What is Wrong with U.S. Health Care and How Can We Fix It?

Remarks Delivered at Princeton University
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Good morning. I am delighted to be back at Princeton with so many of my teachers, friends on the faculty, and fellow alumni. To all of you who are here for the weekend with your orange and black outfits, it is great to be with you.

I am honored to have been invited to give this talk, and somewhat intimidated to give a talk that is meant as a tribute to Uwe Reinhardt. Uwe was an amazing economist, an inspiring teacher, and a wonderful person. A friend of mine who knew Uwe and saw the announcement of this talk wrote to me that "every encounter with Uwe added a cherished lift to one's spirit and value to one's perspective." I think those sentiments are shared by all who knew Uwe.

In addition, Uwe was incredibly funny. A colleague at Harvard told me that I could not begin a talk in honor of Uwe without telling a joke---but then he noted that he had never heard me tell a good joke in a speech so he better find one for me. And indeed he did. I will not name the colleague in case this whole thing turns out badly. But here is his joke:

Two doctors and an HMO manager die and line up together at the Pearly Gates. One doctor steps forward and tells St. Peter, "As a pediatric surgeon, I saved hundreds of children." St. Peter lets him enter. The next doctor says, "As a psychiatrist, I helped thousands of people live better lives." St. Peter tells him to go ahead. The last man says, "As an HMO manager, I got countless families cost-effective health care." St. Peter replies, "You may enter. But … you can only stay for three days. After that, you can go to [[hell]]."

I should emphasize that I think very highly of HMO managers who help families get cost-effective health care, as you will see in my remarks. But I like the joke anyway.

I was asked to speak today about both problems with U.S. health care and solutions to those problems. That is a big and complicated topic for a half-hour talk, so I will dive right in.

Problems with U.S. Health Care

Let me begin with the problems with U.S. health care. There are basically two. First, Americans are not very healthy compared with people in other rich nations. Second, we spend a lot of money on health care compared with people in other rich nations. Each of these problems would matter on its own, and together they are especially disturbing. When I was a student at Princeton

35 years ago, the United States was right with the pack on both health and health care spending, so these problems have developed over the past few decades.[i] Let me take them up in turn.

Health

The good news about Americans' health is that life expectancy is rising in this country, and disability-free life expectancy (that is, the number of years people are expected to live without a disability) is rising as well.[ii]

But there is bad news also. Part of the bad news is that our health is not as good as the health of people in other rich countries. Both life expectancy and healthy life expectancy are lower in the United States than in Canada, the United Kingdom, Germany, France, Australia, Japan, Sweden, Denmark, Switzerland, and the Netherlands---by an average of 3 years.[iii] In addition, rates of infant mortality and maternal mortality in childbirth are higher in the United States than in any of those other countries, and by considerable margins in most cases.[iv]

Another part of the bad news is that health varies much more by socioeconomic status in this country than in other rich countries.[v] The patterns here are complex, but let me offer a few bits of information about the United States. To start, life expectancy is not rising uniformly across our population. An expert panel convened by the National Academies of Sciences recently estimated that the probability of reaching age 85 for men in the bottom quintile of the earnings distribution was about 25 percent for the 1930 cohort and is projected to remain around 25 percent for the 1960 cohort---while for men in the top income quintile, those probabilities appear to be rising from 45 percent to 65 percent.[vi] The panel concluded that virtually all the gains in life expectancy between the 1930 and 1960 cohorts seem to be occurring in the top two-thirds of the income distribution. Separately, Princeton's Anne Case and Angus Deaton have shown that mortality rates for less-educated non-Hispanic whites in middle age have actually risen during the past two decades---in contrast with mortality rates for other groups in this country and people in many other countries---in part because of a rise in what they term "deaths of despair" from alcohol, drugs, and suicide.[vii] At the same time, other data show that black infants are more than twice as likely to die as white infants, and black women are more than three times as likely to die from pregnancy-related causes as white women.[viii]

Both the average experience and the experiences of certain groups represent failures for this country. Whether they are failures of U.S. health care or failures of other aspects of our social and economic system is hard to sort out. Health outcomes are affected not only by health care but also by diet, exercise, other habits, family structure, the social safety net, and many other factors. Moreover, care for certain health problems does seem to be more effective in this country than others.[ix] Still, we should be very concerned that Americans' health is falling behind the health of people in other rich countries. And we should be especially concerned about that because our

health care system is absorbing much more resources than the health care systems of other countries.

Health Care Spending

In 2016, the United States spent about $9400 on health care per person, compared with an average of about $5400 in the other rich countries I listed earlier.[x] We spent nearly 18 percent of our GDP on health care, while the other countries spent less than 12 percent on average. Spending more is not necessarily wrong. Our average income is higher than the average income in most of these other countries, and health care spending tends to rise with income. Moreover, we might have a particular taste for health care.

Nonetheless, most analysts conclude that our high spending is indeed a problem. One reason is simply that we are spending so much more and still ending up so much less healthy. Canadians, for example, spend less than half what we spend on health care per person, and yet live three years longer on average; can these divergent outcomes really be explained away by differences in tastes and habits? And can the widening of such gaps over the past few decades be explained by changes in tastes and habits?

Another reason to conclude that our high spending is a problem is that both the prices and quantities of health care in this country are determined in ways that differ greatly from those of most goods and services. Health care involves large public subsidies, high levels of insurance, often limited understanding by people of what they are getting, and substantial market power by suppliers. Partly as a result, the health care people receive varies dramatically across regions, and the prices paid vary dramatically both within regions and across regions in ways that are correlated with market power.[xi] Are those signs of an optimal allocation of resources?

Yet another reason to conclude that our high spending is a problem is the details of how our spending differs from that in other countries. One of Uwe Reinhardt's best-known and most influential papers was titled "It's the Prices, Stupid: Why the United States is So Different from Other Countries."[xii] In that paper, Uwe and his co-authors found that Americans spent much more on health care than people in other countries not because we utilized more care as measured by the number of doctor's visits or days in the hospital, but instead because we paid much more per doctor's visit and hospital day. That is, we spent more on health care because our prices were high rather than because our quantities were high. For example, in the most-recent data, physicians in the United States earn about two-thirds more than their counterparts in other rich countries, and our nurses earn more too.[xiii] In addition, we spend roughly twice as much on prescription drugs, primarily because of differences in price.[xiv]

However, prices are not the only source of difference in spending across countries. Measuring the quantity of health care is difficult once one goes beyond just counting doctor's visits or

hospital days. The intensity of care per visit or day is generally higher in the United States than in other countries.[xv] For example, the United States has many more MRI units per capita and does many more knee replacements and bypass surgeries than the average of other rich nations.[xvi] This greater intensity improves health in some cases, but whether that is broadly true is unclear.

We also spend more on administrative costs than other countries. About 8 percent of our health care spending goes to administration, compared with an average of 3 percent in other rich nations.[xvii] As one example, we spend about $600 more on administration of health care per person per year than Canadians do.

Altogether, then, the United States spends much more on health care than other countries in ways that one might expect would do little for our health---and indeed we are less healthy. The stakes here are huge: If we could mimic Canada, for example, we would live three years longer and save one-and-a-half trillion dollars a year for other purposes.

If we did reduce our spending on health care, where would that money turn up? Some in people's paychecks: As employers have paid more for health insurance for their employees, they have paid less in cash wages and salaries. Some of the savings would turn up in people's bank accounts after they purchased health care: Today, out-of-pocket payments are a significant and highly variable cost for people. Some of the savings would be in the budgets of state and local governments, who could then restore some of the cuts in their spending on education and other services.

And some of the savings would accrue to the federal government and could help put the federal budget on a sustainable path. Twenty-five years ago, in 1993, federal spending on major health care programs---principally Medicare and Medicaid---was 3.0 percent of GDP.[xviii] This year, it will be 5.2 percent of GDP, and ten years from now, 6.8 percent according to the projections of the Congressional Budget Office under current law. That increase between 1993 and 2028 of 3.8 percent of GDP is significantly larger than U.S. defense spending and about three-quarters as large as the projected federal deficit in 2028. I should emphasize that spending growth per beneficiary in federal programs has been less than spending growth per beneficiary in the rest of our health care system, so the rising federal tab does not stem from unique government mismanagement but from features of the system as a whole.[xix] Moreover, these figures on federal spending do not include the federal tax revenue foregone through the tax subsidies for private health insurance and some health care. So, the overall impact of health care on the federal budget is even larger than the numbers I have just given.

Solutions to Problems with U.S. Health Care

That is an overview of the problems with U.S. health care. What are the solutions? That is, what can we do to improve our health and reduce our health care spending? I see three key steps: expand insurance coverage; improve public health; and strengthen incentives for households, health insurers, and health care providers to act in ways that restrain prices and improve quality. I will discuss these in turn.

Expand Health Insurance Coverage

First, we should put policies in place to ensure that nearly every American has health insurance. We know how to do that, doing it would achieve some important goals, and then we could collectively move on to other issues in health policy.

What would a higher rate of health insurance accomplish? To start, it would improve Americans' health on average and would reduce disparities in health. How much the health of the newly insured would be improved is not clear. For example, analysis of an expansion of Medicaid in Oregon shows that new beneficiaries' health status became better in some ways but not in others one might have expected.[xx] I think the right interpretation is that insurance is not a panacea in making people healthier, but it helps. A higher rate of health insurance would also reduce out-of-pocket financial burden and risk, especially for lower-income people. The people who would benefit include both the individuals who get insurance and those individuals' extended families, who often pay part of the cost when those individuals need care.[xxi] And we know that lower-income people have experienced very little growth in their incomes during the past few decades, so reducing the burden they face from health care costs has a broader social purpose as well. Moreover, a higher rate of health insurance would help providers and insurers because of a reduction in the uncompensated care they would provide.

Those are some advantages of a higher rate of health insurance than we have had in this country traditionally. Do we know how to get there? Yes, through the insurance coverage provisions of the Affordable Care Act---or Obamacare, if you prefer.

Under the Affordable Care Act, the rate of health insurance in this country rose sharply and has stayed high. Contrary to some assertions, the marketplaces for private insurance established under the law were not collapsing in 2017, and the Medicaid expansions were doing fine.[xxii] Moreover, if the law had been implemented in the full way its creators intended, the rate of insurance would be even higher. So, the ACA's coverage provisions were working and can continue to work.

Are there alternative ways to expand health insurance coverage? Yes and no. In the eight years since the Affordable Care Act was enacted, many people have claimed that similarly high levels of insurance coverage could be achieved with much smaller federal subsidies and much looser rules imposed on insurance markets. That claim is not true, and there is no credible logic or

evidence that implies it could be true. We know what happened without the ACA's subsidies and rules because we saw that before: Significant numbers of Americans did not have access to health insurance at reasonable prices, and significant numbers who had such access did not purchase insurance because they chose to take their chances without it. We also know why those things happened: Health care spending varies dramatically across people in ways that can be partly predicted, so a free market for health insurance will price sicker people out. And because health care spending is so high on average and because society provides some emergency care for those who need it and cannot pay, some people---especially lower-income people---will go without insurance unless they are subsidized to buy it. Therefore, to achieve nearly universal coverage, we need sufficient rules and subsidies so that insurers price coverage to reflect average costs in a broad group and enough healthy people buy that insurance to make the pricing sustainable. The ACA does that. There are other ways to do it with a larger government role, such as "Medicare for all." There are no ways to do it with a much smaller government role.

I understand that it runs against the grain for many people to restrict individuals' choices about health insurance as the ACA does---through the original (now abandoned) mandate to buy insurance and through the rules about what insurance must cover. But we should all understand that giving more choice about health insurance to some people unavoidably means giving less choice to others. The reason is that people and insurers can make informed guesses about people's future need for health care of different sorts. If you let me avoid insurance that covers a condition I am unlikely to get, I will tend to opt out---and my decision to opt out will make that insurance more expensive for someone who has that condition or is likely to get it. That is, my exercise of my greater choice will give the other person less choice. It is like letting people buy or not buy home insurance after they know whose house is on fire; it is not true insurance. If we are going to provide insurance for people who are expected to have larger-than-average health care costs, we will need to collect money either from people who are expected to have lower-than-average health care costs (by forcing some pooling of the healthy with the sick) or from taxpayers (by forcing them to pay more tax), so there is an unavoidable loss of choice for some people.

If the Affordable Care Act provides the right structure for maintaining a high rate of health insurance, as I have argued, what should we do now? Primarily, let the law work as intended, which includes six specific items: First, create some predictability by not constantly threatening to repeal the law. Second, commit to funding subsidies for the required reductions in cost-sharing for low-income beneficiaries in the marketplaces. Third, continue the risk-corridor program in the marketplaces on an ongoing basis. Fourth, undertake vigorous outreach efforts to boost enrollment in the marketplaces. Fifth, do not expand the availability of bare-bones coverage in the marketplaces---coverage that often does not cover prescription drugs, for example.[xxiii] And sixth, encourage Medicaid expansion in all states, which would increase insurance coverage directly and would also draw some sicker people out of the exchanges.

Improve Public Health

That is all I have to say about health insurance. A second key step for addressing the problems with U.S. health care is to work directly to improve public health.

Historically, the biggest gains in Americans' health have come not from health care but from other factors. In a talk a few years ago, Tom Frieden, then director of the Centers for Disease Control and Prevention, noted that the average lifespan in this country has increased by more than 30 years since 1900 and that researchers have attributed 25 of those 30 years to public health advances such as cleaner water, better sanitation, and more vaccinations.[xxiv]

Those particular advances and their incredible effects on life expectancy could not be repeated today. However, there is much we could do to improve public health in the years ahead. Let me mention a few directions worth pursuing.

First, we should tackle the opioid crisis head-on. Overdose deaths from natural and semi-synthetic opioids such as oxycodone have been moving up for decades, overdose deaths from heroin have been rising rapidly since 2010, and overdose deaths from synthetic opioids such as fentanyl have surged in the past few years.[xxv] Altogether, opioid overdoses now kill more than 45,000 people per year in this country---more than die in car accidents.[xxvi]

Resolving this crisis will not be easy: Even a comprehensive strategy implemented forcefully will not make this problem go away quickly. But we know some things to do. We should keep reducing prescriptions of opioids and shift more prescriptions toward non-addictive painkillers instead. In 2017 opioid prescriptions were nearly 30 percent below their level in 2011, which was the peak year, but still more than six times their level 25 years ago.[xxvii] Unfortunately, reducing prescriptions will not be enough to stop the spread of opioid use, because powerful opioids can now be obtained very cheaply on the street without a prescription at all.[xxviii] We also should expand treatment options for opioid addicts. This means establishing more clinics that provide medication-assisted therapy as well as other forms of therapy, and allowing those clinics to use weak opioids (such as buprenorphine) along with non-opioid medications (such as the one just approved by the Food and Drug Administration).[xxix] In addition, we should fund significantly more research into both prevention and treatment. We need to bring a real sense of urgency to this work.

A second important direction for improving public health is to reduce the number of Americans who smoke or who are overweight or obese. Among American adults today, about 15 percent smoke cigarettes and about 40 percent are obese.[xxx] Discussing the best policies for reducing these numbers would require a separate lecture, so I will not say more now.[xxxi]

The third direction for improving public health that I want to mention is to prepare for the possibility of a global epidemic of a contagious disease. With the interconnectedness of the world today, diseases that take hold in one place can spread very quickly to others, so people around the world are more vulnerable now than they have been in the past. Developing new vaccines and tests and therapies---and preparing governments to react quickly to emerging health threats---would be a very worthwhile investment.[xxxii]

Strengthen Incentives to Restrain Prices and Improve Quality

Let me move on from public health to talk about what I view as the third key step for addressing the problems with U.S. health care---namely, to strengthen incentives for households, health insurers, and health care providers to act in ways that restrain prices and improve quality.

To be sure, many households, insurers, and providers are already working hard to hold down prices and raise quality, in part because of existing incentives to do so. When I hear about examples of innovation in the health care system or read research papers analyzing such examples, I am often quite impressed by the ways that cost is being reduced or the quality of care enhanced in particular situations. But making pockets of our system better is not enough; we need to make broad expanses of the system better. The stories and papers describing examples of innovation often have a wistful note of "if only more people could make the progress described here …" That is the challenge: What can we do to strengthen incentives for faster progress across the health care system? Let me offer four directions for public policy.

First, we should stop providing subsidies for health insurance that is unnecessarily expensive. Subsidizing some health insurance makes good sense because people need protection against large health care expenses. But subsidizing insurance regardless of the premium amount does not make sense because it encourages insurers to reduce deductibles and copayments, which in turn makes individuals less price-sensitive when obtaining health care, and it discourages insurers from managing utilization of care as tightly and negotiating as aggressively with providers.

Based on that logic, the core subsidies in the Affordable Care Act's marketplaces are based on average premiums for insurance with significant out-of-pocket payments. If enrollees want more-expensive insurance or insurance with smaller out-of-pocket payments, they need to pay the extra cost themselves without any further government help. By contrast, income and payroll taxes provide subsidies for employer-sponsored insurance that are open-ended: However high the premiums, they are fully excluded from taxable income. The ACA tried to limit that subsidy by imposing a tax---the so-called Cadillac tax---on plans with premiums above certain thresholds. We should put that tax into effect rather than continuing to defer it, as Congress has been doing.[xxxiii] An additional way to reduce subsidies for unduly expensive insurance is to prevent medigap policies from covering all of Medicare's out-of-pocket amounts, and we should make that change.[xxxiv]

A second useful step for restraining prices and improving quality is to increase competitive pressure in Medicare. We should start by reforming the system of bidding by private plans in Medicare Advantage; there are straightforward ways to increase competition in that system.[xxxv] In addition, after those changes have been implemented, we should consider taking the further step of including Medicare fee-for-service in the competitive bidding, which would produce a system known as "premium support." Under premium support, each Medicare beneficiary would choose between all insurance options and would bear the entire difference in cost between their choice and a benchmark. Premium support is essentially an expansion of the current Medicare Advantage program that would both strengthen competition between private insurers and strengthen competition between private insurers and fee-for-service Medicare. However, including Medicare fee-for-service in the bidding would create significant problems related to risk adjustment in payments and significant disadvantages for enrollees who prefer fee-for-service, which is why I recommend that we consider that second step after completing the first one, rather than just leaping into it.[xxxvi]

A third way to hold down prices and raise quality is to continue restructuring payments to Medicare's fee-for-service providers to create stronger incentives for high-value care. Traditional fee-for-service payments provide incentives to deliver more care and more complex care, but not necessarily care that is more cost-effective or higher-quality. The Department of Health and Human Services is now developing and implementing alternative payment models, such as bundling of payments and capitated payments to accountable care organizations, and this effort should proceed with as much vigor and urgency as possible.

Appropriate changes in Medicare would lead to higher-value care not only for Medicare patients but also for patients with private insurance, which often follows policies adopted by Medicare. But we need to recognize that this process of evolution is very difficult: Many experiments with alternative payment models have had disappointing results, at least in part because providers have been unable or unwilling to change their behavior enough to deliver significant reductions in cost or improvements in quality.[xxxvii] That history should not discourage us from continuing to experiment and to expand successful experiments, but it should temper our expectations about the likely pace of reform.

A fourth important way to strengthen incentives for restraining prices and improving quality is to generate as much competition in the underlying markets for health insurance and health care as possible. That means limiting further consolidation by insurers and by hospitals and other care providers. Research has shown that consolidation by health insurers and health care providers often raises prices.[xxxviii] Generating competition also means relaxing scope-of-practice laws and increasing the number of physicians in the country. The rise of urgent care centers and other ongoing changes in the organization of health care delivery are already expanding the avenues

for obtaining health care; such changes have costs and risks, but also can bring important benefits. Generating useful competition also means providing people with additional information and other tools to make them more-effective buyers of insurance and users of care, and these sorts of changes can make a difference as well.

All of the policies I have described to strengthen incentives for restraining prices and improving quality can make a difference, but their impact will be muted by intrinsic characteristics of health care and health insurance. With the mergers we have already seen in the health sector and the inherent localness of many aspects of health care, substantial market power is unavoidable. With the large public subsidies and high levels of insurance we have in the health sector, responsiveness to price signals is unavoidably checked. As a result, we will never be able to create market forces in health care that are comparable to the market forces that restrain prices and boost quality in other parts of our economy. And at the same time, we are probably on the front end of a wave of breakthroughs in biotechnology and personalized medicine that will improve our health but also be very resource-intensive. So, upward pressure on health care spending will probably increase rather than diminish in the years ahead.

These considerations raise the critical question: If market forces are inevitably limited, should the government impose greater centralized management instead? I do not know the answer to that question, which is why I have deliberately left it to the end of my talk when I am almost out of time. And in all seriousness, I find the uncertainties here so great that knowing the best path forward is difficult. Rather than make a recommendation, then, let me offer a prediction: My prediction is that we will edge, step-by-step, toward greater government oversight and price-setting. To be sure, many Americans distrust their governments and will not endorse a big policy shift they view as a government "takeover" of health care, which we saw in the reaction to the Affordable Care Act. But those Americans also distrust big businesses and big organizations of other sorts, and they want access to health care they can afford. When they see hospitals that are essentially public utilities in their cities, they will want those hospitals regulated like other public utilities. When they see insurance companies doing well financially, they will want regulation of margins. When they see big pharmaceutical companies charging high prices for drugs, they will want regulation of prices. Of course, there are dangers and risks in these sorts of regulations, which is why I feel a sense of urgency about the changes in incentives to strengthen market forces that I have described.

Conclusion

Let me stop here. I have skipped at least two crucial topics in U.S. health care---one is pharmaceuticals, and the other is mental health. And I have not given sufficient focus to many other topics as well. But I have held forth more than long enough, and I appreciate your attention and patience. Thank you very much.

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[iii] Papanicolas, I., Woskie, L., & Jha, A. (2018). Health Care Spending in the United States and Other High-Income Countries. *JAMA, 319*(10), 1024-1039.

[iv] Ibid. and Thakrar, Ashish P., Forrest, Alexandra D., Maltenfort, Mitchell G., & Forrest, Christopher B. (2018). Child Mortality in the U.S. and 19 OECD Comparator Nations: A 50-Year Time-Trend Analysis. *Health Affairs (Project Hope), 37*(1), 140-149.

[v] Ibid.

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[viii] Center for Disease Control User Guide to the 2015 Period Linked Birth/Infant Death Public Use File and Center for Disease Control's Pregnancy Mortality Surveillance System.

[ix] Papanicolas et al.

[x] Ibid.

[xi] Cooper, Z., Craig, S., Gaynor, M., & VanReenen, J. (2015). The Price Ain't Right? Hospital Prices and Health Spending on the Privately Insured. *NBER Working Paper Series,* 21815.

[xii] Anderson, G., Reinhardt, U., Hussey, P., & Petrosyan, V. (2003). It's the prices, stupid: Why the United States is so different from other countries. *Health Affairs, 22*(3), 89-105.

[xiii] Papanicolas et al.

[xiv] Ibid.

[xv] The increase in U.S. health care spending over the past two decades stems largely from increases in prices and intensity. See Dieleman et al., Factors Associated with Increases in US Health Care Spending, 1996-2013. *JAMA*, 318(17), 1668-1678.

[xvi] Ibid.

[xvii] Papanicolas et al.

[xviii] Congressional Budget Office (2018). *The Economic and Budget Outlook: 2018 to 2028*, Figure 4-3.

[xix] Congressional Budget Office (2016). *The 2016 Long-Term Budget Outlook*, Table 3-1, reflecting values after adjusting for changes in the demographic characteristics of those covered.

[xx] Baicker, K., Taubman, S., Allen, H., Bernstein, M., Gruber, J., Newhouse, J., Schneider, E., Wright, W., Zaslavsky, A., and Finkelstein, A. (2013). The Oregon Experiment — Effects of Medicaid on Clinical Outcomes. *The New England Journal of Medicine, 368*(18), 1713-1722.

[xxi] Finkelstein, A., Hendren, N., & Shepard, M. (2017). Subsidizing Health Insurance for Low-Income Adults: Evidence from Massachusetts. *NBER Working Paper Series,* 23668.

[xxii] On insurance coverage, see https://www.cdc.gov/nchs/data/nhis/earlyrelease/insur201805.pdf. On the marketplaces, see https://www.kff.org/private-insurance/issue-brief/individual-insurance-market-performance-in-2017/; in 2017, insurers paid out 82 cents of each premium dollar in medical claims, on average, compared with 96 cents in 2016 and $1.03 in 2015.

[xxiii] See https://www.kff.org/health-reform/issue-brief/understanding-short-term-limited-duration-health-insurance/.

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[xxxi] For some possibilities, see Congressional Budget Office (2012). *Raising the Excise Tax on Cigarettes: Effects on Health and the Federal Budget*, and Congressional Budget Office (2015). *Estimating the Effects of Federal Policies Targeting Obesity: Challenges and Research Needs*.

[xxxii] National Academies of Sciences, Engineering, and Medicine. 2016. *The Neglected Dimension of Global Security: A Framework to Counter Infectious Disease Crises*. Washington, DC: The National Academies Press.

[xxxiii] For analysis of alternative approaches to limiting those tax subsidies, see Congressional Budget Office (2016). *Options for Reducing the Deficit: 2017 to 2026*. Pages 269-275.

[xxxiv] Congressional Budget Office (2016). *Options for Reducing the Deficit: 2017 to 2026*. Pages 239-247.

[xxxv] For one recent proposal, see https://www.brookings.edu/research/a-proposal-to-enhance-competition-and-reform-bidding-in-the-Medicare-Advantage-program/.

[xxxvi] Congressional Budget Office (2017). *A Premium Support System for Medicare: Updated Analysis of Illustrative Options*.

[xxxvii] For an earlier review, see Congressional Budget Office (2012). *Lessons from Medicare's Demonstration Projects on Disease Management, Care Coordination, and Value-Based Payment*. Analyses of subsequent experiments by other analysts offer a similarly mixed picture.

[xxxviii] For example, see Dafny, L. (2015). Evaluating the Impact of Health Insurance Industry Consolidation: Learning from Experience. Issue Brief (Commonwealth Fund), 33, 1-11 and Dafny, L. (2009). Estimation and Identification of Merger Effects: An Application to Hospital Mergers. Journal of Law and Economics, 52(3), 523-550. In addition, see Horenstein, A., & Santos, M. (2018). Understanding Growth Patterns in US Health Care Expenditures. *Journal of the European Economic Association*, 02/21/2018; Horenstein et al. show that periods during which U.S. health care spending grew rapidly are periods in which markups of health care prices grew rapidly.