you know, with the keys that you use now and all kinds of stuff, it's no big deal, but as the resident software, so all the doctor has to do is stick it in his or her machine, update the list and give it back to Mrs. Hill, and she brings it with her to her next doctor. It may be thinking outside the box, but it's another type of solution, where you don't have to worry about Web-based stuff. You don't have to worry about security. As a matter of fact, there are bio keys to them, so you can use thumbprint, iris or voice recognition, whatever you want, so that nobody can hack into this little thing if Mrs. Hill loses it.

MR. PRIESTER: I think an interesting question still to debate is, Who owns the person's medical record? Is that something that is an individual's record that ought to be primarily in his or her possession and use, or is the medical record primarily there for use by the health-care system and clinicians? I don't think we've come to a conclusion on that. But that may affect how you structure the storing of that information, who carries it with them and who has access to it.