PORTAL
Program On Regulation, Therapeutics, And Law

Division of Pharmacoepidemiology and Pharmacoeconomics
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Prescription Drug Price Measures to Inform Upper Payment Limits

Guidance for State Prescription Drug Affordability Boards

December 13, 2024

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This memo was developed as part of a collaboration with the National Academy for State Health Policy (NASHP), with support from Arnold Ventures, to assist states implementing Prescription Drug Affordability Boards. The recommendations expressed are presented for informational purposes and do not constitute official legal guidance.

Executive Summary

Some state Prescription Drug Affordability Boards (PDABs) have the authority to establish upper payment limits (UPLs) for prescription drugs found to be unaffordable to consumers or the state health care system. During the UPL process, Boards may consider a range of pricing data representing transactions at different points along the pharmaceutical supply chain. This information may provide boards with important context as they seek to identify a value for the UPL that will improve the affordability of the drug to consumers in the state. This memo presents an overview of several key supply chain costs and reimbursement rates for prescription drugs that PDABs may consider. We also present a comparison of some of these metrics for nine drugs selected for Medicare price negotiation in 2023.

Background

As of November 2024, five states have established Prescription Drug Affordability Boards (PDABs) with the authority to review individual prescription drugs and assess their affordability to consumers. Four of these state PDABs—in Colorado, Maryland, Minnesota, and Washington—can establish an upper payment limit (UPL) for drugs found to be unaffordable, creating a maximum reimbursement level for the drug for patients and health insurers.

Though UPL methodology may differ by PDAB, Boards will likely consider a broad set of data measures to investigate current supply chain dynamics for a selected drug and explore how a particular UPL value may alter those dynamics. The complexity of the prescription drug supply chain underscores the importance of appropriately evaluating and contextualizing these measures.

In this memo, we provide an overview of common price measures that Boards may consider in their UPL deliberations and provide examples of how these measures may compare with one another for select drugs.

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Supply Chain Prices

The prescription drug supply chain is complex, and there is no single measure of a drug's cost. Rather, there are multiple measures representing distinct transactions between supply chain stakeholders, namely drug manufacturers, wholesalers, pharmacies, provider organizations, payers, pharmacy benefit managers (PBMs), and patients.[1] The section below provides an overview of key prices in this supply chain, organized by the entities involved in the transaction.

Transactions Between Manufacturers and Wholesalers or Other Direct Purchasers

Wholesale Acquisition Cost (WAC)	
Description	The "list price" of a drug; indicates the price at which a manufacturer offers the drug to a wholesaler or direct purchaser (e.g., some pharmacies).
Calculation Method	Set by the manufacturer.
Use by Payers	Not directly used by payers, though for brand-name drugs, the reimbursed amounts to pharmacies, which matter for patient deductibles and coinsurance, are similar to WAC.
Includes Rebates and Discounts?	No
Reporting Frequency	Manufacturers can update WAC at any time after drug launch, though most changes occur annually in January or July.[2]
Data Access	Available for purchase through third-party compendia (e.g., First DataBank, Medi-Span, RedBook).[3,4,5]

Average Manufacturer Price (AMP)	
Description	The average price paid to a manufacturer by wholesalers for drugs distributed to retail pharmacies.
Calculation Method	The AMP is calculated by the manufacturer as the weighted average of sales to wholesalers divided by the number of units sold. Some sales are excluded from AMP calculations, including sales of drugs dispensed via hospitals, mail-order pharmacies, and other providers.[6]
Use by Payers	Reported to the Centers for Medicare and Medicaid Services (CMS) to calculate Medicaid rebates and Medicare inflationary rebate amounts.[7,8]
Includes Rebates and Discounts?	Includes some point-of-sale discounts to wholesalers, such as volume or cash discounts. Prompt pay discounts are excluded.
Reporting Frequency	Reported quarterly to CMS.
Data Access	Confidential between the manufacturer and CMS. CMS maintains a public listing of drugs for which AMP has or has not been reported in a given quarter.[9]

[1] Hernandez I, Hung A. A primer on brand-name prescription drug reimbursement in the United States. *JMCP*. 2024;30(1):99-106.
[2] 46brooklyn Research. Brand Drug List Price Change Box Score. Updated October 4, 2024.
[3] First Databank. Drug Pricing Analysis: MedKnowledge and Analysource. 2024.
[4] Wolters-Kluwer. Medi-Span: Drug database solutions to strength healthcare decisions. 2024.
[5] Merative. Micromedex RED BOOK. 2024.
[6] 42 CFR § 447.504
[7] Centers for Medicare & Medicaid Services (CMS). Medicaid Drug Rebate Program (MDRP). Updated August 20, 2024.
[8] CMS. Inflation Rebates in Medicare. Updated November 4, 2024.
[9] CMS. Drug AMP Reporting – Quarterly. Updated August 9, 2024.

Non-Federal Average Manufacturer Price (non-FAMP)	
Description	The average price paid to a manufacturer by wholesalers for drugs distributed to non-federal purchasers.
Calculation Method	Like AMP, the non-FAMP is calculated by manufacturers as the weighted average of sales to wholesalers divided by the number of units sold. Unlike AMP, the non-FAMP includes manufacturer sales of drugs dispensed via retail, non-retail *and* mail-order pharmacies as well as hospitals and other providers.[10]
Use by Payers	Reported to the Department of Veterans Affairs (VA) and CMS to determine the federal ceiling price (FCP) for VA price negotiations and the statutory ceiling price for Medicare price negotiations.
Includes Rebates and Discounts?	Includes all point-of-sale discounts to the wholesaler or purchaser (e.g., volume, cash, and prompt pay discounts).
Reporting Frequency	Reported quarterly to the VA and CMS.
Data Access	Confidential between the manufacturer, the VA, and CMS. Researchers have developed methods to estimate non-FAMP using sales data.[11]

Best Price	
Description	The lowest price a manufacturer makes available to any individual commercial purchaser (e.g., wholesaler, pharmacy, health plan, PBM).
Calculation Method	Negotiated between the manufacturer and the purchaser, typically the health plan or PBM. Prices charged to Medicare Part D plans, direct federal purchasers (e.g., the VA), and 340B covered entities are not included in the best price calculation, among other exclusions.[12,13] The Medicare Maximum Fair Price (MFP) is included.
Use by Payers	Reported to CMS to calculate rebates under the Medicaid Drug Rebate Program.[14] Manufacturers must offer rebates such that all Medicaid programs pay no more than best price. Best price is also incorporated in the discount calculations via the 340B Drug Pricing Program.[15]
Includes Rebates and Discounts?	Includes all discounts and rebates made to the purchaser offered the lowest price.
Reporting Frequency	Reported quarterly to Medicaid programs and CMS.
Data Access	Confidential between the manufacturer and CMS. Researchers have developed methods to estimate Best Price using Federal Supply Schedule (FSS) prices.[16]

[10] Department of Veterans Affairs Office of Pharmacy Benefits Management Services. Pharmacy Benefits Management Dear Manufacturer Letter: Public Law 102-585 Section 603. Published October 10, 2024.
[11] Hernandez I, Gabriel N, Dickson S. Nonfederal average manufacturer price to estimate savings generated by minimum discounts under the Inflation Reduction Act. *JMCP*. 2023;29(11):1261-1263.
[12] 42 CFR 447.505
[13] 42 CFR 447.508
[14] CMS. Medicaid Drug Rebate Program (MDRP). Updated August 20, 2024.
[15] Health Resources and Services Administration (HRSA). 340B Drug Pricing Program. Updated October 2024.
[16] Clemans-Cope L, Epstein M, Banthin J, Kesselheim AS, Hwang TJ. Estimates of Medicaid and Non-Medicaid Net Prices of Top-Selling Brand-name Drugs Incorporating Best Price Rebates, 2015 to 2019. *JAMA Health Forum*. 2023;4(1):e225012. doi:10.1001/jamahealthforum.2022.5012

Transactions Between Manufacturers and Health Care Providers (e.g., Hospitals)

Average Sales Price (ASP)	
Description	The average price at which a manufacturer sells a clinician-administered drug to hospitals, clinics, group purchasing organizations (GPOs), or other health care providers.
Calculation Method	Calculated by the manufacturer as the weighted average of all sales of a clinician-administered drug to US purchasers in a calendar quarter divided by the total number of units sold. ASP is calculated for each Healthcare Common Procedure Coding System (HCPCS) billing code included in Medicare Part B.[17,18]
Use by Payers	Reported to CMS to calculate Medicare Part B reimbursement for clinician-administered drugs (ASP + 6%) and to calculate Medicare inflationary rebate amounts for Part B drugs.[19,20,21]
Includes Rebates and Discounts?	Includes discounts and rebates to purchasers (e.g., volume, cash, prompt pay).
Reporting Frequency	Reported quarterly to CMS.
Data Access	Publicly available via CMS.[22]

[17] CMS. ASP Billing Resources. Updated November 4, 2024.
[18] 42 CFR 414.804(a).
[19] 42 CFR 414.904.
[20] CMS. Medicare Part B Drug Inflation Rebates Paid by Manufacturers: Revised Guidance, Implementation of Section 1847A(i) of the Social Security Act. Published December 13, 2023.
[21] Medicare Payment Advisory Commission (MEDPAC). Payment Basics: Part B Drugs Payment Systems. Revised October 25, 2024.
[22] CMS. ASP Pricing Files. Updated October 29, 2024.

340B Ceiling Price	
Description	The maximum price at which a manufacturer can charge a 340B covered entity for an eligible outpatient drug.
Calculation Method	Calculated by the manufacturer as the AMP per unit in the previous quarter minus a unit rebate amount (URA). The calculation includes an adjustment if the AMP increased faster than inflation since the drug entered the market.[23] For most branded drugs, the URA equals the greater of 23.1% of AMP or AMP minus Best Price.[24]
Use by Payers	340B covered entities are typically reimbursed at rates well above 340B purchase prices, with an estimated median price markup 3 times the acquisition cost, though this varies by drug and 340B covered entity type.[25,26,27] 340B discounts cannot be duplicated with Medicaid rebates or the Medicare MFP.[28,29] This means state Medicaid programs cannot claim a Medicaid rebate on a 340B-eligible drug and that manufacturers do not have to provide the MFP to 340B covered entities if the 340B ceiling price is lower than the MFP. For a subset of covered entities (critical access hospitals, rural referral centers, sole community hospitals, and free-standing cancer centers) manufacturers are not required to provide 340B discounts on drugs with an Orphan Drug Act designation, even if these drugs have other non-rare indications.[30,31] This exclusion does not apply to disproportionate share hospitals, which constitute the majority of 340B purchases.[32]
Includes Rebates and Discounts?	Includes statutory discounts to 340B covered entities, but not discounts offered below the ceiling price.
Reporting Frequency	Reported quarterly to the Health Services & Resource Administration (HRSA).
Data Access	Confidential between the manufacturer, 340B covered entities, and HRSA.

[23] 42 CFR 10.10
[24] 42 CFR 447.509(a)
[25] Robinson JC, Whaley C, Dhruva SS. Hospital Prices for Physician-Administered Drugs for Patients with Private Insurance. *New England Journal of Medicine*. 2024;390(4):338-345.
[26] Liu ITT, Wang J, Sarpatwari A, Kesselheim AS, Feldman WB. Commercial markups on pediatric oncology drugs at 340B pediatric hospitals. *Pediatric Blood & Cancer*. Published online July 5, 2024.
[27] Levengood TW, Conti RM, Cahill S, Cole MB. Assessing the Impact of the 340B Drug Pricing Program: A Scoping Review of the Empirical, Peer-Reviewed Literature. *The Milbank Quarterly*. 2024;102(2):429-462.
[28] Medicaid and CHIP Payment and Access Commission (MACPAC). The 340B Drug Pricing Program and Medicaid Drug Rebate Program: How They Interact. Published May 2018.
[29] HRSA. 340B Drug Pricing Program: Duplicate Discount Prohibition. Updated July 2020.
[30] HRSA. 340B Drug Pricing Program: Orphan Drugs. Updated June 2024.
[31] Murrin S. High-expenditure Medicare drugs often qualified for Orphan Drug Act incentives designed to encourage the development of treatments for rare diseases. HHS Office of Inspector General. Published September 2021.
[32] HRSA. 340B Covered Entity Purchases. Published October 2024.

Transactions Between Wholesalers and Pharmacies

Average Wholesale Price (AWP)	
Description	The benchmark price used to determine sales prices between manufacturers, wholesalers, and pharmacies.
Calculation Method	Not statutorily defined, but typically WAC plus 20%. AWP is set by the manufacturer and is not based on sales data.[33] Thus, it does not typically reflect the price pharmacies actually pay for a drug.
Use by Payers	Some commercial payers use AWP as a benchmark for reimbursement to pharmacies, particularly for generic drugs. Federal payers, including Medicaid, no longer use AWP to calculate reimbursement rates.
Includes Rebates and Discounts?	No
Reporting Frequency	Most manufacturers update AWP annually for their products, though they are free to change AWP at any time.
Data Access	Available for purchase through third-party compendia (e.g., First DataBank, Medi-Span, RedBook).[34,35,36]

National Average Drug Acquisition Cost (NADAC) or Average Acquisition Cost (AAC)	
Description	The average price at which community retail pharmacies purchase drugs from wholesalers.
Calculation Method	Calculated by CMS using monthly surveys of invoice data from a random sample of retail pharmacies.[37,38] Pharmacy participation in the NADAC survey is voluntary and may not capture some large chain pharmacies. In 2017, 18% to 24% of pharmacies selected for the survey participated, though participation may have increased in recent years.[39,40] Specialty pharmacies are not surveyed. Separately, some state Medicaid programs conduct their own AAC surveys of in-state pharmacies, for which participation may be mandatory.[41]
Use by Payers	Used by state Medicaid programs to calculate pharmacy reimbursement.
Includes Rebates and Discounts?	No, NADAC does not include any off-invoice discounts.
Reporting Frequency	Reported weekly by CMS or state Medicaid programs.
Data Access	Publicly available via CMS or state Medicaid programs.[42] CMS also provides aggregate equivalency metrics comparing NADAC to other prices (WAC and AWP).[43,44]

[33] Congressional Budget Office (CBO). A Comparison of Brand-Name Drug Prices Among Selected Federal Programs. Published February 2021.
[34] First Databank. Drug Pricing Analysis: MedKnowledge and Analysource. 2024.
[35] Wolters-Kluwer. Medi-Span: Drug database solutions to strength healthcare decisions. 2024.
[36] Merative. Micromedex RED BOOK. 2024.
[37] CMS. Methodology for Calculating the National Average Drug Acquisition Cost (NADAC) for Medicaid Covered Outpatient Drugs. Published February 2024.
[38] CMS. Retail Price Survey. Updated October 2, 2024.
[39] CMS, Myers and Stauffer. CMS Retail Price Survey: National Average Drug Acquisition Cost (NADAC) Overview and Help Desk Operations. Presented August 17, 2017.
[40] 46brooklyn Research. New drops in prescription drug costs means NADAC is cool (again). Published May 31, 2024.
[41] Three Axis Advisors. Issue brief: The billions in prescription drug savings from enhancements to NADAC. Published May 11, 2021.
[42] CMS. National Average Drug Acquisition Cost – 2024. Updated October 29, 2024.
[43] CMS. NADAC Equivalency Metrics. Updated October 2024.
[44] CMS. NADAC Equivalency Methodology. Updated October 2024

Reimbursement Rates and Other Purchaser Prices

In addition to the prices that dictate transactions among manufacturers, wholesalers, and pharmacies, many payers have access to additional pricing data to determine how much they will reimburse pharmacies or providers for prescription drugs. Some direct purchasers, like the federal Department of Veterans Affairs (VA), have access to special purchase rates that allow them to obtain additional discounts on drugs in their formularies.

These reimbursement rates and purchaser prices often vary based on whether a drug is branded or generic, dispensed in a pharmacy or administered by a clinician, and whether the drug has therapeutic alternatives. Though some prices for federal purchasers are statutorily defined, most are the result of negotiation between manufacturers and payers. Below is a list of these reimbursement amounts grouped by payer or purchaser type.

Net Price

Net Price	
Description	The revenue received by a manufacturer for a drug after accounting for all rebates and discounts made to PBMs, payers, and other supply chain entities.
Calculation Method	Calculated based on the specific rebates or discounts manufacturers provide PBMs or plans in exchange for favorable formulary placement, along with purchase discounts provided to pharmacies and wholesalers. Aggregated US rebate estimates across all payers are available via third parties (e.g., SSR Health).[45,46,47]
Data Access	Confidential between the manufacturer and other supply chain entities; researchers have developed methods to estimate net prices using sales data and accounting for Medicare, Medicaid, and 340B discounts.[48]

Medicare

Maximum Fair Price (MFP)	
Description	The maximum price at which Medicare health plans can reimburse pharmacies or providers for drugs selected for price negotiation. Negotiations began with a set of 10 Part D drugs in 2026 and are legislatively slated to expand to include up to 20 drugs per year and Part B drugs in coming years.[49]
Calculation Method	Negotiated by Medicare for a select set of drugs with the highest annual Medicare spending.
Data Access	Publicly available via CMS.[50]

[45] SSR Health. US Prescription Brand Net Pricing Data and Analysis. 2023.
[46] Ippolito B, Levy J. Best Practices Using SSR Health Net Drug Pricing Data. *Health Affairs Forefront*. Published March 10, 2022.
[47] Epstein M, Clemans-Cope L, Banthin J, Kesselheim A, Hwang T. A Methodology for Estimating Medicaid and Non-Medicaid Net Prices Using Top Brand-Name Drugs, 2015-2019. *Urban Institute*. Published March 15, 2023.
[48] Hernandez I, Cousin EM, Wouters OJ, Gabriel N, Cameron T, Sullivan SD. Price benchmarks of drugs selected for Medicare price negotiation and their therapeutic alternatives. *JMCP*. 2024;30(8):762-772.
[49] CMS. Medicare Drug Price Negotiation. Updated November 4, 2024.
[50] CMS. File for Negotiated Prices, also known as Maximum Fair Prices in Statute. Published August 15, 2024.

Medicaid

Federal Upper Limit (FUL)	
Description	The maximum price at which Medicaid can reimburse pharmacies for certain multi-source generic drugs or branded drugs with generic equivalents.
Calculation Method	Calculated by CMS as at least 175% of the weighted average of the most recently reported AMP. In cases in which the FUL is less than a pharmacy's average acquisition cost (AAC), FUL is calculated with a higher multiplier.[51]
Data Access	Publicly available via CMS, updated monthly.[52]

Direct Federal Purchasers

Federal Supply Schedule (FSS)	
Description	The price a manufacturer must make available to all federal purchasers of a drug (e.g., VA, Department of Defense, Department of State, Bureau of Prisons).
Calculation Method	Calculated based on the best discount provided to a manufacturer's commercial customers and via negotiation with the VA on behalf of all direct federal purchasers.[53] FSS prices are negotiated for a set contract term. Federal purchasers may benefit from additional discounts under blanket purchase agreements (BPAs) or contract-specific temporary price reductions (TPRs) offered by manufacturers below the FSS price.[54,55]
Data Access	Publicly available via the VA.[56] TPRs and any other discounts obtained below the FSS price are confidential.

Federal Ceiling Price (FCP)	
Description	The price used to determine the maximum price manufacturers can charge the Big Four agencies (VA, Department of Defense, Public Health Service including the Indian Health Service, and Coast Guard).
Calculation Method	Calculated by the manufacturer as 76% of the previous year's non-FAMP minus an additional amount if non-FAMP grew faster than inflation.[57] Reported to the VA to determine the Big Four price.[58]
Data Access	Confidential between the manufacturer and the VA.

[51] CMS. Federal Upper Limit. Updated September 11, 2024.
[52] CMS. Pharmacy Pricing – Federal Upper Limit. Updated October 30, 2024.
[53] CBO. A Comparison of Brand-Name Drug Prices Among Selected Federal Programs. Published February 2021.
[54] Department of Veterans Affairs. VA Federal Supply Schedule Service. 2024.
[55] VA Office of Inspector General, Office of Contract Review. The Impact of VA Allowing Government Agencies to Be Excluded from Temporary Price Reductions on Federal Supply Schedule Pharmaceutical Contracts. Published October 13, 2019.
[56] VA Office of Procurement, Acquisition and Logistics (OPAL). Pharmaceutical Prices. Updated October 15, 2024.
[57] Public Law 102-585, Section 603.
[58] VA OPAL. Updated Guidance for Calculation of Federal Ceiling Prices (FCPs) for New Drugs subject to Public Law 102-585.

Big Four Price	
Description	The price a manufacturer must make available to the Big Four agencies (VA, DoD, PHS/IHS, and the Coast Guard).
Calculation Method	Calculated by the VA as the lower value of either the FSS price or the FCP. Big Four prices are set for a limited contract period.
Data Access	Publicly available via the VA.[59]

VA National Contracts (NC) Price	
Description	Price available to the VA for a drug, including discounts below the Big Four price obtained because the VA leverages its closed formulary to sign exclusive agreements with drug manufacturers.[60]
Calculation Method	Negotiated by the VA leveraging its national formulary.[61] Not all drugs have a VA national contract in place.
Data Access	Some national contract prices are publicly available via the VA.[62] Additional discounts secured by the VA are confidential.

Commercial Payers

Maximum Allowable Cost (MAC)	
Description	The maximum price a PBM is willing to pay for ingredient cost for multi-source generic drugs. Some Medicaid programs also use MAC for reimbursement.[63]
Calculation Method	Calculated by PBM based on a comparison of the list prices of generic drugs with the same active ingredient. Used to determine reimbursement to pharmacies for these products, typically at MAC plus a dispensing fee.[64]
Data Access	Confidential between the health plan or PBM and pharmacies. Most PBMs maintain MAC lists for products on their formulary.

Brand Effective Rate (BER) or Generic Effective Rate (GER)	
Description	The contractual rates between PBMs and pharmacies for the reimbursement of covered branded or generic drugs.[65]
Calculation Method	Calculated as a percentage of AWP. Pharmacies are expected to meet the BER/GER across all branded or generic drug claims submitted to the PBM over a certain period. Used by PBMs to recoup overpayment to pharmacies, often retroactively.
Data Access	Confidential between the PBM and pharmacies.

[59] VA OPAL. Pharmaceutical Prices. Updated October 15, 2024.
[60] VA. National Contract Service (NCS) Pharmaceutical Division. Updated February 26, 2024.
[61] VA Pharmacy Benefits Management Service. VA National Formulary. Updated October 2024.
[62] VA OPAL. Pharmaceutical Prices. Updated October 15, 2024.
[63] Dolan R, Tian M. Pricing and Payment for Medicaid Prescription Drugs. KFF. Published January 23, 2020.
[64] Pharmaceutical Care Management Association (PCMA). Maximum Allowable Cost (MAC) Primer. Published June 2017.
[65] PCMA. Glossary of Drug Pricing Terms. Published August 2024.

Payment Without Insurance

Usual and Customary (U&C) Price	
Description	The "cash price" price at which a pharmacy sells a drug to a patient not using insurance.
Calculation Method	Set by individual pharmacies based on acquisition costs, dispensing fees, and other markups.[66,67]
Data Access	Available for purchase via third-party pharmacy data firms (e.g., Symphony Health).[68]

Discounted Retail Price	
Description	The price available to patients not using insurance at a discount of a pharmacy's U&C price.
Calculation Method	Firms like GoodRx contract with PBMs to make PBM-negotiated rates with pharmacies available as a discounted cash price to patients not using insurance.
Data Access	Publicly available via negotiating organization's website (e.g., GoodRx, Singlecare).[69,70]

Additional Fees

In addition to specific purchase prices and reimbursement rates, entities along the pharmaceutical supply chain may charge fees for their services. These fees may or may not be captured in the measures described above.

For example, **dispensing fees** are contractual fees paid to pharmacies by payers and PBMs for filling a prescription. They are typically added on top of a payer's ingredient cost reimbursement (e.g., MAC) to a pharmacy. Fee amounts are negotiated between pharmacies and payers and thus vary by volume, drug type, and payer. Dispensing fees tend to be lower among commercial payers (~$2) than in Medicaid (~$9-12).[71,72] Fee amounts are typically confidential, though they may be accessible via state All Payer Claims Databases (APCD) or third-party pharmacy databases (e.g., Symphony Health).[73,74]

PBMs may also charge manufacturers, health plans, and pharmacies **administrative fees** for the services they provide these entities. Such services can include claims and rebate processing, pharmacy network management, formulary management, and data access. These fees are negotiated via contracting with these entities and can either be flat fees or scale based on a drug's cost.[75] For clinician-administered drugs, manufacturers and wholesalers typically contract with and pay service fees to **group purchasing organizations (GPOs)**, which negotiate purchase rates with hospitals and other health care providers on their behalf.[76] PBMs also use GPOs to facilitate rebate negotiations.

[66] Government Accountability Office (GAO). Trends in Usual and Customary Prices for Commonly Used Drugs. Published March 14, 2011.
[67] Luo J, Kulldorff M, Sarpatwari A, Pawar A, Kesselheim AS. Variation in Prescription Drug Prices by Retail Pharmacy Type: A National Cross-sectional Study. *Ann Intern Med*. 2019;171(9):605-611.
[68] ICON. Symphony Health. 2024.
[69] GoodRx. 2024.
[70] Singlecare. 2024.
[71] Seely E, Singh S. Competition, Consolidation, and Evolution in the Pharmacy Market. Commonwealth Fund. Published August 12, 2021.
[72] CMS. Medicaid Covered Outpatient Prescription Drug Reimbursement Information by State. Updated September 2024.
[73] APCD Council. All-Payer Claims Database Common Data Layout (APCD-CDL™). Updated April 1, 2023.
[74] ICON. Symphony Health. 2024.
[75] Mercer. Understanding the debate over PBMs. Published August 1, 2024.
[76] Hernandez I, Hung A. A primer on brand-name prescription drug reimbursement in the United States. *JMCP*. 2024;30(1):99-106.

Comparing Price Measures

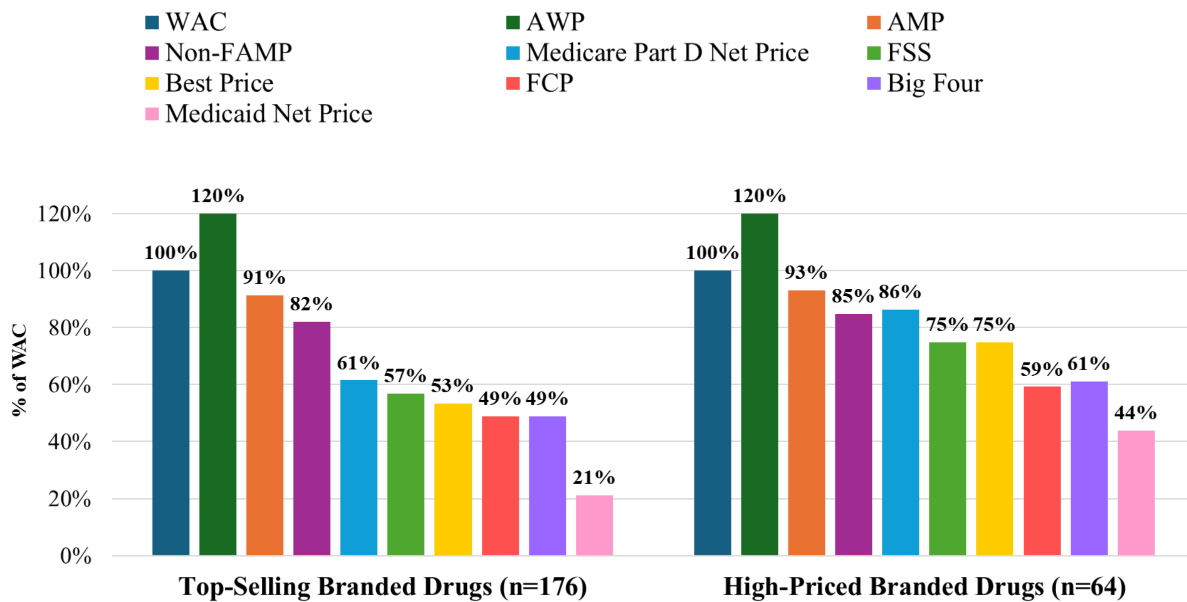
As Boards seek to identify an appropriate value at which to set a UPL, comparing the measures described above may provide useful context to both arrive at an appropriate UPL value and understand the current flow of funds through the supply chain. However, Boards should note that many of these measures are confidential and may not be accessible without direct requests of supply chain stakeholders, except for publicly available Medicare MFPs and VA-negotiated prices.

CBO Comparison of Drug Prices Across Federal Programs

Public estimates of the comparative relationship of some of these price measures do exist. For example, a 2021 report issued by the Congressional Budget Office compared the prices and reimbursement of pharmacy-dispended drugs obtained by federal payers and purchasers in 2017.[77] This assessment included an aggregated estimate of many proprietary price measures submitted to federal agencies, including Best Price and AMP, across a cohort of branded drugs. These estimates are summarized as a percent of WAC in **Figure 1**.

Note that the estimates below are averaged across 176 branded drugs, so the graphs below do not capture variation in price measurements between drugs. Furthermore, some of these prices are statutorily defined or calculated via a set formula while others are negotiated. These differences contribute to the trends between measures observed in Figure 1.

Figure 1. Average federal prices as a percent of WAC for top-selling and high-priced branded drugs in Medicare Part D, 2017[78]



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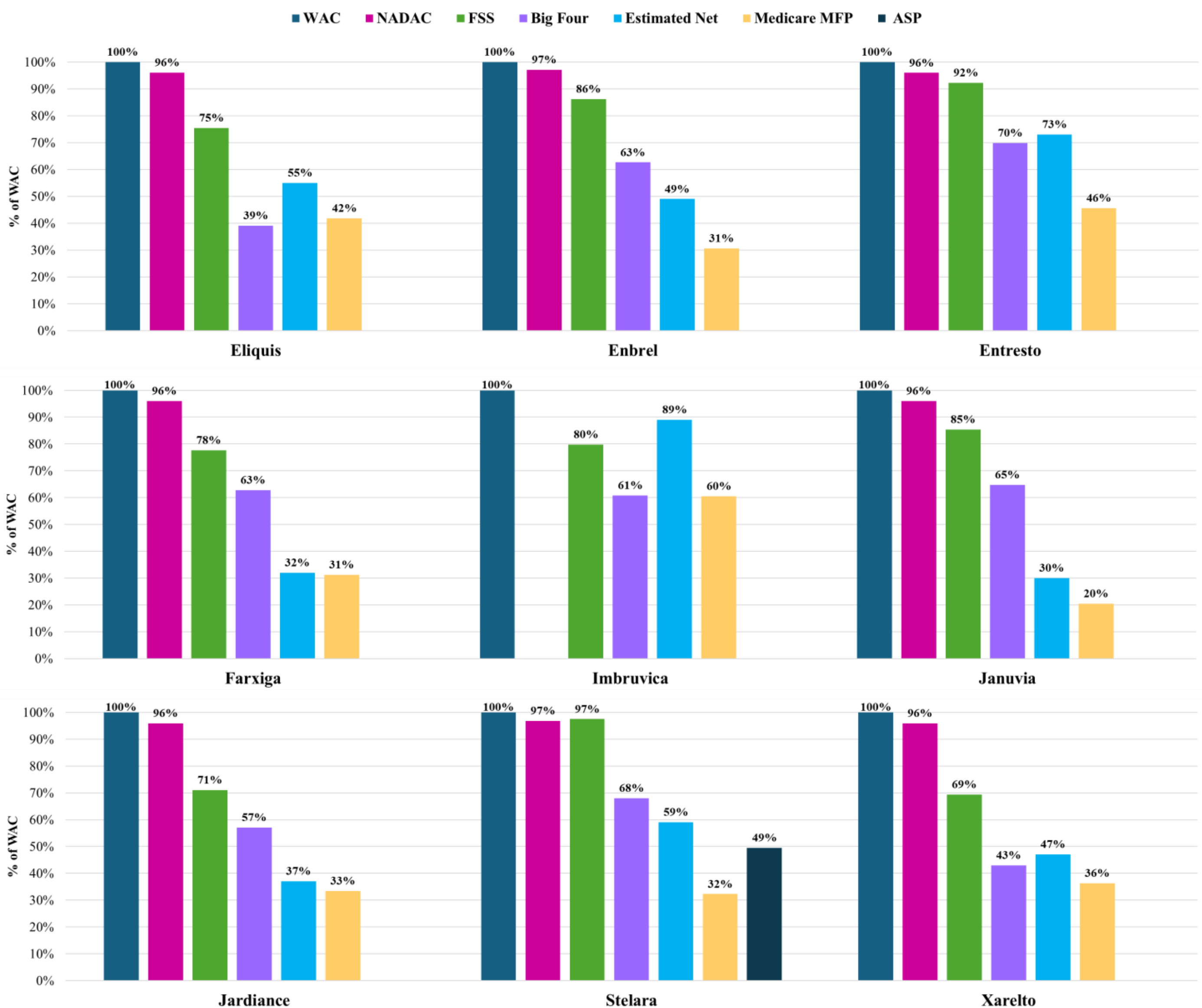
[77] CBO. A Comparison of Brand-Name Drug Prices Among Selected Federal Programs. Published February 2021.
[78] Adapted from Table 2 of CBO analysis. The cohort of high-priced drugs was selected from among the 200 retail pharmacy drugs with the highest prices in Medicare Part D in 2017 for which data was available.

Price Comparison of Drugs Selected for Medicare Negotiation

The Medicare MFP is the newest federal price measure that PDABs may consider during UPL deliberations, with the first set of MFPs for 10 drugs to take effect in 2026. **Figure 2** presents a comparison of the MFPs for 9 of the first 10 drugs negotiated by Medicare announced in August 2024.

We excluded insulin aspart (Novolog/Fiasp) because the list price of Novolog was reduced by 75% in 2024, which makes it difficult to interpret the comparative prices.[79] Note that these values are presented at the individual drug level, and thus the trends observed may not apply to other therapeutic classes or drugs not selected for Medicare negotiation. See **Appendix 1** for additional information.

Figure 2. Public prices per 30-day supply as a percent of WAC for pharmacy drugs with a Medicare MFP, 2024



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[79] Constantino AK. [Novo Nordisk to slash U.S. insulin prices by up to 75%, following move by Eli Lilly](). *NBC News*. Published March 14, 2023.

Appendix 1. Price Comparison Methodology for Medicare MFP Drugs

Prices for nine of the 10 drugs with a Medicare MFP in effect beginning in 2026 are presented in **Figure 2**. For each drug, the most common NDC-9 found in the US was identified using the estimated number of prescriptions filled in the US in 2023 from the IQVIA National Prescription Audit (**Table 3**).[80]

Raw pricing data for each NDC-9 was converted to price per 30-day supply as derived from the methodology proposed by CMS for the Medicare Drug Price Negotiation Program.[81] Data are presented as a percent of 2024 WAC.

WAC data as of September 18, 2024, were obtained from the Merative Micromedex Red Book. For sacubitril/valsartan (Entresto), two unit prices were listed in Red Book. We used the unit price with the most recent update. NADAC data were obtained from the weekly reference data file provided by Medicaid. NADAC data were not available for Imbruvica because it is a specialty drug, which are not typically captured in the NADAC survey. FSS and Big Four prices were collected from the Department of Veterans Affairs pharmaceutical pricing file. Data included the lowest VA-negotiated unit price in cases where the unit price varies by package size.

The net price presented for each drug is derived from 2023 rebate estimates published by Hernandez et al. for each product.[82] These rebate amounts were assumed to be constant for the purposes of calculating an estimated net price from 2024 WAC. ASP data were obtained from the public Medicare ASP data file as of September 2024. ASP information is presented only for Stelara, which includes a clinician-administered starting dose. The Medicare MFP values per 30-day supply were obtained from CMS.

Table 3. Package Description Information

Drug	NDC-9
Eliquis	00003-0894
Enbrel	58406-0032
Entresto	00078-0659
Farxiga	00310-6210
Imbruvica	57962-0420
Januvia	00006-0277
Jardiance	00597-0153
Stelara	57894-0061
Xarelto	50458-0579

[80] IQVIA. Prescription Information - National Prescription Audit. 2024.
[81] CMS. Medicare Drug Price Negotiation Program: Revised Guidance, Implementation of Sections 1191 – 1198 of the Social Security Act for Initial Price Applicability Year 2026. Published June 30, 2023.
[82] Hernandez I, Wouters OJ, Cousin EM, Kirihennedige AS, Sullivan SD. Interpreting The First Round Of Maximum Fair Prices Negotiated By Medicare For Drugs. *Health Affairs Forefront*. Published online September 3, 2024.