SECTION 7

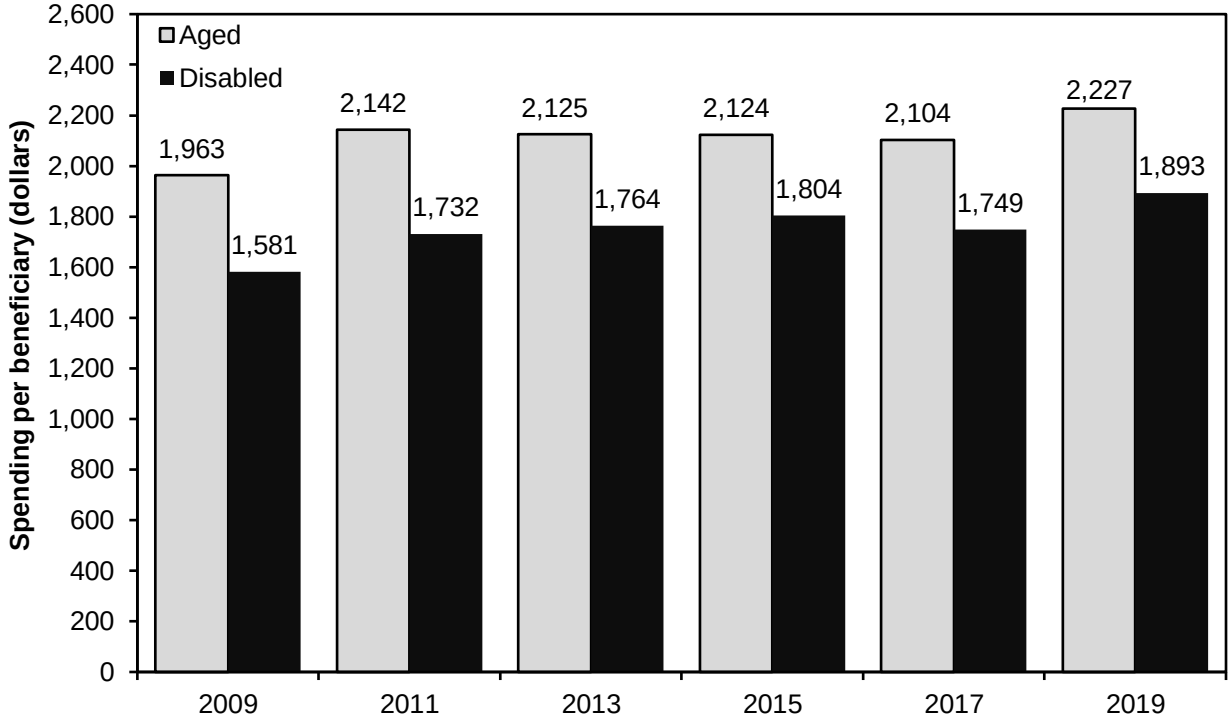
Ambulatory care

Physicians and other health professionals

Hospital outpatient services

Ambulatory surgical centers

Chart 7-1. Medicare spending per fee-for-service beneficiary on services in the fee schedule for physicians and other health professionals, 2009–2019



Note: Dollar amounts are Medicare spending only and do not include beneficiary cost sharing. The category "disabled" excludes beneficiaries who qualify for Medicare because they have end-stage renal disease. All beneficiaries age 65 and over are included in the "aged" category.

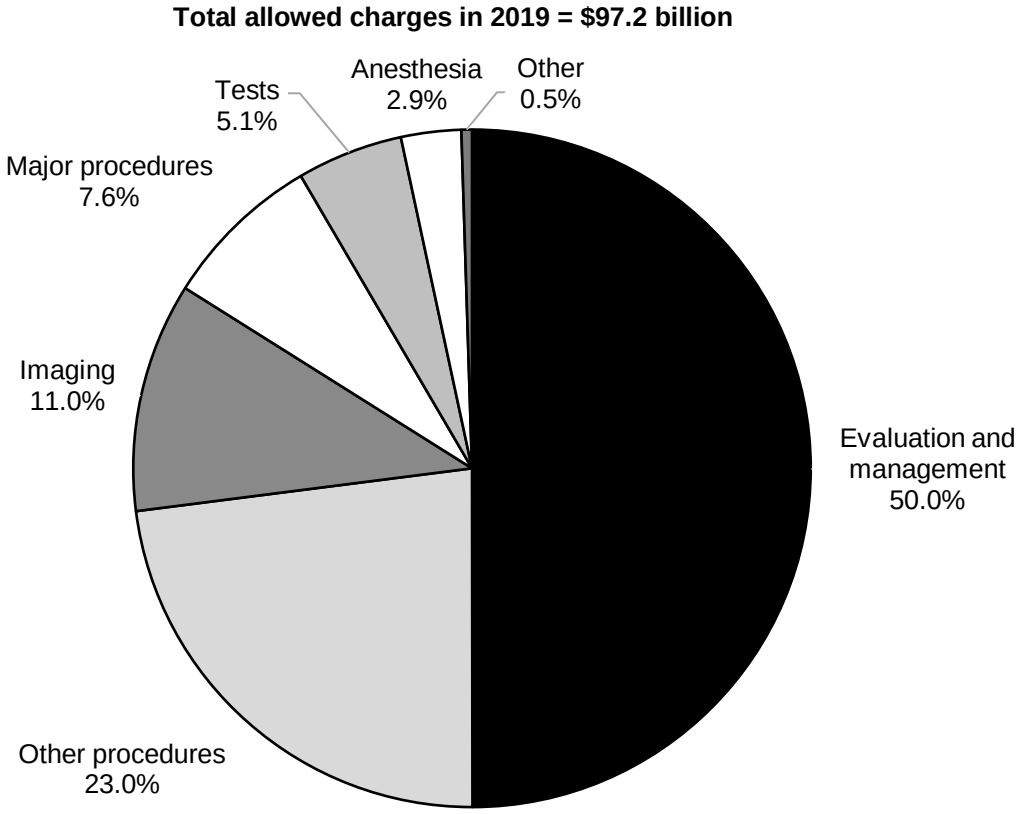
Source: The annual report of the Boards of Trustees of the Medicare trust funds 2020.

- The fee schedule for physicians and other health professionals includes a broad range of services such as office visits, surgical procedures, and diagnostic and therapeutic services. "Other health professionals" refers to nurse practitioners, physician assistants, physical therapists, and other clinicians. Total fee schedule spending (excluding beneficiary cost sharing) was $73.5 billion in 2019 (data not shown).

- Spending per fee-for-service beneficiary for fee schedule services increased between 2009 and 2011, remained stable between 2011 and 2017, and began growing again after 2017. From 2009 to 2019, spending per beneficiary (across aged beneficiaries and those with disabilities) grew at a cumulative rate of 15 percent.

- Per capita spending for beneficiaries with disabilities (under age 65) is lower than per capita spending for aged beneficiaries (ages 65 and over). In 2019, for example, per capita spending for beneficiaries with disabilities was $1,893 compared with $2,227 for aged beneficiaries. However, spending per capita grew much faster for beneficiaries with disabilities than aged beneficiaries between 2009 and 2019 (20 percent vs. 13 percent, respectively).

Chart 7-2. Physician fee schedule–allowed charges by type of service, 2019



Note: Components may not sum to 100 percent due to rounding.

Source: MedPAC analysis of the Carrier Standard Analytic File for 100 percent of beneficiaries.

- In 2019, allowed charges for physician fee schedule services totaled $97.2 billion. Allowed charges include both program spending and beneficiary cost sharing.
- In 2019, half of all allowed charges were for evaluation and management (E&M) services.
- Within the E&M category, about half of allowed charges were for office/outpatient visits. The remaining allowed charges within the E&M category were for various types of services provided across a broad range of settings, including hospital inpatient departments, emergency departments, and nursing facilities (data not shown).

Chart 7-3. Total encounters per FFS beneficiary increased and mix of clinicians furnishing them changed from 2014 to 2019

	Encounters per beneficiary		Percent change in encounters per beneficiary	
Specialty category	2014	2019	Average annual	Total
Total (all clinicians)	20.8	22.2	1.3%	6.5%
Primary care physicians	3.9	3.5	–2.4	–11.5
Specialists	12.6	12.9	0.5	2.3
APRNs/PAs	1.4	2.5	11.5	72.1
Other practitioners	2.9	3.4	3.2	17.1

Note: FFS (fee-for-service), APRN (advanced practice registered nurse), PA (physician assistant). We define "encounters" as unique combinations of beneficiary identification numbers, claim identification numbers (for paid claims), and national provider identifiers of the clinicians who billed for the service. Figures may not sum to totals due to rounding. Figures do not account for "incident to" billing, meaning, for example, that encounters with APRNs/PAs that are billed under Medicare's "incident to" rules are included in the physician totals. We use the number of FFS beneficiaries enrolled in Part B to define encounters per beneficiary.

Source: MedPAC analysis of the Carrier Standard Analytic File for 100 percent of beneficiaries and 2020 annual report of the Boards of Trustees of the Medicare trust funds.

- Encounters measure beneficiary interactions with clinicians. For example, if a physician billed for an office visit and an X-ray on the same claim, we count that as one encounter.
- The number of encounters per beneficiary grew 1.3 percent per year from 2014 to 2019, suggesting stable access to care.
- Encounters with specialist physicians accounted for a majority of all encounters and grew modestly from 2014 to 2019.
- In contrast, encounters with APRNs or PAs grew rapidly from 2014 to 2019, and encounters with primary care physicians declined substantially. These changes continue a longer term trend of declines in services billed by primary care physicians and rapid increases in services billed by APRNs and PAs).
- The decline in encounters with primary care physicians occurred across a broad range of services, including evaluation and management services, tests, procedures, and imaging services (data not shown).

Chart 7-4. Medicare beneficiaries' ability to get timely appointments with physicians was comparable with that of privately insured individuals, 2017–2020

	Medicare (ages 65 and older)				Private insurance (ages 50–64)			
Survey question	2017	2018	2019	2020	2017	2018	2019	2020
Unwanted delay in getting an appointment: Among those who needed an appointment, "How often did you have to wait longer than you wanted to get a doctor's appointment?"								
For routine care								
Never	73%[ab]	70%[a]	72%[b]	69%[a]	69%[ab]	64%[ab]	74%	73%[a]
Sometimes	20[ab]	20[a]	20	22[a]	22 [ab]	26[ab]	19	20[a]
Usually	3	5[b]	3	3	4	5	4	4
Always	3	3[a]	3	3	3	4[ab]	3	3
For illness or injury								
Never	80[a]	79[a]	80	79	76[ab]	74[ab]	81	80
Sometimes	15[a]	15[a]	14	15	18[ab]	19[ab]	15	15
Usually	2	2	2	2	2	3	2	3
Always	1[a]	2[b]	2	2	2[a]	2	1	2

Note: Numbers may not sum to 100 percent due to rounding and to some responses ("Don't Know" or "Refused") not being presented. Overall sample sizes for each group (Medicare and privately insured) were approximately 4,000 in all years. Sample sizes for individual questions varied. Survey includes beneficiaries enrolled in traditional fee-for-service Medicare or Medicare Advantage.
[a] Statistically significant difference (at a 95 percent confidence level) between Medicare and privately insured respondents in the given year.
[b] Statistically significant difference (at a 95 percent confidence level) from 2020 within the same insurance coverage category.

Source: MedPAC-sponsored annual telephone surveys conducted 2017–2020.

- Most Medicare beneficiaries have one or more doctor appointments in a given year. Their ability to schedule timely appointments is one indicator of access that we examine.
- Medicare beneficiaries ages 65 and older report similar access to physicians for appointments as compared with privately insured individuals ages 50 to 64. For example, in 2020, among those needing an appointment for routine care, 69 percent of Medicare beneficiaries reported that they never had to wait longer than they wanted, which is similar to the 73 percent of privately insured individuals who reported this. Among those needing an appointment for illness or injury, 79 percent of Medicare beneficiaries reported never waiting longer than they wanted to get an appointment, which was not statistically significantly different from the 80 percent of privately insured individuals who reported this.
- Appointment scheduling for illness or injury is better than for routine care appointments for both Medicare beneficiaries and privately insured individuals.

Chart 7-5. Medicare and privately insured patients reported more difficulty finding a new primary care provider than a new specialist, 2017–2020

	Medicare (ages 65 and older)				Private insurance (ages 50–64)			
Survey question	2017	2018	2019	2020	2017	2018	2019	2020
Looking for a new provider: "In the past 12 months, have you tried to get a new …?" (Percent answering "Yes")								
Primary care provider	9%[a]	10%[b]	8%	8%	11%[ab]	10%[b]	9%	7%
Specialist	17[ab]	19[ab]	17[b]	15	20[ab]	21[ab]	15	13
Getting a new provider: Among those who tried to get an appointment with a new provider, "How much of a problem was it finding a primary care provider/specialist who would treat you? Was it … ?"								
Primary care provider								
No problem	69[ab]	71[b]	72[ab]	60	59[a]	67[b]	62[a]	57
Small problem	13	13	13[a]	16[a]	18	16[b]	20[a]	24[a]
Big problem	14[ab]	14[b]	14[b]	22	22[a]	16	17	18
Specialist								
No problem	83	84[b]	85[ab]	79	81	80	79[a]	77
Small problem	11	7	6[a]	9	11	9	11[a]	11
Big problem	5[ab]	8[b]	8	11	8[a]	10	9	11

Note: Numbers may not sum to 100 percent due to rounding and to some responses ("Don't Know" or "Refused") not being presented. Overall sample sizes for each group (Medicare and privately insured) were approximately 4,000 in all years. Sample sizes for individual questions varied. Survey includes beneficiaries enrolled in traditional fee-for-service Medicare or Medicare Advantage.

[a] Statistically significant difference (at a 95 percent confidence level) between Medicare and privately insured respondents in the given year.

[b] Statistically significant difference (at a 95 percent confidence level) from 2020 within the same insurance coverage category.

Source: MedPAC-sponsored annual telephone surveys, conducted 2017–2020.

- In 2020, only 8 percent of Medicare beneficiaries and 7 percent of privately insured individuals reported looking for a new primary care provider. This finding suggests that most people were either satisfied with their current provider or did not need to look for one.
- In 2020, Medicare beneficiaries and privately insured individuals were more likely to report problems finding a new primary care provider than a new specialist.
- Of the 8 percent of Medicare beneficiaries who looked for a new primary care provider in 2020, 22 percent reported a "big problem" finding a new one, and another 16 percent reported a "small problem" finding a new one. Although this finding means that only 3 percent of the total Medicare population reported problems finding a new primary care provider, the Commission is concerned about the continuing pattern of greater problems accessing primary care than specialty care.
- Of the 7 percent of privately insured individuals who looked for a new primary care provider in 2020, 18 percent reported a "big problem" finding a new one, and another 24 percent reported a "small problem" finding a new one.

Chart 7-6. Slightly higher shares of non-White patients reported delays getting appointments compared with White patients, regardless of insurance type, 2020

	Medicare (ages 65 and older)			Private insurance (ages 50–64)		
Survey question	All	White	Non-White	All	White	Non-White
Unwanted delay in getting an appointment: Among those who needed an appointment, "How often did you have to wait longer than you wanted to get a doctor's appointment?"						
For routine care						
Never	69%[a]	71%[ab]	63%[ab]	73%[a]	75%[ab]	69%[ab]
Sometimes	22[a]	22[a]	24	20[a]	19[a]	22
Usually	3	3	3	4	4	4
Always	3	2[b]	4[b]	3	2	4
For illness or injury						
Never	79	80[b]	74[b]	80	81[b]	76[b]
Sometimes	15	15	17	15	15	15
Usually	2	2	3	3	2[b]	4[b]
Always	2	1	2	2	1[b]	3[b]

Note: "White" refers to non-Hispanic White respondents. Numbers may not sum to 100 percent due to rounding and to some responses ("Don't Know" or "Refused") not being presented. Overall sample size for each group (Medicare and privately insured) was approximately 4,000 in 2020. Sample size for individual questions varied. Survey includes beneficiaries enrolled in traditional fee-for-service Medicare or Medicare Advantage.

[a] Statistically significant difference (at a 95 percent confidence level) between Medicare and privately insured respondents in the given category.

[b] Statistically significant difference (at a 95 percent confidence level) by race/ethnicity within the same insurance category.

Source: MedPAC-sponsored telephone survey conducted in 2020.

- In 2020, White respondents were more likely to report that they never had to wait longer than they wanted to get an appointment for routine care or for an illness or injury compared to non-White respondents. This trend was observed both for Medicare beneficiaries and for privately insured individuals.

Chart 7-7. Slightly higher shares of non-White patients reported difficulties finding a new specialist compared with White patients, but these differences were not statistically significant, 2020

	Medicare (ages 65 and older)			Private insurance (ages 50–64)		
Survey question	All	White	Non-White	All	White	Non-White
Looking for a new provider: "In the past 12 months, have you tried to get a new …?"						
Primary care provider	8%	8%	9%	7%	7%	8%
Specialist	15	15[b]	12[b]	13	14	12
Getting a new provider: Among those who tried to get an appointment with a new provider, "How much of a problem was it finding a primary care provider/specialist who would treat you? Was it … ?"						
Primary care provider						
No problem	60	61	57	57	54	63
Small problem	16[a]	16[a]	18	24[a]	25[a]	22
Big problem	22	22	22	18	20	14
Specialist						
No problem	79	81	75	77	78	74
Small problem	9	8	11	11	10	14
Big problem	11	11	14	11	11	13

Note: "White" refers to non-Hispanic White respondents. Numbers may not sum to 100 percent due to rounding and to some responses ("Don't Know" or "Refused") not being presented. Overall sample size for each group (Medicare and privately insured) was approximately 4,000 in 2020. Sample size for individual questions varied. Survey includes beneficiaries enrolled in traditional fee-for-service Medicare or Medicare Advantage.

[a] Statistically significant difference (at a 95 percent confidence level) between Medicare and privately insured respondents in the given category.

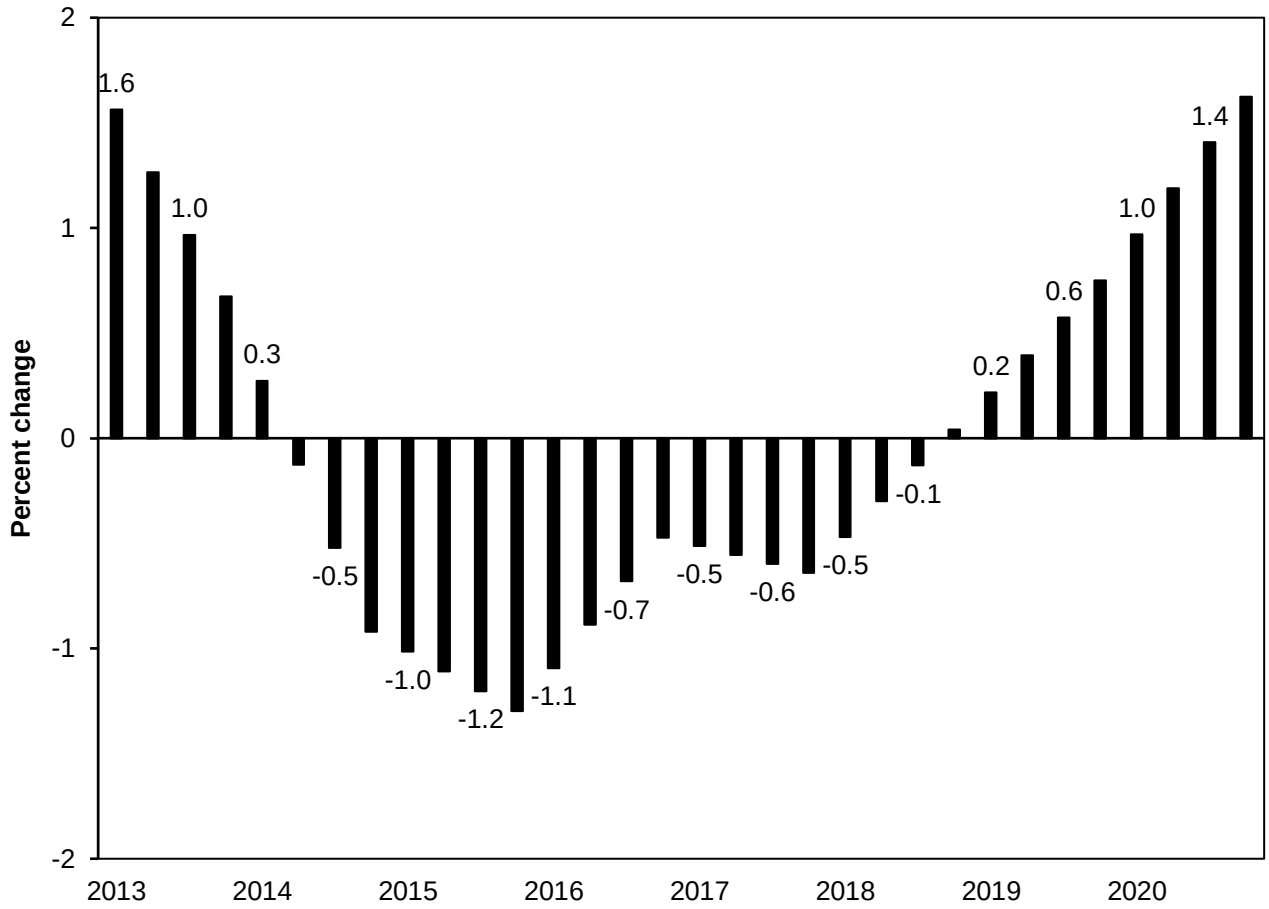
[b] Statistically significant difference (at a 95 percent confidence level) by race/ethnicity within the same insurance category.

Source: MedPAC-sponsored telephone survey conducted in 2020.

- In 2020, slightly higher shares of non-White respondents reported difficulties finding a new specialist compared to White respondents, regardless of insurance type, but these differences were not statistically significant. Non-White Medicare beneficiaries also reported slightly more difficulties finding a primary care provider than did White beneficiaries, but this difference was also not statistically significant.

- More privately insured individuals reported experiencing a small problem finding a new primary care provider than did Medicare beneficiaries.

Chart 7-8. Changes in physicians' professional liability insurance premiums, 2013–2020

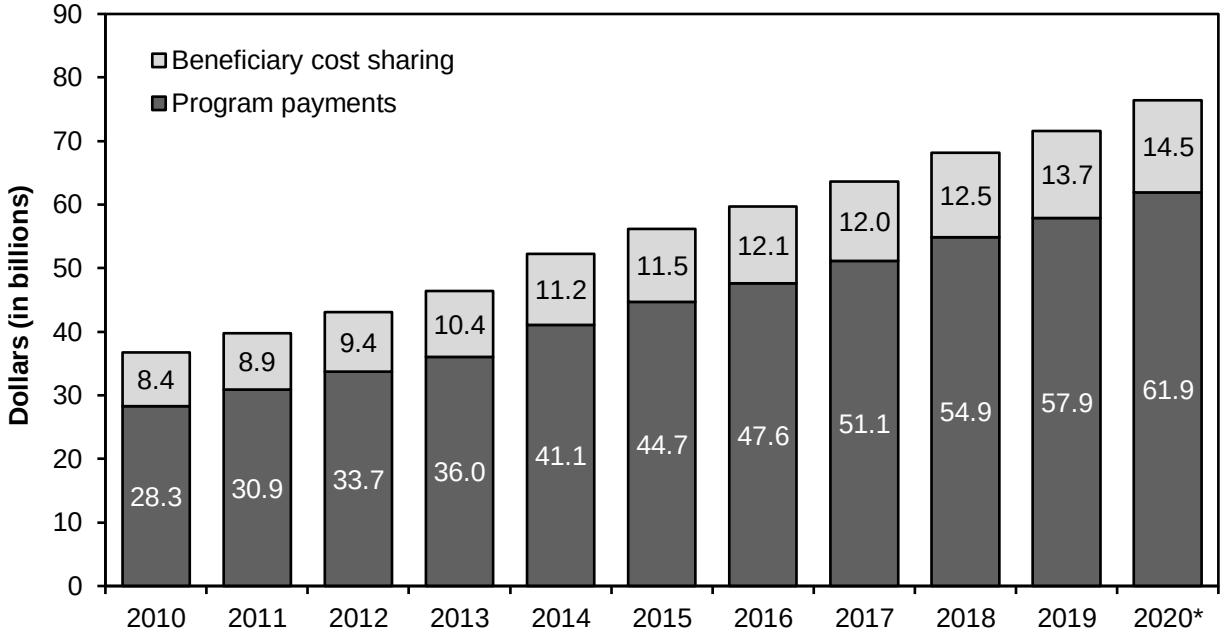


Note: Bars represent a four-quarter moving average percentage change.

Source: CMS, Office of the Actuary. Data are from CMS's Professional Liability Physician Premium Survey.

- Medicare's fee schedule for physicians and other health professionals includes payments to clinicians that are intended to cover the relative cost of professional liability insurance (PLI) premiums. Payments for PLI account for 4.3 percent of total payments under the fee schedule (data not shown).
- Changes in the PLI premiums paid by physicians and other health professionals reflect a cyclical pattern, alternating between periods of low premiums (characterized by high investment returns for insurers and vigorous competition) and high premiums (characterized by declining investment returns and market exit).
- Premiums grew slowly from the first quarter of 2013 through the first quarter of 2014, declined from the second quarter of 2014 through the third quarter of 2018, and began increasing again in the first quarter of 2019.

Chart 7-9. Spending on hospital outpatient services covered under the outpatient PPS, 2010–2020



Note: PPS (prospective payment system). Spending amounts are for services covered by the Medicare outpatient PPS. They do not include services paid on separate fee schedules (e.g., ambulance services and durable medical equipment) or those paid on a cost basis (e.g., corneal tissue acquisition and flu vaccines) or payments for clinical laboratory services, except those packaged into payment bundles.
*Estimated figures.

Source: CMS, Office of the Actuary.

- The Office of the Actuary estimates that spending under the outpatient PPS was $76.4 billion in 2020 ($61.9 billion in program spending, $14.5 billion in beneficiary copayments). We estimate that the outpatient PPS accounted for about 7 percent of total Medicare program spending in 2020 (data not shown).
- From calendar year 2010 to 2020, overall spending by Medicare and beneficiaries on hospital outpatient services covered under the outpatient PPS increased by 108 percent, an average of 7.6 percent per year. The Office of the Actuary projects continued growth in total spending, averaging 10.5 percent per year from 2020 to 2022 (data not shown).
- Beneficiary cost sharing under the outpatient PPS includes the Part B deductible and coinsurance for each service. Under the outpatient PPS, beneficiary cost sharing was about 19 percent in 2020 (data not shown).

Chart 7-10. Most hospitals provide outpatient services

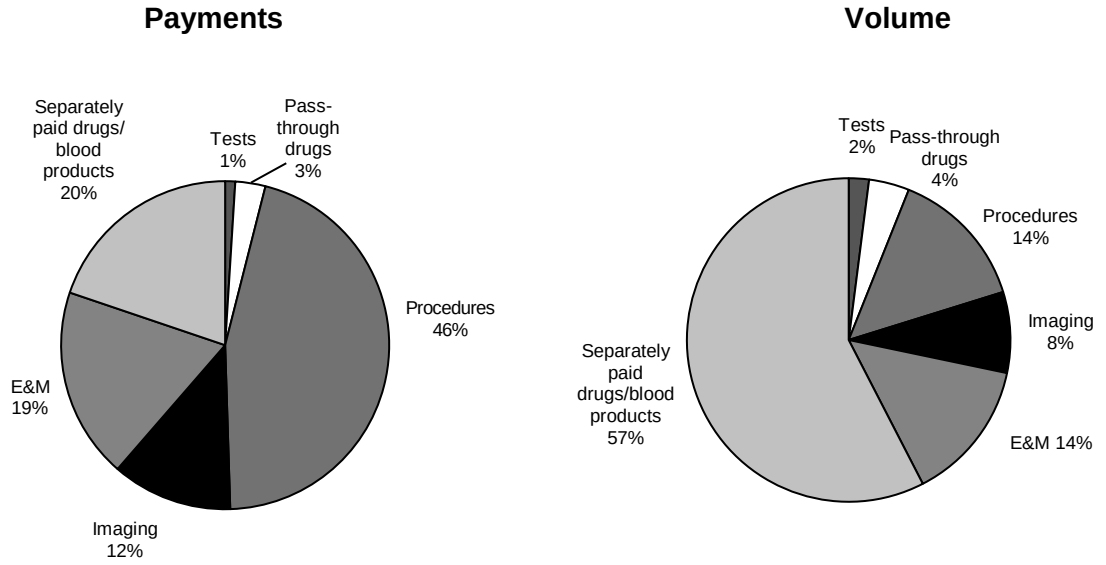
Year	Acute care hospitals	Share offering		
		Outpatient services	Outpatient surgery	Emergency services
2008	3,607	94%	87%	N/A
2010	3,518	95	90	N/A
2012	3,483	95	91	93%
2014	3,429	96	92	93
2016	3,370	96	93	93
2018	3,301	96	93	90
2019	3,245	96	93	91
2020	3,194	96	93	91

Note: N/A (not applicable). We list emergency services from 2008 through 2010 as "N/A" because the data source we used in this chart changed the variable for identifying hospitals' provision of emergency services. We believe this change in variable definition makes it appear that the share of hospitals providing emergency services increased sharply from 2010 to 2012, but we question whether such a large increase actually occurred. This chart includes services provided or arranged by acute care short-term hospitals and excludes long-term, Christian Science, psychiatric, rehabilitation, children's, critical access, and alcohol/drug hospitals.

Source: Medicare Provider of Services files from CMS.

- The number of hospitals that furnish services under Medicare's outpatient prospective payment system has declined slowly since 2008, from 3,607 in 2008 to 3,194 in 2020.
- The share of hospitals providing outpatient services remained stable, and the share offering outpatient surgery steadily increased from 2008 through 2014 and has remained stable since then. The share offering emergency services declined slightly from 2016 to 2018.

Chart 7-11. Payments and volume of services under the Medicare hospital outpatient PPS, by type of service, 2019



Note: PPS (prospective payment system), E&M (evaluation and management). "Payments" include both program spending and beneficiary cost sharing. We grouped services into the following categories, according to the Berenson-Eggers Type of Service codes developed by CMS: evaluation and management, procedures, imaging, and tests. "Pass-through drugs" and "separately paid drugs/blood products" are classified by their payment status indicator. The percentages in both figures do not sum to 100 due to rounding.

Source: MedPAC analysis of standard analytic file of outpatient claims for 2019.

- Hospitals provide many types of services in their outpatient departments, including emergency and clinic visits, imaging and other diagnostic services, laboratory tests, and ambulatory surgery.
- The payments for services are distributed differently from volume. For example, in 2019, procedures accounted for 46 percent of payments but only 14 percent of volume.
- Procedures (e.g., endoscopies, surgeries, and skin and musculoskeletal procedures) accounted for the greatest share of payments for services (46 percent) in 2019, followed by separately paid drugs and blood products (20 percent), E&M services (19 percent), and imaging services (12 percent).
- Payments for separately payable drugs and blood products and pass-through drugs have increased in relation to other categories in the outpatient PPS, increasing from 15 percent of total outpatient PPS spending in 2013 (data not shown) to 23 percent of total outpatient PPS spending in 2019. Pass-through drugs are new drugs that have been approved by the Food and Drug Administration; were not paid under Medicare's hospital outpatient payment system before January 1, 1997; and have been determined to have costs that are not insignificant in relation to the outpatient PPS payment rate for the applicable service. Statute allows drugs to have pass-through status for two to three years.

Chart 7-12. Hospital outpatient services with the highest Medicare expenditures, 2019

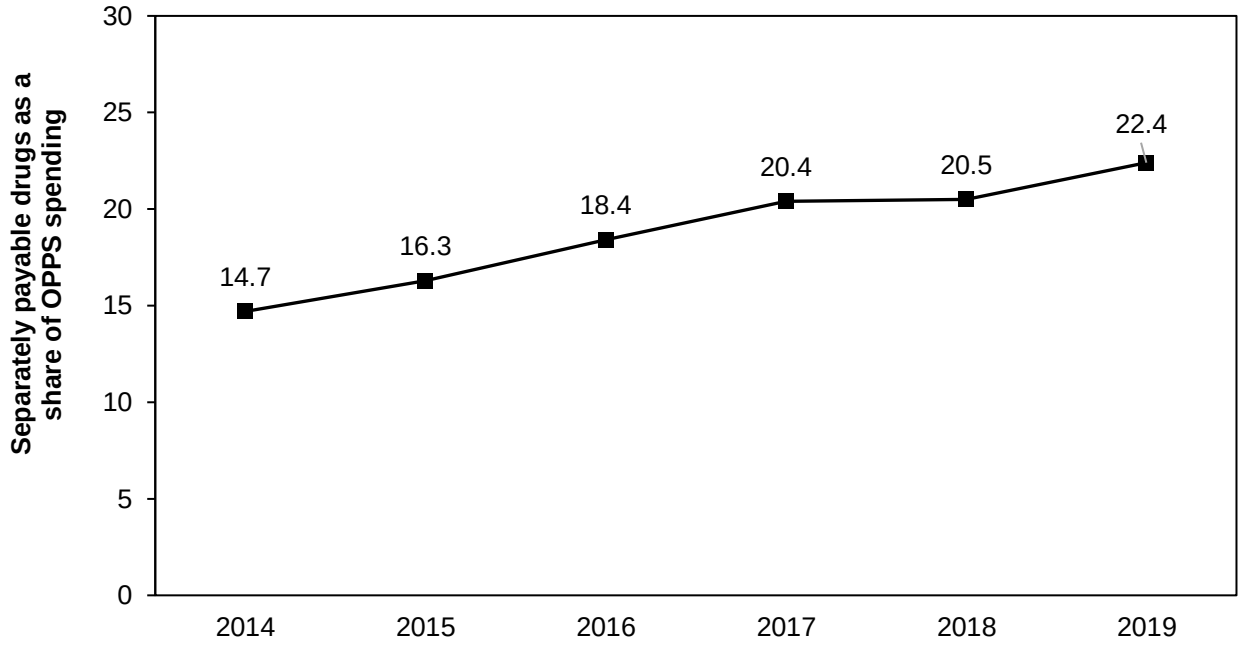
APC title	Share of Medicare expenditures	Volume (thousands)	Payment rate
Total	51%		
All emergency visits	6	12,547	$345
Clinic visits	6	32,684	116
Comprehensive observation services	5	1,430	2,387
Level 5 musculoskeletal procedures	3	174	10,714
Level 3 endovascular procedures	2	167	9,669
Level 3 electrophysiologic procedures	2	75	19,214
Level 4 musculoskeletal procedures	2	218	5,700
Level 3 drug administration	2	6,521	187
Level 2 ICD and similar procedures	2	37	30,656
Level 3 radiation therapy	2	1,943	520
Level 1 endovascular procedures	2	357	2,810
Level 2 imaging without contrast	1	8,501	113
Level 2 imaging with contrast	1	2,441	386
Level 4 imaging without contrast	1	1,855	497
Level 2 lower GI procedures	1	1,012	980
Level 1 laparoscopy and related procedures	1	194	4,596
Level 4 endovascular procedures	1	60	15,355
Level 3 nuclear medicine and related services	1	696	1,129
Level 1 intraocular procedures	1	428	1,917
Level 1 imaging without contrast	1	3,486	231
Level 4 drug administration	1	2,518	288
Level 3 pacemaker and similar procedures	1	68	9,897
Level 1 upper GI procedures	1	955	762
Level 2 excision/biopsy/incision and drainage	1	460	1,376
Level 3 vascular procedures	1	234	2,642
Level 4 nuclear medicine and related services	1	443	1,376
Level 5 urology and related services	1	152	4,021
Average APC		600	168

Note: APC (ambulatory payment classification), ICD (implantable cardioverter-defibrillator), GI (gastrointestinal). The payment rate for "all emergency visits" is a weighted average of payment rates for 10 emergency visit APCs (not listed on this chart). The shares of payments for the 27 APC categories do not add to the total share of payments (51 percent) because of rounding. The average APC figures in the last line represent averages for all APCs.

Source: MedPAC analysis of 100 percent analytic files of outpatient claims for calendar year 2019.

- Although the outpatient prospective payment system covers thousands of services, expenditures are concentrated in a few categories that have high volume, high payment rates, or both.

Chart 7-13. Separately payable drugs have increased as a share of total spending in the outpatient prospective payment system, 2014–2019



Note: OPPS (outpatient prospective payment system).

Source: MedPAC analysis of hospital outpatient standard analytic claims files from 2014 through 2019.

- The OPPS packages the cost of most drugs into the payment for the related services. However, the OPPS has two programs that provide separate payment for higher cost drugs: the pass-through program, which is focused on drugs that are new to the market, and the program for separately payable non-pass-through (SPNPT) drugs, which is focused on drugs that have been established in the drug market. Pass-through drugs can hold that status for two to three years, after which they can become SPNPT drugs. Most SPNPT drugs were previously pass-through drugs.

- Separately payable drugs have become an increasingly larger share of OPPS spending, increasing from 14.7 percent in 2014 to 22.4 percent in 2019.

- The share of OPPS spending attributable to separately payable drugs increased each year from 2014 to 2019, but the increase was relatively small from 2017 to 2018. The small increase during that period was the result of a policy implemented by CMS that substantially decreased the payment rates for SPNPT drugs that hospitals obtained through the 340B Drug Pricing Program. Without that policy, we estimate that separately payable drugs would have been 22.7 percent of OPPS spending in 2018 and 24.8 percent in 2019.

Chart 7-14. Number of Medicare-certified ASCs increased by 11 percent, 2013–2019

	2013	2014	2015	2016	2017	2018	2019
Medicare payments (billions of dollars)	$3.7	$3.8	$4.1	$4.3	$4.6	$4.9	$5.2
New centers (during year)	178	191	170	171	216	230	226
Closed or merged centers (during year)	120	123	109	101	101	103	84
Net total number of centers (end of year)	5,233	5,301	5,362	5,432	5,547	5,674	5,816
Net percent growth in number of centers	1.1%	1.3%	1.2%	1.3%	2.1%	2.3%	2.5%
Share of all centers that are:							
For profit	95	95	95	95	95	95	95
Nonprofit	4	4	4	4	4	4	4
Government	2	2	2	1	1	1	1
Urban	93	93	93	93	93	93	93
Rural	7	7	7	7	7	7	7

Note: ASC (ambulatory surgical center). Medicare payments include program spending and beneficiary cost sharing for ASC facility services. Some figures differ from Chart 7-14 in our 2020 data book because CMS updated the Provider of Services file. Some totals may not sum to 100 percent due to rounding.

Source: MedPAC analysis of Provider of Services file from CMS 2019. Payment data are from CMS, Office of the Actuary.

- ASCs are distinct entities that furnish ambulatory surgical services not requiring an overnight stay in a hospital. The most common ASC procedures are cataract removal with lens insertion, upper gastrointestinal endoscopy, colonoscopy, and nerve procedures.

- Total Medicare payments per fee-for-service (FFS) Medicare beneficiary for ASC services increased by approximately 6 percent per year, on average, from 2013 through 2019 (data not shown). Payments per FFS beneficiary served in an ASC grew by 4.9 percent per year during this period. From 2018 to 2019, total payments rose by 7.3 percent, and payments per beneficiary grew by 8.3 percent (per beneficiary data not shown).

- The number of Medicare-certified ASCs grew at an average annual rate of 1.8 percent from 2013 through 2019. In this same period, an annual average of 197 new facilities entered the market, while an average of 106 closed or merged with other facilities.

Chart 7-15. Between 33 and 70 low-value services were provided per 100 FFS beneficiaries in 2018; Medicare spent between $2.4 billion and $6.9 billion on these services

	Broader version of measure			Narrower version of measure		
Measure	Count per 100 beneficiaries	Share of beneficiaries affected	Spending (millions)	Count per 100 beneficiaries	Share of beneficiaries affected	Spending (millions)
Imaging for nonspecific low back pain	12.6	9.2%	$263	3.5	3.2%	$73
PSA screening at age >75 years	8.7	5.9	82	4.9	4.0	46
Colon cancer screening for older adults	6.9	6.6	412	0.2	0.2	3
Spinal injection for low back pain	6.9	3.6	1,418	3.1	1.9	633
PTH testing in early CKD	5.4	3.3	109	4.6	2.8	93
Carotid artery disease screening in asymptomatic adults	4.6	4.2	262	3.7	3.4	212
T3 level testing for patients with hypothyroidism	4.3	2.5	28	4.3	2.5	28
Preoperative chest radiography	4.0	3.6	63	0.9	0.9	15
Stress testing for stable coronary disease	3.7	3.6	1,129	0.4	0.4	132
Head imaging for uncomplicated headache	3.7	3.3	268	2.3	2.2	167
Cervical cancer screening at age >65 years	1.6	1.6	35	1.4	1.4	32
Homocysteine testing in cardiovascular disease	1.2	0.9	10	0.2	0.2	2
Head imaging for syncope	1.2	1.1	84	0.7	0.7	51
Preoperative echocardiography	0.9	0.9	78	0.3	0.3	24
Preoperative stress testing	0.6	0.6	192	0.2	0.2	61
CT for uncomplicated rhinosinusitis	0.6	0.5	45	0.2	0.2	19
Screening for carotid artery disease for syncope	0.5	0.5	30	0.4	0.4	22
Imaging for plantar fasciitis	0.5	0.4	11	0.3	0.2	4
BMD testing at frequent intervals	0.5	0.5	11	0.3	0.3	7
Vitamin D testing in absence of hypercalcemia or decreased kidney function	0.4	0.4	7	0.4	0.3	7
Cancer screening for patients with CKD on dialysis	0.3	0.3	10	0.1	0.1	1
PCI/stenting for stable coronary disease	0.3	0.3	1,435	0.1	0.1	254
Arthroscopic surgery for knee osteoarthritis	0.2	0.2	188	0.04	0.04	35
Preoperative PFT	0.2	0.2	2	0.1	0.1	1
Vertebroplasty/kyphoplasty for osteoporotic vertebral fractures	0.2	0.1	336	0.2	0.1	328
Hypercoagulability testing after DVT	0.2	0.1	5	0.1	0.05	2
IVC filter to prevent pulmonary embolism	0.1	0.1	21	0.1	0.1	21
Renal artery angioplasty/stenting	0.1	0.1	176	0.02	0.02	43
EEG for headache	0.1	0.1	4	0.03	0.03	2
Carotid endarterectomy for asymptomatic patients	0.1	0.1	145	0.02	0.02	59
Pulmonary artery catheterization in ICU	0.01	0.01	0.2	0.005	0.004	0.2
Total	**70.5**	**35.9**	**6,860**	**33.1**	**21.6**	**2,377**

(Chart continued next page)

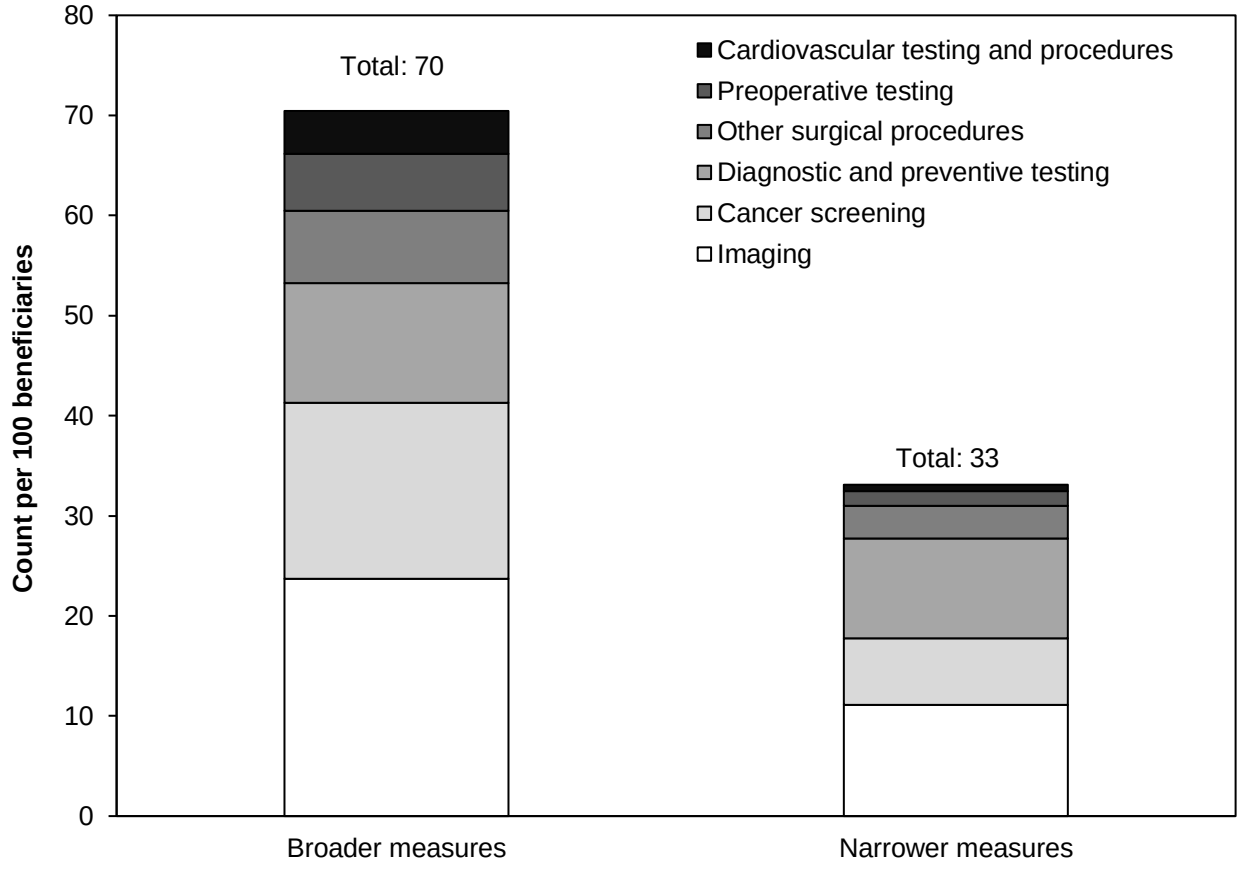
Chart 7-15. Between 33 and 70 low-value services were provided per 100 FFS beneficiaries in 2018; Medicare spent between $2.4 billion and $6.9 billion on these services (continued)

Note: FFS (fee-for-service), PSA (prostate-specific antigen), PTH (parathyroid hormone), CKD (chronic kidney disease), CT (computed tomography), BMD (bone mineral density), PCI (percutaneous coronary intervention), PFT (pulmonary function test), DVT (deep vein thrombosis), IVC (inferior vena cava), EEG (electroencephalography), ICU (intensive care unit). "Count" refers to the number of unique services. Numbers may not sum to totals due to rounding. The total for share of beneficiaries affected does not equal the column sum because some beneficiaries received services covered by multiple measures. "Spending" includes Medicare Part A and Part B program spending and beneficiary cost sharing for services detected by measures of low-value care. Spending is based on a standardized price for each service from 2009 that was updated to 2018. The broad and narrow version of the measure for T3 level testing for patients with hypothyroidism is the same.

Source: MedPAC analysis of 100 percent of Medicare claims using measures developed by Schwartz and colleagues (Schwartz, A. L., B. E. Landon, A. G. Elshaug, et al. 2014. Measuring low-value care in Medicare. *JAMA Internal Medicine* 174: 1067–1076; Schwartz, A. L., M. E. Chernew, B. E. Landon, et al. 2015. Changes in low-value services in year 1 of the Medicare Pioneer Accountable Care Organization Program. *JAMA Internal Medicine* 175: 1815–1825).

- Low-value care is the provision of a service that has little or no clinical benefit or care in which the risk of harm from the service outweighs its potential benefit.
- The 31 measures of low-value care in this chart were developed by a team of researchers. The measures are drawn from evidence-based lists—such as Choosing Wisely—and the medical literature. We applied these measures to 100 percent of Medicare claims data from 2018. These 31 measures do not represent *all* instances of low-value care; the actual number (and corresponding spending) may be much higher.
- The researchers developed two versions of each measure: a broader version (more sensitive, less specific) and a narrower version (less sensitive, more specific). Increasing the sensitivity of a measure captures more potentially inappropriate use but is also more likely to misclassify some appropriate use as inappropriate. Increasing a measure's specificity leads to less misclassification of appropriate use as inappropriate at the expense of potentially missing some instances of inappropriate use.
- Based on the broader versions of the measures, our analysis found about 70 instances of low-value care per 100 beneficiaries in 2018, with about 36 percent of beneficiaries receiving at least 1 low-value service that year. Medicare spending for these services was $6.9 billion. Based on the narrower versions of the measures, our analysis showed about 33 instances of low-value care per 100 beneficiaries, with almost 22 percent of beneficiaries receiving at least 1 low-value service. Medicare spending for these services totaled about $2.4 billion.

Chart 7-16. Imaging and cancer screening accounted for most of the volume of low-value care in 2018

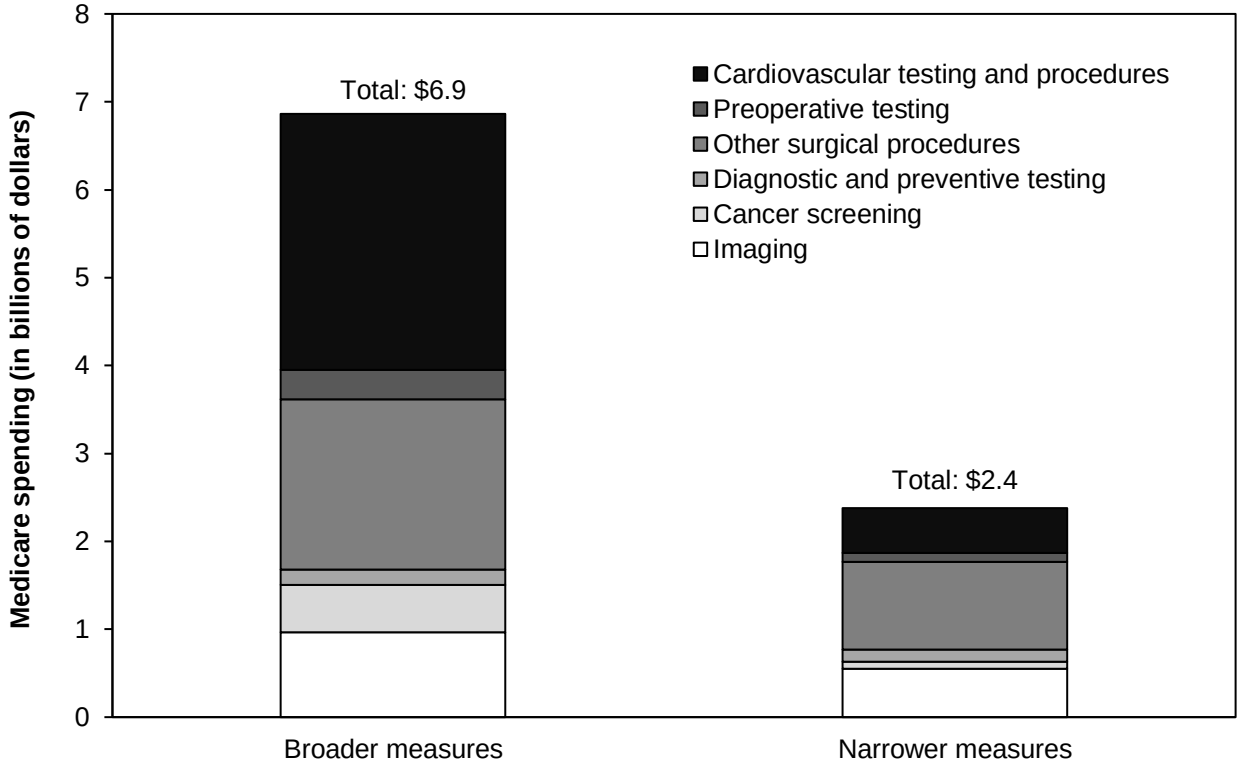


Note: "Count" refers to the number of unique services provided to fee-for-service Medicare beneficiaries.

Source: MedPAC analysis of 100 percent of Medicare claims using measures developed by Schwartz and colleagues (Schwartz, A. L., B. E. Landon, A. G. Elshaug, et al. 2014. Measuring low-value care in Medicare. *JAMA Internal Medicine* 174: 1067–1076; Schwartz, A. L., M. E. Chernew, B. E. Landon, et al. 2015. Changes in low-value services in year 1 of the Medicare Pioneer Accountable Care Organization Program. *JAMA Internal Medicine* 175: 1815–1825).

- We assigned each of the 31 measures of low-value care from Chart 7-15 to 1 of 6 clinical categories.
- Imaging and cancer screening accounted for nearly 60 percent of the volume of low-value care per 100 beneficiaries using the broader versions of the measures. The "imaging" category includes back imaging for patients with nonspecific low back pain and screening for carotid artery disease in asymptomatic adults. The "cancer screening" category includes prostate-specific antigen testing for men ages 75 or older and colorectal cancer screening for older adults.
- Using the narrower versions of the measures, imaging and diagnostic and preventive testing accounted for 64 percent of the volume of low-value care per 100 beneficiaries.

Chart 7-17. Cardiovascular testing and procedures, other surgical procedures, and imaging accounted for most of spending on low-value care in 2018



Note: "Spending" includes Medicare Part A and Part B program spending and beneficiary cost sharing for services detected by measures of low-value care. To estimate spending, we used standardized prices to adjust for regional differences in payment rates. The standardized price is the median payment amount per service in 2009, adjusted for the increase in payment rates between 2009 and 2018. This method was developed by Schwartz et al. (2014).

Source: MedPAC analysis of 100 percent of Medicare claims using measures developed by Schwartz and colleagues (Schwartz, A. L., B. E. Landon, A. G. Elshaug, et al. 2014. Measuring low-value care in Medicare. *JAMA Internal Medicine* 174: 1067–1076; Schwartz, A. L., M. E. Chernew, B. E. Landon, et al. 2015. Changes in low-value services in year 1 of the Medicare Pioneer Accountable Care Organization Program. *JAMA Internal Medicine* 175: 1815–1825).

- Cardiovascular testing and procedures and other surgical procedures accounted for 71 percent of total spending on low-value care using the broader measures. Other surgical procedures and imaging made up nearly two-thirds of spending on low-value care using the narrower measures.

- The "cardiovascular testing and procedures" category includes stress testing for stable coronary disease and percutaneous coronary intervention with balloon angioplasty or stent placement for stable coronary disease. The "other surgical procedures" category includes spinal injection for low back pain and arthroscopic surgery for knee osteoarthritis. The "imaging" category includes back imaging for patients with nonspecific low back pain and screening for carotid artery disease in asymptomatic adults.

- The spending estimates probably understate actual spending on low-value care because they do not include the cost of downstream services (e.g., follow-up tests and procedures) that may result from the initial low-value service. Also, we are not capturing *all* low-value care through these 31 measures.