Council of Economic Advisors-
The Healthcare Crisis

Prepared by Sanjey Sivanesan

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INTRODUCTION

An impending healthcare crisis threatens the health security of future generations. Because of an unyieldingly steady growth in costs of health care that has not been matched with an accompanying offset of additional growth in GDP, the US economy cannot sustain such unbridled growth in the coming decades. Therefore, an analysis of cost-containment from the perspective of the business-government relationship is particularly timely.

As part of the Economics Committee, you will represent various interests in reaching consensus to lower health care costs and improve quality. This briefing will give you a detailed background of cost level and cost growth in the US healthcare system, the economics of healthcare, various provider payment plans, and potential methods to control costs.

Healthcare Cost Growth

Since World War II, costs of healthcare have been growing faster than GDP in every decade. Because the growth in healthcare costs is outpacing the overall growth in the GDP, healthcare has therefore become a larger component of the GDP over the years, as well. The rising costs of healthcare—without the additional increase in overall GDP—mean that money needs to be diverted away from other areas of GDP spending to help cover healthcare costs. Unless something is done to quell the cost growth, the CBO forecasts that total healthcare expenditures will rise from the current level of 16% of GDP to 37% of GDP by 2025 and 49% of GDP by 2082. Expenditures will rise because of both federal and private healthcare payments. Assuming an excess growth rate in cost of 2.5% for Medicare and Medicaid, federal spending on Medicare and Medicaid is estimated to rise from its current level of 4% of GDP to 20% by 2050. As this trend continues, the already high baseline of cost means that healthcare expenditures will ultimately grow to unsustainable levels in the coming decades. According to data from the CBO's long-term budget outlook which the Senate Budget Committee relied upon, this estimated price tag of 20% of the GDP costs will have grown

so rapidly that spending on Medicaid and Medicare alone will surpass the budget for the entire Federal government. Yet many do not appreciating the danger that such large cost-growth in the health care sector can have on overall spending. Instead, the apprehension over impending budget hurdles is largely misplaced upon Social Security. As Chairman of the Senate Budget Committee Kent Conrad stressed in the opening statements of a hearing in June of 2007, "because of the rising health care costs and this demographic tidal wave over the next 75 years, the shortfall in Medicare will be seven times the shortfall in Social Security… if this does not get people's attention I do not know what will."

Numerous studies and literature reviews over the past two decades have show that largest driver of cost in the overall US healthcare system is new medical technology and new knowledge surrounding the implementation of pre-existing medical technologies. As Michael Chernew argues, the rise in healthcare costs comes not only from the invention of a new drug but also from the newly developed application of an old drug. As this knowledge begins to spread throughout the healthcare system, the system begins to see higher costs because different services and different applications of existing services are supplied more and more throughout the healthcare system. The invention of a new technology is associated with likely higher costs of administration, compared to older, more widely utilized services. The costs of these new devices and procedures were never accounted for before in the healthcare system, and their increased use will naturally drive up the overall cost of the healthcare system's expenditures. For instance, costs associated with MRIs were non-existent in the 1930s because the technology to administer an MRI did not exist. 70 years later, MRI and other imaging services are commonplace in the medical community. However, in the narrow focus of cost analysis, the cost of healthcare grew when the implementation of new technology. Unlike the 1930s, current costs of healthcare now include cost of very expensive, advanced technologies like MRI imaging services. Furthermore, there were also new uses of existing technology that would increase the amount of that service the healthcare system would provide. For instance, in the case of ulcers, it was recently shown that antibiotics could serve as an effective treatment—something that was never known before. While the antibiotic is not an altogether new innovation in medicine, the application of that existing technology is new. Therefore, this new knowledge increases the amount of antibiotics that are prescribed across the entire healthcare system. As a result, the quantity supplied of antibiotics increases and the cost—a product of price and quantity—also increases.

As Peter Orszag showed in a June 2008 presentation to the Alliance for Health Reform, many different studies have attributed different weights to technology's influence over higher healthcare costs. While some

studies find that technology accounts for about 50% of the increases in health costs, some studies have identified the effects of technology at over 65%. Although this is not the only identified cause of cost-growth in the healthcare system, the CBO estimates that cost-growth alone will cause a tremendous increase in the amount of the nation's GDP that can be attributed to excess cost growth. Because of the increases in Medicare and Medicaid spending at the federal level alone, cost-growth in healthcare paid for by the public sector will cause overall increases in the share of GDP that will cover the rising costs. Ultimately, the CBO projects that excess cost-growth in health care will account for over 10% of the nation's GDP by 2082, as Medicare and Medicaid federal spending rises.

In addition to technology, obesity, prices, aging, rising incomes, more generous coverage, inefficiency, inappropriate use, and liability are also determinants of cost-growth, albeit much smaller drives of cost than technology and knowledge. In the case of obesity, the average per capita spending of each bodyweight group has increased to comparable levels over the past few decades, according to the CBO. Therefore, although obesity is on the rise, the cost of healthcare has increased for every segment of the population, not just the obese. In the case of prices, costs are growing because of the quantity side of the equation, not the price side. Indeed, with new technologies, people are not getting the same number and set of services; instead new sets of services are driving up cost. Similarly, the utilization of existing healthcare services has not all of a sudden become so inefficient or been used so inappropriately so as to explain cost-growth in the past decades; consumers are simply consuming an entirely different set of services. Aging, on the other hand, will become a larger driver of cost-growth as Baby Boomers retire in the coming decades; however, but the generational retirement has yet to cause a significant increase in healthcare costs, as compared to new technology. Although higher incomes and more generous coverage has been empirically shown to increase the quantity demanded for medical services, income elasticity of demand is nowhere near large enough for rising incomes or more generous coverage to explain entirely rising cost-growth. Finally, liability and the use of defensive medicine has been empirically shown to be a larger determinant of cost level but is a minor determinant of cost-growth, so reforms to contain cost-growth would not be as effective if they target medical liability issues. Therefore, although there are additional drivers of healthcare costs, technology is the most significant.

Nevertheless, new technology and innovations should not be cast in a negative light. Although the cost of healthcare has risen on account of the new technology, it is not the technology itself that is detrimental

to the overall healthcare system. In his seminal 1995 study on technology's contribution to the increase in healthcare cost, David Cutler argues that the effect of new knowledge and new technology is not always negative: "while technology has led to increased health costs, it has provided benefits as well." The key to containing cost growth, therefore, is a more effective management of the utilization of new medical technologies and services. The problem stems not from the existence of new services, but from the misuse of these services. To correct for such overutilization and underutilization, reforms can target the supply-side (providers) or demand-side (patients) of care. Because of the unique model of the healthcare system when applied to economics, an effective reform to contain utilization stems from the incentives the payer will provide for both patients and providers—with recent reform efforts focused more on provider incentives.

The (Non-Standard) Economics of Healthcare

Because of the many realities that prevent the assumptions of the standard economic model to hold true in the healthcare market, this model is not a particularly good paradigm for thinking about healthcare policy. While the model can still explain a great deal about how care is provided and consumed, too many issues prevent broader applications of the model. Indeed, flaws like poorly informed consumers, adverse selection, and the resulting inequity of the system prevent the standard economic model from becoming a useful paradigm when thinking about healthcare policy.

First, the standard economic model assumes that consumers are perfectly informed, rationally self-interested agents who make decisions based on preferences, income, and prices faced. In reality, however, consumers are particularly uninformed when it comes to healthcare. When left to their own devices, consumers are ineffective at rationing healthcare. Because they, in fact, are not perfectly informed agents, they will overconsume care that they clinically should not value and underconsume care they clinically should value. Essentially, information problems cause the entire breakdown of a consumer's ability to create his or her own preferences. Unlike the normal markets in which the standard economic model may apply more aptly, consumers' values and preferences are not entirely subjective. From a clinical perspective, there are some instances of healthcare which can be objectively determined to be high-value or objectively determined to be low-value. If the standard economic model were to hold, there should be no discrepancy between a person's preferences and what is clinically determined to be high-value or low-value. Nevertheless, the information problems prevent the proper distinction to be made between the different types of care. Therefore, while consumers may attempt to act in their own self-interest, they cannot actually do this because the decisions they make

are based on a flawed pool of information. In terms of promoting the delivery of high-value, quality care, the standard economic model is then not a good paradigm in which to analyze healthcare policy because of informational problems.

Similarly, a premise of the standard economic model holds that people assign some sort of value to the care that they receive, which accounts for their consumption of the good. However, two realities of healthcare prevent people from actually receiving value from the care that they receive. First, moral hazard results from insurance, which causes to consume care from which we do not actually value. Consumers face artificially lower prices for care, which causes them to move down their demand curve and increase the quantity demanded of the good. This movement along the demand curve causes overconsumption and ultimately results in the consumption care that is not actually valued. Second, the overall system as a whole is plagued by poor payment systems, information problems, and adverse selection. Adverse selection is perhaps the largest problem that prevents the standard economic model from becoming a good paradigm for health policy. Adverse selection is the idea that only the sickest people will purchase insurance because they are the most likely to need the insurance against the potentially high financial risk of becoming sick. If the economic model—as it promotes—leaves these markets to their own devices, there will be numerous access problems. It will become almost impossible to access quality healthcare at an affordable price. Therefore, insurance is a very needed tool to help protect people against this undue financial risk. However, things like the employer-based health insurance system—which allows for the pooling of risk and makes the cost of insurance premiums more affordable—would unravel if the markets were left to their own devices with little intervention.

Finally, because of the disparities that would result if the economic model were left to its own devices to reform healthcare policy, the model is not a useful paradigm of policy. The standard economic model is concerned only with efficiency, not equity. However, when it comes to healthcare, many feel an inherent right to healthcare that clashes with the standard economic model's care only for efficiency. Indeed, because of the inequities that will arise if the standard economic model were used as the paradigm of policy, such a policy should not be used solely to guide policy decisions. Disparities are related to socioeconomic, behavioral, and environmental factors. While healthcare is necessary to ensure that people will be treated, the complexities of the interplay of such factors prove that any policy considerations must be much more complex and profound. The idea of the standard economic model is useful for its own purposes. Specifically, when it comes to allocating scarce resources among the wants and desires of consumers, the economic model may be a good paradigm of reform. However, because

of the complexities surrounding health disparities, and the policy desire to ensure health access and health quality to consumers, the standard economic model is simply too provincial. Not only do the aforementioned limitations prevent the application of the standard economic model to healthcare, the model itself is simply to provincial to achieve the complex needs of healthcare policy and ensuring access and quality healthcare to consumers.

How Important is Health Insurance?

A lack of health insurance has poor effects on health. However, the poor effects are smaller than commonly thought, and most of the detrimental effects are focused on the chronically ill and low-income subpopulations. Because of lower coverage, there may be delays in care, non-management of chronic illnesses, delays in detection of problems, and poor prenatal care which can all contribute to poorer health outcomes. According to the Institute of Medicine, the uninsured receive fewer services in a less timely manner, and they are less likely to receive preventive care and on the aggregate have worse health outcomes. However, the IOM's study is a non-randomized observational study, so while a correlation may exist between lack of insurance and poorer health outcomes, there is little empirical evidence of causality. Without randomization, characteristics of the study participants—such as income, education, race, and health behaviors—can act as confounders that artificially inflate the observed association between insurance status and health outcomes.

The RAND health insurance experiment, on the other hand, was a randomized experiment that found little evidence on the aggregate of better health outcomes resulting from better coverage. Indeed, because people are not particularly good at rationing healthcare, the decrease in overall care that resulted from lower coverage meant a decrease in both appropriate and inappropriate care, which yielded little overall health effects. However, there is a much larger effect of insurance for subpopulations of the already sick, chronically ill, and poor. Quasi-experimental studies confirm that in these vulnerable populations, the larger effect is due to delays in treatment. Finally, many face the issue of underinsurance where despite having coverage, they still face enormous financial risk and do not have access to necessary healthcare. Therefore, health insurance does not necessarily ensure access to the quality care that will promote better health and does not equate to better health.

Prevention

Cost-effective studies do show that, in some cases, prevention can save money. Specifically, the patient must be at high-risk for developing the disease, it must be expensive to treat that disease if not prevented, and a link must exist between what is attempted to prevent and the onset of the disease. When looking at cost-effective ratios for procedures determined to be "preventive," 20% of published studies found that prevention will save costs, while most published studies found prevention to be cost-effective. The important distinction is that cost-effective means that a preventive measure costs money but will benefit your health, while cost-saving does not refer to health benefits but only to whether a procedure will save money in the long-run.

Prevention may be able to preserve our health and therefore keep us from potentially more expensive procedures. While this may seem like a source of cost-saving, prevention only holds off the onset of one disease. After preventing one disease, people are still susceptible to numerous other diseases. For instance, if preventive measures prevent the onset of cardiovascular disease, it would seem to make sense that the money that would have been spent on potential surgeries in the progression of the disease ought to be considered as money that is saved. However, that savings will ultimately be offset by spending on other health problems. Indeed, because the patient will now be living longer without the cardiovascular disease, other problems will inevitably arise that require money to treat. Therefore, prevention will not be cost-saving in the long-run. When evaluating costs in the long-run perspective, prevention only ensures that more people will have to be treated later on in life. Essentially, prevention temporarily delays the payment of treatment; in the future, some new problem will likely arise that will require payment for a different treatment. While prevention can protect against diseases and even save lives, this does not necessarily equate to saving money in the long-run.

Hospital and Doctor Report Cards

While report cards can better inform patients and provide motivation for providers and plans to get better, its limitations and drawbacks make it unlikely that report cards can effectively improve quality. While studies consistently find a small but statistically significant portion of people who transfer plans or providers upon reading public report cards, the magnitude of the effect depends on the scores relative to the rest of the market. If the reported information was already known, then the report card will not even be useful, and the magnitude of the effect will be zero. In addition, because of unwillingness to transfer, the potential of sub-populations to be more influenced by report cards, the cumulative effect of public report card releases over time, and potential lack of trust in the source publishing the report,

there are many limits on report cards' overall effectiveness. Finally, if providers do not have faith in report cards' risk adjustments for treating patients with higher risks of mortality, they have the perverse incentive of "dumping" sicker patients on other hospitals of doctors to preserve their public image.

Payers, Providers, and Patients

Unlike traditional markets, the market for health services is dominated by a powerful group of providers who supply medical services for an often misinformed consumer. Classical economics assumes that consumers are rationally self-interested and make decisions on the basis of income, preferences, and prices faced. However, the classical model of analysis falls apart when applied to the healthcare system. The consumers are daunted by asymmetric information, and their rational self-interest is bounded by that lack of complete information. Their preferences for services, therefore, do not always align with what is medically advisable. Indeed, the healthcare market is one of the unique markets in which someone's set of preferences can be empirically determined to be incorrect. For instance, while a patient may have a preference for wanting as many tests ordered as possible to ensure their health is stable, the very nature of the test may ultimately add little value to the patient's prognosis or, in some cases, even worsen the patient's condition. Therefore, the provider is looked to as the honest-broker of the market who—facing little to no information asymmetry because of his or her years of training—will determine which tests and procedures have the potential to improve a patient's health outcomes and which may not.

The breakdown of the honest-broker model of treating patients, however, opens the door for similar problems that the patient would face if left to make medical decisions on his or her own: more needless tests and higher costs for the overall healthcare system. To combat such an occurrence, payers—generally private sector insurance plans or public sector Medicare and Medicaid payments—provide an incentive for physicians to supply care as an honest-broker. By issuing a financial incentive to care, the physician is' incentives are now more closely aligned with the patients. However, provider payment schedules can also fuel the breakdown of the physician's role as an objective provider of medical services. Although the payment schedules are intended to properly incentivize the delivery of quality care, unintended ramifications of the providers' payment schemes often created perverse financial incentives for the physician. Such perverse incentives contribute to the increased amount of services that patients have been receiving over the past decades and the subsequent increase in healthcare costs and healthcare cost growth.

Fee-for-Service

In the realm of provider payment, the fee-for-service schedule of payment is the most traditional method in which physicians are compensated. The schedule provides a fixed fee to a physician for any service that was provided to a patient. The reasoning for such a schedule was that the fee a doctor receives should be equal to the actual marginal cost of providing that service. When the doctor is able to provide a service at a cost below the fee-for-service payment, the doctor still receives the full fee and keeps the difference in cost. This difference serves as an incentive for the provider to lower the marginal cost of a service as far as possible in hopes of retaining the difference between the fee and cost. However, when the cost of a service is above the fee for that service, the doctor still receives the same fixed fee-for-service rate. Thus, not only is there an incentive to reduce marginal costs as far as possible, there is also a disincentive to complacency. If physicians do not attempt to lower marginal costs that fall above the baseline for the fee-for-service payment, then they will continue to run a loss for every service they provide above that fee until they are able to lower the marginal cost of the service provided—a clear disincentive to keeping costs high.

Although the fee-for-service payment schedule sought to keep costs under control, physicians responded by increasing the quantity of overall tests ordered to cover the losses suffered from administering certain necessary tests. For instance, if a physician's cost of a necessary procedure is above the fee-for-service rate, then that physician is more likely to order an unnecessary test—in addition to the necessary one—that will offset the loss from the necessary test. In an effort to circumvent the payer's attempt to manage the patient's utilization of services by influencing the physician's behavior, the physician ultimately ends up ordering more unnecessary tests to break even financially. Payers can attempt to stem such problems at the root by establishing a system of best practices that will provide a general guideline for how much a single procedure should cost. When that amount is determined, the payment schedule is applied to all providers, regardless of the surrounding circumstances. However, such a structure—although it theoretically is a very fair estimate for how much a service should cost to provide—only further fragments the patient's care. Indeed, the provider now views the treatment of a patient on the basis of financially beneficial and financially detrimental procedures throughout the entire course of treatment. Therefore, while providers may only need one test to treat a patient, the best practices amount that establishes the fee-for-service rate will dictate how much more care the patient will utilize. Rather than taking the time to reduce marginal costs and become more efficient, the provider essentially makes up lost revenue in volume. Care is fragmented on the basis of cost, and not necessity. Any loss in one aspect of the patient's care, will be

more than recovered by ordering additional procedures that may offer little medical benefit but large financial benefit. Indeed, under the fee-for-service payment schedule, the provider has no risk; the payer carries the entire financial burden because any additional services come from the payer.

Different payment schedules have developed in response to flaws with the fee-for-service system, and each has its own benefits, drawbacks, and settings in which it can be most effective. To guide inquiry into the current hurdles that the most promising methods of cost-containment face, an analysis of the most promising method of payment implemented to-date is in order. Such historical analysis will help to better understand why past measures were ultimately ineffective and what hurdles have prevented the widespread implementation of current promising reforms.

Pay for Performance

Pay-for-performance intends to provide physicians with rewards for providing better, more efficient care, based on a defined set of measures. Difficulty in implementing a meaningful pay-for-performance scheme makes it unlikely to actually improve quality. Unless pay-for-performance can be implemented on a large scale, any effects will be minimal. When only a few payers have a pay-for-performance scheme in place, the increase in payment for providers is minimal. As physicians tend to tailor practice behavior toward the dominant payer, the incentive to change the way they practice for only a small payment increase is weak. Finally, pay-for-performance breaks down in practice because of mismatched incentives. If the financial reward only goes to those providing the most efficient care, then there is no incentive for those well below that threshold to ever improve. On the other hand, only rewarding improvements in care would not be helpful to providers already doing well.

Value-Based Medicine

When discussing cost, it is important to appreciate that cost is a product of both price *and* quantity. We know that every year, prices will generally increase marginally; as more technology develops, prices continue to rise. From a societal perspective, however, we cannot make decisions to cut back on technology solely based on prices because some new procedures—although expensive—add significant value to health outcomes, which justifies the increased cost. Instead, we must decrease the quantity of those tests and procedures that add very little value to health outcomes. Thus, even though overall levels of cost can still increase as new technology develops, the *trajectory* of cost growth will decrease as the quantity demanded for low-value care decreases. Ultimately, we seek to decrease the quantity of low-value

care demanded without having a negative effect on the quantity of high-value care demanded.

When evaluating how provider and patient financial incentives should be changed to promote efficiency, a definition of efficiency is first needed. Efficiency shall be defined as patients consuming healthcare at the point of optimal consumption, as determined by income, preferences, and prices faced. Any deviations from this point of optimal consumption—whether overconsumption or underconsumption—shall be defined as inefficiencies. In the realm of consumer financial incentives, consumers do not face the real cost of healthcare because of insurance. By transferring money from when a person pays insurance premiums to when a person needs to pay for medical care, insurance lowers the perceived cost of healthcare for consumers. This lowering of costs generally causes an overconsumption of healthcare. The simple solution of making consumers face more of the true cost of healthcare is not practical because of people's inability to effective ration healthcare. When left to a perfectly competitive, consumer-oriented market, consumers do not make proper decisions because of being improperly informed about healthcare. Indeed, when consumers are faced with higher prices for healthcare, they do not only cut out low-value care; they also cut out the same amount of high-value care. Therefore, to increase efficiency—that is, to ensure that consumers are purchasing only the care they value at the optimal point determined by income, prices, and preferences—a consumer financial incentive must decrease low-value care while increasing consumption of high-value care.

The most promising reform would be the value-based insurance design, which seeks to differentially assign co-pays to encourage high-value care while discouraging low-value care. In areas where moral hazard is a concern, there ought to be higher co-pays. In areas where underconsumption is a concern, there ought to be lower co-pays. The determination of high-value differs from person to person but can be made based on best practices research that reveals some services which have high value for certain patients. The differential subsidization of high-value care protects the consumer against being imperfectly informed and irrationally choosing to cut back on high-value care, instead of low-value care. This differential subsidization will ensure that the consumer is moved closer to their optimal point of consumption. For the value-based insurance design to be effective in promoting efficiency, high-risk patients who need highly effective, price-responsive services with a low baseline of use must be targeted. It is important to note that the main goal of value-based insurance design is not simply to save money, although this, too, is possible. With lower co-pays for high-value services, employers will be forced to pay a larger share of high-value services amongst those new and existing

customers. From the marginal perspective, it has been empirically found that a 17% drop in care elsewhere would offset the extra cost of new high-value services. To offset the cost for the entire payment, a 48% drop is needed in care elsewhere. Indeed, offsets from fewer expensive adverse events, productivity gains, and increases in cost of low-value services can ultimately save employers money. Ultimately, value-based insurance designs can mitigate the negative effects of higher co-pays and improve market efficiency. Importantly, on a practical level, it can be implemented on a broad scale, as firms can now hit cost targets more efficiently.

Physicians are often driven by their own financial incentives to advocate or discourage the utilization of medical services. Through supplier-induced demand, such perverse incentives can often fuel a patient's overconsumption or underconsumption of healthcare. Ultimately, financial incentives for providers must be changed to ensure that care is encouraged or discouraged on the basis of value, not price. The main problem of current provider financial incentives is that the fragmentation of care promotes overconsumption of medically low-valued care. For instance, in a fee for service plan, providers have an incentive to promote patients to overconsume, as they are paid on the basis of each new service provided. The totality of the patient's care is not appreciated, and each provider has a perverse financial incentive to provide as many "services" as possible.

However, redefining the unit of service to a much broader level will overcome the issue of fragmentation in healthcare and bring down overconsumption of care to increase efficiency. By defining the unit of service as an "episode," such as a hip surgery, now one point of contact is responsible for a patient's care throughout an episode and any related services rendered during that episode. Essentially, episode-based payment is like capitation, except instead of capitating the patient, the payer capitates the episode. Now, the positive incentives of capitation—such as managing utilization and preventing overutilization—are retained without the negative incentives of capitation—such as discouraging necessary services for a patient because there is no marginal financial incentive. Instead, the provider bears the patient's risk for the entire episode and will manage utilization pertaining to that specific episode but will not altogether discourage necessary services that may be related to other episodes.

One of the main hurdles of episode-based payment is finding an appropriate point of contact to transfer the episodic payment who can manage the patient's care. With the rise of accountable-care organizations—typically, hospital-based systems that act like hospitals with a wide range of represented specialties—this hurdle can be overcome. By assigning every person into an accountable-care organiza-

tion, payment mechanisms can be developed to give the money and burden of managing care to the organization. Such organizations can improve upon the fragmented fee-for-service plans and force integration in care to achieve efficiencies and better manage utilization through provider payments.

Preparing for the Conference

What methods of controlling costs would you suggest? Do you think there is something to be said for trying a value-based approach to medicine? Or perhaps do you think that existing physician payment structures (e.g., diagnosis-related groups, fee-for-service, pay-for-performance) could be altered as the best means to control costs? Do you even think costs should be considered more highly than access (i.e., who has insurance)? Are the two mutually exclusive? Get ready to take positions, back up your arguments, and convince your fellow delegates in a few short months!