

CHAPTER

1

---

**Context for Medicare  
payment policy**

---



# Context for Medicare payment policy

## Chapter summary

Part of the Commission’s mandate is to consider the effect of its recommendations on the federal budget and view Medicare in the context of the broader health care system. To help meet this mandate, this chapter examines health care spending growth—for the nation at large and Medicare in particular—and considers its effect on federal and state budgets as well as the budgets of individuals and families. The chapter also reviews recent mortality and morbidity trends, profiles the health status of the next generation of Medicare beneficiaries, and reviews evidence of inefficient health care spending, structural features of the Medicare program that contribute to inefficient spending, and the Commission’s approach to combating those challenges.

In 2015, total national health care spending was \$3.2 trillion, or 17.8 percent of gross domestic product (GDP). Private health insurance spending was \$1.1 trillion, or 5.9 percent of GDP. Medicare spending was \$646.2 billion, or 3.6 percent of GDP.

Health care spending growth shows mixed signs of acceleration after several years of historic lows. For decades—from 1975 to 2009—total health care spending and Medicare spending grew robustly, annually averaging 9.0 percent and 10.6 percent, respectively. Then from 2009 to 2013, growth in

## In this chapter

- National health care spending
- Medicare spending
- Medicare’s financing challenge
- Health care spending consumes growing shares of state and family budgets
- Recent trends in life expectancy, morbidity, and mortality
- The relationship between Medicare spending and quality
- Baby boomers will make up the next generation of Medicare beneficiaries
- Inefficient spending suggests Medicare could spend less without compromising care, but not without challenges

total health care spending and Medicare spending slowed to average annual rates of 3.6 percent and 4.1 percent, respectively.

The causes of the system-wide slowdown are still a matter of speculation. A variety of factors could have contributed—weak economic conditions, payment and delivery system reforms, lower Medicare payment rates for most types of providers as mandated by the Patient Protection and Affordability Act of 2010 (PPACA), and the increased use of generic drugs as top-selling brand drugs lost patent protection (Boards of Trustees 2016, Centers for Medicare & Medicaid Services 2015c, Cutler and Sahni 2013).

However, spending began to increase in 2014, and experience in 2015 indicates that this trend continued. Medicare actuaries estimate that spending grew faster: National health care spending grew 5.8 percent and Medicare spending grew 4.5 percent. The increase in the national health care spending growth rate was largely due to the continued effects of coverage expansions for health insurance that commenced in 2014 under PPACA; stronger growth in spending for private health insurance, hospital care, and physician and clinical services; and the continued strong growth in Medicaid and retail prescription drug spending.

The aging of the baby-boom generation will have a profound impact both on the Medicare program and the taxpayers who support it. Over the next 15 years, as Medicare enrollment surges, the number of taxpaying workers per beneficiary is projected to decline. By 2030 (the year all boomers will have aged into Medicare), the Medicare Trustees project there will be just 2.4 workers for each Medicare beneficiary, down from 4.6 around the time of the program's inception and 3.3 in 2012. Those demographics create a financing challenge not only for the Medicare program but also for the entire federal budget. By 2040, under federal tax and spending policies specified in current law, Medicare spending combined with spending on other major health care programs, Social Security, and net interest on the national debt will exceed total projected federal revenues and will thus either increase federal deficits and debt or crowd out spending on all other national priorities.

The growth in health care spending also affects state budgets and the budgets of individuals and families. States pay for a significant portion of Medicaid spending (funded jointly by states and the federal government for health care services provided to state residents with low incomes). Under PPACA, the Medicaid population is expanding; however, under current law, the federal government will pay for most of the costs associated with the expansion. Increases in private insurance premiums have outpaced the growth of individual and family incomes

over the past decade, and out-of-pocket costs for Medicare beneficiaries have grown faster than Social Security benefits.

Some health care spending is inefficient. For Medicare, if such spending could be identified and eliminated, the efficiencies achieved could result in improved beneficiary health, greater fiscal sustainability for the program, and reduced federal budget pressures. Certain structural features of the Medicare program pose challenges for targeting inefficient spending, but the Commission has a framework to address those challenges that focuses on (1) payment accuracy and efficiency, (2) care coordination and quality, (3) information for patients and providers, (4) engaged beneficiaries, and (5) an aligned health care workforce. ■



---

## Introduction

---

The Medicare program lies at the junction between the national health care system as a whole and the federal government. For this reason, this chapter reviews the following key areas to help explain the Medicare payment policies discussed in the rest of this report:

- national health care spending and Medicare spending;
- impact of health care spending on federal and state budgets;
- effects of health care spending on individuals and families;
- recent trends in life expectancy, morbidity, and mortality;
- impact of Medicare spending on the quality of health care;
- the next generation of Medicare beneficiaries; and
- evidence of inefficient health care spending.

This chapter also reviews the challenges that Medicare in particular faces and the Commission's principles for constructing recommendations to address those challenges.

---

## National health care spending

---

### Spending growth

The relationship between health care spending growth and the nation's economic growth serves as a gauge for assessing spending trends. For decades, health care spending had risen as a share of gross domestic product (GDP), but in the recent past, its growth rate slowed. That general trend has been true both for private health care spending and Medicare (Figure 1-1, p. 8). From 1975 to 2009, health care spending as a share of GDP more than doubled, from 7.9 percent to 17.3 percent (\$133 billion to \$2.5 trillion). Private health insurance spending as a share of GDP more than tripled over that period, from 1.8 percent to 5.8 percent (\$31 billion to \$833 billion). Medicare spending as a share of GDP also more than tripled over that period, from 1.0 percent to 3.5 percent (\$16 billion to \$499 billion). In contrast, from 2009 through 2013, total health care, private health insurance,

and Medicare spending as a share of GDP remained relatively constant. But beginning in 2014, spending as a share of GDP for all three began rising again (Centers for Medicare & Medicaid Services 2014b).

The recent slowdown in the rate of health care spending growth has not been fully explained. Contributing factors could include weak economic conditions, payment and delivery system reforms, lower Medicare payment rates for most types of providers as mandated by the Patient Protection and Affordable Care Act of 2010 (PPACA), and the increased use of generic drugs as top-selling brand drugs lost patent protection (Boards of Trustees 2016, Centers for Medicare & Medicaid Services 2015c, Cutler and Sahni 2013).<sup>1</sup>

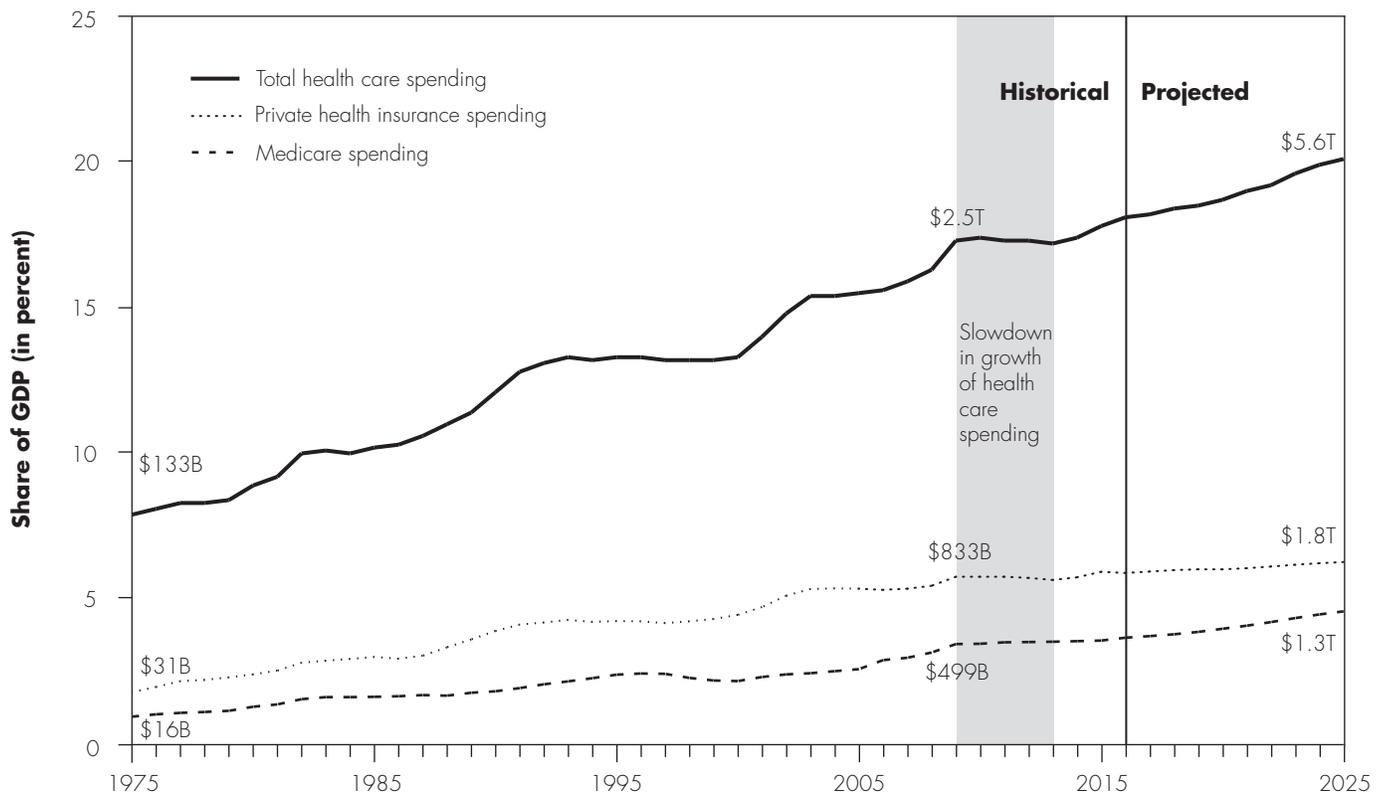
However, as we noted last year, Medicare actuaries estimate that spending accelerated in 2014 and 2015, both for private health insurance and for Medicare (Boards of Trustees 2016, Martin et al. 2016). Growth is projected to continue in 2016 and beyond. From 2009 to 2013, total health care spending growth averaged 3.6 percent annually, while in 2015, it was estimated to have risen to 5.8 percent, reaching 17.8 percent of GDP. The growth was due largely to the increase in the insured population, owing to the implementation of the PPACA health insurance exchanges and the Medicaid expansions. It was also due to stronger growth in spending for private health insurance, hospital care, physician and clinical services, and the continued strong growth in Medicaid and retail prescription drug spending.

Similarly, from 2009 to 2013, Medicare spending averaged 4.3 percent growth annually, but by 2015, it is estimated to have grown 4.5 percent, down from 4.8 percent in 2014 (Centers for Medicare & Medicaid Services 2016). Medicare enrollment increased 2.7 percent in 2015, down from 3.1 percent in 2014 (Martin et al. 2016). The moderate growth was the result of mixed trends among services; hospital and prescription drug spending growth slowed, while spending growth for nursing home and home health care accelerated.

As with national health care spending growth, Medicare spending increased in part because of more prescription drug spending. It also grew because of an increase in per capita spending on health care services provided on an outpatient basis (for example, services received in hospital outpatient departments and physician services) and an increase in enrollment as members of the baby-boom generation aged into Medicare.

**FIGURE 1-1**

**Recent historically low growth rates of health care spending have begun to gradually increase**



Note: B (billion), T (trillion), GDP (gross domestic product). First projected year is 2016. Beginning in 2014, private health insurance spending includes federal subsidies for both premiums and cost sharing for the health care exchanges created by the Patient Protection and Affordable Care Act of 2010.

Source: MedPAC analysis of National Health Expenditure Accounts from CMS, historical data released December 2016, projected data released July 2016.

Over the next decade, Medicare actuaries project growth rates for health care spending to gradually and modestly increase because of health insurance expansions under PPACA, faster economic growth, and population aging (Keehan et al. 2015). By 2025, Medicare actuaries project total health care spending as a share of GDP to grow to 20.1 percent. In that year, private health insurance spending and Medicare spending are projected to reach 6.3 percent and 4.6 percent of GDP, respectively.

**Personal health care spending**

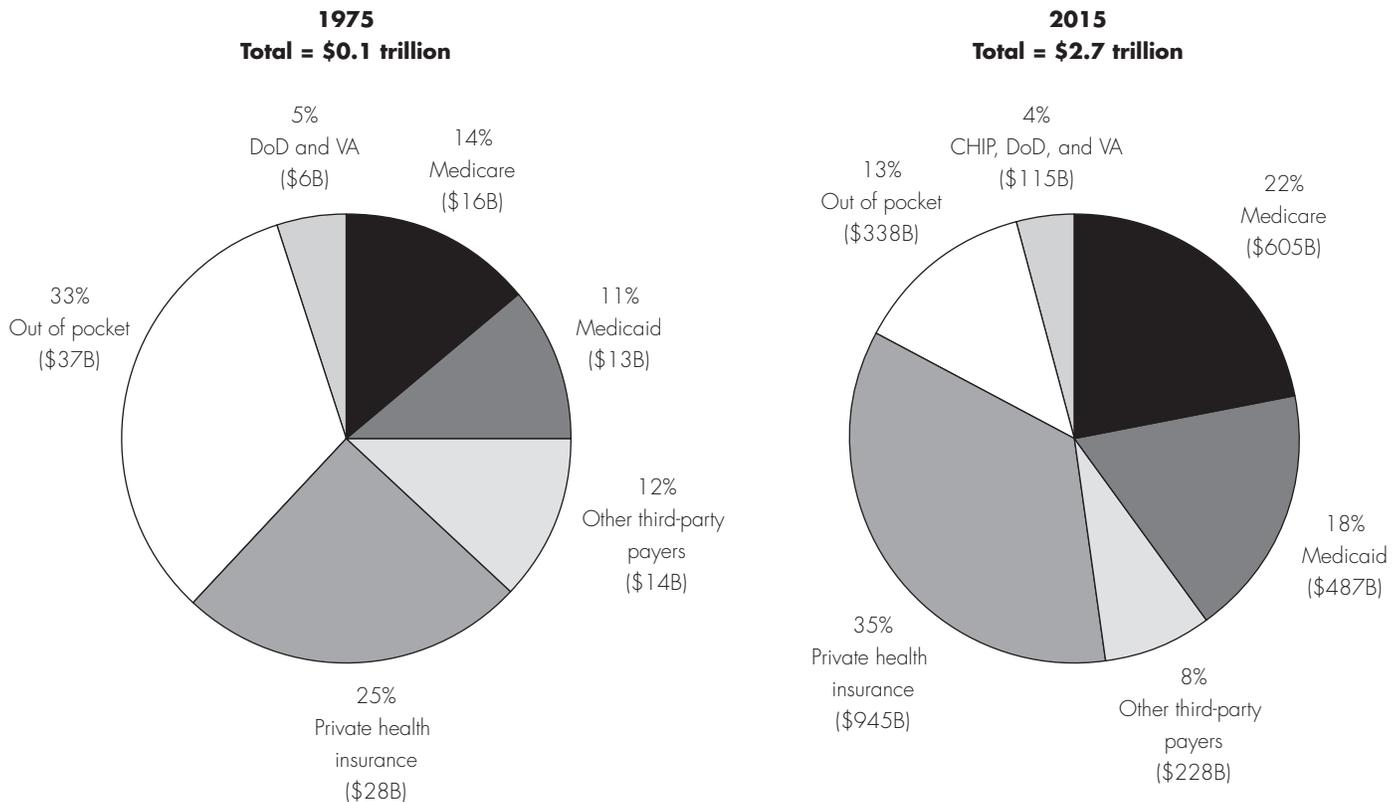
To better understand who is paying for health care, we examine personal health care spending—all medical goods and services provided for an individual’s treatment. In 2015, personal health care spending—which excludes spending on government public health activities (e.g., epidemiological surveillance and disease prevention

programs), administration of private and public health insurance, and investments in medical research, equipment, and structures—accounted for 85 percent of total health care spending (Centers for Medicare & Medicaid Services 2016).

Over the past four decades, total personal health care spending increased from \$0.1 trillion to \$2.7 trillion (Figure 1-2). On a per person basis, spending increased from \$514 to \$8,468, a 7 percent increase per year, on average. During this period, out-of-pocket spending (e.g., cost sharing, deductibles, and health care services not covered by insurance) as a share of total personal health care spending declined from 33 percent to 13 percent, while the shares accounted for by private health insurance, Medicare, and Medicaid all increased. At the same time, Medicare has remained the single largest purchaser of

**FIGURE 1-2**

**Out-of-pocket spending as a share of personal health care spending declined, while the share of spending by payers—private, Medicare, and Medicaid—increased, 1975 and 2015**



Note: DoD (Department of Defense), VA (Department of Veterans Affairs), B (billion), CHIP (Children’s Health Insurance Program). Spending is in nominal dollars. “Out-of-pocket” spending includes cost sharing for both privately and publicly insured individuals. Premiums are included in the shares of each program (e.g., Medicare and private insurance) rather than in the out-of-pocket share category. “Other third-party payers and programs” includes work-site health care, other private revenues, Indian Health Service, workers’ compensation, general assistance, maternal and child health, vocational rehabilitation, other federal programs such as the Substance Abuse and Mental Health Services Administration, other state and local programs, and school health.

Source: MedPAC analysis of National Health Expenditure Accounts from CMS, data released in December 2016.

health care in the United States (Centers for Medicare & Medicaid Services 2016).<sup>2</sup>

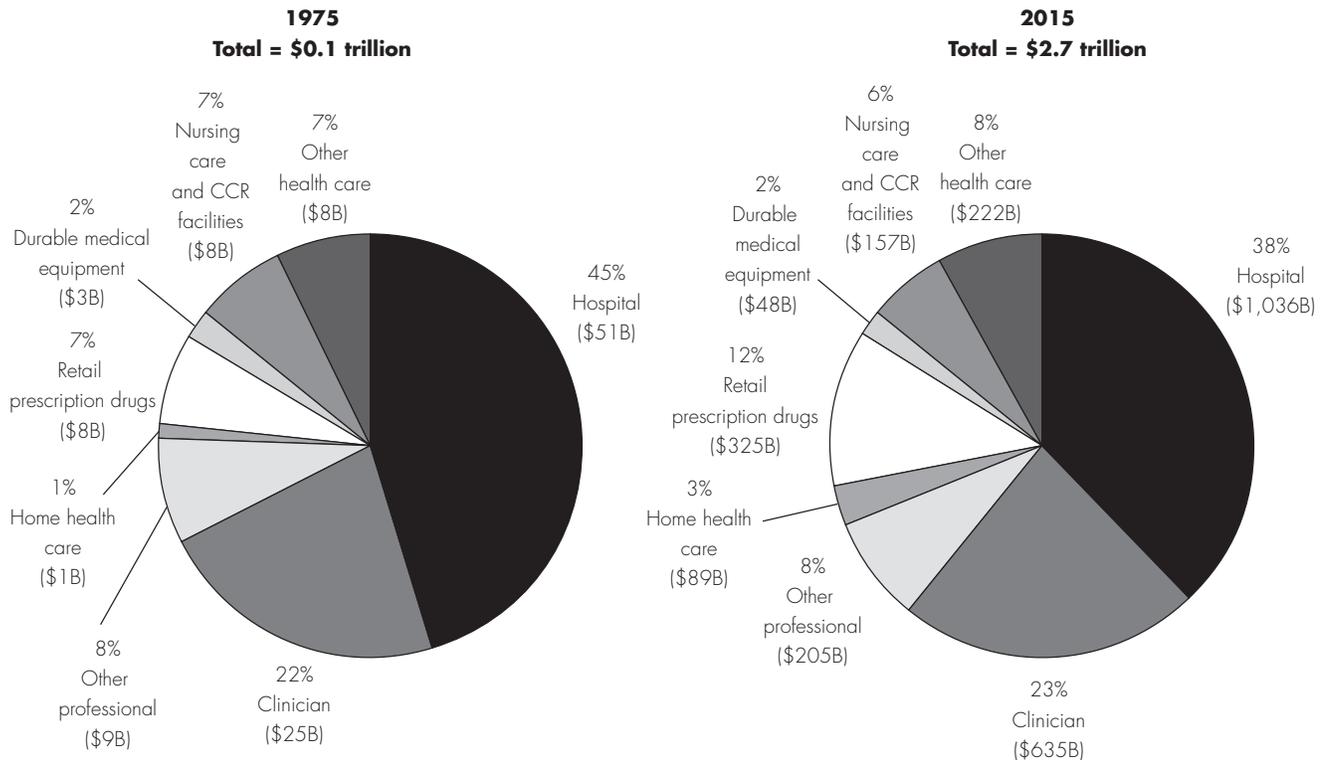
Despite the decline in the share of health care spending paid directly out of pocket by individuals and the increase in the share of health care spending paid by private and public insurance, people generally have not experienced real declines in the share of health care costs they pay. One reason is that in the commonly defined health care spending categories, the premiums people pay (which have grown over time) are not included in the out-of-pocket (OOP) category but, rather, in the private health insurance and Medicare categories. Second, people receive lower salaries and reduced benefits in exchange for employer-

sponsored health insurance (Baicker and Chandra 2006, Gruber 2000, Milusheva and Burtless 2012).

In 2015, Medicare covered more than 54 million people, and CMS actuaries estimate that Medicaid covered about 69 million people (Boards of Trustees 2016, Centers for Medicare & Medicaid Services 2015a). Private health insurance covered 194 million people, and 28 million people were uninsured (National Center for Health Statistics 2015b). Enrollment in Medicare, Medicaid, and private health insurance continues to increase because of the aging of the baby-boom generation and the enactment of PPACA.

**FIGURE 1-3**

**Hospital care and clinician services accounted for the largest shares of personal health care spending in 1975 and 2015**



Note: CCR (continuing care retirement), B (billion). "Personal health care" is a subset of national health expenditures. It includes spending for all medical goods and services that are provided for the treatment of an individual and excludes other spending, such as government administration, the net cost of health insurance, public health, and investment. "Other health care" includes expenditures on nondurable medical products and other health, residential, and personal care. "Other professional" includes expenditures on dental and other professional services. "Nursing care facilities" includes nursing care facilities and continuing care retirement communities. "Hospital" includes outpatient care and inpatient prescription drugs.

Source: MedPAC analysis of National Health Expenditure Accounts from CMS, data released in December 2016.

Some people have coverage from more than one source. In 2015, about 10 million people were enrolled in both Medicare and Medicaid (Boards of Trustees 2016). Medicaid pays for either a portion or all of the Medicare premium and OOP health care expenses for those enrollees who qualify for dual enrollment based on limited income and resources. Enrollees in public health insurance programs may also have private health insurance. For example, Medicare beneficiaries typically also have supplemental insurance sold by private companies to pay some of the health care costs that Medicare does not cover, such as copayments, coinsurance, and deductibles.

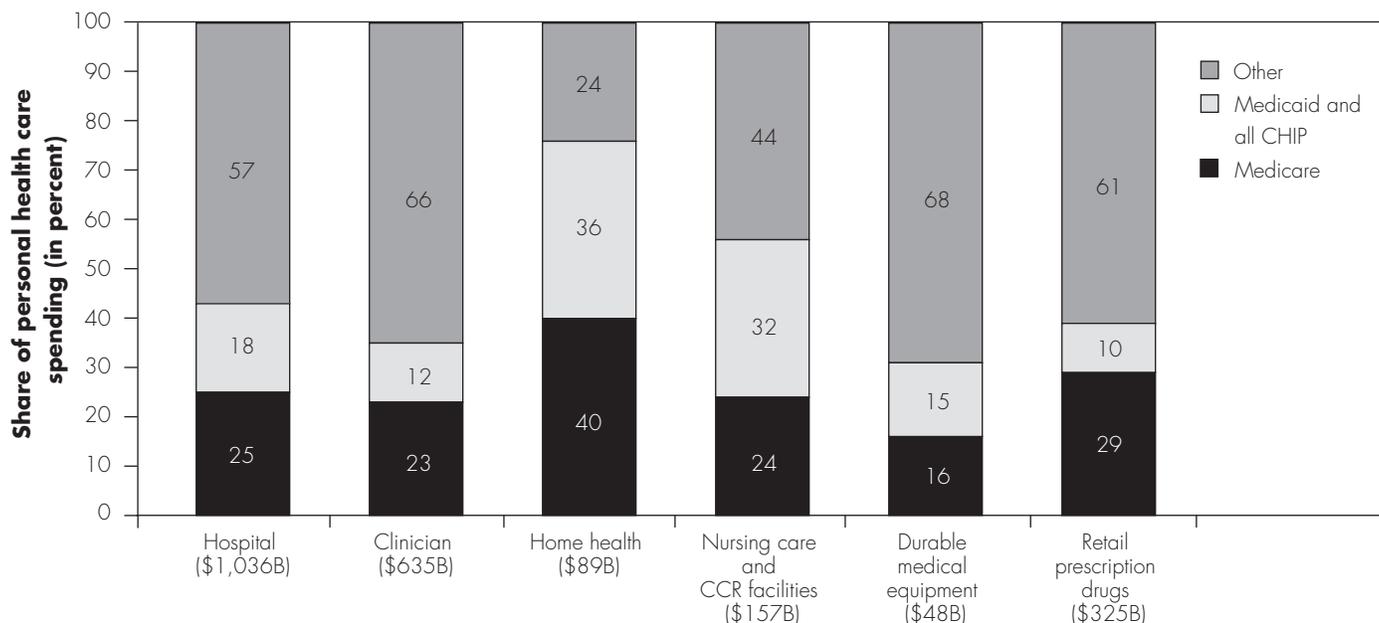
In 2015 as well as 1975, the largest shares of personal health care spending were for hospital care and clinician services (Figure 1-3). In 2015, hospital care accounted

for 38 percent of spending (\$1,036 billion), and clinician services accounted for 23 percent (\$635 billion). Smaller shares went to spending on retail prescription drugs (12 percent, or \$325 billion), nursing care facilities (6 percent, or \$157 billion), and home health care services (3 percent, or \$89 billion). Between 1975 and 2015, the share of spending on hospital care declined (from 45 percent to 38 percent), while the share of spending for retail prescription drugs increased (from 7 percent to 12 percent) (Centers for Medicare & Medicaid Services 2016).

In 2015, Medicare accounted for 22 percent of spending for all personal health care services (Figure 1-2, p. 9), but its share varied by type of service, with a slightly higher share of spending on hospital care (25 percent) and a much higher share of spending on home health services

**FIGURE 1-4**

**Medicare’s share of spending on personal health care varies by type of service, 2015**



Note: CHIP (Children’s Health Insurance Program), B (billion), CCR (continuing care retirement). “Personal health care” is a subset of national health expenditures. It includes spending for all medical goods and services that are provided for the treatment of an individual and excludes other spending, such as government administration, the net cost of health insurance, public health, and investment. “Hospital” includes all services provided in hospitals to patients: room and board, ancillary services such as operating room fees, inpatient and outpatient care, services of resident physicians, inpatient pharmacy, hospital-based nursing home care, hospital-based home health care, and fees for any other services billed by the hospital such as hospice. “Other” includes private health insurance, out-of-pocket spending, and other private and public spending. Medicare’s share of spending is lower for other service categories included in personal health care that are not shown here, namely, other professional services; dental services; other health, residential, and personal care; and other nondurable medical equipment.

Source: CMS Office of the Actuary, National Health Expenditure Accounts, released December 2016.

(40 percent) (Figure 1-4). Medicare’s share of spending on nursing care facilities was smaller than Medicaid’s share because Medicare’s benefit pays for skilled nursing or rehabilitation services only, whereas Medicaid pays for custodial care (assistance with activities of daily living) provided in nursing homes for people with limited income and assets. Medicare’s share of spending is lower for other service categories included in personal health care that are not shown in Figure 1-4, namely, other professional services; dental services; other health, residential, and personal care; and other nondurable medical equipment.

## Medicare spending

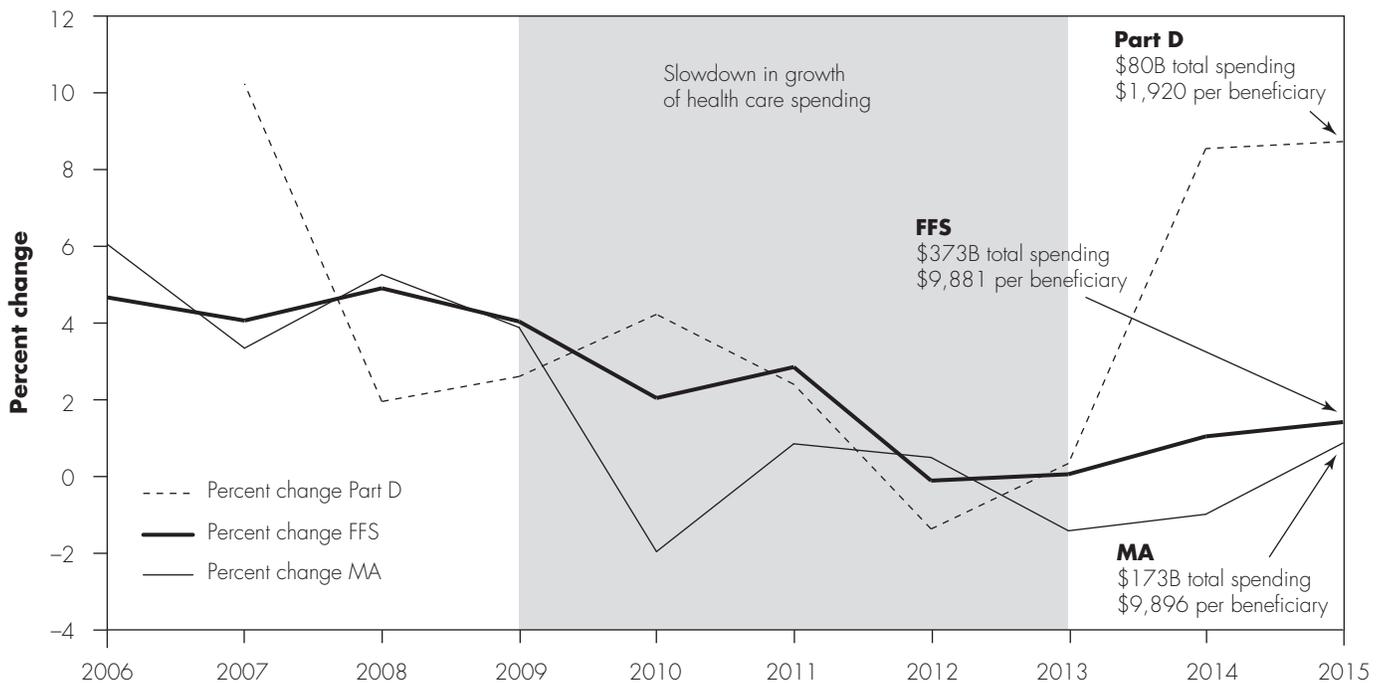
Medicare spending can be divided into three program components: the traditional fee-for-service (FFS) program,

the Medicare Advantage (MA) program, and the Part D prescription drug program.

- **Medicare’s traditional fee-for-service program.** In FFS, Medicare pays health care providers directly for health care goods and services furnished to Medicare FFS beneficiaries at prices set through legislation and regulation.
- **Medicare Advantage program.** As an alternative to FFS, beneficiaries can choose to enroll in MA, which consists of private health plans that receive capitated payments (or per enrollee payments) for providing health care coverage for enrollees. MA plans pay health care providers for health care goods and services furnished to their enrollees at prices negotiated between the plans and providers.

**FIGURE 1-5**

**Growth in per beneficiary Medicare spending was slow between 2009 and 2013 and mixed between 2013 and 2015**



Note: B (billion), FFS (fee-for-service), MA (Medicare Advantage). Spending is on an incurred basis. Part D spending excludes total premiums paid to Part D plans by enrollees. Part D percentage change not shown for 2006 because the benefit began that year. The “slowdown in growth of health care spending” period of 2009–2013 matches Figure 1-1 (p. 8) and Figure 1-6 (p. 13).

Source: 2015 and 2016 annual reports of the Boards of Trustees of the Medicare trust funds.

- **Medicare Part D prescription drug program.** Through Part D, beneficiaries can obtain subsidized prescription drug coverage by voluntarily purchasing insurance policies from private stand-alone drug plans or MA prescription drug plans. Medicare heavily subsidizes the premiums established by those plans.

Growth in per beneficiary spending tends to differ across the three program components. From 2009 to 2013, growth was fairly slow across all three (Figure 1-5). More mixed trends emerged between 2013 and 2015. The lower growth rates were generally because of decreased use of health care services and restrained payment rate increases.

From 2012 to 2015, FFS per beneficiary spending growth averaged 0.8 percent annually. PPACA lowered payment rate updates in FFS for many types of providers (other than physicians) beginning in 2011. However, in 2014, FFS spending grew because of an increase in per beneficiary spending on a wide range of outpatient

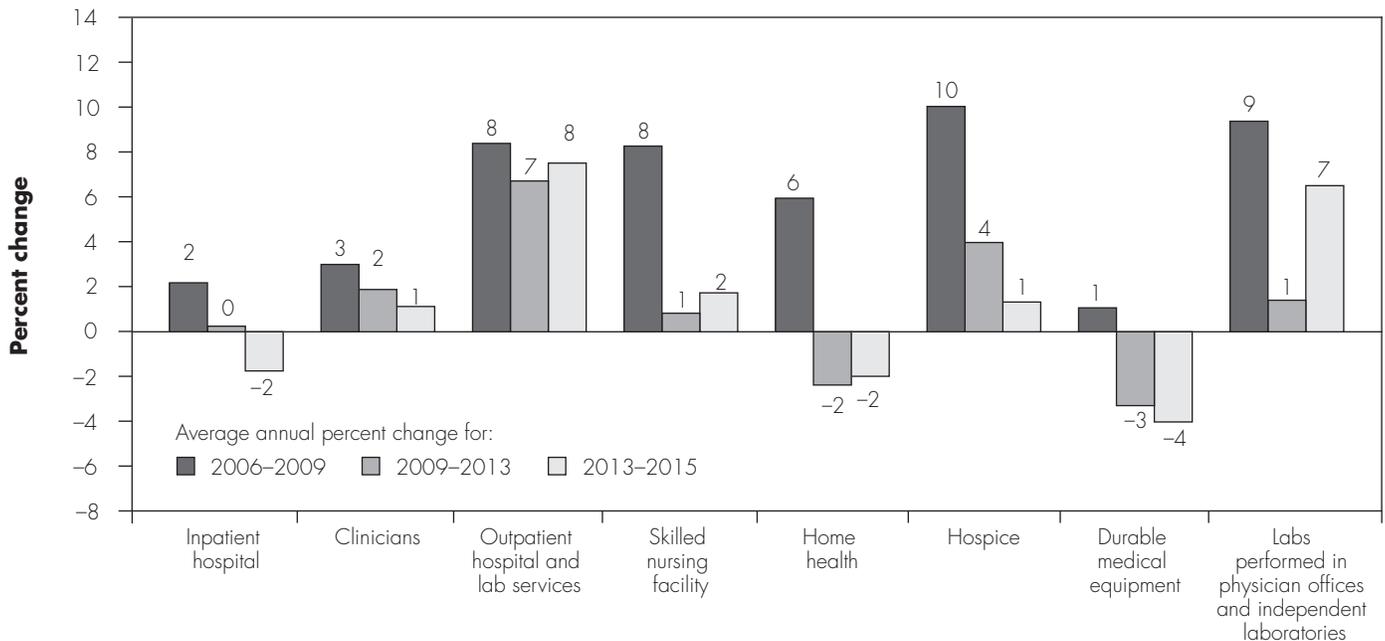
services, including services received in hospital outpatient departments and physician services.

From 2012 to 2015, MA per beneficiary spending growth declined on average by 0.5 percent annually. Historically, Medicare has spent more for a beneficiary enrolled in MA than if that same beneficiary had been enrolled in FFS. To bring payments more in line with FFS, PPACA began lowering payments to plans in 2011. MA’s growth rate would therefore have been lower, but the PPACA payment reductions were offset somewhat by new quality bonus payments and plans’ increased coding of beneficiaries’ medical conditions (payments to MA plans are higher when beneficiaries have more medical conditions, all other things being equal).

Part D per beneficiary spending growth has fluctuated the most of the three program components over the past decade. However, from 2011 to 2013, average per beneficiary spending was somewhat constant at about

**FIGURE 1-6**

**Per beneficiary FFS spending growth remained high in some settings despite 2009–2013 slowdown in growth of health care spending, 2006–2015**



Note: FFS (fee-for-service). The “slowdown in growth of health care spending” period of 2009–2013 matches Figure 1-1 (p. 8) and Figure 1-5. Outpatient hospital services and outpatient lab services are combined in the figure because a large portion of outpatient laboratory services were bundled into the outpatient prospective payment system effective January 1, 2014.

Source: 2016 annual report of the Boards of Trustees of the Medicare trust funds.

\$1,600 per year. The low growth for those years was in part due to the increase in low-priced generic drugs on the market and plans’ efforts to steer beneficiaries to generics and other low-priced drugs.

However, in both 2014 and 2015, per beneficiary spending growth in excess of 8 percent caused Part D spending to spike to about \$1,900 per beneficiary.<sup>3</sup> Increased spending on high-priced specialty drugs to treat hepatitis C mainly accounts for this jump. The Medicare Trustees project the annual growth in per beneficiary Part D spending to remain high from 2016 to 2024 (ranging from 5 percent to 7 percent) because of a slowing of the trend toward greater generic drug use and a continuing increase in the use and price of specialty drugs (Boards of Trustees 2016, Boards of Trustees 2015).

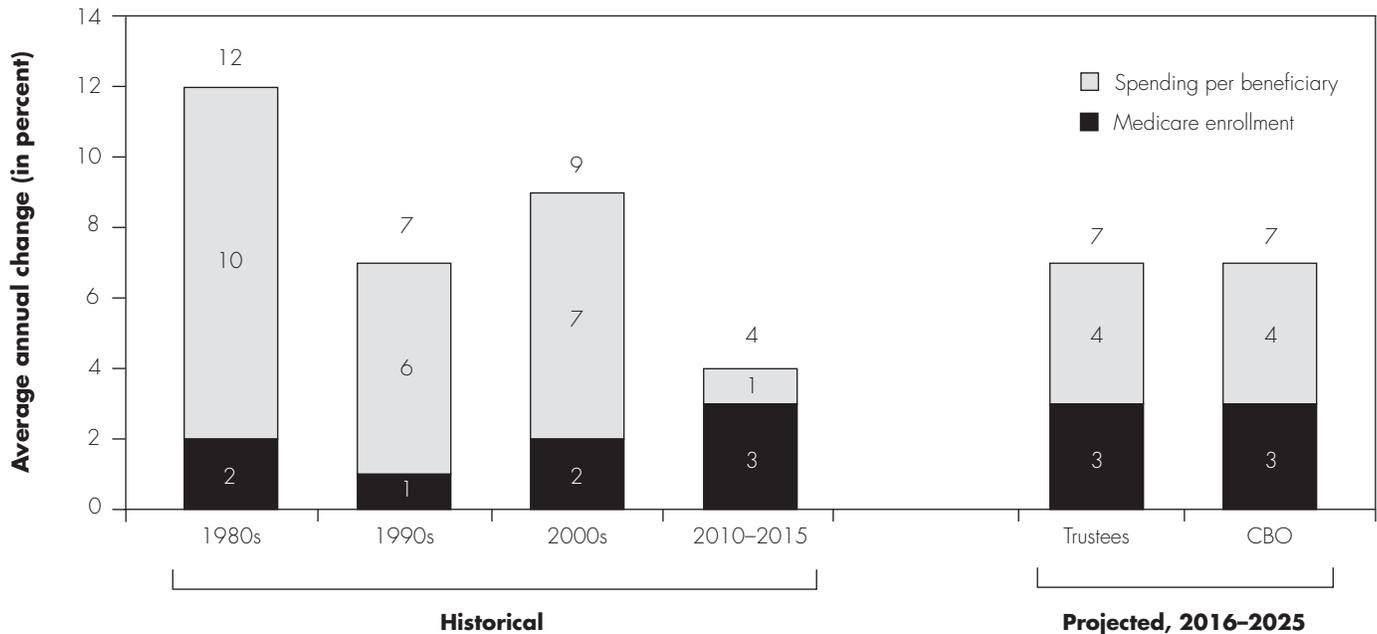
Figure 1-6 provides a more detailed look at FFS spending growth over the last decade. Generally, all settings experienced a slowdown in per beneficiary spending growth; however, the impact was not uniform. For example,

for inpatient hospital care, the average annual growth in per beneficiary spending in the period from 2006 to 2009 and the period from 2013 to 2015 fell from 2 percent to –2 percent. The per beneficiary spending growth in outpatient hospital and lab services declined between 2009 and 2013 but bounced back to grow robustly between 2013 and 2015 at 8 percent annually, in part because of shifts in site of care from both the inpatient hospital setting and physician offices to the outpatient hospital setting.<sup>4</sup> As a reference point, average annual growth in GDP between 2006 and 2015 was about 2.9 percent.

Despite the recent slowing of growth rates, cumulative growth in per beneficiary FFS spending over the last decade has increased in almost all settings and increased substantially in some settings. Per beneficiary spending on outpatient hospital and lab services, skilled nursing facilities, hospice, and labs performed in physician offices and independent laboratories all grew faster than per capita GDP. In contrast, during this time, per beneficiary

**FIGURE 1-7**

**Despite recent slowdown in per beneficiary spending growth, total Medicare spending growth rate is projected to rise**



Note: CBO (Congressional Budget Office).

Source: 2016 annual report of the Boards of Trustees of the Medicare trust funds and CBO report *Updated Budget Projections for Selected Programs: 2015 to 2025*, released March 2016.

spending on durable medical equipment fell by an average of 2 percent per year. That decline was primarily due to the phasing in of a competitive bidding program for durable medical equipment in which suppliers submit bids to provide services to beneficiaries.

Prior Commission reports have explored the relationship between inpatient, outpatient, and physician services and found that outpatient services growth in part reflects hospitals purchasing freestanding physician practices and billing these services through the higher paying hospital outpatient prospective payment system (Medicare Payment Advisory Commission 2015, Medicare Payment Advisory Commission 2014, Medicare Payment Advisory Commission 2013, Medicare Payment Advisory Commission 2012).

### Comparison of private sector and Medicare spending trends

From 2010 to 2014, per capita spending on health care in the private sector grew steadily (Health Care Cost

Institute 2015). Increased prices were largely responsible for spending growth, which occurred despite a decline in service use. One key driver of the private sector's higher prices was provider market power (Baker et al. 2014a, Baker et al. 2014b, Gaynor and Town 2012, Robinson and Miller 2014). Hospitals and physician groups have increasingly consolidated, in part to gain leverage over insurers in negotiating higher payment rates. For the private sector, that consolidation resulted in per capita spending growth from 2010 to 2014 of 3.3 percent annually. By comparison, over that same period, Medicare spending per beneficiary increased by 1.0 percent annually. This is partly attributable to restrained increases in Medicare's payment rates.

Regulators and researchers have noted concerns about increased consolidations and their effect on prices. In 2015, the number of hospital mergers increased 18 percent from the prior year and 70 percent from 2010 (Ellison 2016). Consolidation of clinician practices has also increased; a study of available data found a 47 percent jump from 2014 (Irving Levin Associates Inc. 2016). The American

## Independent Payment Advisory Board

The Patient Protection and Affordable Care Act of 2010 (PPACA) established an Independent Payment Advisory Board (IPAB) charged with enforcing limits on Medicare spending growth. As designed, the IPAB consists of 15 presidentially appointed and senatorially confirmed advisors and 3 nonvoting members, including the Secretary of the Department of Health and Human Services, the CMS Administrator, and the Health Resources and Services Administration Administrator.<sup>5</sup> IPAB's design gives it broad authority to propose and execute Medicare payment policies by using a spending target system and accelerated legislative approval process.

The IPAB sequence of events begins each year with the CMS Chief Actuary calculating a target Medicare per capita growth rate. Initially, the target growth rate is based on the projected five-year average percentage increase in the consumer price index for all urban

consumers (CPI-U) and the consumer price index for all urban consumers for medical care (CPI-M). For 2020 and beyond, the spending target is set at the yearly average growth rate of the nominal gross domestic product per capita over the prior five years + 1 percent.

If the Chief Actuary determines that the target growth rate has been exceeded, the Chief Actuary establishes a savings target for that year (Figure 1-8, p. 16). This determination triggers a requirement that the IPAB create a cost-savings proposal that holds overall per capita Medicare growth within the target rate. The IPAB proposal cannot include any recommendation to ration care, raise revenues or Part A and Part B premiums, increase cost sharing, restrict benefits, or alter eligibility. Additionally, through 2019, the IPAB cannot affect payment for inpatient hospitals, outpatient hospitals, long-term care hospitals, inpatient

*(continued next page)*

Medical Association's survey of physicians indicates that, over time, physicians have shifted from solo and small practices to larger practices (Kane 2015). The Government Accountability Office (GAO) found that, between 2007 and 2013, the number of physicians in "vertically consolidated" practices—hospital-acquired physician practices, physicians hired as salaried employees, or both—nearly doubled (Government Accountability Office 2015). In addition, the Federal Trade Commission observed that "providers increasingly pursue alternatives to traditional mergers such as affiliation arrangements, joint ventures, and partnerships, all of which could also have significant implications for competition" (Federal Trade Commission 2016). Increased consolidation has an inflationary effect on prices paid in the private sector. A recent study found that disparity in hospital prices within regions is the primary driver of variation in health care spending for the privately insured (Cooper et al. 2015). The study shows that hospitals that face fewer competitors have substantially higher prices; hospital prices in monopoly markets are more than 15 percent higher than those in areas with four or more competitors. It also found that, where hospitals face only one competitor, prices are over 6 percent higher; where they face two, almost 5 percent higher.

Over time, private sector trends can influence Medicare trends. If the private sector is unable to constrain price growth, the profitability of caring for commercially insured patients will increase relative to the profitability of caring for Medicare beneficiaries. Eventually, the difference between commercial rates and Medicare rates will grow so large that more hospitals would have an incentive to focus primarily on patients with commercial insurance, which will exert pressure on the Medicare program to increase its payment rates. Thus, in the long term, Medicare beneficiaries' access to care may in part depend on commercial payers restraining rates paid to hospitals (Medicare Payment Advisory Commission 2009, Stensland et al. 2010, White and Wu 2014).

### Medicare spending projections

What do these current trends portend for Medicare? The growth in Medicare's per beneficiary spending has fallen from average annual rates of 10 percent in the 1980s and 6 percent and 7 percent in the 1990s and 2000s to 1 percent over the last five years (Figure 1-7). This average annual growth over the last four years, however, includes some zero-growth years.

## Independent Payment Advisory Board (cont.)

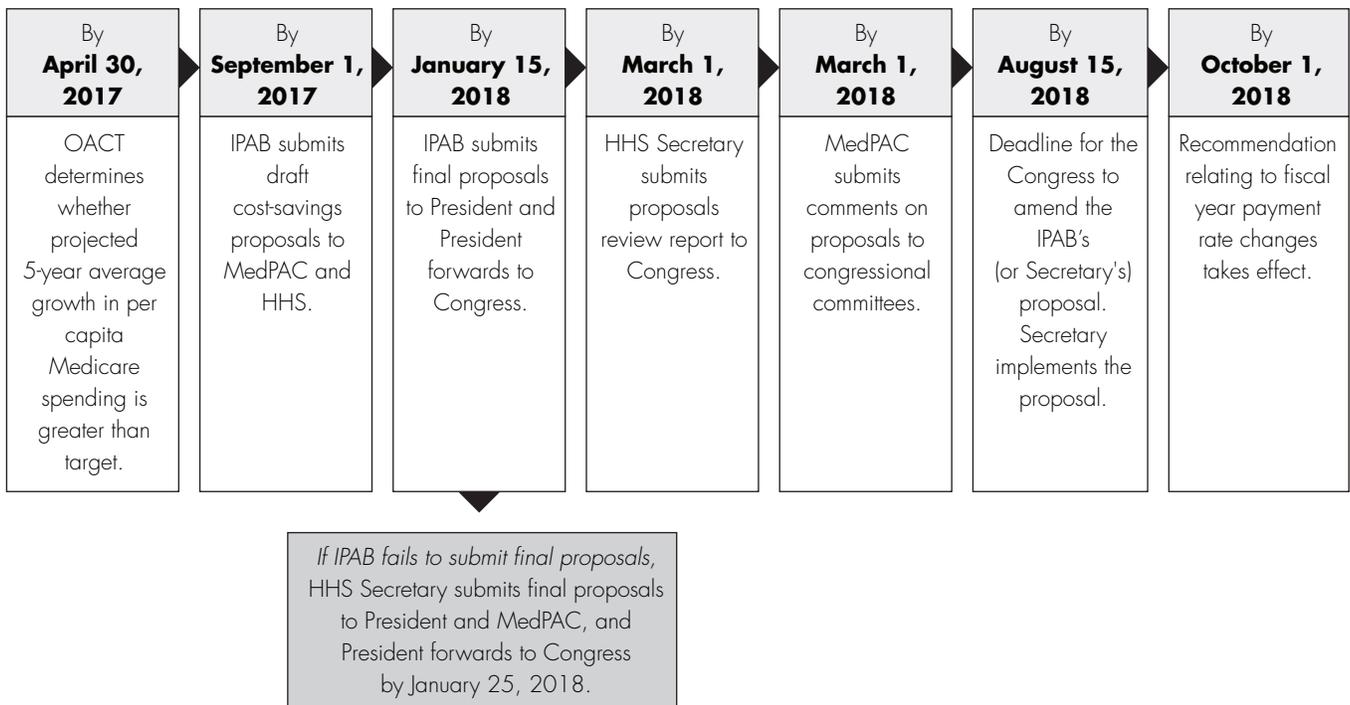
rehabilitation facilities, psychiatric hospitals, hospice, or Part D beneficiary premiums and the low-income subsidy (LIS). If the IPAB does not submit a proposal, the Secretary of Health and Human Services (HHS) is required to submit a proposal. For the 2013 through 2016 “determination” years, the target growth rates have not been exceeded, so no IPAB proposal has been required. However, for 2017, the Chief Actuary predicts that Medicare spending growth will reach 2.82 percent, which exceeds the target rate of 2.62 percent, and will therefore trigger the IPAB cost-savings proposal (Boards of Trustees 2016).

As Figure 1-8 illustrates, the IPAB must submit a draft of its proposal to the HHS Secretary and the Commission by September 1 and the final version to the President and the Congress by January 15 of the

following year. If the IPAB fails to do so, the Secretary is required to develop and submit a final proposal. The Secretary and the Commission are required to review and comment on the proposal by March 1 of the submission year. As specified in PPACA, the proposal is eligible for expedited congressional procedures in the Congress. The IPAB (or Secretary’s) proposal automatically becomes law unless the proposal is blocked within a stated period ending August 15th and under circumstances specified in PPACA. Changes to the proposal package are limited to those that would produce at least as much Medicare savings as the submitted legislation. The recommendations that relate to fiscal year payment rate changes go into effect on October 1, the beginning of the government’s fiscal calendar, of the proposal year. ■

**FIGURE 1-8**

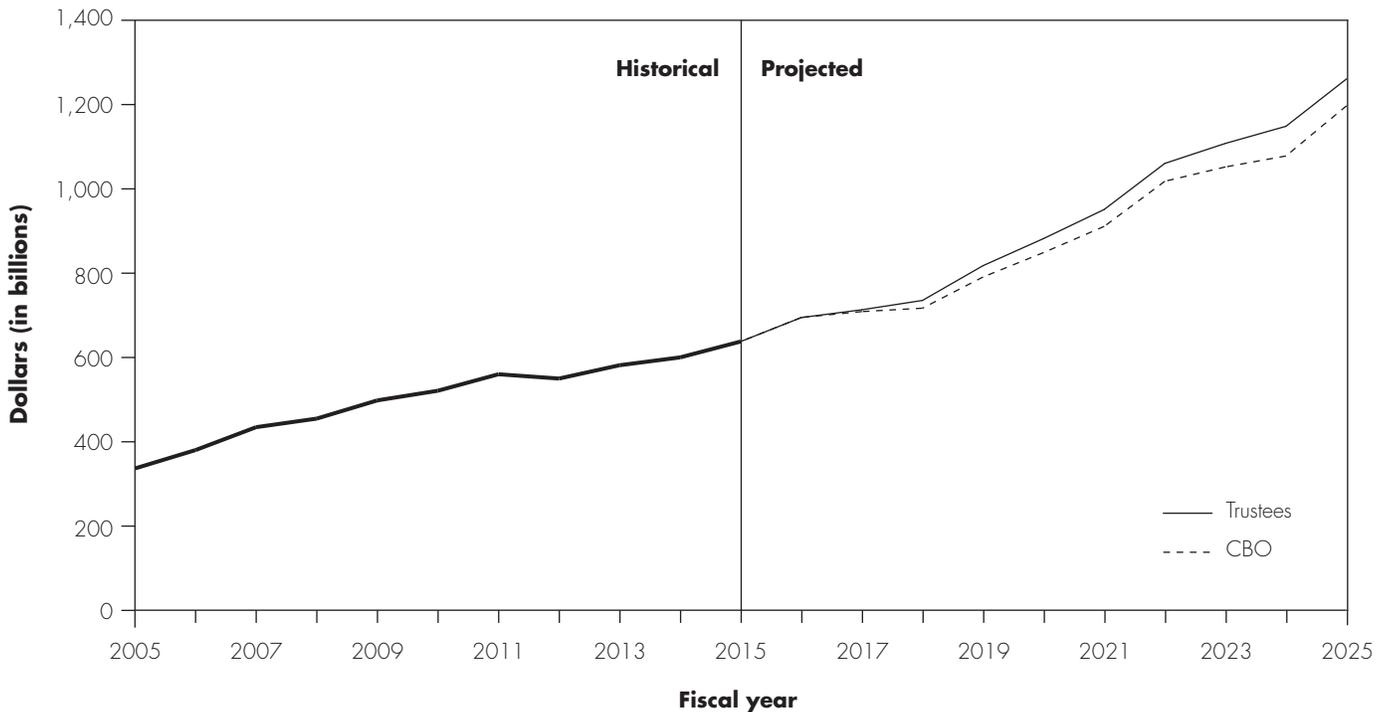
**IPAB time line if triggered in 2017**



Note: IPAB (Independent Payment Advisory Board), OACT (Office of the Actuary), MedPAC (Medicare Payment Advisory Commission), HHS (Department of Health and Human Services). The law specifies that the Trustees’ report be released by April 1 and the OACT determination of spending growth relative to the target be released by the end of April of each year. But for the last three years, the report and the OACT determination of spending growth relative to the target have been released in June or July.

**FIGURE  
1-9**

**Trustees and CBO project Medicare annual spending to reach \$1 trillion by 2022**



Note: CBO (Congressional Budget Office).

Source: 2016 annual report of the Boards of Trustees of the Medicare trust funds and CBO report *Updated Budget Projections for Selected Programs: 2015 to 2025*, released March 2016.

For the next 10 years, the Trustees and the Congressional Budget Office (CBO) project that growth in per beneficiary spending will be higher than the recent lows but lower than the historical highs, with an average annual growth rate of 4 percent (Boards of Trustees 2016, Congressional Budget Office 2016b). High spending growth could trigger a PPACA provision designed to limit Medicare spending growth (see text box on the Independent Payment Advisory Board, pp. 15–16).

At the same time, the aging of the baby-boom generation is causing an enrollment increase. Over the last few years, the enrollment growth rate rose from about 2 percent per year historically to 3 percent and is projected to continue growing throughout the next decade.<sup>6</sup> So despite the slowdown in spending per beneficiary (relative to historical standards), growth in total spending over the next decade is projected by the Trustees and CBO to average 7 percent annually, which outpaces the projected average annual GDP growth of 5 percent.

At those rates, Medicare annual spending would rise from about \$600 billion in 2016 to \$1 trillion within the coming decade (by 2022) under either projection (Figure 1-9) (Boards of Trustees 2016, Congressional Budget Office 2016b).

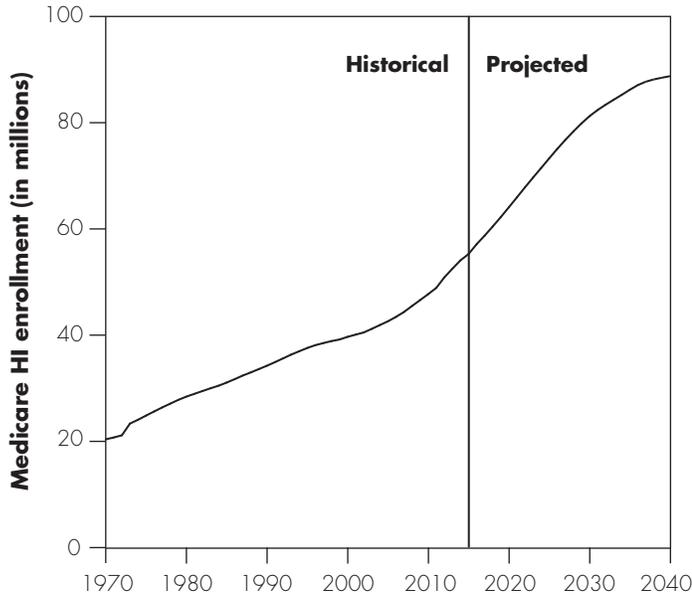
### Medicare's financing challenge

The aging of the baby-boom generation will have a profound impact both on the Medicare program and the taxpayers who support it. Workers pay for the Medicare program through payroll taxes and taxes that are deposited into the general fund of the Treasury. The number of workers per Medicare beneficiary has already declined from about 4.6 around the program's inception to 3.1 in 2015 (Figure 1-10, p. 18). Over the next 15 years,

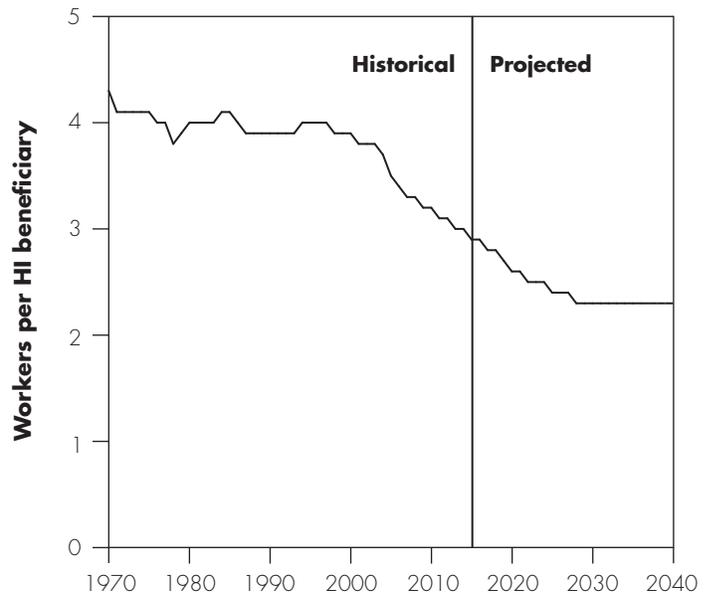
**FIGURE  
1-10**

**Medicare enrollment is rising while workers per HI beneficiary is declining**

**Figure 1-10a. Medicare HI enrollment**



**Figure 1-10b. Workers per HI beneficiary**



Note: HI (Hospital Insurance). Hospital Insurance is also known as Medicare Part A.

Source: 2016 annual report by the Boards of Trustees of the Medicare trust funds.

as Medicare enrollment surges, the number of workers per beneficiary is projected to decline further. By 2030 (the year by which all baby boomers will have aged into Medicare), the Medicare Trustees project just 2.4 workers for each Medicare beneficiary.

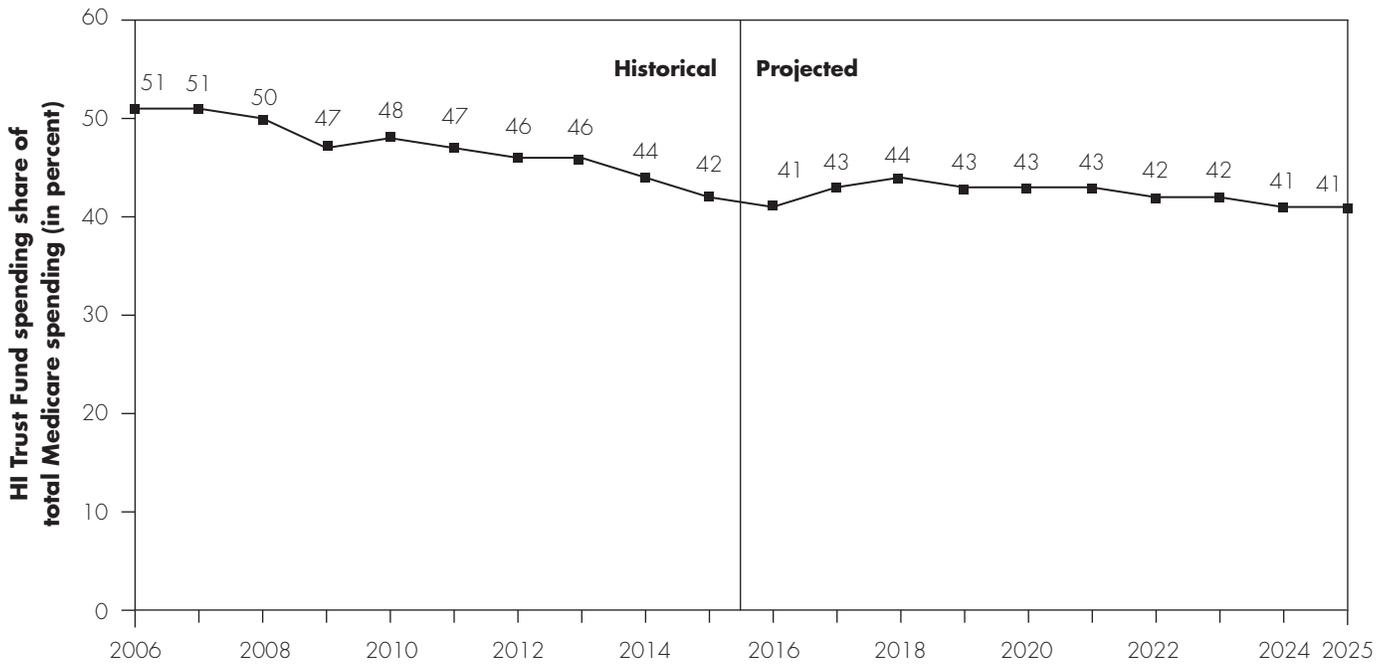
These demographics create a financing challenge for the Medicare program.<sup>7</sup> The Trustees project that Medicare’s Hospital Insurance (HI) Trust Fund will become insolvent by 2028—two years earlier than predicted in last year’s report—but that date does not tell the whole financial story. The HI Trust Fund covers less than half of Medicare spending (42 percent in 2015), and that share is projected to increase slightly over the next decade, then fall to 41 percent by 2025 (Figure 1-11). The Supplementary Medical Insurance (SMI) Trust Fund covers the remainder and is described on page 19. The HI Trust Fund pays for Medicare Part A services, such as inpatient hospital stays, skilled nursing facilities, and hospice, and is largely (88 percent in 2015) funded through a dedicated payroll tax (i.e., a tax on wage earnings).<sup>8</sup>

Since payroll tax revenues are not growing as fast as Part A spending, the HI Trust Fund is projected to become insolvent by 2028 (Boards of Trustees 2016). To keep the HI Trust Fund solvent over the next 25 years, the Trustees estimate that either the payroll tax would need to be increased immediately by 20 percent, rising from its current rate of 2.90 percent to 3.47 percent, or Part A spending would need to be reduced immediately by 13 percent (Boards of Trustees 2016).<sup>9</sup> (For periods of 50 years and 75 years, see Table 1-1.) Under current law, once the HI Trust Fund is depleted, payments to providers would be reduced to levels that could be covered by incoming tax and premium revenues. However, the Trustees note that:

If the projections reflected such payment reductions, then any imbalances between payments and revenues would be automatically eliminated, and the [Trustees] report would not serve its essential purpose, which is to inform policymakers and the public about the size of any

**FIGURE 1-1**

**The HI Trust Fund covers a declining share of total Medicare spending**



Note: HI (Hospital Insurance). The rest of Medicare spending is covered by the Supplementary Medical Insurance Trust Fund.

Source: 2016 annual report of the Boards of Trustees of the Medicare trust funds.

trust fund deficits that would need to be resolved to avert program insolvency. To date, lawmakers have never allowed the assets of the Medicare HI Trust Fund to become depleted.

The rest of Medicare benefit spending is covered by SMI. It covers services under Part B (physician services and other ambulatory care received in hospital outpatient

departments) and Part D (prescription drug coverage). SMI is a trust fund in name only; it has no funding through a dedicated tax such as there is with the HI Trust Fund. Specifically, Part B and Part D are financed by premiums paid by beneficiaries (covering 25 percent of spending) and general tax revenues plus federal borrowing (covering 75 percent of spending), which are reset each year to match expected Part B and Part D spending.<sup>10</sup>

**TABLE 1-1**

**Increase in payroll tax or decrease in HI spending needed to maintain HI Trust Fund solvency for specific time periods**

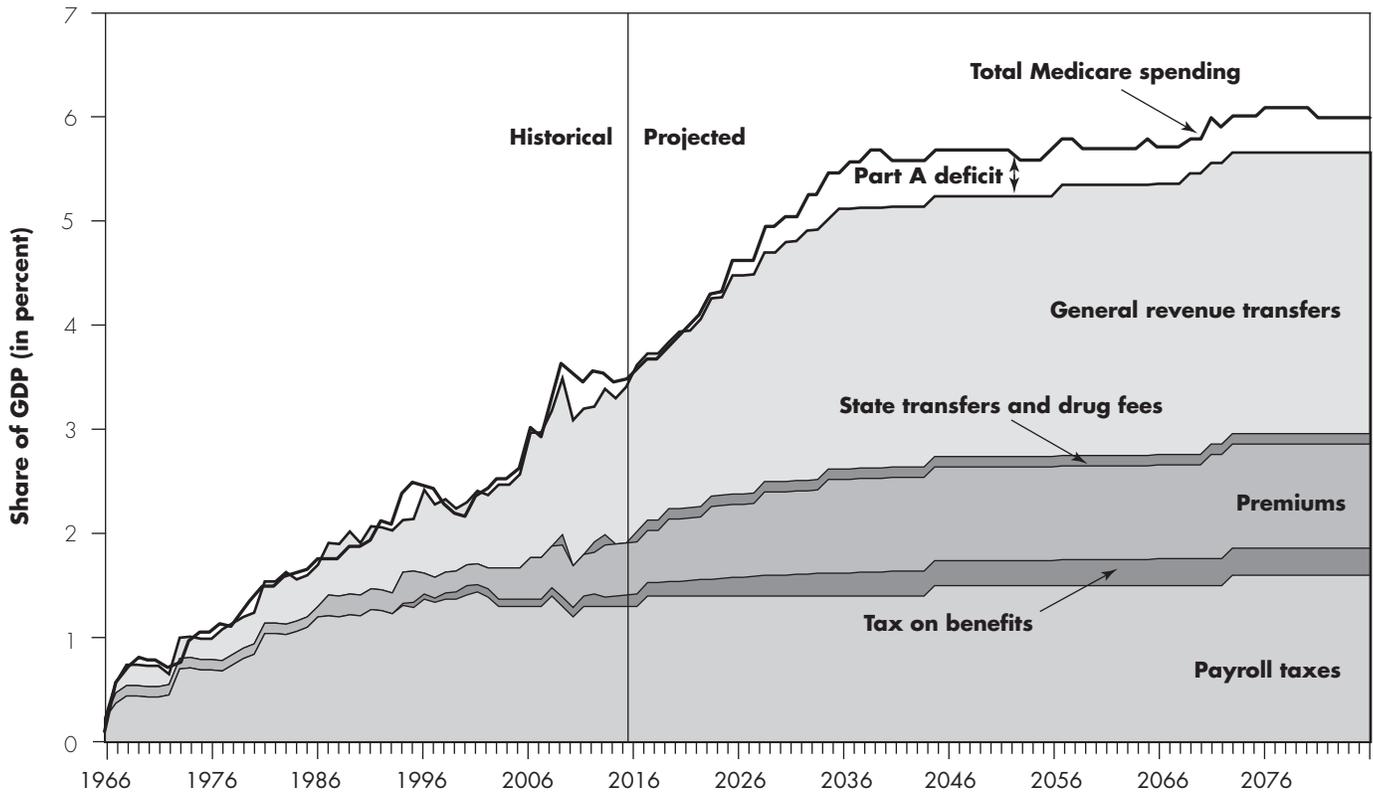
To maintain HI Trust Fund solvency for:	Increase 2.9 percent payroll tax by:	Or decrease HI spending by:
25 years (2016–2040)	20%	13%
50 years (2016–2065)	24	16
75 years (2016–2090)	25	16

Note: HI (Hospital Insurance). Hospital Insurance is also known as Medicare Part A.

Source: MedPAC analysis of 2016 annual report of the Boards of Trustees of the Medicare trust funds.

**FIGURE  
1-12**

**General revenue is paying for a growing share of Medicare spending**



Note: GDP (gross domestic product). “Tax on benefits” refers to the portion of income taxes that higher income individuals pay on Social Security benefits that is designated for Medicare. “State transfers” (often called the Part D “clawback”) refers to payments from the states to Medicare, required by the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, for assuming primary responsibility for prescription drug spending. “Drug fees” refers to the fee imposed in the Patient Protection and Affordable Care Act of 2010 on manufacturers and importers of brand-name prescription drugs. These fees are deposited in the Part B account of the Supplementary Medical Insurance Trust Fund.

Source: 2016 annual report of the Boards of Trustees of the Medicare trust funds.

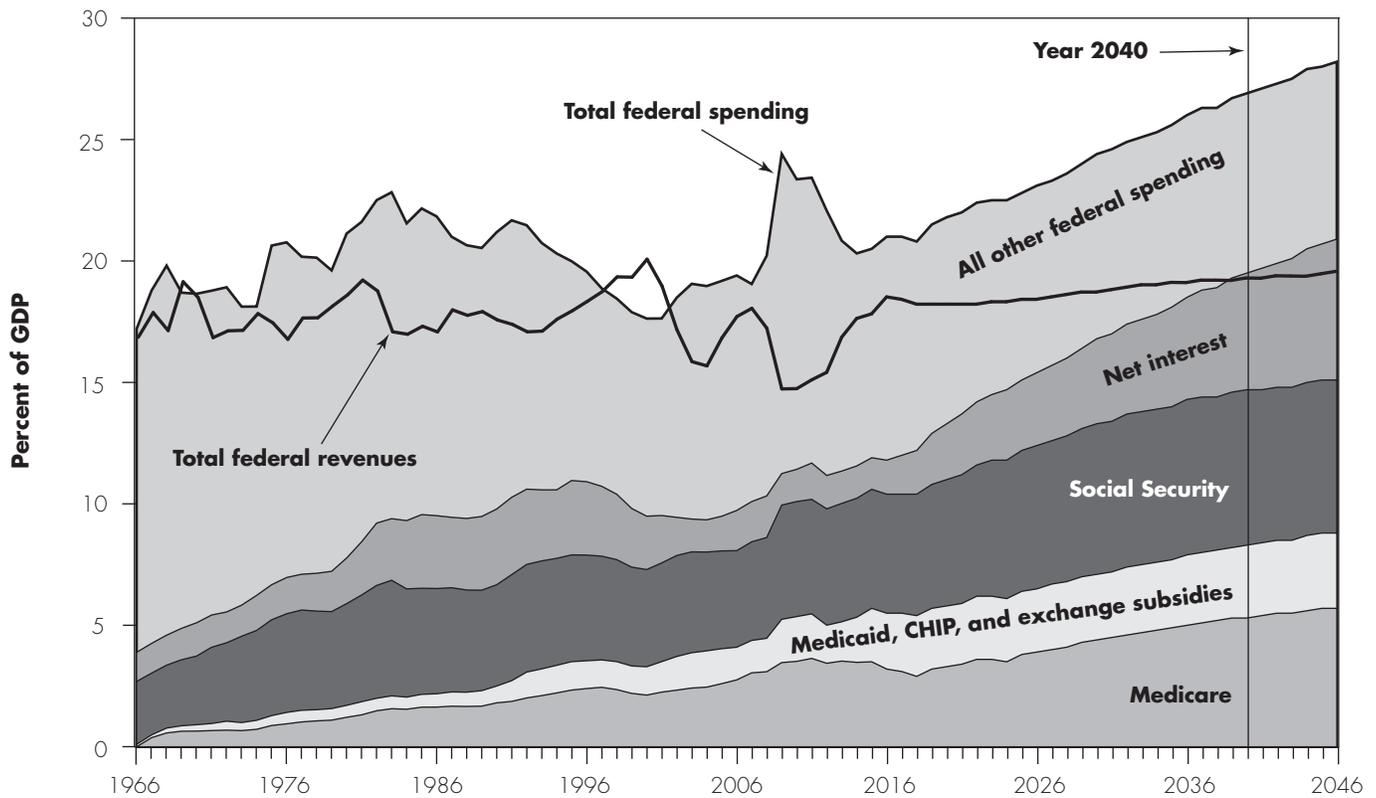
Since premiums and transfers are set to grow at the same rate as Part B and Part D spending, the SMI Trust Fund is expected to remain solvent by construction. However, as SMI spending rises, premiums and transfers from the nation’s Treasury to the Medicare program also grow, increasing deficits, the debt, and the strain on household budgets both of workers and retirees, and—assuming no other policy or legislative interventions—reducing the resources available to make investments that expand future economic output (e.g., investments in education, transportation, and research and development).

For a more complete financial picture, consider the combined spending and sources of income from the two trust funds; the top line of Figure 1-12 depicts total

Medicare spending as a share of GDP; the layers below the line represent sources of Medicare income. Medicare’s three primary sources of income are payroll taxes, premiums paid by beneficiaries, and general revenue transfers. The white space below the total Medicare spending line in Figure 1-12 represents the Part A deficit created when payroll taxes fall short of Part A spending. Figure 1-12 reflects projections in the Medicare Trustees’ report, which are based on current law with the exception of disregarding payment reductions that would result from the projected depletion of the HI Trust Fund. Under current law, payments to Part A providers would be reduced to levels that could be covered by incoming tax and premium revenues when the HI Trust Fund becomes depleted. Thus, as Medicare actuaries and others have

**FIGURE  
1-13**

**Spending on Medicare, other major health programs, Social Security, and net interest is projected to exceed total federal revenues in 25 years (by 2040)**



Note: GDP (gross domestic product), CHIP (Children’s Health Insurance Program).

Source: *The 2016 Long-Term Budget Outlook* (published July 2016) and *Updated Budget Projections: 2016 to 2026* (published March 2016) from the Congressional Budget Office.

observed, total Medicare spending would be shifted down from the total projected spending by an amount equal to the Part A deficit, as presented in Figure 1-12 (Aaron 2015, Spitalnic 2016). As described above, the actuaries note that if the projections reflected such payment reductions, then any imbalances between payments and revenues would be automatically eliminated. To date, lawmakers have never allowed the assets of the Medicare HI Trust Fund to become depleted.

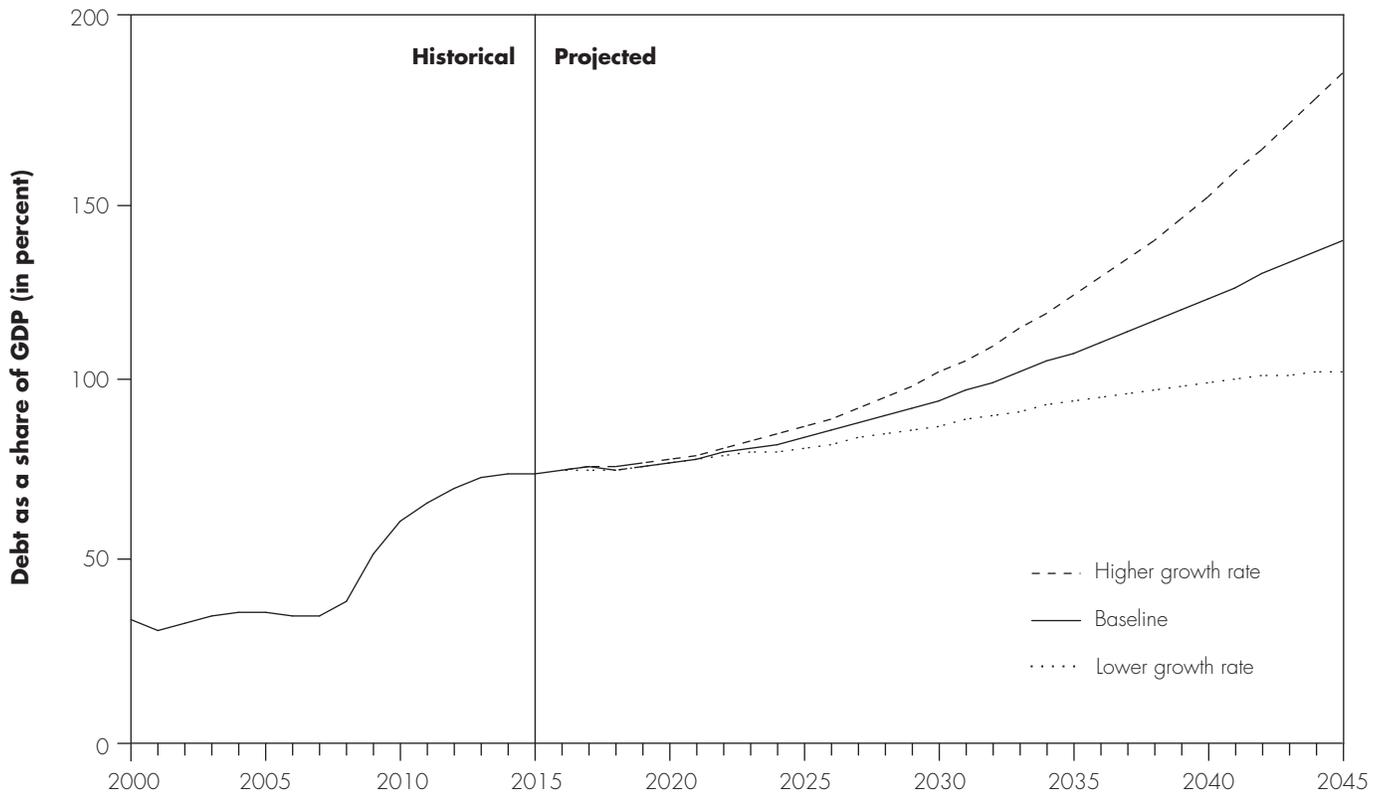
Undeniably, the Part A deficit is a financing challenge, but so too is the large and growing share of Medicare spending funded through general revenues. General revenues account for 43 percent of Medicare funding today and under current law are projected to grow to 48 percent by 2030; notably, in this context, general revenues include

both general tax revenue as well as federal borrowing since, with few exceptions, federal spending has exceeded federal revenues since the Great Depression.

To understand why the growing reliance on general revenues presents a financing challenge, consider the situation from the perspective of the federal budget. The line at the top of Figure 1-13 represents total federal spending as a share of GDP; the line below spending represents total federal revenues. The difference between these two lines represents the budget deficit, which must be covered by federal borrowing. For most years over the past several decades, the federal government has spent more than it collects in revenues, increasing the federal debt to levels not seen since World War II. Federal revenues have remained relatively constant even

**FIGURE  
1-14**

**Health care spending growth impacts future debt levels**



Note: GDP (gross domestic product). The higher growth rate of per beneficiary spending on Medicare and Medicaid is 0.75 percentage point per year higher than under the baseline assumptions; the lower growth rate is 0.75 percentage point per year lower than under the baseline assumptions.

Source: *The 2016 Long-Term Budget Outlook* (published July 2016) from the Congressional Budget Office.

though the federal government has taken responsibility for a broader array of services (e.g., the Children’s Health Insurance Program).

The layers below the top line in Figure 1-13 (p. 21) depict federal spending by program. Under current law, Medicare spending is projected to rise from 3.6 percent of our economy in 2016 to a little over 6 percent of our economy in 2040 (Congressional Budget Office 2016a). In fact—assuming no other policy or legislative interventions—spending on Medicare, Medicaid, the other major health programs, Social Security, and net interest payments are projected to reach almost 20 percent of the nation’s economy by 2040 and, by themselves, will exceed total federal revenues.<sup>11</sup>

Moreover, the projection assumes that federal revenues will rise above 19 percent of GDP, above the historical

average of 17 percent of GDP. The increase in revenues is projected to occur mainly because income is projected to grow more rapidly than inflation, pushing more income into higher inflation-indexed tax brackets over time. However, if federal revenues continue at their historical average of 17 percent of GDP, spending on these major programs and net interest payments would exceed total federal revenues even sooner.

With their reliance on general tax dollars and federal deficit spending, Medicare and the other major health care programs have a substantial effect on the federal debt. Debt equaled 35 percent of GDP at the end of 2007 as the economy entered the last recession (Figure 1-14). Because of the recession, the debt soared, reaching 74 percent of GDP in 2015—a higher share than at any point in U.S. history, except briefly around World War II.

Under baseline assumptions, which reflect current law, CBO projects the debt will reach 84 percent of GDP in 2025 and 138 percent of GDP in about 30 years (or by 2045). However, the CBO baseline assumes that per beneficiary spending for Medicare and Medicaid will increase more slowly in the future than it has during the past several decades. If per beneficiary spending growth were a percentage point higher than that of the baseline, the federal debt would be 184 percent of GDP by 2045. On the other hand, if per beneficiary spending growth were a percentage point lower, the federal debt would be 102 percent of GDP by 2045.

---

## Health care spending consumes growing shares of state and family budgets

---

Part of the Commission’s mandate is to view Medicare in the context of the broader health care system. This section examines the effect of health care spending on state budgets and on the budgets of individuals and families. States bear a significant share of Medicaid costs, so rising health care spending also has implications for state budgets. For individuals and families, increases in premiums and cost sharing have negated real income growth in the past decade. Likewise, premiums and cost sharing for Medicare beneficiaries are projected to grow faster than Social Security benefits, which makes up a significant share of many beneficiaries’ income.

### Health care spending and state budgets

States and the federal government jointly finance Medicaid, a program that pays for health care services provided to people with low incomes. In fiscal year 2013, before the coverage expansions made by PPACA, monthly enrollment in Medicaid averaged about 59 million people, and total spending was \$455.6 billion, with the states paying 42 percent and the federal government paying the remainder. Medicaid spending accounted for an estimated 19.3 percent of state expenditures in that year (Centers for Medicare & Medicaid Services 2014a).

PPACA gave states the option to expand Medicaid coverage—beginning in 2014—to non-elderly individuals with total family income of less than 138 percent of the federal poverty threshold. States received full federal financing to cover this expansion population in 2014, phasing down to 90 percent federal financing by 2020. CMS actuaries estimate that, in fiscal year 2014, monthly

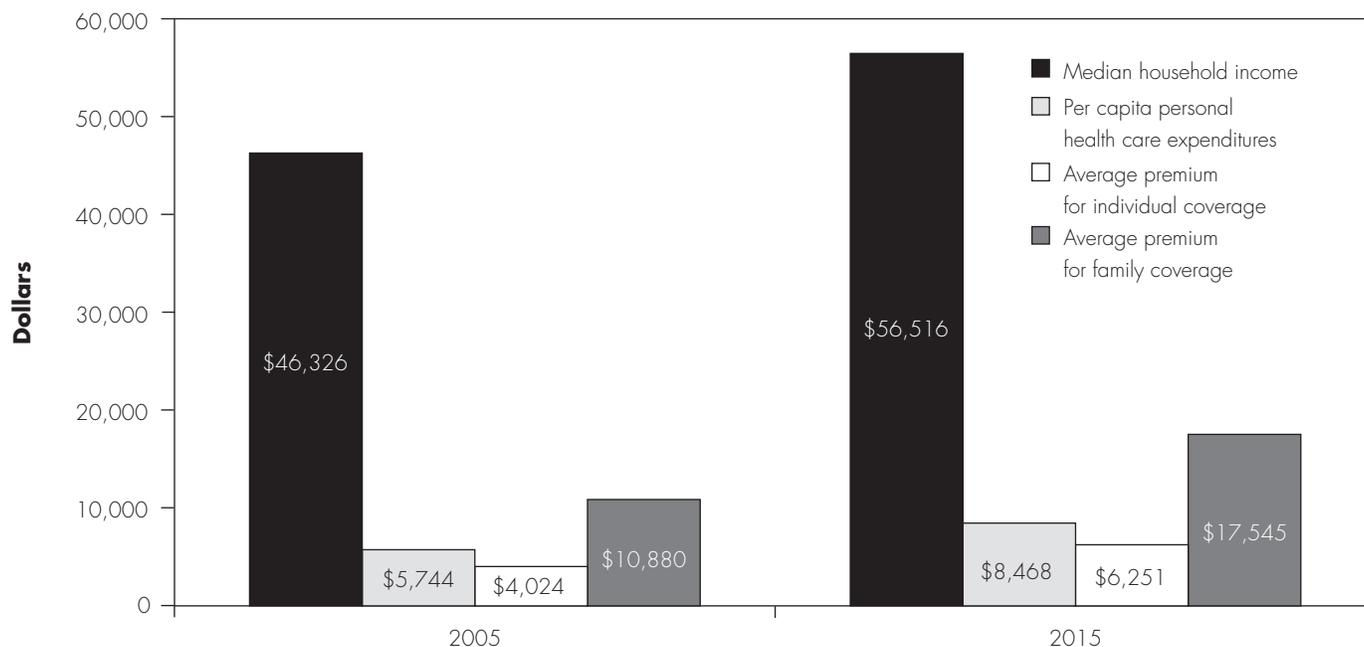
enrollment in Medicaid increased 9.2 percent, covering 64 million people, and total spending increased 8.5 percent, reaching \$494.5 billion. Because the federal government paid for 100 percent of the costs of newly eligible enrollees, the states’ share of all Medicaid expenditures in 2014 decreased to 39 percent. Currently, government actuaries project that the states’ share will remain lower than 40 percent over the next 10 years as more states expand coverage (the states’ share is projected to range between 37 percent and 39 percent from 2015 to 2024) (Centers for Medicare & Medicaid Services 2014a).

PPACA also increased the payment amount primary care providers received for seeing Medicaid patients in 2013 and 2014 so that it equaled Medicare’s payment. This policy represented a significant increase in payments to providers since Medicaid primary care FFS payment rates averaged 59 percent of Medicare fee levels in 2012. The federal government incurred 100 percent of the cost of the payment increase. Federal spending is expected to reach about \$12 billion. (The actual amount is not yet known because states have up to two years to submit claims for federal reimbursement.) Even though the federal subsidies expired at the end of 2014, 16 states and the District of Columbia are continuing to pay enhanced rates (Tollen 2015).

A provision also established under PPACA authority allows state demonstrations for beneficiaries dually eligible for Medicare and Medicaid. Under a financial alignment initiative, CMS has approved 14 demonstrations in 13 states, and all are in operation. CMS does not expect any additional states to join the demonstrations. Most demonstrations will operate for five years. About 450,000 dual eligibles are currently enrolled in what is one of the largest demonstrations that CMS has ever conducted related to dual eligible beneficiaries. Most demonstrations (11 of 14) are testing a “capitated” model, which uses health plans known as Medicare–Medicaid Plans to provide all Medicare benefits and all or most Medicaid benefits to dual-eligible individuals (Medicare Payment Advisory Commission 2016).

### Health care spending and individual and family budgets

For individuals and families, growth in health care spending has meant higher health insurance premiums and higher taxes devoted to health care (Auerbach and Kellermann 2011). Additionally, for those covered by employer-sponsored health insurance, an increase in

**FIGURE  
1-15****Growth in health care spending and premiums outpaced  
growth in household income, 2005-2015**

Note: Household income, health expenditures, and premiums are all measured in nominal dollars. Average premiums for individual and family coverage are for employer-sponsored health insurance and include contributions from workers and employers.

Source: MedPAC analysis of Census Bureau, Current Population Survey, Annual Social and Economic Supplements 2016; National Health Expenditure Accounts from CMS 2016; and Kaiser Family Foundation and Health Research & Educational Trust 2015 survey of employer health benefits.

premiums results in lower wage growth because, through wage reductions, employers offset their increased costs of providing health insurance to their employees (Baicker and Chandra 2006, Gruber 2000). As health care spending increases, an increasing share of income from individuals and families is transferred to insurers, hospitals, physicians, and other providers of health care services.

In the last decade, per capita health care spending and premiums have grown much more rapidly than median household incomes and thus account for a greater share of income (Figure 1-15). In 2005, per capita personal health care spending accounted for 12 percent (\$5,744) of median household income (\$46,326). Insurance premiums for individuals and families were 9 percent (\$4,024) and 23 percent (\$10,880), respectively (Census Bureau 2016, Centers for Medicare & Medicaid Services 2016, Kaiser Family Foundation and Health Research & Educational Trust 2015).<sup>12</sup> By 2015, per capita personal health care spending had grown to 15 percent (\$8,468)

of median household income (\$56,516). The premiums for typical individual and family health insurance were 11 percent (\$6,251) and 31 percent (\$17,545) of median household income, respectively. A greater share of the nominal-dollar income increase may have gone to health care providers than to other occupation categories (see text box on health care occupations). From 2007 to 2014, middle-income households' health care spending grew by 25 percent, while their spending fell for categories such as food, housing, clothing, and transportation (Baily and Holmes 2015).

Many Medicare beneficiaries are not exempt from the financial challenges of the program's ever-growing cost-sharing liabilities.<sup>13</sup> In 2015, SMI (Medicare Part B and Part D) premiums and cost sharing consumed 23 percent of the average Social Security benefit, up from 7 percent in 1980 (Boards of Trustees 2016). (Those percentages do not include beneficiary spending on premiums for Medicare supplemental insurance.) The Medicare Trustees estimate

## Health care occupations employment and salaries

Health care occupations represent a large (9 percent) and growing (21 percent growth rate from 2005 to 2015) share of the country's workforce (Table 1-2). According to data from the Bureau of Labor Statistics (BLS), mean salaries for clinicians—health care practitioners who diagnose or treat conditions—are more than twice the average of all other occupations (Bureau of Labor Statistics 2016, Bureau of Labor Statistics 2006). Salaries for health care technicians (e.g., radiologic technologists and technicians, dental hygienists, and emergency

medical technicians and paramedics) are about the same as the average for the non-health care workforce. However, health care support occupations' salaries (e.g., home health aides, orderlies, medical assistants, and medical transcriptionists) are less than average salaries. BLS data also indicate that wages for health care professionals may have grown more rapidly (31 percent), in nominal dollar terms, than for other occupations (27 percent).<sup>14</sup> (Note that BLS cautions against using these data to make comparisons across time.) ■

**TABLE  
1-2**

**Employment and salary for health care and all other occupation categories, 2015**

Occupation categories	Employees (in millions)	Share of all occupations	Increase from 2005	Mean salary	Increase from 2005
All occupations	138	N/A	6%	\$48,320	28%
All but health care total	126	91%	5	\$47,037	27
All but clinicians	133	96	5	\$46,502	27
Health care total	12	9	21	\$61,763	31
Health care practitioners and technical occupations	8	6	23	\$77,800	31
Clinicians	5	4	26	\$97,027	32
Technicians	3	2	18	\$46,642	25
Health care support occupations	4	3	19	\$29,520	24

Note: N/A (not applicable). "Clinicians" includes health care practitioners who diagnose or treat conditions, such as physicians, dentists, physician assistants, registered nurses, and physical therapists. "Technicians" includes health care technical occupations such as radiologic technologists and technicians, dental hygienists, emergency medical technicians and paramedics, and pharmacy technicians. "Health care support occupations" includes occupations such as home health aides, orderlies, medical assistants, and medical transcriptionists. Data from self-employed persons are not collected and are not included in the estimates. Salary increase from 2005 is measured in nominal dollars. The Bureau of Labor Statistics cautions against using Occupational Employment Statistics (OES) data to compare two points in time because the survey methodology is designed to create detailed cross-sectional employment and wage estimates but presents challenges in using OES data as a time series. These challenges include changes in the occupational, industrial, and geographical classification systems; changes in the way data are collected; changes in the survey reference period; and changes in mean wage estimation methodology, as well as permanent features of the methodology.

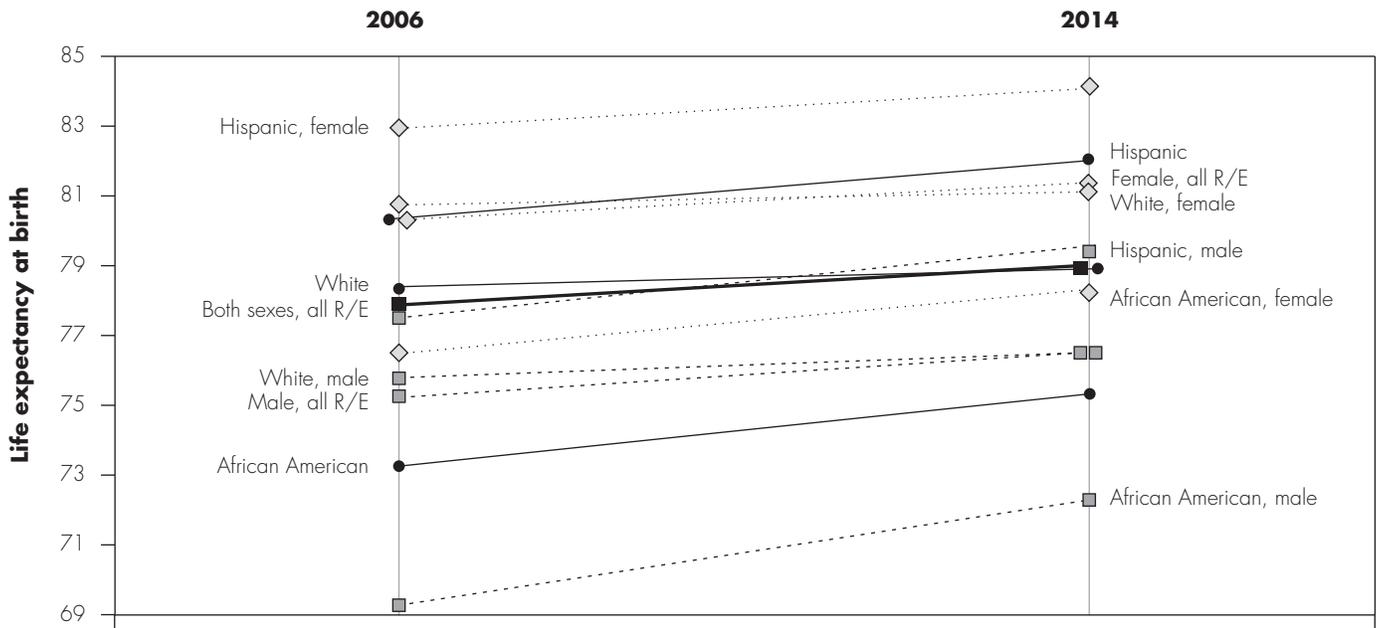
Source: MedPAC analysis of Bureau of Labor Statistics May 2015 National Occupational Employment and Wage Estimates United States and Bureau of Labor Statistics May 2005 National Occupational Employment and Wage Estimates United States.

that those costs will consume 30 percent of the average Social Security benefit by 2030. On average, Social Security benefits account for more than 60 percent of income for seniors. For more than one-fifth of seniors, Social Security benefits account for 100 percent of income (Social Security Administration 2012). However, some seniors also rely

on accumulated assets to supplement their income in retirement. Additionally, despite the increasing cost-sharing burden, the availability of SMI Part B and Part D benefits greatly reduces the costs that beneficiaries would otherwise pay for health care services without those benefits since general revenues cover a large share of those costs.

**FIGURE  
1-16**

**Life expectancy at birth by race/ethnicity and sex, 2006 and 2014**



Note: R/E (races and ethnicities). The “White” category is exclusive of Hispanics.

Source: National Center for Health Statistics 2016.

### Recent trends in life expectancy, morbidity, and mortality

Several recent studies and news reports have highlighted aspects of decreasing life expectancy and increasing mortality and morbidity among some Americans (see text box on recent mortality and morbidity trends). These include—for specific groups—decreases in life expectancy; increasing rates of suicide and deaths from drug poisonings; and troubling health indicators and behaviors such as increased alcohol consumption, smoking, and obesity. These trends interact with longstanding underlying variations in life expectancy, mortality, and morbidity by sex, income, race and ethnicity, and geographic location.

### Life expectancy by sex, race, and Hispanic origin

In general, life expectancy in the United States has been increasing over the last century (although more slowly than in other Organisation for Economic Co-operation and

Development (OECD) countries).<sup>15</sup> These increases in longevity are influenced by a range of factors, including health behavior changes, increased disease prevention efforts, and advances in medical treatments. In 2014, average life expectancy at birth for an individual living in the United States was 78.8 years (Figure 1-16). However, an individual’s life expectancy can vary significantly from this average based on certain characteristics, including race, sex, socioeconomic status, and geographic location. Variations have existed since official data have been collected. One example is that, in 2014, women on average had a longer life expectancy (81.2 years) than men (76.4 years) (Figure 1-16). Though this longevity gap has lessened in recent years, researchers speculate that these differences are caused by a combination of genetics, reductions in infections, and behavioral and lifestyle factors (Beltran-Sanchez et al. 2015).

Race and ethnicity are also associated with life expectancy. The Hispanic population in the United States in 2014 had a higher life expectancy at birth (81.6 years) than the non-Hispanic White and African American populations, at 78.8

## Recent mortality and morbidity trends

Several recent studies and news reports have highlighted aspects of increasing mortality and morbidity among some Americans (Arias 2016, Case and Deaton 2015, Montez et al. 2016). While researchers have applied diverse methods and reported various aspects of the trend, findings can be grouped into two categories: increases in mortality in groups of Whites, especially women, and decreases in life expectancy for residents of certain geographic areas.

Over the last century, the United States has experienced generally consistent declines in the mortality rate. However, there has recently been an increase in mortality among the middle-aged non-Hispanic White population (Kochanek et al. 2015). Economists Case and Deaton found that the increase is unique to middle-aged (45–54 years old) non-Hispanic Whites in the United States; a similar mortality rate increase is not seen in other industrialized countries or in the non-Hispanic African American or Hispanic population of this age group (Case and Deaton 2015). Case and Deaton note that three causes of death have dramatically increased among this group in the last decade: suicides, intentional and unintentional poisonings, and chronic liver disease. Additionally, increases in midlife mortality in this group are paralleled by increases in self-reported midlife morbidity and troubling health indicators and behaviors such as increased alcohol consumption, smoking, and obesity. Case and Deaton’s findings indicate that the increase in reports of poor health by this group has been matched by increasing reports of physical pain and psychological distress.

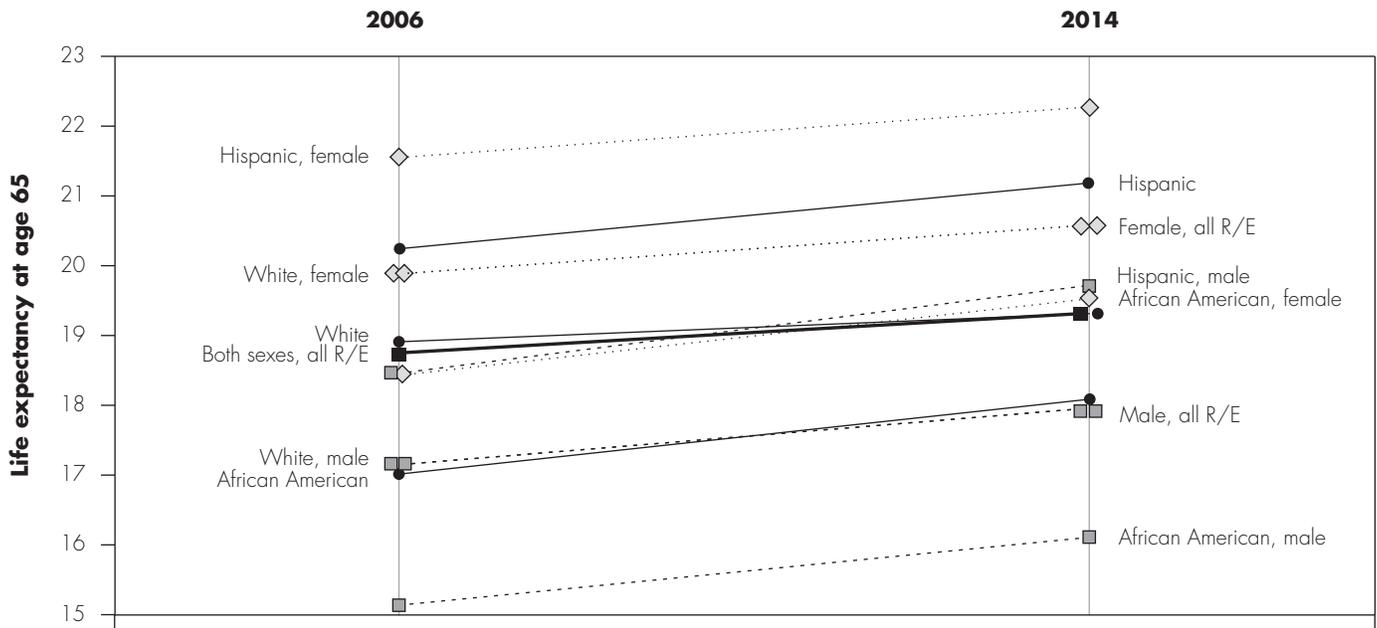
As with any population-level trend, the causes of increased midlife morbidity and mortality among non-Hispanic Whites are difficult to identify. A recent study found that varying inequalities in women’s mortality across states may be partially explained by macro-level socioeconomic and political factors—for example, policies that shape access to health care, use of tobacco, availability of affordable housing, children’s health care, and financial safety nets (Montez et al. 2016). Some researchers point to the availability of opioid drugs as a possible source of rising mortality rates. Increased reports of pain combined with the increased availability of opioid prescriptions for pain that began in the late 1990s have been widely noted, as well as the associated mortality (Rudd et al. 2016). Studies have also found that recent restrictions of opioid prescriptions may lead to unintended negative consequences such as increased use of heroin (Compton et al. 2016). There is concern that those affected by opioid and substance use in midlife include current Medicare beneficiaries under 65 and others who will age into Medicare in worse health than current beneficiaries. Researchers have found that patients with a diagnosed opioid dependency are high utilizers of health care services, including office visits, lab tests, and related treatments (FAIR Health 2016). However, this utilization may be related to the underlying conditions for which opioids were used as much as the consequences of opioid abuse or related effects. Addiction is hard to treat and chronic pain is challenging to control, and these conditions appear to be potential problems among the next generation of Medicare beneficiaries. ■

and 75.2 years, respectively (Figure 1-16). Though these differences have shifted somewhat over time, the general trend of the Hispanic population having the longest life expectancy and non-Hispanic African Americans having the shortest has persisted (Arias 2016).

### Life expectancy, by geographic areas

Life expectancy in the United States varies based on an array of geographical characteristics, including urban

and rural location and among states. A 2014 study by Singh and Siahpush found that life expectancy was inversely related to levels of rurality and that rural African Americans and Whites had lower life expectancies than their urban counterparts (Singh and Siahpush 2014).<sup>16</sup> From 2005 through 2009, those in large metropolitan areas had a life expectancy of 79.1 years compared with 76.9 years in small urban towns and 76.7 years in rural areas. Compared with their urban peers, people in rural areas

**FIGURE  
1-17****Life expectancy at age 65 by race/ethnicity and sex, 2006 and 2014**

Note: R/E (races and ethnicities). The “White” category is exclusive of Hispanics.

Source: National Center for Health Statistics 2016.

had higher rates of both smoking and lung cancer, along with obesity. Additionally, rural residents on average had a lower median family income and higher poverty rate, and fewer had college degrees, which may contribute to the difference in life expectancy. Another study by Chetty and colleagues exploring the association between life expectancy and income found that low-income individuals’ life expectancy varied substantially based on where they lived (Chetty et al. 2016). The study found that individuals in the lowest income quartile often lived longest and had more healthful behaviors if they resided in urban areas with highly educated populations, high incomes, and high levels of government expenditures. Some potential explanations for these findings are that these areas may have public policies that improve health (e.g., smoking bans) or they may have greater funding for public services. However, the Commission’s research has found little difference between rural and urban beneficiaries’ satisfaction with access to care and amount of service use. With respect to quality of care, quality is similar for most types of providers in rural and urban areas; however, rural hospitals tend to have below-

average rankings on mortality and some process measures (Medicare Payment Advisory Commission 2012).

A recent study by Montez and colleagues examined variation in women’s mortality rates across states (Montez et al. 2016).<sup>17</sup> The study found that a state’s economic and social environment (e.g., welfare policy, tobacco tax rate, level of economic inequality) had a significant effect on women’s mortality rate. The researchers found that many of the states with the best economic and social scores had some of the lowest mortality rates among women. The same correlation was not seen among males. These findings imply that geographic inequities in women’s mortality rates may not be fully explained just by women’s personal characteristics; rather, the influence of socioeconomic and political contexts must be also considered.

### Life expectancy at age 65

Recent decreases in life expectancy and increases in mortality are isolated to the under-65 population. Between 2006 and 2014, life expectancy at 65 (i.e., remaining years of life) increased for all groups (Figure 1-17).

**TABLE  
1-3**

**Leading causes of death, 1980 and 2014**

**Table 1-3a. Leading causes of death, 1980**

Cause of death	Share of deaths
1. Heart disease	38.2%
2. Cancer	20.9
3. Stroke	8.6
4. Accidents	5.3
5. Chronic obstructive pulmonary diseases	2.8
6. Pneumonia and influenza	2.7
7. Diabetes mellitus	1.8
8. Chronic liver disease and cirrhosis	1.5
9. Atherosclerosis	1.5
10. Suicide	1.4

**Table 1-3b. Leading causes of death, 2014**

Cause of death	Share of deaths
1. Heart disease	23.4%
2. Cancer	22.5
3. Chronic lower respiratory diseases	5.6
4. Accidents	5.2
5. Stroke	5.1
6. Alzheimer’s disease	3.6
7. Diabetes mellitus	2.9
8. Influenza and pneumonia	2.1
9. Nephritis, nephrotic syndrome, and nephrosis	1.8
10. Suicide	1.6

Note: Starting with 2011 data, the rules for selecting renal failure as the underlying cause of death were changed, affecting the number of deaths in the “nephritis, nephrotic syndrome, and nephrosis” and “diabetes mellitus” categories. These changes directly affect death with mention of renal failure and other associated conditions such as diabetes mellitus with renal complications. The result is a decrease in the number of deaths for nephritis, nephrotic syndrome, and nephrosis and an increase in the number of deaths for diabetes mellitus. Therefore, trend data for these two causes of death should be interpreted with caution.

Source: 2016 data on mortality from the National Center for Health Statistics.

**Leading causes of death**

Over the past few decades, there has been little change in the leading causes of death in the United States, both for all Americans and those 65 and older (Table 1-3, this page, and Table 1-4, p. 30). Heart disease and cancer have remained the first and second leading causes of death, respectively, for both age groups for more than 75 years (Hoyert 2012, National Center for Health Statistics 2016). In each year between 1935 and 2014, three causes—heart disease, cancer, and stroke—remained among the five leading causes. Suicide was the 10th leading cause of death in both 1980 and 2014.

Some of the leading causes of death overlap with the most prevalent and most expensive chronic conditions among Medicare FFS beneficiaries (Table 1-5, p. 30). In Table 1-5, the Medicare total per capita spending amount represents all Medicare spending for FFS beneficiaries with the specified condition (i.e., the spending cannot be attributed strictly to the specified condition because beneficiaries may have other health conditions that contribute to their total Medicare utilization and spending amounts).

It is unclear how the prevalence of these and other acute and chronic conditions contributes to Medicare spending

trends in part because treatments for conditions are influenced by changes in technology and definitions of what constitutes disease shift over time. The Commission explored this question in 2007 and found upward pressure on Medicare costs because of a greater proportion of beneficiaries being treated for multiple chronic conditions (Medicare Payment Advisory Commission 2007). This increase reflected growth in the prevalence of obese beneficiaries, advances in technology for diagnosing and treating conditions, and changes in disease definitions. More recently, the Congressional Budget Office found that while ample evidence exists of increased health care spending associated with obesity, evidence about the effects of weight loss on the health and health care spending of obese people is inconclusive at best (Congressional Budget Office 2015).

**The relationship between Medicare spending and quality**

As Medicare per beneficiary spending has increased over the life of the program, has the quality of health care received by Medicare beneficiaries improved? From the perspective of beneficiary health and longevity, indicators

**TABLE  
1-4**

**Leading causes of death at age 65 and older, 1980 and 2014**

**Table 1-4a. Leading causes of death at age 65 and older, 1980**

Cause of death	Share of deaths
1. Heart disease	44.4%
2. Cancer	19.3
3. Stroke	10.9
4. Pneumonia and influenza	3.4
5. Chronic obstructive pulmonary diseases	3.2
6. Atherosclerosis	2.1
7. Diabetes mellitus	1.9
8. Accidents	1.9
9. Nephritis, nephrotic syndrome, and nephrosis	1.0
10. Chronic liver disease and cirrhosis	0.7

**Table 1-4b. Leading causes of death at age 65 and older, 2014**

Cause of death	Share of deaths
1. Heart disease	25.5%
2. Cancer	21.5
3. Chronic lower respiratory diseases	6.5
4. Stroke	5.9
5. Alzheimer's disease	4.8
6. Diabetes mellitus	2.8
7. Accidents	2.5
8. Influenza and pneumonia	2.3
9. Nephritis, nephrotic syndrome and nephrosis	2.1
10. Septicemia	1.5

Note: Starting with 2011 data, the rules for selecting renal failure as the underlying cause of death were changed, affecting the number of deaths in the "nephritis, nephrotic syndrome, and nephrosis" and "diabetes mellitus" categories. These changes directly affect death with mention of renal failure and other associated conditions such as diabetes mellitus with renal complications. The result is a decrease in the number of deaths for nephritis, nephrotic syndrome, and nephrosis and an increase in the number of deaths for diabetes mellitus. Therefore, trend data for these two causes of death should be interpreted with caution.

Source: 2016 data on mortality from the National Center for Health Statistics.

**TABLE  
1-5**

**Selected chronic conditions by prevalence and total per capita spending among Medicare FFS beneficiaries, 2014**

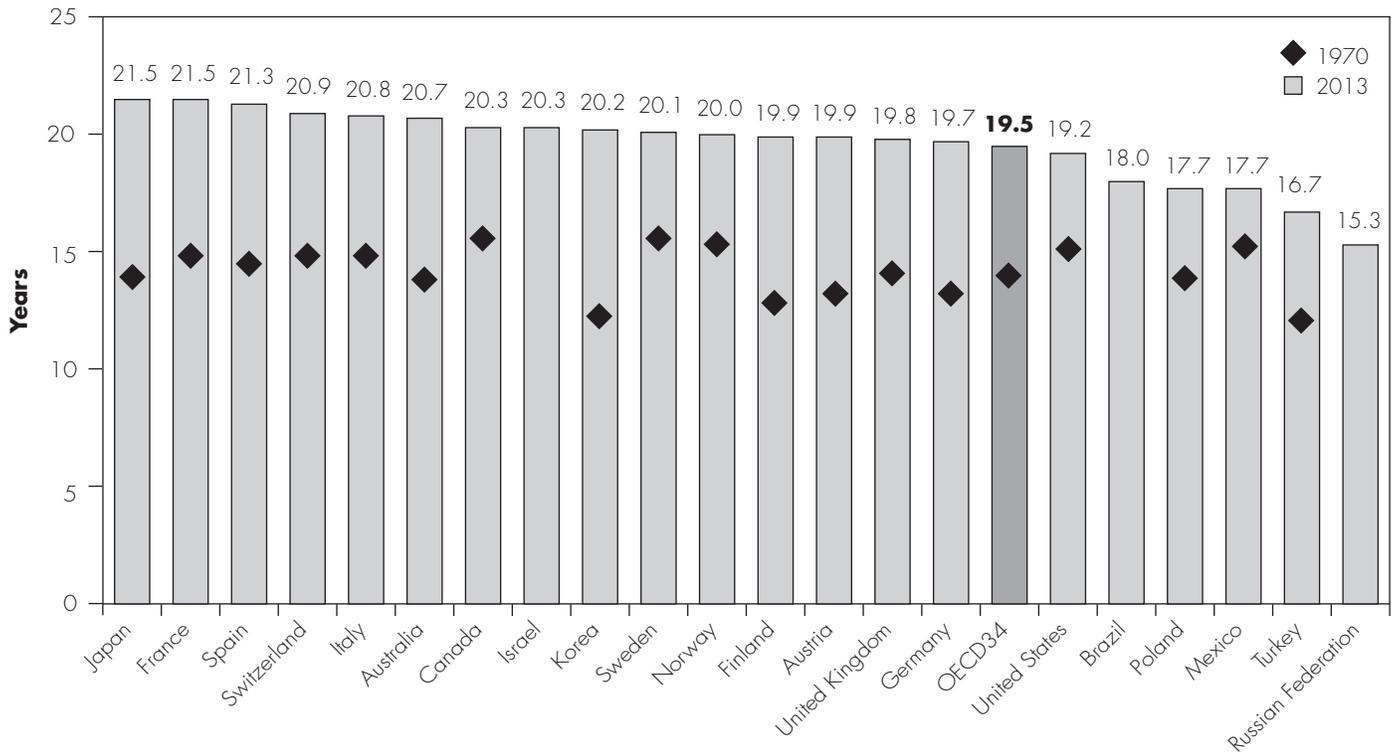
Chronic condition	Prevalence among Medicare FFS beneficiaries	Total per capita spending for beneficiaries with the condition specified
<b>Five chronic conditions most prevalent among Medicare FFS beneficiaries:</b>		
Hypertension	57.0%	\$14,251
Hyperlipidemia	46.3	13,440
Rheumatoid arthritis/osteoarthritis	30.7	15,735
Ischemic heart disease	28.1	18,947
Diabetes mellitus	27.7	15,735
<b>Five chronic conditions with highest total per capita spending among Medicare FFS beneficiaries:</b>		
Stroke	3.9	31,372
Heart failure	14.3	28,394
Hepatitis (chronic viral B & C)	N/A	27,618
Chronic kidney disease	17.3	26,510
Schizophrenia/other psychotic disorders	N/A	25,944

Note: FFS (fee-for-service), N/A (not available). Data include all Medicare beneficiaries who were eligible for or enrolled in Medicare on or after January 1, 2014. Period prevalence is calculated for these rates: beneficiaries with full or nearly full FFS coverage (i.e., 11 or 12 months of Medicare Part A and Part B (or coverage until time of death) and 1 month or less of HMO coverage) during the year who received treatment for the condition within the condition-specified look-back period (chronic conditions have a 1- to 3-year look-back period). Beneficiaries may be counted in more than one chronic condition category. The Medicare utilization and spending information presented above represents total Medicare FFS spending for beneficiaries with the condition. The information should not be used to attribute utilization or payments strictly to the specific condition selected because beneficiaries with any of the specific conditions presented may have other health conditions that contribute to their Medicare utilization and spending amounts.

Source: 2016 data from the Chronic Conditions Warehouse from the Centers for Medicare & Medicaid Services.

**FIGURE 1-18**

**Life expectancy at age 65 is lower and increased less in the United States than in other OECD countries, 1970–2013**



Note: OECD (Organisation for Economic Co-operation and Development). Selected OECD countries are shown. Life expectancy for Canada as of 1971 and 2011. Life expectancy for Finland as of 1971. Data are not available for 1970 for Brazil, Israel, and the Russian Federation.

Source: 2015 data on life expectancy at age 65 from the Organisation for Economic Co-operation and Development.

show improvements, primarily for beneficiaries ages 65 and older; the limited data available for younger Medicare beneficiaries include one indication of potentially poorer quality:

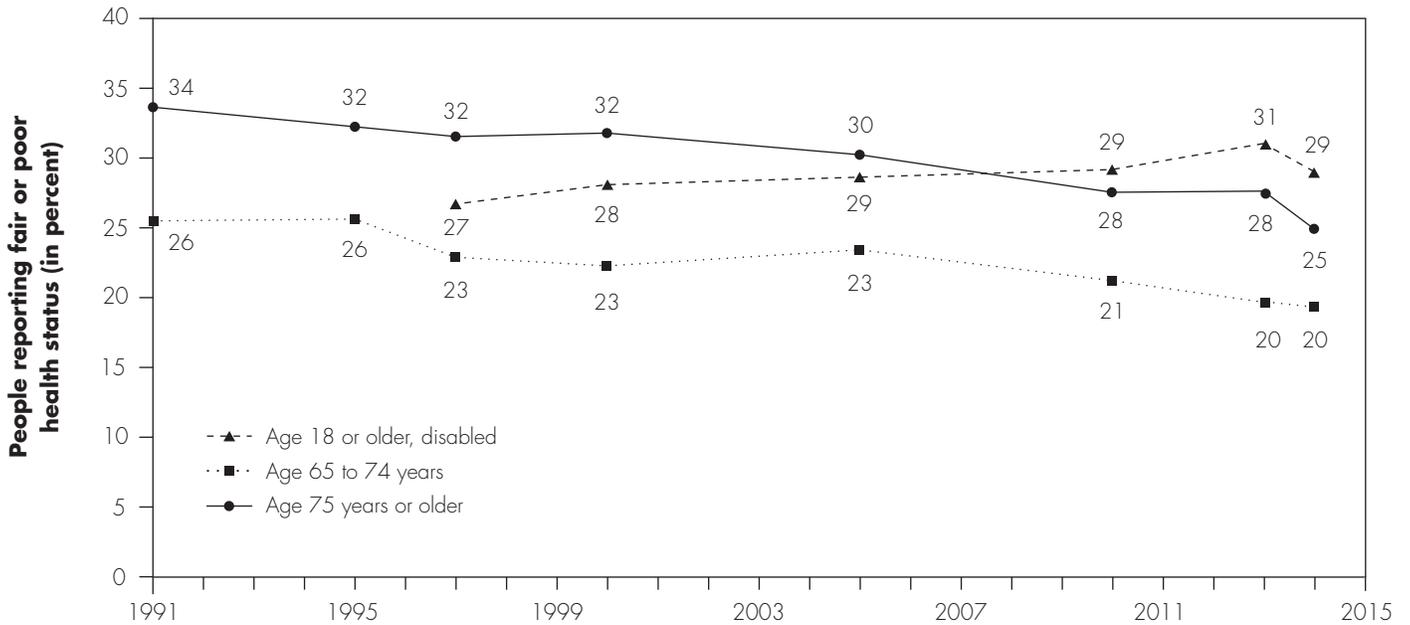
- Life expectancy at age 65 has steadily increased since the introduction of Medicare. Individuals who reached age 65 in 2014 had a remaining life expectancy of 19.3 years, compared with 15.2 years for this age group in 1970 (data not shown). However, these beneficiaries’ gains in longevity are outpaced by their peers in other OECD countries. From 1971 to 2013, U.S. life expectancy at age 65 improved by 4.1 years (Figure 1-18), compared with an average gain of 5.4 years for the 34 OECD countries. (Comparable information for the Medicare population under age 65 is not readily available.)

- Between 1991 and 2014, the share of people ages 65 to 74 reporting fair or poor health status declined from 26 percent to 20 percent (Figure 1-19, p. 32); the share of people ages 75 and older reporting fair or poor health status declined from 34 percent to 25 percent; and the share of adults with disabilities reporting fair or poor health status increased from 27 percent to 29 percent.
- While the share of people ages 65 and older with chronic conditions such as diabetes, hypertension, and high cholesterol has increased over time, the share of people who have those conditions under control has also increased (National Center for Health Statistics 2015a). (Comparable information for the Medicare population under age 65 is not readily available.)

However, many factors other than health care also impact individual and population health, including poverty, income levels, and health-related behaviors such as smoking and

**FIGURE  
1-19**

**The percentage of Medicare eligibles reporting fair or poor health status changed over time, available years 1991-2014**



Note: "Disabled adults" includes people 18 and older who have one or more of the following limitations or difficulties: movement difficulty, emotional difficulty, sensory (seeing or hearing) difficulty, cognitive difficulty, self-care (activities of daily living or instrumental activities of daily living) limitation, social limitation, or work limitation. Disability measure among adults 18 years and older did not begin being reported until 1997.

Source: 2016 data on health status from the National Center for Health Statistics.

alcohol consumption. For example, the poverty rate among people ages 65 years and older has fallen, with the support of the Social Security program, from 25 percent in 1970 to 10 percent in 2014, potentially having a substantial effect on individual and population health for that age group (Figure 1-20). However, the poverty rate for younger adults with disabilities has increased slightly from 36 percent in 1997 to 37 percent in 2014.

### **Baby boomers will make up the next generation of Medicare beneficiaries**

As the baby-boom generation ages, enrollment in the Medicare program will surge. In 15 years, Medicare is projected to have more than 80 million beneficiaries—up from 54 million beneficiaries today—almost 90 percent of whom will be of the baby-boom generation.<sup>18</sup> These individuals will define the upcoming Medicare population

in terms of age distribution, health status, health insurance experiences before Medicare enrollment, and financial security.

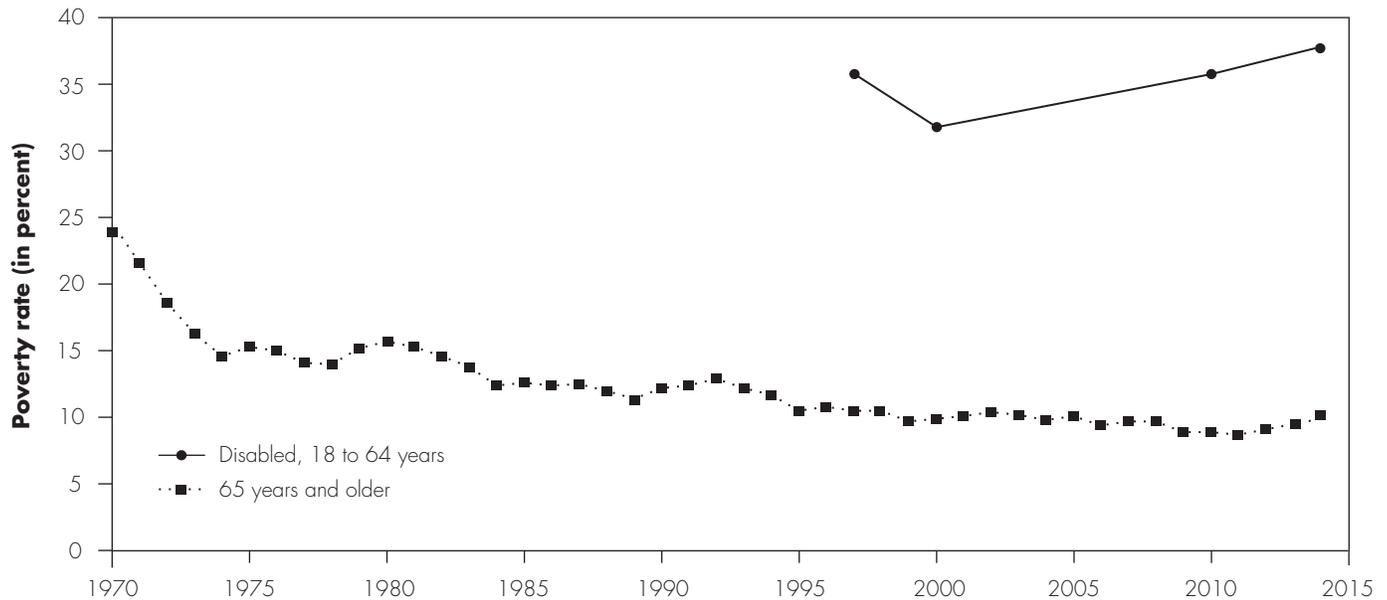
### **The Medicare population becomes younger as it expands and then grows older as the baby-boom generation ages**

Enrollment in the Medicare program is projected to grow rapidly as members of the baby-boom generation age into the program (Figure 1-10, p. 18). These individuals began aging into Medicare in 2011 at an average rate of 10,000 people per day. Medicare enrollment is projected to grow by nearly 50 percent by 2030, and this growth will be made up almost entirely of baby boomers (Figure 1-21, p. 34) (Census Bureau 2012).

The Medicare population over the next 15 years will be relatively younger, as members of the baby-boom generation join its ranks and increase the number of beneficiaries in younger age categories (Figure 1-22, p. 35).

**FIGURE  
1-20**

**The poverty rate has fallen over time among people ages 65 years and older but increased for adults with disabilities, available years 1970–2014**



Note: Data on the poverty rate among people with disabilities has been reported for only four years: 1997, 2000, 2010, and 2014.

Source: 2016 data on health status from the National Center for Health Statistics.

The share of the Medicare population ages 85 years or older is projected to decline slightly through 2025 and then grow as baby boomers continue to age (Boards of Trustees 2014, Census Bureau 2012). In 2013, per beneficiary spending for those ages 85 and older was about twice that of those ages 65 to 74. So, the changing age structure of the Medicare population will exert somewhat less pressure on spending in the very near term, at least on a per capita basis, and then pressure will increase again over the longer term.<sup>19</sup>

### The health of the future Medicare population

How will the health of the Medicare population change as the baby-boom generation ages into the program? A lot of uncertainty surrounds that question. What is known is that members of the baby-boom generation have longer life expectancies and a much lower rate of smoking than earlier generations. This generation also has higher rates of certain diseases and chronic conditions, but these rates could be driven in part by expanded testing and disease definitions. Moreover, baby boomers are much more likely

than prior generations to have some chronic conditions under control.

America's Health Rankings compares the health status of middle-age adults (defined as ages 50 to 64 years) in 2014 with the same cohort in 1999 (who are now Medicare beneficiaries). Compared with their predecessors, middle-age adults about to age into Medicare:

- are 50 percent less likely to smoke,
- have a 55 percent higher prevalence of diabetes,
- have a 25 percent higher prevalence of obesity, and
- have a 9 percent lower prevalence of very good or excellent health status (United Health Foundation 2016).

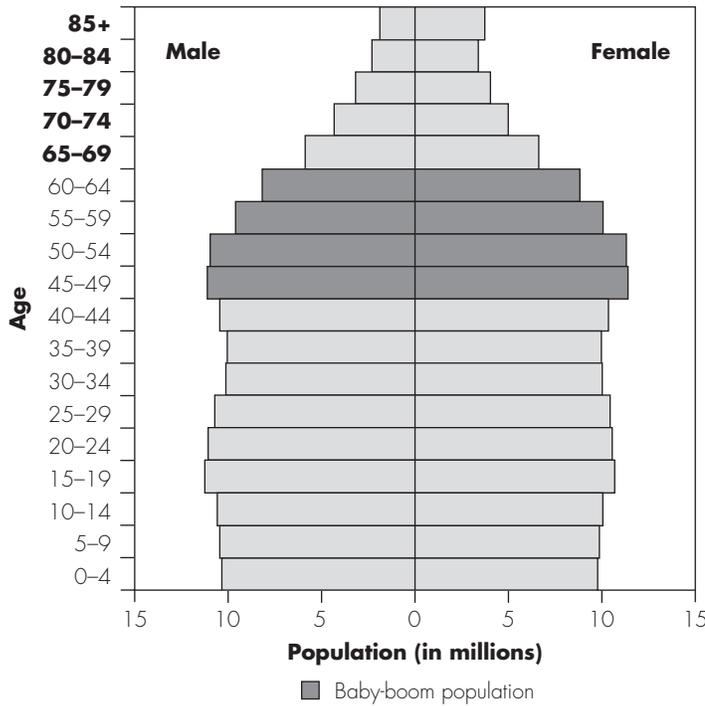
### Positive indicators: Longer life expectancies and lower rates of smoking

The baby-boom generation enjoys much longer life expectancies than earlier generations. The baby-boom

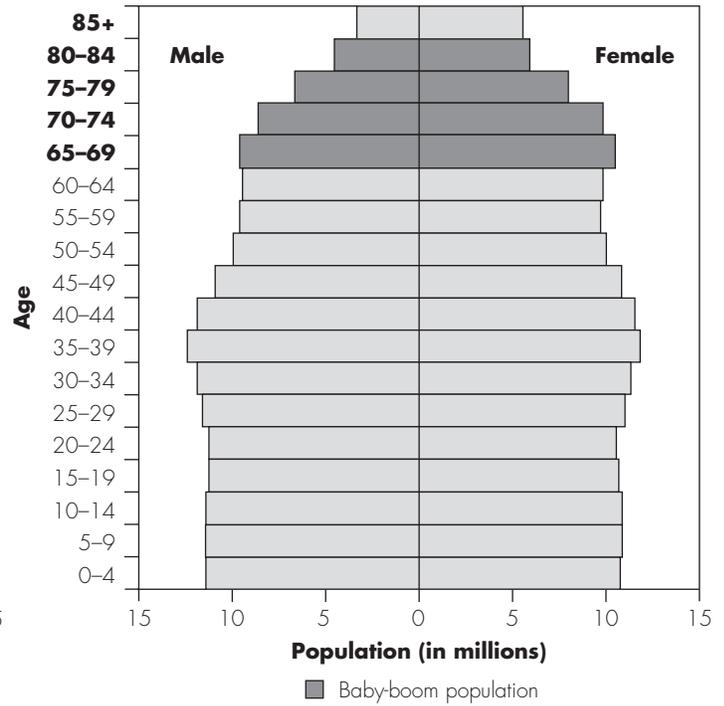
**FIGURE  
1-21**

**By 2030, the entire baby-boom generation will be eligible for Medicare by age**

**Figure 1-21a: Population by age and sex: 2010**



**Figure 1-21b: Population by age and sex: 2030**



Note: Ranges eligible for Medicare on the basis of age are shown in bold.

Source: Census Bureau, 2010 Census and 2013 National Population Projections, Middle series.

generation compared with earlier generations also enjoys longer life expectancies at older ages (Census Bureau 2014). Individuals born in 1905 who reached age 65 in 1970 had a remaining life expectancy of about 15 years. Individuals born in 1945 who reached age 65 in 2010 had a remaining life expectancy of about 19 years, a 4-year increase over the 1905 birth cohort.

The baby-boom generation’s rate of smoking is much lower than that of previous generations (Cutler and Glaeser 2006). When members of the previous generation were adults in the 1950s and mid-1960s, Americans had one of the highest smoking rates in the developed world: In 1965, over 40 percent of those ages 18 years and older smoked (Census Bureau 2014). But since the mid-1960s and throughout the period in which baby boomers entered adulthood, that rate has been on a dramatic decline. By 2012, only 18 percent of those ages 18 years and older smoked.

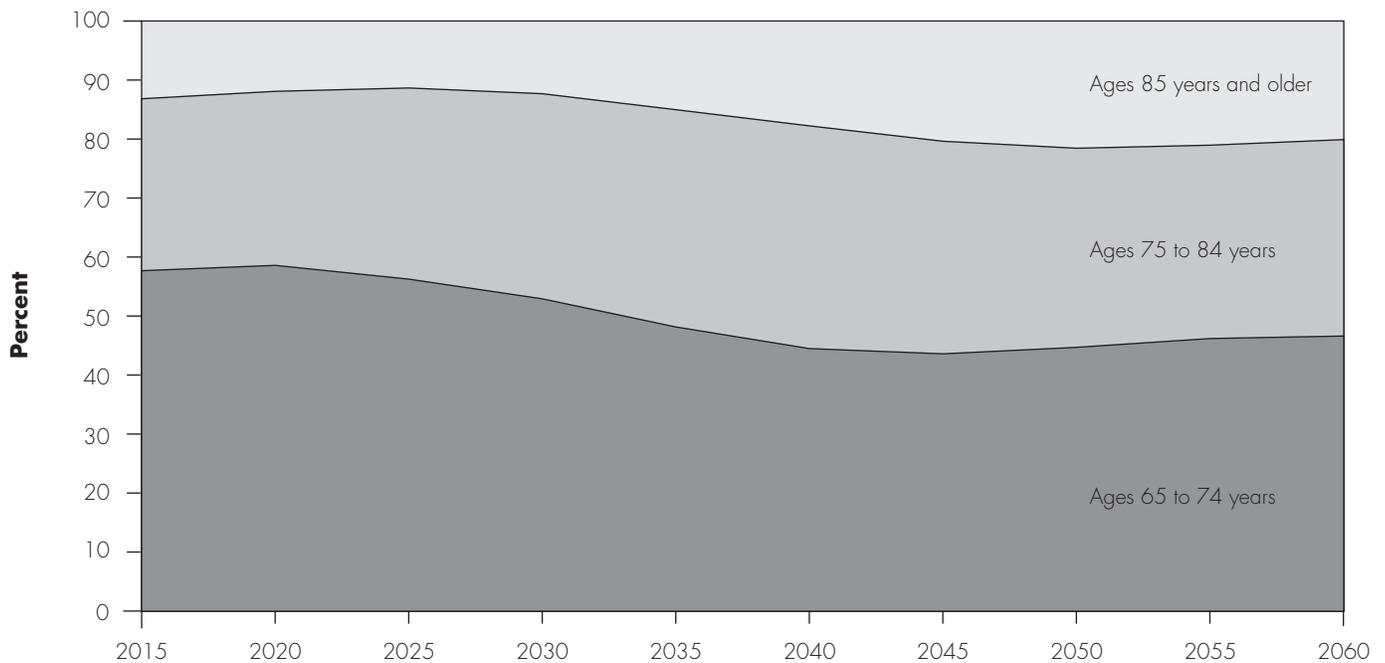
**Negative indicators: Higher rates of obesity and diabetes**

Although smoking rates have declined, the share of adults who are obese has risen dramatically over the last 40 years. In the 1970s, about 15 percent of the adult population ages 20 to 74 years were obese. By 2010, the share more than doubled—reaching 36 percent. The proportion of boomers who were obese in 2010 was even higher, at about 40 percent.

Related to higher rates of obesity, baby boomers have higher rates of diabetes than the previous generation (15.0 percent versus 13.9 percent, respectively). However, baby boomers diagnosed with diabetes are much more likely to have the disease under control than members of the previous generation.<sup>20</sup> For the U.S. adult population overall, researchers found a doubling of the share with diabetes from 1990 to 2008 and a plateauing between

**FIGURE  
1-22**

**The Medicare population will become younger and then older**



Source: Census Bureau, 2014 National Population Projections.

2008 and 2012 (Geiss et al. 2014). Despite the leveling off in recent years, the share of African Americans, Hispanics, and those with a high-school education or less who have diabetes appears to continue to increase.

Mortality from diabetes has declined, leading to more years spent with diabetes but fewer years of life lost to the disease for the average individual with diabetes (Gregg et al. 2014a, Gregg et al. 2014b). For the population as a whole, however, the number of years of life lost to diabetes has increased because of the increase in the numbers of people who have the disease.

**Mixed indicators: Higher rates of certain diseases and chronic conditions, but evidence of better management**

When compared with the previous generation, the baby-boom generation has rates of heart disease and stroke similar to the previous generation. Some research indicates that cancer rates have increased in the baby-boom population (National Center for Health Statistics 2014). However, higher rates of disease and chronic conditions could also be the result of increased use of diagnostic testing and more aggressive treatment practices (Welch et

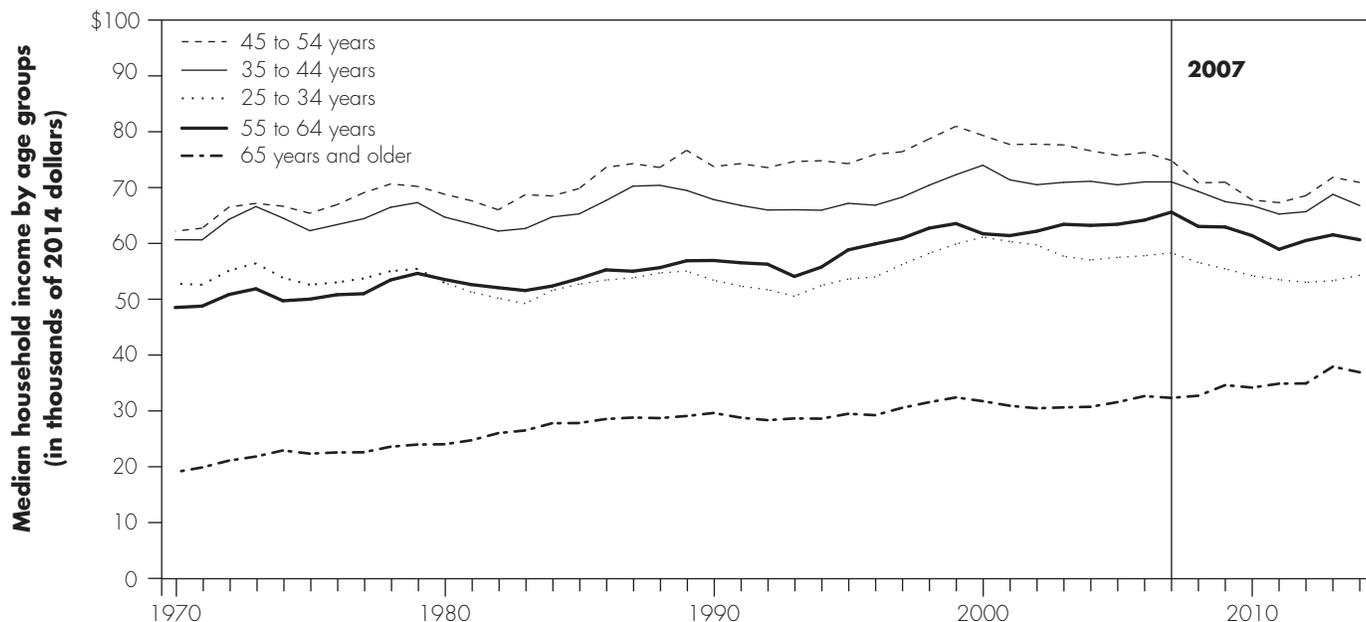
al. 2011). For example, an extremely slow-growing cancer may now be detectable in a person with no symptoms, but might never progress to make the person sick; in such cases, treatment might be unwise.

Also, not all diseases and conditions have the same impact on health status and per beneficiary spending. For example, high blood pressure and high cholesterol were the two most prevalent conditions among Medicare beneficiaries in 2012, but in isolation were not the most costly to treat. Stroke, heart failure, and chronic kidney disease were among the chronic conditions associated with the highest per beneficiary spending (Centers for Medicare & Medicaid Services 2015b, Centers for Medicare & Medicaid Services 2015c).

Another factor affecting per beneficiary Medicare spending is whether beneficiaries were continuously insured before age 65. Research has found that Medicare spending is significantly higher for previously uninsured adults than for previously insured adults (McWilliams et al. 2009). Therefore, the increased availability of health insurance under PPACA—absent future changes—could reduce future Medicare spending for younger baby

**FIGURE  
1-23**

**Real median household income declined for all age groups under age 65 during the Great Recession, which began in 2007**



Source: Census Bureau, Current Population Survey, 2015 Annual Social and Economic Supplements, released June 2016.

boomers. Coverage under PPACA through Medicaid expansions (in participating states) and federal and state exchanges began in 2014, when the youngest boomers were 50 years old. So, some boomers who otherwise would have been uninsured before aging into the Medicare program now may have up to 15 years of continuous coverage before becoming eligible for Medicare.

A final factor to consider regarding future Medicare spending is that health care costs in a person's last year of life are substantial (in the last decade, Medicare spending was more than six times higher for decedents than for survivors). So as the baby-boom generation ages, the increased number of beneficiaries entering their last year of life will likely exert upward pressure on Medicare spending (Hogan 2015).

**Effect of baby boomers' health insurance experience pre-Medicare on enrollment decisions for Medicare**

The health insurance experience of baby boomers before Medicare eligibility can also affect their decisions regarding enrollment in Medicare Advantage and medigap

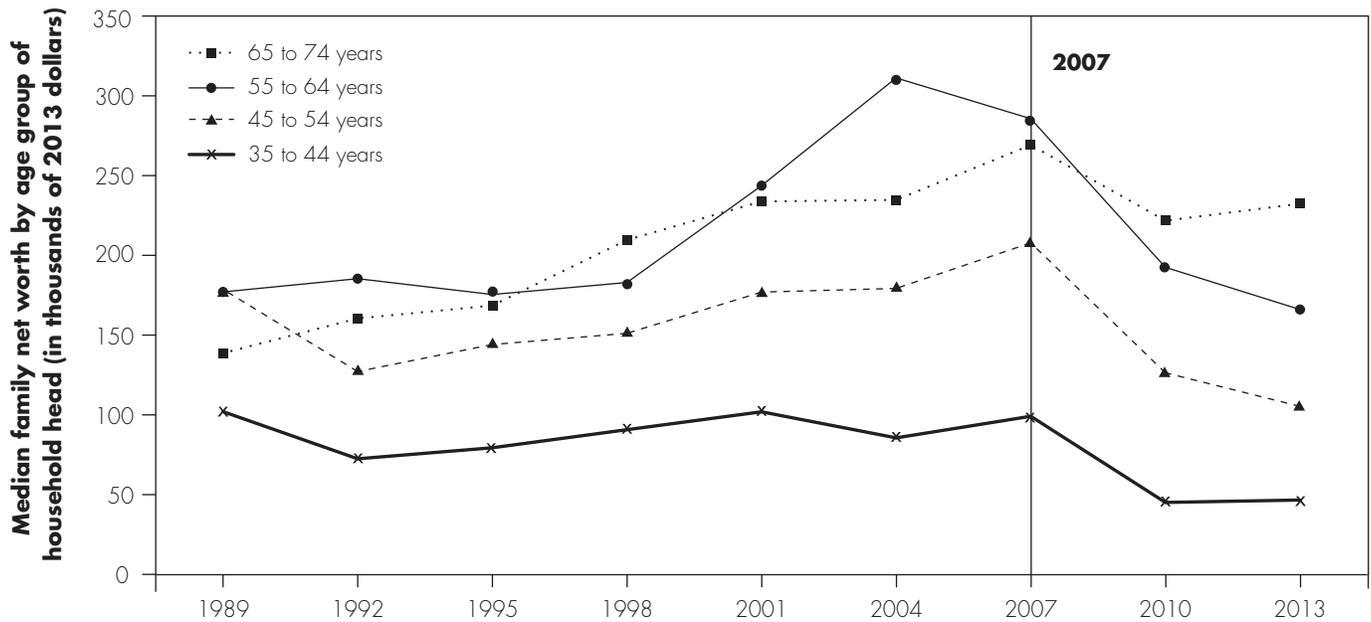
plans as they consider trade-offs between cost sharing and limitations placed on choice of providers.

The baby-boom generation's experience with private health insurance coverage has been evolving. Baby boomers likely began their working years in conventional health plans—that is, plans in which health care can be delivered by any provider, with the insurer paying a share of the provider's charges. But over time, many also experienced the disappearance of conventional plans and the rise and subsequent decline of managed care in the form of HMOs—plans that limit health care delivery to the network's providers.

For the baby-boom generation, pre-Medicare enrollment in preferred provider organizations (PPOs) has grown steadily. PPOs generally have lower cost sharing for services delivered by in-network providers versus out-of-network providers. They likely have broad provider networks supported by rapidly rising premiums, deductibles, and copayments. After the backlash against managed care in the mid-1990s, employees and employers favored the broadest possible access to providers and demanded very large networks. Only during the Great Recession that began in

**FIGURE  
1-24**

**Real family net worth declined for all age groups during the Great Recession, which began in 2007**



Note: The Survey of Consumer Finances is normally a triennial cross-sectional survey of U.S. families.

Source: Federal Reserve, 2013 Survey of Consumer Finances, released September 2014.

2007 did employees and employers become increasingly willing to accept plans with narrower networks in return for lower premiums, deductibles, and copayments.

Only the youngest boomers are likely to have had experience with high-deductible plans—plans that have lower premiums than traditional plans, but require the enrollee to pay a large deductible before receiving insurance benefits—or with the health insurance exchanges that commenced in 2014 under PPACA, owing to their recency.

**Baby boomers may be less financially secure than previous generations in retirement**

During the Great Recession, which began in 2007, real median household income declined for all age groups (Figure 1-23).<sup>21</sup> Since many baby boomers may have been near retirement during the economic slowdown, they may be less financially secure than previous generations in retirement.<sup>22</sup> In 2014, the real median household income for 55- to 64-year-olds had fallen 4 percent over the

decade (Figure 1-23). In contrast, real median household income for members of this age group had increased by 13 percent a decade earlier and by 6 percent in the decade ending in 1994.

Income tends to peak when people are between 45 and 54 years old (Figure 1-23). However, this age group, which includes part of the baby-boom generation, experienced a real median household income decline of 7 percent over the decade ending in 2014 (Figure 1-23). In contrast, real median household income for members of this age group had increased by 2 percent a decade earlier and by 9 percent in the decade ending in 1994.

During the Great Recession, family net worth (assets minus liabilities) also declined (Figure 1-24). Between 2007 and 2013, the median net worth of families with heads of household ages 55 to 64 fell 42 percent in real terms. In contrast, the same age group's real median family net worth increased by 70 percent over the six-year period ending in 2004 and decreased by 1 percent over the six-year period ending in 1995. In fact, someone 55 to

64 years old in 2013 had slightly lower net worth than a member of this age group in 1995 (in 2013 dollars).

The economic slowdown also took its toll on the generation that came after the baby boomers (called “Generation X”).<sup>23</sup> When compared at similar ages, members of Generation X are less financially secure than the baby boomers. The extent to which members of Generation X will recover financially depends in part on the pace of economic growth from now until they retire. Some experts expect the economy to grow more slowly in the future than it did in the 1980s and 1990s because the labor force is anticipated to expand more slowly than it did then. Labor force growth is anticipated to be held down by the ongoing retirement of the baby boomers and a relatively stable labor force participation rate among working-age women, after sharp increases from the 1960s to the mid-1990s (Congressional Budget Office 2015).

---

### **Inefficient spending suggests Medicare could spend less without compromising care, but not without challenges**

---

With few exceptions throughout modern history, health care spending in the United States has grown robustly, outpacing the growth in the economy. Even if Medicare’s recent low growth in per beneficiary spending is sustained (and experience in 2014 suggests it may not be), enrollment growth from the aging of the baby boomers will contribute to growth in total spending regardless. However, the Commission does not believe that ever-increasing health care spending is inevitable. There is strong evidence that a sizeable share of current health care spending—both overall and by Medicare—is inefficient or unnecessary, providing an opportunity for policymakers to reduce spending, extend the life of the program, and reduce pressure on the federal budget.

### **Geographic variation within and outside the United States indicates that some share of spending is inefficient**

Research on Medicare spending shows that areas with higher spending or more intensive use of services do not always have higher quality of care or improved patient outcomes (Fisher et al. 2003a, Fisher et al. 2003b, Institute of Medicine 2013). Measures of service use, adjusted for health status and standardized prices, also show considerable variation (Medicare Payment

Advisory Commission 2011b). Services that have been widely recognized as low value continue to be performed regularly (Schwartz et al. 2014).

The United States spends more on health care than any other country in the world (both on a per capita basis and as a share of GDP), but studies consistently show it ranks poorly on indicators of efficiency, equity, and outcomes. According to a 2014 study by the Commonwealth Fund, the United States ranks last of 11 nations on 2 indicators of healthy lives—mortality amenable to medical care and healthy life expectancy at age 60 (Davis et al. 2014).

### **Medicare’s challenges to increasing efficiency**

The Medicare program is a complex and fragmented system, consisting of multiple paths to entitlement, multiple types of coverage (Part A, Part B, Part C, and Part D), multiple payment systems, and different rules for each setting. The Medicare program must set prices for thousands of discrete services at different levels of aggregation (e.g., inpatient hospital payments are paid based on the stay, while physician payments are based on the service) and in different labor markets across the country. The Medicare program statute and rule making include a substantial number of exceptions, adjustments, and modifications to its general policies. Several of Medicare’s structural features (and some shared across the health care system) complicate efforts to achieve spending efficiencies:

- ***Medicare just one payer in the overall, multi-payer health care system.*** While Medicare is the single largest payer in the health care sector, the policy signals from multiple payers can interact in ways that sometimes result in unintended consequences. For example, if a dual-eligible nursing home resident is hospitalized for three days, he or she would then potentially qualify for a Medicare-covered skilled nursing facility stay, shifting the cost burden from the state Medicaid program to the federal Medicare program.
- ***Fragmented payment system across multiple settings.*** The program sets payment rates each year for at least nine health care settings or provider types: acute care hospitals, physician and other health professional services, home health agencies, skilled nursing facilities, long-term care facilities, hospice, inpatient rehabilitation facilities, ambulatory surgical centers, and end-stage renal disease facilities. In addition to

the yearly rule-making process involved in setting these rates, administrators oversee other parts of the program that operate on fee schedules (ambulances, outpatient lab facilities) or on cost-based payment (rural health centers, critical access hospitals). Payment rates for Part C (Medicare Advantage) are set using administrative pricing based on a competitive process, and Part D payments (prescription drugs) are set generally by market rates. The fragmented payment system across multiple health care settings reduces incentives to provide patient-centered, coordinated care.

- **Coverage of services delivered by any willing provider.** Under Medicare’s statute, the program generally covers all medically necessary (a criterion that is open to interpretation) services that are delivered by any willing provider (any provider that is willing to meet Medicare’s rules). As a result, Medicare does not have the authority to develop provider networks or to credential providers, tools that private payers often use to reduce the potential for fraud and abuse. In some cases, the Medicare program even has difficulty removing providers or suppliers whose claims history clearly demonstrates aberrant patterns of billing, care, or both.
- **The program’s benefit design.** Beneficiaries face differential cost sharing by service (for example, coinsurance for physician services is 20 percent, while home health has no coinsurance); in addition, the cost-sharing amounts, percentages, and deductibles vary by setting, and some services are not covered (for example, Medicare does not generally cover long-term care). Medicare Part A and Part B lack a cap on out-of-pocket (OOP) costs (a feature that exists in nearly all private insurance policies). In response, many beneficiaries purchase supplemental coverage that includes an OOP maximum. Most supplemental policies also substantially reduce or eliminate most of the beneficiary liability for coinsurance and deductibles, thereby blunting the impact of cost sharing. As a result, there is little incentive for beneficiaries to be cost conscious—that is, to select only those services that are necessary and choose providers who use efficient clinical practices (Medicare Payment Advisory Commission 2012).
- **Different prices for the same or similar services.** Because of the different settings in which services are delivered, the Medicare program in some cases

has different payment rates for the same or similar services. Under these circumstances, providers have an incentive to shift care to the higher paid setting, which leads to increased program spending and higher beneficiary cost sharing.

- **Undervalued and overvalued services.** In the process of setting rates for thousands of services, certain services are undervalued relative to others, providing incorrect incentives for their use. For example, the Commission has raised concerns that the Medicare fee schedule overpays for services provided by clinicians in procedural specialties and underpays for services provided by clinicians in primary care specialties (Medicare Payment Advisory Commission 2011a). This imbalance results in significantly higher income for clinicians in procedural specialties relative to those in primary care specialties, contributing to a corresponding imbalance in clinician supply.
- **Prompt payment standards.** The Medicare program also follows prompt payment requirements, paying claims within 30 days of receipt. Otherwise, Medicare is liable for interest. This emphasis on timely payment means that, in many cases, the claim may be paid and only thereafter identified as potentially fraudulent or erroneous.
- **Vulnerability to patient selection, steering, and overuse.** Another consequence of Medicare’s payment structure is its vulnerability to patient selection, steering, and overuse. For example, with some payment systems it is financially advantageous for providers to treat certain kinds of beneficiaries and avoid others, provide certain types of services over others, or treat beneficiaries in a higher paid setting. In addition, in Medicare’s FFS system, providers may be able to increase their revenue by increasing the volume of services they provide without commensurate value to the beneficiary. In addition, clinicians can prescribe pharmaceutical drugs and medical devices while receiving payment from manufacturers.

These features make the program vulnerable to inappropriate care, waste, and fraud. GAO annually designates Medicare as a high-risk program because of its size, complexity, and susceptibility to mismanagement and improper payments, which include fraud and errors but not overuse. For fiscal year 2014, the agency found improper payments of 12.7 percent for

Medicare FFS, 9 percent for Part C, and 3.3 percent for Part D (Government Accountability Office 2013).

In recent years, CMS has gained new authorities to exclude potentially fraudulent providers from the program and apply different levels of scrutiny to new providers based on their fraud potential. CMS has also further developed its ability to identify potentially fraudulent billing patterns. However, all of CMS's activities in this area are constrained by resources and subject to statutory requirements that limit its ability to use the same tools as private insurers to reduce fraud (Government Accountability Office 2013).

### **The Commission's approach to addressing these challenges**

Medicare's goal should be to obtain the greatest possible value for the program's expenditures, which means maintaining beneficiaries' access to high-quality services while encouraging their efficient use. However, managing payment rates alone will not address the Medicare FFS system's key challenge—that providers are usually paid more for doing more services but are usually not held accountable for outcomes. Resolving this conundrum will require further reform of both the payment and delivery systems.

The Commission's work can be categorized in the following domains: (1) payment accuracy and efficiency, (2) care coordination and quality, (3) information for patients and providers, (4) engagement of beneficiaries, and (5) alignment of the health care workforce. Regardless of the issue, the Commission always considers the interests of three main actors: the beneficiary—access to high-quality, efficient care; the provider—fair and equitable pay; and the taxpayer—the most prudent and valuable use of the public's dollar.

- **Payment accuracy and encouraging efficiency.** In Medicare's payment systems, the payment rates for individual products and services too often do not accurately reflect the cost of furnishing the product or service. Inaccurate payment rates create incentives for higher volume growth for certain services, thereby unduly disadvantaging some providers and rewarding others. The Commission pursues payment accuracy in its update recommendations as well as other policy recommendations, with a focus on ensuring that payment is adequate for the efficient provision of care.

The Commission has also identified areas in which payment differences, not clinical differences, among settings for the same service drive the choice of a patient's treatment setting (see online Appendix 1-A, available at <http://www.medpac.gov>, for additional information on prior Commission recommendations). In principle, the Medicare program should pay the same amount for the same service, regardless of the setting in which it is provided, unless payment differentials are justifiable based on differences in patient mix, provider mission, or other explicitly recognized factors. In March 2012, 2013, and 2014, the Commission made a host of recommendations addressing site-neutral payment issues.

- **Care coordination and quality.** Medicare has relied on providers' norms to uphold professional standards and satisfy patients, but until recently the program did not have the authority to hold providers accountable for improving, or to provide incentives to improve, the quality of care they provide. Similarly, few structures exist in Medicare to hold providers accountable for a beneficiary's full spectrum of care, even when they make the referrals that dictate additional resource use. The Commission has supported policies that move Medicare beyond FFS into payment systems that make a provider responsible for the patient's entire episode of care to help address these gaps between settings.

One such payment policy involves accountable care organizations (ACOs). In an October 2011 comment letter to the Congress and the March 2013 report to the Congress, the Commission recommended increasing the shared savings opportunity for physicians and health professionals who join or lead two-sided risk ACOs—holding providers at financial risk to meet quality measures while obligating the program to pay for successful provider performance. Other suggested improvements to the ACO program include providing these ACOs with regulatory relief and giving them better tools to engage beneficiaries (e.g., waiving some or all cost sharing for beneficiaries when they use ACO providers). In addition to the 2014 recommendations, the Commission provided extensive guidance to the Congress and CMS in identifying ways to improve Medicare's ACO program in its June 2009 report to the Congress and in comment letters to CMS in November 2010, June 2011, June 2014, February 2015, and March 2016.

- **Broadening information available to Medicare, patients, and providers.** Medicare and its providers lack the information and tools needed to improve quality and use program resources efficiently. For example, Medicare lacks quality data from many settings of care and does not have timely cost or market data to set accurate payment rates. In addition, beneficiaries are called on to make complex choices among delivery systems, drug plans, and providers. Medicare has started to make information available for beneficiaries that could help them choose higher quality providers or lower cost treatments and improve their satisfaction. The Commission has supported policies that promote comparative effectiveness, disclosure of physician financial relationships, and public reporting of quality information.

The Commission has extensively discussed the use of shared decision making to engage patients in health care enrollment and treatment decisions. In 2010, we recommended that the Secretary of the Department of Health and Human Services produce comparable information on the performance of MA plans and FFS providers, so that beneficiaries could make informed decisions about the means of their Medicare coverage. In 2015, we recommended that hospitals be required to notify beneficiaries placed in outpatient observation status of their status and the financial implications of that placement decision.

- **Engaging beneficiaries.** While much of the Commission’s work focuses on providers and their payment incentives, how beneficiaries view the Medicare program and how they make decisions about their health care are vital to the program’s success. Developing policies that engage the beneficiary as well as the provider has the potential to improve health, improve the experience of health care provided through Medicare, and control costs for the beneficiary and taxpayer alike. The Commission has supported reforming the current benefit design to include a cap on OOP spending and has promoted shared decision making.

The Commission has discussed the importance of altering beneficiary financial liability in a way that would encourage beneficiaries to be more cost conscious when making health care decisions. In 2011, the Commission recommended implementing a copayment for home health care that is not preceded

by a hospital stay. In June 2012, the Commission recommended many elements of FFS redesign including an OOP maximum deductible for Part A and Part B services. Similarly, in March 2012, noting that low-income beneficiaries were using more high-cost, brand-name drugs that have generic substitutes than higher income beneficiaries were, the Commission recommended that Part D cost sharing be changed for low-income subsidy enrollees to give them more of a financial incentive (such as no copayment for generics) to weigh the benefits of continuing to take brand-name drugs or switching to a generic equivalent.

- **Aligning the health care workforce.** Our nation’s system of medical education and graduate training is not aligned with the delivery system reforms essential for increasing the value of health care in the United States. The Commission has pursued policies that increase the incentives for residency programs to focus on quality, efficiency, and accountability so that the future clinician workforce can better address the needs of beneficiaries.

The Commission has published recommendations involving physicians and other health professionals and their role in a reformed delivery system. In 2010, the Commission made a number of recommendations aimed at improving how physicians are trained and paid by Medicare.

---

## Conclusion

---

The high and growing level of health care spending as a share of the economy means that—absent substantial changes in spending or the economy—an ever-increasing amount of the country’s economic activity and gain will be dedicated to purchasing health care. Medicare is the single largest payer in the health care sector and will expand with the aging of the baby-boom generation, greatly increasing program spending. Significant cross-sectional variation in use and spending, which does not correspond to better quality, raises concern that higher health care use and spending are not improving overall health and are putting beneficiaries at risk, both medically and financially.

Because of its size and because other payers use its payment methods, Medicare is an important influence on

the nation's health care delivery system and its evolution. Reciprocally, trends in the private health insurance market can influence whether Medicare's payment reforms are ultimately successful. Because of this interaction between public and private payers, the alignment of incentives across payers is an important consideration for delivery system reforms.

Despite the relatively lower rates of spending growth recently experienced by Medicare, the program is

projected to continue to absorb increasing amounts of federal revenue. Absent changes to current policy, other public investments such as education and infrastructure will be crowded out by high and growing levels of health care spending. State and federal budgets face continued fiscal pressure, effects intensified by health care spending trends. In light of strained federal, family, and individual budgets, the Medicare program must urgently pursue reforms that decrease spending and improve quality. ■

## Endnotes

---

- 1 Going forward, the Medicare Trustees project that opportunities for further generic use may diminish. Growth in the use and development of high-cost specialty drugs is beginning to overtake the moderating price influence of generics (Medicare Payment Advisory Commission 2016).
- 2 Figure 1-2 (p. 9) shows that the share of spending accounted for by private health insurance (35 percent in 2015) is greater than Medicare's share (22 percent in 2015). However, in contrast to Medicare, private health insurance is not a single purchaser of health care; rather, it includes many payers, including traditional managed care, self-insured health plans, and indemnity plans.
- 3 The Commission's calculations are based on aggregate Part D reimbursements to plans and employers on an incurred basis as shown in Table IV.B10 of the 2016 annual report of the Boards of Trustees of the Medicare trust funds. Per beneficiary spending excludes premium payments.
- 4 Outpatient hospital services and outpatient lab services are combined in Figure 1-6 (p. 13) because a large portion of outpatient laboratory services were bundled into the outpatient prospective payment system effective January 1, 2014.
- 5 Most of the presidentially appointed members are to be designated by the congressional leadership and then formally appointed by the President.
- 6 CBO estimated the effect on Medicare spending of changing the enrollment growth rate by raising Medicare's eligibility age. CBO assumed the eligibility age would be raised by two months every year until it reached age 67. Since the eligibility age would increase gradually in that scenario, CBO estimated minimal short-term effects. For the long term, CBO estimated that spending on Medicare would be about 3 percent less by 2038; however, roughly two-thirds of those long-term savings would be offset by increases in federal spending for Medicaid and subsidies to purchase health insurance through the PPACA insurance exchanges (Congressional Budget Office 2013).
- 7 Marilyn Moon and colleagues at the American Institutes for Research argue that the ratio of workers per beneficiary presents an incomplete picture. They note that new benefits (e.g., Part D) have been added to the program and, "over time, taxpayers' share of Medicare's costs has actually declined and will decline further as older Americans remain longer in the labor force and as income-related elements in the law that raise premiums over time for higher income beneficiaries become even more important." Additionally, they contend that while Medicare spending is projected to grow faster than GDP, GDP grows larger over time, so the burden on taxpayers will not be enough to "substantially dampen growth in real incomes over time" (Moon et al. 2016).
- 8 In addition to payroll taxes, the HI Trust Fund's income sources include taxation of Social Security benefits (7 percent in 2015), premiums from people who are not eligible for premium-free Part A (1 percent in 2015), general revenue transfers for certain uninsured beneficiaries who are not entitled to HI coverage based on their work history but are eligible through special statutes (less than 1 percent in 2015), monies from fraud and abuse control activities (less than 1 percent in 2015), and interest earned on the trust fund investments (3 percent in 2015).
- 9 The standard HI payroll tax rate is scheduled to remain constant at 2.9 percent (for employees and employers, combined). In addition, starting in 2013, high-income workers pay an additional 0.9 percent of their earnings above \$200,000 for single workers or \$250,000 for married couples filing joint income tax returns.
- 10 For Part D, the beneficiary premium share is based on 25.5 percent of the average cost of the basic benefit.
- 11 Other major health programs include Medicaid, the Children's Health Insurance Program, and federal subsidies for the federal and state exchanges legislated under PPACA.
- 12 Household income, health expenditures, and premiums are all measured in nominal dollars.
- 13 Medicare beneficiaries with low income and assets have their premiums and may have their cost sharing paid for by Medicaid, and some others have retiree coverage or medigap policies that cover cost sharing.
- 14 The Medicare fee schedule includes geographic practice cost indexes (GPCIs) that adjust payment rates for costs that vary depending on the geographic area in which a service is furnished. There are three GPCI adjustments: work, practice expense, and professional liability insurance (PLI). The work GPCI is constructed using BLS data on the earnings of professionals in seven reference occupational categories: architecture and engineering; computer, mathematical, life, and physical science; social science, community and social service, and legal; education, training, and library; registered nurses; pharmacists; and art, design, entertainment, sports, and media. The practice expense GPCI is an adjustment for costs such as rent and staff wages that are incurred in operating a medical practice and are known to vary geographically. The PLI GPCI is an adjustment for the premiums that physicians and other health professionals pay for that type of insurance. Medicare's payment rates to hospitals are also adjusted for

- differences in reported hospital wages across geographic areas in the United States. Like the GPCI, the hospital wage index is intended to measure differences in wage rates among labor markets. By law, CMS calculates the index using data only from hospitals paid under Medicare’s inpatient prospective payment system. It uses self-reported data in hospital cost reports and hence is prone to the problem of circularity. For example, hospitals that successfully moderate increases in hourly wages relative to the national average increase will see a decrease in their wage index.
- 15 The National Center for Health Statistics defines life expectancy as the average number of years that a hypothetical group of infants would live at each attained age if the group was subject, throughout its lifetime, to the age-specific death rates prevailing from the actual population in a given year (Arias 2016).
  - 16 The authors noted limitations to their study: “Life expectancy estimates for Hispanics, Asian/Pacific Islanders, and American Indians/Alaska Natives should be interpreted with caution as vital statistics–based mortality rates for these groups tend to be underestimated by 5 percent, 7 percent, and 30 percent, respectively.”
  - 17 The measures of life expectancy and mortality rate are not interchangeable. However, the two measures are closely related. The National Centers for Health Statistics life expectancy estimate represents the average number of years of life remaining if a group of persons were to experience the mortality rates for that specific year of calculation over the course of their remaining life.
  - 18 Baby boomers are people born during the demographic post–World War II baby boom between the years 1946 and 1964.
  - 19 For example, the Medicare Trustees estimate hospital inpatient admissions per beneficiary will decline through 2022 and begin increasing later in the projection period with the aging of the baby-boom population (Boards of Trustees 2014). The Congressional Budget Office also projects comparatively slow growth in per beneficiary spending for the next decade (2015 to 2025) in part because of the influx of younger beneficiaries, who tend to use fewer health care services and therefore lower Medicare’s average spending per beneficiary (Congressional Budget Office 2015).
  - 20 When compared with the previous generation at ages 45 to 64, the baby-boom generation had a larger share of individuals with physician-diagnosed and undiagnosed diabetes (15.0 percent vs. 13.9 percent, respectively), but a smaller share of individuals with diagnosed diabetes who had poor glycemic control (14.1 percent versus 26.0 percent, respectively) (National Center for Health Statistics 2014).
  - 21 Income for individuals over age 65 grew because, as individuals leave the workforce, Social Security makes up a larger and larger share of their income (DeNavas-Walt and Proctor 2013, National Bureau of Economic Research 2014).
  - 22 In 2014, baby boomers were between the ages of 50 and 68.
  - 23 Members of Generation X were born between 1965 and 1980.

## References

---

- Aaron, H. J. 2015. *The myth behind America's deficit*. Washington, DC: The Brookings Institution.
- Arias, E. 2016. *Changes in life expectancy by race and hispanic origin in the United States, 2013–2014*. National Center for Health Statistics data brief, no. 244. Hyattsville, MD: NCHS.
- Auerbach, D. I., and A. L. Kellermann. 2011. A decade of health care cost growth has wiped out real income gains for an average US family. *Health Affairs* 30, no. 9 (September): 1630–1636.
- Baicker, K., and A. Chandra. 2006. The labor market effects of rising health insurance premiums. *Journal of Labor Economics* 24, no. 3: 609–634.
- Baily, M. N., and S. E. Holmes. 2015. *Serving the best interests of retirement savers: Framing the issues*. Washington, DC: The Brookings Institution.
- Baker, L. C., M. K. Bundorf, and D. P. Kessler. 2014a. Vertical integration: Hospital ownership of physician practices is associated with higher prices and spending. *Health Affairs* 33, no. 5 (May): 756–763.
- Baker, L. C., M. K. Bundorf, A. B. Royalty, et al. 2014b. Physician practice competition and prices paid by private insurers for office visits. *Journal of the American Medical Association* 312, no. 16 (October 22–29): 1653–1662.
- Beltran-Sanchez, H., C. E. Finch, and E. M. Crimmins. 2015. Twentieth century surge of excess adult male mortality. *Proceedings of the National Academy of Sciences of the United States of America* 112, no. 29 (July 21): 8993–8998.
- Boards of Trustees, Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds. 2016. *2016 annual report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Insurance Trust Funds*. Washington, DC: Boards of Trustees.
- Boards of Trustees, Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds. 2015. *2015 annual report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Insurance Trust Funds*. Washington, DC: Boards of Trustees.
- Boards of Trustees, Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds. 2014. *2014 annual report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Insurance Trust Funds*. Washington, DC: Boards of Trustees.
- Bureau of Labor Statistics, Department of Labor. 2016. May 2015 national occupational employment and wage estimates United States. <http://www.bls.gov/oes/>.
- Bureau of Labor Statistics, Department of Labor. 2006. May 2005 national occupational employment and wage estimates United States. <http://www.bls.gov/oes/>.
- Case, A., and A. Deaton. 2015. Rising morbidity and mortality in midlife among white non-Hispanic Americans in the 21st century. *Proceedings of the National Academy of Sciences of the United States of America* 112, no. 49 (December 8): 15078–15083.
- Census Bureau. 2016. Current population survey, annual social and economic supplements. <https://www.census.gov/hhes/www/poverty/publications/pubs-cps.html>.
- Census Bureau. 2014. *65+ in the United States: 2010*. P23–212. Washington, DC: Government Printing Office.
- Census Bureau. 2012. National population projections: Downloadable files: Table 1. Projected population by single year of age, sex, race, and Hispanic origin for the United States, 2012 to 2060: Middle series. [http://www.census.gov/population/projections/files/downloadables/NP2012\\_D1.csv](http://www.census.gov/population/projections/files/downloadables/NP2012_D1.csv).
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2016. National health expenditures, 2015 historical data. <http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html>.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2015a. *2015 actuarial report on the financial outlook for Medicaid*. Baltimore, MD: CMS.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2015b. County level chronic conditions report: Prevalence. [https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Chronic-Conditions/MCC\\_Main.html](https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Chronic-Conditions/MCC_Main.html).
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2015c. State level chronic conditions report: Medicare utilization and spending. [https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Chronic-Conditions/MCC\\_Main.html](https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Chronic-Conditions/MCC_Main.html).
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2014a. *2014 actuarial report on the financial outlook for Medicaid*. Baltimore, MD: CMS.

- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2014b. National health expenditures, 2014 historical data. <http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html>.
- Chetty, R., M. Stepner, S. Abraham, et al. 2016. The association between income and life expectancy in the United States, 2001–2014. *Journal of the American Medical Association* 315, no. 16 (April 26): 1750–1766.
- Compton, W. M., C. M. Jones, and G. T. Baldwin. 2016. Relationship between nonmedical prescription-opioid use and heroin use. *New England Journal of Medicine* 374, no. 2 (January 14): 154–163.
- Congressional Budget Office. 2016a. *The 2016 long-term budget outlook*. Washington, DC: CBO.
- Congressional Budget Office. 2016b. *Updated budget projections: 2015 to 2025*. Washington, DC: CBO.
- Congressional Budget Office. 2015. *The budget and economic outlook: 2015 to 2025*. Washington, DC: CBO.
- Congressional Budget Office. 2013. *Raising the age of eligibility for Medicare to 67: An updated estimate of the budgetary effects*. Washington, DC: CBO.
- Cooper, Z., S. V. Craig, M. Gaynor, et al. 2015. *That price ain't right? Hospital prices and health spending on the privately insured*. National Bureau of Economic Research working paper no. 21815. Cambridge, MA: NBER.
- Cutler, D. M., and E. L. Glaeser. 2006. *Why do Europeans smoke more than Americans?* National Bureau of Economic Research working paper 12124. Cambridge, MA: NBER.
- Cutler, D. M., and N. R. Sahnii. 2013. If slow rate of health care spending growth persists, projections may be off by \$770 billion. *Health Affairs* 32, no. 5 (May): 841–850.
- Davis, K., K. Stremikis, D. Squires, et al. 2014. *Mirror, mirror on the wall, 2014 update: How the U.S. health care system compares internationally*. New York: Commonwealth Fund. <http://www.commonwealthfund.org/publications/fund-reports/2014/jun/mirror-mirror>.
- DeNavas-Walt, C., and B. Proctor. 2013. *Income and poverty in the United States: 2013*. P60–249. Suitland, MD: Census Bureau.
- Ellison, A. 2016. Hospital M&A activity jumps 70% in 5 years. *Becker's Hospital Review*, January 21.
- FAIR Health. 2016. *The opioid crisis among the privately insured*. New York, NY: FAIR Health.
- Federal Trade Commission. 2016. Keynote address of FTC Chairwoman Edith Ramirez at the Antitrust in Healthcare Conference, May 12. [https://www.ftc.gov/system/files/documents/public\\_statements/950143/160519antitrusthealthcarekeynote.pdf](https://www.ftc.gov/system/files/documents/public_statements/950143/160519antitrusthealthcarekeynote.pdf).
- Fisher, E. S., D. E. Wennberg, T. A. Stukel, et al. 2003a. The implications of regional variations in Medicare spending. Part 1: The content, quality, and accessibility of care. *Annals of Internal Medicine* 138, no. 4 (February 18): 273–287.
- Fisher, E. S., D. E. Wennberg, T. A. Stukel, et al. 2003b. The implications of regional variations in Medicare spending. Part 2: Health outcomes and satisfaction with care. *Annals of Internal Medicine* 138, no. 4 (February 18): 288–298.
- Gaynor, M., and R. Town. 2012. *The impact of hospital consolidation—Update*. The Synthesis Project, policy brief no. 9. Princeton, NJ: Robert Wood Johnson Foundation.
- Geiss, L. S., J. Wang, Y. J. Cheng, et al. 2014. Prevalence and incidence trends for diagnosed diabetes among adults aged 20 to 79 years, United States, 1980–2012. *Journal of the American Medical Association* 312, no. 12 (September 24): 1218–1226.
- Government Accountability Office. 2015. *Medicare: Increasing hospital physician consolidation highlights need for payment reform*. GAO–16–189. Washington, DC: GAO.
- Government Accountability Office. 2013. *High-risk series: An update*. Washington, DC: GAO.
- Gregg, E. W., Y. Li, J. Wang, et al. 2014a. Changes in diabetes-related complications in the United States, 1990–2010. *New England Journal of Medicine* 370, no. 16 (April 17): 1514–1523.
- Gregg, E. W., X. Zhuo, Y. J. Cheng, et al. 2014b. Trends in lifetime risk and years of life lost due to diabetes in the USA, 1985–2011: A modelling study. *Lancet Diabetes & Endocrinology* 2, no. 11 (November): 867–874.
- Gruber, J. 2000. Health insurance and the labor market. In *Handbook of Health Economics*, vol. 1, edited by A. J. Culyer and J. P. Newhouse. New York, NY: Elsevier Science.
- Health Care Cost Institute. 2015. *2014 health care cost and utilization report*. Washington, DC: HCCI.
- Hogan, C. 2015. *Spending in the last year of life and the impact of hospice on Medicare outlays*. Addendum added August 6. Report prepared by Direct Research LLC for the Medicare Payment Advisory Commission. Washington, DC: MedPAC.

- Hoyert, D. L. 2012. *75 years of mortality in the United States, 1935–2010*. National Center for Health Statistics data brief, no. 88. Hyattsville, MD: NCHS.
- Institute of Medicine. 2013. *Interim report of the Committee on Geographic Variation in Health Care Spending and Promotion of High-Value Care: Preliminary committee observations*. Washington, DC: The National Academies Press.
- Irving Levin Associates Inc. 2016. *The health care services acquisition report: 22nd edition*. Norwalk, CT: Irving Levin Associates Inc.
- Kaiser Family Foundation and Health Research & Educational Trust. 2015. *Employer health benefits: 2015 annual survey*. Menlo Park, CA: Kaiser Family Foundation/HRET.
- Kane, C. K. 2015. *Updated data on physician practice arrangements: Inching toward hospital ownership*. Chicago, IL: American Medical Association.
- Keehan, S. P., G. A. Cuckler, A. M. Sisko, et al. 2015. National health expenditure projections, 2014–24: Spending growth faster than recent trends. *Health Affairs* 34, no. 8 (August 1): 1407–1417.
- Kochanek, K., E. Arias, and R. N. Anderson. 2015. *Leading causes of death contributing to decrease in life expectancy gap between Black and White populations: United States, 1999–2013*. Data brief, no. 218. Hyattsville, MD: National Center for Health Statistics.
- Martin, A. B., M. Hartman, B. Washington, et al. 2016. National health spending: Faster growth in 2015 as coverage expands and utilization increases. *Health Affairs* (December 2).
- McWilliams, J. M., E. Meara, A. M. Zaslavsky, et al. 2009. Medicare spending for previously uninsured adults. *Annals of Internal Medicine* 151, no. 11 (December 1): 757–766.
- Medicare Payment Advisory Commission. 2016. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2015. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2014. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2013. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2012. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2011a. Moving forward from the sustainable growth rate (SGR) system. Letter to the Congress. October 14.
- Medicare Payment Advisory Commission. 2011b. *Report to the Congress: Regional variation in Medicare service use*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2009. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2007. *Report to the Congress: Promoting greater efficiency in Medicare*. Washington, DC: MedPAC.
- Milusheva, S., and G. Burtless. 2012. *Effects of employer health costs on the trend and distribution of Social-Security-taxable wages*. Washington, DC: The Brookings Institution.
- Montez, J. K., A. Zajacova, and M. D. Hayward. 2016. Explaining inequalities in women’s mortality between U.S. states. *SSM Population Health* 2 (December): 561–571.
- Moon, M., J. Guo, and Y. Wang. 2016. *Can we afford Medicare?* Issue brief. Washington, DC: American Institutes for Research. <http://www.air.org/system/files/downloads/report/Center-on-Aging-Can-We-Afford-Medicare-4-May-2016.pdf>.
- National Bureau of Economic Research. 2014. US business cycle expansions and contractions. <http://www.nber.org/cycles.html>.
- National Center for Health Statistics, Department of Health and Human Services. 2016. *Health, United States, 2015: With special feature on racial and ethnic health disparities*. Hyattsville, MD: NCHS.
- National Center for Health Statistics, Department of Health and Human Services. 2015a. *Health, United States, 2014: With special feature on adults aged 55–64*. Hyattsville, MD: NCHS.
- National Center for Health Statistics, Department of Health and Human Services. 2015b. National Health Interview Survey. <http://www.cdc.gov/nchs/nhis.htm>.
- National Center for Health Statistics, Department of Health and Human Services. 2014. *Health, United States, 2013: With special feature on prescription drugs*. Hyattsville, MD: NCHS.

- Robinson, J. C., and K. Miller. 2014. Total expenditures per patient in hospital-owned and physician-owned physician organizations in California. *Journal of the American Medical Association* 312, no. 16 (October 22–29): 1663–1669.
- Rudd, R. A., N. Aleshire, J. E. Zibbell, et al. 2016. Increases in drug and opioid overdose deaths—United States, 2000–2014. *Morbidity and Mortality Weekly Report* 64, no. 50–51 (January 1): 1378–1382.
- Schwartz, A., B. Landon, A. Elshaug, et al. 2014. Measuring low-value care in Medicare. *JAMA Internal Medicine* 174, no. 7 (July): 1067–1076.
- Singh, G. K., and M. Siahpush. 2014. Widening rural–urban disparities in life expectancy, U.S., 1969–2009. *American Journal of Preventative Medicine* 46, no. 2 (February): e19–29.
- Social Security Administration. 2012. Income of the population 55 or older. Baltimore, MD: SSA. [http://www.ssa.gov/policy/docs/statcomps/income\\_pop55/index.html](http://www.ssa.gov/policy/docs/statcomps/income_pop55/index.html).
- Spitalnic, P. 2016. *The 2016 Medicare trustees report: One year closer to IPAB cuts?* Keynote address at Brookings Institution event at the Brookings Institution, June 23. <https://www.brookings.edu/events/the-2016-medicare-trustees-report-one-year-closer-to-ipab-cuts/>.
- Stensland, J., Z. R. Gaumer, and M. E. Miller. 2010. Private-payer profits can induce negative Medicare margins. *Health Affairs* 29, no. 5 (May): 1045–1051.
- Tollen, L. 2015. *Health policy brief: Medicaid primary care parity*. Updated May 15. Washington, DC: Health Affairs/Robert Wood Johnson Foundation.
- United Health Foundation. 2016. *America’s Health Rankings senior report*. Minnetonka, MN: United Health Foundation.
- Welch, H. G., L. M. Schwartz, and S. Woloshin. 2011. *Overdiagnosed: Making people sick in the pursuit of health*. Boston, MA: Beacon Press.
- White, C., and V. Y. Wu. 2014. How do hospitals cope with sustained slow growth in Medicare prices? *Health Services Research* 49, no. 1 (February): 11–31.