

CENTER FOR IMPROVING

COLORADO PRESCRIPTION DRUG SPENDING AND THE IMPACT OF DRUG REBATES

A summary of payer-reported prescription drug spending and drug manufacturer rebates and other compensations, 2016-2018

Released January 2021

Contents

2
3
3
1
1
5
5
7
3
)
)
I
1
5
5

Executive Summary

Access to affordable prescription drugs is necessary for a healthy population, and with drug costs on the rise, it is important to investigate ways to lower prescription drug costs. Analyses of 2018 claims from the Colorado All Payer Claims Database (CO APCD) shows Colorado spent nearly \$4 billion, or 13% of total health care spending (\$23 billion), on prescription drugs alone. This is an increase of over \$300 million since 2016.

Understanding the total amount health insurance companies spend upfront on prescription drugs is important, but does not paint the full picture of spending. Tracking drug spending is complicated because health insurance companies and pharmacy benefit managers receive rebates, discounts, and other compensations from drug manufacturers as incentives for making certain drugs available.

In 2019, health insurance payers submitted drug rebate and concession information for 2016, 2017 and 2018 to the CO APCD for the first time. Analysis of rebate data across all years and all payers shows that nearly \$3 billion was collected in prescription drug rebates, representing 26% of total spending. While rebates can reduce overall prescription drug spending for payers, they also contribute to long-term growth in prescription drug spending by incentivizing the use of higher cost specialty and brand name drugs. It is also unclear if these savings for commercial insurance companies are passed on to consumers or to employer purchasers through reductions in premiums or prescription drug costs.

This drug rebate analysis is the first in Colorado to provide prescription drug spending and rebate information across Medicaid, Medicare fee-for-service and Medicare Advantage, and commercial health insurance payers.

Key findings include:

- Total prescription drug spending grew 15% from 2016 to 2018, but only grew 9% when considering rebates received by health plans.
- For all payers combined, the amount they received in rebates rose from \$850 million dollars in 2016 to \$1.12 billion in 2018, an increase of 32%.
- In 2018, rebates as a percentage of total drug spending varied considerably by payer type (Medicaid 55%; Medicare Fee-for-Service 18%; Medicare Advantage 17%; Commercial plans 16%.
- For commercial payers, prescription drug rebates went up from \$119 million in 2016 to \$179 million in 2018 an increase of \$60 million (50%). Rebates as a percentage of commercial prescription drug spending also increased substantially, from 11% to 16% from 2016 to 2018.
- While prescription drug spending for commercial payers before rebates increased by 6% from 2016-2018, total net spending including rebates remained flat.
- In 2018, across all payers, 42% of all brand name drug spending, 27% of all specialty drug spending, and 4% of all generic drug spending was received back in rebates.
- Total spending for high cost specialty drugs increased by 25% (\$1.14B to \$1.51B) from 2016-2018 across all payers, and percent of rebates received for specialty drugs increased significantly for Medicaid (46% to 54%) and commercial payers (13% to 18%).

This report demonstrates that rebates complicate an already complex process of tracking the total cost of prescription drugs across payers. Results show that prescription drug rebates reduce drug spending by payers in the short-term. However, rebates could be incentivizing increased use of high cost drugs, resulting in a negative impact on health care costs long-term. To better understand the impact of rebates, more transparency is needed on how drug rebates impact the use of prescription drugs.

Introduction

Prescription drug costs are the fastest growing health care expense in the United States.¹ The main driver of the increase in total health care spending is high prescription drug prices and, particularly, the introduction and rapid growth in prices for specialty drugs.

Tracking total drug spending is complicated because health insurance companies and pharmacy benefit managers receive rebates, discounts, and other compensations from drug manufacturers as incentives for making certain drugs available. Manufacturer rebates and other compensations are typically considered confidential and play a role in influencing drug purchasing across all payers. Compensation includes discounts, fees, educational grants for the provision of utilization data to manufacturers for marketing and related purposes, market share incentives, commissions and manufacturer administrative fees.

Prior to the 2018 Colorado state regulations requiring payers to report rebates and other compensations, measuring actual net prescription drug spending in Colorado was a challenge.

Note: For the purposes of brevity, the term prescription drug "rebates, discounts, coupons and other compensation" will be referenced in this report as "rebates."

Prescription Drug Supply Chain and Funds Flow

The information below provides a simplified explanation of the prescription drug supply chain and the flow of drugs, payments and rebates.

What is a Pharmacy Benefit Manager?

A pharmacy benefit manager (PBM) is a company that manages prescription drug benefits on behalf of health insurers and self-funded employers. Health plans often contract with PBMs to negotiate discounts from retail pharmacies, maintain the drug formulary (the list of drugs covered by the health plan and their associated co-pays) and pay claims for drugs dispensed to consumers by retail pharmacies.

PBMs operate in the middle of the distribution chain for prescription drugs. They use their purchasing power to negotiate rebates and discounts from drug manufacturers.



PRESCRIPTION DRUG SUPPLY CHAIN AND FUNDS FLOW

What are Drug Rebates and How Do They Work?

Drug manufacturers sell drugs to wholesalers that sell them to retail outlets like a local pharmacy. The price at the pharmacy is the manufacturer's price that is marked up by the wholesaler and then by the retailer. Health plans, through their PBM, negotiate discounts from these retail outlets.²

For some drugs, manufacturers pay rebates to the PBM or health plan to make them "preferred drugs" in the health plan formulary. Rebates are paid separately to the PBM or health plan after consumers purchase the drugs. In effect, rebates reduce the cost of drugs to the PBM or health plan. However, rebates may produce a net increase in prescription drug spending if rebates lead to increased utilization of higher cost drugs. They could also contribute to higher total health care spending if the savings are not passed through to the consumer or employer who purchased the health plan.

How rebates are used by payers and PBMs is not fully transparent. It is not clear whether rebates are retained by PBMs and commercial health plans or whether they are used to reduce premiums and out-of-pocket costs for employers and consumers.^{2,3} If passed through, consumers can receive indirect benefits from rebates. Otherwise they may not, because consumer out-of-pocket costs (i.e., copayment, coinsurance) are based on the negotiated price of a drug, not the price after rebates.²

In some cases, manufacturers will issue coupons for specific drugs that commercially-insured patients can use to reduce their out-of-pocket expenses. These point-of-sale rebates, which are banned for Medicare Part D and Medicaid insured patients, are typically offered for high cost drugs to make them more affordable to individuals. Although coupons reduce patient out-of-pocket costs, they can encourage use of higher cost drugs and can have the effect of increasing premiums, lowering health plan profits or increasing consumer out-of-pocket expenses for other drugs.²

U.S. Prescription Drug Rebates

National studies of the size of rebates shows differences by payer type. Medicaid receives the largest rebate as a percentage of prescription drug spending, roughly 50%-52%. Medicare Part D receives 18-22% of total spending back in rebates and commercial insurance payers receive 12%.^{2,4}

Medicaid receives the largest percentage in part because of the federal <u>Medicaid Drug Rebate Program</u> which requires manufacturers to provide rebates to help offset Medicaid pharmacy costs.^{2,6} State Medicaid programs, such as Health First Colorado, are funded through both state and federal dollars, so the federal government is able to oversee these regulations.

Medicare Part D is unable to negotiate drug prices due to federal regulations. Medicare Advantage plans are different from Medicare Fee-For-Service (FFS) Part D coverage in that they are administered by commercial health insurance companies. Commercial payers receive lower rebates as a percentage of prescription drug spending than both Medicaid and Medicare Part D. Commercial payer rebates are lower because they typically cover more drugs than public insurers, and because manufacturers can make coupons available to commercial patients directly. Having more drugs covered and offering direct to consumer coupons helps increase the use of drugs without having to provide as many rebates to PBMs or commercial health plans.²

The rebates Medicaid and Medicare FFS receive are reported publicly and are used to reduce government spending and, in the case of Medicare, reduce premiums.^{2,3} It is not clear how commercial health insurance payers use rebates and whether any of the savings are passed along to employers and consumers through reductions in premiums or prescription drug coverage costs.

Colorado Drug Rebate Data Sources

Drug rebate information in Colorado was previously unavailable until a regulatory change to the <u>Data</u> <u>Submission Guide</u>, enacted in October 2018, required health insurance payers in Colorado to submit rebate and other compensation information to the Center for Improving Value in Health Care (CIVHC), administrator of the Colorado All Payer Claims Database (CO APCD).⁵

Payers began reporting in the fall of 2019 and submitted information for drug rebates and total spending for 2016, 2017 and 2018. Drug rebate files were submitted based on data from the payer's PBM, which included drug rebates and other compensations paid by manufacturers to the PBM. Commercial payers reported receiving 97% of the rebate dollars back from the PBMs.

The quality of the results summarized in this report are entirely dependent on the completeness and validity of the payer-submitted data. Each payer used their own definition of specialty, brand and generic drugs when reporting rebates and spending at the drug category level.

In order to validate the information, CIVHC evaluated each submission and compared reported member months and total prescription drug spending in the drug rebate files to the claim information submitted by the payers on a monthly basis to the CO APCD. Discrepancies were communicated to payers, which in many cases resulted in payers revising their submission.

This report references "all payers" which refers to all Colorado payers that reported rebates to the CO APCD. Two commercial payers did not submit a rebate file and are not included in the analysis. These two payers represent a relatively small percentage of insured lives in the state and the impact of the missing data is unlikely to have a material impact on the prescription drug spending and rebate amounts reported. Details regarding data submission methods and caveats are presented in the Appendix.

Colorado Prescription Drug Rebate Findings

Estimating prescription drug spending minus rebates provides information about the impact rebates may have on the amount that payers ultimately spend on prescription drugs. This is especially important for evaluating the potential impact of rebates for Colorado's commercial health plans, which unlike rebates for Medicaid and Medicare, are not publicly reported.

According to the drug rebate submissions, \$1.12 billion in rebates was received across all payers in Colorado in 2018. From 2016 to 2018, total prescription drug spending without rebates grew from \$3.4 billion to \$3.9 billion, a 15% increase. Prescription drug rebates grew 32% during this period, from \$850 million in 2016 to \$1.12 billion in 2018. Rebates represented 29% of total prescription drug spending across all payers in 2018.

Total prescription drug spending net of rebates grew nearly 9% from 2016 to 2018, as opposed to 15% without accounting for rebates. These findings indicate that rebates provided by manufacturers significantly reduce the overall growth of prescription drug spending for Colorado payers in the short-term.



*Note: Multiple graphics in this report were adapted based on the CHIA Annual Report of Performance of the Massachusetts Health Care System.⁴ Total prescription drug spending and spending net of rebates do not equal the sum of these figures across the four payer types because some spending could not be assigned to a payer type. Percentages represent percent change year over year.

In 2018, across all payers, prescription drug spending was highest for brand drugs (\$1.6 billion), followed by specialty drugs (\$1.5 billion) and generics (\$759 million). Rebates as a percentage of drug spending by category type were highest for brand name drugs (42%), then specialty (27%) and generic drugs (4%).



Prescription Drug Spending and Rebates for Generic, Brand and Specialty Drugs, All Payers, 2018 Because the legal and market dynamics involved in negotiating rebates with drug manufacturers differs between payer types, the following pages summarize rebates separately for commercial payers and public payers – Medicaid, Medicare FFS and Medicare Advantage. Results show that prescription drug rebates as a percentage of total prescription drug spending varied by payer type and were similar to rebate percentages reported across the U.S.^{2,4}



PHARMACY SPENDING AND ESTIMATED DRUG REBATE PROPORTION BY PAYER, 2018

Drug Category Spending

Prescription drugs can be classified as generic, brand name, or specialty. Brand name drugs are protected by patent law that can extend for up to 20 years and are generally more expensive than generic drugs. Generics are manufactured with the same ingredients as brand name drugs, but can only be produced and sold after the patent expires. Generic drugs are the same dosage, safety, and strength, but are almost always less expensive than brand name drugs, as they bring competition to the market.

Specialty drugs are a subcategory of brand name drugs. There is no standard definition or list of specialty drugs, but they usually treat complex and rare conditions and diseases and require special handling, storage, administration, and patient monitoring. Specialty drugs are most notably different than generic and non-specialty brand name drugs in that they are very expensive and often the only drug of their kind to treat certain conditions.

Using pharmacy claims data submitted to the CO APCD, and the list of specialty drugs used by Magellan Rx Management[™], CIVHC estimates that across all payers and prior to rebates, specialty drugs represent only 1-2% of drug claims volume, but account for 37-49% of total drug spending.

Specialty Drug Percent Total Pharmacy Volume and Spend, 2018									
Payer Type	% Total Prescription	% Total Prescription							
Fayer Type	Volume	Spend							
Commercial	2%	49%							
Medicaid	1%	44%							
Medicare Advantage	۱%	33%							
Medicare FFS	1%	37%							

*Note: Volume of claims by drug category was not included in the drug rebate file submissions in 2019. As a result, percent total volume and percent total spending in the table above was calculated based on monthly pharmacy claims submitted by payers to the CO APCD. Assignment of specialty drugs used Magellan Rx Management[™] guidelines. Specialty drug spending and rebate information throughout the rest of the report was calculated using the drug rebate file submissions.

Prescription Drug Rebate Findings – Commercial Payers

For commercial payers, total prescription drug spending grew from \$1.05 billion in 2016 to \$1.11 billion in 2018, a 5.8% increase. In contrast, growth in spending net of rebates was negligible (0.10%) between 2016 and 2018.



Growth in Prescription Drug Rebate Amounts and Percentages for Commercial Payers, 2016-2018



Prescription drug rebates for commercial payers went up from \$119 million in 2016 to \$179 million in 2018 – an increase over three years of \$60 million (50%). Rebates as a percentage of prescription drug spending also increased substantially, from 11% to 16% between 2016 and 2018.

Variation in Rebates by Commercial Payer

For commercial plans, prescription drug rebates as a percentage of total prescription drug spending varied dramatically by individual commercial payer for each reported year. The lowest percentage was less than 2% and the highest was approximately 27%.



When isolating the analysis to only the six largest commercial payers in Colorado, the average percentage rebate is similar to the "all payer" results. This is because the large commercial payers account for the majority of drug rebates and prescription drug spending.

Spending and Rebates for Specialty, Brand and Generic Drugs

For commercial payers, in 2018, both total drug spending and percent rebates was the highest for brand name drugs (\$465M and 22%), although specialty drugs also had significant spending and percent rebates (\$400M and 18%).





Trends in generic, brand name, and specialty drug spending, illustrated in the table below, show that the increases in total rebate dollars and rebates as a percent of total spending for brand and specialty drugs align very closely with total spending increases from 2016-2018.

Commercial Payer Pharmacy Total Spend and Rebates by Drug Category, 2016-2018										
Drug		2016			2017			2018		
Category	Total Spend	Rebate	% Rebate	Total Spend	Rebate	% Rebate	Total Spend	Rebate	% Rebate	
Generic	\$283M	\$5.4M	2%	\$271M	\$6.2M	2%	\$244M	\$6.2M	3%	
Brand	\$425M	\$70M	17%	\$437M	\$81M	19%	\$465M	\$100M	22%	
Specialty	\$340M	\$43M	13%	\$362M	\$55M	15%	\$400M	\$72M	18%	

Rebates for brand and specialty drugs grew \$59 million from 2016 to 2018, and total spending increased \$100 million. This finding suggests that while rebates help offset the costs of these higher price drugs, they may incentivize increased use, raising overall health care costs over time. In contrast, total spending without rebates for generic drugs fell from 2016-2018 and rebates for these generic drugs were minimal during the evaluation period compared to brand and specialty drugs.

Prescription Drug Rebate Findings – Medicaid and Medicare

Medicaid pharmacy spending increased 9% from 2016 to 2018 (\$1.08 billion to \$1.19 billion). Compared to Medicare and commercial payers, the estimated impact of rebates on spending growth was largest for Medicaid, with total spending actually decreasing when considering rebates.



Growth in Prescription Drug Rebate Amounts and Percentages for Medicaid, 2016-2018



As mentioned above, Medicaid drug rebates are the highest among the four payer types due in large part to federal pricing policy such as the Medicaid Drug Rebate Program, and supplemental rebates negotiated based on formulary status.⁶ Prescription drug rebates increased for Medicaid over the three years by \$120 million (22%), and rebates as a percentage of prescription drug spending increased from 50% in 2017 to 55% in 2018.

The growth in prescription drug spending from 2016 to 2018 for Medicare FFS (31%) and Medicare Advantage (20%) was larger than that of the other payers. However, the impact of rebates on reducing total spending growth was smallest for the Medicare plans. Growth in spending when considering rebates was only slightly lower than growth in total spending without rebates for both Medicare FFS and Medicare Advantage.



Estimated Impact of Rebates on Pharmacy Spending and Growth for Medicare FFS





Prescription drug rebates for Medicare FFS increased over the three-year period by \$60 million (59%) and rebates as a percentage of total drug spending showed an increase from 15% in 2016 to 18% in 2018. Rebates for Medicare Advantage increased \$31 million (34%) and rebates as a percentage of spending increased from 15% in 2016 to 17% in 2018.



Growth in Prescription Drug Rebate Amounts and Percentages for Medicare Advantage, 2016-2018



Spending and Rebates for Specialty, Brand and Generic Drugs

For Medicaid, prescription drug spending was highest for brand drugs in 2016, and highest for specialty drugs in 2017 and 2018. Rebates as a percentage of total spend were highest for brand name drugs across all three years with 75% of total brand drug spending reflecting rebates in 2018.



From 2016 to 2018, spending for brand name drugs grew from \$433 million to \$468 million, and rebate percentages remained relatively stable (78% in 2016 and 74% in 2018). Both spending as well as rebates for specialty drugs grew dramatically just as they did with commercial payers. Spending for generic drugs fell and rebate percentages for these drugs remained very small. As with commercial payers, increases in the amount paid in rebates correlated with increases in spending for both specialty and brand name drugs, and growth in spending exceeded the growth in rebates for these drugs by \$56 million.

For Medicare FFS and Medicare Advantage, both prescription drug spending and rebate percentages were highest for brand name drugs. Rebate percentages for generic drugs were negligible (.0001% in 2018).





Trends in Prescription Spending and Rebates for Generic,

Prescription Drug Spending and Rebates for Generic, Brand and Specialty Drugs for Medicare Advantage, 2018

From 2016 to 2018, both total spending and rebate percentages for brand name drugs for Medicare FFS plans increased. Spending for specialty drugs grew dramatically for Medicare Advantage and Medicare FFS, which is consistent with the findings for commercial payers and Medicaid. However, unlike Medicaid and commercial, rebate percentages for specialty drugs were low and did not change. Spending for generic drugs was relatively small and rebates were mostly unchanged.

Similar to commercial and Medicaid, the increase in amount paid in rebates correlates with the increase in spending for both specialty and brand name drugs. The growth in spending exceeded the growth in rebates for these drugs by \$123 million and \$120 million for Medicare FFS and Medicare Advantage, respectively.

Conclusions and Next Steps

This analysis demonstrates that rebates complicate an already complex process of tracking the total cost of prescription drugs across payers. Results show that prescription drug rebates are substantial and reduce both the size and growth of overall drug spending by payers in the short-term. However, health insurance companies and PBMs receive significant rebates and concessions for specialty drugs and brand name drugs which may be incentivizing their increased use and contributing to rising pharmacy costs long-term.

It is important to note that some specialty drugs are the only drug available for certain conditions. This puts patients, families and payers in a situation where they have no other option but to pay exorbitant prices for these drugs. However, specialty drugs and brand drugs must be carefully evaluated and when available, less expensive and equally effective alternative drugs and treatments should be considered to increase affordability and reduce overall spending.

Medicaid and Medicare use rebates to reduce total spending of tax payer dollars, but it is unclear how commercial payers use rebates and whether the dollars are passed through to employers and consumers. If not, employers and those on the individual market are paying significantly for increasingly expensive drugs, while PBMs and health plans are benefitting from rebate dollars.

Without more transparency about how drug rebates are being used by PBMs and health plans as well as information about how they influence the use and prices of expensive drugs, it is impossible to evaluate the full impact of rebates. Critical questions include:

- Do commercial health plans pass savings on to employers and, and if so how (for example, via premium decreases or more generous drug benefits)?
- Are rebates driving up utilization of specialty and brand name drugs?
- Do rebates drive up the price of specialty and brand name drugs so that manufacturers can recover the costs of the rebates?
- Are rebate costs initially factored into drug prices and manufacturer profits, creating a false narrative of "savings"?

Price transparency is also needed to understand the impact of rebates on the price of individual drugs, particularly higher cost specialty and brand name drugs. These drugs showed increases in both the total rebate amount as well as total spend, and the growth in spending when considering rebates was also substantial. Rebate and price transparency at the individual drug level can help determine whether manufacturers increased prices for certain drugs in an effort to offset the financial impact of rebates.

What Can Be Done

A number of opportunities exist across stakeholder groups to reduce drug spend and to ensure that rebates are helping consumers and employers save money on prescription drug costs, including:

- **Employers:** Request rebate dollars to be provided back to the employer to offset increases in prescription drug spending, and design benefit plans to limit the use of specialty drugs when alternatives exist.
- **Policy Makers:** Seek greater transparency around drug pricing and how rebates and other compensations are being used.
- **Researchers:** Study the pros and cons of drug rebates and their impact on utilization and prices of specialty and brand name drugs, and how this affects spending and clinical outcomes.
- **Consumers:** Ask health providers about alternative drug options, including generics, that may provide the same results at a lower cost.

Appendix: Prescription Drug Rebate Data Collection and Caveats

Data Submission Methodology

Beginning in September 2019, health in insurance payers in Colorado were required to submit prescription drug rebate information to CIVHC on an annual basis.⁵ The first submissions included rebate data for three years: 2016, 2017 and 2018.

CIVHC modeled data submission requirements and instructions after a program administered by the Center for Health Information and Analysis (CHIA) in Massachusetts⁴, and communicated these requirements to payers through calls, individual payer meetings, e-mails and the <u>Prescription Drug</u> <u>Rebate Data Submission Manual</u>.

Payer-submitted files of prescription drug rebate data included the following information (refer to the manual above for details):

- Insurance product type (e.g., used to classify members and prescription drug spending into payer type: Commercial, Medicaid, Medicare Advantage and Medicare FFS)
- Member count and member months with prescription drug coverage
- **Prescription drug spending excluding rebates.** Spending include all incurred claim allowed payment amounts to pharmacies for prescription drugs, biological products, or vaccines as defined by the payer's prescription drug benefit, including member cost-sharing.
 - o **Total**
 - By type of drug specialty, non-specialty brand and non-specialty generic
- **Prescription drug rebate amounts.** Includes prescription drug rebates, compensation, remuneration, and any other price concessions provided by pharmaceutical manufacturers and conferred to the payer regardless of whether paid as regular aggregate amounts, on a claim-by-claim basis at the point-of-sale as part of retrospective financial reconciliations, or by any other method.

Compensation includes discounts, fees, educational grants for the provision of utilization data to manufacturers for marketing and related purposes, market share incentives, commissions and manufacturer administrative fees.

This amount includes the total amount of prescription drug rebates and compensation provided by pharmaceutical manufacturers, regardless of whether they are conferred to the payer directly by the manufacturer, a PBM, or any other entity.

- o **Total**
- By type of drug specialty, non-specialty brand and non-specialty generic

With the submitted drug rebate files, payers were required to return an attestation, signed by a chief executive, that the results were "as complete and as accurate as possible and submitted according to the guidelines detailed in the Submission Manuals."

Drug rebate files submitted were based on data from the payer's pharmacy benefit manager (PBM), which included drug rebates and other compensations paid by manufacturers to the PBM. Commercial payers reported receiving 97% of the total rebate dollar amounts from their PBMs.

Data Submission Caveats

CIVHC attempted to validate payer-submitted drug rebate files by comparing member, member month and total prescription drug spending with those derived from CO APCD prescription drug data. Discrepancies were communicated to payers, which in many cases resulted in payers revising their submission. Submissions from two of thirty payers (6.7%) were not received. However, total prescription drug spending for these payers represent a small portion of expenditures for all commercial payers (approximately 1%). The impact of these missed submissions does not have a material effect on reported prescription drug spending and rebate amounts.

References

- Health Care Cost and Utilization Report, Health Care Cost Institute. <u>https://healthcostinstitute.org/images/pdfs/HCCI_2018_Health_Care_Cost_and_Utilization_Report.</u> pdf. Accessed January 2021
- Dieguez G, Alston M and Tomicki S. A primer on prescription drug rebates: insights into why rebates are a target for reducing prices. Milliman; 2018. <u>http://www.milliman.com/uploadedFiles/insight/2018/Prescription-drug-rebates.pdf</u> Accessed May 16, 2019.
- Cole A, Towse A, Segal CS, Henshall C and Pearson SD. Value, access, and incentives for innovation: policy perspectives on alternative models for pharmaceutical rebates. Institute for Clinical and Economic Review; March 2019. <u>https://icer-review.org/wp-content/uploads/2019/03/March-2019-ICER-OHE-White-Paper-on-Rebates-Final.pdf</u> Accessed December 20, 2019.
- 4. Center for Health Information and Analysis. Performance of the Massachusetts Health Care System Annual Report 2018. <u>https://www.mass.gov/doc/chia-annual-report-september-2018/download</u> Accessed March 6, 2019.
- In accordance with the Code of Colorado Regulation 10 CCR 2505-5, <u>Data Submission Guide</u> (<u>DSG</u>) v11 (October 2018) was the first to require payers to submit drug rebate data. Updates to the drug rebate requirements were executed in an April 2020 rule change hearing and available in <u>DSG v11.5</u>.
- 6. Prescription Drugs, retrieved from Medicaid.gov. <u>https://www.medicaid.gov/medicaid/prescription-drugs/index.html/</u>. Accessed January 7, 2021.
- Reynolds I and Chester A. The prescription drug landscape, explored. The Pew Charitable Trusts; 2019. <u>https://www.pewtrusts.org/-/media/assets/2019/03/the_prescription_drug_landscape-explored.pdf</u>