MAHP
MASSACHUSETTS ASSOCIATION of HEALTH PLANS

OnPoint: Issue Brief

A Publication by the Massachusetts Association of Health Plans
Volume XXII, June 2023

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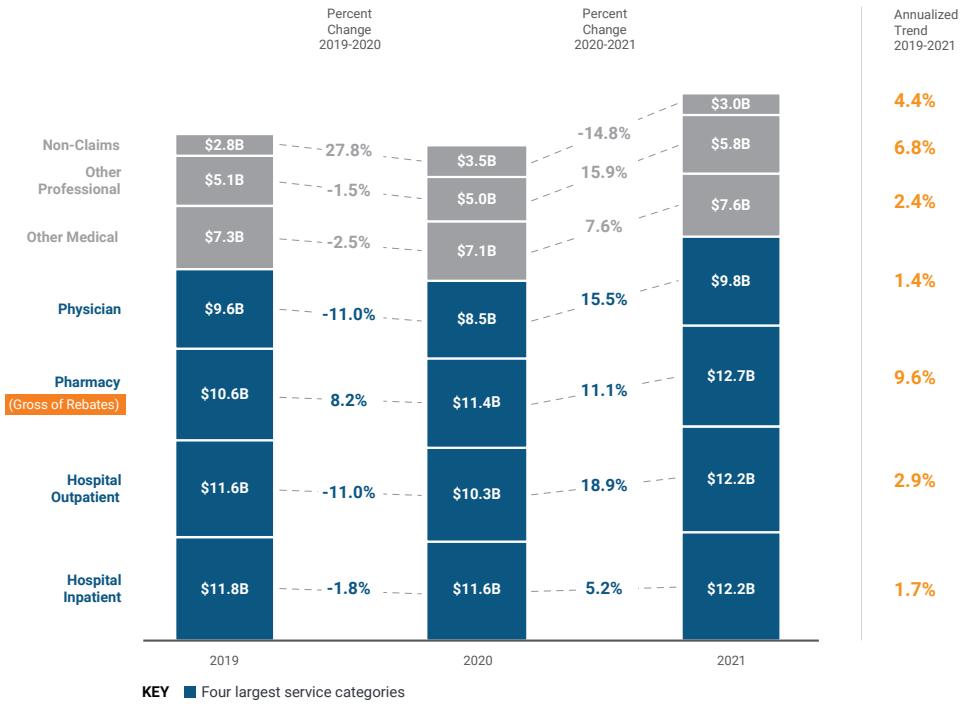
Rx Reality Check 2023

Prescription Drug Spending: Driving Health Care Costs at the State and Federal Levels

Pharmaceutical innovations can provide significant opportunities for patients; however, prescription drug costs continue to skyrocket, creating affordability challenges and ultimately resulting in limited access for many patients. A RAND Corporation report found that United States drug prices were 256% higher than those in the 32 comparison countries combined.[1] In 2021 alone, prescription drug spending increased by 7.8% to reach $378 billion, and the Centers for Medicare & Medicaid Services (CMS) projects that prescription drug spending will reach $567 billion by 2030.[2] High drug prices are a significant contributor to health insurance premium increases and high out-of-pocket costs, placing a financial burden on patients, families, and the health care system.

In Massachusetts, prescription drug spending remains a significant challenge, with pharmacy costs accounting for $12.7 billion, or nearly 20% of total health care spending in 2021 alone, according to the Center for Health Information and Analysis's (CHIA) 2023 *Annual Report on the Performance of the Massachusetts Health Care System*.[3] See Figure 1 below. Pharmacy spending net of rebates was the largest contributor to the total health care expenditures (THCE) increase from 2019 to 2021. From 2019 to 2021, THCE in Massachusetts increased by $5.0 billion gross of pharmacy rebates and $3.9 billion net of rebates. Pharmacy spending grew by nearly $2.1 billion gross of rebates and close to $1.3 billion net of rebates, increasing at an annualized rate of 9.6% and 7.5%, respectively, well above the 3.6% health care cost growth benchmark set by the Health Policy Commission (HPC).

Figure 1: Total Health Care Expenditures by Service Category, 2019-2021: Gross of Prescription Drug Rebates

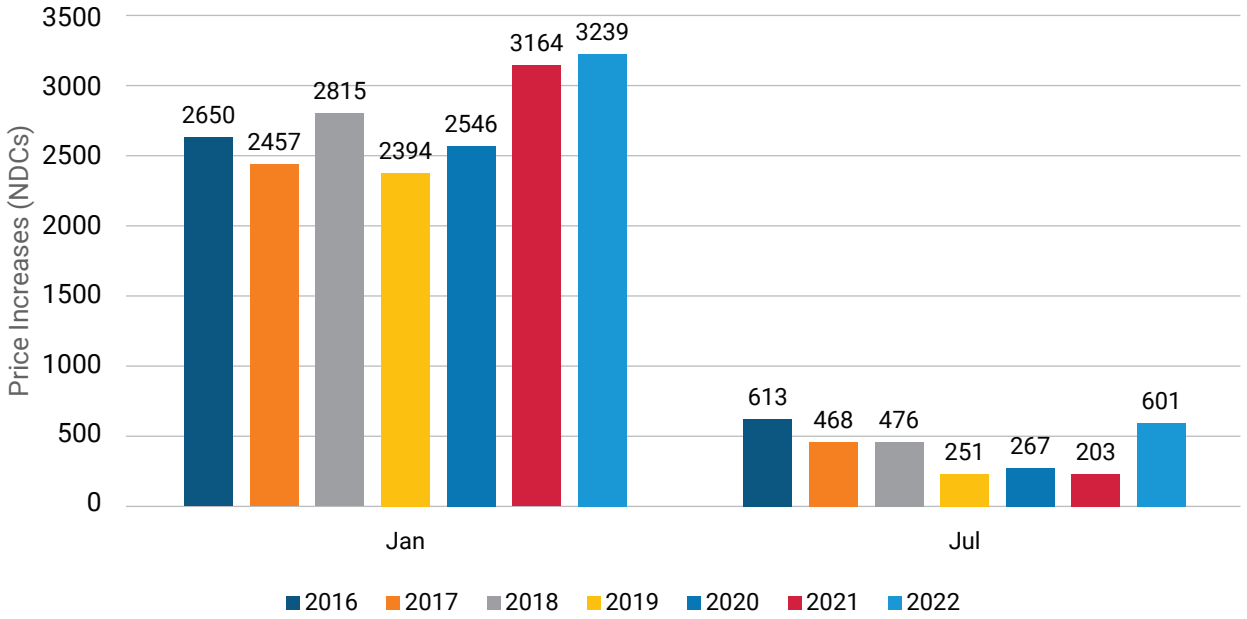


The Massachusetts Association of Health Plans' (MAHP) latest *OnPoint* examines state and national trends in prescription drug spending growth and offers sound recommendations to policymakers on ways to curtail spending growth while continuing to foster innovation.

High Prescription Drug Prices Threaten Prescription Drug Affordability

Since 2014, prescription drug prices have risen by 35%, outpacing price increases for any other medical commodity or service. Indeed, price increases for prescription drugs are an annual trend in the United States, with most manufacturers increasing prices in January and July. As of January 2023, drugmakers have hiked prices for approximately 985 products and for at least 587 brand name drugs, with price increases averaging 5.48%.[4] In January 2022, more than 3,200 drugs experienced a price increase, up from 2,650 in January 2016. See Figure 2 below.

Figure 2: Number of Price Increases in January and July, 2016-2022



Notes: Office of the Assistant Secretary for Planning and Evaluation analysis of AnalySource data. Number refers to unique National Drug Codes (NDC) with a price increase.

Between 2006 and 2020, price increases for widely used brand name prescription drugs consistently exceeded the rate of general inflation (1.3%), and the increase was twice as high as inflation in 2020 (2.9%).[5] Beginning in January 2023, the Inflation Reduction Act (IRA) requires drug companies to pay a rebate to Medicare for increasing their prices faster than inflation. In addition to that, beginning April 1, 2023, for certain Medicare Part B drugs and biologics with prices that have increased faster than the inflation rate, the beneficiary coinsurance will be 20% of the inflation-adjusted payment amount, resulting in lower out-of-pocket costs for beneficiaries. As a result, the Biden administration has subjected **27 drugs** to Medicare inflation rebates and the coinsurance adjustment rates.[6] The IRA further allows Medicare to negotiate better prescription drug prices under the Medicare Drug Negotiation Program. As a part of this process, CMS will also publish negotiated maximum fair prices for the first 10 Medicare Part D drugs selected for the Medicare Drug Negotiation Program by September 1, 2024, and these prices will be in effect starting January 1, 2026.

Despite the potential impact of the IRA, drug manufacturers continue to increase drug prices year over year.[7] Notably, Humira, the world's top-selling drug, whose biosimilar competition is anticipated to be launched later this year, generated more than $20 billion in sales in 2022, and its price will increase by 8%; Eliquis, a blood thinner, will rise by 6%; Imbruvica, a cancer drug, will go up 6.2%; and Stelara, used to treat plaque psoriasis, psoriatic arthritis, and Crohn's disease, will go up 4%.[8] A 2022 report analyzed drugs with the largest price increases in January and July 2022. See Figures 3 & 4 below. All the drugs in Figure 3 increased in list price by thousands of dollars, and several drugs in Figure 4 increased in price by more than 500%.[9]

Figure 3: Top Drugs by Price Increase, January 2021 to July 2022

Brand Name Labeler Name	2021 Wholesale AcquisitionCost	2022 Wholesale Acquisition Cost	Increase
Tecartus Kite B-cell acute lymphoblastic leukemia; mantle cell lymphoma	$399,000	$424,000	+$25,000
Yescarta Kite Lymphomas	$399,000	$424,000	+$25,000
Korlym Corcept Type 2 Diabetes in Cushing's Syndrome	$154,000	$161,000	+$7,560
Maci Vericel Cartilage damage in the knee	$58,000	$62,000	+$4,346
Pomalyst Celgene/ BMS Kaposi's sarcoma, multiple myeloma	$90,761	$94,845	+$4,084
Revlimid Celgene/ BMS Lymphoma, multiple myeloma	$79,734	$83,322	+$3,588
Demser Bausch Pheochromocytoma	$39,059	$42,144	+$3,085
Ativan Bausch Anxiety	$37,647	$40,621	+$2,974

Figure 4: Top Drugs by Percentage Price Increase, January 2021 to July 2022

Brand Name Labeler Name	2021 Wholesale AcquisitionCost	2022 Wholesale Acquisition Cost	Increase
Fluconazole Greenstone Used to treat fungal infections	$2	$28	+1,101%
Fluconazole Bluepoint Labor Used to treat fungal infections	$2	$24	+1,098%
Lisinopril Exelan Chronic heart failure, hypertension, acute myocardial infarction	$20	$129	+539%
Calcium Acetate Chartwell Renal osteodystrophy with hyperphosphatemia	$140	$300	+114%
Diltiazem AHP Hypertension, angina	$39	$81	+107%
Sulfasalazine Chartwell Ulcerative colitis	$1,000	$2,000	+100%
Levetiracetam Bryant Ranch Epilepsy	$24	$46	+89%

See Addendum to Figures 3 and 4 at the end of this document

Major Cuts in the List Price of Insulin: Evidence of Historical Price Inflation?

Three companies control 96% of the global insulin market, with little competition from biosimilar manufacturers.[10] A 2020 RAND study found that the average price per vial of insulin in the U.S. was more than $98 in 2018, compared with less than $7 in Australia, $12 in Canada, and less than $8 in the U.K.[11]

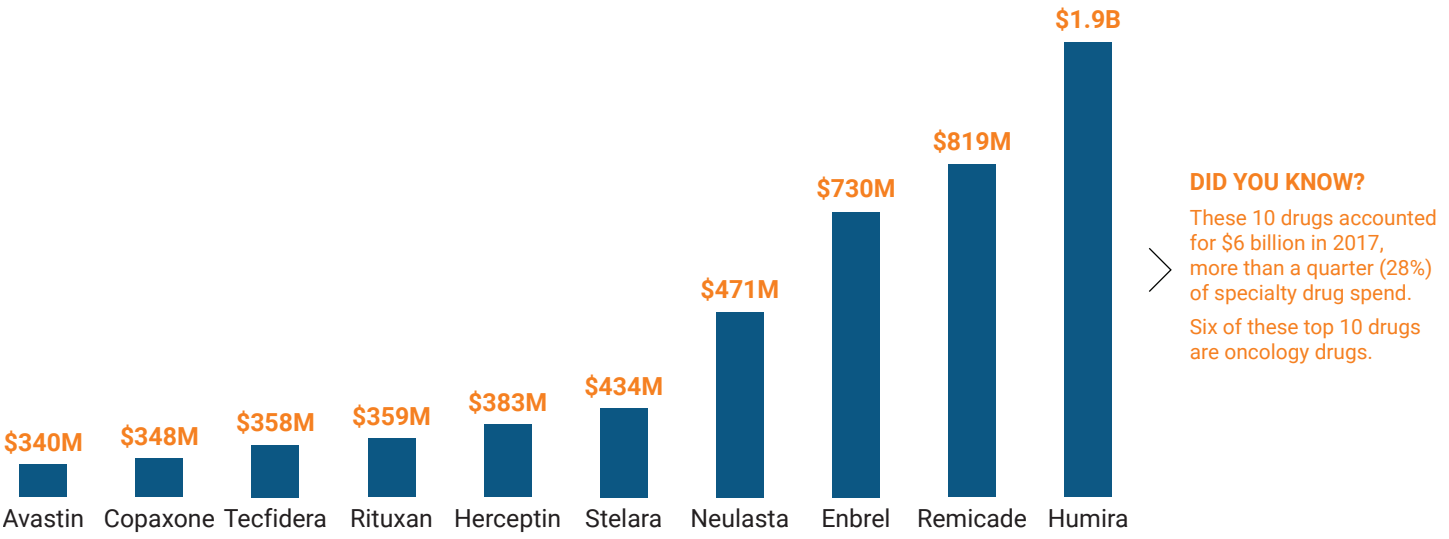
Over the past two decades, insulin prices have risen over 1,000% — from about $21 in 1999 to more than $300 a vial in 2019[12] — garnering the attention of lawmakers and advocates concerned about rising prescription drug prices. As a part of the IRA, out-of-pocket costs for insulin will be capped at $35 per month for seniors on Medicare, and during his State of the Union address earlier this year, President Biden called for capping insulin costs for all diabetes patients. Shortly after that, the three drug manufacturers that control 90% of the U.S. insulin market cut their insulin prices by 70% or more.[13]

Health policy experts cite provisions of the American Rescue Plan of 2021 as part of the impetus for the price cuts that would bring cost savings to drug manufacturers.[14] The law eliminated the cap on Medicaid rebates that drug manufacturers are required to pay the Medicaid program. Lifting the cap on rebates with the current prices might require drug manufacturers to pay the Medicaid program a higher price for their insulin products. However, with lower list prices, drug manufacturers can dodge those payments. The rebate cap is scheduled to go into effect January 1, 2024, coinciding with the price reductions, and will allow drug manufacturers to avoid the extra payments.

Rising Prices for Specialty and Brand Name Drugs

Drug spending is heavily driven by a relatively small number of high-cost drugs. Nationally, the cost of specialty drugs has continued to grow, totaling $301 billion in 2021, an increase of 43% since 2016. Specialty drugs represented 50% of total drug spending in 2021. While 80% of prescription fills are for generic drugs, brand name drugs accounted for 80% of prescription drug spending, with little change over time.[15] In Massachusetts, according to HPC's 2022 *Cost Trends Report*, pharmacy spending continued to grow in 2020, driven by brand name drugs that comprised less than 15% of total commercial pharmacy volume but accounted for around 80% of spending. The average spending per brand name drug increased by 30.6% from 2017 to $893, driven by both price increases on existing drugs and high launch prices of new drugs.[16] According to Oliver Wyman's analysis of nearly 3,500 specialty drugs, the top 10 drugs accounted for over 25% of specialty drug spending. See Figure 5.[17]

Figure 5: The Top 10 Most Expensive US Specialty Drugs



Source: Marketscan commercial database | Oliver Wyman analysis

Over the past decade, there has been a trend toward a larger share of new-drug approvals for specialty drugs. A 2023 IQVIA Institute report concluded that spending on global oncology products is expected to grow at a rate of 13% to 16% through 2027, driven by the introduction of new oncology drugs and limited biosimilars. The current oncology pipeline is expected to add more than 100 new treatments in the next five years and contribute to an increase in spending of $184 billion, to a total of more than $370 billion in 2027.[18]

In many instances, these price increases are not supported by clinical evidence. In December 2022, the Institute for Clinical and Economic Review (ICER) found that substantial price increases for seven out of 10 selected drugs in 2021 were not supported by new clinical evidence and three Medicare Part B drugs with high list price increases in 2020 lacked adequate new supporting evidence. The researchers at ICER provide an independent approach for determining whether certain price increases are justified by new clinical evidence or other factors. They assessed the selected drugs to determine whether there was new clinical evidence in the prior two years that demonstrated "moderate/high-quality new evidence or analyses of a substantial improvement in net health benefit compared with what was previously believed." Upon their assessment, drugs with evidence that meets this standard are reported as having price increases with new clinical evidence. Figure 6 below highlights selected drugs with price increases either supported or unsupported by new clinical evidence. The price increases for the first seven drugs, which are unsupported by clinical evidence, led to increases in prescription drug spending that amounted to **$805 million**, raising prices for employers and consumers without any additional clinical benefit.[19]

Figure 6: Drugs Selected for Assessment

Drug (Generic)	2020 to 2021 Percentage Change*		Increase in Drug Spending Due to Net Price Change (in Millions)
	WAC	Net Price	
Drugs with Price Increases Unsupported by New Clinical Evidence			
Xifaxan® (Rifaximin)	7.94%	12.14%	$174.7
Invega Sustenna®/Trinza® (Paliperidone)	4.83%	7.32%	$170.4
Prolia® (Denosumab)	5.79%	6.11%	$123.8
Entyvio® (Vedolizumab)	6.30%	4.50%	$118
Promacta® (Eltrombopag)	7.06%	11.46%	$94.9
Rexulti® (Brexpiprazole)	6.70%	7.61%	$67.9
Lupron® (Leuprolide)	6.20%	10.0%	$54.9
Drugs with Price Increases with New Clinical Evidence†			
Cosentyx® (Secukinumab)	7.05%	6.82%	$183.0
Tremfya® (Guselkumab)	4.81%	8.89%	$129.4
Jakafi® (Ruxolitinib)	7.01%	3.80%	$78.3
Part B Drugs with Price Increases Unsupported by New Clinical Evidence			
Drug (Generic)	**2019–2020 List Price Increase**	**Increase in Spending Due to Price Increase (Total Population, Per-Patient§ (in Thousands)**	
Somatuline® Depot (Lanreotide)	11.20%	$33,000, $1.21	
Adcetris® (Brentuximab Vedotin)	9.23%	$14,000, $1.64	
Krystexxa® (Pegloticase)‡	11.78%	$13,800, $3.21	

See Addendum to Figure 6 at the end of this document

In addition, new high-priced drugs have begun to enter the market at a more rapid pace, raising concerns about effectiveness and the impact on insurance costs for employers and consumers. For instance, in June 2021, the U.S. Food and Drug Administration (FDA) approved Aduhelm (aducanumab), a new Alzheimer's medication whose list price is set at a staggering $56,000 for one year of treatment. Patients receiving Aduhelm would be on this medication for an extended period, taking it in perpetuity from the time of the initial prescription. ICER's revised evidence report calculated a fair annual price ranging between $3,000 and $8,400 for Aduhelm and noted insufficiency of evidence of its health benefits.[20] Recently, a December 2022 congressional report shared the findings of an 18-month investigation, noting that Biogen set an unjustifiably high price for Aduhelm despite the impact on patients and the Medicare Program, and recommended immediate actions for the FDA to establish protocols and update its existing guidance relative to drug safety and efficacy.[21]

Unwarranted Factors Contributing to Price Increases

Product Hopping and Pay-for-Delay Settlements

Product hopping refers to when a brand name drug company moves patients to a new, reformulated version of a drug when an existing drug's patent exclusivity is close to expiring.[22] Generic drugs are launched after the patent expiration of the original brand-name drug and are lower-cost alternatives used by consumers in place of brand-name drugs. Cost savings from generic drug use is the most effective tool in holding down overall pharmacy benefit costs for individuals and employers. The practice of product hopping is a strategic move that brand-name drug companies use to prevent generic competition in the market. A study by *Alex Brill of Matrix Global Advisors*, commissioned by the Coalition for Affordable Prescription Drugs, found that product hopping for the brand name drugs Prilosec, TriCor, Suboxone, Doryx, and Namenda cost the U.S. health care system $4.7 billion annually.

"Pay-for-delay" refers to the patent settlements between drugmakers and the generic companies wherein generic companies are offered settlements to restrict introduction of lower-cost alternative drugs to the market. These pay-for-delay patent settlements effectively block all other generic drug competition for a growing number of brand name drugs. According to a Federal Trade Commission (FTC) study, these anticompetitive deals cost consumers and taxpayers $3.5 billion in higher drug costs every year. Since 2001, the FTC has filed several lawsuits to stop these deals, and it supports legislation to end such pay-for-delay settlements.[23]

Biologic Drugs versus Biosimilars

A growing body of literature highlights how regulatory barriers to competition lead to increases in drug spending. Biologic drugs such as Humira, are made from living cells from humans, animals, or other microorganisms. These drugs include a variety of specialty medicines and vaccines and are typically expensive and available at specialty pharmacies. On the other hand, biosimilars are drugs with structure, functions, and effectiveness similar to those of biologic drugs and are utilized interchangeably in clinical practice. Biosimilars, such as Inflectra, are comparatively cheaper than biologic drugs. Both biologic drugs and their biosimilars are often used for complex conditions such as, but not limited to, rheumatoid arthritis, cancer, Crohn's disease, and multiple sclerosis.

Although increased use of biosimilars would likely lower costs, the current regulatory structure favors the use of high-cost biologic drugs. The spending growth of biologic drugs continue while biosimilars struggle to compete for market share. Overall spending on biosimilars could reach $80 billion in aggregate sales over five years, including around $16-$36 billion in 2024. In 2019, biosimilar spending accounted for $5.2 billion whereas spending on biologic drugs grew at a 14.6% compound annual growth rate between 2015 and 2019 and accounted for $211 billion in 2019.[24] Despite the availability of biosimilars, there are barriers to marketing them, which lead to price and spending increases. When traditional, small-molecule drugs' patents expire, they are subject to vigorous price competition from generic drugs; hence, overall spending on small-molecule drugs is steadily declining. However, most biologic drugs are not subject to the same competitive forces, leading to rapid price and spending increases.[25] A 2022 study projected savings from the use of biosimilars at around $38.4 billion from 2021 to 2025 and concluded that greater savings may be feasible if managed care and other settings increase biosimilar utilization and promote competition.[26]

Profits for Pharmaceutical Companies

Health care organizations in Massachusetts, including health plans and hospitals, are subjected to expansive regulatory requirements governing the transparency of financial information. Health plans and providers are called as witnesses at the HPC's annual Cost Trends Hearing and are subject to the associated data collection requirements by the HPC, CHIA, and the state's attorney general, providing important insights into the factors driving financial performance and underlying health care costs. However, despite the increases in pharmacy spending and drug prices, there is very limited transparency and oversight, and the pharmaceutical industry is absent from conversations around cost containment in Massachusetts.

For the purposes of this *OnPoint*, MAHP conducted an internal analysis of profitability for 19 pharmaceutical companies across four years. Figure 7 below provides information on pharmaceutical companies' median profitability computed using their annual financial statements. Notably, the 2022 profit margins of two of these companies, namely Moderna Inc. and BioNTech SE, were **43.4%** and **54.5%**, respectively. Profit margin is an essential key performance indicator that reflects annual net profit as a percentage of total revenue and is relevant data as policymakers explore policies to address a growing concern that essential drugs are increasingly unaffordable for patients.

Figure 7

	2019	2020	2021	2022
Pharmaceutical Companies'[i] Median Profit Margins	24%	17.8%	22.8%	24.5%

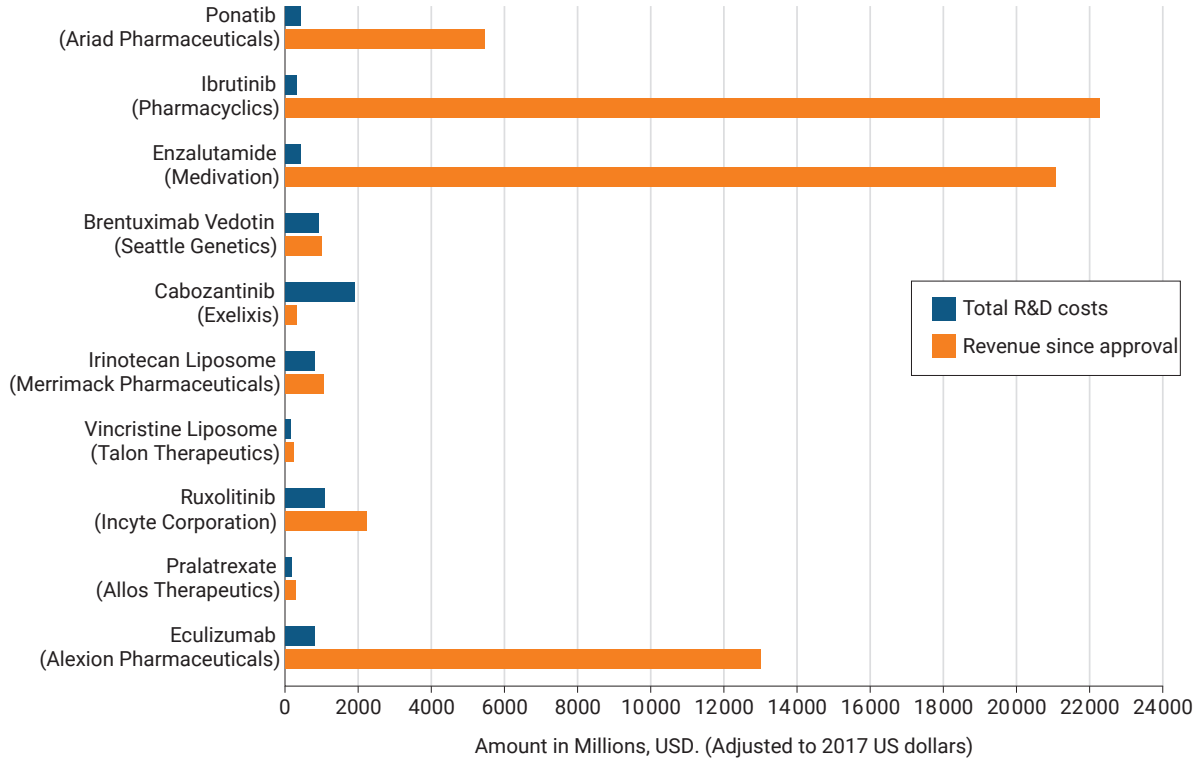
See Addendum to Figure 7 at the end of this document

Research and Development

The pharmaceutical industry has argued that high prices are justified to support the cost of development and to ensure innovation. Yet numerous studies have shown that the link between high prices and funding development is dubious at best. The pharmaceutical industry states that the cost of developing a drug and bringing it to market is around $2.6 billion.[27] According to a recent study by the *Journal of the American Medical Association (JAMA)*, the median cost of developing a cancer drug was about $648 million.[28]

There is a body of evidence showing that drug manufacturers' marketing and administrative costs are greater than their research and development (R&D) costs. Analysis from the research firm Global Data found that nine out of the big 10 pharmaceutical companies spend more on marketing than on research.[29] In addition, many of the drugs garner profits that far exceed their R&D costs. A recent *Health Affairs* study found that higher margins from higher drug prices charged in the U.S. generate more than enough revenue compared to their global R&D budgets.[30] The *JAMA* study mentioned above noted that for 10 of the cancer drugs approved by the FDA between 2010 and 2015, several of these drugs made 10 times as much as the biotech companies spent on R&D costs, as seen in Figure 8 below. Finally, research from the Congressional Budget Office confirmed that pharmaceutical R&D costs do not have a relationship to the prices drug companies set on their products.[31] The report states, "Importantly, when drug companies set the prices of a new drug, they do so to maximize future revenues net of manufacturing and distribution costs. A drug's sunk R&D costs — that is, the costs already incurred in developing that drug — do not influence its price."

Figure 8: How Cancer R&D Costs Stack Up to Drug Revenue



The steady increase in drug prices over the years significantly contributes to health insurance premium increases and high out-of-pocket costs for consumers, placing a financial burden on patients, families, and the health care system. With the adoption of the Massachusetts health care cost growth benchmark, a first-in-the-nation benchmark to control health care spending, Massachusetts health plans redoubled their efforts to manage care to meet the benchmark. Health plans can control health care costs while ensuring high-quality, affordable, and equitable care. Health plans utilize limited cost containment tools that are aimed at lowering costs to patients, including contracting with specialty pharmacies; co-payments; and utilization management tools, like formulary development, prior authorization, network development and management, and step therapy programs. MAHP's *OnPoint* on *Prescription Drug Pricing: Efforts That Erode Cost-Containment Strategies* discusses these tools, examines challenges associated with targeting them, and offers alternative solutions to rein in prescription drug prices.[32]

Recommendations

Prescription drug costs continue to outpace all other health care spending categories, and multiple state reports have pointed to prescription drug spending as the major driver of rising health care costs in Massachusetts. In our state's efforts to make health care more affordable, it is necessary to hold the entire system accountable. As the Massachusetts legislature considers legislation to address health care costs, we strongly encourage consideration of the following recommendations, which will increase the transparency of drug costs and enable policymakers to understand changes in prescription drug spending and pharmaceutical prices:

1. **Require transparency in prescription drug pricing** — The HPC, in collaboration with CHIA, should identify a list of prescription drugs for which the state spends significant health care dollars and for which prices have increased significantly over certain time periods, or drugs that are new to the market that have significantly impacted the cost-growth benchmark. The HPC should require those manufacturers to provide an explanation for the increase, including disclosures of research, development, marketing, and manufacturing costs as well as the profits attributable to those drugs. Likewise, pharmaceutical companies that propose to raise their prices by 10% or more before the introduction of a new drug whose price may threaten the cost benchmark should be required to provide notice to the HPC 60 days before the new prices are to take effect, explaining the rationale for the increase so that consumers, employers, providers, health plans, and the state have notice before the increase takes effect.

2. **Require participation in the cost trends hearings** — As part of the commonwealth's annual health care cost trends hearings, pharmaceutical and biotech companies should be required to submit data to the HPC and be called as witnesses to testify under oath. Requiring drug manufacturers to be part of the annual hearings would be an important step toward understanding the impact pharmaceutical pricing has on the statewide cost benchmark, whether the costs associated with these therapies offer value in comparison to other therapies and treatments, and whether they are improving patient care.

3. **Establish regulatory checks on excessive drug pricing** — The state has seen evidence of price increases for brand name, generic, and specialty drugs nationally and locally, which contribute to spending by health plans and employers. Policymakers should have a regulatory oversight and check on excessive price increases on prescription drugs by evaluating cost-effectiveness of high-cost prescription drugs. MAHP supports the drug pricing review process established in 2020. Under this authority, the HPC assists in managing pharmaceutical spending by conducting reviews of high-cost drugs referred to it by MassHealth. The commission assesses them to determine whether the pricing is unreasonable or excessive in relation to the value. MAHP strongly supports the expansion of the HPC's drug pricing review authority to include drugs with a financial impact on the commercial market in Massachusetts.

4. **Establish penalties for price gouging** — To address unwarranted price increases by pharmaceutical companies as described above, policymakers must support legislation that limits the annual cost of prescription drugs and require pharmaceutical companies to report and justify increases in drug prices and to face financial penalties for unjustified increases. MAHP supports establishing a penalty on these companies (80% of the excessive price increases for each unit or lowest dispensable amount) for excessive price increases.

5. **Encourage cost-effectiveness research for drugs and treatments** —Understanding the medical efficacy and cost of new treatments, including prescription drugs, is essential for patients and providers to be able to make informed health care decisions. In the absence of a national process for measuring both the cost and clinical effectiveness of new procedures and drugs, states can fill that void. The HPC or a collective of interested organizations should bring together stakeholders — clinicians, patients, health plans, academics, and pharmaceutical and device manufacturers — to evaluate the safety, effectiveness, and cost of new therapies to determine whether the added benefits of more expensive drug treatments are sufficient to warrant the additional costs as well as to determine appropriate standards of care so that best practices are followed in deciding when to use different therapies.

6. **Adopt strategies and federal reforms to encourage competition** — Policymakers should explore and adopt strategies that encourage competition while discouraging monopolies. The pharmaceutical industry has monopolies over many drugs due to patents, marketing restrictions, and other regulatory barriers that lead to high drug prices. We recommend reforms at the federal level; for instance, to stop evergreening of patent protections and to shorten the exclusivity period for biologics in order to increase biosimilars competition that would create consumer choices and ensure an open and honest discussion of the factors that go into drug pricing. Furthermore, legislative reforms at the federal level could be enacted to address the pharmaceutical practice of product hopping as a violation of antitrust laws.

We'd like to acknowledge and thank our team of reviewers: Sarah Chiaramida, Elizabeth Leahy, Lynda Jackson, Ann Chamberlin LaBelle, Lora Pellegrini, and Miriam Sullivan.

Footnotes

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Addendum to Figures 3 and 4

Note on Figure 3: 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

Note on Figure 4: 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 1,000 tablets. CALCIUM ACETATE price is per 200 tablets. DILTIAZEM price is per 100 capsules. SULFASALAZINE price is per 1,000 tablets

Source: Bosworth, A., Sheingold, S., Finegold, K., Lew, N.D. & Sommers, B.D. (2022). Price Increases for Prescription Drugs, 2016-2022. ASPE Office of Health Policy. Available at: https://aspe.hhs.gov/sites/default/files/documents/d850985c20de42de984942c2d8e24341/price-tracking-brief.pdf

Addendum to Figure 6

WAC: wholesale acquisition cost

* Year-over-year percentage changes were estimated by averaging over the four quarterly changes in price (i.e., Q1 2020 to Q1 2021; Q2 2020 to Q2 2021; Q3 2020 to Q3 2021 and; Q4 2020 to Q4 2021).

† This is not a determination that the new evidence necessarily justified these price increases. ‡Pegloticase had been previously assessed for the 2019-2020 time period in the prior UPI report and was found to have a net price increase unsupported by new clinical evidence. As such, under the protocol, pegloticase is identified as having had an important list price increase for this time period but is not re-reviewed for supporting evidence.

§ Annual increase per-patient costs due to 20% coinsurance; for patients without supplemental insurance, this annual increase is out-of-pocket expense.

‡ Pegloticase had been previously assessed for the 2019-2020 time period in the prior UPI report and was found to have a net price increase unsupported by new clinical evidence. As such, under the protocol, pegloticase is identified as having had an important list price increase for this time period but is not re-reviewed for supporting evidence.

Addendum to Figure 7

i. MAHP analyzed annual financial statements for the following pharmaceutical companies: Johnson & Johnson, Eli Lilly & Co., Merck & Co. Inc, Abbvie Inc., Novartis, Sanofi, Gilead Sciences, Zoetis, Regeneron Pharmaceuticals Inc., Moderna Inc., BioNTech SE, BioGen Inc., Moderna Inc., AstraZeneca PLC, Pfizer Inc., Bristol-Myers Squibb Co., Amgen Inc., Vertex Pharmaceuticals Inc., Takeda Pharmaceutical Company Limited, and Novo Nordisk.