

Commercial Prescription Drug Use & Spending

2022-2024

July 2026

Technical Appendix



Prescription Drug Use and Spending, 2022-2024

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Introduction

CHIA's *Prescription Drug Use & Spending 2022-2024* report provides information on prescription drug expenditures incurred during calendar years 2022 through 2024 for Massachusetts residents covered by ten fully insured, private commercial plans. In 2024, about 39% of Massachusetts residents with private commercial insurance were covered by a fully insured plan.¹ The expenditure amounts presented in this publication reflect payments made by pharmacy benefit managers (PBMs), health plans, and patients to pharmacies, and do not reflect manufacturer rebates which have an impact on net PBM and health plan spending. These payment amounts do not represent manufacturer list prices or net revenue for manufacturers and other entities along the prescription drug supply chain.

Prescription data was sourced from the Massachusetts All Payer Claims Database (MA APCD), specifically the Pharmacy Claims (PC) and Member Eligibility (ME) files.

Data Source Notes

Pharmacy claims data was sourced from the MA APCD for fully insured private commercial lines of business for the following ten payers: Blue Cross Blue Shield of Massachusetts, Elevance Health (Formerly Anthem), Fallon Health, Health New England, Harvard Pilgrim Health Care, Mass General Brigham Health Plan, Tufts Health Plan, and Tufts Health Public Plans, United Healthcare and WellSense. Commercial plan types include Health Maintenance Organization (HMO), Preferred Provider Organization (PPO), Point of Service (POS), and Exclusive Provider Organization (EPO) plans.

Member Eligibility data was limited to unique Massachusetts residents with primary, medical insurance. Pharmacy Claims data was limited to final-versioned claims only.

The dataset used does not reflect the impact of prescription drug rebates which may have a significant impact on health plan spending.

This report does not include spending for drugs or administration of drugs covered under a medical benefit (i.e., drugs administered by providers and paid for under medical benefit rather than a pharmacy benefit).

The data presented in this report may include data abnormalities as found in the claims data submitted by payers. For example, in general, the COVID-19 vaccines had no patient out of pocket costs during the report time period. However, claims from one payer for two specific COVID-19 vaccines (MODERNA COVID-19 VACCINE 2023-2024 AGES 6MO, PFIZER-

¹See CHIA's Enrollment Trends [report](#), which defines coverage as unique, Massachusetts residents with primary, medical membership within the 12 largest commercial payers, as well as MassHealth (Medicaid) and Medicare.

BIONTECH COVID-19 VACCINE 2023-2024 AGE5<12) showed a significant negative patient out of pocket cost in 2023. When aggregated across payers, the total patient out of pocket per prescription continued to reflect this negative cost.

Measures and Calculations

Allowed Amount: A payer’s contracted maximum amount that it will allow to be paid for a claim, also referred to as “Total Expenditures”. It includes a portion that the insurer will pay plus a portion designated as the insured’s out-of- pocket liability (copay, coinsurance, and deductible). For this report, CHIA calculated Allowed Amounts using the following MA APCD Pharmacy Claims elements: Paid Amount (PC036) + Deductible Amount (PC042) + Copay Amount (PC040) + Coinsurance Amount (PC041).

Average Cost per Prescription: A calculated measure that reflects the sum of total expenditures (Allowed Amount) divided by the sum of the number of prescriptions for a given therapeutic class or drug.

$$\frac{\sum(\text{Allowed Amount})}{\sum(\text{Number of Prescriptions})}$$

Day’s Supply: Day’s Supply (PC034) represents the number of days the prescription will last if taken as prescribed (e.g., a 30-day supply).

Number of Prescriptions: The sum of the number of pharmacy claim lines.

Patient Out of Pocket: The patient’s liability toward the total Allowed Amount. For this report, CHIA calculated this amount using the following MA APCD Pharmacy Claims elements: Deductible Amount (PC042) + Copay Amount (PC040) + Coinsurance Amount (PC041).

Payer Paid: The amount an insurance plan paid for a claim.

Per Member per Month (PMPM): A calculated measure that reflects the sum of a financial field (e.g., Allowed Amount, Payer Paid, etc.) by the total number of member months during a 12-month calendar period.

Therapeutic Classes and Drug Names

To categorize drugs for comparative purposes, CHIA used IBM Micromedex’s ® Red Book® database, which groups drugs based on National Drug Codes (NDCs) into therapeutic classes. Specifically, CHIA used Red Book’s Generic Therapeutic Class (GTC) grouping, which classifies drugs according to their most common intended use. The previous Prescription Drug Use & Spending report published in June 2024 was based on an earlier version of the Red

Book's Generic Therapeutic Class groupings. Therefore, the therapeutic class groupings are different between reports and should not be compared or combined for trending purposes.

Based on Red Book's classifications, different NDCs may share the same drug name but fall into different therapeutic classes. Drugs listed under "Unknown" or "Invalid" include drugs that have not been classified by Red Book or could not be classified by Red Book due to missing information. These drugs are excluded from the list of top 20 drugs by total expenditures and analysis by therapeutic class but included elsewhere in the report and in the accompanying dataset.

Drugs whose names include years and therefore change annually (primarily flu vaccinations) were combined under a single name in this report to trend their data over time (ex. 'Fluzone 2024-2025 High dose Formula' becomes 'Fluzone High dose Formula') During the report time period, several COVID-19 vaccinations received full FDA approval and began being sold under new names. Those vaccines were also combined under one name in this report.

Ozempic includes the drug dosage in the name. For this report, all dosages of Ozempic were combined. Drug name groupings are not included in the accompanying dataset. For full list of drug name groupings, see Appendix A.

CHIA also used the Generic Drug Indicator (PC029) to determine generic versus brand name status. This field is payer submitted, and there may be instances where a drug falls under both a generic and brand designation. For example, albuterol sulfate HFA may be distributed as a brand or generic depending on multiple factors, including, but not limited to, payer level contracts with PBMs and drug manufacturers, formulary placement and structure, and treatment of authorized generics.

Drugs with fewer than 11 prescriptions were excluded from the accompanying dataset to comply with CHIA's data privacy policies.

Special Topics

GLP-1s: Glucagon-like peptide 1s (GLP-1s) were identified using Micromedex's ® Red Book® variables Therapeutic_class_level_3_ds = Glucagon-Like Peptide-1 (GLP-1) Receptor Agonists and Therapeutic_class_ds = Tirzepatide. Alternatively, GLP-1s can also be identified using the Drug Name and/or name of the active ingredient (in the case of generics).

Drug Name	Active Ingredient
Adylyxin	Lixisenatide
Bydureon, Byetta	Exenatide
Mounjaro	Tirzepatide
Ozempic	Semaglutide

Drug Name	Active Ingredient
Rybelsus	Semaglutide
Saxenda	Liraglutide
Trulicity	Dulaglutide
Victoza	Liraglutide
Wegovy	Semaglutide
Zepbound	Tirzepatide

Insulins: Insulins were identified using Micromedex's ® Red Book® variable Therapeutic_class_level_3_ds = Insulins.

Appendix A: Drug Name Groupings

Flu Vaccines

Drug Name	Grouped Drug Name
AFLURIA QUADRIVALENT 2021-2022 FORMULA	AFLURIA QUADRIVALENT FORMULA
AFLURIA QUADRIVALENT 2022-2023 FORMULA	AFLURIA QUADRIVALENT FORMULA
AFLURIA QUADRIVALENT 2023-2024 FORMULA	AFLURIA QUADRIVALENT FORMULA
AFLURIA 2024-2025 FORMULA	AFLURIA QUADRIVALENT FORMULA
AFLURIA QUADRIVALENT 2021-2022 FORMULA PF	AFLURIA QUADRIVALENT FORMULA PF
AFLURIA QUADRIVALENT 2022-2023 FORMULA PF	AFLURIA QUADRIVALENT FORMULA PF
AFLURIA QUADRIVALENT 2023-2024 FORMULA PF	AFLURIA QUADRIVALENT FORMULA PF
AFLURIA 2024-2025 FORMULA PFS	AFLURIA QUADRIVALENT FORMULA PF
FLUARIX QUADRIVALENT 2021-2022 FORMULA	FLUARIX QUADRIVALENT FORMULA
FLUARIX QUADRIVALENT 2022-2023 FORMULA	FLUARIX QUADRIVALENT FORMULA
FLUARIX QUADRIVALENT 2023-2024 FORMULA	FLUARIX QUADRIVALENT FORMULA
FLUARIX 2024-2025 FORMULA	FLUARIX QUADRIVALENT FORMULA

Drug Name	Grouped Drug Name
FLUBLOK QUADRIVALENT 2021-2022 FORMULA	FLUBLOK QUADRIVALENT FORMULA
FLUBLOK QUADRIVALENT 2022-2023 FORMULA	FLUBLOK QUADRIVALENT FORMULA
FLUBLOK QUADRIVALENT 2023-2024 FORMULA	FLUBLOK QUADRIVALENT FORMULA
FLUBLOK 2024-2025 FORMULA	FLUBLOK QUADRIVALENT FORMULA
FLUCELVAX QUADRIVALENT 2021-2022 FORMULA MDV	FLUCELVAX QUADRIVALENT FORMULA MDV
FLUCELVAX QUADRIVALENT 2022-2023 FORMULA MDV	FLUCELVAX QUADRIVALENT FORMULA MDV
FLUCELVAX QUADRIVALENT 2023-2024 FORMULA MDV	FLUCELVAX QUADRIVALENT FORMULA MDV
FLUCELVAX 2024-2025 FORMULA	FLUCELVAX QUADRIVALENT FORMULA MDV
FLUCELVAX QUADRIVALENT 2021-2022 FORMULA PF	FLUCELVAX QUADRIVALENT FORMULA PF
FLUCELVAX QUADRIVALENT 2022-2023 FORMULA PF	FLUCELVAX QUADRIVALENT FORMULA PF
FLUCELVAX QUADRIVALENT 2023-2024 FORMULA PF	FLUCELVAX QUADRIVALENT FORMULA PF
FLUCELVAX 2024-2025 FORMULA PFS	FLUCELVAX QUADRIVALENT FORMULA PF
FLULAVAL QUADRIVALENT 2021-2022 FORMULA	FLULAVAL QUADRIVALENT FORMULA
FLULAVAL QUADRIVALENT 2022-2023 FORMULA	FLULAVAL QUADRIVALENT FORMULA
FLULAVAL QUADRIVALENT 2023-2024 FORMULA	FLULAVAL QUADRIVALENT FORMULA
FLULAVAL 2024-2025 FORMULA	FLULAVAL QUADRIVALENT FORMULA
FLUZONE HIGH-DOSE QUADRIVALENT 2021-2022 FORMULA	FLUZONE HIGH-DOSE QUADRIVALENT FORMULA
FLUZONE HIGH-DOSE QUADRIVALENT 2022-2023 FORMULA	FLUZONE HIGH-DOSE QUADRIVALENT FORMULA
FLUZONE HIGH-DOSE QUADRIVALENT 2023-2024 FORMULA	FLUZONE HIGH-DOSE QUADRIVALENT FORMULA
FLUZONE HIGH-DOSE 2024-2025 FORMULA	FLUZONE HIGH-DOSE QUADRIVALENT FORMULA

Drug Name	Grouped Drug Name
FLUZONE QUADRIVALENT 2021-2022 FORMULA	FLUZONE QUADRIVALENT FORMULA
FLUZONE QUADRIVALENT 2022-2023 FORMULA	FLUZONE QUADRIVALENT FORMULA
FLUZONE QUADRIVALENT 2023-2024 FORMULA	FLUZONE QUADRIVALENT FORMULA
FLUZONE 2024-2025 FORMULA MDV	FLUZONE QUADRIVALENT FORMULA
FLUZONE 2024-2025 FORMULA PFS	FLUZONE QUADRIVALENT FORMULA

COVID-19 Vaccines

Drug Name	Grouped Drug Name
MODERNA COVID-19 VACCINE 2023-2024 AGES 6MO<12YRS	MODERNA COVID-19 VACCINE
MODERNA COVID-19 VACCINE 24-25 6MO THROUGH 11YRS	MODERNA COVID-19 VACCINE
MODERNA COVID-19 VACCINE BIVALENT BOOSTER 6MO<6YRS	MODERNA COVID-19 VACCINE
MODERNA COVID-19 VACCINE BOOSTER DOSE	MODERNA COVID-19 VACCINE
MODERNA COVID-19 VACCINE, BIVALENT AGE 6YR & OLDER	MODERNA COVID-19 VACCINE
MODERNA COVID-19 VACCINE-AGES 6MO THROUGH 5YRS	MODERNA COVID-19 VACCINE
SPIKEVAX	MODERNA COVID-19 VACCINE
SPIKEVAX 2023-2024 FORMULA	MODERNA COVID-19 VACCINE
SPIKEVAX 2024-2025 FORMULA AGES 12 AND UP	MODERNA COVID-19 VACCINE
PFIZER-BIONTECH COVID-19 BIVALENT VACC 12YR & OLDER	PFIZER COVID-19 VACCINE
PFIZER-BIONTECH COVID-19 VACCINE	PFIZER COVID-19 VACCINE
PFIZER-BIONTECH COVID-19 VACCINE 2023-2024 6MO<5YR	PFIZER COVID-19 VACCINE
PFIZER-BIONTECH COVID-19 VACCINE 2023-2024 AGE5<12	PFIZER COVID-19 VACCINE
PFIZER-BIONTECH COVID-19 VACCINE 2024-2025 6MO<5YR	PFIZER COVID-19 VACCINE

Drug Name	Grouped Drug Name
PFIZER-BIONTECH COVID-19 VACCINE 2024-2025 AGE5<12	PFIZER COVID-19 VACCINE
PFIZER-BIONTECH COVID-19 VACCINE 6MOS THROUGH 4YRS	PFIZER COVID-19 VACCINE
PFIZER-BIONTECH COVID-19 VACCINE AGE 12YR & OLDER	PFIZER COVID-19 VACCINE
PFIZER-BIONTECH COVID-19 VACCINE AGE 5YR TO <12YR	PFIZER COVID-19 VACCINE
PFIZER-BIONTECH COVID-19 VACCINE BIVALENT 5TO<12YR	PFIZER COVID-19 VACCINE
PFIZER-BIONTECH COVID-19 VACCINE BIVALENT 6MO<5YR	PFIZER COVID-19 VACCINE
COMIRNATY	PFIZER COVID-19 VACCINE
COMIRNATY 2023-2024 AGE 12 AND OLDER	PFIZER COVID-19 VACCINE
COMIRNATY PFS 2024-2025 AGE 12 AND OLDER	PFIZER COVID-19 VACCINE

Ozempic

Drug Name	Grouped Drug Name
OZEMPIC 0.25 MG OR 0.5 MG DOSES	OZEMPIC
OZEMPIC 1 MG DOSES	OZEMPIC
OZEMPIC 2 MG DOSES	OZEMPIC