

CHAPTER

2

**Assessing payment adequacy
and updating payments in
fee-for-service Medicare**

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Chapter summary

As required by law, the Commission annually makes payment update recommendations for providers paid under Medicare’s traditional fee-for-service (FFS) payment systems. An update is the amount (usually expressed as a percentage change) by which the base payment to all providers in a payment system is changed relative to the prior year. To determine an update, we first assess the adequacy of Medicare payments to providers in the current year (2023) by considering beneficiaries’ access to care, the quality of care, providers’ access to capital, and how Medicare payments compare with providers’ costs. As part of that process, we examine whether payments will support the efficient delivery of services, consistent with our statutory mandate. We then make a judgment about what, if any, update is needed for the policy year in question (for this report, 2024). (The Commission also assesses Medicare payment systems for Part C (Medicare Advantage) and Part D (outpatient prescription drug coverage) in this report and makes recommendations as appropriate. Because they are not FFS payment systems, however, they are not discussed in this chapter.)

Providers’ financial status and the pattern of Medicare spending in 2020 and 2021 varied substantially from historical patterns. In the spring of 2020, many health care sectors experienced large reductions in

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- Assessing the adequacy of Medicare payments in 2023
- Considering anticipated payment and cost changes in 2023
- Recommending how Medicare payments should change in 2024
- Payment adequacy in context

the demand for services, resulting in temporary financial distress for some providers. In response, the Congress and CMS extended federal grants to providers and temporarily altered certain Medicare payment policies. At least in part, those actions offset the short-term financial effects of the coronavirus public health emergency (PHE) for many providers. Some providers eventually returned funds to the federal government because their finances recovered faster than expected. Those temporary actions, even if not precisely targeted, were a commensurate response to the immediate financial effects of the PHE. In 2021, aggregate demand for services rebounded in many health care sectors, although not to prepandemic levels in every sector.

To fulfill our congressional mandate to update Medicare's payment systems, we must confine our focus to factors that we expect will affect payment adequacy in 2024. To the extent that the pandemic effects are temporary or vary significantly across individual providers, they are best addressed through targeted temporary funding policies. Because updates are cumulative—that is, they compound each year—they are not the preferred policy response to abrupt but temporary changes in the demand for health care. Where we expect the effects on providers' costs to persist into 2024, the policy year for our recommendations, those changes are noted in each sector's payment adequacy discussion and factor into our estimates of payment adequacy.

This year, we consider recommendations in seven FFS payment systems for the following sectors: acute care hospitals, physicians and other health professional services, outpatient dialysis facilities, skilled nursing facilities, home health agencies, inpatient rehabilitation facilities, and hospice providers. We also include recommendations to redistribute current disproportionate share hospital and uncompensated care payments, and to provide additional resources to Medicare safety-net hospitals and clinicians who furnish care to Medicare beneficiaries with low incomes. The Commission previously considered an annual update recommendation for ambulatory surgical centers (ASCs). However, because Medicare does not require ASCs to submit data on the cost of treating beneficiaries, we have no new significant data to inform an ASC update recommendation for 2024 and thus decided to provide a status report on ASCs instead of an update recommendation. Previously, the Commission also considered an annual update recommendation for long-term care hospitals (LTCHs). However, as the number of cases that qualified for payment under Medicare's prospective payment system for LTCHs declined, we became more concerned about small sample sizes in our analyses of this sector.¹ As a result, we will no longer provide an annual payment adequacy

analysis for LTCHs but will continue to monitor that sector and provide periodic status reports.

The Commission examines all available indicators of payment adequacy and reevaluates any assumptions from prior years, using the most recent data available to make sure its recommendations accurately reflect current conditions. We use the best available data and changes in payment policy to project margins for 2023 and make payment recommendations for 2024, accounting for anticipated changes in providers' costs up to 2024. Because of standard data lags, the most recent complete data we have are generally from 2021. We also used preliminary data from 2022 when available. The coronavirus PHE has created additional data lags, most notably for cost reports because the deadlines for their submission were extended. These data lags have affected some health care sectors more than others.

In considering updates to payment rates, we may make recommendations that redistribute payments within a payment system to correct any biases that may make treating patients with certain conditions financially undesirable, make certain procedures unusually profitable, or otherwise result in inequity among providers. We may recommend changes to improve program integrity where we deem it necessary. Our goal is to apply consistent criteria across settings, but because conditions at baseline and anticipated changes between baseline and the policy year may vary, the recommended updates may vary across sectors.

The Commission also examines payment rates for services that can be provided in multiple settings. Medicare often pays different amounts for similar services across settings. Basing the payment for services that lead to similar health outcomes on the rate in the lowest-cost setting would in many cases save money for Medicare, reduce cost sharing for beneficiaries, and reduce the financial incentive to provide services in the higher-paid setting. However, aligning FFS payment rates across settings is not a simple matter. The definitions of services provided and characteristics of beneficiaries served in the different settings must be sufficiently similar to warrant the same payment, and we must try to anticipate unintended consequences.

Our recommendations in this report, if adopted, could significantly change the revenues that providers receive from Medicare. Payment rates set to cover the costs of relatively efficient providers—that is, those with lower costs and higher quality—help induce all providers to control their costs and improve

quality, thereby helping the Medicare program get more value for its spending. Furthermore, Medicare rates have broader implications for health care spending because they are used in setting payments for other federal and state government programs and private health insurance. Thus, while maintaining fiscal pressure on health care providers through payment rate updates directly benefits the Medicare program, it can also help control health care spending across payers. ■

Background

The goal of Medicare payment policy should be to obtain good value for the program's expenditures, which means maintaining beneficiaries' access to high-quality services while encouraging efficient use of resources. Anything less does not serve the interests of the taxpayers and beneficiaries who finance Medicare through their taxes and premiums. Steps toward this goal involve:

- setting the base payment rate (i.e., the payment for services of average complexity) at a level that covers the reasonable cost to treat a beneficiary;
- developing payment adjustments that accurately reflect market, service, and patient cost differences beyond providers' control;
- adjusting payments to encourage high-quality care; and
- considering the need for annual payment updates and other policy changes.

To help determine the appropriate base payment rate for a given payment system in 2024, we generally first consider whether payments are adequate for relatively efficient providers in 2023. To inform the Commission's judgment, we examine the most recent available data on beneficiaries' access to care, the quality of care, and providers' access to capital. We then consider anticipated policy and cost changes to project Medicare payments and providers' costs for 2023. Taking these factors into account, we recommend how Medicare payments for the sector in aggregate should change for 2024.

Within any given level of funding for a sector, we may also consider changes in payment policy to improve relative payment accuracy across patients and services. Such changes are intended to improve equity among providers or access to care for beneficiaries and may also affect the distribution of payments among providers in a sector. For example, in 2020, the Commission recommended that CMS replace the low-volume payment adjustment and the rural adjustment in the end-stage renal disease prospective payment system (PPS) with a single payment adjustment that would better target additional payments to dialysis facilities that are isolated and have low volume. Occasionally, the Commission considers

both redistributing current levels of funding and adding or subtracting resources. One example is the recommendation in this report to redistribute current disproportionate share hospital and uncompensated care payments and to add funding for Medicare safety-net payments using the Commission-developed Medicare Safety-Net Index to support hospitals that are key sources of care for low-income Medicare beneficiaries (see Chapter 3).

We also make recommendations to improve program integrity when needed. In some cases, our data analyses reveal problematic variation in service utilization across geographic regions or providers. For example, in 2016, we recommended that the Secretary closely examine the coding practices of certain inpatient rehabilitation facilities that appeared to result in very high Medicare margins (Medicare Payment Advisory Commission 2016b).

We compare our update and other policy recommendations for 2024 with the base payment rates specified in law to understand the implications for beneficiaries, providers, and the Medicare program. As has been the Commission's policy in the past, our recommendations each year consider the most current data and, in general, recommend updates for a single year.

As of the writing of this report in 2023, the pandemic is entering its fourth year. In 2021 and 2022, the Delta and Omicron variants of the virus contributed to subsequent spikes in coronavirus disease 2019 (COVID-19) cases. Those waves in case volume led to surges in hospitalizations and protracted strain on health care workers. In late 2020 and in 2021, the Food and Drug Administration (FDA) granted emergency-use authorization to several COVID-19 vaccines and therapies, and by spring 2021, nearly two-thirds of surveyed Medicare beneficiaries said they had received at least one vaccine dose (Centers for Medicare & Medicaid Services 2021). Yet COVID-19 variants continue to evolve, and the effect of virus transmission on the demand for health care services remains uncertain. As of the writing of this report, the coronavirus public health emergency (PHE) is scheduled to end on May 11, 2023, but we will continue to analyze the effects of the pandemic going forward. Because many of the analyses in this report use data from 2021, we recount, below, the timeline of the pandemic and related policies in 2020 and 2021

**TABLE
2-1**

Select pandemic-related temporary Medicare policy changes

Setting	Temporary change
Hospital	<ul style="list-style-type: none"> • Provided a 20 percent Medicare IPPS add-on payment for stays with a principal or secondary diagnosis of COVID-19 through the end of the PHE. • Provided an enhanced IPPS payment for eligible inpatient cases that use certain new products authorized or approved to treat COVID-19, effective November 2, 2020, through the end of the fiscal year in which the PHE ends.
Physicians and clinicians	<ul style="list-style-type: none"> • Added more than 140 new PFS services to the telehealth list, extending some of them through the end of the fiscal year in which the PHE ends. • Permitted clinicians to provide telehealth services regardless of the beneficiary’s location through the end of the PHE or December 31, 2024, whichever is later. • Waived requirements that physicians and NPPs be licensed in the state where they are providing services for individuals who meet certain conditions.
SNF	<ul style="list-style-type: none"> • Waived the requirement for a 3-day prior hospitalization for coverage of a SNF stay and authorized renewed SNF coverage without starting a new benefit period through the end of the PHE.
Home health	<ul style="list-style-type: none"> • Waived the requirement for an RN to conduct an initial assessment visit, which can be performed remotely.
IRF	<ul style="list-style-type: none"> • Permitted telehealth to fulfill the face-to-face visit and supervision requirements through the end of the PHE. • Waived the 3-hour rule, which is intended to ensure that patients require an intensive rehabilitation program generally consisting of 3 hours of therapy at least 5 days per week, through the end of the PHE. • Permitted exclusion of patient stays resulting from the PHE for purposes of calculating the applicable thresholds associated with the 60 percent rule through the end of the PHE.
Hospice	<ul style="list-style-type: none"> • Allowed the use of telecommunications technology by the hospice physician or NP for the face-to-face visit when such visit is solely for the purpose of recertifying a patient for hospice services through the end of the PHE or December 31, 2024, whichever is later.

Note: IPPS (inpatient prospective payment systems), PFS (physician fee schedule), NPP (nonphysician practitioner), SNF (skilled nursing facility), RN (registered nurse), IRF (inpatient rehabilitation facility), PHE (public health emergency), PPS (prospective payment system), NP (nurse practitioner). As of the writing of this report, the PHE is scheduled to end on May 11, 2023. This list of temporary PHE-related Medicare policies is not exhaustive. For a comprehensive list, see Podulka and Blum (2020). Changes specific to individual sectors and their effects on our payment adequacy indicators are discussed in more detail in each chapter of this report.

Source: Podulka and Blum 2020.

to establish PHE-related conditions that affect our indicators of payment adequacy.

On January 31, 2020, the Secretary of Health and Human Services first declared the coronavirus PHE starting January 27, 2020.² In late March 2020, the nation’s health care system first began to experience enormous strain as COVID-19 patients filled hospital

emergency rooms and intensive care units, displacing other types of cases. Frontline health care workers faced burnout and risks to their health and safety treating COVID-19 cases. In nursing homes, the effects of COVID-19 have been devastating. Staff and residents accounted for a disproportionate share of COVID-19 cases and deaths as they faced the outbreaks with inadequate resources. Residents who remained in

nursing homes suffered from isolation as nursing homes closed to visitors. Meanwhile, the volume of ambulatory care services dropped sharply in the early months of the pandemic as patients delayed or avoided care and access to some services was curtailed to avoid spreading the disease.

To help respond to the enormous challenges of the pandemic, the Congress and CMS altered Medicare payments and policies and granted regulatory flexibilities starting in March 2020 (Podulka and Blum 2020). Some of these measures have been phased out, but many are scheduled to remain in effect for the duration of the PHE, which, as noted above, is expected to continue until May 11, 2023. A plurality of the changes eased some provider eligibility requirements (Podulka and Blum 2020). Regulatory waivers allowed providers to furnish services outside the state where they are enrolled and permitted beneficiaries to receive care in settings other than acute care hospitals (e.g., homes, skilled nursing facilities (SNFs)) to allow for surge capacity in hospitals. Changes to post-acute care policies waived facility-specific criteria for payment designed to control use of specialized, high-cost settings like inpatient rehabilitation facilities (IRFs) but also added, in certain settings, reporting requirements related to the coronavirus pandemic. Other changes suspended audits and quality reporting requirements or granted more flexibility over which measures to report. CMS also expanded access to telehealth services, including temporarily eliminating geographic restrictions on where such services can be provided and expanding the types of services that can be furnished remotely.³ A sample of payment changes and waivers that can affect access, quality, and payments is shown in Table 2-1. We discuss policies that affected each sector in more detail in each of the chapters of this report.

The Congress also responded to the unfolding crisis by providing funding for providers (i.e., higher Medicare payments, grants, and loans). Key sources of federal funds included suspension of the 2 percent sequestration payment adjustment applied to all Medicare fee-for-service (FFS) claims; the Provider Relief Fund, which furnished qualified providers with payments for health care expenses or lost revenue due to the pandemic; the COVID-19 Accelerated and Advance Payments Program that provided advance Medicare payments that must be repaid;

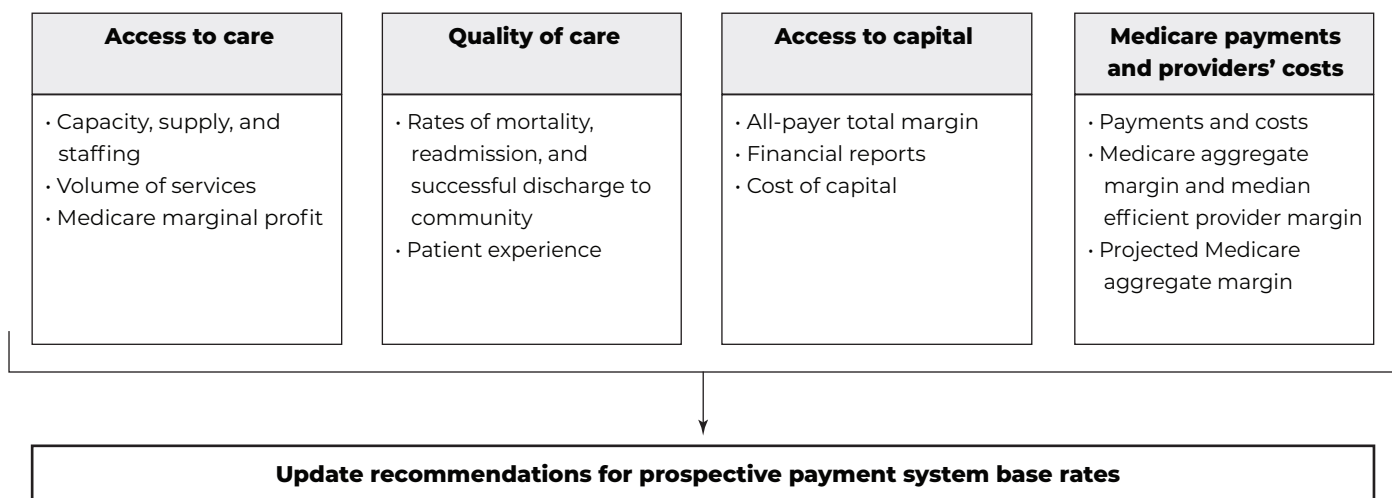
and the Paycheck Protection Program (PPP) loans for small businesses, including health care providers, which do not need to be repaid if recipients meet certain conditions. Several of those measures have subsequently ended, such as the PPP in May 2021 and the reinstatement of the sequester in March 2022.

In any year, factors unrelated to the adequacy of Medicare's payment rates can affect our indicators of access to care, quality, access to capital, and Medicare payments and providers' costs in the settings we examine. This year, as they will in future years, the direct and indirect effects of COVID-19 and PHE-related policy changes and emergency funding for providers made it more difficult to interpret some of our indicators of the adequacy of Medicare's payment rates, as discussed in more detail below. In our analysis of each sector, we have identified conceptually and, where possible, empirically how our payment adequacy indicators were affected by the PHE and related policies.⁴

Our recommendations in this report, if adopted, could significantly change the revenues that providers receive from Medicare. Payment rates set to cover the costs of relatively efficient providers help induce all providers to control their costs. Furthermore, Medicare rates have broader implications for health care spending because they are used in setting payments for other federal and state government programs and private health insurance. For example, most Medicare Advantage plans pay hospitals using rates that are comparable with, or based on, Medicare FFS rates (Berenson et al. 2015, Maeda and Nelson 2017); the Department of Veterans Affairs (VA) sets payment rates not to exceed Medicare FFS rates for most care provided in non-VA settings (Department of Veterans Affairs 2019); and the Medicaid program uses Medicare rates when setting maximum supplemental "upper payment limit" Medicaid FFS payments to hospitals (Medicaid and CHIP Payment and Access Commission 2019, Medicaid and CHIP Payment and Access Commission 2016). Some states use Medicare FFS rates as inputs for provider payments in public employee health plans (e.g., Montana) or in health plan options offered to their public constituents (e.g., Washington State) (Appleby 2018, Carlton et al. 2021). Thus, while maintaining fiscal pressure on health care providers through payment rate updates directly benefits the Medicare program, it can also help control health care spending across payers.

**FIGURE
2-1**

Payment adequacy framework



Note: We use different measures of margins in our payment adequacy analysis. “Medicare marginal profit” is an indicator of access to care, where Medicare marginal profit = (Medicare payment – costs of treating Medicare beneficiaries that vary with volume) / Medicare payment. The “all-payer total margin” is a measure of a sector’s access to capital, where the all-payer margin = (payments from all payers and sources – cost of providing services) / payments from all payers and sources. “Medicare aggregate margin” for a sector is a measure of the relationship between Medicare’s payments and providers’ costs for treating Medicare beneficiaries, where Medicare aggregate margin = (Medicare payments for service – cost of providing service) / Medicare payment for the service.

Source: MedPAC.

Assessing the adequacy of Medicare payments in 2023

The first part of the Commission’s approach to developing payment updates is to assess the adequacy of current Medicare payments. For each sector, we make a judgment by examining information on the following: beneficiaries’ access to care, quality of care, providers’ access to capital, and Medicare payments and providers’ costs for 2023.

Some measures focus on beneficiaries (e.g., access to care), and some focus on providers (e.g., the relationship between payments and providers’ costs). The direct relevance, availability, and quality of each type of information vary among sectors, and no single measure provides all the information needed for the Commission to judge payment adequacy. For example, to inform our assessment of payments for

physicians and other health professionals, we conduct a survey of beneficiary access. Ultimately, in making its recommendations, the Commission considers as many of these factors as are available. Figure 2-1 shows our payment adequacy framework and an example of the kind of factors used (when they are available) for a sector.

Beneficiaries’ access to care

Access to care is an important indicator of the willingness of providers to serve Medicare beneficiaries and the adequacy of Medicare payments. For example, poor access could indicate that Medicare payments are too low. However, factors unrelated to Medicare’s payment policies may also affect access to care, such as coverage policies, changes in the delivery of health care services, beneficiaries’ preferences, local market conditions, and supplemental insurance. In March and April 2020, for example, access was profoundly

influenced by the coronavirus pandemic. Many elective procedures were delayed or canceled, and many beneficiaries chose not to visit providers' offices and health care facilities because of the risk of contracting COVID-19 (Czeisler et al. 2020).

The measures we use to assess beneficiaries' access to care depend on the availability and relevance of information in each sector. We use results from several surveys to assess the willingness of physicians and other health professionals to serve beneficiaries and beneficiaries' opinions about their access to physician and other health professional services. For home health services, we examine data on whether communities are served by providers. To the extent that access continues to be affected by the pandemic, we will take that factor into account as well.

Access: Provider capacity, supply, and staffing

Rapid growth in the capacity of providers to furnish care may increase beneficiaries' access and indicate that payments are more than adequate to cover providers' costs. Changes in technology and practice patterns may also affect providers' capacity. For example, as a surgical procedure becomes less invasive, it might be more frequently performed in outpatient settings, freeing up some inpatient hospital capacity. Likewise, as the prices of certain pieces of equipment fall, they can be more easily purchased by providers, increasing the capacity to provide certain services.

Rapid entry of providers into a sector, particularly by for-profit entities, may suggest that Medicare's payments are more than adequate and could raise concerns about the value of the services being furnished. However, if Medicare is not the dominant payer for a given provider type (such as ambulatory surgical centers), changes in the number of providers may be influenced more by other payers and their demand for services and thus may be difficult to relate to Medicare payments. When the number of providers declines because of facility closures, we try to distinguish between closures that have serious implications for access to care and those that may have resulted from excess capacity. For example, in 2016, the Congress significantly reduced Medicare's payment rates for certain cases in long-term care hospitals (LTCHs); subsequently, many LTCHs closed. However, the closures occurred primarily in market areas with multiple LTCHs.

The PHE has had several other effects on provider capacity and supply that can confound our ability to interpret changes as indicators of Medicare payment adequacy. Supplemental payments or policies to waive Medicare's payment rules may have subsidized providers that would have exited the market otherwise, absent the PHE. Provider capacity was constrained in some settings and expanded in others due to the pandemic and policy changes, including waivers of payment rules and expanded telehealth access. One dimension of capacity is providers' staffing levels. Prior to the pandemic, employment in some provider sectors had been increasing steadily. After the pandemic's onset, employment in several sectors declined rapidly and, despite more recent modest increases, some providers continued to report critical staffing shortages at times during 2021 and 2022. Effects of the PHE on capacity have varied by geography and over time. Changes in the capacity and supply of providers we observe during the pandemic are not necessarily an indicator of inadequate Medicare base payment rates.

Access: Volume of services

The volume of services furnished by health care providers can be an indirect indicator of beneficiary access. An increase in volume shows that beneficiaries are receiving more services and suggests sufficient access in aggregate, although it does not necessarily demonstrate that the services are necessary or appropriate. Volume is also an indicator of payment adequacy: An increase in volume beyond what would be expected relative to the increase in the number of beneficiaries could suggest that Medicare's payment rates are too high. Very rapid increases in the volume of a service might even raise questions about program integrity or whether the definition of the corresponding benefit is too vague. By contrast, reductions in the volume of services can sometimes be a signal that revenues are inadequate for providers to continue operating or to provide the same level of service. Finally, rapid changes in volume between sectors whose services can be substituted for one another may suggest distortions in payment and raise questions about provider equity. For example, over the last several years, the volume of evaluation and management (E&M) office visits billed as being provided in hospital outpatient departments (HOPDs) has increased while the volume of E&M visits billed as

being provided in physicians' offices has decreased. This shift is likely driven at least in part by much higher payment rates for E&M visits in HOPDs than in physicians' offices.

However, changes in the volume of services are not direct indicators of access; increases and decreases can be explained by other factors such as population changes, changes in disease prevalence among beneficiaries, dissemination of new and improved medical knowledge and technology, deliberate policy interventions, and beneficiaries' preferences. For example, the number of beneficiaries in traditional FFS Medicare varies from year to year; therefore, we look at the volume of services per FFS beneficiary as well as the total volume of services. Explicit policy decisions can also influence volume. For example, during fiscal year 2016, LTCHs—as expected—changed their admitting practices largely in response to the implementation of a dual payment-rate system, and the number of admissions paid under the LTCH PPS decreased markedly.

Changes in the volume of physician services must be interpreted particularly cautiously. Findings from the literature are mixed, but some studies have shown that providers can respond to reductions in payment rates for discretionary services by increasing the volume or intensity of the services they provide (Brunt and Hendrickson 2021, Clemens and Gottlieb 2014, Congressional Budget Office 2020, Mitchell et al. 2002). Whether such an offsetting phenomenon might exist within other sectors would depend in part on how discretionary the services are and the degree to which providers are able to influence beneficiaries' demand for them.

During the early months of the 2020 coronavirus pandemic, the volume of services provided in many sectors decreased rapidly due to changes in demand and PHE-related shutdowns. In addition to the effects of the coronavirus itself, ongoing waivers related to the PHE also had the potential to affect the volume and mix of cases. In the physician sector, a decline in volume was accompanied by a rapid rise in the volume of telehealth services. By June, the number of office visits and telehealth visits combined was close to the volume experienced for office visits in previous years (during which the volume of telehealth visits was minimal). In most other sectors, volume rebounded by late June or July 2020. However, the volume of SNF services has

not fully recovered. Facility volume and employment at SNFs began to increase in 2022 but remained below prepandemic levels nationally, although rebounds in occupancy have varied geographically.

Access: Medicare marginal profit

Another factor we consider when evaluating access to care is whether providers have a financial incentive to expand the number of Medicare beneficiaries they serve. In considering whether to treat a patient, a provider with excess capacity compares the marginal revenue it will receive (e.g., the Medicare payment) with its marginal costs—that is, the costs to treat Medicare beneficiaries that vary with volume in the short term. If Medicare payments are larger than the marginal costs of treating an additional beneficiary, a provider has a financial incentive to increase its volume of Medicare patients. In contrast, if payments do not cover the marginal costs, the provider may have a disincentive to care for Medicare beneficiaries. We note, however, that in instances in which a sector does not have substantial excess capacity, where demand is suppressed, or in which Medicare composes a dominant share of a sector's patients, marginal profit may be a less useful indicator of access to care.

Quality of care

The relationship between quality of care and the adequacy of Medicare payment is not direct. Simply increasing payments through an update for all providers in a sector is unlikely to influence the overall quality of care that beneficiaries receive because there is no imperative for providers to devote the additional revenue to actions that are known to improve quality. Indeed, historically, Medicare payment systems created little or no incentive for providers to spend additional resources on improving quality.

The Medicare program has in more recent years implemented quality-based payment policies in several sectors; however, some issues have arisen. First, differentiating quality performance among providers when the number of cases per provider is relatively low is difficult. This issue has been particularly vexing in measuring quality performance for individual clinicians. Second, the Commission has been concerned that Medicare scores too many quality measures focused on process as opposed to patient outcomes (Medicare Payment Advisory Commission 2018). Many current

process measures are weakly correlated with outcomes of interest such as rates of mortality and readmissions. Most process measures focus on addressing the underuse of services, while the Commission believes that overuse and inappropriate use are also of concern. Third, reliance on provider-reported measures can create a burden on providers and can lead to biased reporting in response to strong financial incentives.

In our June 2018 report to the Congress, we formalized principles for designing Medicare quality incentive programs, which address these issues. In 2019, we applied these principles to recommend a hospital value incentive program that scores a small set of outcome, patient experience, and cost measures, and in 2020, we recommended changing the quality incentive program for Medicare Advantage to better evaluate quality and reward high-quality plans (Medicare Payment Advisory Commission 2020, Medicare Payment Advisory Commission 2019). In 2021, we made related recommendations for Medicare to eliminate the current SNF value-based purchasing program and to establish a new SNF value incentive program (Medicare Payment Advisory Commission 2021a).

While we examine our quality indicators using 2021 data, the trends in 2020 and 2021 were challenging to interpret due to the effects of the PHE on many of our outcome measures. We cannot draw conclusions about the relationship of quality measures to Medicare payment adequacy because our indicators reflect circumstances unique to the PHE. For example, increased mortality related to COVID-19 and capacity constraints at acute care hospitals could affect measures such as rates of readmission and discharge to the community. Further, with the exception of our analysis of the hospital sector in Chapter 3, most of our quality metrics rely on risk-adjustment models that do not explicitly account for the effects COVID-19.

Providers' access to capital

Providers must have access to capital to maintain and modernize their facilities and to improve patient care delivery. Widespread ability to access capital throughout a sector may reflect the adequacy of Medicare payments. Some sectors such as hospitals require large capital investments, and access to capital can be a useful indicator. Other sectors such as home health care do not need large capital investments, so access to capital is a more limited indicator. In some

cases, a broad measure such as changes in employment may be a useful indicator of financial health within a sector. Similarly, in sectors where providers derive most of their payments from other payers (such as ambulatory surgical centers) or other lines of business, or when conditions in the credit markets are extreme, access to capital may be a limited indicator of the adequacy of Medicare payments.

One indicator of a sector's access to capital is its all-payer profitability, reflecting income from all sources. We refer to this amount as the sector's all-payer margin, which is calculated as aggregate income, minus costs, divided by income. All-payer margins can inform our assessment of a sector's overall financial condition and hence its access to capital. All-payer margins in 2020 and 2021 reflect take-up of relief funds to the extent that they were included on providers' cost reports.

Medicare payments and providers' costs

To maintain Medicare beneficiaries' access to high-quality care while keeping financial pressure on providers to make better use of taxpayers' and beneficiaries' resources, for most sectors we investigate whether payments are adequate to cover the costs of relatively efficient providers, where available data permit such providers to be defined.

Relatively efficient providers use fewer inputs to produce quality outputs. Efficiency is higher if the same inputs are used to produce a higher-quality output or if fewer inputs are used to produce the same-quality output. The Commission's approach is to develop a set of criteria and then examine how many providers meet those criteria. It does not establish a set share of providers to be considered efficient and then define criteria to meet that pool size.

For providers that submit cost reports to CMS—acute care hospitals, SNFs, home health agencies, outpatient dialysis facilities, IRFs, and hospices—we estimate total Medicare-allowable costs and assess the relationship between Medicare's payments and those costs in 2021 (2020 for hospices, due to data lags). We typically express the relationship between payments and costs as a Medicare aggregate margin, which is calculated as aggregate Medicare payments for a sector, minus costs, divided by Medicare payments. By this measure, if costs increase faster than payments, margins will decrease.

The coronavirus pandemic and PHE-related policy changes and their interactions have affected Medicare payments and providers' costs in several ways. For example, during the PHE, Medicare cost per case may have increased due to decreased volume and pandemic-related costs. Provider Relief Fund payments, if accepted, were intended to cover the costs associated with lower Medicare volume. However, relief funds are not counted as Medicare revenue because they are not specifically tied to Medicare per case payments. As a result, Medicare margins could appear lower than they would, all else equal, if relief fund revenue were considered as Medicare payment. In our analysis of Medicare payments, we calculate a Medicare aggregate margin exclusive of relief funds (and assuming all else equal) as well as a Medicare aggregate margin inclusive of relief funds. To make this latter calculation, for most sectors, we allocated to Medicare payments a portion of relief funds received by a provider, using measures of Medicare's market share in 2019 such as the ratio of Medicare to all-payer revenue.

Use of Medicare aggregate margins

We assess the adequacy of Medicare payments relative to the costs of treating Medicare beneficiaries, and the Commission's recommendations address a sector's Medicare payments, not total payments. We calculate a sector's Medicare aggregate margin to determine whether total Medicare payments cover average providers' costs for treating Medicare patients and to inform our judgment about payment adequacy.⁵ Margins will always be distributed around the average, and a judgment of payment adequacy does not mean that every provider has a positive Medicare margin. To assess whether changes are needed in the distribution of payments, we calculate Medicare margins for certain subgroups of providers that have unique roles in the health care system or that receive special payments. For example, because location and teaching status enter into the payment formula used to pay acute care hospitals under the inpatient prospective payment systems (IPPS), we calculate Medicare margins based on where hospitals are located (in urban or rural areas) and their teaching status (major teaching, other teaching, or nonteaching).

In accordance with our authorizing statute, the Commission also, when feasible, computes a Medicare margin for efficient providers.⁶ The Commission

follows two principles when identifying a set of efficient providers. First, the providers must do relatively well on cost and quality metrics. Second, the performance must be consistent, meaning that the provider cannot have poor performance on any metric over the past three years. For example, in the hospital sector, the variables we use to identify relatively efficient hospitals are risk-adjusted all-condition mortality, risk-adjusted potentially preventable readmissions, and standardized inpatient Medicare costs per case. Our assessment of efficiency is not in absolute terms but, rather, relative to a comparison group—in this example, other IPPS hospitals. (We also make such assessments for the SNF, home health, and IRF sectors.) These assessments of efficient providers help us identify what may be a reasonable level of costs in a sector and hence the relationship between payments and costs that is needed to support Medicare beneficiaries' access to relatively high-quality care in that sector.

Multiple factors can contribute to changes in the Medicare margin, including changes in the efficiency of providers, changes in coding that may change payments, and other changes in the product (e.g., reduced lengths of stay at inpatient hospitals). Knowing whether these factors have contributed to margin changes may inform decisions about whether and how much to change base rate payment.

In sectors where the data are available, the Commission makes a judgment when assessing the adequacy of payments relative to costs. No single standard governs this relationship for all sectors, and margins are only one indicator for determining payment adequacy. Moreover, although payments can be ascertained with some accuracy, there may be no "true" value for reported costs, which reflect accounting choices made by providers (such as allocations of costs to different services) and the relationship of service volume to capacity in a given year. Further, even if costs are accurately reported, they reflect strategic investment decisions of individual providers, and Medicare—as a prudent payer—may choose not to recognize some of these costs or may exert financial pressure on providers to encourage them to reduce their costs.

Appropriateness of current costs

Our assessment of the relationship between Medicare's payments and providers' costs is complicated by

differences in providers' efficiency, responses to changes in payment systems, product changes, and cost-reporting accuracy. Measuring the appropriateness of costs is particularly difficult in new payment systems because changes in response to the incentives in the new system are to be expected. In other systems, coding may change. As an example, the IPPS introduced a new patient classification system in 2008 to improve payment accuracy. However, for several years after its implementation, it resulted in higher payments because provider coding became more detailed, making patient complexity appear higher—although the underlying patient complexity was largely unchanged. Any kind of rapid change in policy, technology, or product can make it difficult to measure costs per unit.

To assess whether reported costs reflect the efficient provision of service, we examine recent trends in the average cost per unit, variation in standardized costs and cost growth, and evidence of change in the product. Our goal is to pay enough to provide access to high-quality care for Medicare patients. We do not seek to adjust Medicare payments if other payers under- or overpay. For example, one issue Medicare faces is the extent to which private payers exert pressure on providers to constrain costs. If private payers do not exert pressure, providers' costs may increase and, all other things being equal, margins on Medicare patients would decrease.

Providers that are under pressure to constrain costs generally have managed to slow their growth in costs more than those who face less pressure (Medicare Payment Advisory Commission 2011, Robinson 2011, White and Wu 2014). Some have suggested that, in the hospital sector, costs are largely outside the control of hospitals and that hospitals shift costs onto private insurers to offset Medicare losses. This belief assumes that costs are immutable and not influenced by whether the hospital is under financial pressure. We find that costs do vary in response to financial pressure and that low margins on Medicare patients can result from a high cost structure that has developed in reaction to high private-payer rates. In other words, when providers (particularly nonprofit providers) receive high payment rates from insurers, they face less pressure to keep their costs low, and so, all other things being equal, their Medicare margins are low because

their costs are high. (For-profit providers may prefer to keep costs low to maximize returns to stockholders and, indeed, often have higher Medicare margins than similar nonprofit providers.)

Lack of pressure is more common in markets where a few providers dominate and have negotiating leverage over payers. This situation is becoming more common as providers continue to consolidate. We do not lower payments because of generous payments from private plans or raise them if other payers (for example, Medicaid) pay less. That said, we do recognize that access to care for Medicare beneficiaries will be affected by payment policies outside of Medicare. Moreover, we recognize that in some sectors, Medicare itself can, and should, exert greater pressure on providers to reduce costs.

Variation in cost growth among a sector's providers can give us insight into the range of performance that facilities can achieve. For example, if some providers' costs grow more rapidly than others in a sector, we might question whether those rapid increases are appropriate. Changes in product can also significantly affect unit costs. In home health care services, for instance, one would expect that substantial reductions in the number of visits per 30-day home health care period would reduce costs per period. If costs per period instead were to increase while the number of visits were to decrease, one would question the appropriateness of the cost growth and not increase Medicare payments in response.

In summary, Medicare payment policy should not be designed simply to accommodate whatever level of cost growth a sector demonstrates. Cost growth can oscillate from year to year depending on factors such as economic conditions and relative market power. Payment policy should accommodate cost growth only after considering a broad set of payment adequacy indicators, including the current level of Medicare payments.

Considering anticipated payment and cost changes in 2023

For most payment sectors, we estimate Medicare payments and providers' costs for 2023 to inform our update recommendations for 2024.

In general, to estimate payments, we first apply the annual payment updates specified in law for 2022 and 2023 to our base data (2021 for most sectors). We then model the effects of other policy changes that will affect the level of payments in 2023. Estimated Medicare payments reflect current law and expected volume.

Next, for each sector, we review evidence about the factors that are expected to affect providers' costs. To estimate 2023 costs, we consider the rate of input price inflation or historical cost growth, and, as appropriate, we adjust for changes in the unit of service (such as fewer visits per episode of home health care) and trends in key indicators (such as changes in the distribution of cost growth among providers). When considering the change in input price inflation, we refer to the price index that CMS uses for that sector. (These indexes are estimated quarterly; we use the most recent estimate available when we do our analyses.) For each sector of facility providers (e.g., hospitals, SNFs), we start with the forecasted increase in a sector-specific index of national input prices, called a "market basket index." For physician services, we start with a CMS-derived weighted average of price changes for inputs used to provide physician services. Forecasts of these indexes approximate how much providers' costs are projected to change in the coming year if the quality and mix of inputs they use to furnish care remained constant—that is, if there were no change in efficiency. Other factors may include the trend in actual cost growth, which could be used to inform our estimate if it differs significantly from the projected market basket.

The Commission's payment update recommendations for 2024 reflect the most recent inflation and other data from 2021, preliminary data from 2022, and projections for 2023. If current projections of input inflation and hospital costs turn out to be inaccurate, these discrepancies will be accounted for in our assessment of payment adequacy in our next recommendation cycle.

Recommending how Medicare payments should change in 2024

The Commission's judgments about payment adequacy, forthcoming policy changes, and expected cost

changes result in an update recommendation for each payment system. An update is the amount (usually expressed as a percentage change) by which the base payment for all providers in a payment system is changed relative to the prior year. In considering updates, the Commission makes its recommendations for 2024 relative to the 2023 base payment as defined in Medicare's authorizing statute—Title XVIII of the Social Security Act. The Commission's recommendations may call for an increase, a decrease, or no change from the 2023 base payment. For example, if the statutory base payment for a sector were \$100 in 2023, an update recommendation of a 1 percent increase for a sector means that we are recommending that the base payment in 2024 for that sector be 1 percent greater, or \$101. If the Congress or the Secretary does not adopt the Commission's recommendation for a payment update, current law will continue to apply unless other actions are taken.

When our recommendations differ from current law or regulation, as they often do, the Congress and the Secretary of Health and Human Services would have to act and change law or regulation to put them into effect. Each year, we look at all available indicators of payment adequacy and reevaluate prior-year assumptions using the most recent data available. The Commission does not start with any presumption that an update is needed or that any increase in costs should be automatically offset by a payment update. Instead, an update (which may be positive, zero, or negative) is warranted only if it is supported by the empirical data, in the judgment of the Commission.

In conjunction with the update recommendations, we may also make recommendations to improve payment accuracy that might in turn affect the distribution of payments among providers. These distributional changes are sometimes, but not always, budget neutral. Our recommendation to shift payment weights from therapy to medically complex skilled nursing facility (SNF) cases is one example of a distributional change that affects providers differentially based on their patients' characteristics (Medicare Payment Advisory Commission 2016a).

The Commission, as it makes its update recommendations, may in some cases take into consideration payment differentials across sectors and make sure the relative update recommendations for

the sectors do not exacerbate existing incentives for providers to choose a site of care based on payment considerations. The difficulty of harmonizing payments across sectors to remove inappropriate incentives illustrates one weakness of FFS payment systems specific to each provider type and highlights the importance of moving beyond FFS to more global and patient-centric payment systems. As we continue to support moving Medicare payment systems toward those approaches, we will also continue to look for opportunities to rationalize payments for specific services across sectors to approximate paying the costs of the most efficient sector and lessen financial incentives that reward one sector over another.

Consistent payment for the same service across settings

A beneficiary can sometimes receive a similar service in different settings. Depending on which setting the beneficiary or the treating clinician chooses, Medicare and the beneficiary may pay different amounts. For example, when leaving the hospital, patients with joint replacements who require physical therapy might be discharged with home health care or outpatient therapy, or they might be discharged to a SNF or IRF, and Medicare payments (and beneficiary cost sharing) would differ widely as a result.

A core principle guiding the Commission is that Medicare should pay the same amount for the same service, even when it is provided in different settings. Putting this principle into practice requires that the definition of services in the settings and the characteristics of the patients be sufficiently similar. Where these conditions are not met, offsetting adjustments would have to be made to ensure comparability. Because Medicare's payment systems were developed independently and have had different update trajectories, payments for similar services can vary widely. Such differences create opportunities for Medicare and beneficiary savings if payment is set at the level applicable to the lowest-priced setting in which the service can be safely performed. For example, under the current payment systems, a beneficiary can receive the same physician visit service in a hospital outpatient clinic or in a physician's office. In fact, the same physician could see the same patient and provide the same service but, depending on whether the service is provided in an outpatient clinic

or in a physician's office, Medicare's payment and the beneficiary's coinsurance can differ by 80 percent or more.

In 2012, the Commission recommended that payments for E&M office visits in the outpatient and physician office sectors be made equal, recognizing that those services are comparable across the two settings. Specifically, we recommended setting payment rates for E&M office visits both in the outpatient department and physician office sectors equal to those in the physician fee schedule, lowering both program spending and beneficiary liability (Medicare Payment Advisory Commission 2012). In 2014, we extended that principle to additional services for which payment rates in the outpatient PPS should be lowered to better match payment rates in the physician office setting (Medicare Payment Advisory Commission 2014). In the Bipartisan Budget Act of 2015, the Congress made payment for outpatient departments for the same services equal to the physician fee schedule rates for those services at any new outpatient off-campus clinic beginning in 2018. We also recommended consistent payment between acute care hospitals and long-term care hospitals for certain categories of patients, and the Congress enacted a similar reform in the Pathway to SGR Reform Act of 2013 (Medicare Payment Advisory Commission 2014). In 2016, we recommended elements of a unified PAC PPS that would make payments based on patients' needs and characteristics, generally irrespective of the PAC entity that provides their care (Medicare Payment Advisory Commission 2016a). The Commission is continuing to study the circumstances when it is reasonable to align FFS payment rates for the same service provided at different sites of care.

Budgetary consequences

The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 requires the Commission to consider the budgetary consequences of our recommendations. Therefore, this report documents how spending for each recommendation would compare with expected spending under current law. We also assess the effects of our recommendations on beneficiaries and providers. Although we recognize budgetary consequences, our recommendations are not driven by any specific budget target but instead reflect our assessment of the level of payment that

efficient providers would need to ensure adequate beneficiary access to appropriate care.

Payment adequacy in context

As discussed in Chapter 1, it is essential to look at payment adequacy not only within the context of individual payment systems but also in terms of Medicare as a whole. The Commission is concerned by any increase in Medicare spending per beneficiary without a commensurate increase in value such as through higher quality of care or improved health status. Growth in spending per beneficiary, combined with the aging of the baby boomers, will result in the Medicare program absorbing increasing shares of the gross domestic product and federal spending. Medicare's rising costs are projected to exhaust the Hospital Insurance Trust Fund (which funds Medicare Part A) and significantly burden taxpayers. Therefore, moderating growth trends in Medicare spending per beneficiary is necessary and will require vigilance. The financial future of Medicare prompts us to look at payment policy and ask what can be done to develop, implement, and refine payment systems to reward quality and efficient use of resources while improving payment equity.

In many past reports, the Commission has stated that Medicare should institute policies that improve the program's value to beneficiaries and taxpayers. CMS has taken such steps, and we discuss them in the sector-specific chapters that follow. Ultimately, increasing Medicare's value to beneficiaries and taxpayers requires knowledge about the costs and health outcomes of services. Until more information about the comparative effectiveness of new and existing health care treatments and technologies is available, patients, providers, and the program will have difficulty determining what constitutes high-quality care and effective use of resources.

As we examine each of the payment systems, we also look for opportunities to develop policies that create incentives for providing high-quality care efficiently across providers and over time. Some of the current payment systems create strong incentives for increasing volume, and very few of these systems encourage providers to work together

toward common goals. Alternative payment models are meant to stimulate delivery system reform toward more integrated and value-oriented health care systems and may address these issues. In the near term, the Commission will continue to closely examine a broad set of indicators, make sure there is consistent pressure on providers to control their costs, and set a demanding standard for determining which sectors qualify for a payment update each year. In the longer term, pressure on providers may cause them to increase their participation in alternative payment models. We will continue to contribute to the development of those models and to increase their efficacy. ■

Endnotes

- 1 Since CMS began to phase in significant changes to the LTCH PPS in 2016, the number of LTCHs, the number of beneficiaries receiving LTCH services, and Medicare spending on LTCH care have declined considerably. This was the anticipated result of the dual payment-rate system for LTCHs, which mandates higher LTCH payment rates only for cases with an immediately preceding acute care hospital stay or for cases receiving prolonged mechanical ventilation.
- 2 The Secretary of Health and Human Services may determine that a disease or disorder presents a PHE or that a PHE otherwise exists (Office of the Assistant Secretary for Preparedness and Response 2021).
- 3 We addressed these temporary telehealth expansions in our March 2021 report, noting that policymakers should use data collected during the PHE before deciding whether any permanent policy changes should be implemented and should consider the effects on access, quality, and cost (Medicare Payment Advisory Commission 2021b).
- 4 The timing of cost reports affects our analysis of the impact of the PHE on providers' costs and Medicare's payments, especially in 2020.
- 5 In most cases, we assess Medicare margins for the services furnished in a single sector (e.g., SNF or home health care services) and covered by a specific payment system. However, in the case of hospitals, which often provide services that are paid for by multiple Medicare payment systems, our measures of payments and costs for an individual sector could become distorted because of the allocation of overhead costs or the presence of complementary services. For example, having a hospital-based SNF or IRF may allow a hospital to achieve shorter lengths of stay in its acute care units, thereby decreasing costs and increasing inpatient margins. For hospitals, we assess the adequacy of payments for the whole range of Medicare services they furnish—inpatient and outpatient (which together account for about 90 percent of Medicare payments to hospitals), SNF, home health care, psychiatric, and rehabilitation services—and compute an overall Medicare hospital margin encompassing costs and payments for all the sectors. The hospital update recommendation in Chapter 3 applies to hospital inpatient and outpatient payments; the updates for other distinct units of the hospital, such as SNFs, are covered in separate chapters.
- 6 Section 1805[11] of the Social Security Act [42 U.S.C. 1395b-6]:
“Specifically, the Commission shall review payment policies under parts A and B, including—

(i) the factors affecting expenditures for the efficient provision of services in different sectors, including the process for updating hospital, skilled nursing facility, physician, and other fees, (ii) payment methodologies, and (iii) their relationship to access and quality of care for Medicare beneficiaries.”

References

- Appleby, J. 2018. 'Holy cow' moment changes how Montana's state health plan does business. *Kaiser Health News*, June 20.
- Berenson, R. A., J. H. Sunshine, D. Helms, et al. 2015. Why Medicare Advantage plans pay hospitals traditional Medicare prices. *Health Affairs* 34, no. 8 (August): 1289–1295.
- Brunt, C. S., J. R. Hendrickson. 2021. Geographic variation in Part B reimbursement and physician offsetting behavior: A physician matching approach. *International Journal of Health Economics and Management* 21, no. 2 (June): 115–188.
- Carlton, S., J. Kahn, and M. Lee. 2021. Cascade Select: Insights from Washington's public option. *Health Affairs* blog, August 30. <https://www.healthaffairs.org/doi/10.1377/forefront.20210819.347789>.
- Centers for Medicare & Medicaid Services, Department of Health and Human Services. 2021. COVID-19 experiences among the Medicare population: Winter 2021. <https://www.cms.gov/files/document/medicare-current-beneficiary-survey-covid-19-data-snapshot-infographic-winter-2021.pdf>.
- Clemens, J., and J. D. Gottlieb. 2014. Do physicians' financial incentives affect medical treatment and patient health? *American Economic Review* 104, no. 4 (April): 1320–1349.
- Congressional Budget Office. 2020. *How CBO analyzes the costs of proposals for single-payer health care systems that are based on Medicare's fee-for-service program*. Washington, DC: CBO.
- Czeisler, M. E., K. Marynak, K. E. N. Clarke, et al. 2020. Delay or avoidance of medical care because of COVID-19-related concerns - United States, June 2020. *Morbidity and Mortality Weekly Report* 69, no. 36 (September 11): 1250–1257.
- Department of Veterans Affairs. 2019. Veterans Community Care Program. *Federal Register* 84, no. 108 (June 5): 26278–26310.
- Maeda, J., and L. Nelson. 2017. *An analysis of private-sector prices for hospital admissions*. Congressional Budget Office working paper 2017-02. Washington, DC: CBO.
- Medicaid and CHIP Payment and Access Commission. 2019. *Report to the Congress on Medicaid and CHIP*. Chapter 2: Oversight of upper payment limit supplemental payments to hospitals. Washington, DC: MACPAC.
- Medicaid and CHIP Payment and Access Commission. 2016. *Report to Congress on Medicaid disproportionate share hospital payments*. Washington, DC: MACPAC.
- Medicare Payment Advisory Commission. 2021a. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2021b. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2020. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2019. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2018. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2016a. *Report to the Congress: Medicare and the health care delivery system*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2016b. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2014. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2012. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Medicare Payment Advisory Commission. 2011. *Report to the Congress: Medicare payment policy*. Washington, DC: MedPAC.
- Mitchell, J. M., J. Hadley, and D. J. Gaskin. 2002. Spillover effects of Medicare fee reductions: Evidence from ophthalmology. *International Journal of Health Care Finance and Economics* 2, no. 3 (September): 171–188.
- Office of the Assistant Secretary for Preparedness and Response, Department of Health and Human Services. 2021. Renewal of determination that a public health emergency exists. <https://www.phe.gov/emergency/news/healthactions/phe/Pages/COVID-15April2021.aspx>.
- Podulka, J., and J. Blum. 2020. *Regulatory changes to Medicare in response to COVID-19*. Issue brief. Washington, DC: Commonwealth Fund. <https://www.commonwealthfund.org/publications/issue-briefs/2020/aug/regulatory-changes-medicare-response-covid-19>.
- Robinson, J. 2011. Hospitals respond to Medicare payment shortfalls by both shifting costs and cutting them, based on market concentration. *Health Affairs* 30, no. 7 (July): 1265–1271.
- White, C., and V. Y. Wu. 2014. How do hospitals cope with sustained slow growth in Medicare prices? *Health Services Research* 49, no. 1 (February): 11–31.