CHAPTER 1

# Context for Medicare payment policy

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## Chapter summary

Each March, the Commission reports to the Congress on traditional Medicare's various fee-for-service (FFS) payment systems, the Medicare Advantage program, and the Medicare Part D prescription drug program. To put the information presented in those chapters in context, this chapter highlights key trends in national health care spending and Medicare spending and reviews the factors that contribute to spending growth.

During the recent coronavirus pandemic, the Congress appropriated several hundred billion dollars in relief funds to offset providers' lost revenues and to ensure that they remained viable sources of care. The Congress and CMS also temporarily changed certain payment and coverage policies. In 2020, those measures doubled the rate of growth in national health care spending. However, by 2021, relief funds tapered off, resulting in slower growth in national health care spending.

By contrast, total Medicare spending grew at a slower-than-usual pace during the pandemic. Although Medicare spending increased on COVID-19 testing and treatment and on services that were made more widely available through waivers of Medicare's usual payment rules, this increase was more than offset by decreased spending on non-COVID-19

## In this chapter

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- Medicare spending is projected to double in the next 10 years
- Medicare faces a financing challenge
- As Medicare spending increases, so too does beneficiary cost sharing
- Leading causes of death are heart disease and cancer
- Life expectancy at age 65 has increased, but some groups of beneficiaries have lower longevity and worse access to care
- The Commission's recommendations to slow Medicare spending growth and improve access to care

care. The most common types of care that Medicare beneficiaries reported forgoing in the early months of the pandemic were dental care, regular check-ups, treatment for an ongoing condition, and diagnostic or medical screening tests. But some beneficiaries reported forgoing more serious types of care, such as urgent care for an accident or illness. Spending growth has recently been particularly slow for FFS Medicare, which Medicare's Trustees attribute to a few factors, including the lower average morbidity among Medicare beneficiaries who survived the pandemic. Another factor was joint replacement procedures moving from inpatient to (lower-cost) outpatient settings after their removal from Medicare's "inpatient only" list. In addition, beneficiaries dually enrolled in Medicare and Medicaid (who tend to generate high spending) have increasingly opted to enroll in Medicare Advantage plans rather than traditional FFS coverage, which has helped to reduce FFS Medicare spending per beneficiary.

Between now and the early 2030s, CMS expects total Medicare spending to grow at rates more consistent with historical norms—by 7 percent or 8 percent per year, on average. At that rate, Medicare spending will double in a 10-year period, rising from over $900 billion in 2022 to $1.8 trillion in 2031. Medicare's projected spending growth is driven by economy-wide inflation, the increasing number of beneficiaries in the program (which is expected to grow by about 2 percent per year until 2029 as the baby-boom generation ages into Medicare), and the increasing volume and intensity of services delivered per beneficiary.

Despite the projected growth in Medicare spending, the program finds itself in a better position financially than a few years ago. After an initial economic slowdown at the start of the pandemic, the U.S. economy subsequently experienced strong growth in 2021 and 2022, yielding higher-than-expected Medicare payroll tax revenues. At the same time, Medicare beneficiaries used a lower volume of Part A services than expected during the pandemic, and future Part A spending is now projected to be lower than previously expected. As a result, the balance in Medicare's Hospital Insurance Trust Fund has been increasing. The trust fund is now projected to be able to pay its share of Part A services for several more years than was estimated before the pandemic—until 2031, according to Medicare's Trustees or until 2035, according to the Congressional Budget Office.

Yet pressure to restrain the growth in Medicare's overall spending remains. Medicare spending is projected to constitute a rising share of GDP in the coming years, and growth in Medicare spending will cause beneficiaries to

face higher premiums and cost sharing over time. Further, a growing share of general federal revenues must be transferred to Medicare's Supplementary Medical Insurance (SMI) Trust Fund to help pay for Part B clinician and outpatient services and Part D prescription drug coverage. For example, in 2022, 13 percent of all personal and corporate income taxes collected by the federal government were transferred to the SMI Trust Fund to pay for Part B and Part D; by 2030, 22 percent of all income tax revenues are expected to be transferred for this purpose.

One way the Medicare program has reduced spending growth relative to the commercial market is by setting prices in certain sectors. Our annual March report recommends updates to FFS Medicare payment rates for various types of providers. Our annual June report typically offers broader recommendations aimed at restructuring the way Medicare's payment systems work. A list of all the Commission's recommendations, with links to relevant reports, is available at medpac.gov/recommendation/. These recommendations are based on the Commission's review of the latest available data and aim to obtain good value for expenditures—which means maintaining beneficiaries' access to high-quality services while encouraging efficient use of resources. ■

## Introduction

Every March, the Commission reports to the Congress on traditional Medicare's various fee-for-service (FFS) payment systems, the Medicare Advantage (MA) program, and the Medicare Part D prescription drug program. For context, this chapter highlights key trends in health care spending, for the country as a whole and for the Medicare program in particular. We also review the factors that contribute to Medicare spending growth—including trends in demographics and the volume and intensity of services delivered per beneficiary.

## National health care spending has grown faster than GDP

In 2022, $4.5 trillion was spent on health care in the U.S. This spending accounted for 17.3 percent of the U.S.'s gross domestic product (GDP)—up from 14.9 percent 20 years earlier (Figure 1-1, p. 8). Medicare spending has also grown as a share of GDP over time—making up 3.7 percent of GDP in 2022, up from 2.4 percent 20 years earlier.

National health care spending usually grows faster than GDP, which means this spending as a share of GDP increases over time (Figure 1-1, p. 8). But different spending trends were observed during the recent coronavirus pandemic, with national health care spending as a share of GDP sharply increasing in 2020 and then falling in 2021 and 2022, as it returned to its prepandemic share.

In 2020, national health care spending increased by 10.6 percent due to one-time spending by the federal government on pandemic relief funds for health care providers, a relaxation of Medicaid's eligibility rules during the pandemic that allowed more people to be enrolled in that program than would otherwise be the case, and an increase in spending on public health activities (e.g., for vaccine development) (Hartman et al. 2024). Because this large increase occurred in a year when the country's GDP was shrinking, it resulted in a sharp increase in the share of the country's GDP devoted to national health care spending. (The two main sources of pandemic relief funds for health care providers were the Paycheck Protection Program and the Provider Relief Fund, which together paid health care providers $174.6 billion in 2020 (Hartman et al. 2024).[1,2] )

In 2021, national health care spending increased by a more modest 3.2 percent as supplemental funding provided to address the pandemic fell and utilization of health care services by patients rebounded (Hartman et al. 2024). Since this modest spending increase occurred in a year when GDP expanded rapidly (by 10.7 percent), national health care spending as a share of GDP fell in 2021 (Figure 1-1, p. 8) (Hartman et al. 2024).

National health care spending grew by 4.1 percent in 2022—a rate more consistent with prepandemic growth rates—driven by growth in Medicaid and private health insurance spending (Hartman et al. 2024). This increased spending occurred in a year when GDP continued to grow rapidly (by 9.1 percent, due primarily to high economy-wide inflation of 7.1 percent) (Hartman et al. 2024). As a result, national health care spending as a share of GDP is estimated to have fallen for the second year in a row in 2022 (to 17.3 percent of GDP—similar to the share of GDP spent on health care in 2019, before the pandemic began) (Hartman et al. 2024).

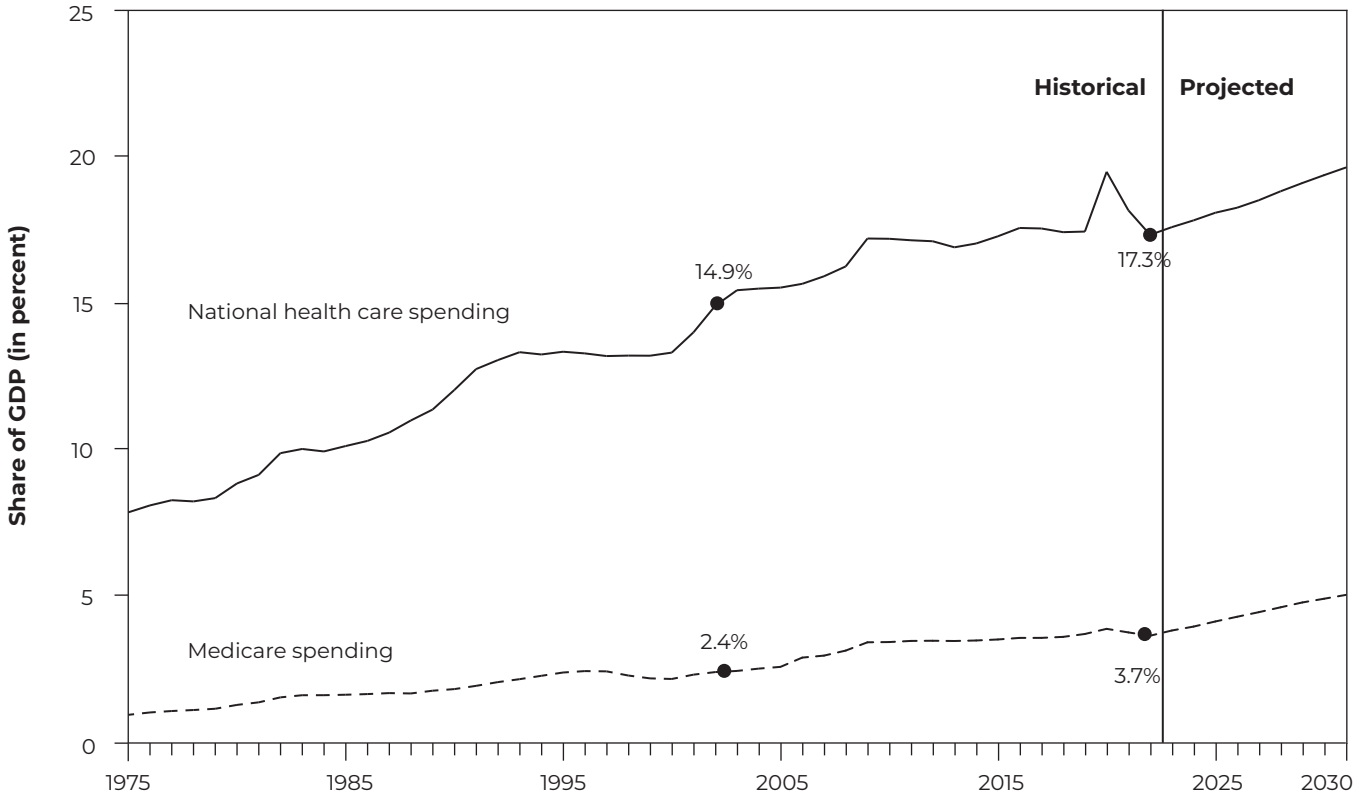
Spending trends in 2023 are estimated to have returned to historical norms, with national health care spending growth (5.1 percent) outpacing GDP growth (4.1 percent) (Keehan et al. 2023). As a result, national health care spending as a share of GDP is expected to have grown slightly to 17.6 percent of GDP (Keehan et al. 2023). CMS expects familiar spending patterns to continue through 2031, with national health care spending growing faster than GDP in part because medical prices are projected to grow faster than economy-wide prices over this period (Keehan et al. 2023). For a discussion of the link between private insurers' prices and provider consolidation, see text box (pp. 9–11).

## Medicare spending is projected to double in the next 10 years

Medicare is the largest single purchaser of health care in the U.S., accounting for about a quarter of the

**FIGURE 1–1**

**Health care spending has grown as a share of the country's GDP**




Note: GDP (gross domestic product). The first projected year in the graph is 2023. Pandemic relief funds are counted as national health care spending rather than Medicare spending since they were meant to offset pandemic-related revenue losses from all payers, not just Medicare.

Source: MedPAC analysis of CMS's national health expenditure data (projected data released in July 2023 and historical data released in December 2023), https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/index.html.

nation's spending on personal health care (Medicare Payment Advisory Commission 2023).[3] Medicare covers care provided to its beneficiaries in hospitals and skilled nursing facilities, as well as physician and other health care providers' services, home health care, hospice care, lab tests, durable medical equipment, and prescription drugs. Medicare also makes payments to hospitals to help cover the costs of charity care and contributes funding to medical school graduates' residency training programs (see text box, p. 13).

During the recent coronavirus pandemic, Medicare spending grew more slowly than had been expected. Although spending increased on COVID-19 testing and treatment and on services that were made more widely available through waivers of Medicare's usual payment rules, the increase was more than offset by decreased spending on non-COVID care (Boards of Trustees 2023).[4] The most common types of care that Medicare beneficiaries reported forgoing in the early months of the pandemic were dental care, regular check-ups, treatment for an ongoing condition, and diagnostic or medical screening tests—but some beneficiaries reported forgoing more serious types of care such as urgent care for an accident or illness (Centers for Medicare & Medicaid Services 2020). Spending has recently grown particularly slowly for

## Provider consolidation and increasing commercial prices

Between 2012 and 2022, spending per privately insured enrollee grew by 3.2 percent annually, on average, while spending per Medicare beneficiary grew by an average of 2.6 percent each year—closer to the general inflation rate of 2.5 percent (Bureau of Labor Statistics 2023, Centers for Medicare & Medicaid Services 2023b). Since the faster growth in spending for privately insured people occurred at a time of low growth in their use of health care, we and others have concluded that growth in the prices private insurers pay to providers drove the faster spending growth observed for privately insured people (Health Care Cost Institute 2023, Health Care Cost Institute 2020). Although there is wide variation geographically and by service, private insurers generally pay rates about twice as high as Medicare for hospital services and almost one and a half times Medicare rates for physician services (Chernew et al. 2020, Kaiser Family Foundation 2020, Medicare Payment Advisory Commission 2017, Whaley et al. 2022).

Growth in the prices private insurers pay providers is likely influenced by the growing consolidation of health care providers, which increases their market share and puts them in a stronger bargaining position when negotiating rates with private insurers (Abelson 2018, Baker et al. 2014a, Baker et al. 2014b, Beaulieu et al. 2023, Beaulieu et al. 2020, Cooper et al. 2015, Curto et al. 2022, Department of Justice and Federal Trade Commission 1996, Federal Trade Commission 2016a, Federal Trade Commission 2016b, Gaynor and Town 2012, Medicare Payment Advisory Commission 2020, Medicare Payment Advisory Commission 2017, Robinson and Miller 2014, Scheffler et al. 2018, Whaley et al. 2022). Providers may feel they need to increase their leverage with private insurers since insurers, in turn, often have large local market shares: One study found that in 2022, commercial health plans were "highly" concentrated in 73 percent of local markets, up from 71 percent in 2014, according to the Department of Justice and the Federal Trade Commission's definition (Guardado and Kane 2023).[5] Insurers with larger market shares appear to negotiate lower prices with providers, but it is not clear the degree to which these savings are passed down to the purchasers of insurance (Dafny et al. 2012, LoSasso et al. 2023, RAND Corporation 2022, Roberts et al. 2017, Scheffler and Arnold 2017, Trish and Herring 2015).

### Hospitals have been consolidating with other hospitals

Hospitals have steadily consolidated over the past several decades. From 2003 to 2017, the share of hospital markets that were "super" concentrated (i.e., with a single dominant system that accounts for a majority of hospital discharges) rose from 47 percent to 57 percent (Medicare Payment Advisory Commission 2020).[6] According to a recent scan of the literature, there is strong evidence that horizontal hospital consolidation increases prices and health care spending (RAND Corporation 2022).

### Hospitals have been acquiring physician practices

By 2016, 92 percent of acute care stays were in hospitals affiliated with physicians in a vertically integrated system (Karaca and Fingar 2020). Between 2016 and 2018, the share of all physicians affiliated with health systems grew from 40 percent to 51 percent (Furukawa et al. 2020).

Some of Medicare's policies may have created incentives for hospitals to acquire physician practices—through higher payment rates for hospital-owned physician practices and the Merit-based Incentive Payment System's burdensome reporting requirements. In a 2022 survey, the American Medical Association found that the top reasons physicians gave for selling a practice to a hospital or health system were to obtain higher payment rates, gain access to costly resources, and get help meeting regulatory and administrative requirements (Kane 2023). After controlling for the level of horizontal concentration of physician services, several studies found that hospital–physician integration led to commercial price

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## Provider consolidation and increasing commercial prices (cont.)

increases, often in the range of 3 percent to 14 percent (Capps et al. 2018, Curto et al. 2022, Medicare Payment Advisory Commission 2017, Neprash et al. 2015, Whaley et al. 2021). Acquisition of primary care practices by large health systems has also been found to be associated with increased referrals to health systems and increased spending per patient (Sinaiko et al. 2023).

### Other types of companies have been acquiring physician practices

Commercial insurers have also acquired physician groups, medical centers, and urgent care facilities as well as their own pharmacy benefit managers, pharmacies, and data analytic firms (Herman 2022). UnitedHealth Group's Optum Health is now reported to be the largest employer of clinicians in the U.S., with 130,000 employed or aligned clinicians (Emerson 2023, UnitedHealth Group 2023). And companies that have not traditionally participated in health care, such as Amazon, have also begun acquiring primary care practices (Landi 2022).

Although just 4 percent of physicians reported private equity ownership in their practice in 2020 (Kane 2021), private equity funds compete with health systems, insurers, and other companies for physician practices and may contribute to increasing consolidation and increasing prices (Federal Trade Commission 2023, La Forgia et al. 2022, Medicare Payment Advisory Commission 2021, Scheffler et al. 2023).[7] A challenge involved in studying practices with private equity ownership is the lack of a national database containing standardized information on practice ownership, although researchers have begun manually identifying practices with private equity ownership and studying them (Medicare Payment Advisory Commission 2021).

### Effect of provider consolidation on quality is unclear

There is limited information on the effects of horizontal and vertical consolidation on quality. Most of the older literature suggests that consolidation increases prices without improving quality. Some literature suggests that a lack of competition may hurt quality (Gaynor et al. 2017). However, the effect of horizontal consolidation and vertical integration on quality is less clear than the effect of consolidation on price. A study that examined the longitudinal effects of hospital mergers on quality found that "hospital acquisition by another hospital or hospital system was associated with modestly worse patient experiences and no significant changes in readmission or mortality rates. Effects on process measures of quality were inconclusive" (Beaulieu et al. 2020). Meanwhile, a cross-sectional comparison of vertically integrated practices and independent physician practices found that physicians employed by a hospital system received substantially higher prices from commercial insurers (12 percent to 26 percent higher, on average, depending on the service) and had "marginally better" performance on clinical process and patient experience measures than independent practices (Beaulieu et al. 2023). For example, 77.3 percent of system physicians' patients rated their physician a 9 or a 10 on a 10-point scale compared with 76.0 percent of patients seeing independent physicians (a difference that was statistically significant ($p < 0.001$)). Given the design of the study, we do not know whether the large systems' slightly better performance on process and patient experience measures is due to the structure and size of the integrated systems or due to the systems' selection of clinicians.

### Providers pursue high payment rates from private insurers regardless of Medicare's actions

Hospital stakeholders may assert that losses on Medicare patients force them to increase private prices, merge into larger systems with pricing power, or close (Dobson et al. 2006, Fox and Pickering 2008, Frakt 2015, Priselac 2023). However, there is little evidence that low Medicare prices or high shares of Medicare services directly cause hospitals to raise prices (i.e., to use previously unused market power) (Frakt 2015, Ginsburg 2023,

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## Provider consolidation and increasing commercial prices (cont.)

White 2013). In addition, while some small hospitals with high Medicare shares have closed (Chernew et al. 2021, Medicare Payment Advisory Commission 2021), most of these closed hospitals had very few patients, and there is no evidence that the closures of these low-volume hospitals resulted in sufficient consolidation to materially affect commercial prices. In fact, a Congressional Budget Office analysis and literature review found that "the share of providers' patients who are covered by Medicare and Medicaid is not related to higher prices paid by commercial insurers. That finding suggests that providers do not raise the prices they negotiate with commercial insurers to offset lower prices paid by government programs (a concept known as cost shifting)" (Congressional Budget Office 2022).

### Providers' ability to command high prices from private insurers has not hurt beneficiaries' access to care

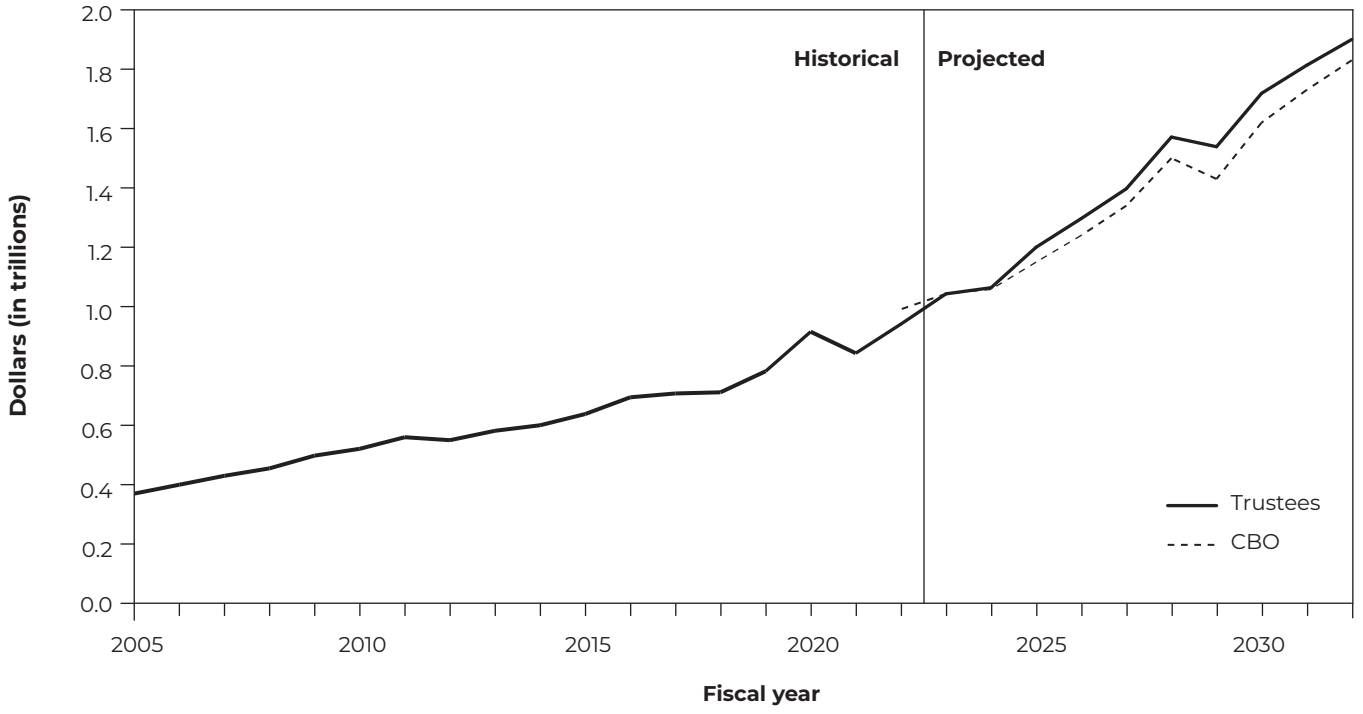
To date, the rise in commercial prices has had little direct impact on Medicare prices and enrollee access to clinician services. Even as commercial prices have risen relative to Medicare payments, most clinicians continue to participate in the Medicare program. The National Ambulatory Medical Care Survey found that in 2021, among the 94 percent of nonpediatric office-based physicians who reported accepting new patients, a higher share accepted new Medicare patients (89 percent) than new privately insured patients (88 percent) (Schappert and Santo 2023). And an American Medical Association (AMA) survey of physicians practicing in a wider range of settings (including hospitals) found that in 2022, among nonpediatricians accepting new patients, 96 percent reported accepting new patients and only 2 percent said they accepted only new privately insured patients (American Medical Association 2023b).

There are many reasons that clinicians may choose to accept fee-for-service (FFS) Medicare despite payment rates that are usually lower than commercial rates. A substantial share of most clinicians' patients are covered by Medicare, and if these clinicians opted to accept only commercially insured patients, they might not be able to fill their patient panels. In addition, physicians who are employed by hospitals or health plans may be required to accept Medicare as a condition of employment, and some hospitals may require physicians to participate in Medicare to receive admission and clinical privileges. At the same time, although commercial insurers may offer comparatively high payment rates, commercial insurers often also impose burdensome requirements on clinicians that take time to complete, such as requiring clinicians to appeal denied claims and complete insurers' prior authorization paperwork. A recent AMA survey found that physicians complete an average of 45 prior authorization requests per week, requiring 14 hours per week, and 35 percent of physicians have dedicated staff who work exclusively on completing prior authorizations (American Medical Association 2023a). In contrast, FFS Medicare generally requires no prior authorization for services and is known as a prompt payer since it is required to pay "clean" claims within 30 days and must pay providers interest on any late payments. The relative lack of utilization management and the administrative simplicity of billing FFS Medicare may help offset the program's lower payment rates.

If the difference between the prices paid by Medicare and commercial insurers grows larger, it is unclear what the long-term impact would be on Medicare beneficiaries' access to care. In the case of hospitals, higher private prices enabled by consolidation result in less pressure for providers to constrain costs. These higher costs are then included in hospitals' cost reports, resulting in lower Medicare profit margins and pressure to increase provider payment rates. If Medicare payment rates do not keep pace with these higher costs, eventually the difference between commercial rates and Medicare rates could grow so large that providers have an incentive to focus primarily on patients with commercial insurance. Thus, in the long term, Medicare beneficiaries' access to care may in part depend on commercial payer rates. ■

**FIGURE 1–2**

## Medicare spending is projected to double in the next 10 years




Note: CBO (Congressional Budget Office). The first projected year in the graph is 2023. The sharp increase in spending in 2020 includes Medicare Accelerated and Advance Payments paid to providers—payments that were then recouped by the Medicare program in 2021 and 2022.

Source: 2023 annual report of the Boards of Trustees of the Medicare trust funds, Table V.H4; CBO's May 2023 baseline projections for the Medicare program.

**TABLE 1–1**

## Factors contributing to Medicare's projected Part A and Part B spending growth, 2023–2032 (after subtracting economy-wide inflation)

| | Average annual percent change in: | | | | |
|---|---|---|---|---|---|
| **Medicare Part** | **Medicare prices (minus inflation)** | **Number of beneficiaries** | **Beneficiary demographic mix** | **Volume and intensity of services used** | **Medicare's projected spending (minus inflation)** |
| Part A | –0.2% | 1.9% | 0.1% | 1.8% | 3.7% |
| Part B | –1.1 | 2.0 | 0.1 | 4.2 | 5.1 |
| Total | –0.7 | N/A* | 0.1 | 3.1 | 4.5 |

Note: N/A (not applicable). Includes Medicare Advantage enrollees. "Medicare prices" reflects Medicare's annual updates to payment rates (not including inflation, as measured by the consumer price index), total factor productivity reductions, and any other reductions required by law or regulation. "Volume and intensity" is the residual after the other three factors shown in the table (growth in Medicare prices, number of beneficiaries, and beneficiary demographic mix) are removed. "Medicare's projected spending" is the product of the other columns in the table. The "Total" row is the sum of the other rows of the table, each weighted by its part's share of total (Part A plus Part B) Medicare spending in 2022 (as measured by shares of gross domestic product). Part D spending growth is not shown.
*Not applicable because there is beneficiary overlap in enrollment in Part A and Part B.

Source: MedPAC analysis of data from the 2023 annual report of the Boards of Trustees of the Medicare trust funds.

## Medicare funds physicians' training programs after medical school

The Medicare program is estimated to have provided over $16 billion in 2020 to help fund residency programs that provide hands-on clinical training to medical school graduates, usually in a hospital setting (Villagrana 2022). Other federal agencies also provide smaller contributions to help train physicians, and hospitals often self-fund some residents as well (Government Accountability Office 2021). There are both benefits and costs to hospitals in operating a residency program. On the one hand, costs include the salaries of residents themselves as well as the salaries of the more senior physicians who serve as faculty in these programs and train residents. On the other hand, benefits of operating a residency program include the higher hospital fees such hospitals receive from Medicare and the economical clinical labor that hospitals gain access to, since the average first-year resident is paid about $60,000 per year (Murphy 2022)—much less than nurse practitioners, physician assistants, and physicians who have completed their training (see Chapter 4). Medicare generally does not subsidize training programs for nurse practitioners or physician assistants (Government Accountability Office 2019), whose numbers have nevertheless grown rapidly in recent years—by 41 percent from 2017 to 2022, compared with 2.5 percent growth in the number of physicians over this same period (see Table 4-1 (p. 98) in Chapter 4). ■

FFS Medicare, which Medicare's Trustees attribute to a few factors. One factor is the lower average morbidity among Medicare beneficiaries who survived the pandemic. Another factor is the shift of setting for joint replacement procedures from inpatient to (lower-cost) outpatient facilities after these procedures were removed from Medicare's "inpatient only" list. In addition, beneficiaries dually enrolled in Medicare and Medicaid (who tend to generate a high amount of spending) have increasingly opted to enroll in Medicare Advantage plans rather than traditional FFS coverage, which has helped to reduce FFS Medicare spending per beneficiary (Boards of Trustees 2023).

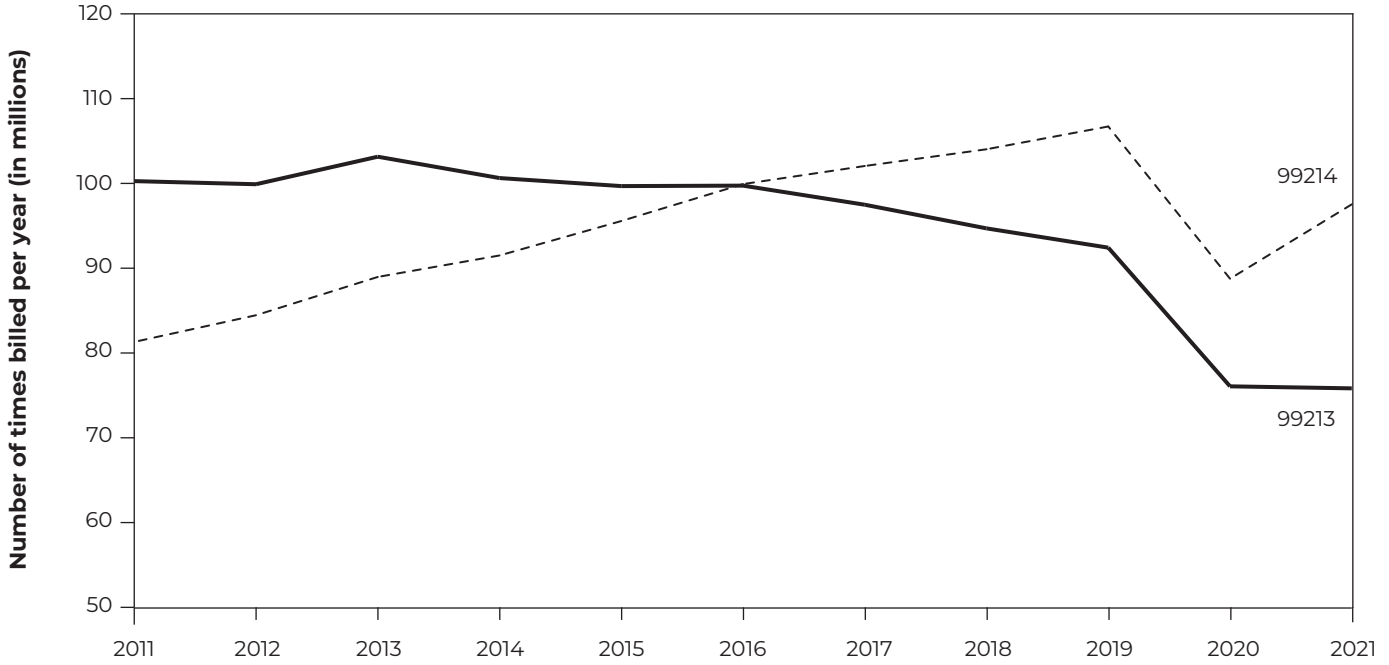
Between now and the early 2030s, CMS expects Medicare spending to grow at rates more consistent with historical norms—by 7 percent or 8 percent per year, on average (Keehan et al. 2023).[8] This will result in Medicare spending doubling over a 10-year period—rising from over $900 billion in 2022 to $1.8 trillion in 2031 (Figure 1-2). (These amounts include Medicare program spending and beneficiaries' premiums but not beneficiaries' cost sharing.)

Several factors drive the projected growth in Medicare's spending over the next decade. The annual report produced by Medicare's Trustees decomposes projected Medicare spending growth into explanatory factors, and we have augmented their analysis by removing the effects of economy-wide inflation (Table 1-1). Table 1-1 shows that Medicare Part A and Part B spending are together projected to grow 4.5 percent faster than inflation over the next 10 years. This increase is not due to Medicare price growth since Medicare's prices are generally expected to grow more slowly than economy-wide inflation over this period (shown in the first column of the table). Instead, the two factors driving Medicare's spending growth are the number of beneficiaries (which is expected to grow by about 2 percent per year, as the baby-boom generation continues to age into Medicare) and the volume and intensity of services delivered per beneficiary (which is expected to grow by an average of 3.1 percent per year from 2023 to 2032).

Volume and intensity of services can increase over time—for example, when newer, higher-resolution computed tomography (CT) scans identify potential

**FIGURE 1–3**

**Clinicians have increasingly used billing code 99214 ("moderate" level of medical decision-making) instead of 99213 ("low" level of medical decision-making)**




Note: Current Procedural Terminology (CPT) codes 99213 and 99214 refer to office/outpatient visits with established patients involving a medically appropriate history and/or examination; 99213 refers to visits involving a "low" level of medical decision-making and/or 20–29 minutes of practitioner time, while 99214 refers to visits involving a "moderate" level of medical decision-making and/or 30–39 minutes of clinician time. Before 2021, code definitions were more prescriptive about the content of these visits and did not allow time alone to justify the use of one of these codes.

Source: Centers for Medicare and Medicaid Services. Part B National Summary Data Files, 2011–2021. https://www.cms.gov/Research-Statistics-Data-and-Systems/Downloadable-Public-Use-Files/Part-B-National-Summary-Data-File/Overview.

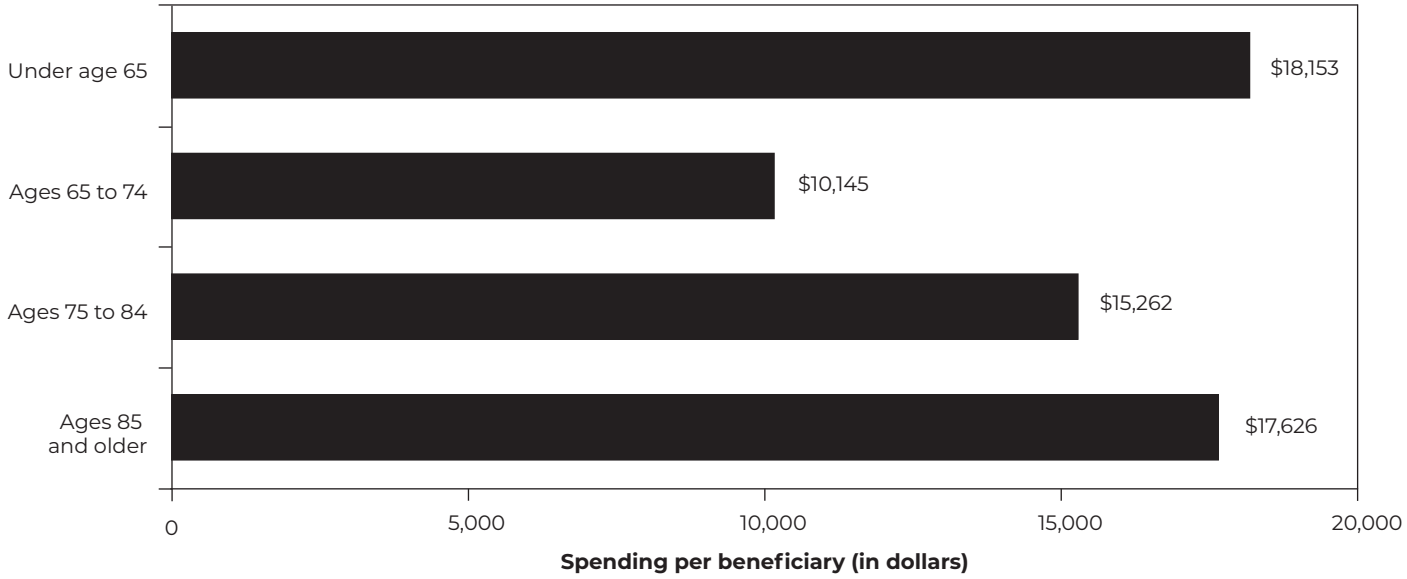
issues that might not have been identified by lower-resolution CT scans, and those issues are then pursued through additional clinical workup, increasing volume. The intensity of services delivered can also increase when providers furnish more complex, higher-priced services in place of less complex, lower-priced services. For example, in recent years clinicians treating FFS Medicare beneficiaries have furnished more office visits using billing code 99214 (which involves a "moderate" level of medical decision-making) instead of 99213 (involving a "low" level of medical decision-making), as shown in Figure 1-3.

Table 1-1 (p. 12) indicates that the changing demographic mix of beneficiaries in the program is not expected to cause significant increased spending in the next 10 years. The average Medicare beneficiary has been getting younger in recent years, as the baby-boom generation ages into Medicare (Boards of Trustees 2023). Shifting demographics are not expected to cause a material increase in spending per beneficiary until the 2030s, when baby boomers begin to reach older ages (Boards of Trustees 2023). This aging will have cost implications for the Medicare program because, among beneficiaries ages 65 and over, spending per beneficiary increases with age (Figure 1-4).

Another factor that is driving increased Medicare spending is the growing enrollment in MA plans, which are an alternative to traditional FFS Medicare. The share of beneficiaries enrolled in MA plans has grown rapidly over the past two decades: 52 percent of beneficiaries with both Part A and Part B coverage

**FIGURE 1–4**

**Spending per beneficiary was highest for the oldest Medicare beneficiaries and beneficiaries under the age of 65 (most of whom are disabled), 2020**




Note: Includes beneficiaries in fee-for-service Medicare and Medicare Advantage dwelling in the community and in institutions. Enrollees under age 65 are eligible for Medicare due to disability (i.e., if they have received Social Security Disability Insurance payments for 2 years or have been diagnosed with amyotrophic lateral sclerosis (Lou Gehrig's disease)), end-stage renal disease, or exposure to environmental health hazards in areas under a corresponding emergency declaration (Boards of Trustees 2023).

Source: MedPAC analysis of the Medicare Current Beneficiary Survey, Cost Supplement file 2020.

were enrolled in MA plans in 2023 (see Chapter 12).[9] We estimate that the Medicare program spent substantially more per beneficiary for MA enrollees compared with what spending would have been for these enrollees in traditional FFS Medicare in 2023 (see Chapter 12). The main factors that the Commission has identified as contributing to this higher spending on MA are higher diagnostic coding intensity (since reporting more diagnosis codes for a beneficiary enrolled in MA increases payments to MA plans relative to what would have occurred in FFS) and the favorable selection that plans experience (before any plan interventions) when beneficiaries with lower-than-predicted spending enroll in MA.

MA plans receive monthly capitated payments from the Medicare program and in turn pay health care providers using payment rates that they negotiate with providers. (In contrast, for beneficiaries in FFS Medicare, Medicare pays health care providers directly for health care goods and services at prices set through legislation and regulation.) MA plans' payments to providers can take the form of FFS payments or can take other forms, such as partially capitated payments. MA plans are required to have a cap on beneficiaries' total in-network annual out-of-pocket spending and typically incorporate Part D coverage for retail prescription drugs. In addition, nearly all MA plans offer supplemental coverage that typically includes reduced cost sharing for many services, and they often provide some coverage for other benefits (e.g., vision, dental, and hearing benefits). In exchange for these benefits, beneficiaries in MA generally agree to a narrower network of providers than beneficiaries in traditional FFS Medicare. In-network services may be subject to utilization management (e.g., prior

**FIGURE 1–5**

**Medicare enrollment is rising while the number of workers per Medicare beneficiary is declining**

**Figure 1-5a. Medicare enrollment**

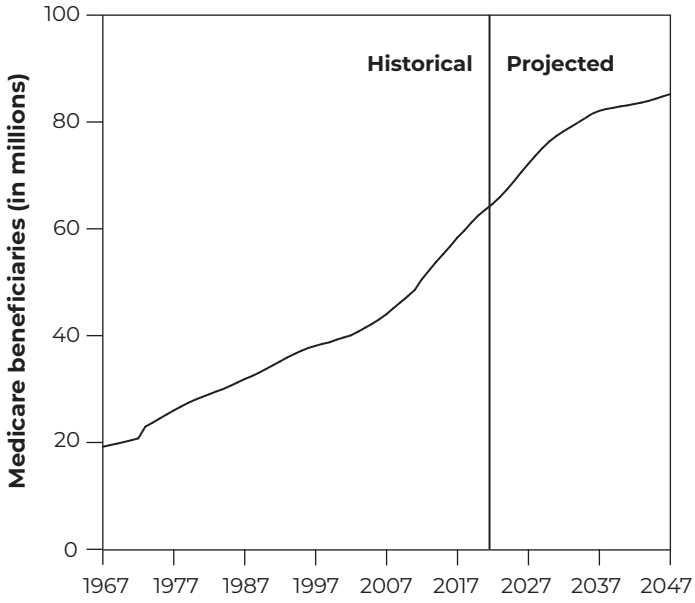
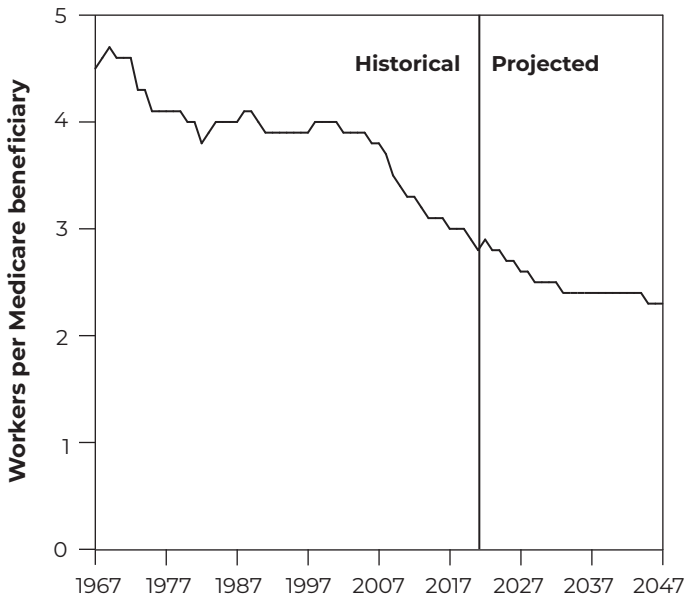



**Figure 1-5b. Workers per Medicare beneficiary**




Note: "Medicare beneficiaries" refers to beneficiaries covered by Medicare Part A (including beneficiaries enrolled in Medicare Advantage plans). More beneficiaries have Part A Hospital Insurance than Part B Supplementary Medical Insurance because Part A is usually available to beneficiaries at no cost. First projected year is 2023. Part A services are financed by Medicare's Hospital Insurance Trust Fund and beneficiary cost sharing.

Source: 2023 annual report of the Boards of Trustees of the Medicare trust funds.

authorization, referrals, and alternative cost sharing). And beneficiaries may face higher cost sharing or no coverage for services if they seek care outside of their plan's provider network.[10]

## Medicare faces a financing challenge

The entire baby-boom generation will be old enough to enroll in Medicare by 2029 (Keehan et al. 2023).[11] By that point, Medicare is projected to have 75 million beneficiaries—up from 65 million beneficiaries in 2022 (Figure 1-5a). Meanwhile, the ratio of workers helping to finance Medicare through their taxes relative to the number of Medicare beneficiaries is expected to continue to decline. Around the time of Medicare's inception, there were 4.5 workers for each Medicare beneficiary, but by 2022 there were only 2.9 workers per beneficiary, and by 2031 there are expected to be only 2.5 workers per beneficiary (Figure 1-5b).

These demographics create a financing challenge for the Medicare program. Medicare Part A (which covers inpatient hospital stays and post-acute care following those hospital stays) is mainly financed through current workers' Medicare payroll taxes, which are deposited into Medicare's Hospital Insurance (HI) Trust Fund.[12,13] In some years, Medicare has spent more on Part A services than it has collected through HI Trust Fund revenues—creating annual deficits that cause the trust fund's account balance to decline. In other years, trust fund revenues have exceeded Part A spending (including in 2021 and 2022)—creating annual surpluses that cause the trust fund's account balance to rise. Medicare's Trustees currently estimate

**TABLE 1–2**

**Higher Medicare payroll tax or lower Medicare Part A spending needed to maintain solvency of Medicare's Hospital Insurance Trust Fund**

| To maintain Hospital Insurance Trust Fund solvency for: | Increase 2.9% Medicare payroll tax to: | or | Decrease Part A spending by: |
|---|---|---|---|
| 25 years (2023–2047) | 3.6% | | 15.6% |

Note: Part A spending includes spending on inpatient hospital, skilled nursing facility, home health agency, and hospice services and includes spending for beneficiaries in fee-for-service Medicare and Medicare Advantage.

Source: MedPAC analysis of Table III.B8 in the 2023 annual report of the Boards of Trustees of the Medicare trust funds.

that, absent any intervention, the trust fund's balance will rise through 2024, then decline from 2025 on, and will fully deplete its balance by 2031 (Boards of Trustees 2023). The Congressional Budget Office (CBO) also tracks the trust fund's financial status and projects that it will be depleted in 2035 (Congressional Budget Office 2023).[14] These are longer time frames than have been predicted in recent years, due to two developments: the amount of Medicare payroll taxes collected each year is now expected to be higher than previously projected (because both the number of workers paying payroll taxes and their average wages are higher than previously projected) and Part A spending in the coming years is now projected to be lower than previously estimated (Boards of Trustees 2023).

There are a number of ways to extend the solvency of the HI Trust Fund. Two that are mentioned by the Trustees are to (1) increase the Medicare payroll tax from its current rate of 2.9 percent to 3.6 percent or (2) reduce Part A spending by 15.6 percent (Table 1-2), which is equivalent to a reduction of about $65 billion in 2024, and then maintain that lower spending level in subsequent years (Boards of Trustees 2023). Reducing Part A spending by $65 billion in a single year would require major structural changes to the Medicare program and is not likely to be achieved through incremental payment policy changes. Either of these approaches would extend the solvency of the trust fund by an additional 25 years. A combination of more moderate spending reductions and tax increases is another option.

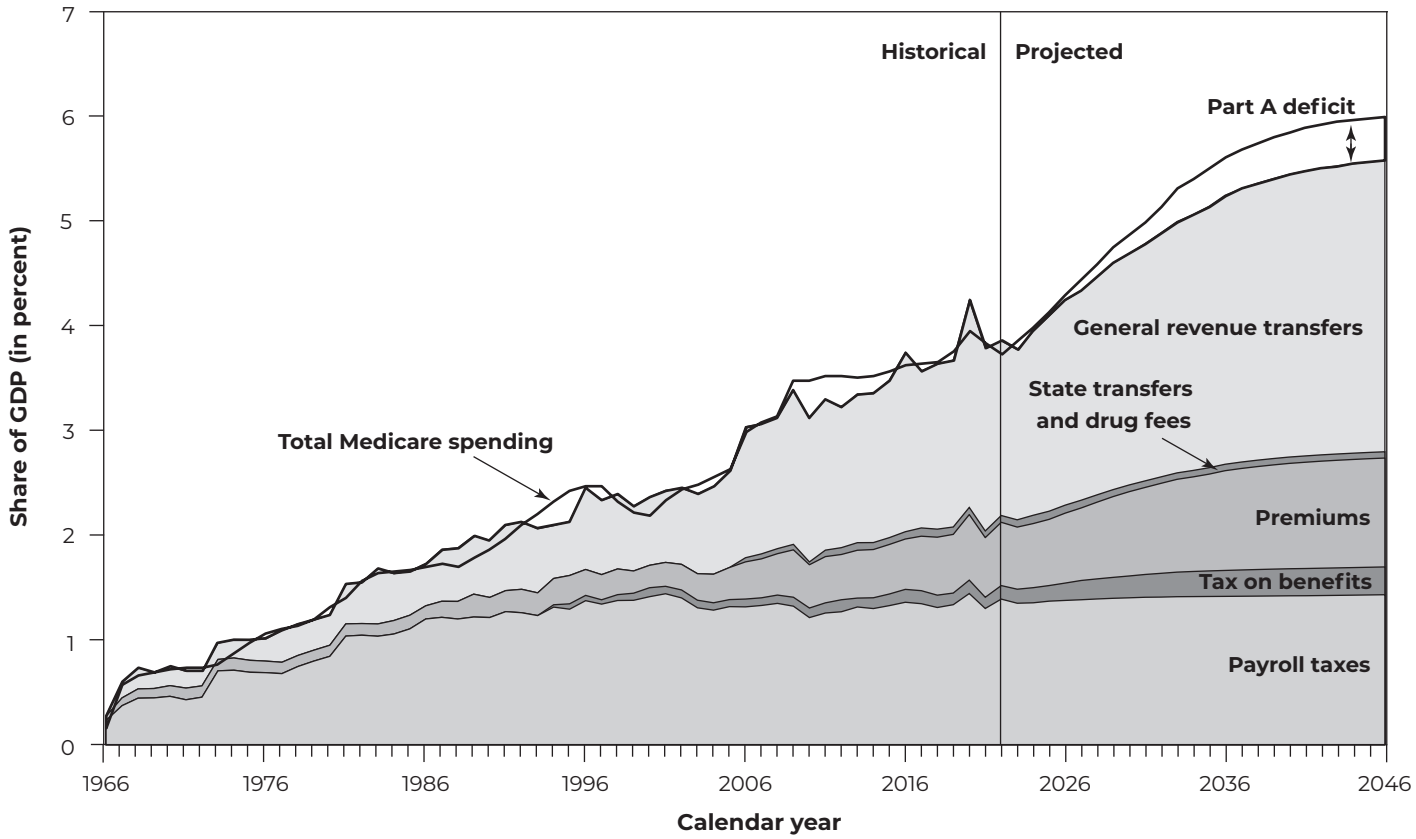
The rest of Medicare spending—under Part B (which covers clinician and outpatient services) and Part D (which covers retail prescription drugs)—is financed through the Supplementary Medical Insurance (SMI) Trust Fund. The SMI Trust Fund is funded by premiums paid by beneficiaries and transfers from the general fund of the Treasury. Since premiums and transfers are intentionally set to cover the following year's estimated spending, the SMI Trust Fund automatically remains solvent. However, Part B and Part D spending have been consuming a growing share of federal revenues. In 2022, 13 percent of all personal and corporate income taxes collected by the federal government (the primary source of federal revenues) were transferred to Medicare's SMI Trust Fund, and by 2030 this share is projected to reach 22 percent (Boards of Trustees 2023).[15]

The large and growing share of Medicare spending funded through general revenue transfers (shown in Figure 1-6, p. 18) is a financing challenge. As the amount of general revenues needed to finance Medicare increases, fewer government resources will be available for other priorities, such as deficit reduction or investments that could expand future economic output (e.g., federal investments in education, transportation, and research and development).

The increasing expenditure of general revenues is also a problem because the federal government already spends more than it collects in revenues each year (Figure 1-7, p. 19). The gray line at the top of Figure 1-7 represents total federal spending as a share of GDP; the

**FIGURE 1–6**

**General revenue transfers from the federal government are the largest source of Medicare funding**




Note: GDP (gross domestic product). First projected year is 2023. Projections are based on the Trustees' intermediate set of assumptions. "Tax on benefits" refers to the portion of income taxes that higher-income individuals pay on Social Security benefits, which is designated for Medicare. "State transfers" 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 by the 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. Graph does not include interest earned on trust fund investments (which makes up 1 percent of the HI Trust Fund's income and is expected to decline in coming years as trust fund assets decline).

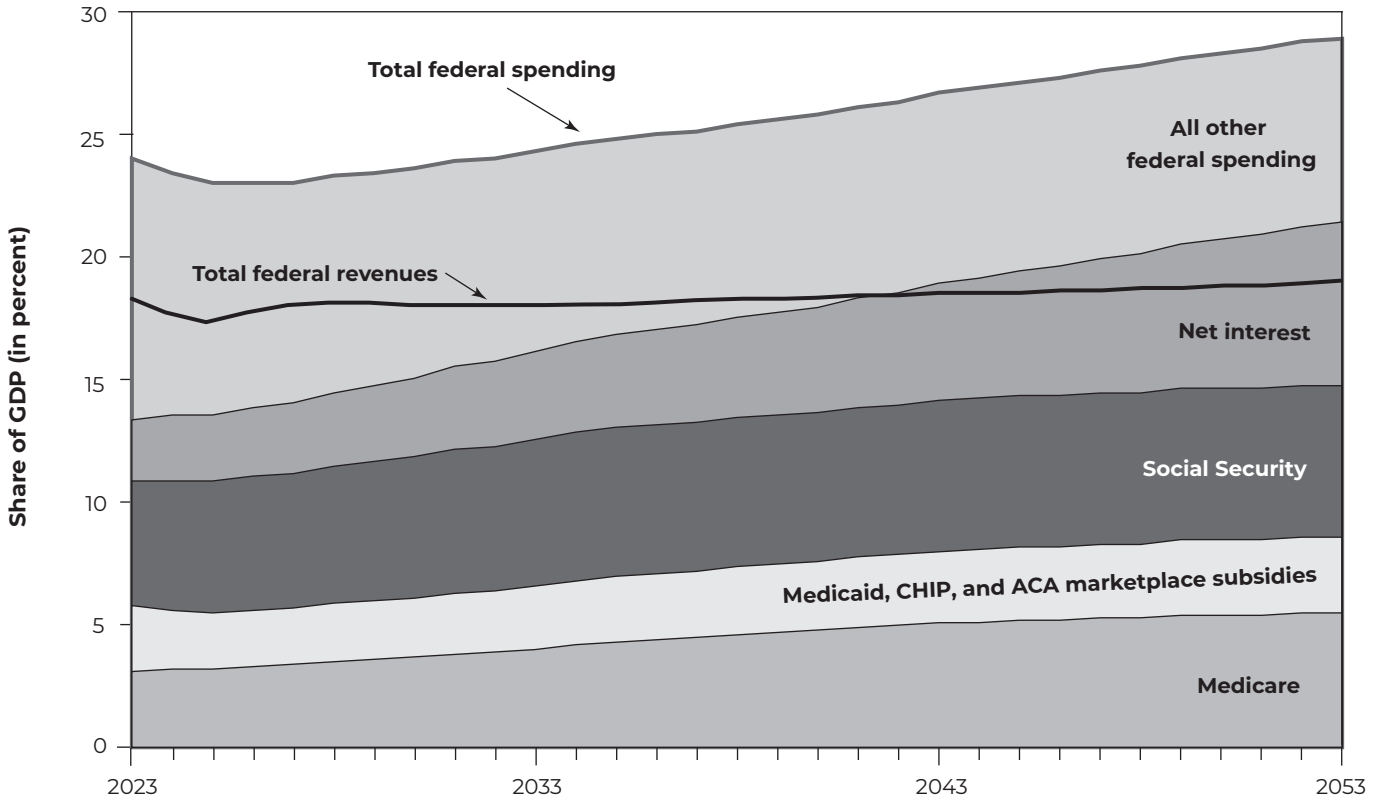
Source: 2023 annual report of the Boards of Trustees of the Medicare trust funds.

black line below it represents total federal revenues. The difference between these two lines represents the budget deficit, which must be covered by federal borrowing. The stacked layers in Figure 1-7 depict federal spending by program. By 2042, federal spending on Medicare and the other health insurance programs shown in the figure (Medicaid, Children's Health Insurance Program (CHIP), etc.) plus Social Security and interest payments are projected to exceed federal revenues. At that point, all other federal spending will need to be financed through federal borrowing.

While these projections are sobering, CMS actuaries caution that they may actually be "overly optimistic" (Office of the Actuary 2023). Medicare spending is projected to grow rapidly through the mid-2030s, then grow at a slower rate in subsequent decades because of various cost-reduction measures specified in current law.[16] CMS actuaries note that if these cost-reduction measures are replaced with more generous payment policies, Medicare spending from the mid-2030s on will increase at a higher rate that is more in line with

**FIGURE 1–7**

**Spending on Medicare, other major health programs, Social Security, and net interest is projected to exceed total federal revenues by 2042**




Note: GDP (gross domestic product), CHIP (Children's Health Insurance Program), ACA (Affordable Care Act of 2010).

Source: Congressional Budget Office's long-term budget projections, published June 2023.

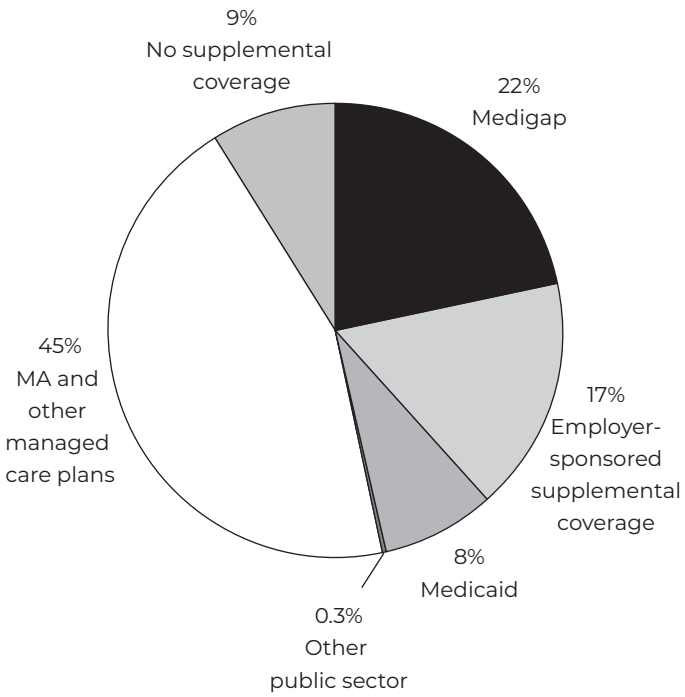
past spending growth. Such growth would mean that by 2046, instead of Medicare spending constituting 6.0 percent of GDP, it could constitute 6.35 percent of GDP. It would also mean that the payroll tax increase or Part A spending decrease needed to maintain the solvency of Medicare's HI Trust Fund (shown earlier in Table 1-2, p. 17) would need to be larger. The Medicare Trustees' long-term spending projections should therefore be viewed as a lower bound of what future Medicare spending could look like and "should not be interpreted as the most likely expectation of actual Medicare financial operations in the future," according to CMS actuaries (Office of the Actuary 2023).

## As Medicare spending increases, so too does beneficiary cost sharing

As Medicare spending grows, it affects beneficiaries' ability to afford health care by raising their premiums and cost sharing. Medicare beneficiaries typically do not pay premiums for Part A (Hospital Insurance) coverage, but the annual cost of Part B (Supplementary Medical Insurance) premiums was $1,979 in 2023, and the average annual cost of Part D prescription drug plan premiums was $492 (Medicare Payment Advisory Commission 2023). In addition, cost sharing for beneficiaries in traditional FFS Medicare averaged

**FIGURE 1–8**

**Most Medicare beneficiaries reduced their cost sharing through supplemental coverage or enrollment in a Medicare Advantage plan in 2020**




Note: MA (Medicare Advantage). Our analysis assigned beneficiaries to the supplemental coverage category they were in for the most time in 2020; beneficiaries could have had coverage in more than one category during 2020. The analysis includes only beneficiaries not living in institutions such as nursing homes. It excludes beneficiaries who were not in both Part A and Part B throughout their Medicare enrollment in 2020 or who had Medicare as a secondary payer. The "MA and other managed care plans" slice of the pie chart includes beneficiaries with employer-sponsored MA plans and beneficiaries dually eligible for Medicare and Medicaid.

Source: MedPAC analysis of Medicare Current Beneficiary Survey, Survey file, 2020.

$396 for Part A services, $1,621 for Part B services, and $456 for beneficiaries with Part D coverage in 2021 (Medicare Payment Advisory Commission 2023).[17]

The typical Medicare beneficiary has relatively modest resources to draw on when paying for premiums and cost sharing: Researchers estimate that the median Medicare beneficiary had an annual income in 2019 of $29,650 and savings of $73,800 (Koma et al. 2020).

Another way of looking at the affordability of Medicare's premiums and cost sharing is by comparing them with the average Social Security benefit received by people ages 65 and over. In 2023, the Medicare Trustees estimate that beneficiary spending on Medicare Part B and Part D premiums and cost sharing consumed 28 percent of the average Social Security benefit (Boards of Trustees 2023). Although 69 percent of people ages 65 and over supplement their Social Security benefits with income from assets (e.g., interest, dividends, rents), pensions, and withdrawals from individual retirement accounts, a sizable minority rely on Social Security benefits as their primary source of income. According to researchers who recently linked 2015 data from the Census Bureau with data from the Social Security Administration and the Internal Revenue Service, Social Security benefits accounted for 50 percent or more of family income for 40 percent of people ages 65 and over. For 21 percent of people ages 65 and over, Social Security benefits made up three-quarters or more of family income, and about 14 percent of people ages 65 and over relied on Social Security benefits for 90 percent or more of family income (Dushi and Trenkamp 2021).

Most beneficiaries reduce their out-of-pocket spending by obtaining supplemental insurance coverage or opting out of FFS Medicare and into an MA plan. In 2020, nearly half of all community-dwelling beneficiaries had FFS Medicare plus supplemental coverage (commonly obtained through Medicaid, a former employer, and/or a Medigap plan they purchased themselves).[18] Another 45 percent were enrolled in an MA plan or other managed care plan (including some who were dually eligible for Medicare and Medicaid). Only 9 percent of beneficiaries were in FFS Medicare without any supplemental coverage to reduce their cost sharing (Figure 1-8).

Approximately one in five Medicare beneficiaries receives help paying their Part B premiums (and, in some cases, help with cost sharing) through their state's Medicaid program (Boards of Trustees 2023, Centers for Medicare & Medicaid Services 2023a). Similarly, approximately one in five Medicare beneficiaries receives help with their out-of-pocket retail prescription drug costs through the Part D low-income subsidy (LIS) (Medicare Payment Advisory Commission 2023).

Beneficiaries of different races and ethnicities tend to have different types of Medicare coverage, according to our analysis of the 2021 Medicare Current Beneficiary Survey. Looking at the three largest race and ethnicity categories, we found that White beneficiaries were much more likely to have FFS coverage coupled with some type of private health insurance (obtained through an employer or purchased individually, such as a Medigap plan): 44 percent of White beneficiaries had this combination of coverage in 2021, compared with 17 percent of Black beneficiaries and 15 percent of Hispanic beneficiaries. Enrollment in MA plans was more common among Hispanic and Black beneficiaries: 62 percent of Hispanic beneficiaries and 59 percent of Black beneficiaries were in MA plans, compared with 43 percent of White beneficiaries. Hispanic and Black beneficiaries were more likely to be dually enrolled in Medicaid and/or receiving the Part D LIS. For example, nearly half of Hispanic and Black beneficiaries received the LIS, compared with 12 percent of White beneficiaries. And among beneficiaries dually enrolled in Medicare and Medicaid, Black and Hispanic beneficiaries were two to three times more likely to enroll in an MA plan than traditional FFS coverage, while White dual enrollees were equally likely to enroll in FFS or MA.[19]

Among all Medicare beneficiaries, 7 percent reported having problems paying a medical bill, according to our analysis of CMS's 2021 Medicare Current Beneficiary Survey, but some subpopulations experienced affordability issues at notably higher rates than others.

For instance, among beneficiaries under the age of 65 (most of whom are disabled), 20 percent reported problems paying a medical bill. (Beneficiaries under age 65 tend to require more health care services than beneficiaries ages 65 and over but have lower incomes than them (Cubanski et al. 2016, Medicare Payment Advisory Commission 2023).) Beneficiaries under age 65 who were not dually enrolled in Medicaid, and thus lacked additional help paying for their health care costs, were especially likely to report problems paying a medical bill (24 percent reported this problem).

Among partial-benefit dual-eligible beneficiaries, 23 percent reported problems paying a medical bill. (Partial-benefit dual-eligible beneficiaries receive Medicaid assistance with premiums and, in some cases, cost sharing but do not qualify for additional Medicaid benefits that full-benefit dual-eligible beneficiaries receive, such as dental care and nonemergency medical transportation.)

Among beneficiaries enrolled in FFS with no supplemental coverage, 14 percent reported problems paying a medical bill.

Affordability problems can be particularly acute for beneficiaries who are prescribed high-priced medicines and have incomes and assets that are modest but too high for them to qualify for Medicaid or the Part D low-income subsidy. One study found that among Medicare beneficiaries not receiving the low-income subsidy who were prescribed high-priced specialty drugs, one in three did not fill prescriptions for anticancer drugs, one in five did not fill prescriptions for hepatitis C curative therapies, and well over half did not fill prescriptions for drugs for immune system disorders and high cholesterol (Dusetzina et al. 2022).

Restraining the annual growth in Medicare payment rates to providers and plans can help beneficiaries more easily afford their prescription drugs and health care since it translates to lower premiums and lower cost sharing for beneficiaries.

## Leading causes of death are heart disease and cancer

In most years, the leading causes of death in the U.S.—both among people ages 65 and over and the general population—are heart disease and cancer (National Center for Health Statistics 2022a, National Center for Health Statistics 2022b).

During certain months of the recent coronavirus pandemic, COVID-19 at times displaced heart disease and/or cancer as the leading or second-leading cause of death among the general population (Ortaliza et al. 2022). When looking at annual totals, COVID-19 was the third-leading cause of death in 2020 and 2021 and the fourth-leading cause of death in 2022 (Ahmad et al. 2023, Ahmad et al. 2022, Ahmad et al. 2021).

While 2023 statistics on cause of death are not yet available, it seems unlikely that COVID-19 will continue

to be one of the U.S.'s leading causes of death since by mid-2023 the rate of "excess deaths" directly or indirectly caused by COVID-19 had declined to nearly zero (Centers for Disease Control and Prevention 2023).

CMS actuaries have found that the Medicare beneficiaries who died of COVID-19 in the initial years of the pandemic tended to be high-cost beneficiaries with multiple medical conditions; the surviving beneficiaries are estimated to be healthier and require fewer services, on average. By 2029, actuaries project that this effect will subside and beneficiary case mix will return to a more typical composition (Boards of Trustees 2023).

## Life expectancy at age 65 has increased, but some groups of beneficiaries have lower longevity and worse access to care

Since Medicare's early years, life expectancy at age 65 has increased by more than four years. By 2019, a person who reached the age of 65 was expected to live an additional 19.6 years—up from 15.2 years in 1970 (National Center for Health Statistics 2023). But throughout this period, life expectancy has varied by race/ethnicity, and sex. In 2019, among individuals who lived to age 65, Black and American Indian or Alaska Native individuals could expect to live an additional 18.2 years, White individuals could expect an additional 19.5 years, Hispanic individuals could expect another 21.6 years, and Asian individuals could expect another 23.4 years (Figure 1-9).[20] Women's life expectancy is approximately 2.5 to 3.5 years longer than men's, depending on the racial and ethnic group (Figure 1-9).

Life expectancy at age 65 has steadily increased over time. But in recent years, life expectancy has declined—largely due to the recent coronavirus pandemic. In 2020, life expectancy for people at age 65 declined by 1.1 years, dropping from 19.6 to 18.5 years (Murphy et al. 2021). Life expectancy at age 65 then declined by an additional 0.1 years in 2021, as the pandemic continued (Xu et al. 2022). Provisional data for 2022 indicate that life expectancy at age 65 rose in 2022 by 0.5 years, from 18.4 to 18.9 years—returning to the approximate life expectancy observed in 2008 (Arias et al. 2023). (Analyses of the differences in life expectancy by race/ethnicity, or sex in these more recent years are not yet available.)

To examine whether beneficiaries of different races and ethnicities have different access to care, we analyzed CMS's 2021 Medicare Current Beneficiary Survey and the Commission's 2023 access-to-care survey.[21] For most questions related to accessing care, the share of beneficiaries of different races and ethnicities who reported a particular experience varied by only a small amount.

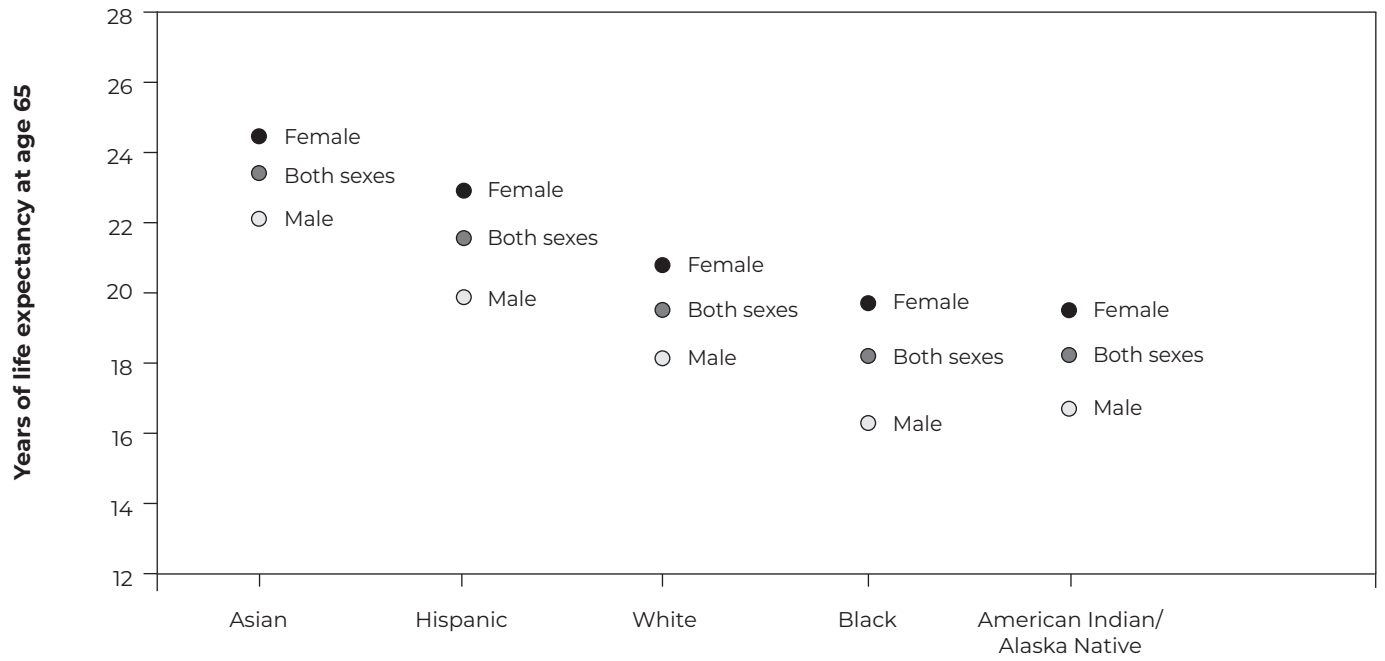
That said, a few substantive differences did emerge—several of which suggest that White beneficiaries may have better access to care than some other racial and ethnic subgroups. For example, CMS's survey found that lower shares of White beneficiaries reported problems paying a medical bill (5 percent) compared with Black beneficiaries (14 percent), American Indian beneficiaries (14 percent), multiracial beneficiaries (13 percent), and Hispanic beneficiaries (8 percent).[22,23] And the Commission's survey found that White beneficiaries were more likely to report receiving any health care in the past year (95 percent) compared with Hispanic beneficiaries (86 percent) and Black beneficiaries (92 percent). Similarly, we found that White beneficiaries were less likely to report seeing no specialists in the past year (20 percent) compared with Hispanic beneficiaries (37 percent) and Black beneficiaries (33 percent).

A few of our findings suggest that multiracial beneficiaries may have worse access to care than other beneficiaries. For example, CMS's survey found that multiracial beneficiaries were less likely to report having a usual source of care that was not an emergency department or an urgent care center compared with White beneficiaries (88 percent vs. 94 percent) and more likely to report being unsatisfied with the availability of care by specialists (14 percent vs. 7 percent). Multiracial beneficiaries were also more likely to report trouble getting care compared with White beneficiaries (14 percent vs. 7 percent) and more likely to report delaying care due to cost in the past year (12 percent vs. 5 percent).[24]

Since beneficiaries of different races and ethnicities tend to enroll in different types of Medicare coverage,

**FIGURE 1–9**

**Years of life expectancy at age 65, by race/ethnicity and sex, 2019**




Note: Figure shows most recent available data for different combinations of race/ethnicity and sex. "Asian," "White," "Black," and "American Indian/Alaska Native" all exclude individuals with Hispanic ethnicity.

Source: National Center for Health Statistics. *Health, United States, 2020–21,* Table LExpMort, released 2022. https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/Health_US/hus20-21tables/lexpmort.xlsx.

and that coverage could be influencing their experiences accessing care, we further disaggregated the results of CMS's survey to examine the experiences of beneficiaries of different races and ethnicities from among subgroups of beneficiaries who all had the same type of Medicare coverage. In most cases, the differences between the shares of beneficiaries of different races and ethnicities who reported a given experience were small and not statistically significant. But again, some statistically significant differences did emerge. For example, among beneficiaries with higher incomes and assets (i.e., those who were not dually enrolled in Medicaid and Medicare and those not receiving the Part D low-income subsidy), Black and Hispanic beneficiaries were more likely than White beneficiaries to report experiencing problems paying a medical bill and to report being in "fair" or "poor" health. And among beneficiaries with lower incomes and assets (i.e., those who had full Medicaid benefits and those receiving the Part D low-income subsidy), White beneficiaries were more likely to report forgoing care that they thought they should have gotten compared with Black and Hispanic beneficiaries.

## The Commission's recommendations to slow Medicare spending growth and improve access to care

Several aspects of Medicare's payment systems hamper the program's ability to maximize program efficiencies and beneficiaries' access to care. The Commission regularly makes recommendations to address these issues. Our annual March report recommends updates to Medicare payment rates for

various types of providers, which can be positive or negative depending on our assessment of the adequacy of Medicare payments for each sector. Our annual June report typically offers broader recommendations aimed at restructuring the way Medicare's payment systems work. For example, we have recommended changing how payments for MA plans are calculated and adopting site-neutral payments for services that can safely be provided in more than one care setting. A list of the Commission's recommendations, with links to relevant report chapters, is available at medpac.gov/recommendation/. The Commission's recommendations are based on our review of the latest available data and are aimed at obtaining good value for the Medicare program's expenditures—which means maintaining beneficiaries' access to high-quality services while encouraging efficient use of resources. ■

# Endnotes

1 CMS also paid health care providers $107.2 billion from March 2020 to June 2021 through the COVID-19 Accelerated and Advance Payments Program; the agency recouped 99 percent of these funds by 2023 (Boards of Trustees 2023). These short-term loans are not captured in CMS's national health expenditures data, which reflect Medicare spending on an "incurred" basis and which we rely on for Figure 1-1 (p. 8), but they are included in the Medicare Trustees' spending tallies, which generally present spending on a "cash" basis and which we use in Figure 1-2 (p. 12). Accelerated and Advance Payments affected cash spending but not incurred spending.

2 Some of the new funding made available during the pandemic (e.g., the Paycheck Protection Program) was used for fraudulent purposes. As of August 2023, the Department of Justice had seized $1.4 billion in stolen COVID-19 relief funds and charged over 3,000 defendants with crimes (Department of Justice 2023).

3 Although the share of spending accounted for by private health insurance is greater than Medicare's share, private health insurance is not a single purchaser of health care; rather, it includes many private plans, including managed care, self-insured health plans, and indemnity plans.

4 The waiver of some of Medicare's rules during the pandemic may have increased the risk of fraudulent Medicare claims. For example, CMS modified its provider enrollment screening process during the pandemic by waiving fingerprint-based criminal background checks for provider types that pose a high risk for fraud, waste, and abuse. After seeing a spike in enrollments by suppliers of durable medical equipment, prosthetics, orthotics, and supplies (DMEPOS), which is a provider type CMS considers to pose a moderate or high risk for fraud, waste, and abuse, CMS reintroduced these requirements in July 2020. It also revoked enrollments for providers found to be ineligible to participate in Medicare—83 percent of whom were DMEPOS suppliers (Government Accountability Office 2022).

5 A "highly" concentrated market has a Herfindahl-Hirschman Index (HHI) value above 2,500. The HHI is calculated by summing the squares of individual firms' market shares, thus giving proportionately greater weight to larger market shares (Department of Justice and Federal Trade Commission 2010).

6 "Super" concentrated markets have an HHI above 5,000.

7 While the share of surveyed physicians who reported private equity ownership in their practices in 2020 was well below 10 percent for most specialties, it was between 10 percent and 15 percent for emergency medicine and anesthesiology (Kane 2021).

8 The Inflation Reduction Act of 2022's redesign of the Part D benefit is expected to have a minor impact on future Medicare spending—first increasing spending growth rates and then lowering them. In 2024 and 2025, Part D spending is expected to accelerate as beneficiaries' out-of-pocket spending is reduced (through provisions in the law that eliminate the 5 percent coinsurance that beneficiaries pay in the catastrophic phase of the benefit and cap their annual out-of-pocket drug spending at $2,000). Starting in 2026, growth in Part D spending is expected to slow, due to the Medicare Drug Negotiation Program and a provision that links drug price increases to the consumer price index (Keehan et al. 2023).

9 In addition to MA, other types of private health plans are available to a limited subset of Medicare beneficiaries: Medicare–Medicaid Plans, Program of All-Inclusive Care for the Elderly (PACE) plans, and cost-based (as opposed to capitated) plans. As of July 2023, only about 2 percent of the beneficiaries in private plans are in one of these types of non-MA plans.

10 MA enrollees in preferred provider organization plans or HMO point-of-service plans generally have some out-of-network coverage with up to 50 percent coinsurance, but out-of-network care is generally not covered in HMO plans. In cases where medically necessary care is not obtainable in network, all MA plans must allow enrollees to go out-of-network and pay in-network cost sharing. See Chapter 12 for more information on MA plan types.

11 Baby boomers are people born in the period between the end of World War II and the mid-1960s.

12 Workers and their employers split the cost of the payroll tax (workers pay 1.45 percent and employers pay the remaining 1.45 percent). Meanwhile, self-employed people pay both the worker's and the employer's share of this tax, totaling 2.9 percent of their net earnings. High-income workers pay an additional 0.9 percent of their earnings above $200,000 for single workers or $250,000 for married couples.

13 The HI Trust Fund's income derives from several sources, including payroll taxes (which made up 89 percent of the trust fund's income in 2022), taxation of higher-income individuals' Social Security benefits (8 percent), interest earned on trust fund investments (1 percent), and premiums collected from voluntary participants (1 percent) (Boards of Trustees 2023).

14 According to Medicare's Trustees, if Medicare's HI Trust Fund balance is depleted, "Medicare could pay health plans and providers of Part A services only to the extent allowed by ongoing tax revenues—and these revenues would be inadequate to fully cover costs," which they warn could rapidly curtail beneficiary access to care. However, the Trustees note that lawmakers have never allowed the HI Trust Fund assets to be depleted (Boards of Trustees 2023).

15 General revenues primarily consist of individual and corporate taxes but also include customs duties, leases of government-owned land and buildings, the sale of natural resources, usage and licensing fees, and payments to agencies (Department of Treasury 2022).

16 For example, Medicare's Trustees assume that starting in 2026, clinicians who are not in advanced alternative payment models (A–APMs) will receive lower annual updates to their Medicare physician fee schedule payment rates (0.25 percent per year) than clinicians who are in A–APMs (0.75 percent per year), and that these updates will not be replaced with updates that are more reflective of medical inflation (which is projected to average 2 percent per year in the long term). Medicare's Trustees also assume that bonuses clinicians currently receive for participating in A–APMs will end after 2025 and that positive adjustments to payment rates that clinicians receive if they demonstrate "exceptional" performance under the Merit-based Incentive Payment System (MIPS) will end after 2024—and not be extended through legislative intervention.

17 In 2024, beneficiaries will no longer be required to pay cost sharing when they reach the catastrophic phase of the Part D benefit, and in 2025, out-of-pocket costs in Part D will be capped at $2,000, which is expected to decrease cost sharing. (In 2021, roughly 1.5 million beneficiaries reached the catastrophic phase and would have benefited from this cap.)

18 The share of community-dwelling Medicare beneficiaries who report having traditional FFS coverage with public or private supplemental coverage has declined from nearly three-quarters of beneficiaries in 2000 to about half of beneficiaries in 2020, according to our analysis of CMS's Medicare Current Beneficiary Survey data (Medicare Payment Advisory Commission 2022, Medicare Payment Advisory Commission 2019, Medicare Payment Advisory Commission 2018, Medicare Payment Advisory Commission 2003).

19 The enrollment statistics in this paragraph are based on our analysis of the 2021 Medicare Current Beneficiary Survey's Survey file for noninstitutionalized beneficiaries enrolled in both Part A and Part B. The statistics in this paragraph are calculated using a different, simpler approach compared with the statistics shown in Figure 1-8, p. 20.

20 Hispanic individuals' superior longevity despite worse profiles on some social determinants of health has puzzled demographers for decades and has been referred to as the "Hispanic health paradox." A definitive explanation for this paradox has yet to be identified, but researchers hypothesize that Hispanic individuals' longevity may be due to immigration dynamics (with Hispanics who enter the U.S. tending to be relatively healthy, and Hispanics who leave the U.S. to return to their home countries tending to be older and less healthy), low rates of cigarette smoking, and high levels of family support (Dominguez et al. 2015).

21 CMS's 2021 Medicare Current Beneficiary Survey was fielded among about 13,000 community-dwelling Medicare beneficiaries of all ages, and the Commission's 2023 survey was fielded among about 5,000 Medicare beneficiaries ages 65 and over.

22 We use "American Indian" as a shorthand here for beneficiaries who are American Indian, Alaska Native, Native Hawaiian, or Pacific Islander, whom we combined together in this analysis to increase statistical power.

23 All of the race/ethnicity subgroups we report on are non-Hispanic except the "Hispanic" group.

24 The share of multiracial and White beneficiaries who reported a given experience in CMS's survey are statistically significantly different from each other at the 95 percent confidence level. We also observed some potentially meaningful differences in the experiences of American Indian/Alaska Native/Native Hawaiian/Pacific Islander beneficiaries and White beneficiaries in CMS's survey, but these differences were often not statistically significant (which may have been in part due to the small number of surveyed beneficiaries in the former subgroup). Asian and White beneficiaries generally reported similar care experiences in CMS's survey.

# References


Abelson, R. 2018. When hospitals merge to save money, patients often pay more. *New York Times*, November 14.

Ahmad, F. B., J. A. Cisewski, and R. N. Anderson. 2022. Provisional mortality data–United States, 2021. *Morbidity and Mortality Weekly Report* 71, no. 17: 597–600.

Ahmad, F. B., J. A. Cisewski, A. Minino, et al. 2021. Provisional mortality data–United States, 2020. *Morbidity and Mortality Weekly Report* 70, no. 14: 519–522.

Ahmad, F. B., J. A. Cisewski, J. Xu, et al. 2023. Provisional mortality data–United States, 2022. *Morbidity and Mortality Weekly Report* 72, no. 18 (May 5): 488–492.

American Medical Association. 2023a. 2022 AMA prior authorization (PA) physician survey. https://www.ama-assn.org/system/files/prior-authorization-survey.pdf.

American Medical Association. 2023b. *Slide presentation to MedPAC conveying selected results from the 2022 AMA Physician Practice Benchmark Survey.* September 20.

Arias, E., K. Kochanek, J. Xu, et al., Department of Health and Human Services. 2023. *Provisional life expectancy estimates for 2022.* Hyattsville, MD: National Center for Health Statistics. November. https://www.cdc.gov/nchs/data/vsrr/vsrr031.pdf.

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.

Beaulieu, N. D., M. E. Chernew, J. M. McWilliams, et al. 2023. Organization and performance of U.S. health systems. JAMA 329, no. 4 (January 24): 325–335.

Beaulieu, N. D., L. S. Dafny, B. E. Landon, et al. 2020. Changes in quality of care after hospital mergers and acquisitions. *New England Journal of Medicine* 382, no. 1 (January 2): 51–59.

Boards of Trustees, Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds. 2023. *2023 annual report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds.* Washington, DC: Boards of Trustees. https://www.cms.gov/oact/tr/2023.

Bureau of Labor Statistics, Department of Labor. 2023. CPI for all urban consumers (CPI–U). https://data.bls.gov/timeseries/CUUR0000SA0?years_option=all_years.

Capps, C., D. Dranove, and C. Ody. 2018. The effect of hospital acquisitions of physician practices on prices and spending. *Journal of Health Economics* 59 (May): 139–152.

Centers for Disease Control and Prevention. 2023. Excess deaths associated with COVID-19: Provisional death counts for COVID-19. https://www.cdc.gov/nchs/nvss/vsrr/covid19/excess_deaths.htm.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2023a. Enrollment snapshots (national, state, and county): Quarterly release (06/2015-06/2022). https://www.cms.gov/files/zip/mmenrolleestatecountyqtrly.zip.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2023b. National health expenditure data: Historical. Baltimore, MD: CMS. https://www.cms.gov/data-research/statistics-trends-and-reports/national-health-expenditure-data/historical.

Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2020. COVID-19 experiences among the Medicare population: Summer 2020. https://www.cms.gov/files/document/medicare-current-beneficiary-survey-summer-2020-covid-19-data-snapshot.pdf.

Chernew, M. E., H. He, H. Mintz, et al. 2021. Public payment rates for hospitals and the potential for consolidation-induced cost shifting. *Health Affairs* 40, no. 8 (August): 1277–1285.

Chernew, M. E., A. L. Hicks, and S. A. Shah. 2020. Wide state-level variation in commercial health care prices suggests uneven impact of price regulation. *Health Affairs* 39, no. 5 (May): 791–799.

Congressional Budget Office. 2023. *The 2023 long-term budget outlook.* Washington, DC: CBO, June. https://www.cbo.gov/system/files/2023-06/59014-LTBO.pdf.

Congressional Budget Office. 2022. *The prices that commercial health insurers and Medicare pay for hospitals' and physicians' services.* Washington, DC: CBO. https://www.cbo.gov/publication/57422.

Cooper, Z., S. V. Craig, M. Gaynor, et al. 2015. *That price ain't right? Hospital prices and health spending on the privately insured.* NBER working paper no. 21815. Cambridge, MA: National Bureau of Economic Research.

Cubanski, J., T. Neuman, and A. Damico. 2016. *Medicare's role for people under age 65 with disabilities.* Washington, DC: Kaiser Family Foundation. https://www.kff.org/medicare/issue-brief/medicares-role-for-people-under-age-65-with-disabilities/.

Curto, V., A. D. Sinaiko, and M. B. Rosenthal. 2022. Price effects of vertical integration and joint contracting between physicians and hospitals in Massachusetts. *Health Affairs* 41, no. 5 (May): 741–750.

Dafny, L., M. Duggan, and S. Ramanarayanan. 2012. Paying a premium on your premium? Consolidation in the U.S. health insurance industry. *American Economic Review* 102, no. 2: 1161–1185.

Department of Justice. 2023. Justice Department announces results of nationwide COVID-19 fraud enforcement action. https://www.justice.gov/opa/pr/justice-department-announces-results-nationwide-covid-19-fraud-enforcement-action.

Department of Justice and Federal Trade Commission. 2010. *Horizontal merger guidelines.* Washington, DC: DOJ/FTC. https://www.justice.gov/sites/default/files/atr/legacy/2010/08/19/hmg-2010.pdf.

Department of Justice and Federal Trade Commission. 1996. *Statements of antitrust enforcement policy in health care.* Washington, DC: DOJ/FTC. https://www.ftc.gov/system/files/attachments/competition-policy-guidance/statements_of_antitrust_enforcement_policy_in_health_care_august_1996.pdf.

Department of Treasury. 2022. How much revenue has the U.S. government collected this year? https://fiscaldata.treasury.gov/americas-finance-guide/government-revenue/#:~:text=This%20comparison%20provides%20a%20sense,States%20that%20year%20%2425.02%20trillion.

Dobson, A., J. Davanzo, and N. Sen. 2006. The cost-shift payment "hydraulic": Foundation, history, and implications. *Health Affairs* 25, no. 1 (January–February): 22–33.

Dominguez, K., A. Penman-Aguilar, M. H. Chang, et al. 2015. Vital signs: Leading causes of death, prevalence of diseases and risk factors, and use of health services among Hispanics in the United States: 2009–2013. *Morbidity and Mortality Weekly Report* 64, no. 17 (May 8): 469–478.

Dusetzina, S. B., H. A. Huskamp, R. L. Rothman, et al. 2022. Many Medicare beneficiaries do not fill high-price specialty drug prescriptions. *Health Affairs* 41, no. 4 (April): 487–496.

Dushi, I., and B. Trenkamp. 2021. *Improving the measurement of retirement income of the aged population.* ORES working paper no. 116. Washington, DC: Social Security Administration. https://www.ssa.gov/policy/docs/workingpapers/wp116.html.

Emerson, J. 2023. Meet America's largest employer of physicians: UnitedHealth Group. *Becker's Payer Issues*, February 16. https://www.beckerspayer.com/payer/meet-americas-largest-employer-of-physicians-unitedhealth-group.html.

Federal Trade Commission. 2023. FTC challenges private equity firm's scheme to suppress competition in anesthesiology practices across Texas. https://www.ftc.gov/news-events/news/press-releases/2023/09/ftc-challenges-private-equity-firms-scheme-suppress-competition-anesthesiology-practices-across.

Federal Trade Commission. 2016a. *The accuracy of hospital merger screening methods.* Working paper no. 326. Washington, DC: FTC. https://www.ftc.gov/system/files/documents/reports/accuracy-hospital-merger-screening-methods/rwp_326.pdf.

Federal Trade Commission. 2016b. 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.

Fox, W., and J. Pickering. 2008. *Hospital & physician cost shift: Payment level comparison of Medicare, Medicaid, and commerical payers.* New York: Milliman.

Frakt, A. 2015. Hospitals are wrong about shifting costs to private insurers. *New York Times*, March 23.

Furukawa, M. F., L. Kimmey, D. J. Jones, et al. 2020. Consolidation of providers into health systems increased substantially, 2016–18. *Health Affairs* 39, no. 8 (August): 1321–1325.

Gaynor, M., F. Mostashari, and P. B. Ginsberg. 2017. *Making health care markets work: Competition policy for health care.* Washington, DC: Leonard D. Schaeffer Initiative for Innovation in Health Policy.

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.

Ginsburg, P. B. 2023. Government and commercial insurer payment rates to hospitals: A commentary on Priselac. *Health Affairs Forefront*, September 25.

Government Accountability Office. 2022. *Medicare: CMS needs to address risks posed by provider enrollment waivers and flexibilities.* GAO–23–105494. Washington, DC: GAO.

Government Accountability Office. 2021. *Physician workforce: Caps on Medicare-funded graduate medical education at teaching hospitals.* GAO–21–391. Washington, DC: GAO. May 21.

Government Accountability Office. 2019. *Health care workforce: Views on expanding Medicare graduate medical education funding to nurse practitioners and physician assistants.* GAO–20–162. Washington, DC: GAO. December.

Guardado, J. R., and C. Kane. 2023. *Competition in health insurance: A comprehensive study of U.S. markets.* Chicago, IL: American Medical Association. https://www.ama-assn.org/system/files/competition-health-insurance-us-markets.pdf.

Hartman, M., A. B. Martin, L. Whittle, et al. 2024. National health care spending in 2022: Growth similar to prepandemic rates. *Health Affairs* 43, no. 1 (January): 6–17.

Health Care Cost Institute. 2023. *2021 health care cost and utilization report.* Washington, DC: HCCI. April. https://healthcostinstitute.org/images/pdfs/HCCI_2021_Health_Care_Cost_and_Utilization_Report.pdf.

Health Care Cost Institute. 2020. *2018 health care cost and utilization report.* Washington, DC: HCCI.

Herman, B. 2022. The health insurer will see you now: How UnitedHealth is keeping more profits, as your doctor. *Stat News*, December 5. https://www.statnews.com/2022/12/05/unitedhealth-keeping-profits-as-your-doctor-insurer/.

Kaiser Family Foundation. 2020. *How much more than Medicare do private insurers pay? A review of the literature.* Washington, DC: KFF.

Kane, C. 2023. *Policy research perspectives: Recent changes in physician practice arrangements: Shifts away from private practice and towards larger practice size continue through 2022.* Chicago, IL: American Medical Association. https://www.ama-assn.org/system/files/2022-prp-practice-arrangement.pdf.

Kane, C. 2021. *Policy research perspectives. Recent changes in physician practice arrangements: Private practice dropped to less than 50 percent of physicians in 2020.* Chicago, IL: American Medical Association.

Karaca, Z., and K. R. Fingar. 2020. *Health system affiliation and characteristics of inpatient stays at rural and metropolitan hospitals, 2016.* Rockville, MD: Agency for Healthcare Research and Quality. October. https://www.ncbi.nlm.nih.gov/pubmed/33164886.

Keehan, S. P., J. A. Fiore, J. A. Poisal, et al. 2023. National health expenditure projections, 2022-31: Growth to stabilize once the COVID-19 public health emergency ends. *Health Affairs* 42, no. 7 (July): 886–898.

Koma, W., T. Newman, G. Jacobson, et al. 2020. *Medicare beneficiaries' financial security before the coronavirus pandemic.* Washington, DC: Kaiser Family Foundation. https://www.kff.org/medicare/issue-brief/medicare-beneficiaries-financial-security-before-the-coronavirus-pandemic/.

La Forgia, A., A. M. Bond, R. T. Braun, et al. 2022. Association of physician management companies and private equity investment with commercial health care prices paid to anesthesia practitioners. *JAMA Internal Medicine* 182, no. 4 (April 1): 396–404.

Landi, H. 2022. Amazon scoops up primary care company One Medical in deal valued at $3.9B. *Fierce Healthcare,* July 21. https://www.fiercehealthcare.com/health-tech/amazon-shells-out-39b-primary-care-startup-one-medical.

LoSasso, A. T., K. Toczydlowski, and Y. Yang. 2023. Insurer market power and hospital prices in the U.S. *Health Affairs* 42, no. 5 (May): 615–621.

Medicare Payment Advisory Commission. 2023. *A data book: Health care spending and the Medicare program.* Washington, DC: MedPAC. https://www.medpac.gov/wp-content/uploads/2023/07/July2023_MedPAC_DataBook_SEC.pdf.

Medicare Payment Advisory Commission. 2022. *A data book: Health care spending and the Medicare program.* Washington, DC: MedPAC. https://www.medpac.gov/wp-content/uploads/2022/07/July2022_MedPAC_DataBook_SEC_v2.pdf.

Medicare Payment Advisory Commission. 2021. *Report to the Congress: Medicare and the health care delivery system.* Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2020. *Report to the Congress: Medicare payment policy.* Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2019. *A data book: Health care spending and the Medicare program.* Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2018. *A data book: Health care spending and the Medicare program.* Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2017. *Report to the Congress: Medicare and the health care delivery system.* Washington, DC: MedPAC.

Medicare Payment Advisory Commission. 2003. *A data book: Health care spending and the Medicare program.* Washington, DC: MedPAC.

Murphy, B. 2022. 6 things medical students should know about physician compensation. American Medical Association. https://www.ama-assn.org/medical-students/specialty-profiles/6-things-medical-students-should-know-about-physician.

Murphy, S. L., K. Kochanek, J. Q. Xu, et al. 2021. *Mortality in the United States, 2020.* NCHS data brief, no. 427. Hyattsville, MD: National Center for Health Statistics.

National Center for Health Statistics. 2023. Health, United States, 2020-2021: Table LExpMort. https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/Health_US/hus20-21tables/lexpmort.xlsx.

National Center for Health Statistics. 2022a. Health, United States, 2020-2021: Table LCODAge. https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/Health_US/hus20-21tables/lcodage.xlsx.

National Center for Health Statistics. 2022b. Health, United States, 2020-2021: Table LCODRace. https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/Health_US/hus20-21tables/lcodrace.xlsx.

Neprash, H. T., M. E. Chernew, A. L. Hicks, et al. 2015. Association of financial integration between physicians and hospitals with commercial health care prices. *JAMA Internal Medicine* 175, no. 12 (December): 1932–1939.

Office of the Actuary, Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2023. Memorandum from John D. Shatto and M. Kent Clemens regarding projected Medicare expenditures under an illustrative scenario with alternative payment updates to Medicare providers. March 31.

Ortaliza, J., K. Amin, and C. Cox. 2022. COVID-19 leading cause of death ranking. Peterson-KFF Health System Tracker. https://www.healthsystemtracker.org/brief/covid-19-leading-cause-of-death-ranking/.

Priselac, T. M. 2023. The cost shift, the health care ecosystem, and commercial prices. *Health Affairs Forefront*, September 25.

RAND Corporation. 2022. *Environmental scan on consolidation trends and impacts in health care markets.* Report prepared by RAND Health for the Office of the Assistant Secretary for Planning and Evaluation at the U.S. Department of Health & Human Services.

Roberts, E. T., M. E. Chernew, and J. M. McWilliams. 2017. Market share matters: Evidence of insurer and provider bargaining over prices. *Health Affairs* 36, no. 1 (January 1): 141–148.

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.

Schappert, S. M., and L. Santo, Department of Health and Human Services. 2023. *Percentage of office-based physicians accepting new Medicare, Medicaid or privately insured patients in the United States: National Ambulatory Medical Care Survey, 2021.* Hyattsville, MD: National Center for Health Statistics. https://www.cdc.gov/nchs/data/namcs/2021-P3P4-NAMCS-Provider-Data-Dictionary-COVID-Dashboard-RDC-Researcher-Use-508.pdf.

Scheffler, R. M., L. Alexander, B. D. Fulton, et al. 2023. *Monetizing medicine: Private equity and competition in physician practice markets.* Washington, DC: American Antitrust Institute. July 10. https://www.antitrustinstitute.org/wp-content/uploads/2023/07/AAI-UCB-EG_Private-Equity-I-Physician-Practice-Report_FINAL.pdf.

Scheffler, R. M., and D. R. Arnold. 2017. Insurer market power lowers prices in numerous concentrated provider markets. *Health Affairs* 36, no. 9 (September 1): 1539-1546.

Scheffler, R. M., D. R. Arnold, and C. M. Whaley. 2018. Consolidation trends in California's health care system: Impacts on ACA premiums and outpatient visit prices. *Health Affairs* 37, no. 9 (September): 1409–1416.

Sinaiko, A. D., V. E. Curto, K. Ianni, et al. 2023. Utilization, steering, and spending in vertical relationships between physicians and health systems. *JAMA Health Forum* 4, no. 9 (September 1): e232875.

Trish, E. E., and B. J. Herring. 2015. How do health insurer market concentration and bargaining power with hospitals affect health insurance premiums? *Journal of Health Economics* 42 (July): 104–114.

UnitedHealth Group. 2023. Investor conference 2023. https://www.unitedhealthgroup.com/content/dam/UHG/PDF/investors/2023/ic23/Investor-Conference-2023-Book.pdf.

Villagrana, M. A. 2022. Medicare graduate medical education payments: An overview. Washington, DC: Congressional Research Service. September 29. https://crsreports.congress.gov/product/pdf/IF/IF10960.

Whaley, C. M., B. Briscombe, R. Kerber, et al. 2022. *Prices paid to hospitals by private health plans.* Santa Monica, CA: RAND. https://www.rand.org/pubs/research_reports/RRA1144-1.html.

Whaley, C. M., X. Zhao, M. Richards, et al. 2021. Higher Medicare spending on imaging and lab services after primary care physician group vertical integration. *Health Affairs* 40, no. 5 (May): 702–709.

White, C. 2013. Contrary to cost-shift theory, lower Medicare hospital payment rates for inpatient care lead to lower private payment rates. *Health Affairs* 32, no. 5 (May): 935–943.

Xu, J., S. Murphy, K. Kochanek, et al. 2022. *Mortality in the United States, 2021.* NCHS Data Brief, no. 456 (December).