

The Unsustainable Cost of Health Care

Social Security Advisory Board, September 2009.

Message from the Board

As the nation once again turns its attention to the debate surrounding the reform of our country's health care system, there are abundant resources that policymakers can consult to inform their deliberations. Yet, this Board believes it is necessary to offer our own perspectives, not because we are particular experts in health care policy, **but because we believe that the rising cost of health care represents perhaps the most significant threat to the long-term economic security of workers and retirees.** Because of this concern, we have spent considerable time over the last year consulting with experts in the fields of health care financing and delivery systems, researching the issues that influence both the cost and quality of health care, and discussing various prospects for reform. It is our sincere hope that our study as detailed in this report will assist policymakers as they seek to find lasting solutions to improve America's health care system, increase access to health care, and contain health care costs.

Our approach to the discussion of health care is somewhat different from the perspectives taken by experts in the health care field. First, concern with retirement security requires this Board to seriously consider long term trends and the long range implications of policies that affect income security. Current projections indicate that health care costs will increase by more than 70 percent over the next ten years and will continue thereafter to consume an increasingly greater portion of personal income. For today's retirees, for those retiring in 2009 who are expected to live another 20 years, and for younger workers in their 30s who will not begin their retirements until mid-century, unrestrained health care costs would likely mean a decline in their standard of living.

Second, we are acutely aware that over the next 20 years, the United States population will become significantly older as the baby boom generation leaves the workforce and enters retirement. However, an aging population is not the whole story. Health care costs are growing across the economy, and many of the same factors that are spurring overall health care growth, whether new technologies or inefficient delivery systems, are also driving up the cost of Medicare and Medicaid to unprecedented levels. The burden of health care costs on the country as a whole will continue to grow unless and until we alter the efficiency and efficacy of our health care systems.

For these reasons and more, we believe that it is essential that policymakers take action to restrain the rising cost of health care in ways that also lead to better quality of care. It is an issue that is at the very heart of the long-term economic security of the American public. It is urgent that action be taken and the time for action is now.

Sylvester J. Schieber, Chairman.

Dana K. Bilyeu, Dorcas R. Hardy, Marsha Rose Katz, Barbara B. Kennelly, Mark J. Warshawsky

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The Unsustainable Cost of Health Care

I. The Cost of Health Care Threatens Retirement Security

Trends in Health Care Spending

The cost of health care in the United States is growing more rapidly than the incomes of those who pay for it. If these costs continue to rise as rapidly into the future, the standards of living and economic security of retirees and workers alike will be put in jeopardy. Employers will increasingly shift health care costs to their employees. Government budgets will be dominated by the need to finance the cost of Medicare and Medicaid benefits.

Spending on health care is growing faster than national income. Since 1960, total health care expenditures have grown by an average of 2.5 percentage points faster per year than the nation's Gross Domestic Product (GDP), as shown in Figure 1.

Figure 1: Cumulative growth rates of GDP and health care spending: United States 1960-2007, and 2008-2018 projected. The chart shows two upward sloping curves with the line representing the cumulative growth of health care spending rising at a much steeper slope than the line representing cumulative growth of GDP. By 2008, health care spending had risen over 80 times its level in 1960 while GDP had risen only about 20 times. The projected trends continue for the next ten years through 2018. Source: Office of the Actuary, Centers for Medicare and Medicaid Services, 2008. **End of Figure 1.**

Figure 2 illustrates the result: health care spending has grown from 5 percent of GDP in 1960 to about 17 percent, or \$2.4 trillion, in 2008. In their most recent 10-year projection, the actuaries of the Centers for Medicare and Medicaid Services (CMS) expect health care spending will nearly double to \$4.4 trillion by 2018 and comprise fully one fifth (20 percent) of GDP.

Footnote: The Medicare actuaries assume total health expenditure will exceed GDP growth by an average of 2.1 percentage points per year from 2008 to 2018.

Reference: CMS, *National Health Expenditure Projections 2008-2018*.

Figure 2: Health care spending as a percent of GDP: United States, 1960-2007 and projected for 2008-2018. The chart shows a series of bars that increase steadily over the entire period in eight representing how health care spending has grown as a share of GDP. Notably, the period between 1994 and 2000 is relatively flat reflecting slower health care cost growth during this period. Source: Office of the Actuary, Centers for Medicare and Medicaid Services, 2008. **End of figure 2.**

On a per capita basis, spending is expected to grow almost 70 percent from \$7,800 per person in 2008 to \$13,100 per person in 2018.

Although long-range projections are by nature difficult and carry a larger degree of uncertainty, the Congressional Budget Office (CBO) makes projections of total health

care expenditures over the next 75 years. Extrapolating the historical rate of health care spending growth relative to GDP growth into the future, however, produces projections that are implausible: by growing 2 percent faster than GDP over 75 years, spending on health care would consume virtually the entirety of our national income.

Footnote: For a discussion of improvements to long-range projections of health care spending see: Brown, and Monaco, 2004.

In order to make more plausible projections, CBO assumes that the growth in spending will eventually slow down over the period of 2020 to 2083, to an average of about 0.8 percent faster than the growth of the GDP.

Footnote: The CBO assumes that growth in excess of GDP growth would slow down as “households overall would be unwilling to spend so much more on health care that, from one year to the next, the increase in such spending alone was greater than the total increase in consumption.”

Reference: See U.S. Congressional Budget Office, *Long Term Budget Outlook, 2009*.

Under these assumptions, CBO projects that health care’s share of the GDP will double from 15.2 percent in 2007 to 31 percent by 2035, grow steadily to 37 percent by 2050, and to an astounding 46 percent of the total economy by 2080.

Footnote: The CBO measure of total health expenditures differs from the U.S. Centers for Medicare and Medicaid Services’ National Health Expenditure (NHE) measure because it excludes amounts invested in research and in structures and equipment. In 1960, total health expenditures were 5.2 percent of GDP by the NHE measure and 4.7 percent by CBO’s measure. In 2007, total health expenditures were 16.2 percent of GDP by the NHE measure, and 15.2 percent by CBO’s measure.

Spending on health care is rising more rapidly than incomes for Medicare beneficiaries.

Between 1997 and 2005 the median annual out-of-pocket health care expenses of Medicare beneficiaries – including premiums and supplemental insurance – grew by 64 percent from \$1,670 to \$2,740. Over the same period, their median income grew by only 25 percent, from \$12,000 to \$15,000.

Footnote: Out-of-pocket health spending is defined to include all personal expenditures for medical and long-term care services, including premiums for Medicare and supplemental insurance.

Reference: Neuman, Cubanski, and Damico, 2009.

As a result, out-of-pocket health care spending has grown as a percentage of income from 12 percent in 1997 to just over 16 percent in 2005. The burden of out-of-pocket spending is not distributed equally. The share of income consumed by out-of-pocket costs is considerably higher for those who are older, poorer, and in worse health.

One quarter of all Medicare beneficiaries spent nearly one-third of their income (31 percent) on health care in 2005, up from 24 percent in 1997. The 10 percent of Medicare beneficiaries with the greatest financial burdens spent 60 percent or more of their income on health care in 2005 up from 48 percent in 1997. If the relative growth rates from 1997 through 2005 continue for another 20 years, by 2025 total out-of-pocket costs will consume 30 percent of the median beneficiary’s income. One quarter of all beneficiaries will face costs reaching 50 percent of their income, and the 10 percent with the greatest financial burdens would see their entire income consumed by their out-of-pocket expenses.

Most retirees rely on Social Security for a majority of their income. And although initial Social Security benefits increase with average wages in the economy, and once received are adjusted each year for inflation, out-of-pocket costs for Medicare are growing much faster. The Medicare trustees include in their annual report an illustration of how much of a typical Social Security check will be consumed by the typical level of out-of-pocket costs from Medicare Supplemental Medical Insurance (Part B) and Prescription Drug coverage (Part D) over the next 75 years.

Footnote: A 2008 memo from the Medicare Chief Actuary states: “The average cost-sharing payments are based on beneficiaries in the traditional ‘fee-for-service’ Medicare program. Medicare Advantage enrollees currently have lower cost-sharing requirements on average, but detailed data on such amounts is not available.”

Reference: Foster and Clemens, 2008

Today, average out-of-pocket costs for Medicare Parts B and D (but excluding cost sharing under Part A Hospital Insurance) consume about 25 percent of the average Social Security benefit. By 2030 those costs will consume about 40 percent of the typical initial retirement benefit check. By 2080, two-thirds, or 67 percent, of the average Social Security benefit would go just to paying out-of-pocket costs for a portion of Medicare covered services.

Spending on health care is rising more rapidly than earnings for workers and their families. For the roughly 60 percent of workers who receive some form of health care coverage from their employers, the cost of their health insurance premiums and out-of-pocket expenses have increased significantly faster than their own wages. Between 1999 and 2008, both average health insurance premiums and out-of-pocket costs for deductibles, co-payments for medications, and co-insurance for physician and hospital visits more than doubled.

Footnote: The total premium (employer plus employee share) for those with single coverage increased 114 percent from 1999 to 2008 or from \$2,196 to \$4,704. The employee share increased 127 percent from \$318 to \$721. The total premium (employer plus employee share) for those with family coverage increased 119 percent from 1999 to 2008 or from \$5,791 to 12,680. The employee share increased from \$1,543 to \$3,354, an increase of 117 percent. Note that while the employee’s share of total premiums remained stable over the period, those with family coverage must contribute almost twice the share of total premiums as those with single coverage (26 percent vs. 14.5 percent).

Reference: Kaiser Family Foundation, *Survey of Employer Sponsored Health Benefits 2000-2008*.

During the same period, worker’s wages increased by only 34 percent, family incomes rose only about 29 percent, and overall inflation was 29 percent. As a consequence, health care expenses for workers and their families are rising as a share of income.

Reference: U.S. Bureau of Labor Statistics, and U.S. Bureau of the Census, *Current Population Survey*.

According to recent calculations by the Commonwealth Fund, the cost of the average insurance premium for family coverage – counting both the employee and employer shares together – rose from 11 percent of the median family’s income to 18 percent by 2008.

Reference: Commonwealth Fund, 2009.

Assuming premiums grow at the same rate as the projections for total health expenditures (as shown in Figure 1), the authors of the Commonwealth study estimate the cost of

premiums for family coverage would increase to almost one quarter of the median family income by 2020.

Footnote: The Milliman Medical Index measures average annual medical spending for a typical American family of four covered by an employer sponsored preferred provider organization (PPO) program. Total family spending, \$16,771 in 2009, is composed of the employer's share of premiums (59 percent); the employee's share of premiums (24 percent) and the employee's other out-of-pocket costs (17 percent), for example, for deductibles or co-payments. For the average family, estimates of the employee's share of costs (24% + 17% = 41%) are about half the estimates of the total premium costs (59% + 24% = 83%).
Reference: *Milliman Medical Index, 2009*

The distribution of spending is not uniform. Older workers, those with lower incomes not covered by Medicaid, and those with the highest levels of spending on medical services tend to spend more on health care as a share of their income.

Reference: U.S. Department of Labor, Bureau of Labor Statistics, 2009

Are We Spending Too Much?

Studies have examined whether increases in medical spending have provided a good value: whether advances in medical care have led to large enough improvements in health and life expectancy to be worth the expense. Harvard health economist David Cutler and his co-authors found that averaging across all ages, increases in medical spending between 1960 and 2000 provided reasonably good value, with an average cost per life-year gained of \$19,900.

Reference: Cutler, Rosen, and Vijan, 2006

For individuals age 65 and over, however, the average cost of adding one more year of life had increased from the 1970s to the 1990s from \$46,800 to \$145,000. The authors note that their estimates for the 1990s would fail many cost – benefit criteria. Other studies suggest that at current high levels of spending, additional dollars are not improving outcomes.

Reference: Fuchs, 2004; Skinner, Staiger, and Fisher, 2006; New England Healthcare Initiative, 2008.

Many studies have drawn attention to the fact that the United States spends roughly twice as much on health care – as a fraction of GDP and on a per person basis – than the average of other economically developed nations without achieving substantially better health outcomes (see Appendix B).

Reference: OECD, 2009; McKinsey Global Institute, 2008; U.S. Congressional Research Service, 2007; Garber and Skinner, 2008; Nolte and McKee, 2008

Such comparisons, however, are complicated by the fact that there are many differences among countries that are hard to account for comprehensively.

Perhaps more important to understanding the challenges facing American workers, retirees and taxpayers, are data that show that per capita health care spending as well as utilization of specific procedures can vary by geographic region within the United States by as much as a factor of three without being associated with better health outcomes.

Reference: Wennberg, Fisher and Skinner, 2002; Fisher, et al., 2003; Baicker and Chandra, 2004.

An even wider range of spending exists across treatment settings, such as individual hospitals. The degree of variation in spending for similar patients with similar outcomes across regions strongly suggests there is a considerable amount of inefficiency in the U.S health care delivery system.

The Extent of Geographic Variation in Health Care Spending

Figure 3 illustrates the full range of spending variation across the nation for all Medicare enrollees in a single year, and for those in the last two years of life. These differences reflect not just differences in the cost of services but differences in the intensity with which health care resources are used.

Figure 3: Geographic variation in Medicare spending: Total Medicare payments per enrollee in 2006 and total payments during the last two years of life, for deaths 2001-2005, by selected Hospital Referral Regions. The chart depicts a series of bars in descending order of height, where the height represents Medicare payments per enrollee in 2006 in specific geographic regions. In 2006 Medicare spent over \$16000 per enrollee in Miami, Florida, \$15000 in McAllen Texas, \$12000 in Manhattan, \$10000 in Detroit, Michigan, \$9000 in Tampa, Florida, \$8000 in Raleigh, North Carolina, \$7000 in Lincoln, Nebraska, \$6000 in Cedar Rapids, Iowa, and only \$5300 in Honolulu, Hawaii. The chart also depicts spending in the last two years of life for each region. The extent of variation between highest and lowest is similar although the rank order of cities is slightly different. During the last two years of life, Medicare spent over \$80000 per enrollee in Manhattan, \$70000 in Miami, Florida, \$60000 in Chicago, Illinois, \$50000 in Dallas, Texas \$40000 in Wichita, Kansas, and only \$32400 in Billings, Montana. Source: Dartmouth Atlas Project. **End of figure 3.**

To illustrate the extremes, in 2006 Medicare payments in the most expensive city, Miami, were over \$16,000 per enrollee compared to only \$5,300 per enrollee in the least expensive city, Honolulu.

Footnote: The data refer to spending for Medicare Parts A and B on enrollees in the traditional Medicare fee-for-service plan in the “Hospital Referral Regions” of Miami and Honolulu.

To reduce the sources of variation that have to do with the severity of illness, the Dartmouth Atlas researchers examined total spending during the last two years of Medicare enrollee’s lives among those who died from 2001 to 2005. While per person spending levels are much higher towards the end of life, the differences persist. Spending in Miami was about \$72,000 per patient over the last two years of life and only about \$43,000 in Honolulu.

These data on average Medicare expenditures per enrollee and the expenditures on enrollees near the end of life highlight the concentration of health expenses late in life. This phenomenon sometimes gets translated into a false conclusion that most health spending is concentrated on end-of-life care and that much of the problem with the health care system is associated with the nature of care provided to people as they approach death. The fact is that under Medicare most health spending goes to provide goods and services to individuals who will live well beyond the next two years. The data compiled by the researchers at the Dartmouth Atlas Project suggest that potential savings from all across the health spectrum can be achieved by reducing the provision of medical goods and services that are not improving the health conditions of those consuming them.

Explaining the Sources of Geographic Variation in Health Care Spending

The major source of the variation illustrated in **Figure 3** is the extent of “supply sensitive care” delivered. The data show that the amount and type of care that patients receive depends largely on the capacity of the region to deliver that type of care. For example, half of the regional variation in hospitalization, visits to medical specialists, and use of coronary angiography can be explained by the per capita supply of beds, specialists, and angiography units. This type of variation most affects patients with progressive chronic illnesses, and may reflect the often mistaken assumption that more care is better. Table 1 shows how large the differences are in resource utilization among the highest and lowest spending hospital regions.

Table 1: Practice patterns in managing chronic illness in Hospital Referral Regions for Medicare patients in their last two years of life (2001-2005) by highest and lowest quintile of spending levels. Source: Dartmouth Atlas

In the 20% of hospital referral regions with the lowest costs, Medicare spending per capita was \$38300. In the 20% of hospital referral regions with the highest costs, Medicare spending per capita was \$60800, 59 percent higher.

In the 20% of hospital referral regions with the lowest costs, there were 16.6 physicians per 1000 patients. In the 20% of hospital referral regions with the highest costs, there were 29.5 physicians per 1000 patients, 78% more. In the lower cost region there were 5.6 medical specialists per 1000 patients. In the highest cost regions there were 13.1, 134% more. In the lower cost region there were 7.4 primary care physicians per 1000 patients. In the highest cost regions there were 11.5, 55% more.

In the 20% of hospital referral regions with the lowest costs, Medicare patients in the last 6 months of life spent an average of 8.5 days in the hospital. In the 20% of hospital referral regions with the highest costs, Medicare patients in the last 6 months of life spent an average of 15.6 days in the hospital, 84 percent more. In the regions with the lowest costs, Medicare patients in the last 6 months of life has an average of 12.9 physician visits in the hospital. In the regions with the highest costs, Medicare patients in the last 6 months of life has an average of 36.3 physician visits in the hospital, 181% more.

In the regions with the lowest costs, 20.8 percent were seeing 10 or more physicians in a year. In the highest costs regions, 43.7% saw 10 or more physicians, 110% more. In the regions with the lowest costs, 14.3% of deaths took place in hospital intensive care units. In the highest costs regions, 23.2 % of deaths took place in hospital intensive care units, 62% more. **End of Table 1.**

Providing more services does not necessarily lead to better outcomes. Populations of patients with progressive chronic conditions in high-spending regions do not have higher survival rates or better quality of life. Although the quantity of care may be greater, the quality of care is not better. In fact, more care may actually be worse. Chronically ill patients are actually at greater risk of dying in higher-spending regions.

Reference: Wennberg, *et al.*, 2008.

The Dartmouth Atlas researchers have examined the costs of organized practices such as the Mayo Clinic and Intermountain Healthcare and the quality of care they deliver. *They estimate that if all providers could achieve the same level of efficiency for inpatient spending on supply-sensitive care, Medicare hospital spending could be reduced by 28 percent to 43 percent while quality of care could be maintained or improved.*

Reference: Wennberg, *et al.*, 2008.

The second major source of variation in the cost of health is the amount of “preference sensitive” care delivered. Preference sensitive care involves treating conditions where there are several legitimate treatment options, and the decision over which treatment to use involves tradeoffs.

Footnote: There are many other conditions in which patients need to consider the tradeoffs of treatment options, such as hip and knee arthritis (joint replacement versus pain medications), carotid artery stenosis (surgery versus aspirin), herniated disc (surgery versus other strategies), chronic stable angina (percutaneous coronary intervention versus surgery versus other methods), to name but a few. Seven conditions involving preference-sensitive surgical decisions together account for 45 percent of Medicare’s surgery costs.

Ideally, the choice of treatment should be the choice of a fully informed patient, in partnership with the physician. Most often, however, the provider’s judgment or preference often determines which treatment is used. The data show wide geographic variations across a range of treatments. For example, doctors in Fort Myers, Florida are more likely to recommend surgical management of osteoarthritis of the knee, while doctors in Miami prefer medical management. Fort Myers’ Medicare patients receive 2.3 times as many knee replacements per capita as do Miami’s. Similarly, back surgery is 2.2 times greater in Palo Alto than in San Francisco, both homes to major university teaching hospitals. As the Dartmouth researchers explain, “It isn’t because [San Francisco] physicians aren’t treating back pain, but rather that they treat it differently, relying on more conservative treatments.”

Reference: Wennberg, *et al.*, 2008.

There are two reasons for the variation in treatments used. First, for many of the conditions for which surgery is used, clinical science has not established the efficacy of other treatment options and so physicians rely on some combination of subjective opinion, personal experience, anecdote, or less than adequately tested theory. Second, the decision often consists of the patient delegating choice to the physician.

Reference: Wennberg, *et al.*, 2008.

Studies show, however, that when patients are fully informed about their options, they often make different, and less costly, decisions than their physicians.

Reference: O’Connor, Llewellyn-Thomas, and Flood, 2004.

The Impact of Rising Health Care Costs on Retirees, Workers, Employers and Governments

Impact on Retirees

Footnote: We use the term “retirees” somewhat loosely since Medicare beneficiaries have no restrictions whatsoever on whether they work. While the trend is toward higher labor force participation at older ages, a relatively small share of those 65 and older are working.

The major threat to economic security for today’s retirees is that rising Medicare premiums and out-of-pocket health care expenses will rapidly consume their relatively fixed sources of income, leaving them more vulnerable to large unanticipated expenses

and reducing their consumption of all other goods and services. The threat is greatest for those with lower incomes who are not covered by Medicaid, and those with the highest medical expenses. Declining standards of living are also more likely the longer a person lives and as assets are spent down or eroded by inflation, reliance on Social Security increases, and health care costs grow to ever higher levels.

Footnote: Most retirees rely on Social Security as their largest source of income in retirement. Six out of ten Americans over age 65 rely on Social Security for more than half of their total income. Three out of ten rely on Social Security for over 90 percent of their income. Among those with the lowest incomes who are age 65 and over, Social Security provides about 80 percent of their total income. Social Security benefits provide an inflation-protected stream of income for a retiree's entire remaining lifespan and can provide benefits to spouses and survivors. Only about one-half of retirees receive significant income from pensions or personal savings. Although the total value of those private pension assets is as large as that disbursed by Social Security, typically those assets are not protected from inflation and are increasingly likely to be exhausted the longer a person lives. The Social Security Administration publication *Income of the Population 55 or Older, 2006*, notes: "The survey on which these data are based does not include some potentially important resources as income, including lump-sum pension payments and capital gains. In addition, these statistics do not take into consideration noncash benefits that supplement money income (housing and energy subsidies or Food Stamps) or the amount of savings available to supplement monthly income. This could overstate the relative importance of earnings or Social Security and understate the relative importance of pensions and assets as resources."

Reference: see, Fisher 2007.

Health care cost growth is also eroding the affordability of supplemental insurance that covers about 30 percent of Medicare enrollees' expenses. In 2005, about 89 percent of beneficiaries obtained such additional coverage, including through former employers (33 percent), "Medigap" policies (25 percent), Medicare Advantage plans (13 percent), Medicaid (16 percent), or other programs (1 percent).

Reference: MedPAC, 2008.

But as health care costs rise, employers are increasingly curtailing or eliminating their retiree health benefits, and the cost of other forms of supplemental coverage is increasing.

Some portion of the increased spending by retirees will undoubtedly improve health and result in a longer life for some, but too much spending is not buying better health. As overall medical expenses become more difficult to bear for some, one concern is that they will decide to forgo the additional cost of necessary care to the detriment of their health.

The Impact on Workers

Most economists believe that health benefits provided by employers are funded as part of the total compensation paid to workers. To the extent that employers' share of health insurance premiums have become more expensive over time, employers will tend to reduce other elements of an employee's compensation, including cash wages and retirement benefits. Employers may also pass on the higher cost of health benefits to their employees by requiring higher premium contributions and/or higher out-of-pocket expenditures, such as higher deductibles or co-payments. In the more extreme cases employers may stop providing health benefits altogether or may reduce the number of employees who would qualify for benefits. Under all of these scenarios, workers will

have less disposable income and/or less left over for consumption of other goods and services besides health care. They are getting squeezed on several fronts.

Employees of small businesses are less likely to have employer provided insurance coverage in the first place, and if they do they are likely to pay higher prices than employees of large firms for comparable insurance plans, and likely face higher cost sharing burdens.

Footnote: While nearly all firms with over 200 employees offer coverage, just 49 percent of those with 3 to 9 employees do.

Reference: Council of Economic Advisers, 2009.

Some workers facing premium increases will no longer afford the coverage and will be exposed to an increased risk of financial ruin as a result of major illness, injury or chronic disease; as many as 50 percent of personal bankruptcies result in part from accumulated medical expenses.

Reference: Himmelstein, Thorne and Woolhandler, 2005.

An additional source of insecurity, especially in the current deep recession, is job loss for those nearing retirement.

Footnote: During the current recession the unemployment rate among workers aged 55-64 has more than doubled from 2.7 percent in November 2007 to 5.9 percent in February 2009.

The law allows workers to stay enrolled in an employer's health plan for up to two years after separating from a job, but they must pay the full cost of the premium themselves.

Footnote: The *Consolidated Omnibus Budget Reconciliation Act* (COBRA) gives workers and their families who lose their health benefits the right to choose to continue group health benefits provided by their group health plan for limited periods of time under certain circumstances such as voluntary or involuntary job loss, reduction in the hours worked, transition between jobs, death, divorce, and other life events. Qualified individuals may be required to pay the entire premium for coverage up to 102 percent of the cost to the plan (the full premium plus a 2 percent administrative charge).

Reference: U.S. Department of Labor, 2006, and current website

Purchasing insurance individually can be even more expensive, prohibitively so for those with poorer health or those who would face higher premiums because of their age.

A relatively simple simulation illustrates the pressure on worker's wages. Assume total compensation starts at its 2008 level and grows at the recent historical rate of about 2 percent reflecting average gains in an employee's productivity. If total health care costs – the employer's and employee's share of premium and employee's out-of-pocket costs – grow at twice the rate of compensation (4 percent) per year, all other compensation grows but only slightly. If health care costs grow at four times the rate of compensation (8 percent) over a ten-year period, all other compensation net of health care actually falls by 11 percent.

Footnote: The time it takes for non-health compensation to fall depends on the share of total compensation that health care costs represents and the difference in growth rates between total compensation and health care costs.

Reference: See examples of similar simulations by earnings level in Polsky and Grande, 2009.

Researchers have estimated that a 65year old couple will need to have saved roughly \$220,000-\$240,000 on average to afford the stream of out-of-pocket health care expenses

and premiums they will face over the rest of their lifetimes. The amount of savings needed is rising as costs rise, and it can be considerably higher for those who lack supplemental insurance or for those with the highest prescription drug cost sharing expenses.

Footnote: In one study costs broke down as 41 percent on co-pays, co-insurance, and deductibles, 30 percent on out-of-pocket expenses for prescriptions, and 29 percent for Medicare Part B and D premiums.

Reference: Fronstin, Salisbury, and VanDerhei 2009; Munnell, et al., 2008; Fidelity Investments, 2009.

The ability to save, just as the ability to consume, will be adversely impacted by slower wage growth and/or the increasing share of income devoted to current health care needs. Schieber estimated the amount of a worker's total pay that would have to be set aside each year to fund his or her own retirement and health care needs as well as the public retirement and retiree health care systems, Social Security and Medicare, through payroll taxes. Table 2 compares the annual needs for retirement and health care for a person retiring at age 65 in 1960, 2005, and 2030.

Footnote: This simulation assumes a hypothetical worker starts working at age 22 at an initial salary of 30,000 per year, works steadily until retirement receiving pay increases of 4 percent per year and investment returns of 7 percent per year. At retirement the individual will receive a pension that will provide a flat dollar benefit throughout the remainder of the retiree's lifetime. The individual saves to fund a retirement income that provides 75 percent of pre-retirement earnings including Social Security. The working population is assumed to pay for about three-quarters of the total cost of the Medicare and Medicaid programs which are projected by the U.S. Congressional Budget Office to rise from 4.2 percent of GDP in 2005 to 12 percent in 2030.

Reference: Schieber, 2008a

Table 2: Annual cost to workers of funding retirement and health care: 1960, 2005, 2030.

Source: Sylvester Schieber, "Beyond the Golden Age of Retirement," 2008.

A person retiring in 1960 at age 65 had a life expectancy of 14.3 additional years. As a percentage of their total pay, each year they had to set aside 4.3% for their own retirement savings, 1.2% for their own health insurance, 5.0 for Social Security, and nothing for Medicare and Medicaid, for a total of 10.5% of pay.

A person retiring in 2005 at age 65 had a life expectancy of 18.8 additional years. As a percentage of their total pay, each year they have to set aside 4.9% for their own retirement savings, 9.1% for their own health insurance, 12.4 for Social Security, and 4.9 for Medicare and Medicaid, for a total of 31.3% of pay.

A person retiring in 2030 at age 65 will have a life expectancy of 19.7 additional years. As a percentage of their total pay, each year they have to set aside 5.7% for their own retirement savings, 17.9% for their own health insurance, 15.0% for Social Security, and 13.8% for Medicare and Medicaid, for a total of 52.4% of pay. **End of Table 2.**

A person who retired at age 65 in 2005 would have had to set aside, during their working lifetime, three times as much of their compensation each and every year as a person retiring 45 years ago in 1960 would have (31 percent vs. 10 percent). A large part of the increase is due to greater longevity and expansion of Social Security, but a much larger part is due to the cost of health care including the advent of Medicare and Medicaid. By 2030 the annual burden on workers will be extraordinary. The total needed to be set aside each year and not available for consumption will have risen to over one-half (52.4 percent) of annual pay.

The implication is stark: rising productivity in the future will be much less likely to result in higher living standards. The burden of supporting an aging society and the rising cost of health care will “siphon off” much of workers’ productivity improvements for years to come.

Footnote: The U.S. Congressional Budget Office’s *Long-range Budget Projections* contains a similar finding. “In 2009, total consumption per person is expected to average about \$26,000, of which about \$6,000 will be spent on health care. Under CBO’s projections, spending per person by 2035 would have grown by more than \$14,000 (in 2009 dollars), but more than 80 percent of that extra money would be spent on health care. Although spending for other goods and services would grow by just 14 percent, spending for health care would nearly triple.”

Schieber calculates that for a person wishing to retire at age 65 in 2030, disposable income will likely peak around 2025 and decline thereafter. Between 2005 and 2025, 83 percent of the fruits of a worker’s productivity will have gone to pay for the growing cost of one’s own health care needs and the growing burden of our public health and retirement systems.

Reference: Schieber, 2008b.

The earlier one wishes to retire, the less likely they will keep any of the gains from their increased productivity. Furthermore, people at the lower end of the earnings scale who are not covered by Medicaid face greater risks of declining living standards since health care costs would be expected to comprise a larger share of their income.

The Impact on Employers

In the long run, most of the impact of rising health care costs on employers can be shifted to their workers by reducing wage growth, hiring fewer workers, or hiring more part-time workers who are typically not eligible for health insurance coverage. Others have modified health plans to require employees to pay a larger share of premiums, and some firms have reduced the generosity of their benefits or eliminated them altogether.

Reference: Economic Report of the President, 2005

For firms that are more constrained in hiring or pay (perhaps by long-term contractual arrangements), or who largely employ minimum wage workers, the increased costs at least in the short term represent a higher cost of business. Small businesses feel the impact more acutely than large ones as they pay roughly 18 percent more to provide insurance for their employees.

Reference: Council of Economic Advisers, July, 2009.

Employers who offer generous health benefits to retirees, however, are bearing increasingly heavy costs. Some employers have moved to reduce or eliminate those benefits altogether. Others, like some U.S. automakers, are being forced into economic restructuring.

The Impact on Government Finances

In 2008, the public share of total national health expenditures was about 47 percent, of which the Federal government’s share is almost three-quarters. Medicare, funded

primarily by the Federal government (as well as enrollees' premiums), accounts for about 20 percent of total health expenditures in 2008, while Medicaid, funded by both Federal and State governments, accounts for about 15 percent.

Footnote: The Federal tax revenue forgone due to the tax-exempt status of employment based health insurance benefits – about \$150 billion in 2008 – represents about 6.3 percent of total health care spending.

The cost of Medicare and Medicaid is expected to grow rapidly and steadily over the long-term. The seventy-five year projections from the CBO are that the two programs combined will grow from 5 percent of GDP today, to 10 percent by 2035 and 17 percent by 2080. In other words, as a share of the total national income, the cost of just Medicare and Medicaid in 75 years will be 85 percent as large as the entire Federal government is today.

Footnote: The historical long-run average of government spending as a percentage of GDP is about 20 percent.

The part of Medicare that provides insurance against hospitalization (known as HI or Part A) already has significant financing issues. Outlays of the hospital insurance program currently exceed its payroll tax revenue. If the HI program costs grow as the Medicare Trustees assume, the HI Trust Fund assets will be exhausted by 2017. Over the next 75 years the HI Trust Fund is projected to have an actuarial deficit of 3.5 percent of payroll, approximately twice the size of the Social Security deficit over that same time period (see Figure 4).

Footnote: According to the 2009 Trustees report, "The actuarial deficit can be interpreted as the percentage points that could be either added to the current law income rate or subtracted from the cost rate for each of the next 75 years to bring the funds into actuarial balance. Actuarial balance is achieved if Trust Fund assets at the end of the period are equal to the following year's expenditures."

Reference: *Status of the Social Security and Medicare Programs 2009*.

Medicare Supplemental Medical Insurance (SMI) that covers out-patient care and prescription drugs, also known as Parts B and D, is funded automatically by general revenues and is by definition "adequately financed." Projected SMI cost growth over the long term, however, "will require increases in enrollee premiums and general revenue funding that will average about 6.4 percent annually, placing a growing burden on beneficiaries and Federal revenues."

Footnote: The next sentence of the Trustees Summary adds the warning: "...Part B cost projections are understated (by 18-21 percent in 2015, and by up to 10 percent in 2030 and beyond) as a result of incorporating substantial reductions in physician fees that would be required under current law, but are very unlikely to occur."

Reference: *Status of the Social Security and Medicare Programs, 2009*.

In order to fund this extraordinary growth, the Federal government will have to increase revenue either through additional taxes or greater cost sharing by beneficiaries, reduce the cost of the program, or reduce spending on other programs in the Federal budget.

Figure 4: Medicare costs as a percentage of GDP, by revenue source, 1970-2083. Figure 4 shows a series of stacked lines that represent the individual components of Medicare revenue sources. By increasing order of size in 2008 they are State transfers, taxation on benefits, premiums, payroll taxes, and general revenue. State transfers are 0.05% of GDP in 2008 and are projected to rise to 0.20% by 2083. Taxation of benefits are 0.08% of GDP in 2008 and are projected to increase to 0.25% by 2083. Premium payments are 0.4% of GDP in 2009 and are projected to rise three fold to 1.6% of GDP by 2083. Payroll

taxes are 1.4% of GDP in 2008 and are projected to fall gradually to 1.2% of GDP by 2083. Contributions from general revenue are 1.3% of GDP in 2008 and are projected to rise threefold to 4.7% by 2083. Total Medicare expenditures are about 3.2% of GDP in 2008 and are projected to increase to 11.4% of GDP by 2083. The gap between total Medicare expenditures and revenues is equal to the deficit of the Hospital Insurance or Part A Trust Fund. In 2008, it was estimated that revenue just equaled expenditures, so there was no deficit. By 2083, the deficit in Part A is projected to increase to 3.4% of GDP. Source: Chart D, *Status of the Social Security and Medicare Programs, a Summary of the 2009 Annual Reports*, Social Security and Medicare Boards of Trustees. April 2009. **End of Figure 4.**

The challenges of financing Medicare and Medicaid will play a major role in the health and economic welfare of workers and retirees. Under the current trajectory of cost growth, workers will have to pay substantially higher tax rates to fund the continued well-being of retirees, in effect sacrificing some of their own consumption and ability to save. If deep cuts in spending that affect the quality of care are made instead, the well-being of retirees could suffer.

II. Why Health Care Costs Are High and Growing Rapidly

The major factors contributing to high and rapidly growing health care costs are reasonably well understood even as there is still some debate about the magnitude and relative importance of some of those factors. Some contribute to the high level of spending, others drive growth, and some play a role in both.

In trying to explain what factors drive the unsustainable trajectory of health care spending, it is certainly the case that there are both good and bad categories of spending. Many of the resources used in health care are devoted to necessary care that can save lives, relieving suffering and finding innovative ways to treat illnesses. Some degree of this spending, however, adds little to the quality of care, has negligible impact on well-being or longevity, and can result in more expensive though not necessarily more effective ways of treating illness. The level and growth of spending are also inevitable outcomes of demographic or economic forces that cannot really be classified as belonging to categories of either effective or wasteful. Below we highlight some of the major factors influencing trends in health care spending.

Technology

The most frequently cited cause of sustained growth of health care costs is the development, diffusion and increased use of new technology broadly defined as encompassing the use of any new procedures, drugs, or devices. The Congressional Budget Office estimates that technology so defined accounts for anywhere between 38 percent to more than 65 percent of health care cost growth.

Footnote: Estimates vary because of the difficulty in estimating the amount of growth attributable to new technology and the various ways technology spending is defined by experts.

Reference: Congressional Budget Office, January 2008

Some new technologies allow for treatments of diseases where there were none before. Other advances are made to replace existing treatments. Some technology may provide tremendous value while other forms are simply more expensive ways of producing similar outcomes. Some new therapies may result in savings by reducing the length of hospital stays or avoiding more serious consequences, but most new technology tends to increase spending. Evaluating whether new technology contributes value as well as cost is difficult because there is little empirical evidence that demonstrates how a new drug, device or procedure affects health outcomes compared to the existing technology.

Insurance

The purpose of health insurance is to make needed health care financially accessible and to provide protection against unanticipated large out-of-pocket expenses. But patients who are more insulated from the true costs of their care, are likely to use more care.

Reference: Newhouse, 1993.

Since 1965, as the total cost of health care has risen dramatically, out-of-pocket spending by individuals as a share of the total actually fell from 43 percent to 12 percent.

Reference: Centers for Medicare and Medicaid Services, 2008

Tax subsidies for employer sponsored health insurance, and publicly funded coverage such as Medicare, Medicaid, the State Children's Insurance Program (SCHIP) have reduced the out-of-pocket cost of care to individuals below what it would have been in the absence of any insurance. The Congressional Budget Office estimates that 5 to 20 percent of total health care cost growth may be due to more extensive health insurance coverage.

Reference: Congressional Budget Office, January 2008

Some recent research suggests that changes in health insurance that affect a large number of people could have a more profound influence on spending trends. MIT economist Amy Finkelstein estimates that increased coverage of a relatively large share of the population, mainly due to the introduction of Medicare, may explain half the increase in health care spending from 1950 to 1990.

Reference: Finklestein, 2007.

Aging and Demographics

Most research on the effect of aging on health care spending has found relatively small effects. A CBO review of the literature estimates that from 1940 to 1990 population aging only accounted for about 2 percent of overall health care cost growth.

Reference: Congressional Budget Office, January 2008

The aging of the baby boom generation over the next 25 years, however, is expected to play a large role in the increased cost of Medicare and Medicaid. According to the CBO's most recent Long-Term Budget Outlook projections, aging will account for about 44 percent of growth in the two programs through 2035, with "excess cost growth" accounting for the remainder. From 2035 through 2080, the effect attenuates and aging accounts for about 30 percent of the projected growth in the two programs.

Reference: Congressional Budget Office, June 2009.

Health Status of the Population

A healthy population should need to spend less on medical care than a less healthy population. Then again, many medical interventions that can improve health, or more precisely effectively treat or even cure diseases can be very costly. In addition, successful treatment of life-threatening condition could lower near-term costs, but those savings may be offset by subsequent spending over a longer period of time. It is difficult to make summary claims about healthiness. In many ways the U.S. population is getting healthier. Life spans continue to increase and disability at older ages is declining. Mortality rates from some chronic diseases have improved while other causes of death and some chronic conditions have increased. People are living longer with conditions that would have led to an earlier death only several decades ago.

Research by Harvard health economist David Cutler finds that the United States is becoming collectively healthier, largely due to decreased smoking, and better control of blood pressure. This trend, however, may reverse as obesity becomes more prevalent. Between 1997 and 2007 the prevalence of obesity among adults aged 20 and over rose

steadily from 19 to 27 percent. Some estimates show that nearly one-third of those over age 20 are obese.

Reference: Centers for Disease Control and Prevention, National Health Interview Survey, various years
Reference: Centers for Disease Control and Prevention, 2001-2004.

Thorpe estimated that increased prevalence of obesity increased spending from 1987 to 2001 by 12 percent, while the CBO found an increase of 4 percent.

Reference: Thorpe, Florence and Joski, 2004. Congressional Budget Office, January 2008

A 2006 study by Thorpe and Howard also concludes that the health of Americans has improved, but that more people live longer with several chronic conditions.

Footnote: The report is specific to Medicare and concludes that healthier patients are receiving treatment, or treatments are improving health outcomes, or a combination of the two.

Reference: Thorpe and Howard, 2006

It could be the case that medical professionals are treating healthier patients; treatments are improving health, or both. The authors point out that the number of individuals on Medicare receiving treatment for five or more conditions has increased from 31 percent of beneficiaries in 1987 to 50 percent in 2002.

Reference: Thorpe and Howard, 2006.

The increasing number of “treatable” conditions drives a portion of health care cost growth. Thorpe attributes virtually all of the Medicare cost growth from 1987 to 2002 to patients treated for five or more conditions.

Reference: Thorpe and Howard, 2006.

Income

Rising personal income leads to higher spending on health care because medical care is a desired service. As individuals become better off, spending on extending life and improving health and well-being may be more attractive than spending on other goods. Just how responsive changes in health care spending are to change in income is debatable. A recent CBO study surveying the empirical literature suggests a 10 percent increase in income may increase health care spending by roughly 2 to 4 percent, and so they estimate that growth in the average income per capita in the United States may account for about 5 to 20 percent of long-term spending growth.

Footnote: Because people with better health tend to have higher income but lower health care spending than those with worse health, these estimates might understate the impact of observed rising income relative to what would happen if income rose across the board. Although estimates based on cross national comparisons tend to find a much higher increase in spending from a given increase in income, the difficulty of such comparison suggests they overstate the true response.

Reference: Congressional Budget Office, January 2008.

Beyond some point, devoting an increasing share of income to health care without concomitant improvements in health and well-being becomes unsustainable. As discussed in the previous section, that trend will reduce individual standards of living and swamp government budgets.

Administrative Costs

Historical estimates of administrative costs on health care spending range from 3 to 10 percent of long term spending growth, with the maximum estimate at 13 percent of aggregate cost growth.

Footnote: According to the Robert Wood Johnson Foundation, “the maximum estimate is an estimate of the largest possible impact that administrative costs could have had on long term spending growth.” Predictions vary because, as the U.S. Congressional Budget Office states, “Reliable comprehensive data are hard to find, making it hard to gauge cost growth.”

Reference: Congressional Budget Office, January 2008, p. 11.

The CBO found that from 1995 to 2005, spending on administrative services grew by around 7 percent per year.

Reference: Congressional Budget Office, January 2008, p. 4.

Changes in Health Care Prices

CBO estimates that between 10 and 20 percent of long-term growth in per-capita spending was attributable to higher prices. Complicating such estimates is accounting properly for changes in quality. A new test may be twice as expensive, but may supply vastly superior diagnostic information, or information that did not exist previously

Medical Malpractice Liability

Real or perceived increases in liability for medical malpractice could potentially raise health care spending directly through higher malpractice insurance premiums and indirectly by leading doctors to attempt to limit their risk of being sued by ordering more tests or procedures than is necessary. The direct effect of malpractice insurance premiums on health care spending is estimated to be rather small because those premiums represent only 1 to 2 percent of total health care expenditures.

Footnote: Between 1970 and 2000, malpractice premiums increased from 5.5 percent to 7.5 percent of total physician practice expenses.

Reference: Sloan and Chepke 2008.

In their recent review of health care reform options, CBO estimated that imposing limits on malpractice awards would lower malpractice premiums by about 6 percent nationwide, but that those savings would have a very modest impact on total health care expenditures of less than 0.2 percent.

Reference: Congressional Budget Office, December 2008.

The evidence that more costly malpractice liability increases overall spending due to the practice of defensive medicine is less clear. One reason is that it is difficult to separate the practice of defensive medicine from the effects of other factors that lead to more intensive use of resources including the diffusion of new technology, the incentives in the fee-for-service form of reimbursement, and the factors accounting for regional variation in spending discussed earlier. A second reason is that the findings of research studies have not yet reached a consensus. For example, a frequently cited series of studies by Kessler and McClellan of Medicare beneficiaries with serious heart disease found reducing malpractice liability led to reductions in expenditures of 4 to 9 percent.

Reference: Kessler and McClellan, 1996; Kessler and McClellan 2002; and Studdert, et al., 2005.

When analysts at the CBO attempted to replicate those results over a wider range of conditions, they did not find that tort reforms lowered spending.

Reference: U.S. Congressional Budget Office, 2004.

In a 2006 review of the evidence, CBO analysts found that tort reforms are sometimes associated with higher spending, sometimes lower spending, and sometimes with no effect on spending at all.

Reference: U.S. Congressional Budget Office, April 2006, p. 3

While the empirical evidence regarding the implications of medical malpractice premiums on total health care costs is mixed, large segments of the provider community and many providers of health insurance are convinced that it is a significant problem. They are not convinced that the empirical studies are capturing the actual extent to which malpractice cases are driving medical practice in directions that increase costs over time. Disparate interpretations of economic evidence sometime lead to these sorts of diverse conclusions about the effects of factors affecting behavior. For example, a 2007 study using Medicare data found that a 10 percent increase in malpractice premiums per physician was associated with a 1 percent increase in Medicare payments for physician services and found specifically an increased use of imaging services.

Reference: Baicker, Fisher, and Chandra, 2007.

A 2008 study by Sloan and Chepke, found that between 1970 and 2000 malpractice premiums increased from 5.5 percent to 7.5 percent of total physician practice expenses.

Reference: Sloan and Chepke 2008.

One interpretation of the results here is that medical malpractice has had little effect on the practice of medicine driving up total physician expenses from 5.5 to 7.5 percent of total expenses in the last 30 years of the twentieth century. It is possible, however, to construe these results somewhat differently. According to the National Health Expenditure Accounts, spending on physician and clinical services in 1970 was \$13.98 billion or \$49.31 billion in 2000 dollars using the GDP deflator. In 2000, spending was \$288.62 billion in current dollars according to the National Health Expenditure Accounts. The cost of malpractice premiums over the period would have gone from \$2.71 billion (.055 x 13.98) in 1970 to \$21.65 billion (.075 x 288.62) according to these results. That is an increase of 698 percent. If a 10 percent increase in malpractice premiums leads to a 1 percent increase in service costs, this would have translated into a 70 percent increase in physician and clinical costs according to the Sloan and Chepke results.

In most circumstances, any factor that accounted for 70 percent growth in costs over a 30 year period would be considered significant by most observers. In this case, total physician and clinical costs increased by 485 percent over the total period and even if medical malpractice did drive base costs up by 70 percent, it would only represent about 14 percent of total cost increases over the period. Sorting out how important malpractice insurance costs are in view of other strong factors has proven very difficult. The question of whether changes in malpractice liability change health care costs and under what circumstances remains open to more conclusive and consistent empirical study.

III. What can be done about health care costs?

The need to restrain the unsustainable growth in health care costs is often overlooked as discussions of health care reform focus on expanding access to health insurance. As we have shown, health care costs place a large and growing burden on today's retirees, workers, and employers, and they are projected to continue to grow faster than incomes.

Experts have been arguing for some time that in order to achieve effective health care reform and restrain the growth in costs, attention must be focused on restructuring the payment processes. The Board has heard many suggestions on ways to reform the system while at the same time reducing the growth of health care costs, without reducing quality. In this section of our report, we will describe a number of suggestions. Inclusion in this report does not necessarily imply recommendation by the Advisory Board.

Although there is some overlap, most suggestions fall into one of two categories: directly improving the efficiency of health care delivery or aligning financial incentives to reward more effective and efficient care. The two approaches are complementary. Incentives are needed to change behavior, but improvements in processes and organization, as well as cultural changes, are also required. We will also point out some organizations that can be used as models for the needed changes. Some providers are already using alternative strategies that reduce costs and improve efficiency. In the following sections, we will discuss some of those strategies and suggest how public policy can be used to encourage successful change.

Improving the Efficiency of the Health Care Delivery System

Process Improvement

As the knowledge base underlying medical practice continues to grow, the traditional craft of medicine practiced by individual physicians becomes more and more untenable. A new model of medicine is emerging, based on evidence rather than personal experience and on teamwork rather than individuals. Through examining data to develop shared baselines, clinicians are able to reduce complexity and to adapt baselines to individual cases. Some providers have applied to health services the process improvement techniques that have been used successfully in manufacturing and other industries. The end result is improved patient outcomes and higher quality care at reduced costs.

Text Box: Quality Improvement: From Manufacturing to Medicine. Excerpted from "Dr. Brent James: Moving from 'Craft-Based' Medicine to Evidence-Directed Teams," 2008.

Dr. Brent James had been studying variations in patient care, when a colleague introduced him in 1987 to Dr. W. Edwards Deming, who had introduced quality methods into post-WWII Japan. After talking to Deming, Dr. James realized that he could apply the same techniques to health services research that Deming had been applying to industry. In Dr. James' own words:

“Frankly, in many ways quality improvement makes far better sense from a medical foundation than it does from a manufacturing foundation. . . . In honest truth, there is nothing new here for medicine. It was our best, core values, systemically applied.

“It was pretty easy to sell to my physician colleagues if I kept it in the traditional research mode, focused on understanding how we best care for patients. I could show you the graph that got administration on board. I spent some time with Deming, and Dr. Deming had this crazy idea – at least, it was absolutely crazy at the time. He claimed that if you improve your quality, your costs should drop. In these days people understand that that is true, but back in 1986 and 87 that idea was massively counterintuitive.

“Deming taught that quality and cost are two sides of the same coin, and that you really can’t change one without changing the other. They always come as a set. Then he went on to define tight linkages, causal mechanisms, by which quality and cost interact together. As you understand the mechanisms, you can get a win-win going. You can win on both sides of the line. Better clinical outcomes can drive lower costs of operations, in a predictable way, a way that you can manage.

“Now, there is a trick to this. This one blindsided us bad, and we didn’t figure it out until 1995. We were going along pursuing clinical improvement projects. We had a series of trials, where we could prove that as our medical outcomes improved that our costs were dropping. I thought we had solved the problem, but my administrators were whining. They kept saying, ‘Yeah, but our budgets are not getting better.’ . . . Eventually, I went back to track the savings through their budgets. That’s when the big surprise came: Our costs were dropping, but our reimbursements were dropping as much or more. There were perversities in the payment system, so that when you delivered more efficient care, the savings were all going back to the payers, the insurance companies or the Federal Government, as windfall savings.

“We think the only way to protect our hospitals and protect our physician partners is to get our cost structure under control. The plan to do that is by improving our care for our patients. It is possible; we know how to do it. We think the ability to control cost structure, then administratively turn that into a positive bottom line, is key to survival. We need to be paid for our work.”

End of Text Box.

As part of our examination of health care costs, the Advisory Board visited Intermountain Healthcare in Salt Lake City.

Footnote: Intermountain Healthcare is an integrated system of nonprofit hospitals, clinics, and related services. Its more than 30,000 employees provide care in 6 million patient visits a year at 21 hospitals and more than 130 clinics. It also owns or supports 19 community clinics serving uninsured and low-income patients. SelectHealth, a nonprofit insurance company owned by Intermountain, provides benefits to nearly 500,000 people.

Dr. Brent James, Intermountain's Chief Quality Officer, described a number of examples of how Intermountain had improved quality while reducing costs. One example – pregnancy, labor, and delivery – is Intermountain's largest single routine care process. While data showed a wide range of gestational ages at which labor was induced, guidelines published by the American College of Obstetrics and Gynecology (ACOG) outlined conditions in which elective induction of labor is safe for the mother and the baby, the main one being a gestational age of at least 39 weeks. Intermountain blended the ACOG criteria into its workflow for labor and delivery and saw elective induction at less than 39 weeks drop from 28 percent to 5 percent in the space of a year. The number of unplanned c-sections and the number of newborns in neo-natal intensive care also fell. The bottom line was better care for mothers and their babies and a savings of more than \$10 million per year.

Footnote: For more examples of process improvements at Intermountain, see James, 2009, and Baker, et al. 2008

Another early example is a quality improvement program designed to enhance the prescribing of medications for cardiovascular patients when they were discharged from the hospital. For each diagnostic category, Intermountain developed guidelines for prescriptions based on the recommendations of the American College of Cardiology and American Heart Association. Implementing the guidelines required the commitment of physicians, nurses, and staff, and an extensive education campaign was conducted to gain that support. A reference card was printed to aid physicians and clinical staff. The appropriate medications were printed on patients' discharge forms, so physicians only had to check the correct box or note a reason for not following the guideline. Within a year, the program resulted in increases in the percentage of patients receiving prescriptions for five classes of recommended drugs. The increases ranged from 16 to 82 percentage points. The mortality rate at one year for chronic heart failure went from 22.7 percent to 17.8 percent and for ischemic heart disease from 4.5 percent to 3.5 percent, a reduction of 455 deaths. The rate of re-hospitalizations within one year went from 46.5 percent to 38.5 percent for chronic heart failure and from 20.4 percent to 17.7 percent for ischemic heart disease, a reduction of 887 readmissions. The program showed that a relatively simple quality improvement project could have substantial long-term lifesaving benefits.

Reference: Lappe, et al., 2004.

Some criticize the use of guidelines as “cookbook medicine.” However, Dr. James stressed that is not their intention, and that guidelines should not be applied mindlessly. The goal of such guidelines is to reduce complexity so that individual clinicians can focus

on what is most helpful to individual patients, adapting the guidelines to the patient's individual needs.

Quality improvement is an ongoing way of doing business. Intermountain has identified 1,400 clinical processes to analyze for quality improvement. As a result of its quality improvement efforts, Intermountain is often cited as an example of cost-effective delivery of quality health care. For example, a 2008 Dartmouth study said:

“Given the strong national reputations enjoyed by such organized practices as the Mayo Clinic and Intermountain Healthcare, and the objective evidence that they deliver more efficient, higher quality care, it seems reasonable to use these systems as benchmarks for the rest of the country. Were all providers in the country to achieve the same level of efficiency for inpatient spending on supply-sensitive care, we estimate a 28 percent reduction in hospital spending under a Mayo benchmark and a 43 percent reduction under an Intermountain benchmark.”

Intermountain is not alone in the way it does business. There are many other organizations of excellence around the country: the Mayo Clinic in Minnesota, Geisinger Health System in Pennsylvania, and Group Health in Seattle, to name a few. We expect the data-driven approach to quality improvement to continue to spread. Intermountain has been conducting its Advanced Training Program in Clinical Practice Improvement since 1991, and there are now about 30 similar training programs. The Mayo Medical School has integrated quality improvement into years 1 through 4 of its existing curriculum. Reference: Varkey 2007.

The spread of quality improvement in medicine should be encouraged. We will have more to say about this when we discuss incentives.

Organized Systems of Care

Intermountain Healthcare is an excellent example of a large organized system of care that is able to leverage and incorporate new medical knowledge into practice regimens when appropriate. In Intermountain's experience, integrated delivery systems with common baselines of practice have improved quality while lowering costs. It presents its integrated medical groups, with greater use of health information technology (HIT) and quality improvement programs, as an example of providing better clinical performance than less integrated independent practice associations, at a reduced cost.

The model of a cost-effective integrated delivery system could be applied to physicians who already practice within local referral networks around one or more hospitals, which could form the nucleus of local integrated delivery systems. Community Care of North Carolina provides integrating services to physicians in solo or small group practices and has demonstrated improved quality as well as significant cost savings.

Reference: Fisher, et al, February 2009; Commonwealth Fund Commission on a High Performance United States Health System, 2009.

The CEO of Kaiser Permanente suggests that “infrastructure vendors” could bridge the gap to a more integrated system.

Reference: Halvorson, 2007

Fostering the growth of integrated delivery systems requires a culture shift. To facilitate that shift, policymakers could remove legal obstacles to collaboration and provide encouragement.

Reference: For discussion of specific regulatory issues see, American Hospital Association 2007.

For example, providers could share in the savings from reduced utilization. The Commonwealth Fund Commission suggests that adopting “enterprise liability” as an approach to malpractice liability reform would stimulate collaboration. Under enterprise liability, physicians are licensed in association with a hospital or large organization affiliation. Liability then becomes the responsibility of the enterprise, rather than the individual physician. While giving the individual physician greater protection, enterprise liability gives the enterprise an incentive to ensure that its physicians are competent and that the organization works together to enhance quality of care.

Reference: Commonwealth Fund Commission on a High Performance Health System, 2009.

Coordination of Care

Patients with multiple chronic conditions account for a disproportionate share of spending, both in a given year and from year-to-year. In the Medicare population, chronic conditions account for much of the skewing of health care spending. Medicare beneficiaries with five or more chronic conditions see an average of 14 doctors per year.

Reference: Briefing by Thomas Reilly, CMS, to Social Security Advisory Board, September 12, 2008.

Coordination of care is especially important for patients with multiple chronic conditions, because it is not uncommon for them to receive duplicate testing, conflicting treatment advice, and prescriptions that are contraindicated. In a 2000 survey, 14 percent of people with chronic conditions reported receiving different diagnoses from different providers; 17 percent reported receiving conflicting information from providers; and 18 percent reported having duplicate tests or procedures. Some combination of these factors may play a role in the fact that there is a correlation between the number of chronic conditions and the number of inappropriate hospitalizations of Medicare patients.

Footnote: Inappropriate hospitalizations are defined as hospitalizations for ambulatory care sensitive conditions, “conditions for which timely and effective outpatient primary care may help to reduce the risk of hospitalization.”

Reference: Robert Wood Johnson Foundation, 2004.

Changes to insurance coverage and provider payments could help with management of chronic conditions. Health insurance often provides better coverage for acute episodes than it does for preventive or ongoing care. Payment systems are also oriented toward acute episodes and do not pay providers to coordinate with one another. Gundersen Lutheran Health System in Wisconsin provides an example of how coordination of care can improve patient outcomes while reducing costs. Gundersen reports an average per patient savings of \$15,087 over 24 months through its care coordination program. It assigns registered nurses or social workers to the 1 percent to 2 percent of its patients who use the most health services, to help them get the appropriate care at the right time. This service, which is provided without charge to the patient, results in fewer preventable readmissions and improved compliance with treatment plans.

Reference: Gundersen Lutheran Health System Statement to the U.S. House of Representatives' Committee on Ways and Means, April 1, 2009

Many forms of organization have been proposed in order to provide coordinated care, and each form allows for variations. One specific type of coordination is a concept known as the medical home. A medical home is a primary care practice that serves as the focal point for coordinating a patient's care. Each patient has an ongoing relationship with a personal physician, who is responsible for providing for all the patient's health care needs or taking responsibility for appropriately arranging care with other qualified professionals. Patients have enhanced access to care through expanded hours and a variety of means of communication. In addition to being paid for specific services, medical homes would be paid per beneficiary to promote ongoing comprehensive management of a patient's care.

Reference: American Academy of Family Physicians, 2007

One specific model, the Patient-Centered Medical Home, incorporates four principles: primary care, patient-centered care where care is tailored to the patient's needs and preferences, a "new-practice model" that is based on continuous improvement concepts, and payment reform.

Reference: Rittenhouse, and Shortell, 2009. For an extensive discussion see The Medicare Payment Advisory Commission, Report to Congress, June 2008.

Payment reforms can foster the use of medical homes. Making the use of a medical home less expensive for consumers would make them more attractive. A system in which insurers paid for patient care by a medical home over a period of time, with rewards for quality of outcomes rather than for quantity of services, would give patients access to coordinated care and a way to manage chronic conditions. Savings realized by the use of medical homes could be shared between patients, in the form of reduced premiums, and practices, in the form of year-end bonus payments. Combined with health information technology, a medical home could provide e-mail consultations, access to personal records, guidance on managing chronic conditions, and the potential for electronic monitoring of chronic conditions.

A variation on the medical home is the Guided Care model developed by Professor Chad Boulton at The Johns Hopkins University.

Reference: Whelan and Feder, June 2009

In the Guided Care model, nurses collaborate with primary care physicians to coordinate care for older adults with chronic conditions over extended periods to provide transitional care, help patients develop self-management skills, and assist them in connecting with community resources. The Guided Care model has the advantage of enabling small medical practices to provide coordinated care for chronic conditions even though they do not take on the full range of health care. Guided Care has shown improved quality of care at reduced costs.

A more highly structured approach to coordination of care is the accountable care organization (ACO). The Medicare Payment Advisory Commission (MedPAC) has

recommended that Medicare test ACOs as a means to restrain the growth in health care costs.

Reference: Medicare Payment Advisory Commission, Report to the Congress, June 2009

In the MedPAC model, an ACO would consist of primary care physicians, specialists, and at least one hospital, that together take on the responsibility of caring for the health care of a population. To create an incentive to restrain costs while improving quality, the model would give a bonus if the ACO meets both quality and cost targets. ACOs would thus have a financial incentive to change practice patterns and hold down their costs.

Diagnostic and Treatment Tools

The marketplace is exploding with new medical devices, second and third generations of well-established drugs and treatment protocols, and new research findings continue to inform the practice of medicine. These new tools have played a significant role in increasing longevity, improving the quality of life and reducing disability. New drugs, new imaging equipment, and redesigned diagnostic tools have an allure that is undeniable. These services and procedures are often quite expensive and often there is a dearth of objective evidence that can assist a physician or patient make an informed decision about the relative value of various options; decisions to use particular treatments and services often are based on a physician's past experience. Moreover, current payment structures often encourage the use (or in some cases, unnecessary use) of these new protocols by paying for the number of procedures regardless of the value.

For many types of illness, there is no definitive evidence regarding which type of treatment is most effective. For example, patients with the most common form of prostate cancer, slow-growing early-stage prostate cancer, can choose from a range of treatments. The simplest is known as watchful waiting, monitoring the cancer to see if it worsens. More aggressive treatments are radiation and removing the prostate gland. The newest treatment, proton radiation therapy, requires the use of a large proton accelerator. None of these treatments has been proven superior, and most men with this type of cancer die of something else before the cancer becomes life-threatening. The costs, however, range from a few thousand dollars of doctor visits and tests for watchful waiting to \$100,000 or more for proton radiation therapy.

Reference: Leonhardt, 2009.

Knowing what works is essential to controlling health care costs. Earlier in this report we noted that preference-sensitive care has been estimated to account for 25 percent of Medicare spending. There are several approaches that may help reduce unwarranted variation in preference-sensitive care. The first is to improve the state of clinical science, by increasing the number of treatment options that have been tested for efficacy. Better information on the risks and benefits of alternative treatments will give physicians and patients a better basis for informed decision making.

Because this type of knowledge is considered a public good, federally funded research would be appropriate for this purpose. There are federal agencies doing this type of work now, but a larger-scale, coordinated effort is required.

Footnote: Funding for this purpose was increased by the American Recovery and Reinvestment Act of 2009, which provides \$1.1 billion for comparative effectiveness research.

Many experts are calling for an autonomous organization dedicated to assessing both new technologies and clinical science. To preserve its objectivity, this organization must be independent of the political process. Professor Victor Fuchs of Stanford University has argued that the assessment organization should have its own dedicated source of funding to enable it to make decisions that may be politically unpopular. Professor Fuchs recommends a value-added tax to fund health care reform, a portion of which would go to technology and clinical assessment. Another approach is promoted by the Commonwealth Fund Commission on a High-Performance Health System, which recommends that a center for medical effectiveness be operated as a quasi-governmental entity that could receive funding from both public and private sources. Operating funds would come in equal parts from the Medicare Hospital Insurance Trust Fund, from general revenue funding for the Medicaid program, and from an assessment on private insurance premiums.

Reference: The Commonwealth Fund Commission on a High Performance Health System, 2009.

Such a national technology assessment organization would conduct comparative effectiveness studies as well as examine questions of cost-effectiveness. Part of the organization's mission would be to reduce the unwarranted variation in supply-sensitive care described in an earlier section. This goes beyond what is currently understood by comparative effectiveness research and focuses on rationalizing care processes and coordinating roles and responsibilities of health professionals. The goal is to redesign care processes, coordinate care, and incorporate accountability measures of performance and outcomes.

Reference: Wennberg et al., 2008

There is a gap in health care between knowledge and practice. It is estimated that it takes 17 years for proven medical advances to make their way into common practice, except for new devices and pharmaceuticals.

Reference: Liang, 2007.

Given the explosion of biomedical knowledge, it is not surprising that it is becoming nearly impossible to retain and apply new information. As Brent James of Intermountain Healthcare explains, "That information overload can lead to clinical uncertainty, widespread practice variations, the opportunity for inappropriate care, and an inability to deliver even simple, proven therapies consistently to all who might benefit."

Reference: James, 2006.

To help close this gap, knowledge would be disseminated timely to both providers and patients in user-friendly formats. In addition, health information technology systems could take the guidelines that are developed by the technology assessment organization and build them into their decision support systems to help manage quality and cost. (The Mayo Clinic has an Enterprise Learning System to support clinicians by alerting them to problems, suggesting actions, and providing information. Dr. Farrell Lloyd of Mayo describes the system as a "cognitive prosthetic.").

Reference: Mayo Magazine, Spring 2009.

Finally, the knowledge that comes from the technology-assessment organizations that have been proposed could be linked to coverage and payment, so that those systems are aligned with evidence-based standards.

Informed Patient Choice and Shared Decision Making

There are some medical situations in which there is no clear right or wrong answer. For example, for women with early-stage breast cancer, both mastectomy and lumpectomy followed by radiation have similar mortality rates. The choice depends largely on the preferences of the patient. Frequently, however, patients leave that decision to their physician.

Footnote: The following discussion is based on Wennberg, et al. 2007. It also draws upon a presentation by Dr. Wennberg to the Social Security Advisory Board on October 24, 2008.

Several studies have shown that some patients who meet the guidelines to qualify them for surgery do not want it once they have been fully informed of all treatment options. Data suggest that implementing shared informed decision making could reduce health care expenditures by reducing utilization. Standards already exist for the development and evaluation of decision aids to be used in shared decision making.

In order to make informed patient choice the standard of practice, State legislatures would need to enact informed consent laws, to promote the use of informed patient choice, as the State of Washington has done. About half the States now follow a physician-based standard that requires physicians to inform patients as a “reasonably informed practitioner” would. The other States follow a patient-based standard that requires physicians to provide all information that a “reasonable patient” would want to know. Informed consent could explicitly be established as the standard of practice in order to give physicians who use patient decision aids enhanced immunity from malpractice suits.

Emphasis on Wellness

Employers have been paying greater attention to wellness programs, citing lower health care benefit costs as a major reason. A 2006-2007 Business Roundtable survey of member companies found that 20 percent of respondents had created wellness programs within the past two years, and several other companies responded that they plan to implement new programs.

Wellness programs often blend into health insurance programs including health benefits provided to retirees. Health risk assessments that are part of wellness programs identify employees and/or retirees who need preventive care or chronic disease management under the insurance program. Programs to reduce health risks, such as tobacco cessation and weight management, are common and sometimes use financial rewards and consequences to motivate employees. There is a business case for such programs, and Business Roundtable member companies track costs and return on investment.

Reference: Business Roundtable, 2007.

Wellness programs are only part of the picture, however. It is also important for consumers to take responsibility for their own health and to comply with the instructions of their providers.

Health Information Technology

Health information technology (HIT) will not of itself improve the efficiency of health care delivery, but it will support and enable practices that will improve efficiency. HIT began with administrative software for billing and functions such as computerized order entry for medications and was supplemented with electronic patient health records, but it has the potential to do much more.

HIT can also stimulate broader systemic improvements. A national health database could be developed, with data from all payers, providers, and other owners of health care data. Information from this database on treatments, outcomes, and costs, without personal identifiers, could be made available to researchers. Because an electronic system of health records can identify outcomes and side effects and aggregate the information quickly, it has the potential to go beyond what can now be done with clinical trials and can measure evidence across subpopulations. It could also accelerate the adoption of improved medical knowledge into practice, by delivering information in the form of decision-support tools. And it could enable patients with chronic diseases to become active participants in their own care. HIT can provide them with information and enable them to send results of home monitoring to their electronic records.

Reference: Liang, 2007.

This is clearly a critical time for the future of HIT. The recently enacted *American Recovery and Reinvestment Act of 2009* included \$19 billion to promote the adoption and use of HIT. The law provides financial incentives for hospitals and doctors to adopt and use electronic health records, and financial penalties for physicians and hospitals who do not use them meaningfully by 2015. The law also strengthens protection of health care information, to assuage concerns about privacy and security.

Footnote: The Certification Commission for Health Information Technology certifies systems that meet established standards.

Reference: Blumenthal 2009.

An article in the *New England Journal of Medicine* points out the need for flexibility in implementing HIT.

Reference: Mandl and Kohane, 2009.

As one of its authors said, “If the government’s money goes to cement the current technology in place, we will have a very hard time innovating in health care reform.”

Reference: Mandl, Kenneth, quoted in the New York Times, March 26, 2009.

Rather, flexibility is essential to allow HIT to adapt continually to new policies, new health care delivery mechanisms, and new information technologies. To meet this challenge, system components should be not just interoperable but substitutable. The

article cites the example of the iPhone, an open-software platform that allows outside developers to create applications. The platform should also reduce obstacles to the flow of data, in a standard form, among systems.

Aligning Financial Incentives to Reward More Effective and Efficient Care

The Current System: Volume Rather Than Value

Fisher and McClellan have noted that the current payment system has two effects: fostering commercial behavior and presenting barriers to aligning care with values.

Reference: Fisher, et al., January, 2009

Current payment systems generally pay doctors, hospitals, and other providers for services. This system provides an incentive to provide more services and procedures and thereby increase costs. Research has shown, however, that more services do not necessarily lead to better health. In fact, they may lead to worse outcomes for patients.

Reference: Wennberg, et al. 2007.

George Halvorson, chairman and CEO of Kaiser Permanente has written: “[W]e have over 9,000 billing codes for individual health care procedures, services, and separate units of care. There is not one single billing code for patient improvement. There is also not one single billing code for a cure. Providers have a huge economic incentive to do a lot of procedures. They have no economic incentive to actually make us better. The economic incentive score is 9,000 to zero – process versus results.”

Reference: Halvorson, 2007.

The current system also sometimes perversely penalizes efficient health care providers. We earlier described the experience of Intermountain Healthcare improving its performance at prescribing appropriate medications for heart patients when they were released from the hospital. While this resulted in reducing readmissions and saving lives, it also cost the hospital more than \$3.5 million in revenues it would have received from those hospital admissions.

Reference: James, 2009.

Intermountain’s chief quality officer says that “about three-fourths of the time, improved care that produced cost savings resulted in substantial financial penalties to the care provider. In those situations all of the savings flowed back to payers as windfall benefits.”

Footnote: Some financial penalties are the result of differences in operating margins. The operating margin for some services is much higher than that for others. Other financial penalties result from services not being performed, as in the case of reduced hospital admissions.

Reference: James, 2009.

Providers such as Intermountain that have achieved demonstrated savings by improved care have been able to negotiate payments with commercial insurers, to reduce such perverse incentives. However, it is not possible under current law to negotiate Medicare

payment rates with CMS. Last year, the Mayo Clinic lost \$840 million on \$1.7 billion in Medicare services. Mayo's CEO said, "The system pays more money for worse care. If it doesn't start paying for value instead of volume, it will destroy the culture of the organizations with the best care. We might have to start doing more procedures just to stay in business."

Reference: Grunwald, 2009. See also Abelson, 2003.

Improvements in the delivery of care or reduction of costs will continue to be very difficult if financial incentives are aligned for more spending, regardless of quality. In the following pages, we will briefly describe some ways to improve the alignment of incentives.

Managed Competition

As part of his discussion with the Board, Victor Fuchs described the power of managed competition to restrain costs.

Reference: For the entire proposal see Fuchs 2009.

He advocated, within a framework of universal coverage, a defined budget for government-funded health care programs. This, he said, would give insurers an incentive to provide quality care more efficiently. His proposal would require insurers to provide a standard benefit package with guaranteed issue and no exclusions for pre-existing conditions. They would receive risk-adjusted premiums and have their outcomes monitored. This will provide an incentive for insurers to pressure providers to be more efficient, so that the insurers can lower their premiums and gain more business in a competitive market.

Professor Fuchs proposes giving consumers vouchers so that they can choose among competing health plans. Consumers would therefore have a strong incentive to choose the most efficient plan providing the highest quality care. To give health care consumers an incentive to restrain costs, they would pay with their own after-tax dollars for care that goes beyond what is covered in the standard benefit package. For example, for a wider selection of doctors or hospitals, they would pay a supplemental fee. Another way of incentivizing cost restraint is a value-based approach that would charge higher copayments covering the added marginal cost for a more expensive service when a less expensive one is just as effective.

Pay for Outcomes

Value-based purchasing is a term for making providers accountable for both the cost and the quality of the services they provide.

Reference: Silow-Carroll, and Alteras, 2007.

Eric Stanchfield, the former director of the Wisconsin Department of Employee Trust Funds, described for the Board Wisconsin's implementation of value purchasing. That State's program covers 227,000 active and retired workers in Wisconsin State and local governments. In 2003 the program began to implement value purchasing, which rewards

health plans that deliver exceptionally high quality care and creates incentives to encourage members to select efficient, high-quality plans. It conducts an annual negotiation process in which insurance plans submit detailed cost and utilization data. Actuaries compare the cost-effectiveness of each plan using a risk-adjustment system. Plans are credited if they have had high quality results. The State also makes available a public plan in areas where there is inadequate competition. In the four years before the current Wisconsin program was implemented, the annual average premium increase was 13.3 percent. In the four years after implementation, it was 7.1 percent.

Incentives for Consumers of Health Care

The Board heard from Joe Antos, Wilson H. Taylor Scholar in Health Care and Retirement Policy at the American Enterprise Institute, about the incentives he saw for consumers in today's health care system. He explained that workers do not recognize that employers offer health insurance as part of a compensation package, and therefore that higher insurance costs mean lower wages. Higher health care costs lead to more expensive health insurance plans and lower wages. Mr. Antos said that open-ended insurance payments that pay nearly all the cost of health services lead consumers to purchase more services than they would if they were aware of the cost. When people are spending their own money, they are likely to be more careful about how it is spent.

Reference: Joseph Antos briefing to the Social Security Advisory Board, February 13, 2009; The Wall Street Journal, December 13, 2005; Antos, 2008.

Increasing the share of costs paid by consumers has been shown to reduce spending on medical care. The only long-term experimental study of cost sharing and its effects is the RAND Health Insurance Experiment, completed in 1982. In that experiment, participants who paid for a share of their health care used fewer services than a comparison group without cost sharing. Cost sharing reduced the use of both highly effective and less effective services in roughly equal proportions. Cost sharing did not significantly affect the quality of care. For the most part, cost sharing had no adverse effects on participant health. The exception was that, among the poorest and sickest participants, the absence of cost sharing led to improvements in hypertension, dental health, vision, and several serious symptoms.

Reference: RAND research brief, 2006

More recent observational studies have also examined cost sharing. Increasing the share of costs paid by consumers has been shown to reduce spending on medical care. Studies have shown that increasing out-of-pocket costs to consumers by 10 percent reduces total spending per patient by 2 percent, and adding a high (\$1,000 or more) deductible reduced total spending by 4 to 15 percent. Research has also identified drawbacks to consumer cost sharing. Patients with high levels of cost sharing seem just as likely to cut back on essential services as on services with little or no value.

Reference: Rosenthal, 2009.

Payments could be structured in a way to lead patients to make decisions that are in the best interest of their health.

Consumer-directed Health Care

As the most recent approach to restraining health costs through employer-provided insurance, consumer-directed health care (CDHC) is another way to give consumers greater control. CDHC is designed to give consumers incentive to use care wisely and to shop for services that provide the best value. CDHC insurance plans have high deductibles that give consumers an incentive to be cost-conscious by requiring a higher level of out-of-pocket spending before insurance payments are made.

The most recent form of CDHC is health savings accounts (HSAs). HSAs were established in 2003 by the *Medicare Prescription Drug, Improvement, and Modernization Act*. HSAs can be used only with high-deductible insurance plans with a minimum deductible and a maximum amount for out-of-pocket spending.

Footnote: The levels for contributions, deductibles, and out-of-pocket maximums are indexed for inflation. For 2009, the maximum contribution is \$3,000 for an individual (\$5,950 for a family); the minimum deductible is \$1,150 for an individual (\$2,300 for a family); and the out-of-pocket maximum is \$5,800 (\$11,600 for a family).

Funds deposited into the accounts are tax-deductible, and earnings in the accounts accrue tax-free, so that they accumulate over a period of time to provide a larger buffer against medical expenses.

Footnote: There are many unanswered questions about the effects these plans might have on consumer behavior. Watson Wyatt is partnering with the RAND Corporation to investigate the effects of these new plans on health care costs and quality. Specifically, they are studying the medical care use and expenditure patterns as reported in the medical claims files for nearly 33 large treatment employers and 25 large control employers over the 2003-2007 period.

Reference: For more discussion, see: RAND, June 2005; GAO, 2008; Blumberg, and Clemans-Cope, 2009.

The Board heard from Duane Olson, Manager for Health and Welfare Plans at Deere and Company, about how HSAs can reduce health care costs. At Deere and Company, the total expenditure on employee health care costs (including premiums, out-of-pocket costs, and employer HSA contributions) was lower than it was before the company offered HSAs. Consumers in HSAs must be active in getting all the information they need to make wise decisions about health care spending. To help consumers make healthy decisions, some CDHC plans include incentives to participate in wellness initiatives and disease management programs or waive or reduce the deductible for preventive care. In the case of Deere, Mr. Olson reported that, for 8 of 11 chronic conditions, employees had improved prescription compliance, and two-thirds of employees with an identified high or moderate health risk were actively engaged with a health coach.

Reference: Briefing by Duane Olson to the Social Security Advisory Board, February 13, 2009.

Incentives for Providers of Health Care

Providers, as well as consumers, respond to incentives. For example, when Medicare introduced its Prospective Payment System, which provides a predetermined fixed amount for diagnosis-related groups for inpatient hospital services, it resulted in a

substantial decline in lengths of stays in hospitals. The expansion of the use of prospective payment for diagnosis-related groups to physicians should be considered. The current payment system pays physicians for services, giving an incentive to provide more services. A payment system that provided payment per patient or for treating a given diagnosis would reduce the incentive to provide more services and procedures. As with incentives for consumers, changes to incentives for providers should be approached carefully, with an eye to avoiding potential unintended consequences, such as physicians leaving the Medicare system.

Hospital readmissions are costly, and the data suggest that they happen far too frequently. While there are many reasons for readmissions, a lack of coordination between providers and the patient for follow-up care is one factor. A recent study of Medicare patients illustrates the scope of the problem of readmissions. It found high overall readmission rates, with nearly 20 percent readmitted within 30 days, 34 percent within 90 days, and 56 percent within a year. Readmission rates varied widely by State; readmission rates in the highest five States were 45 percent higher than in the lowest five.

Reference: Jencks, Williams, and Coleman, 2009.

Variations in costs suggest that improvements are possible. The top quartile of hospitals spends almost four times as much on readmissions as the bottom quartile.

Footnote: In testimony before the U.S. Senate Committee on Finance, Glenn M. Hackbarth pointed out that in the early 1990s, Medicare conducted a successful demonstration of combined physician-hospital payment for a specific type of admission, showing that costs could be lowered without reducing quality.

Reference: Hackbarth, 2009

Changes in the payment structure may encourage better quality of care and outcomes, resulting in reduced readmissions.

Paying providers per episode of care and bundling payments have been suggested as ways to redirect incentives toward increased coordination of care that can reduce readmissions and result in improved cost management. Episode payments would pay a single provider an amount to cover the costs of care for an entire hospitalization episode, to include a specified amount of time (30 days, for example) after discharge. Using a single fee for an entire episode may encourage coordination of services and provide an incentive to reduce complications and readmissions. This concept is similar to the diagnosis related group payment system used by Medicare to pay hospitals for episodes of care. Bundling of payments usually means paying two or more providers jointly for the services they provided during an episode of care. This differs from the more common practice of paying each provider separately for every action taken.

Reference: Whelan and Feder, 2009.

In 2006, Geisinger Health Systems in Pennsylvania began changing its approach to episodic care. It analyzed its procedures for coronary artery bypass grafts to identify best practices and prompt physicians to follow them. It then established a package price that included everything from the first physician visit when it was decided that the surgery would be done through the surgery and 90 days after surgery. It calls its program ProvenCare and takes financial responsibility for any associated complications and their treatment. After implementing this “warranty” program, patient care improved.

Complications fell by 21 percent and readmissions dropped by 44 percent. The average length of hospital stay fell by half a day, and costs of treatment were reduced. Geisinger has since expanded its “warranty” program to include hip replacement, cataract surgery, obesity surgery, prenatal care for babies and mothers, and heart catheterization.

Reference: Steele, 2009

Geisinger reports reducing costs and improving quality through the bundling of payments for some procedures. Geisinger’s chief medical officer has said, “A great paradox in U.S. health care is that we get paid for making more mistakes. For example (with few exceptions), if a patient develops a post-operative complication that might have been avoided by proper care, we often receive more reimbursement for that case than for a comparable case without a complication. This does not happen in other industries. Why are health care services an exception?”

Dealing with Unwarranted Variations

To deal with the variations among Hospital Referral Regions described earlier in the discussion of causes of high health care costs, payment reforms should address geographic differences caused by supply-sensitive care. Currently, more efficient Hospital Referral Regions in effect subsidize less efficient regions. This could be corrected by adjusting the dollar amount of premiums to reflect the cost of delivering care within a regional health care market. These premiums could be adjusted to local prices and incidence of illness, as Dartmouth Atlas data are. Doing so would add the advantage of highlighting regional differences to consumers and to local decision makers. The problems of disorganized delivery of care and the resulting misuse or overuse of resources could then develop as local issues, and differences in premiums would provide an incentive for those issues to be dealt with.

Reference: Wennberg, et al., December 2008.

IV. Conclusion

It is essential that the United States take action to restrain the growth of future health care costs. The cost of health care is high and continues to grow rapidly, while its quality is not always commensurate with cost. The potential expansion of health insurance to millions more Americans will only increase the growth of costs. There is no simple way to restrain the growth of costs while improving and ensuring quality. We need to improve the efficiency of the health care delivery system while aligning financial incentives to reward more efficient and effective care.

There is no single right way to do this, but we note that many providers around the country are already providing high quality care at costs that are well below average. We are not dealing with abstract theory but rather with practices that have a proven track record.

Some of our suggestions will require a change in the culture of medicine, moving it away from a craft to an evidence-based system of care. A short anecdote about the use of a checklist illustrates this. Using a five-step checklist before putting large intravenous lines into intensive-care patients in Michigan hospitals reduced the infection rate by two-thirds over a three-month period. Over 18 months it saved more than 1,500 lives and \$200 million. The results were published in 2006, but the use of the checklist approach is spreading slowly.

Footnote: Twenty-eight State hospital associations have undertaken to disseminate this technique to reduce infections. Reference: Pronovost, et al., 2006. Health Research & Educational Trust, 2009.

Dr. Peter Pronovost, who developed the checklist, says that American medicine does not look at health care delivery as a science, but rather as an art.

Reference: Gawande, 2007.

As MedPAC has pointed out, “Understanding why the rate of dissemination for beneficial delivery changes is so slow is essential; increasing that rate could have substantial payoffs for the health care system.”

Reference: MedPAC, Report to the Congress, June 2008.

Our rapidly growing scientific knowledge needs to be brought to patients through more integrated and coordinated care.

Moving from our current volume-driven system to a more value-driven system will take thoughtful and deliberate action. Looking at delivery of care, quality improvement processes take time and attention, as in the example of the checklist described above. Organized systems of care seem to offer improved care at lower cost, but many details will need to be worked through and we will learn much from the experience of working through them. Looking at financial incentives, changes may have unintended consequences, and periodic course corrections will be needed.

We do not underestimate the difficulty of what needs to be done. Nor do we underestimate the need to do it. The need is urgent. It is time to begin.

Appendices

Appendix A: Long-Term Care

At the time this report was being written, nearly all of the public discussions on health care reform have omitted consideration of long-term care, even though the cost of long-term care is a significant part of the overall growth of costs. About 10 million Americans, or one in twenty adults, need long-term care. Most of them are 65 or older, a population group that will continue to grow. Another 42 percent are people under 65 with disabilities or chronic illnesses.

Reference: Rowland Testimony, June 3, 2009

We note that the topic of long-term care is one that may demand both discussion and reform efforts all its own. However, the nation's shifting demographics makes long-term care a subject of large and growing importance that should be factored in as the work of reforming our nation's health care continues.

Long-term care can be provided in a variety of settings: in the home, in group homes, in adult day-care and other community-based settings, in a hospice, and in institutional settings such as nursing homes. Much long-term care takes the form of unpaid help from family and friends. Consumers' preference for receiving care in their homes and communities, and the Supreme Court's 1999 *Olmstead* decision highlight the need to think broadly about how long-term care is delivered.

Footnote: The *Olmstead* case was brought by two women residing in a State mental institution who had sought placement in community care and had been found appropriate for that care by their treatment professionals. The Supreme Court found that the *Americans with Disabilities Act* required States to place persons with mental disabilities in community settings rather than in institutions when the State's treatment professionals have determined that community placement is appropriate, the transfer from institutional care to a less restrictive setting is not opposed by the affected individual, and the placement can be reasonably accommodated, taking into account the resources available to the State and the needs of others with mental disabilities. *Olmstead v. L.C.*, No. 98-536.

Reference: For a discussion of preferences for community placement and the implementation of *Olmstead*, see National Council on Disability, , 2005.

The rising cost of long-term care affects retirement security in a number of ways. For today's retirees who have limited income and resources, it may mean that all their monthly income is consumed by a nursing facility or that they bear the costs of home care out of pocket. For those with more means, their income and resources may be consumed by the large expenses of providing long-term care. Because much long-term care is provided by unpaid family and friends, the retirement security of those caregivers is affected as well, as they frequently reduce their work hours or leave the workforce to provide that care.

Home and Community-Based Services under Medicaid

Medicare provides very little in the way of long-term care. Even the 100 days that Medicare may pay in whole or in part are not considered long-term care. Those payments cover post-acute care and limited rehabilitation/convalescent time. Therefore, the largest public source of payment for long-term care is Medicaid.

In 2006 Medicaid spent \$109 billion for long-term care, up from \$32 billion in 1990. Of the amount spent in 2006, 59 percent went to institutional care and 41 percent to home- and community-based care. Although it spends more on people in institutions, the majority of people Medicaid serves with long-term care are in the community, not in nursing homes. Medicaid long-term care expenditures have been growing rapidly, and they are expected to continue growing.

Reference: Rowland Testimony, June 3, 2009; Kaiser Commission on Medicaid and the Uninsured, 2008; Holtz-Eakin, testimony, April 27, 2005.

Some recent research on long-term care may help point out future directions and potential cost savings for delivering long-term care. States are required to pay for institutional care under Medicaid, but home- and community-based long term care services (HCBS) are provided at State option. Most Medicaid HCBS are provided through programs that waive federal rules. CMS can approve the waivers only if the State demonstrates that providing HCBS will not cost more than the State would have spent on institutional care. The average total public expenditure per person receiving HCBS waiver services is, in fact, well below that of a person receiving institutional services. A study in 2006 measured the difference for one year at \$44,000.

Reference: Rowland Testimony, June 3, 2009; Kaye, et al. , 2009; AARP Public Policy Institute, 2009; Kitchener, et al., 2006.

States have been increasing their spending on HCBS over the last 20 years. Currently 2.8 million people are receiving Medicaid HCBS, but more than 300,000 people are on waiting lists. There are wide variations among States. State spending ranges from less than 5 percent to more than 50 percent of State Medicaid long-term care funds for older people and adults with disabilities going for HCBS. Only four States spend more than half their Medicaid long-term care funding on HCBS.

Reference: Rowland et. al, July 2008.

Despite the fact that HCBS costs less per individual than institutional care, the expansion of HCBS is constrained by a concern that increased use of HCBS will lead to higher aggregate costs. The fear is that making HCBS more available would attract more people to seek it, that people who are eligible but would not apply for Medicaid to enter an institution would apply for Medicaid if HCBS were available.

Demonstration projects have been inconclusive on the question of whether aggregate costs would increase. A recent study, however, analyzed State spending from 1995 to 2005 and showed that an expansion of HCBS seems to lead to a short-term increase in spending, but that is followed by a reduction in institutional spending and long-term cost savings. These long-term savings are not automatic, but may result from parallel policy initiatives discouraging the use of institutional care.

Reference: Kaye, LaPlante, and Harrington, 2009.

CMS has been conducting a demonstration project known as Money Follows the Person, in which it is trying to help States expand their options for people to receive care in their communities. In view of the recent research cited above, the variations in State implementation of HCBS, and the requirements of *Olmstead*, CMS should also study the implementation of HCBS in States that have been more cost-effective and develop incentives for other States to follow their example.

The Larger Picture of Long-term Care

The availability of HCBS is vitally important to Medicaid beneficiaries and may save money in the long run, but it is only one aspect of long-term care that needs attention from policymakers. Other aspects of the larger picture include the role of long-term care insurance, the respective roles of public payments and private insurance, and the alignment of financial incentives to encourage the cost-effective provision of long-term care to meet our future needs. We encourage the Congress and the Administration to devote increased attention to these issues.

APPENDIX B: INTERNATIONAL COMPARISONS

Levels of Health Care Spending

The United States devotes a much larger share of its national income to health care than any other country in the world. In 2007, the last year for which internationally comparable data were available, total expenditures on health care in the United States comprised 16.0 percent of the Gross Domestic Product (GDP), while the average of the developed countries that are part of the Organization for Economic Cooperation and Development (OECD) was only 8.9 percent of GDP (see **Figure B-1, left axis**).

The United States spends more than twice as much per person on health care compared to the average of the OECD countries (see **Figure B-1, right axis**). In 2007, the United States spent the equivalent of \$7,290 per person on health care, compared to only around \$3,900 in Canada, \$3,600 in France, Germany and the Netherlands, and \$2,600 in Japan. Switzerland, long the country with the second highest health care costs, spends only two-thirds as much per person as does the United States.

Figure B-1: Total health care expenditures as a percent of GDP and per capita, OECD countries, 2007

Health care expenditures as a percent of Gross Domestic Product, OECD Countries, 2007:

United States 16.0%, France 11.0%, Switzerland 10.8%, Germany 10.4%, Belgium 10.2%, Austria 10.1%, Canada 10.1%, Portugal 9.9%, Denmark 9.8%, Netherlands 9.8%, Greece 9.6%, Iceland 9.3%, New Zealand 9.2%, Sweden 9.1%, Norway 8.9%, OECD Average 8.9%, Australia 8.7%, Italy 8.7%, Spain 8.5%, United Kingdom 8.4%, Finland 8.2%, Japan 8.1%, Slovak Republic 7.7%, Ireland 7.6%, Hungary 7.4%, Luxembourg 7.3%, Czech Republic 6.8%, Korea 6.8%, Poland 6.4%, Mexico 5.9%.

Total Health Expenditures per capita, OECD Countries, 2007:

United States \$7,290, Norway \$4,763, Switzerland \$4,417, Luxembourg \$4,162, Canada \$3,895, Netherlands \$3,837, Austria \$3,763, France \$3,601, Belgium \$3,595, Germany \$3,588, Denmark \$3,512, Ireland \$3,424, Sweden \$3,323, Iceland \$3,319, Australia \$3,137, United Kingdom \$2,992, OECD Average \$2,964, Finland \$2,840, Greece \$2,727, Italy \$2,686, Spain \$2,671, Japan \$2,581, New Zealand \$2,510, Portugal \$2,150, Korea \$1,688, Czech Republic \$1,626, Slovak Republic \$1,555, Hungary \$1,388, Poland \$1,035, Mexico \$823.

Footnote: Data for Belgium, Denmark and Netherlands are current expenditures excluding investment. Data are expressed in U.S. dollars adjusted for purchasing power parities (PPPs), which provide a means of comparing spending between countries on a common base. PPPs are the rates of currency conversion that equalize the cost of a given 'basket' of goods and services in different countries. 2007 figures unavailable for Australia, Japan, Luxembourg, and Portugal. Data for 2006 are included in the chart.

Source: OECD Health Data, June 2009.

End of figure B-1.

Growth in Health Care Spending

From 1960 to 2006 total health care spending in the United States has grown on average at a rate of 2.5 percent annually, faster than the growth of the national income. Rapid growth is not unique to the United States, as shown in **Figure B-2**. But over the past 40 years, U.S. spending growth has exceeded that in other countries with comparable standards of living.

Figure B-2: Cumulative growth rate of total health care spending as a percent of GDP since 1980, selected countries.

The figure shows five lines representing cumulative growth of health care spending as a share of GDP in each of Canada, Japan, Switzerland, United Kingdom and the United States from 1980 through 2006. Each line starts in the reference year of 1980 at 0 percent cumulative growth. All five lines slope upward, with the United States rising the fastest, although each country experiences some periods of positive, level or negative growth. Between 1980 and 2006, health care spending as a percentage of GDP rose 76 percent in the United States, 55 percent in Switzerland, 50% in the United Kingdom, 43 percent in Canada, and 25 percent in Japan. In the United States, health care spending as a percentage of GDP grew by 50 percent between 1980 and 1993. Leveled off from 1994 through 2000, and then rose rapidly to over 70 percent by 2003, before leveling off again.

Source: OECD. End of Figure B-2

Health Status of the Population

The United States lags behind several other industrialized countries in basic measures of health status, including life expectancy and also experiences higher prevalence rates of some diseases and conditions such as diabetes and obesity. **Figure B-3** shows how the United States ranks compared similarly developed countries in rates of mortality “amenable to health care.”

Footnote: The authors compared trends in deaths considered amenable to health care before age 75 between 1997-98 and 2002-03 in the United States and in 18 other industrialized countries. Such deaths account, on average, for 23 percent of total mortality under age 75 among males and 32 percent among females.

Reference: Nolte and McKee, 2008.

In other measures, the U.S appears to do a better job: prevalence rates of some high costs diseases such as chronic obstructive pulmonary disease and hypertension are fact lower in the United States, as are survival rates from some cancers.

Reference: McKinsey Global Institute, 2008; Preston and Ho, August 2009.

Figure B-3: Mortality amenable to health care, 19 selected countries, 2002-2003. Deaths per 100000 population, ordered from lowest mortality rates to highest.

1st France 65 , 2nd Japan 71, 3rd Australia 71, 4th Spain 74, 5th Italy 74, 6th Canada 77, 7th Norway 80, 8th Netherlands 82, 9th Sweden 82, 10th Greece 84, 11th Austria 84, 12th Germany 90, 13th Finland 93, 14th New Zealand 96, 15th Denmark 101, 16th United Kingdom 103, 17th Ireland 103, 18th Portugal 104, 19th United States 110.

Mortality amenable to health care, 1997-1998. Deaths per 100000 population, ordered from lowest mortality rates to highest.

1st France 76, 2nd Japan 81, 3rd Spain 84, 4th Australia 88, 5th Sweden 88, 6th Italy 89, 7th Canada 89, 8th Netherlands 97, 9th Greece 97, 10th Norway 99, 11th Germany 106, 12th Austria 109, 13th Denmark 113, 14th New Zealand 115, 15th United States 115, 16th Finland 116, 17th Portugal 128, 18th United Kingdom 130, 19th Ireland 134. Source: Nolte and McKee, 2008. End of Figure B-3.

Relationship of Per Capita Income to Health Spending

Some researchers contend that the United States' high spending on health care is reasonably commensurate with its wealth.

Reference: Hall and Jones, 2007.

But there is also evidence that the United States spends a disproportionate share of its national income on health care.

Figure B-4: Relationship between national income per capita and health care spending, OECD Countries, 2007

The figure plots GDP per capita on X axis health care spending per capita on the Y axis for 25 OECD countries in 2007. A regression line fitted to these data shows the relationship between national income (GDP) per capita and health care spending is positive. On average the richer a country is, the more of their national income they spend on health care. But the figure also clearly shows that the United States spends a disproportionately high share of its national income on health care. Based on the average relationship across countries, the expected level of health care spending for a nation of our prosperity in 2007 should have been about \$4,600 per capita, higher than in other less well-off countries, but about 35 percent less than the \$7,300 per person we actually spent.

Source: OECD Health Data, 2009. End of figure B-4.

APPENDIX C:

Organizations and People Consulted

Joseph Antos, Ph.D.
Wilson H. Taylor Scholar in Health Care and Retirement Policy
American Enterprise Institute

Steven B. Cohen, Ph.D.
Director, Center for Financing, Access, and Cost Trends
Agency for Healthcare Research and Quality

Helen Darling
President
National Business Group on Health

Karen Davis, Ph.D.
President
The Commonwealth Fund

Richard Foster
Chief Actuary
Centers for Medicare and Medicaid Services

Victor Fuchs, Ph.D.
Professor of Economics and Health Research Policy
Stanford University

Marge Ginsburg
Executive Director
Center for Healthcare Decisions

John Hsu, M.D., MBA, MSCE
Director, Kaiser Permanente Center for Health Policy Studies
Kaiser Permanente Northern California

Brent James, M.D.
Executive Director, Institute for Healthcare Delivery Research
Vice President, Medical Research and Continuing Medical Education
Intermountain Healthcare

Mark McClellan, M.D., Ph.D.
Director, Engelberg Center for Health Care Reform

Brookings Institution

Mark Miller, Ph.D.
Executive Director
Medicare Payment Advisory Commission

David Nexon
Senior Executive, Vice President AdvaMed
Advanced Medical Technology Association

Duane Olson
Manager for Health and Welfare Plans
Deere and Company

Marc Probst
Chief Information Officer
Intermountain Healthcare

Thomas Reilly, Ph.D.
Deputy Director
Office of Research, Development, and Information
Centers for Medicare and Medicaid Services

David Schwartz
Health Policy Analyst
Senate Finance Committee

Samuel Spagnolo, M.D.
Professor of Medicine and Attending Physician, George Washington University
Senior Attending Physician, VA Medical Center, Washington, D.C.

Eric Stanchfield
Executive Director
District of Columbia Retirement Board

Donald Steinwachs, Ph.D.
Professor and Director of the Health Services Research and Development Center
The Johns Hopkins Bloomberg School of Public Health

John Wennberg, M.D.
Peggy Y. Thompson Professor (Chair) for the Evaluative Clinical Sciences
Dartmouth Medical School

References

AARP Public Policy Institute, Taking the Long View: Investing in Medicaid Home and Community-Based Services Is Cost-Effective, March 2009.

Abelson, R., "Hospitals Say They're Penalized by Medicare for Improving Care," The New York Times, December 5, 2003.

American Academy of Family Physicians, Joint Principles of the Patient-Centered Medical Home, March 2007.

American Hospital Association, Guidance for Clinical Integration, 2007.

Antos, Joseph R., "Symptomatic Relief, but No Cure – The Obama Health Care Reform," New England Journal of Medicine, October 16, 2008, pp. 1648-1650.

Antos, Joseph, briefing to the Social Security Advisory Board, February 13, 2009.

Baker, G.R., A. MacIntosh-Murray, C. Porcellato, L. Dionne, K. Stalmacovich, and K. Born, Intermountain Healthcare, High Performing Healthcare Systems: Delivering Quality by Design, Toronto: Longwoods Publishing, 2008. pp. 151-178.

Baicker, Katherine and Amitabh Chandra, "Medicare Spending, The Physician Workforce, and Beneficiaries' Quality Of Care," Health Affairs Web Exclusive, April 7, 2004.

Baicker, Katherine, Elliott F. Fisher, and Amitabh Chandra, "Malpractice Liability Costs and The Practice of Medicine in the Medicare Program," Health Affairs, 2007; 26(3): pp. 841-852.

Blumberg, Linda J. and Lisa Clemans-Cope, Health Savings Accounts and High-Deductible Health Insurance Plans: Implications for Those with High Medical Costs, Low Incomes, and the Uninsured, the Robert Wood Johnson Foundation and Urban Institute, January 2009.

Blumenthal, David, "Stimulating the Adoption of Health Information Technology," New England Journal of Medicine, 360;15, March 25, 2009.

Brown, Jason D. and Ralph M. Monaco, Possible Alternatives to the Medicare Trustees' Long-Term Projections Of Health Spending. U.S. Department of the Treasury, Office of Economic Policy, Technical Working Paper, September 2004.

Business Roundtable, Doing Well through Wellness: 2006-07 Survey of Wellness Programs at Business Roundtable Member Companies, 2007.

Commonwealth Fund, Paying the Price: How Health Insurance Premiums Are Eating Up Middle-Class Incomes. August 2009.

Commonwealth Fund Commission on a High Performance Health System, The Path to a High Performance United States Health System: A 2020 Vision and the Policies to Pave the Way, February 2009.

Council of Economic Advisers, The Effects of Health Care Reform on Small Business and their Employees, July 25, 2009.

Cutler, David M., Allison B. Rosen, and Sandeep Vijan, "The Value of Medical Spending in the United States, 1960-2000," *New England Journal of Medicine*, vol. 355, no. 9. August 31, 2006, pp. 920-927.

Economic Report of the President, 2005, p. 98.

Fidelity Investments, Fidelity Investments Estimates \$240,000 Needed To Pay Health Care Costs In Retirement, March 26, 2009.

Finklestein, A., "The Aggregate Effects of Health Insurance: Evidence from the Introduction of Medicare," *Quarterly Journal of Economics*, vol. CXXII, no. 1, February 2007.

Fisher, Elliott, J.E. Wennberg, T.A. Stukel, D.J. Gottlieb, F.L. Lucas, E.L. Pinder, "The Implications of Regional Variations in Medicare Spending, I: the Content, Quality, and Accessibility of Care," *Annals of Internal Medicine*, Vol. 138 (4):273-287, 2003.

Fisher, Elliott, Mark B. McClellan, John Bertko Steven M. Lieberman, Julie J. Lee, Julie L. Lewis and Jonathan S. Skinner, "Fostering Accountable Health Care: Moving Forward in Medicare," *Health Affairs* 28 (2), January 2009: pp. w219-w231.

Fisher, Elliott, Julie P. Bynum and Jonathan S. Skinner, "Slowing the growth of health care costs — lessons from regional variation," *NEJM*, 360(9) 849-852, February 26, 2009.

Fisher, T. Lynn, "Measuring the Relative Importance of Social Security Benefits to the Elderly," *Social Security Bulletin*, vol. 67, no. 2, 2007.

Foster, Richard and Kent Clemens, "Additional Information Regarding Comparisons of Beneficiary Income and Out-of-Pocket Costs for Medicare Supplementary Medical Insurance" CMS Actuarial Memo March 25, 2008.

<http://www.cms.hhs.gov/ReportsTrustFunds/downloads/Beneficiaryoop.pdf>.

Fronstin, Paul, Dallas Salisbury and Jack VanDerhei “Savings Needed for Health Expenses in Retirement: An Examination of Persons Ages 55 and 65 in 2009,” EBRI Notes, vol. 30, no. 6, June 2009.

Fuchs, Victor, “Perspective: More Variation in Use of Care, More Flat of the Curve Medicine,” Health Affairs Web Exclusive, October 7, 2004.

Fuchs, Victor, “Health Reform: Getting the Essentials Right,” Health Affairs 28, no. 2 (2009), pp. w180-w183, published online January 16, 2009.

Garber, Alan M. and Jonathan Skinner, “Is American Health Care Uniquely Inefficient?” Journal of Economic Perspectives, 2008.

Gawande, Atul, “Annals of Medicine: The Checklist,” The New Yorker, December 10, 2007.

Grunwald, Michael, “How to Cut Health-Care Costs: Less Care, More Data,” Time, June 23, 2009.

Gundersen Lutheran Health System, Statement for the Record to the U.S. House of Representatives’ Committee on Ways and Means, April 1, 2009.
<http://waysandmeans.house.gov/hearings.asp?formmode=view&id=7765>.

Hackbarth, Glenn M. Statement before the U.S. Senate Committee on Finance Roundtable on Reforming America’s Health Care Delivery System, April 21, 2009.

Hall, Robert E. and Charles I. Jones, “The Value of Life and the Rise in Health Spending,” The Quarterly Journal of Economics, MIT Press, vol. 122(1), pp. 39-72, 2007.

Halvorson, George, Health Care Reform Now, 2007, pp. 173-218.

Health Care Reform Now, A Prescription for Change, 2007, p. 16.

Health Research and Educational Trust, “HRET, Hospital Associations Announce Participants in National Efforts to Reduce Bloodstream Infections,” news release, March 19, 2009.

Henry J. Kaiser Family Foundation, Survey of Employer Sponsored Health Benefits 2000-2008.

Himmelstein, D., E. Warren, D. Thorne, and S. Woolhandler, “Illness and Injury as Contributors to Bankruptcy,” Health Affairs Web Exclusive W5-63, February 2, 2005.

Holtz-Eakin, Douglas “The Cost and Financing of Long-Term Care Services,” Testimony of Director of the U.S. Congressional Budget Office before the U.S. House of

Representatives' Subcommittee on Health and Committee on Energy and Commerce, April 27, 2005.

James, Brent C., "No Clinician Is an Island," *Trustee*, February 2006, p. 28.

James, Brent C., "Dr. Brent James: Moving from 'Craft-Based' Medicine to Evidence-Directed Teams," *DocTalk*, May 2008, pp. 40-56.

James, Brent C., Testimony before the U.S. House of Representatives' Committee on Ways and Means, April 1, 2009.

Jencks, S.F., M.V. Williams, and E.A. Coleman, "Rehospitalizations among Patients in the Medicare Fee-for-Service Program," *New England Journal of Medicine*, April 2, 2009 360(14): pp. 1418-28.

Kessler, Daniel and Mark McClellan, "Do doctors practice defensive medicine?" *The Quarterly Journal of Economics*, vol. 111, no. 2, pp. 353-390, May 1996.

Kessler, Daniel and Mark McClellan "Malpractice Law and Health care Reform: Optimal Liability Policy in an Era of Managed Care," *Journal of Public Economics*, vol. 84, no. 2, May 2002.

Kaiser Commission on Medicaid and the Uninsured, *Growth in Medicaid Long-Term Care Expenditures, 1990-2006*, May 19 2008. see <http://facts.kff.org/chart.aspx?ch=476>.

Kassner, Enid, Susan Reinhard, Wendy Fox-Grage, Ari Houser, and Jean Accius, *A Balancing Act: State Long-Term Care Reform*, AARP Public Policy Institute, July 2008.

Kaye, H. Stephen, Mitchell P. LaPlante, and Charlene Harrington, "Do Noninstitutional Long-Term Care Services Reduce Medicaid Spending?" *Health Affairs* 28(1), January/February 2009.

Kitchener, Martin, Terence Ng, Nancy Miller, and Charlene Harrington, "Institutional and Community-Based Long-Term Care: A Comparative Estimate of Public Costs," *Journal of Health & Social Policy*, 22(2), 2006.

Lappe, Jason M., et al., "Improvements in 1-Year Cardiovascular Clinical Outcomes Associated with a Hospital-based Discharge Medication Program," *Annals of Internal Medicine*, 2004; pp. 141:446-453.

Leonhardt, David, "In Health Reform, a Cancer Offers an Acid Test," *The New York Times*, July 8, 2009.

Liang, Louise, "The Gap between Evidence and Practice," *Health Affairs*, 26(2), pp. w119-w121, published online January 26, 2007.

Mandl, Kenneth D. and Isaac S. Kohane, No Small Change for the Health Information Economy, 360;13, March 26, 2009.

Mandl, Kenneth, quoted in Steve Lohr, “Doctors Raise Doubt on Digital Health Data,” The New York Times, March 26, 2009.

Mayo Clinic, “Building and Sharing Medical Knowledge,” Mayo Magazine, Spring 2009, pp. 23-27, <http://www.mayoclinic.org/mcitems/mc2300-mc2399/mc2386-sp09.pdf>.

McKinsey Global Institute, Accounting for the Cost of U.S Health Care: A New Look at Why Americans Spend More, December 2008;
Medicare Payment Advisory Commission (MEDPAC), Report to the Congress: Improving Incentives in the Medicare Program, June 2009, chapter 2.

Medicare Payment Advisory Commission (MEDPAC), Report to the Congress: Reforming the Delivery System, June 2008, p. 10.

Medicare Payment Advisory Commission (MEDPAC), A Data Book: Health care spending and the Medicare Program, 2008.

Milliman Research Report, Milliman Medical Index, May 2009.
<http://www.milliman.com/expertise/healthcare/products-tools/mmi/pdfs/milliman-medical-index-2009.pdf>.

Munnell, Alicia H., Mauricio Soto, Anthony Webb, Francesca Golub-Sass, and Dan Muldoon, “Issue Brief: Health Care Costs Drive Up the National Retirement Risk Index,” Center for Retirement Research at Boston College, February 2008.

National Council on Disability, [*The State of 21st Century Long-Term Services and Supports: Financing and Systems Reform for Americans with Disabilities*](#), 2005.

Neuman, Tricia, Juliette Cubanski, and Anthony Damico, Revisiting ‘Skin in the Game’ Among Medicare Beneficiaries An Updated Analysis of the Increasing Financial Burden of Health Care Spending From 1997 to 2005. Kaiser Family Foundation, February 2009.

New England Healthcare Initiative, How Many More Studies Will It Take? February 25, 2008.

Newhouse, Joseph P., Insurance Experiment Group, Free for All? Lessons from the RAND Health Insurance Experiment, Cambridge, Massachusetts, Harvard University Press, 1993.

Nolte, Ellen and C. Martin McKee, “Measuring The Health Of Nations: Updating An Earlier Analysis,” *Health Affairs*, 27, no. 1 (2008): pp. 58-71.

O'Connor, Annette M., Hilary A. Llewellyn-Thomas, and Ann Barry Flood, "Modifying Unwarranted Variations In Health Care: Shared Decision Making Using Patient Decision Aids," Health Affairs Web Exclusive, October 7, 2004. See <http://content.healthaffairs.org/cgi/reprint/hlthaff.var.63v1.pdf>.

Olmstead v. L.C., No. 98-536.

Olson, Duane. Briefing to Social Security Advisory Board, February 13, 2009.

Organization for Economic Cooperation and Development (OECD), Health Data, June 2009.

Polsky, Daniel and David Grande, "The Burden of Health Care Costs for Working Families, Implications for Reform," New England Journal of Medicine, July 29, 2009.

Pronovost, Peter et al., "An Intervention to Decrease Catheter-Related Bloodstream Infections in the ICU," New England Journal of Medicine, 335: 2725-32, December 28, 2006.

RAND, "Consumer-Directed" Health Plans: Implications for Health Care Quality and Cost, California Health Care Foundation, June 2005.

RAND Research Brief, The Health Insurance Experiment, 2006.
http://www.rand.org/pubs/research_briefs/2006/RAND_RB9174.pdf.

Reilly, Thomas U.S. Centers for Medicare and Medicaid Services, Office of Research. Briefing to Social Security Advisory Board, September 12, 2008.

Rittenhouse, Diane R., Stephen M. Shortell, "The Patient-Centered Medical Home Will It Stand the Test of Health Reform?" Journal of the American Medical Association, May 20, 2009.

Robert Wood Johnson Foundation, Chronic Conditions: Making the Case for Ongoing Care, Partnership for Solutions. Johns Hopkins University, September 2004.

Rosenthal, Meredith B., "What Works in Market-Oriented Health Policy?" New England Journal of Medicine, May 21, 2009.

Rowland, Diane. Testimony before the U.S. Senate Special Committee on Aging, June 3, 2009.

Schieber, Sylvester J., Beyond the Golden Age of Retirement, 2008a.

Schieber, Sylvester J., "The End of the Golden Years," Milken Institute Review, 2008b.

Silow-Carroll, Sharon and Tanya Alteras, Value-Driven Health Care Purchasing: Four States That Are Ahead of the Curve, Commonwealth Fund Publication 1052, August 2007.

Skinner, J., D. Staiger and E. Fisher, "Is Technological Change in Medicine Always Worth It? The Case of Acute Myocardial Infarction," Health Affairs Web Exclusives, February 2, 2006.

Sloan, F. and L. Chepke, "From Medical Malpractice to Quality Assurance," Issues in Science and Technology, Spring 2008

Social Security and Medicare Boards of Trustees, Status of the Social Security and Medicare Programs, A Summary of The 2009 Annual Reports, April 2009.

Steele, Jr., Glenn D. Testimony before the U.S. House of Representatives' Committee on Ways and Means, April 1, 2009.

<http://waysandmeans.house.gov/hearings.asp?formmode=view&id=7651>

Studdert, David M., Michelle M. Mello, William M. Sage, Catherine M. DesRoches, Jordon Peugh, Kinga Zapert, Troyen A. Brennan, "Defensive Medicine among High Risk Specialist Physicians in a Volatile Malpractice Environment," Journal of the American Medical Association, vol. 293, no. 21, 2005.

Thorpe, K.E., C.S. Florence, D.H. Howard, P. Joski, "Trends: The Impact of Obesity on Rising Medical Spending," Health Affairs Web Exclusive, October 20, 2004.

Thorpe, K.E. and Howard, 2006, The Rise in Spending Among Medicare Beneficiaries: The Role of Chronic Disease Prevalence And Changes In Treatment Intensity, p. w383.

U.S. Bureau of the Census, Current Population Survey, various years.

U.S. Centers for Disease Control and Prevention, National Health Interview Survey, various years.

U.S. Centers for Disease Control and Prevention, National Health and Nutrition Examination Survey 2001-2004.

U.S. Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Expenditure (NHE) Amounts by Type of Expenditure and Source of Funds: Calendar Years 1965-2018. 2008

U.S. Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Expenditure Projections 2008-2018.

<http://www.cms.hhs.gov/NationalHealthExpendData/downloads/proj2008.pdf>

U.S. Congressional Budget Office, Limiting Tort Liability for Medical Malpractice, January 8, 2004. Available at: <http://www.cbo.gov/ftpdocs/49xx/doc4968/01-08-MedicalMalpractice.pdf>.

U.S. Congressional Budget Office, Medical Malpractice Tort Limits and Health Care Spending, Background Paper, April 2006, p. 3. Available at: <http://www.cbo.gov/ftpdocs/71xx/doc7174/04-28-MedicalMalpractice.pdf>.

U.S. Congressional Budget Office, Technological Change and the Growth of Health Care Spending, January 2008.

U.S. Congressional Budget Office, Budget Options, Volume 1: Health Care, December 2008. Available at: <http://www.cbo.gov/ftpdocs/99xx/doc9925/12-18-HealthOptions.pdf>.

U.S. Congressional Budget Office (CBO), Long Term Budget Outlook, 2009

U.S. Congressional Research Service, U.S. Health Care Spending: Comparison with Other OECD Countries, September 17, 2007;

U.S. Department of Labor website. <http://www.dol.gov/dol/topic/health-plans/cobra.htm>.

U.S. Department of Labor, An Employee's Guide to Health Benefits Under COBRA, , 2006.

U.S. Department of Labor, Bureau of Labor Statistics, Consumer Price Index, "U.S. City Average of Annual Inflation (April to April), 2000-2008".

U.S. Department of Labor, Bureau of Labor Statistics, Seasonally Adjusted Data from the Current Employment Statistics Survey, 2000-2008 (April to April).

U.S. Department of Labor, Bureau of Labor Statistics, *Consumer Expenditure Survey, 2007*, "Table 47. Age of Reference Person: Shares of Average Annual Expenditures and Sources of Income," <http://www.bls.gov/cex/2007/share/age.pdf>; and "Table 46. Income Before Taxes: Shares of Average Annual Expenditures and Sources of Income," <http://www.bls.gov/cex/2007/share/income.pdf>. . As of August 4, 2009.

U.S. Government Accountability Office, (GAO), Health Savings Accounts, GAO-08-474R, April, 2008.

U.S. Social Security Administration, Income of the Population 55 or Older, 2006, released February 2009.

Varkey, Prathibha, "Educating to Improve Patient Care: Integrating Quality Improvement into a Medical School Curriculum," *American Journal of Medical Quality*, 22 (2), March-April 2007, pp. 112-16.

Wall Street Journal, "Consumer Choice: Can It Cure the Nation's Health-Care Ills?"
Editorial December 13, 2005.

Wennberg, J.E., Elliott. Fisher and Jonathan Skinner, "Geography and the Debate Over Medicare Reform," Health Affairs 21(2) (2002) Web Exclusive. Reprinted in J.K. Iglehart (ed.) Debating Health Care: A Health Affairs Retrospective, Millwood, Virginia: Project Hope 2007.

Wennberg, John E., Elliott S. Fisher, Jonathan S. Skinner, and Kristen K. Bronner, "Extending the P4P Agenda, Part 2: How Medicare Can Reduce Waste and Improve the Care of the Chronically Ill," Health Affairs, 26 (6), 2007, pp. 1575-85.

Wennberg, John E., Annette M. O'Connor, E. Dale Collins, and James N. Weinstein, "Extending the P4P Agenda, Part 1: How Medicare Can Improve Patient Decision Making and Reduce Unnecessary Care," Health Affairs 26(6), pp. 1564-74. It also draws upon a presentation by Dr. Wennberg to the U.S. Social Security Advisory Board on October 24, 2008.

Wennberg, John E., Shannon Brownlee, Elliott S. Fisher, Jonathan S. Skinner, and James N. Weinstein, An Agenda for Change: Improving Quality and Curbing Health Care Spending: Opportunities for the Congress and the Obama Administration. A Dartmouth Atlas White Paper, December 2008, pp. 13-14.

Whelan, Ellen-Marie and Judy Feder, Payment Reform to Improve Health Care: Ways to Move Forward, Center for American Progress, June 2009, p. 12.

Establishment of the Social Security Advisory Board

In 1994, when Congress passed Public Law 103-296 establishing the Social Security Administration as an independent agency, it also created an independent, bipartisan Advisory Board to advise the President, the Congress, and the Commissioner of Social Security on matters related to the Social Security and Supplemental Security Income programs. Under this legislation, appointments to the Board are made by the President, the Speaker of the House of Representatives, and the President pro tempore of the Senate.

Advisory Board members are appointed to staggered six year terms, made up as follows: three appointed by the President (no more than two from the same political party); and two each (no more than one from the same political party) by the Speaker of the House (in consultation with the Chairman and the Ranking Minority Member of the Committee on Ways and Means) and by the President pro tempore of the Senate (in consultation with the Chairman and Ranking Minority Member of the Committee on Finance). Presidential appointments are subject to Senate confirmation. The President designates one member of the Board to serve as Chairman for a four year term, coincident with the term of the President, or until the designation of a successor.

Members of the Social Security Advisory Board

Sylvester J. Schieber, Chairman

Sylvester J. Schieber is a private consultant on retirement and health issues based in New Market, Maryland. He retired from Watson Wyatt Worldwide in September 2006 where he had served as Vice President/U.S. Director of Benefit Consulting and Director of Research and Information. From 1981-1983, Dr. Schieber was the Director of Research at the Employee Benefit Research Institute. Earlier, he worked for the U.S. Social Security Administration as an economic analyst and as Deputy Director of the Office of Policy Analysis. Dr. Schieber is the author of numerous journal articles, policy analysis papers, and several books including: *Retirement Income Opportunities in an Aging America: Coverage and Benefit Entitlement*; *Social Security: Perspectives on Preserving the System*; and *The Real Deal: the History and Future of Social Security*. He served on the 1994-1996 Advisory Council on Social Security. Dr. Schieber received his Ph.D. from the University of Notre Dame. First term of office: January 1998 to September 2003. Current term of office: October 2003 to September 2009. He was appointed by the President in September 2006 to serve as Chairman of the Advisory Board from October 2006 to January 2009.

Dana K. Bilyeu

Dana K. Bilyeu is the Executive Officer of the Public Employees' Retirement System of Nevada. As the Executive Officer of the \$21 billion pension trust she is responsible for all aspects of fund management including analysis of plan funding, investment oversight, operational and strategic planning, and fiduciary and governance issues. Mrs. Bilyeu is principally responsible for the relationship with the System's independent actuary and oversees the data reconciliation process for actuarial valuations of the System. In her capacity as the Executive Officer, Mrs. Bilyeu provides information and analysis to the Nevada Legislature in consideration of pension policy issues affecting state and local government. Prior to her appointment as the Executive Officer, Mrs. Bilyeu served for eight years as the System's Operations Officer, overseeing all aspects of benefit administration, including survivor, disability, and retirement benefit programs. Mrs. Bilyeu also was responsible for cost effectiveness measurement for all activities of the System. She was accountable for technology oversight as well as policy issues related to the public safety sector of public employment. Prior to her employment at the System, Mrs. Bilyeu was the System's legal counsel, representing the System in a variety of aspects from benefits litigation, contracts analysis, to Board governance. Mrs. Bilyeu is a member of the National Association of State Retirement Administrators, the National Council on Teacher Retirement, the National Conference of Public Employee Retirement Systems, and the National Association of Public Pension Attorneys. She also serves on the Public Employee Advisory Board for the International Foundation of Employee Benefit Plans. She received her *juris doctor* from California

Western School of Law and her B.A. from the University of Arizona. Term of office: December 2006 to September 2010.

Dorcas R. Hardy

Dorcas R. Hardy is President of DRHardy & Associates, a government relations and public policy firm serving a diverse portfolio of clients. After her appointment by President Ronald Reagan as Assistant Secretary of Human Development Services, Ms. Hardy was appointed Commissioner of Social Security (1986 to 1989) and was appointed by President George W. Bush to chair the Policy Committee for the 2005 White House Conference on Aging. Ms. Hardy has launched and hosted her own primetime, weekly television program, "Financing Your Future," on Financial News Network and UPI Broadcasting, and "The Senior American," an NET political program for older Americans. She speaks and writes widely about domestic and international retirement financing issues and entitlement program reforms and is the co-author of *Social Insecurity: the Crisis in America's Social Security System and How to Plan Now for Your Own Financial Survival*, Random House, 1992. A former CEO of a rehabilitation technology firm, Ms. Hardy promotes redesign and modernization of the Social Security, Medicare, and disability insurance systems. Additionally, she has chaired a Task Force to rebuild vocational rehabilitation services for disabled veterans for the U.S. Department of Veterans Affairs. She received her B.A. from Connecticut College, her M.B.A. from Pepperdine University, and completed the Executive Program in Health Policy and Financial Management at Harvard University. Ms. Hardy is a Certified Senior Advisor and serves on the Board of Directors of Wright Investors Service Managed Funds, and First Coast Service Options of Florida. First term of office: April 2002 to September 2004. Current term of office: October 2004 to September 2010.

Marsha Rose Katz

Marsha Rose Katz is a Project Director at the University of Montana Rural Institute in Missoula, where her work has concentrated on assisting persons with disabilities to utilize Social Security work incentives to start their own businesses or engage in wage employment. Since coming to the Rural Institute in 1999, Ms. Katz has focused on providing training and technical assistance on both employment and SSI/SSDI to rural, frontier and tribal communities across the country. Previously, she worked for nearly 20 years in a disability rights community based organization, the Association for Community Advocacy (ACA), a local Arc in Ann Arbor, Michigan. She served as both Vice President of ACA, and Director of its Family Resource Center. It was at ACA that Ms. Katz began her nearly 30 years of individual and systems advocacy regarding programs administered by the U.S. Social Security Administration, especially the Supplemental Security Income and Social Security Disability Insurance programs. Ms. Katz has written numerous articles and created many widely distributed user-friendly general handouts on SSI and SSDI, the majority of which focus on the impact of work on benefits, and utilizing work incentives. She is the author of *Don't Look for Logic; An Advocate's Manual for Negotiating the SSI and SSDI Programs*, published by the Rural Institute. Her Bachelor's and Master's Degrees are from the University of Michigan.

Ms. Katz's many years of experience as a trainer, technical advisor, and advocate have been guided and informed by her partnership with people with disabilities, from her husband, Bob Liston, to the people she assisted in her work with ACA and the Arc Michigan, her current work at the Rural Institute, and her longstanding participation in ADAPT, the nation's largest cross-disability, grassroots disability rights organization. Term of office: November 2006 to September 2012.

Barbara B. Kennelly

Barbara B. Kennelly became President and Chief Executive Officer of the National Committee to Preserve Social Security and Medicare in April 2002 after a distinguished 23 year career in elected public office. Mrs. Kennelly served 17 years in the United States House of Representatives representing the First District of Connecticut. During her Congressional career, Mrs. Kennelly was the first woman elected to serve as the Vice Chair of the House Democratic Caucus. Mrs. Kennelly was also the first woman to serve on the House Committee on Intelligence and to chair one of its subcommittees. She was the first woman to serve as Chief Majority Whip, and the third woman in history to serve on the 200 year-old Ways and Means Committee. During the 105th Congress, she was the ranking member of the Subcommittee on Social Security. Prior to her election to Congress, Mrs. Kennelly was Secretary of State of Connecticut. After serving in Congress, Mrs. Kennelly was appointed to the position of Counselor to the Commissioner at the U.S. Social Security Administration (SSA). As Counselor, Mrs. Kennelly worked closely with the former Commissioner of Social Security, Kenneth S. Apfel, and members of Congress to inform and educate the American people on the choices they face to ensure the future solvency of Social Security. She served on the Policy Committee for the 2005 White House Conference on Aging. Mrs. Kennelly received a B.A. in Economics from Trinity College, Washington, D.C. She earned a certificate from the Harvard Business School on completion of the Harvard-Radcliffe Program in Business Administration and a Master's Degree in Government from Trinity College, Hartford. Term of office: January 2006 to September 2011.

Mark J. Warshawsky

Mark J. Warshawsky is Director of Retirement Research at Watson Wyatt Worldwide, a global human capital consulting firm. He conducts and oversees research on employer-sponsored retirement programs and policies. A frequent speaker to business and professional groups, Dr. Warshawsky is a recognized thought leader on pensions, Social Security, insurance and health care financing. He has written numerous articles published in leading professional journals, books and working papers, and has testified before Congress on pensions, annuities and other economic issues. A member of the Social Security Advisory Board for a term through 2012, he is also on the Advisory Board of the Pension Research Council of the Wharton School.

From 2004 to 2006, Dr. Warshawsky served as assistant secretary for economic policy at the U.S. Treasury Department. During his tenure, he played a key role in the development of the Administration's pension reform proposals, particularly pertaining to single-

employer defined benefit plans, which were ultimately included in the *Pension Protection Act* ("PPA") of 2006. He was also involved extensively in the formulation of Social Security reform proposals, and oversaw the Department's comprehensive 2005 study of the terror risk insurance program. In addition, Dr. Warshawsky led the efforts to update and enhance substantially the measures and disclosures in the Social Security and Medicare Trustees' Reports, as well as the setting of the macroeconomic forecasts which underlie the administration's budget submissions to Congress.

Dr. Warshawsky's research has been influential in the 2001-2002 regulatory reform of minimum distribution requirements for qualified retirement plans, the increasing realization of the importance of financial protection against outliving one's financial resources in retirement, and a product innovation to integrate the immediate life annuity and long-term care insurance. For the latter research, he won a prize from the British Institute of Actuaries in 2001 for a professional article he co-authored. Favorable tax treatment for this integrated product was also included in PPA due to Dr. Warshawsky's advocacy. Dr. Warshawsky has also held senior-level economic research positions at the Internal Revenue Service, the Federal Reserve Board in Washington, D.C. and TIAA-CREF, where he established the Paul A. Samuelson Prize and organized several research conferences. A native of Chicago, he received a Ph.D. in Economics from Harvard University and a B.A. with Highest Distinction from Northwestern University. Term of office: December 2006 to September 2012.

Members of the Staff

Katherine Thornton, Staff Director
Deborah Sullivan, Deputy Staff Director
Joel Feinleib
George Schuette
Beverly Sheingorn
Jean Von Ancken
David Warner