

C H A P T E R

3

Hospital inpatient and outpatient services

R E C O M M E N D A T I O N

3 The Congress should:

- Replace Medicare's current hospital quality programs with a new hospital value incentive program (HVIP) that:
 - includes a small set of population-based outcome, patient experience, and value measures;
 - scores all hospitals based on the same absolute and prospectively set performance targets;
 - accounts for differences in patients' social risk factors by distributing payment adjustments through peer grouping, and
- For 2020, update the 2019 Medicare base payment rates for acute care hospitals by 2 percent. The difference between the update recommendation and the amount specified in current law should be used to increase payments in a new HVIP.

COMMISSIONER VOTES: YES 17 • NO 0 • NOT VOTING 0 • ABSENT 0

Hospital inpatient and outpatient services

Chapter summary

In 2017, the Medicare fee-for-service (FFS) program paid 4,700 hospitals \$190 billion consisting of \$119 billion for about 10 million Medicare inpatient admissions, \$66 billion for about 200 million outpatient services, and \$6 billion for uncompensated care provided to non-Medicare patients. On net, inpatient payments increased by \$2.6 billion (2.2 percent) and outpatient payments increased by almost \$4.9 billion (8.1 percent). Inpatient payments increased primarily due to a 1 percent increase in payment rates, a slight increase in discharges per capita, and an increase in case mix. Outpatient payments increased due to rapid growth in Part B drug spending, a continued shift in the site of service billing from physician offices to hospital outpatient departments, and an increase in outpatient payment rates. In contrast, payments for uncompensated care decreased by about \$0.4 billion. Thus, on net, between 2016 and 2017, overall hospital spending increased \$7 billion. Over this same period, hospital spending per FFS beneficiary rose 4.3 percent, increasing from \$4,992 to \$5,208.

In this chapter

- Are Medicare payments adequate in 2019?
- How should Medicare payment rates change in 2020?

Assessment of payment adequacy

Most payment adequacy indicators (including access to care, quality of care, and access to capital) are positive. Average Medicare margins continue to be negative, although hospitals with excess capacity still have an incentive to see

Medicare beneficiaries because Medicare payment rates remain about 8 percent higher than the variable costs associated with Medicare patients.

Beneficiaries' access to care—Access measures for hospital services include the capacity of providers and the volume of services.

- ***Capacity and supply of providers***—In 2017, the average hospital occupancy rate was 62.5 percent, suggesting that hospitals have excess inpatient capacity in most markets. Because Medicare payments exceed the marginal cost of providing services, hospitals with excess capacity have a financial incentive to increase services provided to Medicare beneficiaries. Marginal profits were approximately 8 percent on average in 2017.
- ***Volume of services***—After declining over several years, inpatient use per beneficiary in 2017 increased by 0.7 percent. Outpatient visits per beneficiary also increased by 0.7 percent, a slower pace of outpatient volume growth than in recent years.

Quality of care—From 2013 to 2017, hospital mortality and readmission rates improved slowly. Patient satisfaction also improved somewhat: The share of patients who rated their hospital a 9 or 10 on a 10-point scale increased from 71 percent to 73 percent.

Providers' access to capital—Access to bond markets has been strong, with hospital bond offerings in 2015, 2016, and 2017 of \$24 billion, \$38 billion, and \$35 billion, respectively. While some hospitals struggle with low occupancy and limited access to capital, most hospitals have good access to capital because of strong all-payer profit margins. All-payer margins were 7.1 percent in 2017, only 0.1 percentage point below their all-time high of 7.2 percent in 2013.

Medicare payments and providers' costs—In 2017, hospitals' aggregate Medicare margin was –9.9 percent, down slightly from –9.7 percent in 2016. The profit margin for relatively efficient providers was about –2 percent. The decline in margins from 2016 to 2017 was primarily due to a decline in supplemental payments for uncompensated care and health information technology. Patient care margins, which exclude uncompensated care payments, increased slightly since 2016 due to a large increase in spending on Part B drugs, which have higher profit margins (in part due to the 340B program) than other hospital services. We project that the overall Medicare margin will decline to about –11 percent in 2019.

How should payment rates change in 2020?

For 2020, the Commission recommends that the Congress update Medicare inpatient and outpatient payment rates by 2 percent. This update recommendation

is based on indicators of beneficiaries' access to hospital care, hospitals' access to capital, hospital quality, and the relationship between Medicare payments and hospital costs. As we discuss in Chapter 15, the Commission is also recommending a new hospital value incentive program (HVIP) that aligns with the Commission's principles for quality measurement and replaces the current quality incentive programs. The difference between the 2 percent update and the update amount specified in current law (expected to be 2.8 percent) should be used to increase payments in the new HVIP. Together, these recommendations would increase hospital payments by increasing the base payment rate and by increasing the average rewards hospitals receive under the proposed Medicare HVIP. On net, the 2 percent update, the expected increase in the inpatient HVIP rewards (expected to be equal to 0.8 percent of all payments), and the elimination of the inpatient penalties in the current quality programs (equal to 0.5 percent of all payments) would be expected to increase hospital payment rates by an average of 3.3 percent. ■

**TABLE
3-1****Growth in Medicare inpatient and outpatient spending**

Hospital services	2007	2016	2017	Average annual percent change 2007–2016	Percent change 2016–2017
Inpatient services					
Total FFS payments (in billions)	\$111.3	\$116.0	\$118.6	0.5%	2.2%
Payments per FFS beneficiary	3,148	3,026	3,102	-0.4	2.5
Outpatient services					
Total FFS payments (in billions)	30.9	60.6	65.5	7.8	8.1
Payments per FFS beneficiary	953	1,799	1,950	7.3	8.4
Uncompensated care payments					
Total (in billions)	N/A	6.4	6.0	N/A	-6.7
Payments per FFS beneficiary	N/A	167	156	N/A	-6.4
Inpatient, outpatient, and uncompensated care payments					
Total FFS payments (in billions)	142.2	183.0	190.1	2.9	3.8
Payments per FFS beneficiary	4,101	4,992	5,208	2.3	4.3

Note: FFS (fee-for-service), N/A (not applicable). Reported hospital FFS spending includes all hospitals covered by Medicare's inpatient prospective payment system along with critical access hospitals and Maryland hospitals. Fiscal year 2017 payments include partial imputation to account for the hospitals that had not yet submitted cost reports covering fiscal year 2017. The combined amount for inpatient and outpatient services per capita is based on a weighted average of Part A and Part B services. Percent change columns were calculated before rounding and may not be computable from the payment data in the table, which were rounded.

Source: MedPAC analysis of CMS Medicare hospital cost reports and Medicare Provider Analysis and Review files.

Background

Medicare spending on hospitals

In 2017, the Medicare fee-for-service (FFS) program paid acute care hospitals almost \$119 billion for inpatient care, about \$66 billion for outpatient care, and \$6 billion in payments for uncompensated care (Table 3-1). From 2016 to 2017, inpatient payments increased by 2.2 percent, or \$2.6 billion. This growth in inpatient payments resulted from an increase in payment rates of 1 percent, a 0.7 percent increase in the number of inpatient admissions, and a 0.6 percent increase in inpatient case mix.¹ In the same period, outpatient payments per FFS beneficiary grew by 8.1 percent, or approximately \$5 billion. The increase in outpatient payments reflects a 20 percent increase in payments for Part B drugs, growing outpatient visit volume, and an increase in physician services billed as hospital outpatient services after hospitals acquired

physician practices. Driven largely by outpatient spending, overall Medicare spending on inpatient, outpatient, and uncompensated care increased 4.3 percent per FFS beneficiary in 2017.²

Part of the growth in Medicare spending per beneficiary could be due to the shift in beneficiaries toward Medicare Advantage (MA) plans. From 2016 to 2017, MA enrollment increased 1.3 million while FFS enrollment declined slightly. In addition, the shift of beneficiaries toward MA may have also altered the average health needs of the remaining pool of FFS beneficiaries. However, after examining changes in discharges and adjusting for changes in age, we still found a slight increase in inpatient use per FFS beneficiary from 2016 to 2017.

Acute inpatient prospective payment system

Medicare's inpatient prospective payment system (IPPS) pays acute care hospitals a predetermined amount for most

discharges. The payment rate is the product of a base rate and a relative weight that reflects the expected costliness of cases in a particular clinical category compared with the average of all cases. The labor-related portion of the base payment rate is adjusted by a hospital geographic wage index to account for differences in hospital input prices among market areas. Payment rates are updated annually.

To set inpatient payment rates, CMS uses a clinical categorization system called Medicare severity–diagnosis related groups (MS–DRGs). The MS–DRG system classifies each patient case into 1 of 761 groups, which reflect similar principal diagnoses, procedures, and severity levels. The severity levels are determined according to whether patients have a complication or comorbidity (CC) associated with the base MS–DRG (the categories are no CC, a nonmajor CC, or a major CC). A more detailed description of the acute IPPS, including payment adjustments, can be found at http://medpac.gov/docs/default-source/payment-basics/medpac_payment_basics_18_hospital_final_v2_sec.pdf?sfvrsn=0.

Hospital outpatient prospective payment system

The outpatient prospective payment system (OPPS) pays hospitals a predetermined amount per service. CMS assigns each outpatient service to 1 of about 700 ambulatory payment classification (APC) groups. Each APC has a cost-based relative weight, and a conversion factor translates these relative weights into dollar payment amounts. In 2014 and 2015, CMS implemented several policies that expanded the size of the OPPS payment bundles so that the OPPS has fewer primary services (also called separately payable services) and more packaged items and services. The most substantive of these policies was the establishment of comprehensive APCs (C–APCs), which combine all of the OPPS-covered services on the same claim into a single payment, including those that would otherwise be separately payable. Since introducing C–APCs in 2015, CMS has increased the number of C–APCs from 25 to 64.

How Medicare sets payment rates

Until 1984, Medicare paid hospitals based on their cost of care. Currently, Medicare pays hospitals rates under a prospective payment system (PPS), meaning rates are set prospectively and largely do not depend on individual hospitals' costs. One rationale for ending payments based on cost was that cost-based payments reduce the incentive for cost control. A second reason is that, as we will show later in this chapter, hospitals with higher costs are often

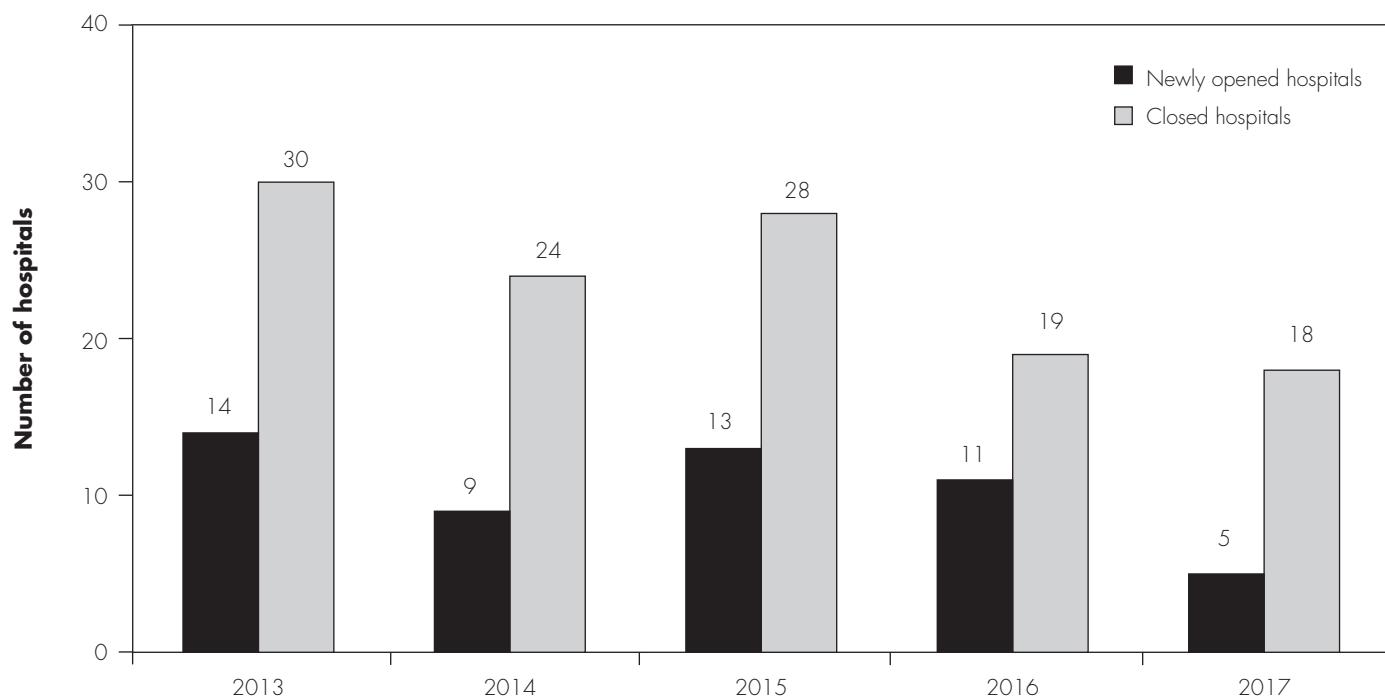
those under less financial pressure to constrain costs. Therefore, while Medicare continues to adjust payment rates for factors outside of hospitals' control (such as regional wage rates or patient characteristics), Medicare does not pay hospitals more for having high costs relative to neighboring hospitals with similar patients. In addition, Medicare does not pay more to hospitals with low costs because low costs are their own reward in a prospective payment system.

Links between Medicare's hospital payment rates and other payers' payment rates

Spending under Medicare's FFS payment system is used to set benchmarks for MA plans and for accountable care organizations (ACOs). More importantly, it is also the foundation of MA plans' payment rates to hospitals. In 2018, 33 percent of Medicare beneficiaries were in MA plans, and most MA plans paid hospitals using rates benchmarked to and almost exactly equal to Medicare FFS rates (Berenson et al. 2015, Maeda and Nelson 2017). In addition, the Department of Veterans Affairs began setting hospital rates equal to Medicare FFS rates in 2012 and annually pays for about \$2 billion of inpatient care at community hospitals (Government Accountability Office 2013). The rates that uninsured individuals pay are also often benchmarked to Medicare due to limits on rates charged to low-income uninsured individuals that were enacted in the Patient Protection and Affordable Care Act of 2010 (PPACA). The Medicaid program also uses Medicare rates when setting maximum supplemental "upper payment limit" Medicaid payments to hospitals (Medicaid and CHIP Payment and Access Commission 2016). Furthermore, Medicare rates can affect rates charged by commercial insurance. Most recently, Montana's state employee health plan fixed its hospital payment rates to 234 percent of Medicare (Appleby 2018). The treasurer of North Carolina has proposed a similar plan for its state employee health plan starting in 2020 (Tosczak 2018). Given the growth in the use of Medicare FFS prices as a benchmark, any update to the Medicare base payment amount will affect many other payers.

Are Medicare payments adequate in 2019?

To judge whether payments in 2019 are adequate for relatively efficient hospitals, we examine several indicators of payment adequacy. We consider beneficiaries' access

**FIGURE
3-1****Hospital closures and openings declined from 2013 to 2017**

Source: MedPAC analysis of the CMS Provider of Services file, internet searches, and personal communication with the Department of Health and Human Services Office of Rural Health Policy.

to care, changes in the quality of care, hospitals' access to capital, and the relationship of Medicare's payments to hospitals' costs for both average and relatively efficient hospitals. Most of our payment adequacy indicators for hospitals are positive, but 2017 Medicare margins remained negative for most hospitals and were about -2 percent for relatively efficient providers.

Beneficiaries' access to care remained good; excess inpatient capacity persisted

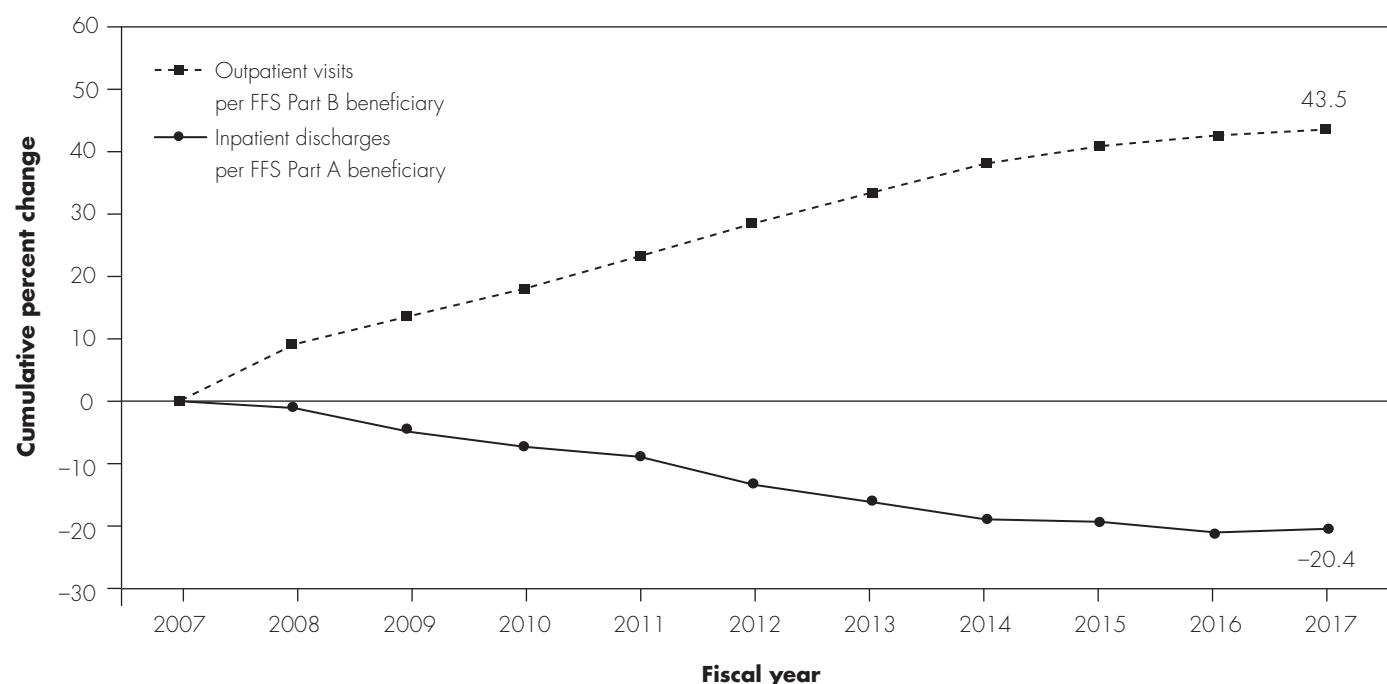
To evaluate access to care, we examine the availability of hospital services to Medicare beneficiaries by analyzing hospital employment growth, hospital closures, occupancy, hospitals' financial incentive to see Medicare patients, and other measures. Our framework also includes an evaluation of hospitals' access to capital, which provides an outlook on the industry's ability to sustain or expand its existing resources. Medicare beneficiaries' access to

hospital services remains good, in part because excess inpatient capacity persists in most markets.

Hospital closures decreased slightly in 2017

While closures are still relatively rare events, there have been slightly more hospital closures than hospital openings in recent years. In 2017, we identified 18 closures and 5 openings (Figure 3-1), a slight decrease from 2016 in both measures. Among those that closed in 2017, 10 were in urban counties and 8 were in rural counties. The hospitals that opened in 2017 were all in urban counties.

From 2015 to 2017, 65 hospitals closed and 29 opened. The hospitals that closed tended to be smaller (81 beds, on average), with low inpatient occupancy rates (22 percent, on average), and poor profitability (all-payer margin of -6 percent, on average) compared with average facilities. Of these closures, 65 percent were in states that did not expand their Medicaid program under PPACA, and 52

**FIGURE
3-2****Medicare inpatient discharges per beneficiary and outpatient visits per beneficiary increased from 2016 to 2017**

Note: FFS (fee-for-service). Data include general and surgical, critical access, and children's hospitals.

Source: MedPAC analysis of CMS's inpatient and outpatient claims and enrollment data.

percent were in rural counties and were, on average, 21 miles from the nearest hospital. Nine of the rural hospitals that closed were critical access hospitals and 11 were designated as Medicare-dependent hospitals. Urban hospitals that closed were an average of nine miles from the nearest hospital. Some hospitals that closed between 2015 and 2017 either converted to outpatient-only facilities (e.g., stand-alone emergency departments or imaging centers) or became post-acute care facilities; others closed completely. The 29 hospitals that opened over this 3-year period were often small (51 beds, on average), and 88 percent were urban. The newly opened hospitals are a mix of small full-service hospitals and small specialty or microhospitals.

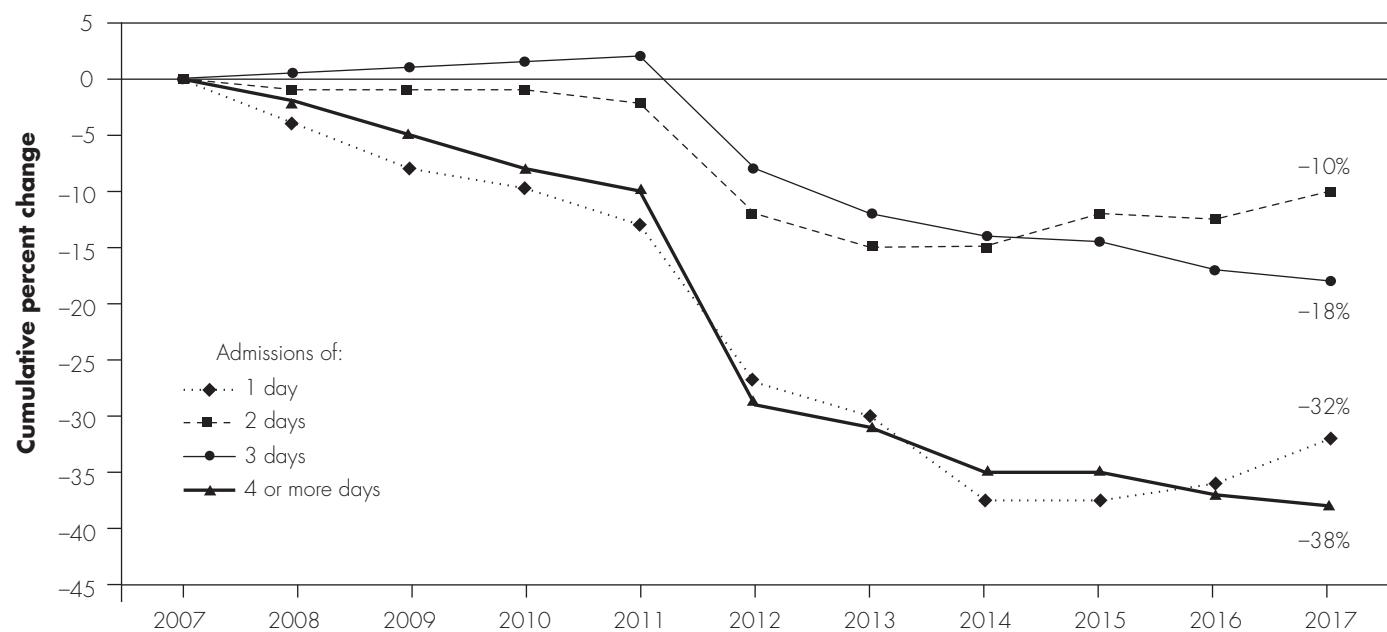
Despite closures, rural and urban hospitals have excess inpatient capacity

Despite some closures, existing hospitals often still have excess capacity. Between 2016 and 2017, aggregate

occupancy rates for hospitals increased slightly from 62.1 percent to 62.5 percent. However, a significant degree of inpatient capacity was still underutilized in 2017, which appeared more significant at rural hospitals. That year, the average occupancy rate of urban hospitals was 65.9 percent, while the average occupancy rate of rural hospitals was 40.2 percent. Over the past decade (2006 to 2017), hospital occupancy rates declined from 63.8 percent to 62.5 percent; this change occurred as the volume of Medicare inpatient admissions declined. Given excess inpatient capacity, some of these hospitals have sought to reduce their inpatient capacity and replace it with outpatient capacity (Barclays 2018, Goldberg 2018, Japsen 2018).

Modest increases in inpatient use

Between 2016 and 2017, inpatient discharges and outpatient visits per beneficiary increased by 0.7 percent. These small increases reflect a discontinuation of

**FIGURE
3-3****The number of short (one- and two-day-stay) Medicare inpatient discharges per beneficiary increased from 2016 to 2017**

Note: Data include general and surgical, critical access, and children's hospitals.

Source: MedPAC analysis of CMS's inpatient claims and enrollment data.

long-term trends where inpatient volume declined and outpatient volume increased rapidly. Despite the leveling of these trends, inpatient use is significantly lower and outpatient use is significantly higher than each was a decade earlier. From 2007 to 2017, inpatient discharges per beneficiary decreased 20.4 percent, while outpatient visits per beneficiary increased 43.5 percent (Figure 3-2).

The volume of Medicare inpatient discharges increased at urban hospitals and decreased at rural hospitals. From 2016 to 2017, Medicare inpatient discharges per beneficiary declined 0.4 percent at rural hospitals and 1.1 percent at small rural hospitals (fewer than 100 beds). By contrast, from 2016 to 2017, inpatient discharges increased 1.1 percent at urban hospitals. Over the past decade, from 2007 to 2017, inpatient discharges have declined across all geographic areas, but almost twice as fast in rural areas (-36 percent) as in urban areas (-17 percent) (data not shown). Moreover, from 2013 to 2017, the share of rural

beneficiaries' admissions occurring in urban hospitals increased from 46 percent to 53 percent.

Increase in inpatient discharges reflects growth in one-day and two-day stays

The slight increase in the volume of inpatient discharges from 2016 to 2017 reflects a 1.9 percent per beneficiary increase in medical cases and a 1.5 percent per beneficiary decrease in surgical cases (data not shown). Both inpatient medical and surgical cases have declined substantially between 2007 and 2017 (-19 percent and -23 percent, respectively).

One reason for the small increase in discharges in 2017 was an increase in inpatient discharges with short stays. Over the decade from 2007 to 2016, short inpatient discharges of one to four days generally declined (Figure 3-3). However, from 2016 to 2017, the volume of inpatient discharges classified as a one-day stay increased 6.6

percent, and the volume of two-day discharges increased 2.5 percent. This increase in short-stay discharges may be attributable to changes in CMS's Recovery Audit Contractor (RAC) program. The RAC program reduced audits of short hospital stays as a part of CMS's RAC program revisions.³

The increase in inpatient one-day cases in 2017 is in large part attributable to five medical and surgical MS-DRGs. Major joint replacements for lower extremities accounted for 51 percent of the increase in one-day discharges, increasing by more than 37,000 discharges since 2016. Other MS-DRGs accounting for a share of the one-day-stay increase include heart failure and shock (15 percent), major joint procedures of the upper extremities (8 percent), chronic obstructive pulmonary disease (7 percent), and septicemia (5 percent).

Growth in outpatient hospital services reflects growth in drug costs and incentives to shift patients to higher cost sites of care

From 2012 to 2017, Medicare spending for hospital outpatient services grew at an annual rate of 8.6 percent. Accounting for this strong growth rate was growth in:

- drug administration and the cost of drugs, especially for the treatment of cancer;
- emergency department visits and observation care;
- clinic visits, likely fueled by hospital acquisition of physician practices and hospital employment of physicians; and
- complex surgical procedures that often involve prosthetics or medical devices and that migrate from the inpatient setting.

Also, from 2013 to 2014, outpatient spending rose substantially (from \$46.5 billion to \$52.5 billion) due, in part, to CMS's decision to include most clinical laboratory tests in the OPPS packaged payment rates, whereas these tests had previously been paid and categorized under the clinical laboratory fee schedule.

Spending on Part B drugs has driven OPPS spending growth The largest source of OPPS spending growth has been Part B drugs, which include drugs that have pass-through status (drugs that are new to the market) and those that are not pass through but are separately payable under the OPPS. From 2012 to 2017, OPPS spending for these drugs increased from \$6.0 billion to \$12.0 billion,

an increase of 99 percent (14.8 percent per year). This rise reflects an increase in outpatient spending on drugs in general and a shift in the payment for the drugs from the physician fee schedule (when administered in a freestanding office) to the OPPS (when administered in the hospital outpatient department (HOPD)).

The growth in combined program spending and cost sharing for drugs has accelerated in recent years (2016 to 2017), increasing 18.2 percent. In that period, growth in spending on pass-through drugs was especially strong, increasing from \$1.3 billion to \$2.3 billion. Even though drug spending has increased under the OPPS, drugs are profitable overall in the outpatient setting because hospitals' revenues exceed their costs for drugs, largely driven by the substantial margins for drugs obtained through the 340B Drug Pricing Program, a federal program that requires drug manufacturers to provide outpatient drugs to certain hospitals at significantly reduced prices.

The growth in spending on Part B drugs reflects both price increases in existing drugs and the introduction of new, expensive cancer drugs. From 2012 to 2017, about 79 percent of the increase in spending on separately payable drugs was for those that treat cancer.⁴ During that period, OPPS spending on cancer drugs increased from \$4.1 billion to \$8.8 billion. While the increased drug spending resulted in an increased burden on taxpayers, it increased hospitals' profits on average in 2017 because of discounts from the 340B Drug Pricing Program. From 2016 to 2017, off-campus provider-based departments (PBDs) had an important impact on the increased OPPS spending on drugs. Drug spending in off-campus PBDs grew 25.5 percent and accounted for nearly 29 percent of the growth in total drug spending in HOPDs. The mix of services provided in off-campus PBDs is somewhat different from the mix of services provided in on-campus HOPDs (see text box on off-campus outpatient departments, pp. 76–77).

Observation and emergency visits increased through 2016 but leveled off in 2017 OPPS spending also has increased substantially for observation care. From 2012 to 2017, OPPS spending for observation care rose 263 percent, attributable to higher volume, updates to OPPS payment rates, and a substantial increase in the ancillary items included in the packaged payment rate for observation care in 2016. While the greater packaging of ancillary items increased spending on observation care, it lowered the spending on the ancillary items that were formerly paid for separately. From 2012 through 2017, the

**TABLE
3-2**

Hospital outpatient departments had strong spending growth for separately payable drugs, observation care, ED visits, clinic visits, and chemotherapy administration, 2012–2017

Service or item	Spending (in billions)		Percent change 2012–2017	Driver of growth
	2012	2017		
Drugs	\$6.0	\$12.0	99%	High-cost drugs, increased volume, shift from physician offices
Observation care	0.9	3.1	263	Larger payment bundle
ED visits	2.4	4.1	72	Larger payment bundle, coding to higher levels
Clinic visits	1.9	3.4	81	Shift from physician offices
Chemotherapy administration	0.4	0.7	84	Shift from physician offices
Total	43.2	65.5	52	

Note: ED (emergency department). Spending includes both program outlays and beneficiary coinsurance. "Drugs" refers to Part B drugs that are separately payable under the outpatient prospective payment system, which includes pass-through drugs and drugs that are separately payable but do not have pass-through status.

Source: MedPAC analysis of 2012 and 2017 hospital outpatient standard analytic claims files and data from the CMS Office of the Actuary.

volume of observation care increased spending by 19.7 percent, while updates to OPPS payment rates increased spending by 5.3 percent. Inclusion of certain ancillary items in the packaged payment rate for observation care was by far the biggest factor in spending on observation care, increasing spending by 188 percent. Growth in the volume of separately payable observation care has slowed. From 2016 to 2017, volume of observation stays fell 1.2 percent, and Medicare spending for these stays rose 1.0 percent.⁵

OPPS spending for emergency department (ED) visits also increased, rising by 72 percent from 2012 to 2017 (Table 3-2). Similar to observation care, a number of factors contributed to the increase in spending on ED visits, including increased volume, updates to the ED payment rates, increased packaging of ancillary items into the ED payment rates, and a shift of ED visits coded at lower acuity levels to higher acuity levels. While the increased packaging of ancillary items increased spending on ED visits, it decreased the spending on the ancillary items that CMS shifted from separately payable to packaged into the payment for ED visits. From 2012 to 2017, growth in the volume of ED visits increased spending by 8.4 percent, and updates to OPPS payment rates increased spending

by 5.3 percent. Increased packaging of ancillary items into ED visits increased OPPS spending by 25.1 percent (and decreased spending on separately payable lab tests). Finally, we have found that a shift in the coding of ED visits from low-acuity levels (which have lower payment rates) to higher acuity levels (which have higher payment rates) increased ED spending by 20.3 percent from 2012 to 2017. Similar to observation care, growth in ED visits has slowed. From 2016 to 2017, volume of ED visits was unchanged and Medicare spending for them increased by 2.0 percent (data not shown).

Shift of services from physician offices to HOPDs has increased OPPS spending Another large source of growth in spending on hospital outpatient services was a shift from (relatively lower cost) physician offices to (relatively higher cost) HOPDs. From 2012 to 2017, spending for and volume of clinic visits and drug administration (especially for chemotherapy drugs) in the hospital outpatient setting rose substantially, while the volume of these services fell in freestanding physician offices. Over this period, the volume of OPPS clinic visits rose 34 percent and chemotherapy administration rose 45 percent. At the same time, the volume of office visits in freestanding offices fell 0.6 percent and chemotherapy administration fell 15.2 percent.

Payments for off-campus outpatient departments

A significant share of hospital outpatient prospective payment system (OPPS) services is provided in off-campus provider-based departments (PBDs). In 2017, about 16.6 percent of OPPS volume and 11.1 percent of OPPS revenue was for services provided in off-campus PBDs. From 2016 to 2017, volume in off-campus PBDs grew 4.8 percent, and spending rose 12.4 percent.

Before 2017, CMS paid for all services provided in off-campus PBDs at the standard OPPS rates. Payments for some services provided in off-campus PBDs changed in 2017. CMS now pays some of these services at the standard OPPS rates but pays for others at rates that are a fraction of the OPPS rates.

Whether a service provided in an off-campus PBD is paid at the standard OPPS rate or at a fraction of the OPPS rate depends on whether the service was provided in an off-campus PBD that is “excepted” from Section 603 of the Bipartisan Budget Act (BBA) of 2015. Section 603 of the BBA of 2015 defines an excepted off-campus PBD as one that was billing under the OPPS before November 2, 2015 (the date the Congress enacted the BBA of 2015). CMS set payments for nonexcepted services as a fraction of the services’ OPPS payment rates, where the average of these payment rates for nonexcepted services approximates the average of the payment rates in the Medicare physician fee schedule. CMS determined that

nonexcepted services provided in off-campus PBDs would be paid at 50 percent of OPPS rates in 2017 and 40 percent of OPPS rates in 2018 and 2019.

On average, the services provided in off-campus PBDs are less complex than the services provided in on-campus outpatient settings. In 2017, the average relative weight of a service (a measure of resources needed to furnish a service) provided in an off-campus PBD was 2.18, compared with 5.00 (2.3 times higher) for the average relative weight of a service provided in an on-campus hospital outpatient department (HOPD). The higher the relative weight, the more complex the service.

We have found sharp differences between the services provided in off-campus PBDs and on-campus HOPDs. In 2017, outpatient clinic visits were by far the most frequently provided service in off-campus PBDs, constituting 46 percent of total Medicare service volume and 18 percent of total Medicare revenue in that setting. In contrast, outpatient clinic visits were only 14 percent of total Medicare volume and 4 percent of total Medicare revenue in on-campus HOPDs. Also, separately payable drugs were a much larger share of Medicare revenue in off-campus PBDs than in on-campus HOPDs—40 percent of off-campus PBD revenue compared with 18.5 percent of on-campus HOPD revenue. Finally, in 2017, the 10 ambulatory payment classifications (APCs) that had the highest

(continued next page)

Increased spending on clinic visits and chemotherapy administration in HOPDs reflects the growth in volume in HOPDs. From 2012 to 2017, spending grew 81 percent for clinic visits and 84 percent for chemotherapy administration. Most recently, from 2016 to 2017, volume of clinic visits grew 3.2 percent in HOPDs and Medicare spending rose by 6.0 percent. Volume of chemotherapy administration grew 5.6 percent, and Medicare spending rose 3.0 percent. In contrast, volume of office visits and chemotherapy administration provided in freestanding offices dropped 1.4 percent and 5.2 percent, respectively.

Spending on chemotherapy administration grew more slowly than volume in HOPDs from 2016 to 2017 because CMS restructured the APCs for chemotherapy, which lowered the OPPS payment rates for some of the chemotherapy techniques that are provided most frequently.

The shift of clinic visits and chemotherapy administration from physician offices to HOPDs is important because it increases Medicare program spending and beneficiary cost-sharing liability. Medicare payment rates for the same or similar services are generally higher in HOPDs than in

Payments for off-campus outpatient departments (cont.)

Medicare revenue in off-campus PBDs were different from the 10 APCs that had the highest Medicare revenue in on-campus HOPDs (Table 3-3).

Notably, the vast majority of services provided in off-campus PBDs in 2017 were in those with “excepted” status and thus paid at full OPPS payment rates. About 94 percent of the overall Medicare volume and Medicare revenue in off-campus PBDs occurred

in excepted facilities. Therefore, the lower Medicare payment rates for services provided in nonexcepted off-campus PBDs did not have much effect on reducing Medicare spending. However, CMS has decided to expand the extent to which it pays for services provided in off-campus PBDs at the reduced rates currently paid in nonexcepted PBDs: CMS will pay all clinic visits provided in excepted off-campus PBDs at the reduced rates starting in 2020. ■

**TABLE
3-3**

Services with the highest OPPS revenue in off-campus PBDs and on-campus HOPDs

Off-campus PBDs		On-campus HOPDs	
APC	Share of OPPS revenue	APC	Share of OPPS revenue
Clinic visits	18.0%	Observation services	6.0%
Level 4 drug administration	2.5	Clinic visits	4.4
Level 4 imaging without contrast	2.2	Level 3 endovascular procedures	3.6
Level 3 radiation therapy	2.2	Level 4 ED visits	3.1
Level 3 nuclear medicine	2.1	Level 5 ED visits	2.9
Level 2 imaging without contrast	2.0	Level 2 ICD procedures	2.5
Level 3 imaging without contrast	1.6	Level 3 drug administration	2.1
Level 1 intraocular procedures	1.3	Level 4 musculoskeletal procedures	2.0
Level 4 nuclear medicine	1.2	Level 1 endovascular procedures	2.0
Level 2 skin procedures	1.2	Level 3 electrophysiologic procedures	1.9

Note: OPPS (outpatient prospective payment system), PBD (provider-based department), HOPD (hospital outpatient department), APC (ambulatory payment classification), ED (emergency department), ICD (implantable cardioverter defibrillator).

Source: MedPAC analysis of hospital outpatient standard analytic claims files from 2017.

freestanding offices. For example, we estimate that the Medicare program spent \$1.9 billion more in 2017 than it would have if payment rates for clinic visits in HOPDs were the same as physician office rates. As a corollary, beneficiaries’ cost sharing was \$480 million more in 2017 than it would have been under physician office rates because of the higher rates paid in HOPDs. However, Section 603 of the Bipartisan Budget Act (BBA) of 2015 has begun to have a small effect on the differences in payments between HOPDs and physician offices for clinic visits. Under provisions in the BBA of 2015,

CMS has implemented lower OPPS payment rates for services provided in some hospitals’ off-campus PBDs. CMS intends for the lower OPPS rates to equal rates paid in physician offices under the Medicare physician fee schedule, on average. For 2017 and 2018, the effects of this policy were limited and had a small effect on spending under the OPPS (see text box). However, CMS decided to expand this policy substantially for 2019, and the likely effect will be a substantial reduction in OPPS spending for clinic visits.

**TABLE
3-4****Trends in unadjusted and risk-adjusted rates of readmissions across all conditions**

Type of readmission	2012	2013	2014	2015	2016	2017
Unadjusted unplanned readmissions	16.4%	15.9%	15.6%	15.8%	15.5%	15.8%
Risk-adjusted unplanned readmissions	16.3	15.7	15.3	15.2	15.0	15.0

Note: The readmissions for 2017 reflect admissions during the first 11 months of fiscal year 2017 and readmissions after those admissions during the full 12 months of fiscal year 2017.

Source: MedPAC analysis of Medicare claims files for Medicare fee-for-service beneficiaries ages 65 or older.

Shift of some services from the inpatient to the outpatient

setting has increased OPPS spending Growth in relatively complex services—such as spinal surgeries; endovascular procedures; and removal, replacement, or insertion of defibrillator systems or pulse generators—suggests that some of the growth in OPPS spending is from services migrating from the inpatient to the outpatient setting. For example, from 2012 to 2017, spending on the services in APC 5464 (level 4 neurostimulator and related procedures) increased 131 percent and from 2016 to 2017, by 22.4 percent.

Hospitals with excess capacity have a financial incentive to serve Medicare beneficiaries

Another measure of access is whether providers have a financial incentive to expand the number of Medicare beneficiaries they serve. This measure examines whether Medicare payments cover the variable cost of treating an additional Medicare patient, meaning the costs that vary with volume. On average, the marginal profit across hospital service lines was approximately 8 percent in 2017.⁶ Because hospitals would be expected to generate about 8 percent profit on a marginal increase in Medicare volume, hospitals with excess capacity have a financial incentive to serve more Medicare beneficiaries.

Quality of care improved

The quality of hospital care improved in recent years, and at least part of this improvement appears to be due to various financial incentives included in recent years in the Medicare program. Although these incentive programs could be improved, the data suggest that even imperfect incentives can lead to improved quality. In Chapter 15 of this report, we discuss a redesign of Medicare’s hospital quality payment programs into a single hospital value

incentive program (HVIP) that will be simpler and will produce more equitable results compared with existing quality payment programs.

In 2019, hospitals’ performance on quality metrics has the potential to increase a hospital’s base IPPS payment rates by as much as 3 percent and lower payments by as much as about 5.5 percent. Three payment adjustments are responsible for these potential changes: the Hospital Readmission Reduction Program (HRRP) (which can reduce payments up to 3.0 percent), the HVIP (between about a 3.0 percent increase and a 1.5 percent reduction to payments), and the Hospital-Acquired Condition Reduction Program (which can reduce payments 1.0 percent for 25 percent of hospitals). (These programs do not apply to outpatient payments.) In 2018, almost a quarter of hospitals will see a net increase in payments (averaging about \$98,000) and a little less than three-quarters will see a net decrease in payments (averaging about \$456,000) under the combined effect of these programs. On net, these three programs lower Medicare payments by about \$970 million, equivalent to about 0.8 percent of Medicare’s inpatient payments or 0.5 percent of Medicare’s total hospital payments.

Key measures of quality demonstrate improvement

To assess aggregate trends in quality of care across all IPPS hospitals, we use mortality rates, readmission rates, and patient experience measures. From 2012 to 2017, mortality rates, readmission rates, and patient experience measures (e.g., communication with nurses and doctors, quietness of hospital environment) have improved. The share of patients rating their overall hospital experience a 9 or 10 on a 10-point scale has increased from 71 percent to 73 percent.

**TABLE
3-5****Risk-adjusted 30-day postdischarge mortality rates have declined**

Mortality rate	2012	2013	2014	2015	2016	2017
Unadjusted mortality	8.1%	8.4%	8.4%	8.6%	8.4%	8.4%
Expected mortality	8.5	9.1	9.4	9.9	10.2	10.7
Risk-adjusted mortality	7.7	7.5	7.2	7.0	6.7	6.4

Source: MedPAC analysis of 2012 through 2017 Medicare claims using 3M all-patient refined-diagnosis related group risk of mortality V32 grouper and beneficiary age and gender to calculate risk-adjusted mortality rates (using 2010 through 2012 data to set expected rates).

Readmission rates improved The Congress enacted the HRRP in 2010, and since that time, readmission rates have fallen. In our recent analysis of the HRRP, we found that the program gave hospitals an incentive to reduce inappropriate readmissions (Medicare Payment Advisory Commission 2018). Our updated analysis of readmission rates across all conditions for beneficiaries over age 65 found that between 2012 and 2017, the raw unplanned readmission rate declined by 0.6 percentage point, from 16.4 percent to 15.8 percent (Table 3-4). Once risk adjusted, these rates declined from 16.3 percent to 15.0 percent. An in-depth discussion of changes in readmission rates is available in our June 2018 report to the Congress.

In 2013, the Commission proposed a budget-neutral package of improvements to the HRRP. The first proposal was to set a fixed target for readmission rates so aggregate penalties would drop when industry performance improved. Second, we discussed changing the penalty formula to make the penalty per excess readmission close to the cost of each excess readmission. Third, to create greater precision in measuring relative performance and offset the cost of changing the penalty formula, we discussed expanding the policy to cover all conditions.⁷ Fourth, we proposed evaluating hospitals' readmission rates against rates for peer hospitals with similar shares of low-income patients as a way to adjust penalties for the effects of socioeconomic status on hospitals' readmission rates (Medicare Payment Advisory Commission 2013), which the Congress adopted in the 21st Century Cures Act (Public Law 114–255). Aspects of these proposals are incorporated in the HVIP design.

Mortality rates improving From 2013 to 2017, risk-adjusted mortality rates declined by 1.1 percentage

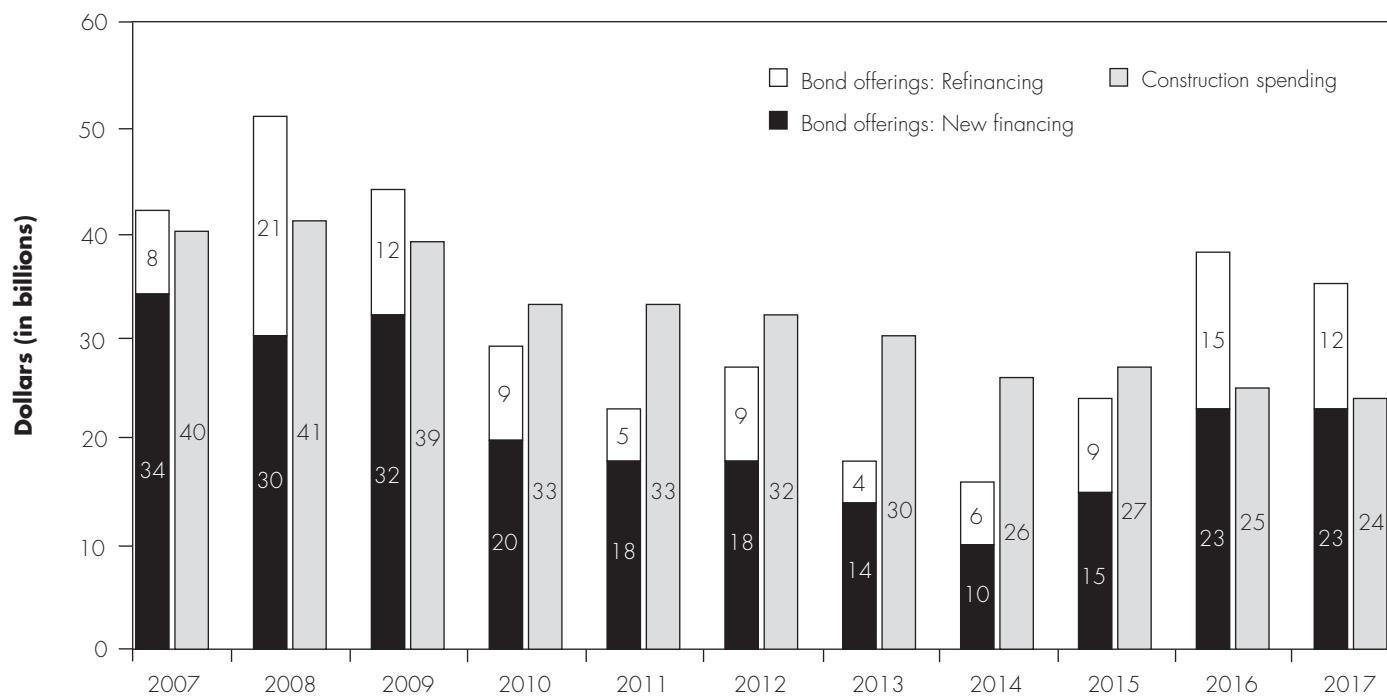
points, including a decline of 0.3 percentage points in 2017 (Table 3-5). Over the five-year period, raw mortality rates were relatively constant, but expected mortality increased, which suggests that beneficiaries admitted in recent years tended to have more comorbidities and thus a higher risk of mortality. Other studies have found similar improvements for condition-specific mortality (Hines 2015, Krumholz 2015). The combination of a decline in readmissions and a decline in hospital mortality is evidence of steadily improving quality.

Hospitals' access to capital remained strong in 2017

In 2017, hospitals' access to capital remained strong. Nonprofit hospitals issued \$35 billion in bonds, roughly equivalent to the \$38 billion of bond offerings issued in 2016 (Figure 3-4, p. 80) (Thomson Reuters 2018). Both years reflect higher bond issuance levels than any year since 2009. The 2017 bond issuances consisted of \$23 billion in new financing and \$12 billion in refinancing of existing debt. Between November 2017 and November 2018, the average interest rate for double-A tax-exempt 30-year nonprofit hospital bonds increased from 3.2 percent to 3.92 percent (Cain Brothers 2018). Hospital construction spending was \$24 billion, about the same level as 2016 and roughly equivalent to the level of bond issuances for new financing (Census Bureau 2018). Construction spending for hospitals in 2017 was the lowest in over a decade because the industry is focused on building less expensive outpatient capacity rather than inpatient capacity (Conn 2017). Several financial ratings agencies consistently observed increases in hospitals' capital expenditures from 2016 to 2018 but note the current focus of hospitals on building outpatient capacity, such as outpatient surgical

**FIGURE
3-4**

Nonprofit hospital bond offerings for new financing roughly equal to hospital construction spending in 2017



Source: Nonprofit hospitals' bond offering data from Thomson Reuters and hospital construction spending data from the U.S. Census Bureau.

facilities and other outpatient access points (Barclays 2018, Moody's Investors Service 2018).

Mergers and acquisitions

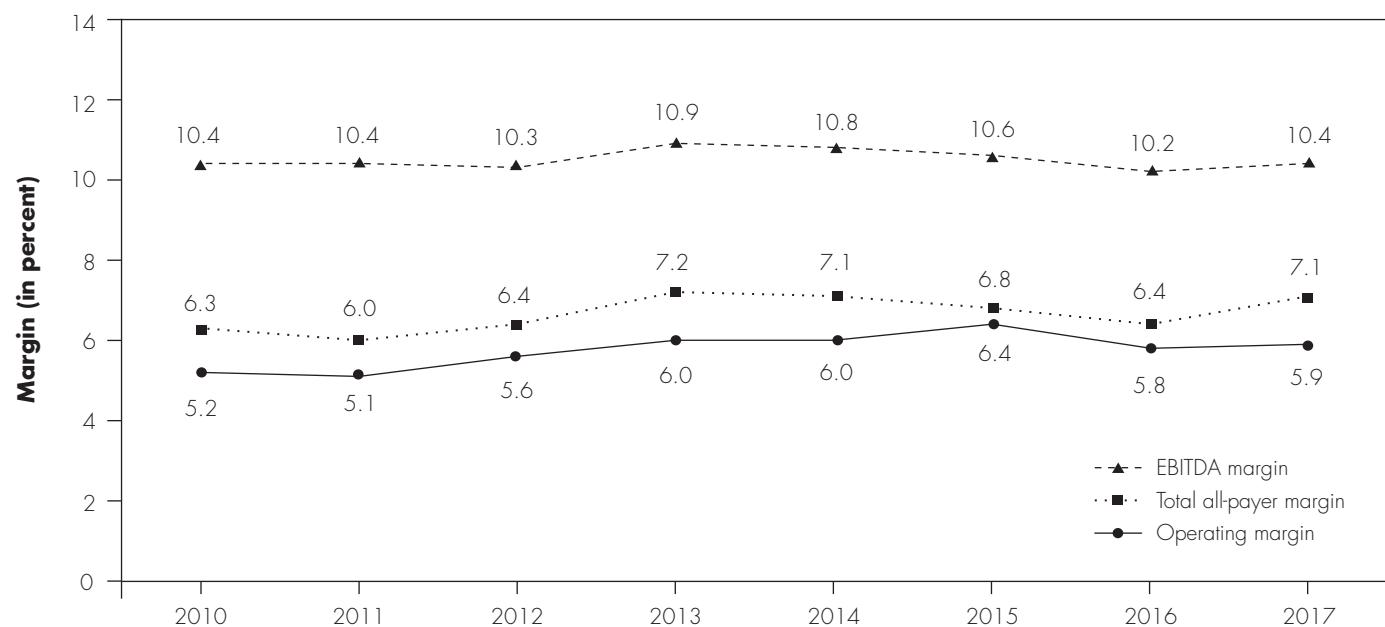
Hospitals and hospital systems continued to expand through acquisition. In 2017, 216 individual hospitals were acquired in 78 transactions, a decline from 2015 and 2016, when 267 and 241 hospitals, respectively, were acquired (Irving Levin Associates Inc. 2018). In 2017, hospital acquisitions tended to be slightly larger hospitals than in previous years, and a larger share of the transactions involved single facilities (71 percent) rather than systems of hospitals. In addition, the 2017 acquisitions tended to occur across regions rather than in the same market. These acquisitions have resulted in greater market power for hospitals, in both the individual market and regional context, in negotiating contracts with insurers, physicians, and drug and device manufacturers. Not included in the information above is the more recent acquisition of LifePoint Health Inc., a for-profit hospital system,

consisting largely of rural hospitals, by Apollo Global management for \$5.6 billion (Reed 2018). This acquisition suggests that some rural hospitals remain an attractive investment, despite years of declining rural inpatient volume.

Hospital employment increased

Between October 2015 and October 2018, the number of individuals employed by hospitals grew from 4.9 million to 5.2 million, an increase of 5.6 percent, slower than in the rest of the health care sector (6.8 percent), but faster than the rest of the economy (4.8 percent) (Bureau of Labor Statistics 2018b). Over 10 years (2008 to 2018), hospital employment increased 12.0 percent while employment in the rest of the economy increased 8.7 percent.

Hospitals have hired individuals in certain high-skill occupational categories and reduced the number of staff in certain lower-skilled occupations. From 2015 to 2017, the

**FIGURE
3-5****Hospitals' all-payer financial performance has remained stable since 2010**

Note: EBITDA (earnings before interest, taxes, depreciation, and amortization). A margin is calculated as revenues minus costs, divided by payments. Analysis excludes critical access hospitals.

Source: MedPAC analysis of Medicare hospital cost report data.

number of physicians employed by hospitals increased 5.3 percent but varied by type of physician (Bureau of Labor Statistics 2018a). Overall, the number of registered nurses employed by hospitals rose 6.2 percent during this period, increasing by roughly 100,000 individuals. Hospitals also increased the number of physician assistants hired by nearly 20 percent and pharmacists by 9 percent.

Total (all-payer) profitability remains strong

Hospitals' access to capital for expansions and acquisitions is largely dependent on their total (all-payer) profitability. All-payer margins remain strong because the growth of private payer rates continues to rise faster than costs (Health Care Cost Institute 2018). While Medicare represents about one-third of all-payer revenues and 44 percent of all admissions, commercially insured patients represent more than 40 percent of patient revenues and generate almost all of the operating profits for a typical hospital.⁸ Operating margins (which exclude investment income) peaked in 2015 at 6.4 percent after a growth in

insured patients. In 2017, total margins (which include investment income) were 7.1 percent, near an all-time high (Figure 3-5). Other measures of all-payer profitability are also strong. Cash flow—as measured by earnings before interest, taxes, depreciation, and amortization (EBITDA)—has remained steady and strong for the past eight years, between 10 percent and 11 percent. Financial ratings agencies consistently reported in 2018 that for-profit and nonprofit financial balance sheets (which include measures such as EBITDA, days cash on hand, and debt load) were at historically high levels for the industry (Barclays 2018, Fitch Ratings 2018, Moody's Investors Service 2018, S&P Global Ratings 2018).

In 2017, total margins varied across hospital types. For the 10th year in a row, for-profit hospitals had a higher total (all-payer) margin compared with nonprofit hospitals, totaling 10.8 percent, almost 5 percentage points higher than in 2007. In addition, the frontier IPPS hospitals (those in low population-density counties) had an average total

margin of 10.1 percent, 3 percentage points higher than in other IPPS hospitals, which suggests that isolated hospitals can do well financially in frontier areas when they have sufficient volumes of insured individuals. While overall profitability was relatively high, margins on Medicare patients remained negative.

Medicare payments and providers' costs

In assessing payment adequacy, the Commission also considers the relationship between Medicare payments and the costs of providing care to Medicare patients. We assess the adequacy of Medicare payments for the hospital as a whole (across all Medicare services), thus measuring the relationship between payments and costs using an overall Medicare margin. This margin includes all Medicare payments and all Medicare-allowable costs for the six largest hospital departments covered by the inpatient, outpatient, and post-acute PPS systems as well as uncompensated care payments and graduate medical education payments and costs.⁹

We report the overall Medicare margin across service lines because no hospital service line is a purely independent business. For example, we find that operating any in-hospital post-acute care (PAC) provider improves the profitability of acute inpatient care services because such a provider allows a hospital to safely discharge patients sooner from their acute care beds, thus reducing the cost of the inpatient stay. The overall Medicare margin also takes into account revenues that are not included in the service-line payments for inpatient and outpatient care. These revenues include Medicare payments for uncompensated care beginning in fiscal year 2014.¹⁰ Excluding these Medicare revenues would understate Medicare payments to hospitals. Another benefit of focusing on overall Medicare margins is that we can avoid the challenges of precisely allocating overhead and administrative costs among the different service lines.

Medicare payment growth

Changes in Medicare inpatient hospital payments per discharge under the IPPS depend primarily on three factors: (1) annual updates to base payment rates; (2) changes in reported patient case mix (i.e., a measure of relative patient complexity); and (3) policy changes that are not implemented in a budget-neutral manner. In 2017, the average Medicare inpatient payment per case increased 2.0 percent and uncompensated care payments declined because of an increase in the number of insured patients.

Between 2016 and 2017, three key changes to inpatient payments occurred:

- a 1.0 percent increase in base payment rates (consisting of a 1.65 percent update, adjustments for documentation and coding, and other changes);
- a 0.6 percent increase in inpatient case mix; and
- a \$0.4 billion reduction in disproportionate share (DSH) hospital and uncompensated care payments.

Medicare continues to see growth in the use of outpatient services. Growth resulted from a combination of factors: a rise in the number of beneficiaries, a rise in outpatient visits per beneficiary, and 19 percent growth in payments for separately payable Part B drugs administered in hospitals' outpatient departments.

Growth in Part B drug spending improved hospital profitability

The 19 percent increase in Part B drug spending was a result of new drugs coming on the market, increases in volumes of Part B drugs used, a shift in the site of administration toward hospitals or hospital-owned practices, and increases in Part B drug prices. Because hospitals and the Medicare program do not set pharmaceutical prices, manufacturer price increases for Part B drugs can also drive up Medicare program payments.

However, as the volume and price of Part B drugs increased from 2016 to 2017, hospital profits on these drugs also increased. In 2017, Medicare paid hospitals 106 percent of pharmaceutical companies' average sales prices for most Part B drugs. Over 50 percent of hospitals' Part B drug administration takes place at hospitals under the 340B Drug Pricing Program, which mandates that pharmaceutical companies provide substantial discounts to certain hospitals. These discounts resulted in 340B hospitals often having drug acquisition costs that were 30 percent or more below the average sales price (and thus below the 2017 payments from the Medicare program) (Government Accountability Office 2015). This difference between the Medicare price paid for drugs and the hospitals' acquisition cost of drugs allowed many hospitals to generate substantial profits on Part B drugs, which contributed to hospitals' profit margin on outpatient services increasing between 2016 and 2017 from -15.3 percent to -14.2 percent. The increasing profit on Part B drugs offset part of hospitals' losses on other outpatient services. Starting in 2018, CMS reduced payments to 340B hospitals for many Part B drugs (other than new

**TABLE
3-6****Cost growth, case-mix change, and hospital input price inflation, 2013–2017**

Cost measure	Annual cost growth					Average annual cost growth 2013–2017
	2013	2014	2015	2016	2017	
Inpatient costs per discharge	2.6%	2.3%	2.3%	4.0%	1.8%	2.6%
Inpatient case-mix-index change	2.0	2.0	0.8	3.4	0.6	1.8
Input price inflation	1.9	1.8	1.7	1.6	2.4	1.9

Note: Cost-growth numbers are not adjusted for reported changes in case mix. Analysis excludes critical access hospitals and Maryland hospitals. "Input price inflation" reflects a four-quarter moving and weighted average of changes in the hospital operating and capital market basket indexes calculated for the second quarter of each year.

Source: MedPAC analysis of Medicare cost reports, claims files, and hospital input price inflation estimates from CMS.

pass-through drugs) to 22.5 percent below the average sales price to more closely align Medicare payments with how much these hospitals pay to acquire drugs. At the same time, CMS enacted an offsetting increase in payment rates for other services. The net result is that while we expect to find that hospital profits on Part B drugs declined from 2017 to 2018, profit margins on other services likely increased, resulting in no material effect on hospitals' overall outpatient margins.

Rate of cost growth remains close to rate of input price inflation

Hospitals' per case cost increases were relatively low from 2013 to 2015. Then in 2016, costs per discharge increased by about 4.0 percent, in large part reflecting an unusual one-year shift in services toward inpatient surgeries, which have a higher case mix (Table 3-6). However, in 2017, the per case cost increased by 1.8 percent, lower than at any other point in the last two decades, reflecting low underlying cost growth and more case mix changes.

The lower underlying cost growth in 2017 is a result of several factors, including shorter lengths of stay and lower input price inflation for hospitals, reflecting low economy-wide inflation and slow wage growth. Hospitals benefited from this slow wage growth, with compensation costs for hospital workers growing by less than 2 percent per year from 2013 through 2015 (Bureau of Labor Statistics 2016). From 2016 through 2017, compensation costs for hospital workers grew 4.4 percent, slower than that of the

rest of the labor market (4.8 percent) (Bureau of Labor Statistics 2017).

From 2016 to 2017, the reported resource needs across all inpatient cases (or case-mix index (CMI)) increased 0.6 percent. This increase in overall CMI was the result of increases in CMI for both medical cases and surgical cases. However, medical cases, which have a lower average case mix than surgical cases, increased as a share of all cases, and this increase moderated the case-mix growth.

The modest 1.8 percent increase in costs per inpatient discharge reflects a modest growth in routine costs (e.g., nursing labor) and ancillary services. Ancillary services made up about half of inpatient cost growth, with the largest share of growth from implantable devices, which reflects 10 percent of total hospital costs and grew by 5 percent from 2016 to 2017 (Table 3-7, p. 84). The higher cost of implantable devices reflects, in part, the increase in joint replacement surgeries.

In contrast to the 2014 to 2016 time frame, when drug costs per discharge rose by an average of 6 percent per year, drug costs per discharge did not materially increase from 2016 to 2017. We did not include a separate estimate of drug costs per discharge in Table 3-7 because such estimates from year to year are imprecise due to two unique factors in pharmacy cost accounting. First, 340B discounts apply to outpatient drugs but not inpatient drugs, which can result in biasing downward the cost of inpatient

**TABLE
3-7****Change in cost per inpatient discharge from 2016 to 2017**

Cost category	2016 and 2017 inpatient costs per discharge and change in cost (in dollars)	Percent change 2016–2017	Share of total Medicare costs 2017
2016 inpatient cost per discharge		\$13,377	
Categories comprising growth in inpatient costs per discharge from 2016 to 2017			
Routine (e.g., room, nursing)	\$87	2%	33%
Special care (e.g., intensive care)	21	1	11
Ancillary	119	2	56
Operating room	14	1	8
Cardiac catheterization	7	4	1
Medical supplies	11	1	6
Implantable devices	60	5	10
Dialysis	6	6	1
Emergency	13	4	3
Observation	5	6	1
All other	4	0	27
2017 inpatient cost per discharge		\$13,605	

Note: Analysis excludes critical access hospitals and Maryland hospitals. Data are based on a cohort of hospitals included in the margin analysis from 2015 through 2017. Components may not sum to totals due to rounding.

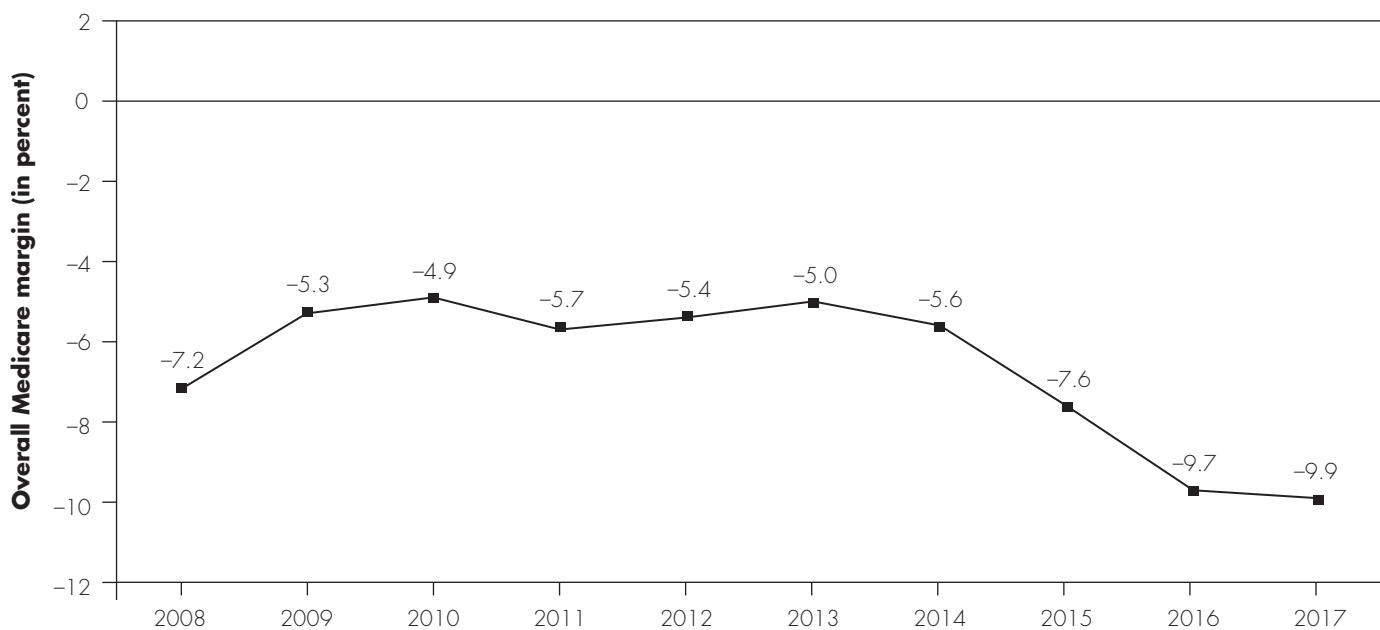
Source: MedPAC analysis of Medicare cost reports.

drugs by reducing the cost-to-charge ratio for all drugs in the hospitals' cost centers for pharmacy. Second, markups differ among drugs. Although the markup percentage is smaller on high-cost drugs, the expansion of new high-cost Part B drugs could cause an increase in the cost-to-charge ratio for the pharmacy cost center and cause an upward bias in cost estimates for inpatient drugs. It is not clear the degree to which the two potential biases offset each other. Given these limitations, we also examined changes in raw charges per inpatient discharge. From 2016 to 2017, charges for inpatient drugs per discharge increased by less than 2 percent. Coupled with the slight decline in hospitals' pharmacy cost-to-charge ratio, pharmacy costs per discharge may have risen less than 2 percent or even declined. The lack of cost growth in the inpatient setting is in stark contrast to the outpatient sector, where charges for drugs increased over 20 percent and combined program

spending and cost sharing increased 18.2 percent. Growth in outpatient spending was for cancer drugs administered on an outpatient basis.

Trend in the overall Medicare margin

We define Medicare margins as Medicare payments minus the allowable costs of treating Medicare patients divided by Medicare payments. In analyzing hospital margins, we compute an overall (aggregate) margin with and without critical access hospitals (CAHs), which are 1,300 rural hospitals whose payments are based on their incurred costs. We also exclude hospitals in Maryland, which are excluded from the IPPS and paid under a statewide all-payer prospective payment system. From 2009 to 2014, the overall Medicare margin held relatively steady, varying from -4.9 to -5.7 percent (Figure 3-6).¹¹ From 2014 to 2016, the Medicare margin dropped from -5.6 percent

**FIGURE
3-6****Overall Medicare margin dropped slightly from 2016 to 2017**

Note: A margin is calculated as payments minus costs, divided by payments; margins are based on Medicare-allowable costs. Analysis excludes critical access hospitals and Maryland hospitals. Medicare inpatient margins include services covered by the acute inpatient prospective payment systems. "Overall Medicare margin" covers acute inpatient, outpatient, hospital-based skilled nursing facility (including swing beds), hospital-based home health, and inpatient psychiatric and rehabilitation services, plus graduate medical education and electronic health record incentive payments and payments for uncompensated care.

Source: MedPAC analysis of Medicare cost reports from CMS.

to -9.7 percent. This decline was not unexpected given several payment adjustments required by statute, including reductions to the annual payment update, adjustments for documentation and coding improvement, decreases in incentive payments for the adoption of electronic health records, and decreases in uncompensated care payments that correspond with increases in the insured population. From 2016 to 2017, the overall Medicare margin again dropped, albeit at a lower rate than in prior years, from -9.7 percent to -9.9 percent. The tempered reduction in margin was primarily due to historically low cost growth from 2016 to 2017, coupled with increased revenue from Part B drugs.

Medicare margins by hospital type, 2017

In 2017, rural IPPS hospitals (excluding CAHs) had a -8.2 percent overall Medicare margin, which was 1.8 percentage points higher than the -10.0 percent margin

for urban hospitals (Table 3-8, p. 86). Major teaching hospitals (i.e., hospitals with a high resident-to-bed ratio) had a Medicare margin of -9.0 percent. Major teaching hospitals had higher Medicare margins than the average IPPS hospital in large part because of the extra payments they receive through the indirect medical education and DSH adjustments and uncompensated care payments.

In 2017, for-profit hospitals had the highest Medicare margins (-2.6 percent), well above the -11.0 percent Medicare margin for nonprofit hospitals (Table 3-8, p. 86). Much of this differential reflects lower outpatient costs at for-profit hospitals. In 2017, hospitals that treated the highest shares of low-income patients (high-DSH hospitals) had a -8.1 percent Medicare margin. In contrast, hospitals treating the lowest share of low-income patients (non-DSH hospitals) had the lowest Medicare margins (-16.4 percent). The difference in margins was attributable

**TABLE
3-8****Overall Medicare margins by hospital type**

Hospital group	2010	2011	2012	2013	2014	2015	2016	2017
All hospitals (excluding CAHs)	-4.9%	-5.7%	-5.4%	-5.0%	-5.6%	-7.6%	-9.7%	-9.9%
Urban	-5.1	-6.0	-5.9	-5.9	-5.8	-7.9	-9.9	-10.0
Rural								
Excluding CAHs	-2.6	-2.6	-1.0	2.7	-3.5	-4.9	-7.5	-8.2
Including CAHs	-1.7	-1.4	0.3	2.7	-1.9	-3.2	-5.4	-5.9
Nonprofit	-6.2	-7.1	-7.0	-6.5	-7.1	-9.1	-11.1	-11.0
For profit	-0.1	-0.3	1.0	1.2	0.8	-1.3	-2.1	-2.6
Major teaching	-0.8	-2.1	-2.8	-3.5	-3.7	-6.3	-8.5	-9.0
Other teaching	-4.6	-5.4	-5.0	-4.8	-5.0	-6.3	-8.6	-8.2
Nonteaching	-8.1	-8.6	-7.9	-6.5	-7.7	-9.9	-11.7	-12.2
High DSH	0.2	-1.5	-1.3	-1.5	-2.3	-4.6	-7.2	-8.1
Moderate-to-low DSH	-6.6	-7.0	-6.7	-6.0	-6.4	-8.1	-10.0	-9.9
No DSH	-12.9	-13.5	-13.4	-12.5	-13.3	-15.3	-15.7	-16.4

Note: CAH (critical access hospital), DSH (disproportionate share). Data are for all hospitals covered by the Medicare acute inpatient prospective payment system in 2017 and for CAHs where indicated. A margin is calculated as payments minus costs, divided by payments; margins are based on Medicare-allowable costs. "Overall Medicare margins" covers acute inpatient, outpatient, hospital-based skilled nursing facility (including swing beds), hospital-based home health, and inpatient psychiatric and rehabilitation services, plus uncompensated care, graduate medical education, and electronic health record incentive payments. The rural margins are shown with and without 1,300 CAHs, which are paid 101 percent of costs for inpatient and outpatient services. The margins without CAHs illustrate the profitability of rural inpatient prospective payment system hospitals; the rural margins with CAHs give a fuller picture of rural hospital profitability. "High DSH" includes hospitals with the highest disproportionate share adjustments (top quartile). "Moderate-to-low DSH" includes hospitals with disproportionate share adjustments that exceed zero but are not included in the top quartile.

Source: MedPAC analysis of Medicare cost reports, Medicare Provider Analysis and Review files, and impact files from CMS.

in part to the DSH adjustments and uncompensated care payments received by hospitals. In addition, hospitals with high shares of Medicare and Medicaid patients tend to have more pressure to control costs and therefore tend to have lower costs per discharge.

Fiscal pressure constrains costs

Hospitals under financial pressure tend to have lower costs. To illustrate this tendency, we compare hospitals under low and high financial pressure in the analysis below. In addition to financial pressure affecting the level of costs, the literature shows that changes in Medicare rates can affect the rate of cost growth. Hospitals that receive larger increases in Medicare payment rates tend to have larger increases in costs. To determine the association between financial pressure and costs, we grouped hospitals into three levels of financial pressure

from private payers: high, medium, and low, based on their median non-Medicare profit margins and other factors from 2012 to 2016. For these years, the hospitals under high pressure historically had non-Medicare profit margins of less than 1 percent, while the low-pressure hospitals had non-Medicare profit margins of more than 5 percent. We found that hospitals under high pressure during the five-year period ended up with lower standardized Medicare costs per discharge in 2017 than hospitals under low levels of financial pressure. For more details on our analytic methods, see our earlier analysis of payment adequacy (Medicare Payment Advisory Commission 2011).

The following are key findings from our analysis of financial pressure on hospitals:

- **High pressure equals low cost.** The 25 percent of hospitals under the most financial pressure had median standardized Medicare costs per case that were 6

percent lower than the national median for the 2,798 IPPS hospitals with available data. Because of their lower Medicare costs, hospitals under pressure had only slight losses on Medicare (-2 percent margin). These hospitals tended to have slightly higher shares of patients paying at government rates (50 percent of inpatient days were attributed to Medicare and Medicaid FFS patients).

- **Low pressure equals high cost.** The 62 percent of hospitals under a low level of financial pressure had median standardized Medicare costs per case that were 3 percent above the national median. Because of higher costs, they generated a median Medicare profit margin of -11 percent, about 2 percentage points below the national median. These hospitals tended to have a slightly smaller share of patients paying at government rates (46 percent of inpatient days were attributed to Medicare and Medicaid FFS patients).

In addition to cost differences at the hospital level, cost differences appear at the state level. The literature generally finds that a dominant insurer in a state can reduce the relative market power of hospitals and the prices commercial insurers pay hospitals (Trish and Herring 2015). We find that lower commercial prices can result in lower costs. For example, in North Dakota and Alabama, where there is one dominant insurer and relatively low commercial payment rates, hospital wage rates are relatively low. (By relatively low, we mean that the ratio of hospital wages to wages paid by other employers for comparable employees is lower in Alabama and North Dakota than in the average state) (Medicare Payment Advisory Commission 2007).

Another way to examine the relationship between financial pressure and costs is to see how changes in financial pressure affect changes in costs. For example, White and Wu found that hospitals that received higher Medicare payment increases resulting from policy changes tended to have higher cost growth (White and Wu 2014). Contrary to “cost-shift” theory, they also found that lower Medicare price growth did not cause hospitals to increase prices negotiated with commercial insurers. Instead, they found lower Medicare prices led to lower cost growth (White 2013). Similar findings have been reported by others (Clemens and Gottlieb 2017, Frakt 2015). A recent study examined how hospitals responded when they received a large increase in their wage index through Section 508 of the Medicare Modernization Act. The study found that the hospitals that received higher Medicare payments through

the 508 program “treated more patients, increased payroll, hired nurses, added new technology, raised CEO pay, and ultimately increased their spending by over \$100 million annually” (Cooper et al. 2017). The implication of these studies is that constraining Medicare prices should help constrain hospital costs.

Relatively efficient hospitals

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 has to be consistent, meaning that the provider cannot have poor performance on any metric over the past three years. In the hospital sector, the variables we use to identify relatively efficient hospitals are hospital-level mortality rates (3M® risk-adjusted all-condition mortality), readmission rates (3M® potentially preventable readmissions), and standardized inpatient Medicare costs per case. Our assessment of efficiency is not in absolute terms, but rather, relative to other IPPS hospitals.

Categorizing hospitals as relatively efficient We assigned hospitals to the relatively efficient group or the control group according to each hospital’s performance relative to the national median on a set of risk-adjusted cost and quality metrics for the period 2014 to 2016.¹² We then examined the performance of the two hospital groups in fiscal year 2017.

Hospitals were identified as relatively efficient if they met four criteria in each year from 2014 to 2016:

- Risk-adjusted mortality rates were among the best two-thirds of all hospitals.
- Risk-adjusted readmission rates were among the best two-thirds of all hospitals.
- Standardized costs per discharge were among the best two-thirds of all hospitals.
- Risk-adjusted mortality or standardized costs per discharge were among the best one-third of all hospitals.

The objective was to identify hospitals that consistently performed at an above-average level on at least one measure (cost or quality) and that always performed reasonably well on all measures. The rationale for this methodology and the details of computing the various measures are discussed in our March 2011 report (Medicare Payment Advisory Commission 2011). As a

**TABLE
3-9****Performance of relatively efficient hospitals**

Relative performance measure	Type of hospital	
	Relatively efficient, 2014–2016	Other hospitals
Number of hospitals	291	1,860
Share of hospitals	14%	86%
Historical performance, 2014–2016 (percent of national median)		
Risk-adjusted:		
Composite 30-day mortality (3M TM)	89%	101%
Readmission rates (3M)	93	102
Standardized Medicare costs per discharge	89	101
Performance metrics, 2017 (percent of national median)		
Risk-adjusted:		
Composite 30-day mortality (3M)	93%	102%
Composite 30-day readmission (3M)	95	103
Standardized Medicare costs per discharge	91	101
Median:		
Overall Medicare margin, 2017	-2%	-9%
Non-Medicare margin, 2017	11	9
Total (all-payer) margin, 2017	8	5

Note: Relative measures are the median for the group as a share of the median of all hospitals. Per case costs are standardized for area wage rates, case-mix severity, prevalence of outlier and transfer cases, interest expense, low-income shares, and teaching intensity. Composite mortality was computed using the 3M methodology to compute risk-adjusted mortality for all conditions. We removed hospitals with low Medicaid patient loads (the bottom 10 percent of hospitals) and hospitals in markets with high service use (top 10 percent of hospitals) because of concerns that socioeconomic conditions and aggressive treatment patterns can influence unit costs and risk-adjusted quality metrics.

Source: MedPAC analysis of 2014 to 2017 Medicare cost report and claims-based quality data.

secondary check on hospital quality, we also require that at least 60 percent of the hospital's patients rated the hospital a 9 or 10 on a 10-point scale.¹³

Examining performance of relatively efficient and other hospitals from 2014 to 2016 Of the 2,151 hospitals that met our screening criteria during the 2014 to 2016 period, 291 (14 percent) were found to be relatively efficient.¹⁴ We examined the performance of relatively efficient hospitals on three measures by reporting the group's median performance divided by the median for the set of hospitals in our analysis (Table 3-9). The median efficient hospital's relative risk-adjusted 30-day mortality rate for the 3-year assessment period was 89 percent of the national median, meaning that the 30-day mortality rate for the efficient group was 11 percent below (that is, better than) the national median. The median readmission rate

for the efficient group was 7 percent below the national median. The standardized Medicare cost per discharge for the efficient group was 11 percent lower than the national median. These relatively efficient hospitals were spread across the country and had a diverse set of characteristics, but they were more likely to be larger nonprofit hospitals because those hospitals tend to have better performance on the quality metrics we analyzed. For a more complete description of the methodology and other characteristics of relatively efficient providers, see online Appendix 3-B from our 2016 report to the Congress, available at <http://www.medpac.gov>.

Historically strong performers had lower mortality and costs in 2017 Lower costs allowed the relatively efficient hospitals to generate better Medicare margins. In 2017, the median hospital in the efficient group had a Medicare

margin of -2 percent while the median hospital in the comparison group had a Medicare margin of -9 percent (Table 3-9). The relatively efficient group also continued to perform better on quality metrics, with risk-adjusted mortality equal to 93 percent of the national median and risk-adjusted readmissions equal to 95 percent of the national median (Table 3-9).

How would current-law changes for 2018, 2019, and 2020 affect hospitals' Medicare payments and beneficiaries' access?

We project Medicare margins for 2019 based on margins in 2017 and policy changes that take place in 2018 and 2019. The 2018 update for inpatient and outpatient payments was 1.35 percent. In 2019, the update is also 1.35 percent for both inpatient and outpatient services. Other changes in payment policy largely offset each other. For example, in 2018, CMS reduced Medicare payments for separately payable Part B drugs at 340B hospitals, but CMS offset those decreases by increasing payments for other outpatient services. Some other regulatory changes increased payments (e.g., higher uncompensated care payments in 2018 and 2019 due to expected increases in uninsured patients), but others decreased payments (e.g., reducing evaluation and management payment rates in 2019). The net result is that, from 2017 to 2019, payment rates increased by about 5 percent over two years after accounting for case-mix change. We expect cost growth per discharge of about 3 percent per year in 2018 and 2019, slightly faster than the past several years due to tighter labor markets. Given that costs are expected to increase about 1 percent faster than payments, we expect overall Medicare margins to decline from -9.9 percent in 2017 to about -11 percent in 2019. We also expect the efficient provider margins to remain negative. The change in Medicare margins for 2020 will depend on whether cost growth exceeds hospitals' payment rate growth on a case-mix-adjusted basis.

How should Medicare payment rates change in 2020?

The Commission's update recommendation for 2020 is based on indicators of beneficiaries' access to hospital care, hospitals' access to capital, hospital quality, and the relationship between Medicare payments and hospital costs. As we discuss in Chapter 15, the Commission is also recommending a new hospital value incentive program

(HVIP) that aligns with the Commission's principles for quality measurement and would replace existing quality incentive programs. The following recommendation would increase hospital payments by increasing the base payment rate and by increasing the average rewards hospitals receive under the proposed Medicare HVIP.

RECOMMENDATION 3

The Congress should:

- **Replace Medicare's current hospital quality programs with a new hospital value incentive program (HVIP) that:**
 - **includes a small set of population-based outcome, patient experience, and value measures;**
 - **scores all hospitals based on the same absolute and prospectively set performance targets;**
 - **accounts for differences in patients' social risk factors by distributing payment adjustments through peer grouping, and**
- **For 2020, update the 2019 Medicare base payment rates for acute care hospitals by 2 percent. The difference between the update recommendation and the amount specified in current law should be used to increase payments in a new HVIP.**

RATIONALE 3

In examining our payment adequacy indicators, we found that, in 2017, beneficiaries had good access to care, hospitals maintained strong access to capital markets, and hospital quality improved, despite negative Medicare margins for most providers. Looking forward, we expect beneficiaries' access to care to remain adequate given hospitals' modest occupancy rates and good access to capital. However, the aggregate Medicare profit margin is expected to decline to approximately -11 percent in 2019. Given these payment adequacy indicators, an update of 2 percent coupled with enhanced payments for hospitals with strong performance under the proposed HVIP would be high enough to maintain beneficiaries' access to care and move payment rates closer toward the cost of efficiently delivering high-quality care. However, the 2 percent update would still be below the projected rate of input price inflation to maintain some pressure on hospitals to constrain costs while improving quality. The 2 percent update (rather than current law) would also limit the growth in the differential between rates paid for physician office visits on a hospital campus and rates paid to freestanding physician offices. We expect

the combination of a 2 percent update and the replacing of current quality incentives (which currently reduce hospitals' Medicare payments in aggregate) with the new HVIP (which would increase Medicare payments in aggregate) would cause hospital Medicare margins to improve from 2019 to 2020 given expected levels of cost growth. We discuss the rationale for and implications of implementing a new HVIP in Chapter 15.

IMPLICATIONS 3

Spending

- Current law is expected to increase payment rates by 2.8 percent (a 3.3 percent market basket less a 0.5 percent productivity adjustment). The recommended update of 2.0 percent with an increase in quality incentive payments would result in total hospital

payments that are equal to current law. In addition, eliminating the current readmissions penalty program and hospital acquired condition penalty would remove these penalties from hospital payment rates and thus increase spending by between \$750 million and \$2 billion in 2020 and by \$5 billion to \$10 billion over five years. On net, hospital payment rates would be expected to increase by an average of 3.3 percent.

Beneficiary and provider

- We do not expect the recommendation to materially affect beneficiaries' access to care or providers' willingness to treat Medicare beneficiaries relative to current law. Beneficiaries may benefit from hospitals' enhanced incentives to improve the quality of care they provide and work with providers outside of the hospital to lower cost and improve outcomes. ■

Endnotes

- 1 Across all inpatient discharges, a handful of Medicare severity-diagnosis related groups accounted for over half of the spending growth between 2016 and 2017. Specifically, heart failure and shock cases rose, increasing costs by \$1.1 billion; chronic obstructive pulmonary disease cases, \$600 million; and septicemia cases, \$600 million.
- 2 Payments include roughly \$7 billion of inpatient and outpatient payments to critical access hospitals (CAHs), which are paid 1 percent over their costs of inpatient, outpatient, and post-acute care services in swing beds. CAHs do not receive disproportionate share hospital payments or uncompensated care payments.
- 3 In 2015 and 2016, CMS implemented several RAC program policies aimed at improving the accuracy of RACs' auditing of inpatient hospital claims. A list of these policies can be viewed at the following website: <https://www.cms.gov/Research-Statistics-Data-and-Systems/Monitoring-Programs/Medicare-FFS-Compliance-Programs/Recovery-Audit-Program/Downloads/Recovery-Audit-Program-Improvements-November-24-2017.pdf>. Preceding these CMS policy changes, the Commission recommended in its June 2015 report that the Secretary make several improvements to the RAC program (Medicare Payment Advisory Commission 2015a).
- 4 Seven cancer drugs account for most of the increase in OPPS spending on Part B drugs between 2016 and 2017: pembrolizumab, daratumumab, nivolumab, atezolizumab, denosumab, rituximab, and trastuzumab. In aggregate, payments to hospitals under the OPPS for these drugs increased by approximately \$1 billion from 2016 to 2017.
- 5 Data concerning hospital outpatient observation care reflect services that are separately paid for under the Medicare OPPS system and not included in other APCs. While we report a decline from 2016 to 2017 in separately payable outpatient observation visits, the volume of all outpatient observation visits (separately paid or packaged with other outpatient services) increased 3 percent from 2016 to 2017, and 32 percent from 2012 to 2017. These figures indicate that placement of patients in outpatient observation status is increasingly common for beneficiaries.
- 6 If we approximate marginal cost as total Medicare costs minus fixed building and equipment costs, then marginal profit can be calculated as follows: Marginal profit = (payments for Medicare services – (total Medicare costs – fixed building and equipment costs)) / Medicare payments. This comparison is a lower bound on the marginal profit because we do not consider any potential labor costs that are fixed. Using a cost-accounting approach, we find that approximately 20 percent of hospital costs are fixed, resulting in a marginal profit of about 8 percent. In our March 2015 report to the Congress, we also took an econometric approach to estimating hospitals' marginal costs and found that fixed costs were about 20 percent of overall costs for medium and large hospitals. Small hospitals tend to have a lower share of costs that are variable and thus have higher marginal profits. The finding that about 20 percent of costs are fixed at large hospitals also matches the 20 percent figure used in the Medicare outlier policy. For a discussion of our econometric results and the literature on hospital marginal costs, see the online appendix to our 2015 report, available at <http://www.medpac.gov> (Medicare Payment Advisory Commission 2015b).
- 7 Recent analysis performed by the Office of the Assistant Secretary for Planning and Evaluation found that moving to an all-condition hospital readmission *without* making any of the other changes suggested in our March 2013 package of recommendations would result in higher annual penalties (Zuckerman et al. 2017). It is important to note that any increase in penalties resulting from expanding to all conditions would be fully offset by the other changes we discussed.
- 8 Between 2010 and 2015, the Medicare share of hospital admissions rose from 42 percent to 44 percent. However, during that period, because Medicare prices rose more slowly than commercial prices and due to additional revenue from the newly insured, Medicare's share of all hospital revenues remained at 33 percent.
- 9 The six largest departments in order of Medicare patient revenues are inpatient acute care (60 percent), outpatient care (30 percent), inpatient rehabilitation (2.1 percent), inpatient psychiatric (1.3 percent), home health care (0.7 percent), and skilled nursing services (0.4 percent).
- 10 From fiscal year 2011 through 2017, we also considered Medicare payments for health information technology; however, these payments ended for most IPPS hospitals as of fiscal year 2016.
- 11 The services included in the overall Medicare margin are Medicare's acute inpatient, outpatient, graduate medical education, skilled nursing facility (including swing beds), hospital-based home health care, and inpatient psychiatric and inpatient rehabilitation services. Also included in the overall margin are special payments for health information technology, temporary extra payments to hospitals located in

- low-spending counties, and uncompensated care payments (as of fiscal year 2015).
- 12 We use medians rather than means to limit the influence of outliers on our set of efficient providers.
 - 13 While HCAHPS® (Hospital–Consumer Assessment of Healthcare Providers and Systems®)—and similar patient satisfaction surveys—have the limitation of being subjective, we add it as another way to screen out low-value providers because it has the advantage of not being dependent on coding. It is possible that overly aggressive coding by some providers could artificially lower their risk-adjusted cost and risk-adjusted mortality metrics.
 - 14 The 2,151 hospitals that met our screening criteria had levels of profitability similar to the overall population of hospitals. However, these hospitals tended to be larger than the average hospital for two reasons. First, we screened out hospitals with fewer than 500 discharges due to instability in their costs and quality indicators. Second, we excluded critical access hospitals due to their different cost accounting rules.

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