ASPE ASSISTANT SECRETARY FOR PLANNING AND EVALUATION | OFFICE OF HEALTH POLICY

ISSUE BRIEF
November 20, 2020

HP-2020-02

MEDICARE PART B DRUGS: TRENDS IN SPENDING AND UTILIZATION, 2006-2017

Over the 2006-17 period, Medicare FFS Part B drug spending per enrollee grew at 8.1 percent annually. This spending growth is more than twice as high as Part D (per enrollee annual spending growth of 3.4 percent) and nearly three times as high as the nation overall (per capita annual spending growth of 2.9 percent for the National Health Expenditures (NHE) retail drug spending). Spending and enrollment projections by the CMS Office of the Actuary (OACT) for the 2021 President's Budget suggest that per capita spending on Medicare Part B physician-administered drugs and separately-payable hospital outpatient drugs will grow at a very similar annual rate of 8.0 percent between 2020 and 2027, before consideration of any COVID-19 pandemic impacts. Because biologics account for about 77 percent of Medicare Part B FFS prescription drug spending, there has been little opportunity to reduce Medicare Part B spending growth through generic substitution, as has occurred in Medicare Part D and in retail pharmacy overall. Moreover spending is concentrated on a few drugs: the top 10 drugs account for almost half of the total Medicare payment for Part B drugs and grew at about the same rate as all Part B drugs on a per enrollee basis.

KEY POINTS

- Medicare Part B drug program spending in 2017 was $24 billion[1], about 5 percent of the nation's drug spending.

- Between 2006 and 2017, Medicare Part B FFS drug spending per enrollee grew at 8.1 percent, more than twice as high as per capita spending on Medicare Part D (3.4 percent) and nearly three times as high as overall retail prescription per capita drug spending (2.9 percent). Spending and enrollment projections by the CMS Office of the Actuary (OACT) for the 2021 President's Budget suggest that per capita spending on Medicare Part B physician-administered drugs and separately-payable hospital outpatient drugs will grow at a very similar annual rate of 8.0 percent between 2020 and 2027, before consideration of any COVID-19 pandemic impacts.

[1] Medicare spending for all Part B drug estimated by Acumen LLC under contract with ASPE.

- A relatively small number of Part B drugs account for a significant share of the spending. The top 20 drugs in terms of Medicare payment account for 60 percent of the total while the top 10 account for 46 percent of total payments in 2017.

- Spending for biologics has grown much more rapidly than spending for non-biologics over the past ten years. From 2006 to 2017, spending for biologics accounted for nearly all (92 percent) of Medicare Part B drug spending growth. Because biologics account for about 77 percent of Medicare Part B FFS prescription drug spending, there has been little opportunity to reduce Medicare Part B spending growth through generic substitution, as has occurred in Medicare Part D and in retail pharmacy overall.

- Part B drug spending is shifting to hospital outpatient departments; the share of Part B spending in this setting doubled from 23 percent in 2006 to 40 percent in 2017 with a corresponding decline is spending in physicians' offices.

- The incentives associated with the current Average Sales Price (ASP) payment system are generally not consistent with the provision of high-value care to beneficiaries.

- Options to slow the growth in Part B drug spending include aligning Medicare payment for Part B drugs to prices paid among a group of comparable countries.

BACKGROUND

Medicare covers prescription drugs provided during inpatient hospital and skilled nursing facility stays through Part A, retail prescription drugs through Part D, and drugs provided in physicians' offices and hospital outpatient departments (HOPDs) through Part B.[2] In 2017, Medicare financed about 27 percent of the nation's drug spending estimated at $481 billion[3],[4] of which spending by Medicare Part D was $100 billion[5] (21 percent) and Medicare FFS Part B was $24 billion[6] (5 percent). This paper focuses on the drugs provided to Fee-for-Service (FFS) beneficiaries in the Medicare Part B program.

The paper presents the data on Medicare FFS Part B drug spending and utilization, describes the current pricing system, and discusses the system's financial incentives that could help explain the underlying rising trends in spending. It also describes new policy initiatives that have been proposed or implemented since March of 2016.[7]

Overview of Part B Drug Payment

Medicare Part B covers certain categories of drugs, including drugs furnished incident to a physician's service (e.g., injectable drugs used in connection with the treatment of cancer), drugs explicitly covered by statute

[2] Medicare enrollees have the option to enroll in Medicare Advantage (MA or also called Medicare Part C) plans. An MA plan is a private plan that would provide both Parts A and B, and sometimes also Part D benefits within the same plan.
[3] National Health Expenditures (Projections Vintage: 2/20/2019) provides retail drug spending at $333.44 B. in 2017; https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsProjected.html
[4] Non-retail drug spending was estimated to be $148 B. in 2017 by Altarum: https://altarum.org/sites/default/files/uploaded-publication-files/Projections%20of%20the%20Prescription%20Drug%20Share%20of%20National%20Health%20Expenditures%20June%202019.pdf
[5] Medicare total expenditures for Part D provided in Table III.D3 of the Medicare Trustees Report, 2019: https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/Downloads/TR2019.pdf
[6] Medicare spending for all Part B drugs estimated by Acumen LLC under contract with ASPE.
[7] An earlier version of this issue brief covering the years 2005-2014 is available at: https://aspe.hhs.gov/pdf-report/medicare-part-b-drugs-pricing-and-incentives

(e.g., some vaccines and oral anticancer drugs), and drugs used in conjunction with durable medical equipment (e.g., inhalation drugs)[8]. Medicare beneficiaries can receive Part B-covered drugs in several settings, including physician offices and HOPDs.[9] Medicare directly pays providers and suppliers for these drugs.

92 percent

of growth in Medicare Part B drug spending from 2006 to 2017 was due to spending on biologics.

Payment for most Part B drugs is based on the average sales price (ASP) calculated for each item. By statute, Medicare pays 106 percent of ASP (ASP+6 percent) for drugs provided in physician offices; oral anticancer, oral antiemetic, and immunosuppressive drugs; inhalation drugs; home infusion drugs; and clotting factor with infused/injected drugs and biologics being the largest category.[10],[11]

Part B covered drugs provided in HOPDs are generally divided into two categories for the purpose of payment: packaged drugs and separately payable drugs (un-packaged drugs).

Packaged drugs[12] – Drugs that are low-cost (with a cost per day of less than the threshold amount of $60 in 2009, rising to $130 in 2020), certain types of drugs regardless of cost (e.g., drugs that function as supplies for certain tests or procedures), and drugs that are neither antiemetic nor pass-through drugs are packaged into the payment for other services under the Hospital Outpatient Prospective Payment System (OPPS).[13] In contrast, all of these drugs are paid separately when provided in physicians' offices. In addition, most drugs for end-stage renal disease are packaged into the prospective payment rate for end-stage renal disease (dialysis).

Separately payable drugs (un-packaged drugs) – CMS makes a separate payment for Part B drugs provided in HOPDs when estimated per-drug per-day costs are greater than a threshold amount (cost per day of less than $60 in 2009, rising to $130 in 2020).[14] The statute grants the Secretary authority to make payments based on each drug's acquisition and overhead costs, or use a default payment rate of ASP + 6 percent as required for the same drugs when provided in physicians' offices. CMS also makes separate payments for drugs with pass-through status, regardless of whether they exceed the packaging threshold.

By statute, Medicare pays most Part B drugs at ASP+6 percent when provided in the physician's office. For HOPDs, Medicare pays ASP+6 percent for separately payable Part B drugs furnished in HOPDs unless the

[8] The statutory authority for payment of these self-administered drugs is as follows: 1861(s)(2) for blood clotting factors, immunosuppressants, oral anti-cancer, oral anti-emetic, and IVIG; 1842(o) for drugs administered as supplies for covered durable medical equipment.

[9] Effective January 1, 2011, most dialysis drugs are bundled and paid under the End-Stage Renal Disease (ESRD) Prospective Payment System (PPS) that provides a patient-level and facility-level adjusted per treatment (dialysis) payment to ESRD facilities for renal dialysis services provided in an ESRD facility or in a beneficiary's home. The bundled per treatment payment includes drugs, laboratory services, supplies and capital-related costs related to furnishing maintenance dialysis. Under the ESRD PPS, there is a drug designation process to determine whether a new renal dialysis drug or biological product is included in the ESRD PPS bundled payment.

[10] The sequestration reduces benefit payments by 2 percent from April 1, 2013 through April 30, 2020 and January 1, 2021 through March 31, 2030 and by 4 percent from April 1, 2030 through September 30, 2030. Under the sequester, Medicare payments to providers, but not beneficiary coinsurance payments, are reduced by 2 percent. After applying this payment reduction, the payment rate under the 2 percent sequester is effectively ASP+4.3%. (In other words, as the sequester applies to federal payment only (80 percent of total payment while beneficiaries still pay the full 20 percent copay), the effective federal payment under ASP+6% is reduced to ASP+(1.06*(1-2%*80%))) or ASP+4.3%.)

[11] Starting in 2018, biosimilars will each have unique Healthcare Common Procedure Coding System (HCPCS) codes and payments under Medicare Part B. For a biosimilar, Medicare pays at the product's own ASP plus 6% of the reference biologic's ASP. The reference biologic is generally sold at a higher price than the biosimilar, so the policy is intended to provide a higher payment for the biosimilar as an incentive for the market to grow.

[12] In this paper, the term packaging refers only to certain drugs paid under the Outpatient Prospective Payment System (OPPS) and not any other payment system.

[13] The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 establishes separate payments for drugs and biologics costing at least $50 per administration in 2005 and 2006 (drugs costing less were packaged). CMS updated the cost per day packaging threshold in 2007. OPPS packages items with a per day cost of less than or equal to $125 for CY 2019.

[14] See 73 Fed. Reg. 68502, 68642 (Nov. 18, 2008) for CMS's methodology for setting the packaging threshold.

hospital participates in the 340B Drug Pricing Program. Beginning January 2018, the OPPS generally pays 340B hospitals ASP minus 22.5 percent for separately payable Part B drugs that do not have pass through status (drugs with pass through status are paid ASP+6 percent).

A few types of Part B drugs are not paid based on ASP. Preventive vaccines and certain blood products (e.g., albumin) are paid 95 percent of the average wholesale price (AWP) or reasonable cost. Radiopharmaceuticals and compounded drugs billed by physicians are paid at invoice cost or 95 percent of AWP. In addition, if Medicare lacks ASP data for a product, Medicare generally pays based on the wholesale acquisition cost (WAC); WAC +6 percent and WAC +3 percent beginning January 2019. Both AWP and WAC are undiscounted list prices that are typically higher than ASP.[15] Medicare may lack ASP data for a new single source drug or biologic, or when a manufacturer fails to report ASP data, or is not required to report ASP data.

Calculation of ASP Based Payment Rate

As described above, many Part B drugs are billed and paid separately in accordance with section 1847A of the Social Security Act that establishes the ASP methodology.[16].[17,18] The payments are generally based on each drug's ASP. Manufacturers report data on price and volume of sales to all purchasers (with limited exceptions) in the U.S. quarterly to the program for each National Drug Code for a drug. By definition, the ASP based payment is the volume-weighted average of the manufacturer's ASP of the NDCs assigned to the same Healthcare Common Procedure Coding System (HCPCS) code.

ASP is net of any price concessions such as volume discounts, prompt pay discounts, and cash discounts, chargebacks, and rebates other than those obtained through the Medicaid drug rebate program.[19] Sales that are nominal in amount or provided for free and not contingent upon the sale of a good are exempted from the ASP calculation, as are sales excluded from the determination of "Best Price" in the Medicaid drug rebate program or offered as sub-ceiling prices to 340B Drug Discount Program participants.[20] Each HCPCS code generally has a separately calculated ASP. To allow time to submit and calculate these data, the ASP is updated on a two-quarter lag. See the illustration below.

[15] An IOG Report in 2005 showed that ASP, which is a statutorily defined price based on actual sales transactions including discounts, was lower than published prices AWP and WAC: https://oig.hhs.gov/oei/reports/oei-03-05-00200.pdf

[16] As described below, multiple source drugs are grouped for purposes of payment. In addition, when provided in hospitals' outpatient departments, drugs that are under a cost per day threshold cost ($125 in 2019) are packaged with associated procedures or visits for payment. In addition, since 2014 drugs used as a supply with diagnostic procedures and drugs used as a supply with a surgical procedure are packaged regardless of the cost of the drug.

[17] Under the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) provisions for payment of hospitals' outpatient department services, the Secretary has the authority to base payment for these drugs on hospitals' average acquisition costs and consider overhead/handling costs in setting payment. The Secretary can also use the same payment as for physicians' offices instead of calculating acquisition costs. In recent years, CMS has chosen the latter option so that most drugs are paid the same rate in the two sites of service.

[18] For further detail on ASP calculations by CMS, please see ASPE Brief Medicare Part B: Pricing and Incentives from https://aspe.hhs.gov/pdf-report/medicare-part-b-drugs-pricing-and-incentives

[19] CMS receives ASP data for Part B drugs net of the rebates and price concessions, which are not separately reported. Part D discounts are not included in reported ASP.

[20] SSA 1847A(c)(2).

Exhibit 1. Illustration of Average Sales Price Flow

Time Period → Obligation	Q1-2017	Q2-2017	Q3-2017	Q4-2017
Providers purchase drugs	1,000 units at $100 apiece 2,000 units at $80 apiece	1,200 units at $96 apiece 2,500 units at $75 apiece	*Etc.*	*Etc.*
Manufacturer reports sales		Within 30 days of the close of Q1-2017	Within 30 days of the close of Q2-2017	*Etc.*
Manufacturers combine lagged price concessions from prior quarters for the reported ASP		Calculated ASP from Q1-2017 sales: (1,000 * $100 + 2,000 * $80) ÷ (1,000 + 2,000) = $86.67 per unit Updated ASP file published 2 weeks prior to the beginning of Q3-2017	Calculated ASP from Q2-2017 sales: (1,200 * 96 + 2,500 * 75) ÷ (1,200 + 2,500) = $81.81 per unit Updated ASP file published 2 weeks prior to Q4-2017	*Etc.*
Medicare pays providers at ASP+4.3 percent for claims submitted (Medicare would have paid ASP+6 in the absence of the sequester from 2013 to 2027)			ASP+4.3 percent = $90.39 per unit Calculated ASP from Q1-2017 sales	ASP+4.3 percent = $85.33 per unit Calculated ASP from Q2-2017 sales

The ASP formulas for Part B drugs are separated into three categories by statute: single-source drugs or biologics, multiple-source drugs, and biosimilars. Single-source small molecule drugs and originator biologics are both paid at 106 percent of their own ASP. For multiple-source small molecule drugs, all brand-name and generic products within the same HCPCS code are paid at 106 percent of the weighted average of their ASPs. In other words, each single-source drug has a unique ASP-based payment rate, regardless of the similarities between drugs, allowing two single-source drugs that have comparable effectiveness to have different payment rates. Both the generic and brand name versions of multiple-source small molecule drugs, on the other hand, share the same ASP-based payment rate.[21]

[21] For multiple source small molecule drugs under Part B, the incentives differ from those for single source drugs. The brand drug and the generic equivalents are grouped under one HCPCS billing code and ASP is calculated as a weighted average for the group. Thus, if providers choose this drug for treatment, they have the incentive to purchase the lower price alternatives within the group. However, as described above, providers may still have a greater incentive to purchase a higher price single source drug that would also effectively treat a particular patient.

In contrast, biosimilar products are not grouped with the reference biologic product for purposes of Medicare Part B payment.[22] Approving biosimilars is more complex than approving generic versions of small molecule drugs and there are a number of unique factors that FDA considers in the approval of biosimilar products.[23], [24] The Public Health Service Act defines two new types of biological products: biosimilar and interchangeable.[25] Biosimilar biological products are a type of biological product that are demonstrated to be highly similar to an already FDA-approved biological product, known as the reference product, and have been shown to have no clinically meaningful differences from the reference product. An interchangeable biological product is expected to produce the same clinical result as the reference product in any given patient and could reasonably be substituted for the reference product without the intervention of the health care provider who prescribed the reference product.[26] Standards for interchangeability have yet to be fully developed by FDA.[27]

CMS clarified through rulemaking in 2017 that FDA-approved biosimilars of the same reference product would be billed and paid under a unique HCPCS code for each biosimilar.[28] The 6 percent add-on is based upon the ASP of the reference product, resulting in an add-on that is greater than 6 percent of the biosimilar ASP. Exhibit 2 illustrates the various pricing calculations.

Exhibit 2. Illustrative Example of Medicare Payments for Prescription Drugs in Part B

			Part B Payment Policy	Example (absent the sequester)				
				Sales Price	Market share	Average Sales Price (ASP)	Add on Rate and Amount	Medicare Payment (ASP + Add-on)
Small molecule	Single source	Brand	ASP + 6%	$50.00	100 percent	$50.00	6 percent of ASP =$3.00	$53.00
	Multiple source	Brand	Weighted average of ASP for brand and generic +6 percent	$50.00	50 percent	(0.5*50) +(0.25*20) +(0.25*15) =$33.75	6 percent of ASP =$2.03	$35.78
		Generic 1		$20.00	25 percent			
		Generic 2		$15.00	25 percent			
Biologics		Reference	ASP + 6 percent	$50.00		$50.00	6 percent of ASP = $3.00	$53.00

[22] CMS changed its policy on the assignment of billing codes for biosimilars in second quarter 2018. Prior to that, if there were multiple biosimilars for a given originator biologic, all biosimilars were assigned to the same billing code (while the originator biologic remained in its own billing code). Beginning second quarter 2018, each biosimilar receives its own billing code.

[23] Generic drugs are copies of brand-name drugs, have the same active ingredient, and are the same as those brand name drugs in dosage form, safety, strength, route of administration, quality, performance characteristics and intended use. That means the brand-name and the generic are bioequivalent. Biologics are large, complex products produced in living systems meaning that similar but not exact copies can be produced. Biosimilars are highly similar to the reference product they were compared to, but have allowable differences because they are made from living organisms.

[24] Biologics are identified using the FDA definitions - drugs with a BLA are considered biologics. There were only 3 biosimilars on the market as of 2017 (Zarxio - Q5101 ZA, Inflectra - Q5102 ZB, & Renflexis - Q5102 ZC).

[25] See section 351(i) of the Public Health Service Act (PHS Act) (42 U.S.C. 262(i))

[26] See Section 351(k) of the Public Health Service Act.

[27] FDA's guidance is available at https://www.fda.gov/regulatory-information/search-fda-guidance-documents/considerations-demonstrating-interchangeability-reference-product-guidance-industry.

[28] See Medicare Program; Revisions to Payment Policies under the Physician Fee Schedule and Other Revisions to Part B for CY 2018; Medicare Shared Savings Program Requirements; and Medicare Diabetes Prevention Program. 82 Fed. Reg. 52976-53371. Available at https://www.federalregister.gov/documents/2017/11/15/2017-23953/medicare-program-revisions-to-payment-policies-under-the-physician-fee-schedule-and-other-revisions.

	Biosimilar 1	Biosimilar 1's ASP + 6 percent of reference ASP	$20.00	50 percent	$20.00	6 percent of reference ASP = $3.00	$23.00
	Biosimilar 2	Biosimilar 2's ASP + 6 percent of reference ASP	$15.00	50 percent	$15.00	6 percent of reference ASP = $3.00	$18.00

DATA AND METHODS

This study used Medicare claims data (carrier, durable medical equipment, and outpatient files) from 2006 to 2017 for Medicare Part B FFS spending and utilization.[29] Part B drugs are identified by the Healthcare Common Procedure Coding System (HCPCS) codes. [30] A service is defined as an occurrence of a HCPCS code on a claim for a beneficiary in a day. The analytical data exclude lines on claims reporting payment under $0.009, lines with denied payments, or lines where Medicare is not the primary payer.[31] *In addition, we excluded spending by enrollees in Medicare Advantage as the claims data reflected only spending in the fee-for-service (FFS) Medicare.* Since total enrollment in FFS has been flat since 2005, spending increases observed in the claims data for this study were driven, not by enrollment increases, but by either price or per beneficiary utilization increase.[32] Medicare enrollment in Medicare Advantage plans has increased since 2005, growing from 14 percent of Medicare beneficiaries in 2005 to 34 percent in 2017.[33]

PHARMACEUTICAL SPENDING TRENDS

As displayed on Exhibit 3, since 2006 growth in Part B drug spending per enrollee was more rapid than growth in spending under Part D or retail drug spending as calculated for the NHE. During 2006-17, average annual Part B drugs spending per enrollee grew 8.1 percent per year, more than twice as fast as 3.4 percent for Part D and 2.9 percent for the NHE retail drug spending per person in general.[34] Consequently, the share of Part B drugs to total Part B benefit grew from 7.5 percent in 2006 to 12.5 percent in 2017. In the following sections we examine more detailed trends that may help to explain the relatively rapid growth in Part B drug spending.

[29] The claims data were processed by Acumen, LLC for ASPE.
[30] HCPCS codes (that are paid under ASP) for carrier and DME were obtained from the CMS ASP file while the codes for outpatient come from the CMS Addendum B file. Average wholesale price (AWP) priced drugs in Carrier and DME were also included.
[31] The study uses the HCPCS-NDC crosswalk available from CMS to determine the brand/generic status of a drug: (1) Generic HCPCS were linked to at least one generic NDC, (2) Brand HCPCS were not linked to any generic NDCs, (3) Unmatched HCPCS were not present on the CMS HCPCS-NDC crosswalk.
[32] Part B enrollment in fee-for-service was about 34 million in 2005, and 33.3 million in 2018 (Medicare Trustees Report 2019, Table V.B3)
[33] Medicare Trustees Reports, 2019; Table V.B3 (p. 173).
[34] Between 2006 and 2017, Medicare Part B FFS drug spending per enrollee grew at 8.1 percent, more than twice as high as per capita spending on Medicare Part D (3.4 percent) and nearly three times as high as overall retail prescription per capita drug spending (2.9 percent). Spending and enrollment projections by the CMS Office of the Actuary suggest that per capita spending on the Medicare Part B drugs eligible for inclusion in the proposed Most Favored Nation (MFN) Model will grow at a very similar annual rate of 8.0 percent between 2021 and 2028. Because biologics account for about 77 percent of Medicare Part B FFS prescription drug spending, there has been little opportunity to reduce Medicare Part B spending growth through generic substitution, as has occurred in Medicare Part D and in retail pharmacy overall.

Exhibit 3. Pharmaceutical Spending Trends: NHE, Medicare Part D and Part B, 2006-2017 ***

Category	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Average Annual Percent Change
NHE Retail Drug spending per capita ($)****	752	783	795	825	819	832	827	840	937	1,013	1,028	1,025	2.9%
Total Part D Spending per Enrollee ($)	1,551	1,583	1,513	1,807	1,786	1,878	1,786	1,782	1,928	2,148	2,312	2,249	3.4%
Part B Total Spending ($B)*	169	179	183	206	213	225	241	247	266	279	293	314	5.8%
Part B Total FFS Benefit Payments ($B)*	134	138	132	149	155	163	171	171	176	182	186	194	3.4%
Part B Total FFS Benefit Spending per Enrollee ($)	4,111	4,293	4,296	4,721	4,779	4,936	5,089	5,084	5,301	5,434	5,557	5,783	3.2%
Part B FFS Drug Allowed Charges ($B) **	13	13	14	14	15	17	19	20	22	24	28	31	8.3%
Part B FFS Drug Program Payment ($B) **	10	10	11	12	12	14	15	16	17	19	22	24	8.3%
Part B FFS Drug Program Payment per Enrollee ($)	306	322	339	363	383	422	462	490	520	571	647	723	8.1%
Part B drugs' share of Total Part B benefit	**7.5%**	**7.6%**	**8.2%**	**7.7%**	**8.0%**	**8.4%**	**8.9%**	**9.5%**	**9.8%**	**10.4%**	**11.7%**	**12.5%**	

*United States Centers for Medicare and Medicaid Services. Medicare Trustees Reports, 2019. April 2019. https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/Downloads/TR2019.pdf[35]

**Analysis of carrier, durable medical, and outpatient claims data 2006-2017 by Acumen for ASPE. Program payment amount does not include beneficiary cost-sharing.

***Units are specified in the Category sub-headings: $ refers to dollars, and $B to billion dollars

****Note that the NHE values are on an incurred basis, as opposed to the cash basis for Part B and Part D, and they do not include administrative costs.

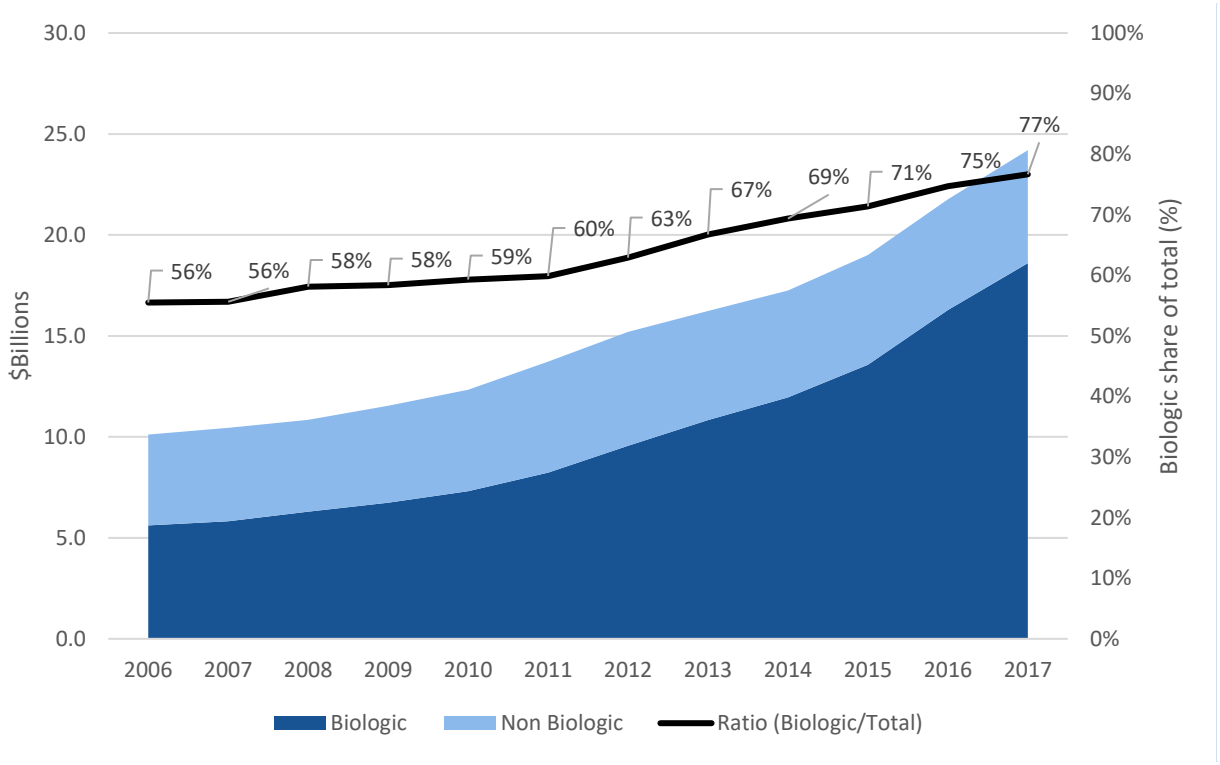
[35] Total D expenditures from Table III.D3; Total B expenditures from Table III.C4; Medicare enrollment from Table V.B3 of the 2019 Medicare Trustees Report.

Notes: Total Part D spending (Trustees Reports, 2019; Table III.D3) is the sum of Benefits payments by Medicare and administrative expenses. Part B Total FFS Benefit Spending represents total program benefit spending for Part B fee-for-service claims.

TRENDS IN BIOLOGICS AND BIOSIMILARS

A notable trend in Part B drug spending was the growth in spending for biologics. Spending for biologics has grown more rapidly than non-biologics over the past ten years (Exhibit 5) and as a result increased from 56 percent of Part B drug spending in 2006 to 77 percent in 2017 (see Exhibit 4).[36] In 2017, Medicare Part B spending for biologic drugs was $18.6 billion compared with $5.6 billion for non-biologic drugs.[37] From 2006 to 2017, spending for biologics accounted for 92 percent of Medicare Part B drug spending growth.[38] As displayed on Exhibit 5, biosimilars have not penetrated the Part B market as of 2017, accounting for only 0.3 percent of spending.

Exhibit 4. Medicare Part B Program FFS Spending for Drugs: Biologic vs. non-Biologic, 2006-17



Source: Analysis of carrier, durable medical, and outpatient claims data 2006-2017 by Acumen for ASPE.

MEDICARE SPENDING LEVELS AND CONCENTRATION OF PART B DRUGS PAID UNDER THE ASP SYSTEM

Exhibit 5 also compares Medicare spending levels for Part B drugs paid under the ASP system in 2006 with 2017 by various categories. Drugs to treat cancer account for the largest share of Part B drug program spending, and increased from 40.3 percent in 2006 to 50.8 percent in 2017 of Part B drug spending. Spending for rheumatoid arthritis treatments also grew rapidly, increasing from 5.8 percent to 9.5 percent of the total.

[36] In 2017, biologics accounted for 77% of Medicare ASP spending with only 20% of service counts.
[37] Consequently, the share of Medicare Part B drugs program spending for biologics increased from 42% in 2005 to 75% in 2016.
[38] (18.603-5.619) $B for biologics / (24.261-10.122 $B) for Medicare Part B drug spending equals 92% of spending growth.

Among the physician specialties, spending on drugs prescribed by ophthalmologists grew rapidly reflecting the approval of macular degeneration treatments that were approved by FDA after 2006.

Exhibit 5. Medicare Part B Drugs Spending by Biologic, Therapeutic Type, Specialty, Place of Service: 2006 and 2017

Category		2006		2017		
		Program Payments ($M)	Percent Of Total (%)	Program Payments ($M)	Percent Of Total (%)	Annual Payment % Change
All		10,122.1	100.0%	24,260.5	100.0%	
Biologic/non-biologic	Biologic	5.618.8	55.5%	18,603.0	76.7.%	11.5%
	Biosimilar	-	-	61.8	0.3%	
	Non Biologic	4,503.3	44.5%	5,595.7	23.1%	2.0%
Therapeutic Type	Anti-Coagulant	6.3	0.1%	1.9	0.0%	-10.5%
	Antigen	19.9	0.2%	25.0	0.1%	2.1%
	Blood Clotting	191.2	1.9%	525.4	2.2%	9.6%
	Cancer	4,082.5	40.3%	12,317.2	50.8%	10.6%
	Clot Buster	45.5	0.4%	69.0	0.3%	3.9%
	IG Intramuscular Admin	2.3	0.0%	0.2	0.0%	-21.2%
	Immunosuppressive	320.0	3.2%	344.6	1.4%	0.7%
	Immune globulin intravenous (IGIV)	220.8	2.2%	1,137.0	4.7%	16.1%
	Oral Anti-Nausea	13.5	0.1%	1.8	0.0%	-16.6%
	Oral Cancer	2.3	0.0%	0.0	0.0%	-40.8%
	Osteoporosis	277.5	2.7%	1,027.6	4.2%	12.6%
	Rheumatoid Arthritis	585.8	5.8%	2,316.6	9.5%	13.3%
	Single Antigen Admin	19.7	0.2%	14.4	0.1%	-2.8%
	Others	4,335.0	42.8%	6,480.0	26.7%	3.7%
Physician Specialty *(Carrier and DME files only)*	Specialty – Oncology	4,392.6	43.4%	5,338.0	22.0%	1.8%
	Specialty Ophthalmology	133.7	1.3%	2,734.2	11.3%	31.6%
	Specialty Rheumatology	377.0	3.7%	1,569.0	6.4%	13.8%
	Specialty Primary	557.2	5.5%	813.3	3.4%	3.5%
	Specialty Urology	343.7	3.4%	321.7	1.3%	-0.6%
	Specialty Infectious	16.2	0.2%	85.1	0.4%	16.3%
	Other Specialty	925.4	9.1%	1,686.9	7.0%	5.6%
	Others	3,376.2	33.4%	11,720.6	48.3%	12.0%
Place of Service	Hospital Place-of-Service	2,193.5	21.7%	10,124.2	41.7%	14.9%
	Physician Office Place-of-Service	6,565.1	64.9%	12,060.6	49.7%	5.7%
	ASC Place-of--Service	0.3	0.0%	12.4	0.1%	40.6%
	Others	1,363.2	13.5%	2,063.3	8.5%	3.8%

Source: Analysis of carrier, durable medical, and outpatient claims data 2006-2017 by Acumen for ASPE. Data include Part B covered drugs administered in physicians' offices and furnished by suppliers, covered drugs in hospital outpatient departments; and reflect only Part B drugs paid under the average sales price 6 percent (ASP). The Healthcare Common Procedure Coding System (HCPCS) codes and prices for carrier and Durable Medical Equipment (DME) were obtained from the CMS ASP file, those for outpatient come from the CMS Addendum B file. Lines with denied payments or Medicare as secondary payer were dropped. Total payments (include Medicare program payments and beneficiary cost sharing) and reflect the sequester's payment reduction since 2013. The analyses started in 2006 when most Part B drugs in outpatient departments were paid under the ASP.

As shown in Exhibit 6, a relatively small number of Part B drugs account for a significant share of the spending. The top 20 drugs in terms of Medicare payment account for 60 percent of the total while the top 10 account for 46 percent of total payments. For high cost drugs such as Eculizumab[39], the annual cost sharing per user was over $31,500 in 2017. In 8 of the 10 drugs that accounted for most of the Part B drug expenditures in 2017, Medicare spending per user ranges from about $8,000 to $40,000 per year.

[39] Eculizumab is used to treat a type of blood disease called paroxysmal nocturnal hemoglobinuria (PNH), a serious kidney disorder called atypical hemolytic uremic syndrome (aHUS), and muscle disease.

Exhibit 6. Top 20 Part B Drugs by Total Medicare Payments: CY 2017

HCPCS code	HCPCS Description	Drug Name	Total Payment ($Billions)	Medicare Payment ($Billions)	Medicare Spending per User ($)	Medicare Spending per Service ($)	Annual Cost-sharing per User ($)	Share of Part B Total Drug Payment (%)
J0178	Aflibercept injection	Eylea	2.5	2.0	8,557	1,688	2,200	8.1%
J9310	Rituximab injection	Rituxan	1.8	1.5	20,259	5,212	4,829	5.9%
J9299	Injection, nivolumab	Opdivo	1.5	1.2	40,535	4,784	10,293	5.0%
J2505	Injection, pegfilgrastim 6mg	Neulasta	1.5	1.2	12,636	3,333	3,164	4.8%
J1745	Infliximab not biosimil 10mg	Remicade	1.4	1.1	19,011	3,313	5,098	4.6%
J0897	Denosumab injection	Prolia	1.3	1.0	2,072	1,022	570	4.2%
J9035	Bevacizumab injection	Avastin	1.1	0.9	4,027	949	967	3.6%
J9271	Inj pembrolizumab	Keytruda	1.1	0.9	39,689	7,464	8,014	3.5%
J2778	Ranibizumab injection	Lucentis	1.0	0.8	7,853	1,576	2,022	3.4%
J9355	Trastuzumab injection	Herceptin	0.8	0.7	30,899	3,146	7,605	2.7%
J0129	Abatacept injection	Orencia	0.7	0.6	22,655	2,715	6,068	2.4%
J9305	Pemetrexed injection	Alimta	0.5	0.4	20,896	4,654	4,874	1.6%
J9041	Bortezomib injection	Velcade	0.5	0.4	18,888	1,204	5,071	1.7%
J9145	Injection, daratumumab 10 mg	Darzalex	0.5	0.4	52,484	4,751	12,971	1.5%
J2353	Octreotide injection, depot	Sandostatin	0.4	0.4	33,584	4,029	9,060	1.4%
J2357	Omalizumab injection	Xolair	0.4	0.3	18,874	1,623	5,256	1.3%
J1596	Gammagard liquid injection	Gammagard	0.4	0.3	18,431	2,431	5,050	1.2%
J1300	Eculizumab injection	Soliris	0.3	0.3	366,051	20,883	31,500	1.1%
J0585	Injection, onabotulinumtoxina	Botox	0.3	0.3	1,987	861	518	1.1%
J2323	Natalizumab injection	Tysabri	0.3	0.2	36,056	4,375	9,500	1.0%
Top 20 Total and program Payments ($Billion)			18.4	14.7				
All Part B Drug Payments ($Billion)			30.6	24.3				
Top 20 share of payments for ALL Part B drugs*			60.0%	60.5%				

Source: Analysis of carrier, durable medical, and outpatient claims data 2006-2017 by Acumen for ASPE. Data include Part B covered drugs administered in physicians' offices and furnished by suppliers, covered drugs in hospital outpatient departments; and reflect only Part B drugs paid under the average sales price 6 percent (ASP). The Healthcare Common Procedure Coding System (HCPCS) codes and prices for carrier and DME were obtained from the CMS ASP file, those for outpatient come from the CMS Addendum B file. Lines with denied payments or Medicare as secondary payer were dropped.
Notes:
Total payments (include Medicare program payments and beneficiary cost sharing) and reflect the sequester's payment reduction since 2013. The analyses started in 2006 when most Part B drugs in Outpatient departments were paid under the ASP.
The top 10 share of total payments (not shown in the Exhibit) is 45.8% (relative to 60.0% for the top 20) and the top 10 share of program payment is 46.1% (relative to 60.5% for the top 20)

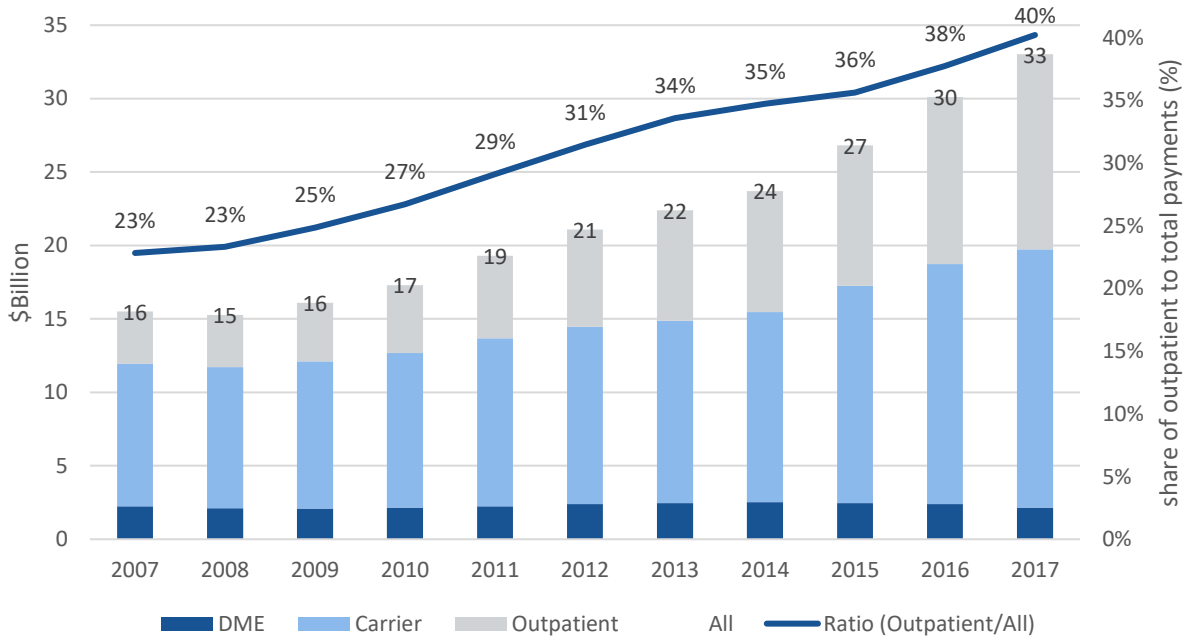
TRENDS BY PROVIDER SETTING, 2007-2017[40]

In this section, we compare spending trends for Part B drugs by place of service. We focus on separately paid drugs to be consistent with the other estimates provided in this brief. We note, however, that in HOPDs, lower cost drugs are packaged with other services under a single rate rather than being paid separately. Thus, for some comparisons of drug spending in HOPDs with other settings we include the packaged drugs. Evaluating each packaged drug at its ASP, we estimate the packaged drugs add approximately 12 percent to outpatient hospital drug spending on separately paid drugs.[41]

As displayed on Exhibit 7, while overall Part B drug spending on separately paid drugs increased 8 percent annually, hospital outpatient drug spending increased 14 percent annually from $4 billion in 2007 to $13 billion in 2017. Consequently, the share of Part B drug spending in hospital outpatient departments doubled in these years from 23 percent in 2007 to 40 percent in 2017 with a corresponding decline is spending in physicians' offices. If the packaged drugs are included, the share increases from 23 percent to 47 percent over this same period (Exhibit 8).

ANALYSIS OF SEPARATELY PAYABLE DRUGS (OR UN-PACKAGED DRUGS)[42] BY PROVIDER SETTING

Exhibit 7. Part B Drug Total Payments by Provider Setting, 2007-2017



Note: The right-hand axis represents the ratio (Hospital Outpatient/All).

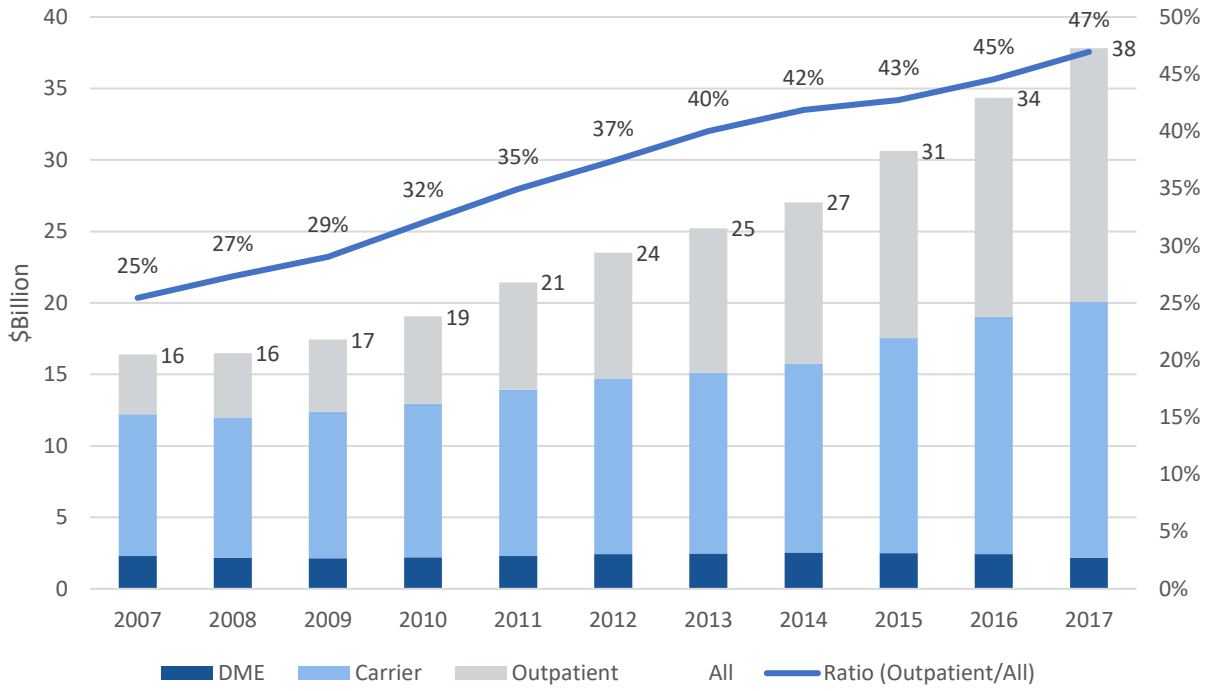
[40] The 2017 data do not reflect the change in 340B payment in the beginning January 2018 when payments to 340B hospitals dropped to ASP minus 22.5 percent for separately payable Part B drugs that do not have pass-through status (drugs with pass-through status are paid ASP+6 percent).

[41] Drugs that are low-cost (with a cost per day of less than the threshold amount of $125 in 2019) and certain types of drugs regardless of cost (e.g., drugs that function as supplies for certain tests or procedures), or drugs that are neither antiemetic nor pass-through drugs, are packaged into the payment for other services under the Hospital Outpatient Prospective payment System (OPPS). The packaging threshold amount over time is:

Calendar Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
HOPD OPPS Drug Packaging Threshold	50	50	55	60	60	65	70	75	80	90	95	100	110	120	125

[42] In the Exhibits, the term Outpatient refers to Hospital Outpatient.

Exhibit 8. Part B Drug Estimated Total Payments by Provider Setting (Including Packaged Drugs), 2007-2017

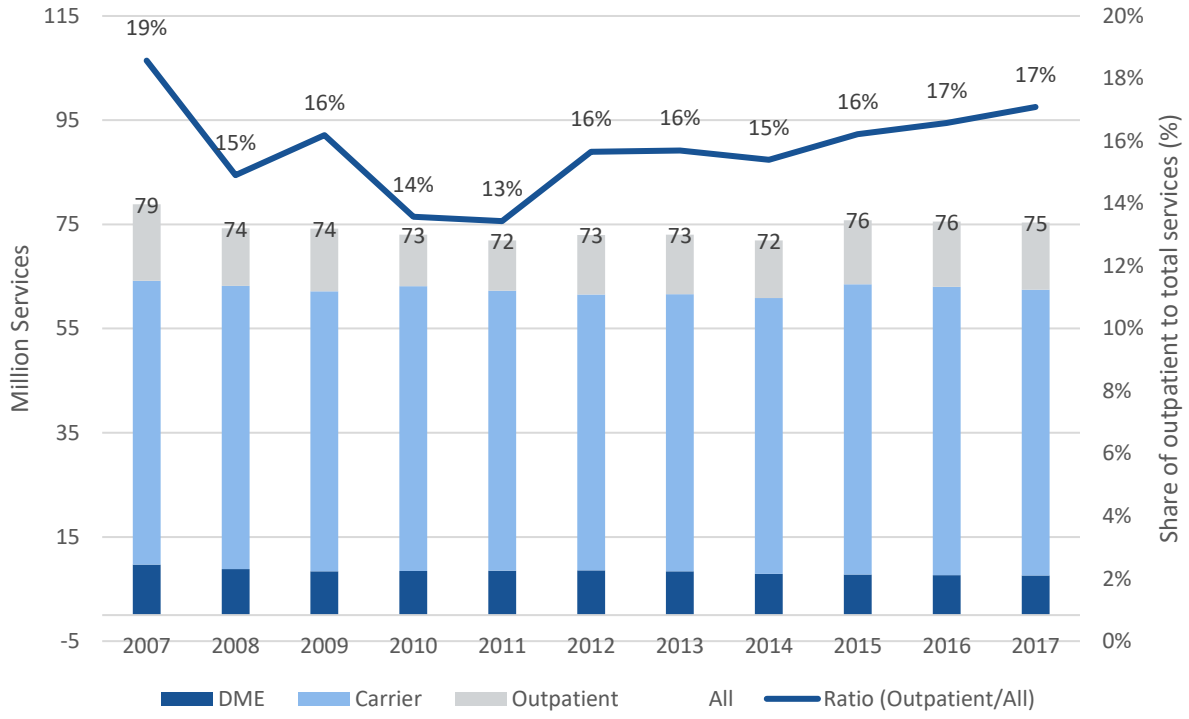


Notes: The right-hand axis represents the ratio (Hospital Outpatient/All). The analysis in this Exhibit combines both Un-packaged Drugs and Packaged Drugs provided in the Outpatient Setting

Exhibits 9 and 10 suggest that the increase in HOPDs' share of spending for separately payable drugs was due to a rapid increase in payment per service relative to physicians' offices, rather than an increase in the number of services. HOPD share of total separately paid services dropped from 19 percent in 2007 to 13 percent in 2011 and then increased gradually to 17 percent in 2017. Exhibit 10 shows that the payment per separately paid service in the hospital outpatient setting grew more rapidly than in the physician office setting over time: the ratio of hospital outpatient to physician per service payment grew from 1.4 (342/178) in 2007 to 3.2 (1,031/321) in 2017.

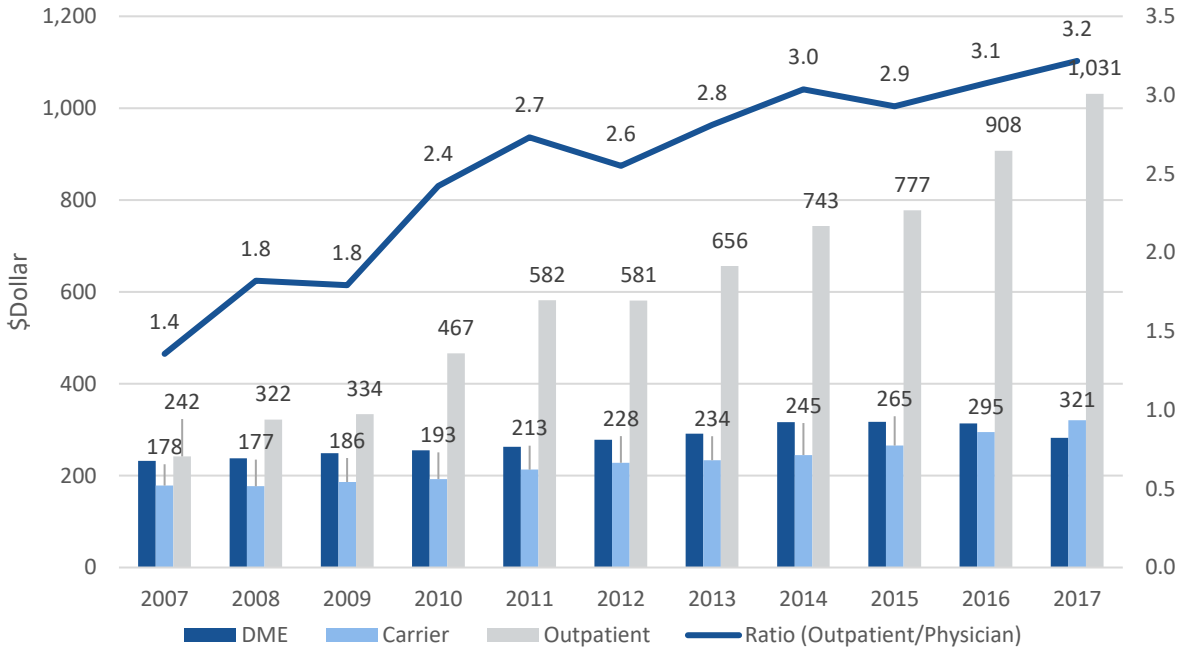
As detailed in the Appendix, the picture is different, however, once estimated spending on the packaged drugs is added to the spending on separately payable drugs. The ratio of payment per service between the two sites of care has remained constant while the share of services has grown in HOPDs relative to physicians' offices.

Exhibit 9. Part B Drug Total Number of Un-Packaged Services by Provider Setting, 2007-2017



Notes: A service is defined based on HCPCS code per beneficiary per date. The right-hand axis represents the ratio (Hospital Outpatient/All).

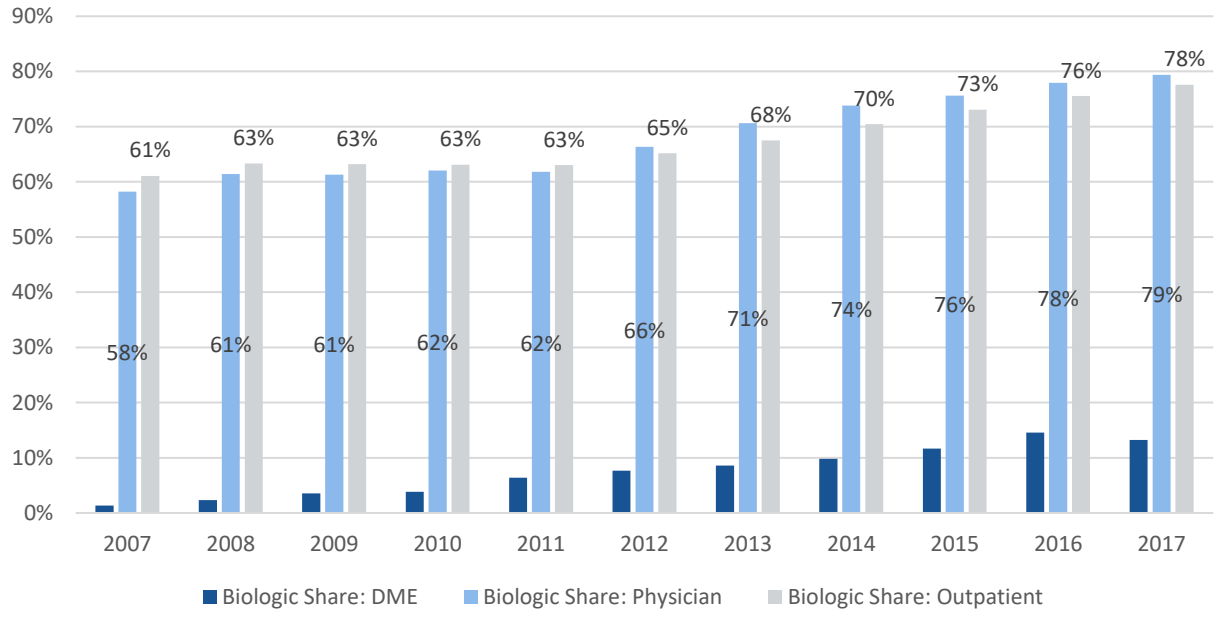
Exhibit 10. Part B All Drug Payment per Un-Packaged Service by Provider Setting, 2007-2017



Note: Acumen computed service based on HCPCS per beneficiary per date. The right-hand-side axis represents the ratio of per service payment (Outpatient/Physician) setting.

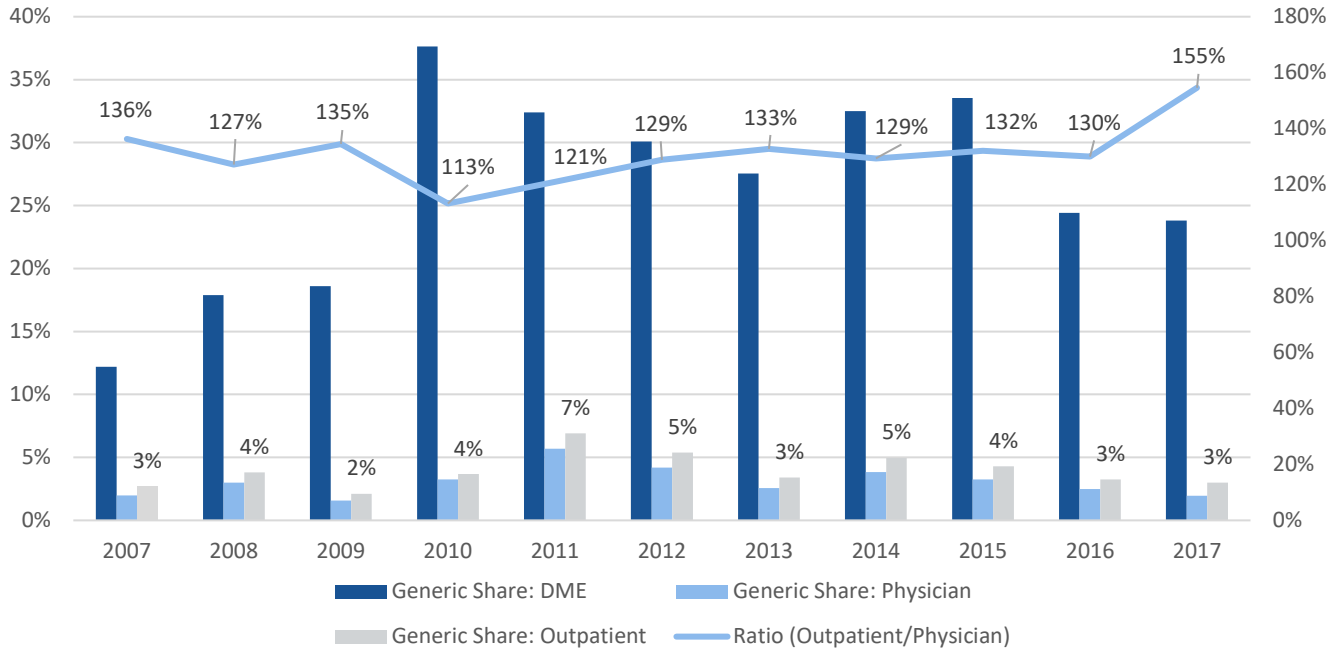
Exhibits 11 and 12 show that use of biologics and generic drugs are similar between HOPDs and physicians' offices The share of biologics to total drug payment within physician offices grew 36 percent (from 58 percent to 79 percent), slightly higher than 28 percent growth of the biologics share within HOPD (from 61 percent to 78 percent) during the same period. The data indicate that the generic share of total drug payment is small overall, but somewhat higher in HOPDs than in physician offices.[43]

Exhibit 11. Biologic Share of Part B All Un-Packaged Drugs Payments within Each Provider Setting, 2007-2017



[43] Since generic and brand competitors are billed under the same HCPCS code, these percentages represent the share of total payments for codes that have a generic available, but would also include payments for brand drugs.

Exhibit 12. Generic Share of Part B All Un-Packaged Drugs Total Payments within Each Provider Setting, 2007-2017



SPENDING TRENDS, INCENTIVES AND POLICY ISSUES

The trends related to biologics, biosimilars and generics described above are important factors for explaining the rapid spending growth for Part B drugs relative to Part D. As described above, biologics, which tend to have higher prices than small molecule drugs, account for most of the growth in the spending. Biologics now account for 77 percent of Part B drug spending as opposed to 25 percent of Part D gross drug costs. There is potential for biosimilars to provide lower cost, effective substitutes for the biologics but their market penetration is currently small. It is still too early to fully evaluate biosimilar market adoption and how these incentives may affect utilization (only one out of nine approved biosimilars were approved before 2016[44]). Early evidence of adoption is mixed. The first approved and marketed biosimilar has taken half of the market share in its first two years on the market, according to Medicare claims data, whereas the second one has only taken about five percent of market share in its first year.[45]

There is concern that current payment and coding policies may reduce incentives to use biosimilars. As described above, biosimilars for the same reference product will be coded and paid uniquely and separately from the reference product. Thus, providers will receive higher payment for continuing to prescribe the reference product even if biosimilars are available. There may be some incentives for physicians to prescribe biosimilars because it will reduce out-of-pocket spending for some beneficiaries. In addition, the 6 percent "add–on" is based on the reference product ASP, which (to date) has been typically higher than the biosimilar ASP.

[44] https://www.fda.gov/downloads/Drugs/DevelopmentApprovalProcess/HowDrugsareDevelopedandApproved/ApprovalApplications/TherapeuticBiologicApplications/Biosimilars/UCM560162.pdf

[45] ASPE analysis of Medicare Part B claims data and Part D Prescription Drug Event data current through March 31, 2018.

Under Part D, the rapid penetration of generic substitutes for their brand counterparts has held down spending growth.[46] Generics account for nearly 90 percent of Part D claims and 25 percent of spending. Under Part B the use of generics is much less: in 2017, the HCPCS codes that have generic substitutes available account for about 36 percent of services and only 4 percent of spending.[47] As the biologic share of spending continues to grow, the potential cost reducing influence of generics may be reduced further in Part B.

Incentives and Current Law

The higher annual rate of increase in Part B drug spending relative to Part D and the NHE Drug spending as a whole has been attributed partly to the current ASP methodology for Part B drugs falling short of providing value in several ways. Physicians can often choose between several similar drugs for treating a patient. Although the current system may encourage providers and suppliers to pursue the lowest price for drugs assigned to multiple source HCPCS codes, payment for drugs assigned to single source HCPCS codes leaves little incentive to make choices among the therapeutic options with an eye towards value - that is, choose the lowest price among all drugs available to effectively treat a patient.[48]

Moreover, the fixed 6 percent of ASP provides a larger dollar "add-on" for higher price drugs than for lower price drugs. The 6 percent add-on may compensate for administrative complexity and overhead costs, but these costs are not necessarily proportional to the price of a drug. Therefore, the larger dollar "add-on" for the higher price drugs results in increased revenue for the physicians' office and hospitals – creating an incentive to choose the high price drugs as opposed to lower price alternatives of similar effectiveness. One study estimated that the change in Medicare Part B payments to ASP+6 percent pricing in 2005 resulted in a shift from lower cost to higher cost chemotherapy agents where the 6 percent margin resulted in higher dollar "add-ons."[49]

Legislation and court rulings have limited Medicare's ability to modify current pricing mechanisms with value-based policies, such as Least Costly Alternative (LCA). Medicare contractors used LCA pricing from 1995-2010 for selected drugs, under which they covered certain drugs at the rate currently paid for the least costly medically appropriate alternative. The United States Court of Appeals for the D.C. Circuit, however, ruled that the ASP statute forecloses the use of the LCA policy for individual drugs.[50]

In addition to the statutory pricing requirements, other legislative and legal restrictions provide significant obstacles to implementing value based purchasing for Part B drugs. Part D plan sponsors and commercial insurers use a variety of pharmacy benefit management (PBM) tools to influence choices made by physicians and patients; particularly by providing rules and payment incentives for using higher value medicines. These tools include tiered copayments, prior authorization and step therapy. Coinsurance in Part B is established by statute at 20 percent and there are no provisions for varying that rate based on the value of a particular drug

[46] Sheingold and Nguyen, 2014," Impacts of generic competition and benefit management practices on spending for prescription drugs: evidence from Medicare's Part D benefit" at: https://www.ncbi.nlm.nih.gov/pubmed/24918023

[47] Analysis of carrier, durable medical, and outpatient claims data 2006-2017 by Acumen for HHS, Office of the Assistant Secretary for Planning and Evaluation (ASPE).

[48] For multiple source drugs, the brand and generic versions are grouped under one billing code and ASP reflects a weighted average of their prices. For these drugs, providers do have an incentive to choose with cost in mind.

[49] Jacobson M, Earle CC, Price M, Newhouse JP. "How Medicare's Payments Cuts for Cancer Chemotherapy Drugs Changed Patterns of Treatment." Health Affairs, 29(7): 1394-1402, 2010.

[50] Between July 1, 2007, and March 31, 2008, Medicare also used a consolidated payment approach for two drugs used to treat asthma and chronic obstructive pulmonary disease by assigning them a single billing code and paying the weighted average ASP. The Medicare, Medicaid, and SCHIP Extension Act of 2007 effectively reestablished separate payment rates for these drugs.

or any other criteria.[51] Medicare and its administrative contractors are generally not able to use other formulary management tools used in Part D such as prior authorization and step therapy. In addition, there may be more therapeutic alternatives in Part D than in Part B. For example, of the sixteen biologics, biosimilars, and high cost brand drugs approved to treat rheumatoid arthritis as of 2017, eight were dispensed and paid only under Part D plans, while the others were predominantly paid under Part B.[52] Medicare's payment contractors are not able to ensure that a patient starts on a lower cost or more effective therapy under Part D before covering and paying for a more expensive Part B drug.

CONCLUSION

Currently, Medicare makes payments directly to physicians, suppliers, and hospital outpatient departments for Part B drugs administered to beneficiaries, based on the average prices all purchasers paid, with certain exceptions. The incentives associated with the current payment system are generally not consistent with the provision of high value care to beneficiaries. The direct payment to providers of ASP plus 6 percent[53] may not encourage providers and suppliers to obtain the lowest possible acquisition prices for their drugs. When there are therapeutic alternatives available, the current system may not be consistent with value based purchasing. Indeed, the system may encourage the use of higher price drugs when lower cost drugs of equivalent effectiveness are available.

In addition, Medicare has not been able to employ a variety of formulary management practices that that would potentially improve value for beneficiaries and the program. Practices such as tiered cost sharing, step therapy, and other utilization management tools have found widespread use by commercial insurers including those sponsoring Part D plans. Implementing a variety of pricing and formulary policies could produce savings for the Medicare program, taxpayers, and beneficiaries without impairing quality of care.

Several proposed changes to the Part B program are intended to re-align value and incentives. For example, Medicare modified its payments for Part B drugs purchased by hospitals that are covered entities under the 340B program, which requires drug manufacturers who participate in Medicaid to sell significantly discounted outpatient drugs to eligible health care organizations that care to vulnerable patients.[54] Rather than pay these hospitals ASP plus 6 percent, Medicare pays ASP minus 22.5 percent for most separately payable drugs for drug purchased under the 340B program beginning January 2018, to more closely match average acquisition costs.[55]

HHS has developed a Most Favored Nation (MFN) Model that would test whether taking a more comprehensive approach to setting the Medicare payment amount for selected Part B drugs and biologics through more closely aligning with international prices would reduce drug spending for the Medicare program and beneficiaries. The model would also change the approach to the add-on portion of the drug payment to reflect an alternative payment amount that is not directly linked to a percentage of Average Sales Price (ASP).[56]

[51] Because beneficiaries without supplemental insurance would face higher out-of-pocket costs for more expensive drugs, they may be incentivized to request lower cost options. Note that there is no coinsurance for certain vaccines; further the coinsurance for any individual service paid under the OPPS (drugs are combined with primary service for this policy) is capped at inpatient deductible.
[52] Source: ASPE analysis of CMS program data for Part B and Part D. A discussion of why typically Part B drugs are sometimes dispensed and paid by Part D plans is beyond the scope of this paper.
[53] Or ASP plus 4.3 percent under the sequester from 2013 to 2027.
[54] For more information on the 340B Drug Discount Program, see https://www.hrsa.gov/opa/index.html. A full description of the program and the incentive structures it creates is outside the scope of this paper.
[55] https://s3.amazonaws.com/public-inspection.federalregister.gov/2019-16107.pdf
[56] CMS, Most Favored Nation (MFN) Model, (https://innovation.cms.gov/initiatives/most-favored-nation-model/).

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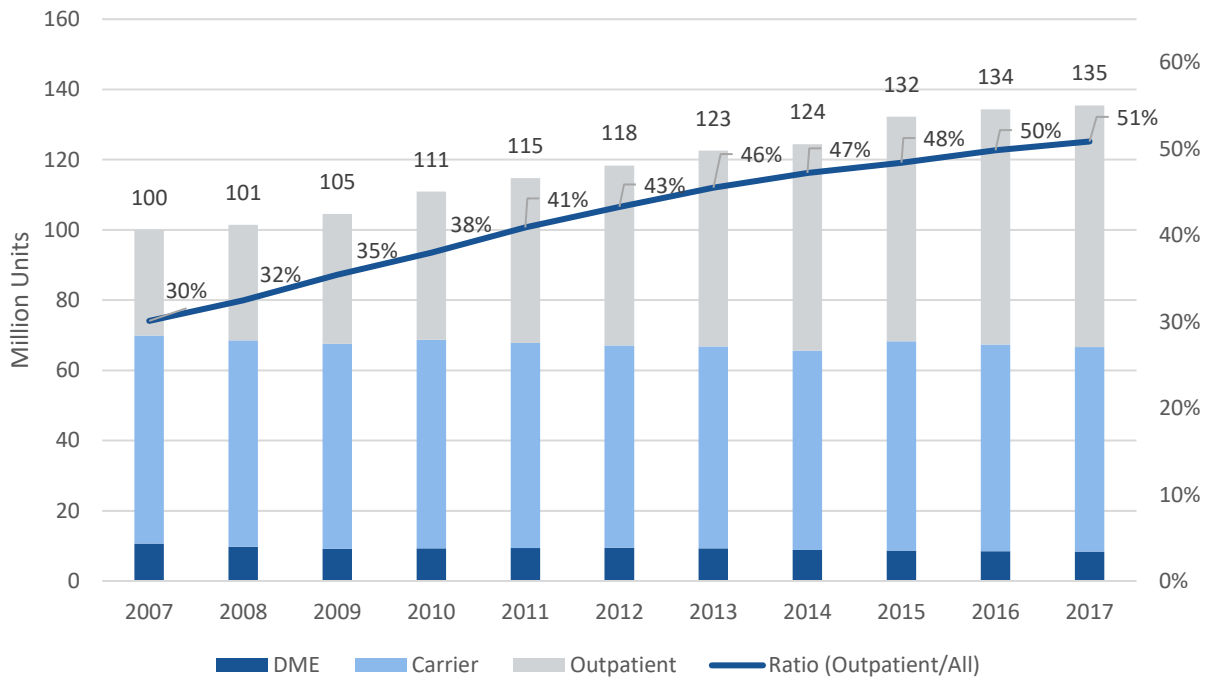
APPENDIX:

ANALYSIS OF ALL DRUGS (UN-PACKAGED AND PACKAGED DRUGS) BY PROVIDER SETTING

In order to fully compare Part B drugs between the HOPDs and physicians' offices, we identified drugs packaged each year for the HOPDs and valued them at their ASP as a proxy for their payment. As displayed in the following Figures, the total number of services has grown in HOPDs relative to physicians' offices, possibly reflecting increasing vertical integration between the two sites of care. The ratio of payment per services has remained constant over time – with HOPDs per service payment being about 80 percent of that amount in physicians' offices.[57] The lower average payment per HCPCS observed for HOPDs relative to physician offices is due in part by a higher proportion of the packaged drugs provided by HOPDs.

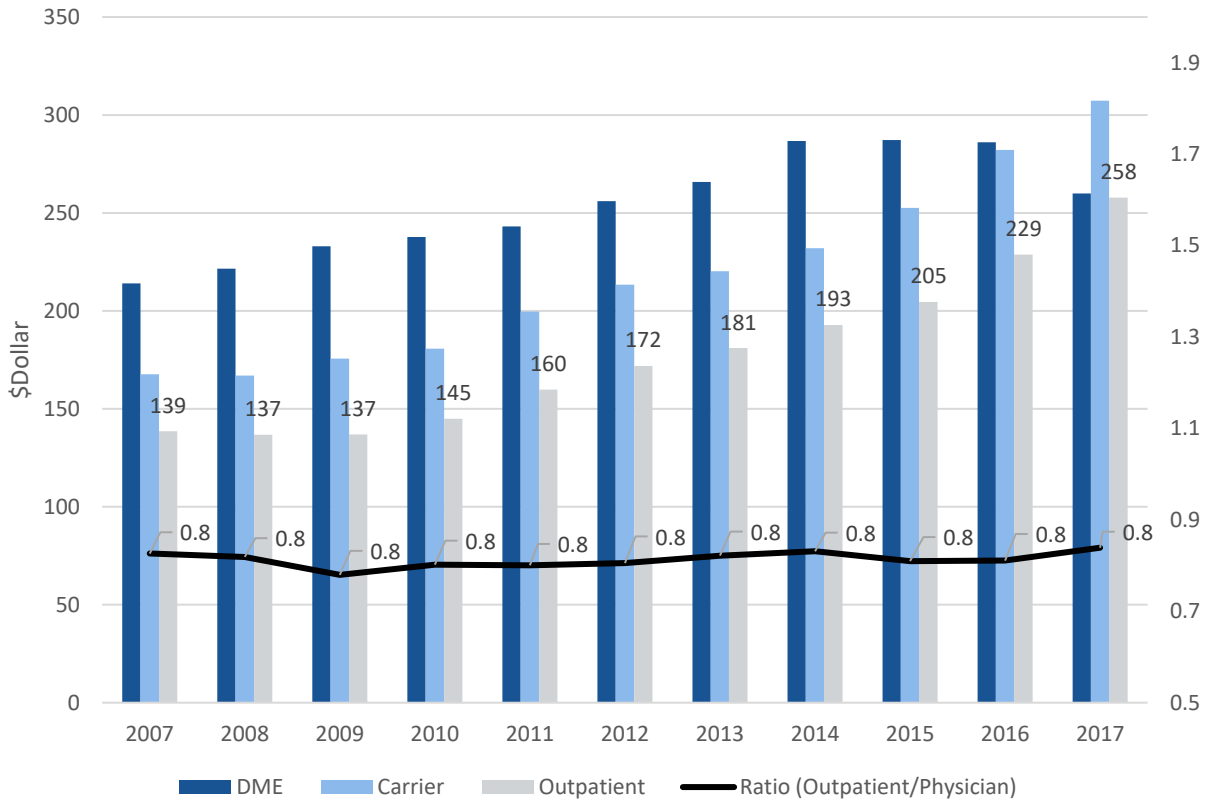
Exhibit 14: Part B Drug Total Number of Services by Provider Setting (Including Packaged Drugs), 2007-2017



Notes: Acumen computed service unit based on HCPCS unit per beneficiary per date. The right-hand axis represents the ratio (Hospital Outpatient/All). The analysis in this Exhibit combines both Un-packaged Drugs and Packaged Drugs provided in the Outpatient setting.

[57] See ASPE's Report to Congress, "PRESCRIPTION DRUG PRICING REPORTS TO CONGRESS," published 2020. https://aspe.hhs.gov/reports-to-congress

Exhibit 15: Part B Drug Total Payment per Service by Provider Setting (Including Packaged Drugs), 2007-2017



Notes: Acumen computed service unit based on HCPCS unit per beneficiary per date. The right-hand axis represents the ratio (Hospital Outpatient/Physician) setting. The analysis in this Exhibit combines both Un-packaged Drugs and Packaged Drugs provided in the Outpatient setting.

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Nguyen X. Nguyen and Steve Sheingold work for the Office of Health Policy in the Office of the Assistant Secretary for Planning and Evaluation. ASPE also acknowledges programming support from Acumen, LLC.

SUGGESTED CITATION
Nguyen X. Nguyen and Steve Sheingold. Medicare Part B Drugs: Trends in Spending and Utilization, 2006-2017. Washington, DC: Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services. November 20, 2020.

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