



# Price Increases for Prescription Drugs, 2016-2022

Arielle Bosworth, Steven Sheingold, Kenneth Finegold, Nancy De Lew, Benjamin D. Sommers

## KEY POINTS

- High prescription drug prices create affordability challenges for patients and the health care system. Among existing products, increases in average prices over time have added to these challenges.
- Most prescription drug price increases occur in either January or July each year, with the greatest number taking place in January. The number of increases in both months during 2022 was higher than in previous years.
- In January 2022, the average price increase was nearly \$150 per drug (10.0 percent), and in July 2022, it was \$250 (7.8 percent). The dollar increases were larger than for the same months in previous years.
- In 2022, several drugs increased their list prices by more than \$20,000 or by more than 500 percent.
- There were 1216 products whose price increases during the twelve-month period from July 2021 to July 2022 exceeded the inflation rate of 8.5 percent for that time period. The average price increase for these drugs was 31.6 percent.
- The Inflation Reduction Act introduces a new requirement for manufacturers to pay rebates to Medicare for Part D drugs whose price increases exceed inflation, beginning October 1, 2022, which was designed to reduce the frequency and size of drug price increases.

## INTRODUCTION

Making prescription drugs more affordable for Americans has been a priority for the Biden-Harris Administration, as described in the Comprehensive Plan to Address Drug Pricing released in September 2021.<sup>1</sup> Americans regularly pay far more for prescription drugs than do patients in other comparable countries. A recent study found that 2018 U.S prescription drug prices were 2.56 times those in 32 comparable countries, and 1.90 times as high when rebates and other discounts are taken into account.<sup>2</sup> The United States also spends more on prescription drugs on a per capita basis than other countries in the Organisation for Economic Co-operation and Development (OECD).<sup>3</sup>

The Inflation Reduction Act (IRA) signed by President Biden on August 16, 2022, included multiple provisions to address high and rising drug prices. One provision in the new law requires the federal government to negotiate prices for selected high-cost drugs covered under Medicare. Another provision requires drug manufacturers to pay rebates to Medicare if they enact price increases greater than inflation for drugs utilized by Medicare beneficiaries. This provision goes into effect for price increases made in the 12-month period beginning October 1, 2022, for Part D drugs and January 2023 for Part B drugs.

The objective of this report is to describe changes in prescription drug prices that have occurred between 2016 and 2022. Continuous tracking of price changes can inform drug pricing policies, such as those to be implemented under the IRA. This report focuses on list prices, which can be distinguished from net prices. List prices are those prices set by manufacturers, which determine what a patient pays at the pharmacy. Net prices account for rebates that are paid directly to pharmacy benefit managers (PBMs) and plans after the fact. Rebates as a percent of total drug spending have grown in recent years from 11.7 percent in 2012 to a projected 32.5 percent in 2022.<sup>4</sup> While net prices are important components of drug and health spending, it is also critical to track list prices, since patient out-of-pocket liability – whether coinsurance or copayment – generally grows as list prices increase.\* Rapidly rising list prices can also place greater burdens on those paying fully out-of-pocket such as uninsured individuals.

## DATA AND METHODS

The primary data source for this report is AnalySource. Manufacturers report their price changes at the National Drug Code (NDC) level to independent databases known as pricing compendia. These vendors aggregate this information for purchasers, such as wholesalers, pharmacies, and hospitals. These databases are available for purchase under subscription licenses allowing for daily updates. AnalySource is one such pricing compendia database, which reports price changes at the NDC level with sufficient data fields available to aggregate to the product and labeler levels.<sup>†</sup> We define a product as a grouping of NDCs having the same active ingredient and being sold by the same labeler.

AnalySource data provide daily updates on list price changes for millions of products (including drugs that would be covered under Medicare Part B and D) and also include information on product type, marketing status, drug class, and drug indication. This combination of information gives us the flexibility to rapidly analyze general market trends or to isolate and examine individual markets.

For this analysis, price is defined as the Wholesale Acquisition Cost (WAC) of a given product at the package unit level; package size is the number of billing units in the labeled quantity from which the pharmacist typically dispenses (which would often be a 100-day supply for a chronic medication, or a shorter course for an antibiotic regimen, for instance).<sup>‡</sup> WAC, as published by First Databank, represents the manufacturer's published catalog or list price for a drug product to wholesalers as reported to First Databank by the manufacturer. The term “manufacturer” in this context includes repackagers, private labelers and other suppliers. WAC does not represent actual transaction prices and does not include discounts, rebates, or other reductions in price.

The retail price of a drug at the pharmacy counter is determined by negotiations between pharmacies and insurers (or their PBMs) and reflects both wholesale and retail markups. Those markups compensate the wholesaler and pharmacy, respectively, for the services they provide and for their inventory costs. The retail price of a given drug is generally similar for most payers (public and private insurers and cash-pay patients), according to a recent analysis by the Congressional Budget Office.<sup>5</sup> Consumers who have not yet satisfied their insurance plan's annual deductible pay the retail price, or possibly less if the manufacturer has a discount program for that drug and the consumer is eligible for the program. Consumers with health insurance who

---

\* Coinsurance is determined as a percentage of the list price. Copayments are fixed dollar amounts, which are likely to increase over time as list prices increase.

<sup>†</sup> Labeler name is a unique identifier for the product labeler, which could be the manufacturer, distributor, or repackager of a product.

<sup>‡</sup> As noted on the tables below, there are some drugs for which the package price is based on a large quantity such as 1000 tablets.

have met their deductible pay only a portion of the retail price, as specified by their plan’s copayment or coinsurance schedule; the remainder is paid by their plan or its PBM.<sup>§</sup> Consumers without insurance may pay a pharmacy’s “usual and customary” price — which tends to be higher than the net prices paid by other payers — or may pay a lower amount using a manufacturer discount program.

We first examined all price increases at the NDC level that occurred in January and July of 2022. We chose these months because historically they account for most of the increases that occur each year.<sup>\*\*</sup> We then focused on drugs with substantial price changes, using the following criteria:

- Drugs with price changes greater than \$20 per package that reflected at least a 10 percent change within a 12-month period,  
OR
- any change in price greater than \$500 per package (even if that amount reflected less than a 10 percent change).

We described any price change meeting these criteria as a “significant price change,” and this was our primary study outcome. All price changes were in nominal terms and were not adjusted for inflation.

## RESULTS

### Drugs with Any Price Increases

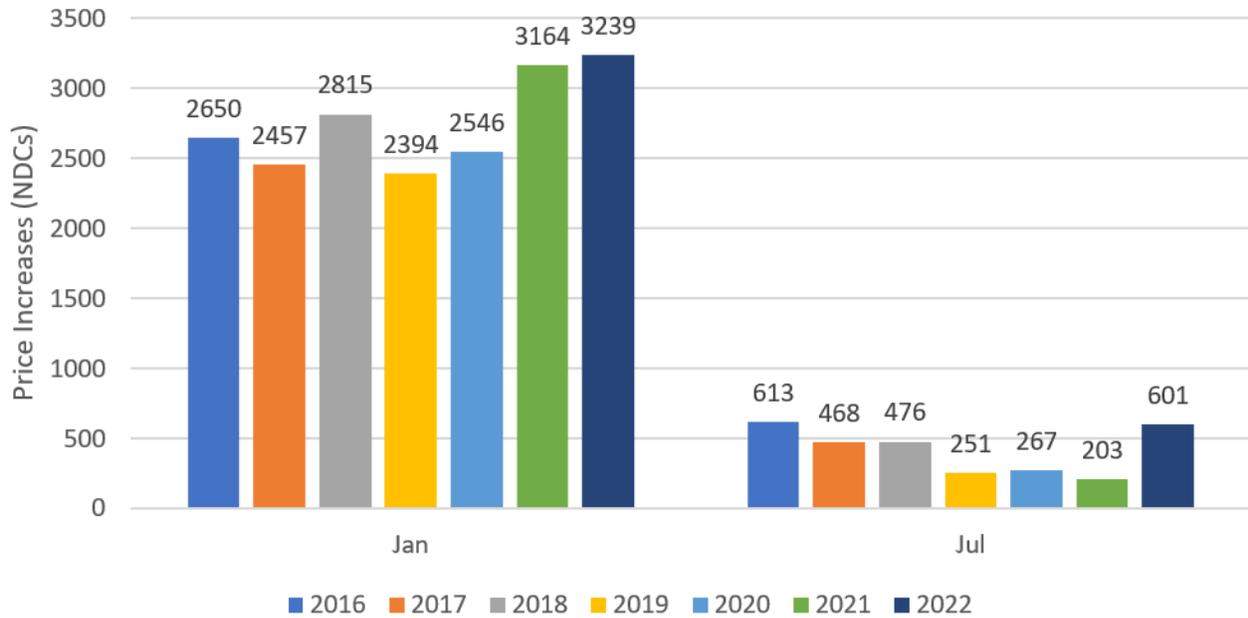
Figure 1 displays the count of prescription drug NDCs that experienced *any* increase in price during January and July each year, 2016 to 2022. Most price increases occur at the beginning of January, with more than 3000 drugs experiencing a price increase in 2022, up from 2650 in 2016. The number of July price increases trended downward from 613 NDCs in 2016 to 203 in 2021, but in July of 2022, the number of increases rose to a level similar to that observed in 2016, with 601 increases. The AnalySource dataset includes 111,871 active NDC codes, meaning that in 2022, 3.4 percent of NDCs experienced a price increase in January or July.

---

<sup>§</sup> A copayment is a specified dollar amount that an enrollee pays at the time a drug is purchased. Coinsurance is cost sharing paid at the point of purchase that is based on a set percentage of the drug’s cost.

<sup>\*\*</sup> Based on our analysis, in each of year from 2016 -2022, the largest number of price increases occurred in January and the second largest number of increases occurred in July.

**Figure 1: Number of Price Increases in January and July, 2016-2022**

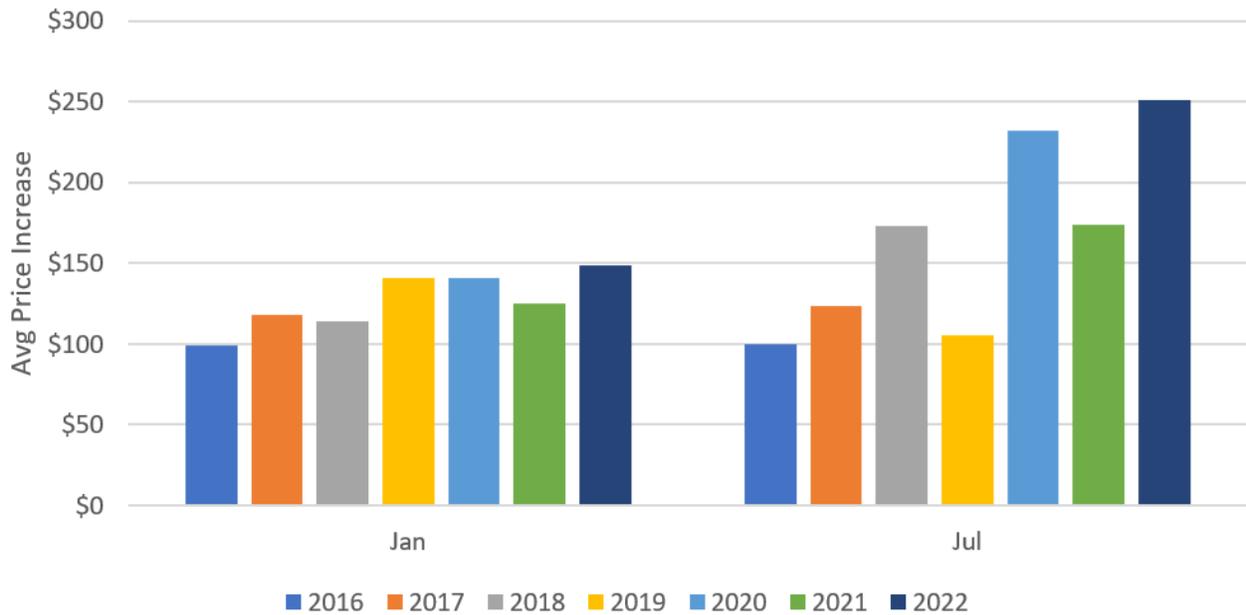


**Notes:** ASPE analysis of AnalySource data. Number refers to unique NDCs with a price increase.

Figures 2 and 3 show the average size of those price increases. In January 2022, the average price increase was nearly \$150 per drug (10 percent), and in July 2022, it was \$250 (7.8 percent). July increases tended to be for higher priced drugs than those in January, resulting in higher dollar increases but smaller percentage increases.

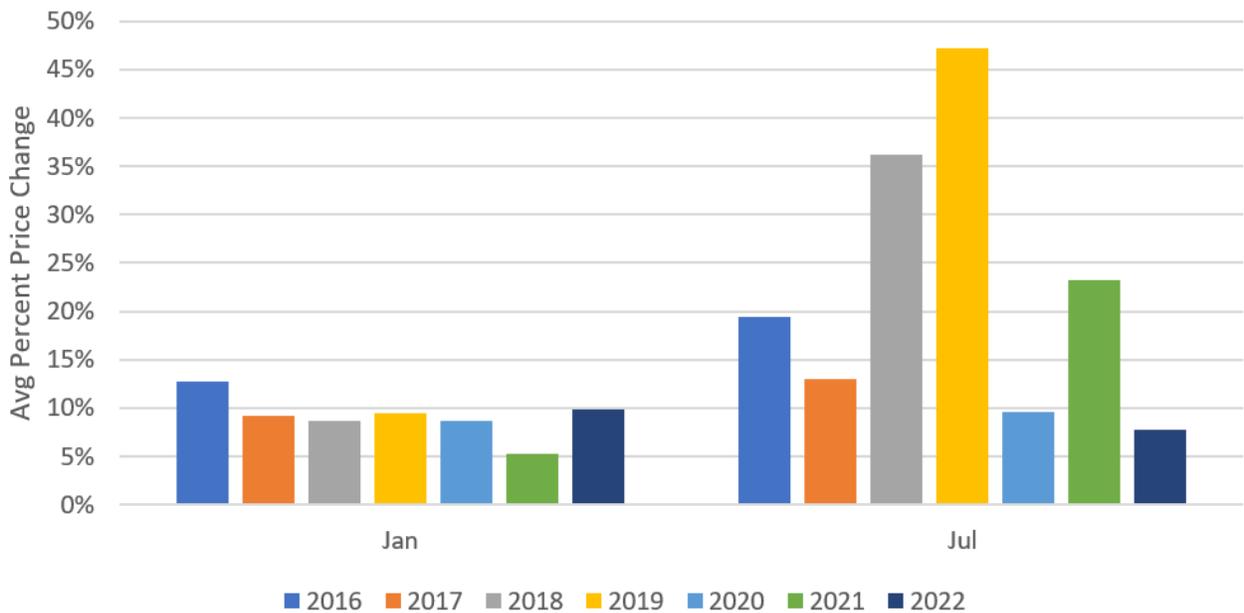
Results in 2022 were affected in part by the high recent rate of general inflation. The Consumer Price Index for all Urban Consumers (CPI-U) increased by 8.5 percent between July 2021 and July 2022. While the average July 2022 price increase (7.8 percent) was slightly below the rate of inflation, 124 of the 601 increases that took place in July exceeded general inflation. Moreover, there were 1216 NDCs whose price increases during the twelve-month period July 2021 to July 2022 exceeded 8.5 percent. The average price increase for these drugs was 31.6 percent.

**Figure 2: Average Dollar Price Change of Increases that Occurred in January and July, 2016-2022**



Source: ASPE analysis of AnalySource data

**Figure 3: Average Percentage Price Change of Increases that Occurred in January and July, 2016-2022**



Source: ASPE analysis of AnalySource data

## Drugs with Significant Price Increases

Not all price changes are large, and some updating of prices to account for inflation over time is to be expected. Thus, using the thresholds described above, we also identified the share of price changes in January and July 2022 that met our criteria for “significant price increases.” Of the over 3000 price increases in January, 241 exceeded the greater than 10 percent and \$20 threshold, while 248 exceeded the \$500 threshold. Of the 601 price increases in July, 43 and 66 exceeded these thresholds respectively. Combined, these results indicate that 15-18 percent of price increases in those two months were significant increases, based on our study criteria.

Tables 1 and 2 provide details for drugs with the largest price increases in January or July of 2022, either in dollars or percentage terms, respectively. All the drugs in Table 1 increased in list price by thousands of dollars, and in percentage terms, several drugs in Table 2 increased their prices by more than 500 percent; note that these tables omit multiple entries for the same drugs from the same labeler, as often price changes occur at the same time for multiple dosages and packaging for the same product. Cancer treatments represented the majority of the drugs in Table 1, while the medications in Table 2 were more varied.

**Table 1: Top Drugs by Price Increase, January and July 2022**

Drug Name	Labeler Name	Condition(s) Treated	Previous WAC Package Price	New WAC Package Price	percent Change	\$ Change
TECARTUS (Injection)	KITE	B-cell acute lymphoblastic leukemia; mantle cell lymphoma	\$399,000	\$424,000	6.3%	\$25,000
YESCARTA (Injection)	KITE	Lymphomas	\$399,000	\$424,000	6.3%	\$25,000
KORLYM (300 mg tablet)	CORCEPT	Type 2 Diabetes in Cushing's Syndrome	\$15,400	\$161,560	4.9%	\$7,560
MACI (cell growth sheet)	VERICEL	Cartilage damage in the knee	\$58,184	\$62,548	7.5%	\$4,364
ZEVALIN (Injection)	ACROTECH	Lymphomas	\$57,685	\$61,770	7.1%	\$4,086
POMALYST (1, 2, 3, and 4 mg capsule)	CELGENE/BMS	Kaposi's sarcoma, multiple myeloma	\$90,761	\$94,845	4.5%	\$4,084
REVLIMID (2.5, 5, 10, 15, 20, and 25 mg capsule)	CELGENE/BMS	Lymphoma, multiple myeloma	\$79,734	\$83,322	4.5%	\$3,588
DEMSER (250 mg capsule)	BAUSCH	Pheochromocytoma	\$39,059	\$42,144	7.9%	\$3,086
ATIVAN (1 mg tablet)	BAUSCH	Anxiety	\$37,647	\$40,621	7.9%	\$2,974

**Notes:** WAC = Wholesale Acquisition Cost. Prices rounded to nearest dollar. KORLYM price is per 280 tablets. POMALYST price is per 100 capsules. REVLIMID price is per 100 capsules. DEMSER price is per 100 capsules. ATIVAN price is per 1000 tablets.

**Table 2: Top Drugs by Percentage Price Increase, January and July 2022**

Brand Name	Labeler Name	Indication	Previous WAC Package Price	New WAC Package Price	\$ Change	percent Change
FLUCONAZOLE (150 mg tablet)	GREENSTONE	Fungal infections	\$2	\$28	\$26	1100.9%
FLUCONAZOLE (150 mg tablet)	BLUEPOINT LABOR	Fungal infections	\$2	\$24	\$22	1097.5%
LISINOPRIL (20 mg tablet)	EXELAN	Chronic heart failure, hypertension, acute myocardial infarction	\$20	\$129	\$109	539.2%
CALCIUM ACETATE (667 mg tablet)	CHARTWELL	Renal osteodystrophy with hyperphosphatemia	\$140	\$300	\$160	113.7%
DILTIAZEM 24HR ER (CD) (180 mg capsule)	AHP	Hypertension, angina	\$39	\$81	\$42	106.5%
SULFASALAZINE (500 mg tablet)	CHARTWELL	Ulcerative colitis	\$1,000	\$2,000	\$1,000	100.0%
LEVETIRACETAM; (100 mg/mL oral solution)	BRYANT RANCH	Epilepsy	\$24	\$46	\$22	89.1%

**Notes:** WAC = Wholesale Acquisition Cost. Prices rounded to nearest dollar. Table excludes multiple entries for the same drug from the same labeler. LISINOPRIL price is per 1000 tablets. CALCIUM ACETATE price is per 200 tablets. DILTIAZEM price is per 100 capsules. SULFASALAZINE price is per 1000 tablets.

## CONCLUSION

The IRA includes several provisions to address both high prices in particular drugs and large price increases. In this Issue Brief, we examined the price increases that occurred from 2016 to 2022 and focused on those that were of the greatest magnitude. Large price changes – totaling tens of thousands of dollars, or in some cases more than quintupling the price – occurred in 2022. IRA policies may slow the rate of price increases for drugs, beginning with the new rebate period beginning October 1, 2022. In future reports ASPE will continue to assess trends in price increases over time.

## REFERENCES

- <sup>1</sup> Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health & Human Services. Comprehensive Plan for Addressing High Drug Prices: A Report in Response to the Executive Order on Competition in the American Economy. September 2021. <https://aspe.hhs.gov/reports/comprehensive-plan-addressing-high-drug-prices>
- <sup>2</sup> Andrew W. Mulcahy, Christopher M. Whaley, Mahlet Gizaw, Daniel Schwam, Nathaniel Edenfield, Alejandro U. Becerra-Ornelas. "International Prescription Drug Price Comparisons: Current Empirical Estimates and Comparisons with Previous Studies." July 2022. <https://aspe.hhs.gov/index.php/reports/international-prescription-drug-price-comparisons>
- <sup>3</sup> Dana O. Sarnak, David Squires, and Shawn Bishop, "Paying for Prescription Drugs Around the World: Why Is the U.S. an Outlier?" Commonwealth Fund, October 5, 2017.
- <sup>4</sup> 2022 Annual Report Of The Boards Of Trustees Of The Federal Hospital Insurance And Federal Supplementary Medical Insurance Trust Funds. <https://www.cms.gov/files/document/2022-medicare-trustees-report.pdf>
- <sup>5</sup> Congressional Budget Office, A Comparison of Brand-Name Drug Prices Among Selected Federal Programs (February 2021), [www.cbo.gov/publication/56978](http://www.cbo.gov/publication/56978).

## U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

### Office of the Assistant Secretary for Planning and Evaluation

200 Independence Avenue SW, Mailstop 447D  
Washington, D.C. 20201

For more ASPE briefs and other publications, visit:  
[aspe.hhs.gov/reports](https://aspe.hhs.gov/reports)



### ABOUT THE AUTHORS

Arielle Bosworth is an Economist in the Office of Health Policy in the Office of the Assistant Secretary for Planning and Evaluation.

Steven Sheingold is Director of the Division of Health Financing Policy in the Office of Health Policy.

Kenneth Finegold is a Senior Social Science Analyst in the Office of Health Policy in the Office of the Assistant Secretary for Planning and Evaluation.

Nancy De Lew is the Associate Deputy Assistant Secretary of the Office of Health Policy in the Office of Assistant Secretary for Planning and Evaluation.

Benjamin D. Sommers is the Senior Official Performing the Duties of the Assistant Secretary for Planning and Evaluation.

### SUGGESTED CITATION

Bosworth, A, Sheingold, S, Finegold K, De Lew, N, Sommers, B.D. (Issue Brief No. HP-2022-27). Washington, DC: Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services. September 30, 2022.

### COPYRIGHT INFORMATION

All material appearing in this report is in the public domain and may be reproduced or copied without permission; citation as to source, however, is appreciated.

---

Subscribe to ASPE mailing list to receive email updates on new publications:

[aspe.hhs.gov/join-mailing-list](https://aspe.hhs.gov/join-mailing-list)

For general questions or general information about ASPE:

[aspe.hhs.gov/about](https://aspe.hhs.gov/about)