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Good morning Chairman Johnson, Ranking Member McCaskill, and Members of the Committee. I am Melissa Thomasson, the Julian Lange Professor of Economics at Miami University. Thank you for the opportunity to appear before you today to discuss the economic development of the health insurance system in the United States and its effect on health care costs. In an environment where the overall share of health care spending as a percent of GDP has more than tripled, from five percent in 1960 to roughly 18 percent today, understanding the evolution of health insurance is crucial to developing effective policies that improve health care access and quality, and that constrain cost growth.¹

Why the United States has an employment based system of health insurance

The fundamental function of any kind of insurance is to reduce financial uncertainty by pooling risks. Consider homeowners insurance. On average, if a large number of people pay a premium in advance, a relatively small number will have their houses burn down. Because not everyone has their homes burn, there is sufficient money in the pool to replace the homes of those who suffer the loss. This system works because both higher-risk and lower-risk people pay money into the pool, not just the people who face a high risk of loss.

At the turn of the 20th century, medical care was largely ineffective and medical costs were low. People rarely entered the hospital, did not face unexpectedly high health care costs, and did not need health insurance.² For example, only five percent of infants were born in hospitals in 1900. As medical technology advanced in the early 20th century and more people sought treatment in hospitals, health care costs began to rise. The costs of hospitalization also introduced wide variation in health care expenses for American families, so that middle class families that could previously pay bills might not be able to pay a large hospital bill.³

Even though the need for health insurance had grown, the market did not develop because insurance companies were concerned that “health” was uninsurable for two reasons. First, they feared a problem known as “moral hazard,” which occurs when an insurance changes the behavior of the insured person. In health insurance, moral hazard occurs because health

insurance increases the amount of medical care people consume by lowering the cost of care. Moral hazard affects all types of insurance, but is less of a problem in some areas; for example, few people begin driving recklessly simply because they have insurance to repair their car in the event of an accident. A second reason insurance companies were reluctant to enter the health business was because they recognized that people who knew they might be more likely need medical care would be more likely to seek out insurance. This problem – known as adverse selection – was as big as a problem for insurance markets in the 1920s and 1930s as it is today in the non-group market. For insurance to be effective and affordable, both healthy people and people more likely to become ill must buy insurance.

The problem of adverse selection was solved in 1929 when Justin Ford Kimball, an administrator at Baylor University Hospital, devised a means to alleviate the financial pressure the hospital faced from unpaid hospital bills. A former superintendent of schools, Kimball worked with Dallas teachers to develop a plan to help them pay their bills – and improve the financial position of the hospital. They came up with a simple plan based on the principles of insurance to help teachers pay: Baylor would provide each teacher with 21 days of hospital care for an annual fee of \$6.00. These hospital-based plans – which later became known as Blue Cross – had unwittingly solved the problem of adverse selection. By selling health insurance to a group of employed teachers who were healthy enough to work, the plan ensured that the risk pool would not be overwhelmed by people who were likely to be sick. The problem of moral hazard was also mitigated because the Blue Cross plans reimbursed hospitals directly and patients generally could not admit themselves to hospitals.

The Blue Cross plans became enormously popular, both among members and hospitals. They enabled hospitals to receive a constant stream of revenue and offered financial protection for Blue Cross members. By 1940, roughly nine percent of Americans had insurance against hospital expenses.⁴ Several factors combined to lead to rapid growth in the number of people with health insurance coverage. Medical technology advanced, and discoveries such as sulfa in 1937 and penicillin during WWII increased the demand for medical care.⁵ Commercial insurance companies, which had initially been reluctant to offer health insurance, witnessed the success of the Blues in conquering adverse selection, and soon began to compete with the Blue Cross plans by offering insurance to employee groups.⁶

In the 1940s, a series of events ensured the expansion of the health insurance market and its employment-based nature. The tremendous mobilization of troops and resources during World War II led to a huge decline in unemployment, which fell to a low of 1.2 percent in 1945.⁷ Beginning in 1942, the National War Labor Board limited the ability of firms to raise wages to attract increasingly scarce labor. Health insurance (and other fringe benefits) were exempted from this ruling. As a result, firms began to offer health benefit packages to secure workers.

Unions worked to negotiate for health insurance on behalf of workers, a right that was assured in 1949 when the National Labor Relations Board ruled in a dispute between the Inland Steel Co. and the United Steelworkers Union that the term “wages” included pension and insurance benefits. Therefore, when negotiating for wages, unions were also allowed to negotiate for benefit packages on behalf of workers. This ruling, later affirmed by the U.S. Supreme Court, further reinforced the employment-based system.⁸

Perhaps the most influential aspect of government intervention that shaped the employer-based system of health insurance is the tax treatment of employer-provided contributions to employee health insurance plans. Employers are permitted to deduct health insurance contributions (like wages) from their taxes as a cost of doing business. But unlike wages, employer contributions to employee health insurance premiums are exempt from employee taxable income. This “tax subsidy” of employer contributions to employee health insurance premiums first occurred in 1943 with an administrative tax court ruling and was later codified under the 1954 Internal Revenue Code.⁹ The tax treatment of employer provided health insurance provided an additional incentive for its expansion; research shows that the 1954 statute increased the generosity of existing plans and the number of firms that offered coverage.¹⁰ The tax treatment cemented the institution of employment-based health insurance in the United States and introduced a number of distortions into the system. First, workers whose employers pay for their health insurance receive lower wages (since employers look at total compensation when making hiring decisions). Workers may also be reluctant to leave their job if they fear their health insurance may be less comprehensive elsewhere.¹¹ The tax subsidy of premiums provides greater value to higher income individuals with higher marginal tax rates, and today results in an estimated revenue loss to government of \$266 billion – which is 4.5 times greater in magnitude than the \$59 billion revenue loss resulting from the home mortgage interest deduction.¹² Finally, the tax treatment of employer-provided health insurance prevents non-employment based groups from providing coverage, and leaves anyone who is unable to work at risk of not having health insurance.

How our health insurance system leads to rising health care costs

Policies that encourage the development of very generous health insurance plans, such as the favorable tax treatment of employer sponsored health insurance coverage, contribute to rising health care costs because they increase moral hazard. To the extent that the additional health care purchased by consumers is necessary and cost-effective, this increase in utilization is not problematic. But if the care consumers are purchasing is of low value, the extra utilization does not improve health and adds to rising expenditures. In the early days of health insurance, the risk of consumers receiving low-value care was small, since health insurance plans were much less generous. Blue Cross initially covered only hospital bills, since physicians were slower in

developing the Blue Shield plans that offered financial protection for their bills. In 1940, when most Americans only had hospital coverage, Blue Cross directly paid hospitals a set rate for a finite number of covered days. Moral hazard was small because patients did not admit themselves to hospitals, and patients did not receive indemnity (cash) benefits.¹³ In this regard, benefits were not open-ended. Even as Blue Shield developed, it initially only covered physician visits while a patient was in the hospital.

This changed rapidly. Health insurance became more generous in the 1940s and 1950s. Consumers could purchase not only hospital insurance, but also coverage for medical expenses both inside and outside of the hospital, so benefits became less limited and defined. At the same time, the charge and cost-based reimbursement systems developed by Blue Cross ensured that hospital costs would be covered. By paying for whatever costs hospitals incurred, the structure of Blue Cross did not emphasize efficiency and economy, and there was little incentive to weigh costs and benefits. During the post-WWII period when the economy was strong and medical developments such as penicillin were seemingly miraculous, hospitals placed an emphasis on expansion and investment. The federal government endorsed and funded this expansion, with the passage of The Hospital Survey and Construction Act (the Hill-Burton Act) in 1946. Between 1947 and 1971, the federal government disbursed \$29.3 billion (inflation-adjusted 2016 dollars) to construct, replace, and renovate health care facilities. Analysis suggests that the Hill-Burton program accounted for 17 percent of the growth in hospital beds between 1948 and 1975, and resulted in a net increase of 70,000 beds nationwide, while smoothing disparities in hospital access between high- and low-income counties and rural and urban areas.¹⁴ These new hospitals had new and improved laboratories, operating suites, and equipment – and they were expensive. In 1963, a task force set up by the American Hospital Association (AHA) and the Blue Cross Association affirmed the cost-plus reimbursement system, where hospitals were reimbursed for the cost of treating patients, with further allowances for capital depreciation and replacement.¹⁵

As time has passed, insurance coverage has become more generous and the share of health care expenses paid by consumers has decreased. In 1950, when approximately 50 percent of the population had hospital coverage, consumers paid 64.9 percent of health care expenditures out of pocket. Only 10 years later, this number had fallen to 55 percent, and to 40.8 percent in 1968, just a few years after the implementation of Medicare.¹⁶ Today, consumers pay only about 12.4 percent of their health care bills.¹⁷ Given that the function of insurance is to provide financial protection against large, unexpected losses, reducing consumer out of pocket payments so they can afford care is not necessarily a bad thing, but it is important that the care consumers receive is necessary and cost-effective so that health care expenditures do not rise unnecessarily.

The problem is that as insurance has become more generous, our system has tended to reward providers on a fee-for-service basis. Under the fee-for-service system, providers are

reimbursed for every service they provide. This system incentivizes volume-based care. Providers do not have a financial interest in limiting services; in fact many have a financial incentive to perform more services.¹⁸ Patients rely on physicians to determine the services they need, since medical decisions are complex.¹⁹ When patients pay little for their care, they consume more; the RAND Health Insurance experiment showed that people with who paid for 25 percent of their care spent 20 percent less than participants with “free” care. Patients enrolled in a plan where they paid 95 percent of their care (similar to what we would consider a high deductible plan today) spent 30 percent less than participants with no cost sharing.²⁰

The implementation of Medicare in 1966 provides an excellent example of how cost-based reimbursement coupled with insurance coverage can lead to high utilization and rising expenses. From 1966 until 1983, hospitals were reimbursed on a cost-plus basis. Research shows that within four years of its implementation, Medicare resulted in a 37 percent increase in real health expenditures, with about half of that increase coming from the entry of new hospitals into the market and the other half coming from expansion of services.²¹ Even after 1983, when Medicare switched to a system of fixed prospective payment based on Diagnosis Related Groups (DRGs), a hospital’s revenue is still a function of patient admissions, thus incentives for volume based care still exist. The response of health care expenditures to the introduction of Medicare suggests that up to 50 percent of the rise in real health care costs between 1960 and 1990 may be due to the overall spread of health insurance.²² Moreover, evidence suggests that as insurance expands the market for health care, it generates incentives for increased development of technology. While some of this new technology represents a significant improvement over current treatments, other innovations do not improve outcomes compared to existing procedures, yet cost more.²³

It is worth emphasizing that at least some of the increase in expenditures was probably “worth it” in the sense that the benefit to patients outweighed the costs. Moreover, there is evidence that Medicare significantly reduces financial risk for elderly people with the highest health care expenditures, which is one of its goals as a social insurance program.²⁴ The development of cost-effective technologies that help patients is also worthwhile. What is not worthwhile is inefficient, low-value care that emerges when providers are incentivized to deliver high-volume care regardless of cost that patients with generous health insurance coverage are willing to pay for.

How can the past inform present health care policy?

History can guide policymakers seeking to improve health care delivery and constrain health care cost growth, but it does not offer a simple solution. Rather, it suggests that the problem of adverse selection presents a long-standing challenge to the effective provision of insurance in the non-group market. History also suggests that constraining cost growth will be

difficult as long as health care providers profit from providing volume-based care. Movements to shift payment to reward value-based care that emphasizes quality and cost-effectiveness will be key to any policy seeking to limit the growth of health care expenditures. Finally, research shows that consumers respond to cost sharing such as high-deductible health plans (HDHPs) by significantly reducing spending both in the short run and over time.²⁵ Studies show that consumers with high-deductible health plans engage in cost-conscious medical decision making, such as increasing use of generic drugs, but it also suggests that they reduce spending on both low-value care as well as necessary care.²⁶ In addition, at least one study finds no evidence of consumers learning to price shop, even after two years in a high deductible plan, although this may be related to the fact that employer contributions to employee health savings accounts may engender moral hazard.²⁷ Combined, these studies suggest high-deductible health plans are effective at reducing costs, but need to be carefully structured to motivate consumers to obtain necessary and high-value care while minimizing the use of low-value services.²⁸

Notes

1. Centers for Medicare and Medicaid Services, "National Health Expenditures 2015 Highlights." Available from: <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/highlights.pdf>.
2. Thomasson, Melissa A. (2002). "From Sickness to Health: The Twentieth Century Development of U.S. Health Insurance." *Explorations in Economic History*, 39(3), pp. 233-53.
3. In 1927, the government formed the Committee on the Costs of Medical Care (CCMC) to investigate the medical expenses of American families. Comprised of physicians, economists, and public health specialists, the CCMC published 27 research reports, offering reliable estimates of national health care expenditures. According to one CCMC study, the average American family had medical expenses totaling \$108 in 1929, with hospital expenditures comprising 14 percent of the total bill. In 1929, medical charges for urban families with incomes between \$2,000 and \$3,000 per year averaged \$67 if there were no hospitalizations, but averaged \$261 if there were any illnesses that required hospitalization (see Falk, I.S., C. Rufus Rorem and Martha D. Ring. *The Cost of Medical Care*. Chicago: University of Chicago Press, 1933).
4. Four percent had surgical coverage, and 2 percent had coverage for in hospital medical benefits. Health Insurance Institute, *Source Book of Health Insurance Data*, 1961.
5. Thomasson, Melissa A. (2002). "From Sickness to Health: The Twentieth Century Development of U.S. Health Insurance." *Explorations in Economic History*, 39(3), pp. 233-53.
6. See Thomasson, Melissa A. (2004). "Early evidence of an adverse selection death spiral? The case of Blue Cross and Blue Shield." *Explorations in Economic History*, 41, pp. 313-328. Commercial insurance plans were less interested in the non-group market, where they still viewed adverse selection to be a severe problem. They aggressively screened applicants in this market, while Blue Cross plans, operating as non-profits, did not. Analysis shows that the Blue Cross plans suffered from adverse selection, which may have ultimately led them to dump their nonprofit status and limit their offerings in non-group markets.
7. Bureau of Labor Statistics, "Employment status of the civilian noninstitutional population, 1940 to date." Available at <https://www.bls.gov/cps/aa2009/cpsaat1.pdf>.
8. Scofea, Laura A. (1994). "The Development and Growth of Employer-Provided Health Insurance." *Monthly Labor Review*, 117, p. 6. See also *Inland Steel Co. v. NLRB* (170 F. 2d 247 (7th Cir. 1948)), and Robert D. Eilers, *Regulation of Blue Cross and Blue Shield Plans*. Homewood, IL: Richard D. Irwin, Inc., 1963, p. 19.
9. The first such exclusion occurred under an administrative ruling handed down in 1943 which stated that payments made by the employer directly to commercial insurance companies for group medical and hospitalization premiums of employees were not taxable as employee income (*Yale Law Journal*, 1954, pp. 222-247). This ruling was highly restrictive and limited in its applicability since it only affected direct employer contributions to group plans issued by commercial insurance companies. Private programs of employee associations or of employers were not covered under the ruling, nor were employer contributions to the individual health plans of employees. In addition, there was confusion as to what actually constituted "insurance." Even plans that could meet the criteria of insurance such as contractual enforceability, indemnification, and limits of liability were often not covered under the 1943 ruling (*Yale Law Journal*, 1954, pp. 222-47).
10. Thomasson, Melissa A. (2003). "The Importance of Group Coverage: How Tax Policy Shaped U.S. Health Insurance." *American Economic Review*, 93(4), pp. 1373-84.
11. Madrian, Brigitte (1994). "Employment-Based Health Insurance and Job Mobility: Is There Evidence of Job-Lock?" *Quarterly Journal of Economics*, 109(1), pp. 27-54.
12. Congress of the United States, Congressional Budget Office. "Federal Subsidies for Health Insurance Coverage for People Under Age 65: 2016 to 2026. Available from: <https://www.cbo.gov/sites/default/files/114th-congress-2015-2016/reports/51385-healthinsurancebaseline.pdf>. Revenue loss from mortgage interest tax deduction from Joint Committee on Taxation, "Estimates of Federal Tax Expenditures for Fiscal Years 2016-2020," January 30, 2017, JCX-3-17.
13. A nationwide study of employer plans in the late 1940s found that of 215 employer plans, the most generous plans paid \$8 per day for hospital care, while 69 percent of plans paid \$5.00 per day or less. Strong, Jay V. *Employee Benefit Plans in Operation*. Washington, D.C.: The Bureau of National Affairs, 1950, p. 326.

14. Chung, Andrea Park, Martin Gaynor, and Seth Richards-Shubik. "Subsidies and Structure: The Lasting Impact of the Hill-Burton Program on the Hospital Industry." National Bureau of Economic Research Working Paper #22037, February 2016.
15. American Hospital Association (163). *Report of Task Force on Principles of Payment for Hospital Care*, pp. 1-61.
16. Rice, Dorothy P. and Barbara S. Cooper (1970). "National Health Expenditures, 1929-68." *Social Security Bulletin*, 33(1), p. 17.
17. Calculated from Centers for Medicare and Medicaid Services, National Health Expenditures Accounts, Table 4, 2015. Available from: <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html>. Out of pocket expenditures as a share of total personal health care expenditures.
18. Several studies suggest that physicians respond to financial incentives by changing treatment when the incentives change. For example, a 2011 study found that after Medicare implemented an average sales price payment system for physician-administered drugs (such as chemotherapy drugs) that reduced the reimbursement for a common lung cancer drug, oncologists responded by increasing the rate of chemotherapy for patients with lung cancer; rates of treatment for lung cancer increased by more than 10 percent within the first 30 days after diagnosis. See Jacobson, M., Earle, C.C. and Newhouse, J.P. (2011). "Geographic variation in physicians' responses to a reimbursement change." *New England Journal of Medicine*, 365(18), pp. 1653-55.
19. Consumers can shop for some types of care (such as outpatient MRIs, non-emergent surgeries and certain drugs), but are often at the mercy of providers who recommend imaging, drugs, or surgery in the first place. These providers may have financial incentives that influence their behavior. For example, a 2012 study by the U.S. Government Accountability Office examined the number of imaging services referred by physicians between 2004 and 2010 found that the number of self-referred imaging studies (in which a patient goes to an imaging facility in which the physician has a financial interest) increased by 80 percent over the period, compared to an increase of 12 percent for non-self-referred services. ("Higher Use of Advanced Imaging Services by Providers who Self-Refer Costing Medicare Millions." U.S. Government Accounting Office Report # GAO-12-966, September 2012.
20. Newhouse, Joseph P. and the Insurance Experiment Group (1993). *Free for All? Lessons from the RAND Health Experiment*. Cambridge, MA: Harvard University Press.
21. Finkelstein, Amy (2007). "The Aggregate Effects of Health Insurance: Evidence from the Introduction of Medicare." *Quarterly Journal of Economics*, 122(1), pp. 1-37.
22. Finkelstein, Amy (2007). "The Aggregate Effects of Health Insurance: Evidence from the Introduction of Medicare." *Quarterly Journal of Economics*, 122(1), pp. 1-37.
23. For example, a 2013 study found that proton beam therapy offers no long-term benefit over traditional radiation for prostate cancer, yet Medicare pays \$32,000 per patient for proton beam therapy compared to under \$19,000 for radiation. See Yu, James B., Pamela R. Soulos, Jeph Herrin, Laura D. Cramer, Arnold L. Potosky, Kenneth B. Roberts and Cary P. Gross. (2013). "Proton Versus Intensity-Modulated Radiotherapy for Prostate Cancer: Patterns of Care and Early Toxicity." *Journal of the National Cancer Institute*, 105(1), 25-32, doi: 10.1093/jnci/djs463.
24. Finkelstein, Amy and Robin McKnight (2008). "What did Medicare do? The Initial impact of Medicare on mortality and out of pocket medical spending." *Journal of Public Economics*, 92, pp. 1644-1668.
25. Haviland, Amelia M., Susan Marquis, Roland McDevitt, and Neeraj Sood. (2012). "Growth of Consumer Direct Health Plans to One-Half of All Employer Sponsored Insurance Could Save 57 Billion Annually." *Health Affairs*, 31, pp. 1009-1015; and Haviland, Amelia M., Susan Marquis, Roland McDevitt, and Neeraj Sood. (2012). "Growth of Consumer Direct Health Plans to One-Half of All Employer Sponsored Insurance Could Save 57 Billion Annually." *Health Affairs*, 31, pp. 1009-1015.
26. For an example of how HDHPs affect generic drug choice, see Waters, Teresa M., Cyril F. Chang, William T. Cecial, Panagiotis Kasteridis, and David Mirvis. (2011). "Impact of High-Deductible Health Plans on Health Care Utilization and Costs." *Health Services Research*, 46 (1 Pt 1), pp. 155-172. For discussions of how consumer spending responds to high-deductible health plans, see: Baicker, Katherine, Sendhil Mullainathan, and Joshua Schwartzstein. (2015). "Behavioral Hazard in Health Insurance." *Quarterly Journal of Economics*,

- 130, pp. 1623-1667; Haviland, Amelia M., Matthew D. Eisenberg, Ateev Mehrotra, Peter J. Huckfeldt and Neeraj Sood. (2016). "Do Consumer-Directed health plans bend the cost curve over time?" *Journal of Health Economics*, 46, pp. 33-51; Brot-Goldberg, Zarek C., Amitabh Chandra, Benjamin R. Hnadel and Jonathan T. Kolstad (2017). "What does a Deductible Do? The Impact of Cost-Sharing on Health Care Prices, Quantities, and Spending Dynamics." *Quarterly Journal of Economics*, 132(3), pp. 1261-1318.
27. Brot-Goldberg, Zarek C., Amitabh Chandra, Benjamin R. Hnadel and Jonathan T. Kolstad (2017). "What does a Deductible Do? The Impact of Cost-Sharing on Health Care Prices, Quantities, and Spending Dynamics." *Quarterly Journal of Economics*, 132(3), pp. 1261-1318. For research on how employer contributions to health savings accounts tied to high-deductible health plans, see Anthony T. Lo Sasso, Lorens A. Hemchen, and Robert Kaestner. (2010). "The Effects of Consumer-Directed Health Plans on Health Care Spending." *Journal of Risk and Insurance*, 77, pp. 85-103.
28. Chernew Michael, Allison B. Rosen, and Mark Fendrick (2007). "Value-Based Insurance Design." *Health Affairs* (26), pp. 195-203; Baicker, Katherine, Sendhil Mullainathan, and Joshua Schwartzstein. (2015). "Behavioral Hazard in Health Insurance." *Quarterly Journal of Economics*, 130, pp. 1623-1667.