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Health Care Financing Systems Around the World

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This session covers all the desirable characteristics of a health care financing system, such as equity, universality, efficiency, quality, facilitation of innovation, choice, user-friendliness, and long-term sustainability. The alternative health care financing systems known today are reviewed, including direct payment, national health service, national health insurance, private indemnity insurance, health maintenance organizations, managed care and competition, and medical savings accounts. The advantages and disadvantages of each alternative are presented. A representative country for each alternative system is illustrated.

Mr. Chiu-Cheng Chang: This is a long session and a lot of material. To give you some confidence in what I'm going to present to you, I need to briefly introduce myself. I have been in the insurance industry for well over a quarter of a century. I have worked in six countries, including the United States, Canada, Taiwan, Singapore, Hong Kong, and Japan, and that's the reason I also wear the Fellow of the Canadian Institute of Actuaries (FCIA) hat in addition to my FSA because, by Canadian law, only an FCIA is considered an actuary. Many years ago I had to take a special exam to qualify as an FCIA, and at that time there was a very typical experience requirement: you must have been the signing actuary for the annual statement for several insurance companies in Canada. At that time I was lucky enough to be assigned as an actuary for Mutual of Omaha's Canadian operations.

Most of my experience has been with the insurance industry. I worked for Mutual of Omaha for 10 years, and then I became a key actuary of Canada Insurance Company, Mutual of Omaha's Canadian operation, and managing director of CIGNA's Taiwan operation. Internationally I have been working as a consulting

actuary and advisor to a number of multinational insurance and reinsurance companies' Asian operations. As a university professor I taught in Singapore for three years and in Taiwan for two years. I have been an advisor and consulting actuary to Taiwan's government. In Singapore I worked as a consulting actuary as well as an advisor to Singapore's Ministry of Finance. Recently I was appointed as a consulting actuary for Taiwan's National Health Insurance Program.

I am going to talk about health care financing systems around the world. I don't claim to know everything about the financing systems. But I think I know the most important financing systems, most but not all. I hope I don't offend anybody from any less important countries. In those "less important" countries, to be honest, their system—whatever system—should be some kind of mixture of what I'm going to present, which I call major systems. All the systems should be some kind of mixture of what I'm going to present to you, and all are clearly accepted as the main systems currently in use around the world. Please bear in mind when you're dealing with financing systems—I know you are mathematicians; my Ph.D. is in mathematics, not actuarial sciences—the cultural, economic, political, and social environment of each country. Any system is the result of a long tedious, political debate. Cultural and traditional influences are also there, so keep their cultural, social, economic, and political factors in your mind. Then you will appreciate all the systems better.

In regard to some systems you may say, "This is outdated. This is almost ridiculous." You have to think about them this way. For example, when I was an advisor to the Singapore government practices, I advised the ministers on a number of things such as pension planning. I also advised them on some of the methods you know very well. For example, married versus single people. Married people's life expectancy is five to six years longer than single people's. The office right next to the prime minister's office is called the social development unit. The unit's function is to match singles so that they will get married. If they're married, they live longer, their productive years are longer, and they also have a social cost, so the government comes out as a matchmaker and promotes what it preaches. It holds social activities virtually every weekend to match people up.

I like it, except for one thing. When officials do the matching, college graduates are matched with college graduates. All others are matched with others who are thought of as a secondary class—which I oppose.

With that, let's talk about financing systems. Very fundamentally you have out-of-pocket payment. Historically, that's the way you do it, via out-of-pocket payment. There is private insurance and social insurance. Canada and Germany have social security national programs and national health insurance programs. They all have some kind of problem. We are going to analyze that. You pay taxes, then the

government pays, so the financing system is fundamentally only some kind of financial method.

Five sets of actors are involved in financing systems. One set of actors is consumers. In American systems you can think about this as the general practitioner (GP) or what we call the gatekeeper in the case of managed care environment. The second-level provider is a specialist. First-level providers would be referred in a system to second-level providers, all sorts of specialists, and they are more expensive because they charge more. The fourth set of actors is the insuring company or third-party payers. I will use these terms interchangeably. The last set of actors is government. Government is there for good or for bad, and we will appreciate that later.

I have some experience with our American government, with the Taiwan government, and the Singapore government. I almost became an adviser to the Thailand government. Last October I was there for the final signing of a contract with the then-deputy prime minister, who told me that, because of certain financial crises that started from Taiwan, his government was currently in crisis. He was not sure his government could survive. It turned out that the government collapsed, so I didn't become a consulting actuary for the Thailand government.

Let's talk about desirable characteristics for a financing system. This is important, and I hope I have exhausted all the desirable characteristics for a financing system. One is efficiency, which is understandable. A financing system should be efficient and equitable in universality. It should offer good quality, and also equity. Of course, you have to be equitable and this will become more and more true, especially in those newly industrialized countries and new democratic societies. Taiwan and South Korea are typical examples of what I call new democratic societies. They are quite different from what I call the mature democratic society in the United States. Working in the United States is far easier than working in a new democratic society because sometimes you have to be a judo expert in parliament debates. Anyway, financing systems must be equitable, otherwise interest groups will be fighting to such an extent that the financing system cannot pass through the political process. It should offer freedom of choice and user-friendliness, which is understandable, particularly in a democratic society. If they don't understand, they won't vote for you. They will criticize it. Long-term sustainability is important, too. You want a financing system that can last a long time. Of course, financing systems will be subject to evolution and change, but whenever you talk about evolution and change, that usually takes a long while, even in a democratic society, so long-term sustainability is an important and desirable characteristic.

Finally, syndication of the free-market mechanism is the part I personally like most. I always hope—and I have written a number of papers on this topic—that many health care problems can be solved if the market can eventually open up in the health care arena but that's very difficult. I have seen the emerging trend toward market competition, and that's the reason I raised the question to the keynote speaker that we have to push for that free market to work for the health care industry. Of course, there are a lot of problems there, and I have worked on outcome management systems for syndication of the free-market mechanism, that is, using financing systems so that free-market mechanism will not be hindered. These are all the desirable characteristics of a health care financing system, but satisfying all the desirable characteristics is very difficult if not impossible.

Next let's discuss what I call measurable health care financing systems. Voluntary out-of-pocket payment is simple. Voluntary insurance with reimbursement of patients is also very easy to understand. Some others are compulsory insurance with reimbursement of patients; voluntary insurance with the insurer/provider contracts; compulsory insurance with insurer/provider contracts; voluntary insurance with integration between the insurers and providers; and compulsory insurance between the insurers and the providers. Again, I will go through all the advantages and disadvantages.

Let's start with what I call financing systems. These are probably important enough to consider some kind of mixture of the previous seven major systems. One is the U.K. National Health Services, which is well known, and officials have been doing a lot of things trying to improve it. They come up with research papers, and are going to introduce more entrepreneurial management expertise into the system, so I think I have to single them out. Another one is the National Health Insurance of Canada. Taiwan and South Korea similarly are important enough for me to single out, particularly because now I am a consulting actuary for National Health Insurance of Taiwan. The next one is HMO in the United States. HMOs have been growing so fast and covering many people, so I have to single them out because that's also a type of a financing system. HMOs are an example of managed care. I understand that the United States also tried to use medical savings accounts, and I'm very familiar with these in Singapore, so I will single them out briefly. Finally, I will discuss mixed systems but won't give any advantages/disadvantages.

Look at voluntary out-of-pocket payment for health care. You are consumer patients. First-level providers will provide service to you, the consumer. Second, if you are unfortunate enough to go to the second level, second-level providers will provide service to you. Consumer patients pay the first-level provider as well as the second-level providers. Generally, this is the voluntary fee-for-service payment. Let's look at all the advantages. The system is cost conscious and incentive

compatible. When you are asked to pay cash out of pocket, not with a credit card, then that would make you cost-conscious, so you would show restraint. You don't want to see the first-level provider to begin with. Being incentive compatible is very important because this affects human behavior. I just talked to a program committee chairman from Thailand about whether actuarial programs should incorporate some topics on human behavior, because human behavior is so important. We cannot just be quantitative experts. We should be qualitative experts too. This is a side topic. Prudent usage and freedom of choice are advantages. As a patient, that's power, and you can choose whichever provider can do the best job. Those doctors whose diagnosis accuracy is not 100% won't have anyone knocking on their door. And then the free market will work in such a way that those physicians will have to close their shop. That's what I like most: consumer sovereignty which means the consumer holds the power, not the third-party provider.

More competition among providers is also an advantage, because if you have the cash, you have the power, so the provider has to compete, and that is great. Many forgo the transaction cost. If you have a third party, then you generate an enormous amount of transaction costs, so this system minimizes transaction costs and promotes self-reliance and self-responsibility. I think this is of great importance. Singapore's health care policy is governed by a white paper, Affordable Health Care. This contains the five governing principles; one of them is self-responsibility, and I consider it particularly important. When I was in Singapore I organized an international conference on affordable health care. I invited the top actuaries to participate, and we talked about self-responsibility. I think the time has come for people to recognize the importance of self-responsibility. You have a third party, you have insurance, and you use credit cards. A credit card, it seems to me, is not money, but it works like money, so the feeling is different. You just keep using credit cards until you declare personal bankruptcy. The final advantage of the voluntary payment system is that it prevents fraud by direct monitoring.

The first model is always the simplest. Later on the models become more sophisticated, and you may have a hard time appreciating the importance of this fundamental, major, system. One disadvantage of voluntary out-of-pocket payment is it depends on ability to pay. Economically unfortunate people cannot pay whenever they have surgery or cancer. Second, there is no provision for unexpected catastrophes. Even higher-income people, like the middle class in North America may not be able to pay either. There is no provision for indigents, no provision for illiquidity. As I understand it, we Americans may not be in as good a position and, in a catastrophe, may have problems. Asians' savings rates are among the highest in the world; their liquid position tends to be better. Macro-

economic and micro-economic efficiency may be questionable, which is another disadvantage.

There is information asymmetry between patient and provider, a long and debilitating problem. Physicians pay for this, too. If they ask you to take this laboratory test, you'll take it. If they ask you to die, you may have to die. So the information asymmetry is the biggest problem and in my research I work on this every year, trying to eliminate or lessen significantly the information asymmetry. Once you are on the same level playing field, then you can shop for a provider, just like buying a car. In the city, new car dealers almost always concentrate in the same area. You knock on one door and then go another door. The salespeople try to pull you back but you still can keep shopping. That's the beauty of the free market. That's the reason the price is so low, quality is so good, and there is all this tremendous improvement. Now, imagine in the health care industry that you and the physician are on an equal footing. You can negotiate. The beauty of free market will be emerging. Possession of collective monopoly power by providers is another disadvantage, so this model is quite simple really.

The second model is voluntary insurance with reimbursement of patients. The service role always from first-level providers and second-level providers through patients or populations and then to the patient population through the voluntary insurance company. This is the premiere contribution of the voluntary insurance company. The insurance company will impose premiums on the patients so the relationship is exact. The relationship between patients and the provider is fee-for-service payment and the service role. There is no relationship between the insurance company and the provider in this particular model. Many Third World countries use this model.

Let's see this model's advantages. Risks are pooled for unexpected catastrophes and that's the beauty of insurance. You want to pool the risk. Protection against illiquidity is an advantage. You also have gains in welfare if insureds can exchange premiums for uncertain prospects of higher income or financial losses. Public funding is not required because you pay premiums and you have to impose that. Government taxation may not be used here, so that's another advantage.

With respect to disadvantages, our providers have a positive incentive to induce demand. They want to maintain their income level and lifestyle so this is human nature. Patients have no incentive to restrain demand because they have already paid the premium. You are dealing with mass psychology. Patients will use the system and that is not good for anybody, including the heavy user of medical care. In health care, more may be less.

Insurance companies have an incentive to antiselect against poor risks. They want to make money. Lack of universal access to insurance is a disadvantage to those who cannot pay the premium. There is a high administrative cost whenever you have a third party. The last disadvantage, is that overuse, abuse, waste, fraud, and inflation can push the price beyond affordability. That is understandable, particularly in the case of fraud. Taiwan apparently has a very serious problem with its National Health Insurance Program.

Compulsory insurance is similar to voluntary insurance except that you'd replace the third party with the government. Let's see the advantages of compulsory insurance with the reimbursement of patients. There is equitable and universal access. Compulsory risk pooling is an advantage as is the income-related contribution. In the national health insurance programs, as far as I know, the contribution is related to patient income. Contributions are subsidized for the poor, and catastrophic events are covered.

Here are some disadvantages: Providers again have a positive incentive to induce demand and patients similarly have no incentive to restrain demand. Overuse, abuse, waste, fraud and inflation can push the price beyond control. I think this disadvantage is even more serious than in the previous model, simply because the government acts as an insurance company. A private insurance company can do a better job in lessening this disadvantage. Private industry can do a better job than government in waste control, in preventing fraudulent claims, and so on. High administrative costs, similarly, and cost containment is difficult, but not impossible. Particularly if the government is involved, cost containment will be almost impossible.

The next model is voluntary insurance with insurer/provider contracts. I think this is probably the most popular model today and let's see why briefly. Again, you have the service role, but now you have a voluntary risk-related premium going to the insurer. The only difference is the insurance company and the providers have a contract. The insurance company has to pay providers by capitation, fee-for-service, case payment, DRG, or whatever. The patient only has a relationship with an insurance company. It's a one-way relationship. By paying the premium the patient has the relationship with provider. The previous model has a two-way relationship between provider and patient and between the patient and the insurer or health plan. Here, those two-way relationships have been reduced to one-way relationships. This is most frequent in North America. Let's see the advantages and disadvantages of this financing model.

One advantage is that the insurance company has the incentive and the means to negotiate economic and high-quality care. Some companies specialize in medical

health care with a lot of experience. One of my former employers is CIGNA, one of the largest managed care companies in the United States. It has the expertise and experience in negotiating for economic and high-quality care. You also have better potential for achieving micro-economic efficiency, which yields major savings without loss of quality, and that's a very important factor.

The provider has no incentive to overtreat because they have a contract with the provider. The insurance company has some expertise in providing health care services and through gatekeeping and so on, it can affect the provider's behavior. There is incentive to minimize the administrative cost to continue improvement in this area. And patients have more predictable health care costs through a prepayment system.

With respect to the disadvantages, consumer choice is limited to contracted providers for care. From the Asian point of view, the choice is acceptable because there are many choices. Usually the providers or physicians who sign up to join an HMO, are many but from North American people's point of view, it's not enough. Providers have an incentive to minimize services because they cannot make more money. In fact, they want to reduce services because they are capitated. From this aspect, human beings don't have a good nature, but that's an economic reality. We have to design a system that brings out the best of their human nature. Of course, that is a gigantic task.

There is only a limited capacity to achieve equity or solidarity. We have the effect of rationing informally through queuing because an insurance company has a contract with the providers on a per capitation basis. They are not going to speed up their work. A lot of people just don't want to wait. Many people will spend time to save money, but others will spend money to save time, and that will be the case when we see a larger middle class emerging in many more countries.

Compulsory insurance works via the insurance-provider contract. Compulsory-specific, income-related contributions is also known as taxation. Replacing the voluntary insurance company, you now have public insurance or funding bodies. All the advantages/disadvantages will be about the same. Advantages are incentives and the means to negotiate economical and high-quality care. The consumer has freedom of choice of providers because there is only one insurance company. This leads to consumer-led competition over quantity and quality of service and has considerable potential for achieving micro-economic efficiency. And the administrative costs are likely to be lower. This system provides universal coverage and a desirable level of equity, because the government is there. It also minimizes overuse and fraud and covers catastrophe events.

The disadvantages also are similar to the previous model. But patients have no freedom of choice for insurance. This one is unique because you have only one government. Macro-economic efficiencies tend to become the government's sole responsibility. Consumer choice is limited to contracted providers and providers have the incentive to minimize service. There is neither demand-side control nor supply-side response. It has the effect of information rationing through queuing.

The next model is voluntary insurance with integration between insurers and the providers. This is where the insurance company owns the physical building, employs the staff and physicians who all become salaried employees. You have a budget, just like any free enterprise, so that's the key difference.

The advantage of this model is that the consumer has freedom of choice of an insurance company. There is good potential for achieving micro- and macro-economic efficiency by competitive incentive because the insurance company has to work as an entrepreneur. It has to be competent. The insurers and providers are partners in business. The competitive danger is greater, but if you do well, you can make a lot of money because the two enterprises are being combined.

Vertical integration makes administrative savings possible. This provides good opportunities for managing care provision. The patient has more predictable health care costs and providers have no incentive to overtreat. This advantage is even more important than in the previous model because now the insurance company wants to operate effectively so it can survive in a highly competitive environment.

With respect to disadvantages, consumers' choice of provider follows their choice of insurer. Whichever insurance company you choose, you are limited to their providers. Whenever I talk to doctors, they say, "The reason I became a medical doctor is because of freedom. I want to do whatever I like." My university is owned by Formosa Plastic Group, and that group also owns the largest hospital system in Taiwan, so I know many senior medical doctors. They hate this system because their freedom is almost gone.

Providers have incentives to minimize service. And the insurance company has incentive to antiselect against poor risk. It is unlikely to achieve the desired level of equity for vulnerable groups. This has the effect of rationing informally through queuing.

The last model is compulsory insurance with integration between insurance and provision. It involves compulsory income-related specific contributions with a general tax, issue, or funding party replacing the voluntary insurance company. All advantages are about the same. It's capable of achieving universal coverage and

desired level of equity as well as administrative economies. It's easier to control total health expenditure and it covers catastrophic events.

Among the disadvantages is that the consumer has no choice of insurance company, and has no effective choice of provider. The provider has an incentive to minimize services. Primary care doctors have no effective choice of hospital and they don't like that. The incentives for providers are perverse; efficient providers are being rewarded with more work because they are salaried employees. Inefficient providers are rewarded by a quiet and peaceful life. Waits for service are commonplace. Patients tend to become grateful supplicants rather than empowered consumers. One important factor for the free market to work in the health care industry is that the consumer should be empowered. The provider lacks incentive to minimize unit costs. Underspending by hospitals in one year is met by grant reductions in the following year and macro-economic efficiency becomes the government's responsibility.

National health services, like that in the U.K., are equitable and universal. Access is one advantage. Catastrophes are covered. Overuse and fraud are minimized and there is cost containment through rationing.

However, you have no demand-side control, no supply-side response, or incentives for provider to minimize service. Informal rationing results in queuing and patients have limited choice.

Advantages of national health services in Taiwan and Canada include equitable and universal access, coverage for catastrophic events, and bargaining power vis-á-vis providers.

The disadvantages of their systems are third-party payment encourages overuse, abuse, waste, and fraud. Cost containment is difficult, if not impossible.

Let's look at HMOs. Health care costs are predictable and the absence of incentive for providers to overtreat minimizes transaction costs.

However, you have an incentive for providers to minimize service. There is informal rationing through queuing and limited choice, as well as no provision for the poor.

The advantages of managed care are well known, namely, cost containment and microefficiency. But there is an incentive for providers to minimize service, the possibility of adverse selection exists and transaction costs are high.

Medical savings accounts promote incentives. I think this is important. We have to consider human nature. When they designed the system, they came up with a new methodology that takes this into consideration. There is prevention of fraud by better monitoring. You have your own account, so you have a tax advantage. You put your money in the account through paycheck deduction, so prevention of fraud is monitored. You have freedom of choice, and it promotes competition among providers. This is just like the out-of-pocket model. It minimizes the transaction cost, promotes self-responsibility and self-reliance, and provides for liquidity through accumulated savings.

The disadvantages are focused on poor people and catastrophic events. Even if you accumulate a lot of money in a medical saving account, the government doesn't want you to put too much in there, because its revenue will be significantly reduced, so that's always a problem.

By "mixed system" I mean a system that is not one of those seven major systems. You need to know those major systems very well in order to understand how the mixed system comes about. Most countries have mixed systems. Voluntary payment systems can act as a safety valve for a compulsory system. Cost sharing can mitigate the adverse effects of third-party coverage. Whenever you have third-party coverage, you try to put in some cost-saving mechanism. The public contract model is popular for ambulatory care. It's a public integrated model. Compulsory contract models integrated model—so far are popular in whichever system you are talking about.

Singapore's system combines the best features. It has Medifund, which is an endowment fund set up by the government for the eligible poor. The Medishield plan is a low-cost catastrophic insurance scheme covering all Medishield account holders below age 70 unless they opt out. This scheme is so highly recommended that the government almost wants to make it compulsory, but Singapore's government image worldwide is such that it doesn't want to do this. Those people know human nature. If you want to make a special effort to opt out, they say, "Okay. Think about it. I have to go to work tomorrow morning." So, in the end almost all medical savings accounts are covered by the Medishield plan. The claim rate is ridiculously low. One of my clients, a private insurance company that is part of the government, has come up with a Medishield Plus Plan designed to be more expensive. The benefits are much better, so this is catastrophic insurance in addition to the Medishield plan. The Medishield plan is a medical saving account. Everybody has a medical saving account if he or she is employed, so eventually every working Singaporean has one, including foreigners and especially contractors. I was a professor there, so I also have a Medishield account, which is very, very good.

The Medisave plan is a tax advantaged medical savings account funded by employee and employer contributions. It is closely related to Singapore's central provident fund (CPF) contributions, pension system, or retirement scheme. These are really inseparable in that the employee and employer make the contribution—20% employee contribution when I was there with the employer matching with a 20% contribution. Together it's 40% of your paycheck which is a huge amount, but of course they have kept it to a limit, because otherwise it would be the paradise country to work in. They don't give you the money directly. They direct deposit to your bank. In the semi-annual statement they have three accounts: a pension account, the Medisave account, and a special account for emergencies. Together, a three-year accumulation toward pension and Medisave add up to more than $100,000.

From the Floor: But they were paying you.

Mr. Chang: In Singapore, civil servant pay is very high. If you want to criticize Singapore's prime minister's position, you can say that he is nothing but the mayor of a big city. The population is 2.8 million in Singapore. But the prime minister of Singapore makes more than four times what President Clinton does. It's huge. The pay's tremendously good. They pay civil servants very well so they won't become corrupt. I was a senior faculty member and my pay was very good. When I got the offer, I didn't believe it. The pay is very good, but the pension system better. In addition, while I was there, every year the bonus was 3.5 month's salary. That bonus check was huge. Three-and-a-half months every year and now, they have a financial problem. I don't know how many ministers they pay. The prime minister makes about $0.9 million per year and with a chauffeur for everything.

The Medisave account is a great account, but there are disadvantages. If you have open-heart surgery, that will exhaust your account. So they came up with the Medishield plan, which is a low-cost scheme to cover that. And the poor people have Medifund, so it seems to me everybody is covered equitably. The Medisave account can be used only for approved benefits and that's another key issue. You are not supposed to use the Medisave account to speculate on foreign exchange.

The Medisave account design is very simple. It belongs to the individual and you can pass them on to your descendants. You have a medical tax-deductible contribution of 6–8% depending on age and CPF contribution. It may be used only for approved benefits for personal needs or the needs of your immediate family. This is an Asian concept. You have to take care of the immediate family too. Earnings on medical savings account benefits are exempt from taxation; that is a key feature.

Medisave accounts may be used to pay for only specified service and amenities. Payments from Medisave accounts are governed by a schedule of approved fee and limits. The list of approved services or fee is determined by the Ministry of Health. Medisave accounts may be used to pay the premium for the Medishield scheme. Those are low-cost premiums.

That's the way to govern, I think. Medishield scheme premiums are kept low to encourage participation. Premiums vary by age group and may be used to pay for approved benefits only. A high-deductible copayment and maximum claim limit per party per lifetime can apply. A high deductible is consistent with the white paper goal of affordable health care and self-responsibility.

I have come up with this system combining the best features, which I call the MSA model. It is very similar to the Singapore model. Singapore's Medifund is the foundation, using general revenue. Universal catastrophic insurance comes out of the general revenue. If the whole country is covered by the catastrophic insurance fund, we can keep the premiums very low, particularly if there is a deductible. I think personal health has to be controlled in some way by personal contribution. Together with the employer's contribution, the fund can be used only for allowable expenditures, not for speculation purposes.

Under this generalized model, the MSA belongs to the individuals' estates, which are inheritable. There is a mandatory before-tax contribution. This model can be used in many countries: *x*% of contributions each from employee/employer applying to the first $*n* of earnings, depending on the country. You have to take into consideration the income level, GDP, cultural, social, and economic effects. There is *y*% contribution from the self-employed up to first $*n* of earnings. It may be used only for allowable health care expenditures for yourself, your spouse, and dependents. That could change depending on Asian countries or Western countries, because the concept of family is apparently quite different.

The MSA fund may be used to pay only for specified services and amenities. MSA payments are governed by a schedule of allowable fees and that schedule has to be continually updated. That should be worked out by all conferring parties, providers, government experts, independent experts, and other parties. MSA payments are allowable services and fees determined by an advisory council, with representation from all parties concerned. In that way you can have an agreed schedule applied with allowable expenditures. The MSA fund may be used to pay premiums for government-approved managed care and health insurance plans so that you still have that voluntary system. Balance billing and upgrading above an allowable level of amenities must be paid out of these non-MSA funds. Balance billing is used when you want to use a more expensive service beyond an allowable level in a year

and pay out of your own pocket instead of using the MSA fund. I think we need some kind of compromise somewhere. You cannot go to extremes one way or the other. Health care expenditures paid from the non-MSA fund are not tax deductible. Again, you need a dividing line.

What do we do for poor people? You need some means to determine poverty, such as total household income less than the government-determined poverty level and total household net worth less than a specified amount per person. I think we need some means to test this, otherwise the system will be abused. All care provided is in an approved clinic or hospital. Upgrading is not allowed when any portion of cost is paid by the indigent fund. An indigent fund may pay the catastrophic insurance copayment.

A catastrophic insurance fund is important because the MSA is still limited, no matter how much money you make. It should be financed out of general revenue, so no premium payment is required. I advocate this public-funded insurance with an annual catastrophe deductible set at a $*d* worth of allowable expenditure for each person. It could be a 20% copayment after deductible, up to a ceiling of $*c* for each person or $2*c* for each household per year. Again, this can be staggered.

From the Floor: What happens when you exceed the expenditure per person or exceed the lifetime maximum that you addressed before, and how frequently does that happen?

Mr. Change: It happens very infrequently. It is designed in accordance with statistical data, so this is highly unlikely.

From the Floor: So you don't have experiences with people with premature babies who have expense after expense?

Mr. Chang: That already is incorporated in the data. It is virtually impossible in terms of statistics, the probability is so low.

From the Floor: Why have it at all then if the probably is so low? Why have a limit?

Mr. Chang: You need a limit because of human nature. When people hear the word "unlimited," everybody will abuse the system. So far we have not come up with a definite program for our meetings. This reminds me of what one U.S. surgeon general said. She said that, for health care, probably the most effective approach is to change the human lifestyle. Don't smoke. Don't drink too much. Do all the fundamental things you've been told 10,000 times. I totally agree with

what she said. This will be far more effective than expensive scientific medical equipment.

My employer just bought a three-story-high piece of equipment called Proton, for so-called early treatment of cancer. It's huge. It cures the cancer cell without hurting the normal cells. That is the treatment. This is extraordinarily expensive, so expensive that you know how we finally signed the contract to buy it? We signed a contract by saying that the whole machine should not be shipped to Taiwan. After a long negotiation, we finally decided to send it piece-by-piece to Taiwan. Then we will pay a team, more than 100 technicians, to come to Taiwan and assemble the Proton machine. I don't remember how long it will take for them to assemble it. After this gigantic equipment is installed, the health care problem will remain virtually the same because this machine is so sophisticated. The cure rate improvement from 30–78% or 75%, is still not 100%. I don't know whether the cost is justified, but I hear your question and think "unlimited." What's the difference? The difference is human nature and we have to always keep that in mind when we design systems. It is clearly an advantage of a generalized model.

The MSA plan maintains universal and equitable access and the consumer has freedom of choice. It promotes efficiency and encourages responsible health care spending over long-term sustainability because the shared responsibility is there. Human nature is such that, once you have the habit, psychologists say you have your own habitual domain. Government's most important responsibility, in my view, is to help its citizens form healthy and good habits. I consider this very important. Once you have good habits, you don't feel as stressed. Once you have good habits you just do it automatically.

The plan encourages responsible health care spending and enhances the pool of national savings. Think about the economy. After this financial crisis in East Asia, these countries have many problems. Simply because of the gigantic political CPA fund. I forget how many billions of U.S. dollars—probably $90 or $100 billion—were lost because of CPA. And the plan targets government subsidies to the most needy.

The government provides regulatory function to determine allowable services, set allowable fees, and certify health care facilities and the personnel there. Of course, we need to give government some jobs to do such as public health, education, and information. There is evaluation approval throughout the procedure and an optimal supply of health care provision.

The Clinton proposal was for national health insurance. Keep that in mind and compare it with the MSA, which shifts the burden of increased health care

expenditure from government to the employee/employer. The MSA uses freedom of choice and first-party payment to contain increases in health care costs. This is closer to human nature. It can do a better job. In a national health service, the government will fail to contain costs through fee schedule utilization. Health care expenditures are unlikely to keep pace with the events in a growing economy. People want more, more, more; human expectation is unlimited. The pay-as-you-go feature requires favorable demographics and is beyond our control. It is unsustainable in the long run.

National health plans are having difficulties. User fees have increased in Japan. The government is always short of cash. Introduction of limited capitation and enterprise management has been introduced in the U.K. Most Western European countries are reforming their health care systems to meet the Economic Union's budgetary requirements. Again, money is rather limited everywhere. Most countries with national health plans are trying to take health care out of the political arena. When you have politicians getting involved in the health care, you can hardly make a rational decision.

The overall objective is to obtain the most cost-effective health care for all citizens. The goal of health care financing systems is to obtain the biggest bang for the buck. The generalized model provides few advantages because of human nature. Human nature wants to game to gain wherever it has an advantage. This makes things difficult. But the generalized model is much easier to achieve sooner than later. Make the reforms now, otherwise time will make things even more complex.