Pharmacy Reimbursement: Cost of Dispensing Survey Results

Commonwealth of Massachusetts

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# Executive Summary

The Commonwealth of Massachusetts (Commonwealth) engaged Mercer Government Human Services Consulting (Mercer), part of Mercer Health & Benefits LLC, to develop and conduct a Pharmacy Cost of Dispensing (COD) Survey to study the cost to pharmacies of dispensing prescriptions to MassHealth recipients. MassHealth previously conducted a Pharmacy COD Survey of all pharmacy providers participating in MassHealth, resulting in a report released in 2017. The 2023 survey provides MassHealth with updated pharmacy cost information to inform future reimbursement policy decisions, and to ensure MassHealth payment policy for the fee‑for‑service (FFS) population remains compliant with the Centers for Medicare & Medicaid Services (CMS) Federal Covered Outpatient Drugs final rule (CMS‑2345‑FC). In the final rule, effective April 1, 2017 (42 CFR 447), CMS requires FFS Medicaid pharmacy programs to adopt Actual Acquisition Cost (AAC)‑based ingredient cost reimbursement, which is more reflective of pharmacies’ actual purchase prices paid, plus a professional dispensing fee (PDF).

## Cost of Dispensing Survey

Mercer surveyed 1,187 outpatient pharmacy providers enrolled with MassHealth using the survey shown in Appendix B. Mercer analyzed the response data and performed a statistical analysis of the costs associated with professional dispensing of prescriptions, defined by 42 CFR 447.502, which states, “Professional dispensing fee means the fee which:

* + - * 1. Is incurred at the point of sale or service and pays for costs in excess of the ingredient cost of a covered outpatient drug each time a covered outpatient drug is dispensed.
        2. Includes only pharmacy costs associated with ensuring that possession of the appropriate covered outpatient drug is transferred to a Medicaid beneficiary. Pharmacy costs include, but are not limited to, reasonable costs associated with a pharmacist’s time in checking the computer for information about an individual’s coverage, performing drug utilization review and preferred drug list review activities, measurement or mixing of the covered outpatient drug, filling the container, beneficiary counseling, physically providing the completed prescription to the Medicaid beneficiary, delivery, special packaging, and overhead associated with maintaining the facility and equipment necessary to operate the pharmacy.”

To group similar pharmacy operations, Mercer classified the survey responses by pharmacy type based on survey responses:

* + - * 1. **340B Covered Entity** — A provider participating in the 340B discount program as a covered entity. Contracted pharmacies participating are not included in this pharmacy type for the COD survey.
        2. **Long-Term Care (LTC) Pharmacy** — A provider that dispenses medicinal preparations delivered to Medicaid beneficiaries residing in an intermediate or skilled nursing facility, including facilities for the developmentally disabled, hospices, assisted living facilities, group homes, and other forms of congregate living arrangement.
        3. **Specialty Pharmacy** — Specialty pharmacies generally have low‑volume and high‑cost medicinal preparations for Medicaid beneficiaries who are undergoing intensive therapies for illnesses that are generally chronic, complex, and potentially life threatening.
        4. **Independent Pharmacy** — A provider whose ownership group(s) owns fewer than four locations in which pharmacists store, prepare, and dispense medicinal preparations and/or prescriptions for a local Medicaid beneficiary population in accordance with federal and state law; counsel Medicaid beneficiaries and caregivers (sometimes independent of the dispensing process); and provide other professional services associated with pharmaceutical care, such as health screenings, consultative services with other healthcare providers, collaborative practice, disease state management, and education classes.
        5. **Chain** — A provider whose ownership group(s) owns four or more locations in which pharmacists store, prepare and dispense medicinal preparations and/or prescriptions for a local Medicaid beneficiary population in accordance with federal and state law; counsel Medicaid beneficiaries and caregivers (sometimes independent of the dispensing process); and provide other professional services associated with pharmaceutical care, such as health screenings, consultative services with other healthcare providers, collaborative practice, disease state management, and education classes.
        6. **Community Health Center (CHC) —** CHCs provide primary, preventive, and dental care, as well as mental health, substance use disorder, and other community‑based services to anyone in need, regardless of their insurance status or ability to pay.

### Results and Recommendations

Statistical analysis revealed significant differences in the average cost of dispensing between Chain, Independent, and Specialty pharmacy types. Due to a relatively low number of usable responses from Specialty, 340B, CHC, and LTC pharmacies, the focus of the analysis and future program decisions are aimed at the Chain and Independent pharmacy statistics.

MassHealth’s current reimbursement structure uses a single dispensing fee methodology for all pharmacy types based on the 2017 COD survey. Many Medicaid programs have updated their methodology to use tiered dispensing fees in an attempt to better reflect the difference in the cost to dispense between different pharmacies. Tier structures can vary from program to program, and CMS has historically allowed states latitude to structure their own program’s reimbursement, as long as the structure adheres to statistically valid calculations.

A common tiering structure across several Medicaid programs uses differential fees based on pharmacy type. Through conversations with the Commonwealth regarding program goals, coupled with a detailed analysis of survey responses, Mercer recommends a three‑tiered dispensing fee structure. The three tiers are structured per the bullets below:

* + - * 1. Chain = $8.51
        2. Independent and CHC (non-contract) pharmacies = $10.21
        3. Independent and CHC (non-contract) pharmacies providing enhanced services = $14.06

In this three‑tier structure, most pharmacies would fall into the standard Chain and Independent tiers of $8.51 and $10.21, respectively. The third tier of $14.06 is reserved for Independent and CHC (non‑contract) pharmacies providing enhanced services, as determined by the Commonwealth. Each of the three tiers may include pharmacies from a mix of the types defined in this report, and these three tiers are recommended in lieu of individual tiers for other pharmacy types, such as LTC, 340B, and Specialty. The majority of Medicaid programs do not implement a standalone dispensing fee for Specialty pharmacies. This is due to several factors, including complex administrative issues, the absence of clear industry‑wide definitions for specialty drugs, and the dispensing fee’s minimal proportion of a specialty claim’s overall cost. Additionally, LTC and 340B pharmacies show little to no statistically significant evidence to justify the establishment of administratively complex standalone dispensing fees.

Detailed results of additional pharmacy attribute analysis are included in the report.

### Limitations of Analysis

In preparing this document, Mercer has used and relied upon data supplied by MassHealth and the pharmacies participating in the MassHealth program. MassHealth and participating pharmacies are responsible for the validity and completeness of this supplied data and information. We have reviewed the data and information for consistency and reasonableness. In our opinion, this data and information are appropriate for the intended purposes. If the data and information are incomplete or inaccurate, the values shown in this analysis may need to be revised accordingly. All estimates are based upon the information available at a point in time and are subject to unforeseen and random events. Therefore, any projection must be interpreted as having a likely range of variability from the estimate. Any estimate or projection may not be used or relied upon by any other party or for any other purpose than for which it was issued by Mercer. Mercer is not responsible for the consequences of any unauthorized use.

# Cost of Dispensing Study

## Introduction

On February 1, 2016, CMS published the Federal Covered Outpatient Drugs final rule (CMS‑2345‑FC). The federal regulation addresses the rise in prescription drug costs by ensuring Medicaid programs reform payment methodologies for prescription drugs. Under the final rule, states must reimburse covered outpatient drugs at AAC, plus a PDF for drugs dispensed in outpatient pharmacies. The regulation required all states to comply with the reimbursement requirements of the final rule by April 1, 2017.

MassHealth has been in compliance with the final rule since 2017. This year, MassHealth contracted with Mercer to conduct an updated Pharmacy COD survey to determine accurate information regarding the cost of dispensing for MassHealth providers.

Mercer’s survey process is outlined in detail below; it consists of thorough stakeholder engagement and input, survey question development, intake and validation of survey data, statistical analysis, development of the report, and the final results.

## Methodology

The study methodology included the following tasks:

* + - * 1. Held a project kick‑off meeting with MassHealth to identify the population to be surveyed, to review the survey objectives and survey instruments, and to identify timelines to complete the survey and a final report.
        2. Requested a list of active providers who billed MassHealth for prescription drugs for MassHealth beneficiaries, including available contact and address information and identified the universe of providers (study population) to be surveyed.
        3. Included in the COD survey demographic data questions to collect contact information and provider types for the survey population. Multiple communications were sent to inform the respective providers of the upcoming COD survey.
        4. Held multiple stakeholder meetings to educate providers on the survey and its process.
        5. Distributed the survey tool and instructions to all respective providers identified by MassHealth. Communications highlighted the importance of the survey and provided methods for submission of the requested information needed for the analysis and detailed the mandatory nature of the survey based on contractual obligations with MassHealth.
        6. Received completed surveys from pharmacies and sent follow‑up reminder letters (via email and fax) to pharmacies that had not yet submitted the survey.
        7. Conducted reminder phone calls in the final two weeks of the collection period to pharmacies that had not yet submitted the survey.
        8. Performed desk reviews on all submitted surveys.
        9. Compiled outpatient pharmacy self‑reported data into a Mercer database and performed initial cost analysis of the data using PDF costs described in 42 CFR 447.502.
        10. Conducted a statistical analysis, including a regression analysis, of the survey data to determine an average cost and percentile distribution of cost of dispensing a prescription to MassHealth beneficiaries within the Commonwealth.
        11. Prepared the draft report.
        12. Reviewed the draft report with MassHealth.
        13. Finalized the report.

## Survey Instrument Development

Mercer designed the survey to be a transparent, comprehensive, and easily completed tool that addresses a pharmacy provider’s cost to dispense the drug product to a MassHealth beneficiary. The survey tool was designed to capture all expense elements recorded in a pharmacy’s financial records. The MassHealth COD Survey focused on collecting the actual cost incurred by providers who dispense prescription drugs to MassHealth FFS beneficiaries. The survey tool was designed following review of dispensing fee surveys conducted both at the national and individual state levels and based on the needs identified by MassHealth and key stakeholders.

Development and receipt of the dispensing fee survey tool included:

* + - * 1. Developed survey tool and instructions for survey completion and submission alternatives in collaboration with MassHealth.
        2. Developed an expanded specialty pharmacy section to separate dispensing activities from ancillary activities.
        3. Created an online web‑based survey.
        4. Created an Excel®‑based spreadsheet to accommodate retail pharmacy chains that submitted surveys for multiple locations.
        5. Established a help desk for technical assistance.

## Survey Population

A list of 1,187 enrolled outpatient pharmacy providers obtained from MassHealth served as the main data source to identify the study population. Existing MassHealth pharmacy types were used to determine the primary pharmacy types for the population, and responding pharmacies were re‑assigned to the specialty pharmacy type from their self‑selected pharmacy type if their reported specialty prescription counts were greater than 25% of their total prescription counts. The population included 22 Specialty pharmacies.

## Survey Distribution and Follow-Up

Mercer and MassHealth hosted a stakeholder meeting on September 22, 2023, to allow for pharmacy provider questions about the survey process. On October 9, 2023, Mercer sent all enrolled pharmacies secure links to the survey tool and survey instructions. The week of October 16, 2023, Mercer sent reminder notices to attend the follow‑up stakeholder webinar, which Mercer and MassHealth hosted on October 23, 2023. The survey deadline was extended from November 6, 2023 to November 22, 2023, and then to December 1, 2023. Phone calls to non‑responding pharmacies were made from November 15, 2023 to November 16, 2023, and weekly reminder notices were sent via email and fax to the non‑responding pharmacies in the final weeks of the survey period. Pharmacies with incomplete but fixable responses were contacted as needed for clarification in an effort to include the responses in the analysis.

# Results and Conclusions

## Survey Response Rate and Non-Response Bias

Of 1,187 pharmacies in the study population, 940 unique pharmacies responded to the survey, representing a total response rate of 79.2%; 87 pharmacies provided non‑usable responses. Of the 940 pharmacies that responded, 853 pharmacies provided usable responses to the study, representing a total usable response rate of 71.9%.

Usable responses were defined as responses that contained sufficient data to permit calculation of the following variables:

* + - * 1. A 12-month reporting period
        2. Measurable financial reporting period
        3. Years open
        4. Whether pharmacy has been open at least one year
        5. Prescription area square footage
        6. Total square footage
        7. Total number of prescriptions
        8. Prescription sales (not including over-the-counter [OTC] sales)
        9. Total sales
        10. Prescription department payroll
        11. Total prescription department costs
        12. Total facility costs
        13. Total overhead costs
        14. Total sales less than total costs of dispensing
        15. Specialty pharmacies reporting count and sales of specialty prescriptions

Responses missing critical information required to calculate the average cost of dispensing per prescription were unusable and excluded from the analysis. Table 1 reports the numbers and reasons for responses excluded from the sample.

Table 1: Accounting of Unusable Responses — Missing Data or Logical Errors1

|  |  |
| --- | --- |
| **Reason** | **Number Dropped from Sample[[1]](#footnote-1)** |
| Missing or Invalid Financial Period | 17 |
| Missing Pharmacy Department Area Square Footage | 7 |
| Missing Total Square Footage | 7 |
| Missing Total Number of Prescriptions | 8 |
| Missing Prescription Sales | 13 |
| Missing Total Sales | 9 |
| Missing Prescription Department Payroll | 11 |
| Missing Prescription Department Expenses | 13 |
| Missing Overhead Costs | 24 |
| Costs of Dispensing Greater Than Total Sales | 15 |
| Open Less Than a Year | 21 |
| Outliers | 19 |
| Self-Identified as Specialty, but Missing Specialty Data | 3 |

After the average COD was calculated for each respondent, the results were analyzed for outliers. Nineteen responses were dropped as outliers. For Independent, eight responses were removed as outliers. Specifically, four had an average COD less than three standard deviations within Independent group’s mean COD, two had very low average COD values (likely due to data entry errors), and two more had average COD greater than three standard deviations from the mean COD. For Chain pharmacies, eight responses were removed as outliers because their average COD was greater than three standard deviations within Chain group’s mean COD. For CHCs, one response was removed as an outlier because their average COD was greater than three standard deviations within the CHC group’s mean COD. Lastly, for Specialty, two responses were removed as outliers because they had very high average COD values (greater than $1000).

Of 853 pharmacies providing usable responses to the survey:

* + - * 1. 656 (76.9%) were classified as Chain.
        2. 145 (17.0%) were classified as Independent.
        3. 21 (2.5%) were classified as LTC.
        4. 8 (0.9%) were classified as 340B.
        5. 10 (1.2%) were classified as Specialty.
        6. 13 (1.5%) were classified as CHC.

To determine whether the distributions of the responding sample by type characteristics differed from those observed in the study population, Chi‑square analysis was performed. The results were statistically significant (p < 0.05) for pharmacy type, indicating that the responding pharmacies were more likely to be a Chain pharmacy than an Independent Retail, LTC, 340B, CHC, or Specialty pharmacy when compared to the study population.

## Costs and Expenses Elements

Costs included in the PDF calculation for Independent, Chain, 340B, CHC, LTC, and Specialty pharmacies include those included in the definition in 42 CFR 447.502, which states, “Professional dispensing fee means the fee which:

* + - * 1. Is incurred at the point of sale or service and pays for costs in excess of the ingredient cost of a covered outpatient drug each time a covered outpatient drug is dispensed.
        2. Includes only pharmacy costs associated with ensuring that possession of the appropriate covered outpatient drug is transferred to a Medicaid beneficiary. Pharmacy costs include, but are not limited to, reasonable costs associated with a pharmacist's time in checking the computer for information about an individual's coverage, performing drug utilization review and preferred drug list review activities, measurement or mixing of the covered outpatient drug, filling the container, beneficiary counseling, physically providing the completed prescription to the Medicaid beneficiary, delivery, special packaging, and overhead associated with maintaining the facility and equipment necessary to operate the pharmacy.”

The expenses included in the cost of dispensing calculation are classified as prescription department payroll expenses, prescription department expenditures, facility expenses, and other non‑facility administrative expenses.

Prescription department payroll expenses and prescription department expenditures are fully allocated to the cost to dispense.

Facility expenses are allocated as a percentage of square footage and other non‑facility administrative expenses are allocated using several methods of the costs to the average dispensing fee calculation. The allocation can be made based on area ratio of square footage, prescription versus non‑prescription sales ratio or, if sales are not available, prescription versus non‑prescription cost of goods sold ratio. Area ratio is calculated by dividing the prescription department square footage by total square footage. Sales ratio is calculated by dividing prescription sales (not including non‑prescription OTC sales) by total sales for the reporting period. Cost of goods sold ratio is calculated by dividing prescription ingredient costs by total cost of goods sold.

Reasonable costs associated with a pharmacist’s time in checking the computer for information about an individual's coverage, performing drug utilization review and preferred drug list review activities, measurement or mixing of the covered outpatient drug, filling the container, beneficiary counseling, and physically providing the completed prescription to the MassHealth FFS beneficiaries are difficult to identify because most pharmacies do not capture time spent for each of the aforementioned activities. Therefore, pharmacy department payroll expenses including compensation, benefits, and payroll taxes are allocated using the method described above to the dispensing fee calculation to account for the costs of a pharmacist’s time performing professional dispensing activities.

Prescription department expenditures, allocated at 100%, included:

* + - * 1. Prescription containers, labels, and other pharmacy supplies
        2. Professional liability insurance
        3. Prescription department licenses, permits, and fees
        4. Dues, subscriptions, and continuing education for the prescription department
        5. Delivery expenses (prescription-related only)
        6. Computer systems (related only to the prescription department for dispensing and ancillary services)
        7. Claims transmission charges
        8. Depreciation directly related to the prescription department
        9. Profession education and training
        10. Costs attributed to 340B, including program management and inventory segregation

Overhead associated with maintaining the facility and equipment necessary to operate the pharmacy are split into facility expenses and other non‑facility administrative expenses. Facility expenses, allocated based on area ratio, included:

* + - * 1. Rent
        2. Utilities (gas, electric, water, and sewer)
        3. Real estate taxes
        4. Facility insurance
        5. Maintenance and cleaning
        6. Depreciation (not including depreciation directly related to the prescription department)
        7. Mortgage interest

Other non-facility administrative expenses, allocated based on sales ratio, included:

* + - * 1. Professional services (for example, accounting, legal, consulting)
        2. Security costs
        3. Telephone and data communication
        4. Transaction and merchant fees
        5. Computer systems and supports (not included as direct pharmacy expenses)
        6. Depreciation not captured elsewhere
        7. Amortization
        8. Office supplies
        9. Office expenses
        10. Other insurance
        11. Franchise fees
        12. Non-mortgage interest

Total pharmacy operational expenses are obtained by summing payroll expenses, prescription department expenses, facility expenses allocated by square footage, and other non‑facility administrative expenses allocated by percentage of sales to the prescription department as identified above. The cost of dispensing for a prescription is obtained by dividing the total pharmacy operational expenses by total number of prescriptions reported in the time period. All other costs and expenses collected were not identified in the definition of PDF described in the final rule.

Of the average COD weighted by total prescription volume observed, the percentage of component costs are shown in Table 2 below. See Figure 1 for comparison of dispensing fee components by Pharmacy Type.

Table 2: Percentage of Component Costs for Non‑Specialty Pharmacies

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Pharmacy Type** | **Prescription Department Other (Non‑Payroll)** | **Prescription Department Payroll** | **Facility Costs** | **Other Store Costs** |
| 340B | 43.6% | 40.3% | 8.3% | 7.8% |
| CHC | 12.7% | 81.1% | 3.1% | 3.0% |
| LTC | 17.4% | 73.9% | 6.8% | 1.9% |
| Retail Chain | 4.7% | 80.0% | 11.1% | 4.2% |
| Independent | 12.8% | 72.5% | 6.1% | 8.6% |

**Figure 1**

This is bar graph image that shows Average Cost per Prescription Filled by different pharmacy types (340B, Chain, CHC, Independent, and LTC). The bar graph also breaks out expenses in four different categories: Prescription Department Non Payroll, Prescription Department Payroll, Facility Costs, and Overhead Costs. 

### Inflation Adjustments

The Consumer Price Index (CPI) published by the Bureau of Labor Statistics was used to standardize total pharmacy operational expenses, including overhead and labor costs, to the same time period ending on December 31, 2023, for all urban consumers. Fiscal period end dates reported by pharmacies ranged from December 31, 2020 to December 31, 2023. Table 3 shows the fiscal period begin and end dates, mid‑point CPI index (average of beginning and ending month CPIs), terminal month CPI index, inflation factor, and number of pharmacies, with the corresponding year end date included in the analysis.

Table 3: Inflation Factors Used to Standardize Costs to December 2023

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Fiscal Period Begin Date** | **Fiscal Period End Date** | **Mid-Point CPI** | **Terminal Month CPI (December 2023)** | **Inflation Factor** | **Number of  Pharmacies** |
| 01/01/2020 | 12/31/2020 | 259.101 | 306.746 | 1.1838858 | 1 |
| 01/01/2021 | 12/31/2021 | 273.003 | 306.746 | 1.1235994 | 1 |
| 07/01/2021 | 06/30/2022 | 281.148 | 306.746 | 1.0910481 | 2 |
| 12/30/2021 | 12/28/2022 | 296.276 | 306.746 | 1.0353387 | 15 |
| 01/01/2022 | 12/30/2022 | 296.276 | 306.746 | 1.0353387 | 2 |
| 01/01/2022 | 12/31/2022 | 296.276 | 306.746 | 1.0353387 | 442 |
| 01/01/2022 | 01/01/2023 | 296.276 | 306.746 | 1.0353387 | 1 |
| 01/02/2022 | 12/31/2022 | 296.276 | 306.746 | 1.0353387 | 73 |
| 01/20/2022 | 01/20/2023 | 296.171 | 306.746 | 1.0357057 | 1 |
| 02/01/2022 | 01/31/2023 | 296.171 | 306.746 | 1.0357057 | 54 |
| 06/13/2022 | 06/13/2023 | 296.797 | 306.746 | 1.0335212 | 1 |
| 07/01/2022 | 06/30/2023 | 299.17 | 306.746 | 1.0253234 | 16 |
| 08/01/2022 | 07/31/2023 | 300.84 | 306.746 | 1.0196317 | 1 |
| 08/01/2022 | 08/01/2023 | 300.84 | 306.746 | 1.0196317 | 1 |
| 08/29/2022 | 09/03/2023 | 301.836 | 306.746 | 1.0162671 | 6 |
| 09/01/2022 | 08/31/2023 | 301.836 | 306.746 | 1.0162671 | 219 |
| 10/01/2022 | 09/30/2023 | 303.363 | 306.746 | 1.0111517 | 11 |
| 11/01/2022 | 10/31/2023 | 304.127 | 306.746 | 1.0086115 | 1 |
| 11/15/2022 | 11/15/2023 | 304.127 | 306.746 | 1.0086115 | 1 |
| 11/22/2022 | 11/22/2023 | 305.109 | 306.746 | 1.0053653 | 1 |
| 11/29/2022 | 11/29/2023 | 305.109 | 306.746 | 1.0053653 | 1 |
| 01/01/2023 | 12/31/2023 | 305.691 | 306.746 | 1.0034512 | 2 |

### Analysis and Findings

Mercer analyzed the survey data to calculate the pharmacy cost of dispensing. This section presents details on the various methods for calculating the cost of dispensing and the results of Mercer’s analysis.

Various calculation methods may be used to determine an average dispensing cost based on the usable survey data. Mercer conducted multiple calculation methods, including:

* + - * 1. Medians
        2. Unweighted means
        3. Weighted means considering prescription volume (total and Medicaid) and response probability
        4. Winsorized means

Means and medians are used to determine an average and midpoint cost of dispensing a prescription by MassHealth pharmacy providers. Unweighted means and medians represent an average and midpoint cost per prescription per pharmacy for pharmacies in the sample. By weighting means and medians by the response probability, the impact of non‑response bias is reduced. Weighting by response probability assumes that within pharmacy type, non‑respondents are similar to respondents; the data is then re‑weighted to match the distribution by pharmacy type of the study population. Means and medians weighted by the total number of prescriptions or number of Medicaid prescriptions are used to determine an average and midpoint cost for all prescriptions in the sample. This method of calculating the mean is equivalent to summing all of the total pharmacy operational costs in the sample divided by the total of all prescriptions in the sample.

To minimize the impact of low or high outliers or highly skewed distributions in the calculation of average costs, a winsorized approach was used by setting the cost of dispensing that was below the fifth percentile to the fifth percentile and those that were higher than the ninety‑fifth percentile to the ninety‑fifth percentile prior to calculating the statewide average costs. In addition to calculating the cost of dispensing a prescription on a statewide basis, the study determined the average costs of dispensing for subgroups of pharmacies classified by various pharmacy characteristics (Appendix A).

As noted in the Executive Summary, based on conversations and analysis with the Commonwealth, Mercer recommends using a three‑tiered differential dispensing fee as follows:

* + - * 1. Chain = $8.51
        2. Independent and CHC (non‑contract) pharmacies = $10.21
        3. Independent and CHC (non‑contract) pharmacies providing enhanced services = $14.06

In this three‑tier structure, most pharmacies would fall into the standard Chain and Independent tiers of $8.51 and $10.21. The third tier of $14.06 is reserved for Independent and CHC (non‑contract) pharmacies providing enhanced services, as determined by the Commonwealth. Each of the three tiers may include pharmacies from a mix of the types defined in this report, and these three tiers are recommended in lieu of individual tiers for other pharmacy types, such as LTC, 340B, and Specialty. The majority of Medicaid programs do not implement a differential dispensing fee for Specialty pharmacies. This is due to several factors, including complex administrative issues, the absence of clear industry‑wide definitions for specialty drugs, and the dispensing fee’s minimal proportion of a Specialty claim’s overall cost. Additionally, LTC and 340B pharmacies show little to no statistically significant evidence to justify the establishment of administratively complex standalone dispensing fees.

## Regression Analysis of Pharmacy Characteristics

A multivariable linear regression model was carried out to examine the relationship between a set of pharmacy characteristics and the average cost of dispensing for each pharmacy responding to the survey with usable data. This statistical method simultaneously considers a set of pharmacy characteristics and their relationship with the average cost of dispensing a prescription. The model performance, adjusted R‑squared, measures how well the model fits the data and denotes the percentage of variation in average cost of dispensing accounted for by a set of the pharmacy characteristics. As costs were right‑skewed and large differences in costs were seen between pharmacy types, the cost of dispensing was log normal transformed. The regression coefficient for each predictor variable represents a multiplier of the average cost of dispensing per unit change in the predictor variable, holding all other variables constant.

The following pharmacy characteristics were included in the regression model:

* + - * 1. Type of pharmacy
        2. Building ownership
        3. Whether emergency services are offered 24 hours daily
        4. Percentage of prescriptions accounted for by Medicaid
        5. Percentage of prescriptions that are compounded
        6. Length of time in business
        7. Number of hours open per week
        8. Whether enhanced services, including delivery of Medicaid prescriptions, are offered
        9. Rural or urban location

Table 4 shows the results of the regression analysis, examining the relationship between pharmacy characteristics and an average cost of dispensing, which was log normal transformed. Each pharmacy characteristic is represented as a categorical variable, where the reference (base) case is a pharmacy with the following characteristics:

* + - * 1. Retail chain pharmacy
        2. Building not owned
        3. 24-hour emergency services not available
        4. < 20% of prescriptions accounted for by Medicaid
        5. Between 0.1% and 1% prescriptions compounded
        6. In business 12 years–24 years
        7. Open 70 hours–79 hours per week
        8. Able to deliver Medicaid prescriptions
        9. Urban location

The intercept represents the average cost per prescription for a pharmacy with these characteristics. For each characteristic, the results for the reference pharmacy are displayed as Base, since they are captured by the intercept, the base case pharmacy. Since the cost of dispensing was log normal transformed, the result for each non‑reference category represents the multiplier of the cost of dispensing to the base case, holding all other characteristics constant. For each characteristic that varies from the base case, the base cost is multiplied by its associated factor.

Overall, the model explained 69.5% of the variance in average cost of dispensing a prescription. Based on the tests of the regression coefficients, two comparisons to the reference case were significantly related to cost of dispensing.

The characteristics that had a significant relationship to the cost of dispensing included:

* + - * 1. Pharmacy type, compared to Retail Chain:

CHC

Independent

Specialty

* + - * 1. Number of hours open per week

0–69 hours per week

The results for the intercept indicate that average base case was $9.95.

Table 4: Regression Analysis Examining the Relationship Between Pharmacy Characteristics and an Average Cost of Dispensing

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Characteristic** | **Criteria** | **Base and Multipliers** | **95% Confidence Interval: Lower Bound** | **95% Confidence Interval: Upper Bound** | **P‑Value** |
| Intercept | Intercept | $9.95 | 4.70 | 21.07 | \*\*\* |
| Pharmacy Type | 340B | 2.16 | 1.04 | 4.50 | \* |
| Pharmacy Type | CHC | 2.20 | 1.22 | 3.97 | \*\* |
| Pharmacy Type | Independent | 1.52 | 1.25 | 1.86 | \*\*\* |
| Pharmacy Type | LTC | 1.27 | 0.74 | 2.18 | NS |
| Pharmacy Type | Retail Chain | Base | 1.00 | 1.00 |  |
| Pharmacy Type | Specialty | 9.39 | 4.84 | 18.21 | \*\*\* |
| Building Owned | No | Base | 1.00 | 1.00 |  |
| Building Owned | Yes | 1.12 | 0.90 | 1.39 | NS |
| Open 24 Hours Emergency | No | Base | 1.00 | 1.00 |  |
| Open 24 Hours Emergency | Yes | 1.14 | 0.87 | 1.50 | NS |
| Percentage Prescriptions Medicaid | 0–19.99% | Base | 1.00 | 1.00 |  |
| Percentage Prescriptions Medicaid | 20% or more | 0.97 | 0.74 | 1.27 | NS |
| Percentage Prescriptions Compounded | 0–0.099% | 0.82 | 0.40 | 1.69 | NS |
| Percentage Prescriptions Compounded | 0.1–0.99% | Base | 1.00 | 1.00 |  |
| Percentage Prescriptions Compounded | 1% or more | 1.65 | 0.68 | 4.01 | NS |
| Prescriptions Delivered | No | 1.16 | 0.99 | 1.35 | NS |
| Prescriptions Delivered | Yes | Base | 1.00 | 1.00 |  |
| Years In Business | 0–11.99 | 1.03 | 0.85 | 1.24 | NS |
| Years In Business | 12–24.99 | Base | 1.00 | 1.00 |  |
| Years In Business | 25 or more | 0.95 | 0.80 | 1.13 | NS |
| Hours Per Week | 0–69.99 | 1.36 | 1.16 | 1.59 | \*\*\* |
| Hours Per Week | 70–79.99 | Base | 1.00 | 1.00 |  |
| Hours Per Week | 80 or more | 0.90 | 0.71 | 1.13 | NS |
| County Type | Rural | 0.79 | 0.25 | 2.49 | NS |
| County Type | Urban | Base | 1.00 | 1.00 |  |

\* Indicates that p < 0.05  
\*\* Indicates that p < 0.01  
\*\*\* Indicates that p < 0.001  
NS indicates that the characteristic is not significant

## Specialty Pharmacy Analysis

Mercer identified Specialty pharmacies as pharmacies with greater than 25% of prescriptions categorized as Specialty. With only 10 Specialty pharmacies responding to the survey with usable data and based on the variability of cost of dispensing prescriptions in the Specialty responses, Mercer does not consider there to be enough information to recommend a differential professional dispensing fee for specialty pharmacies. The data from 10 Specialty pharmacies is presented in Table A3 (in Appendix A).

Pharmacy Characteristics and Average Cost of Dispensing Prescription

Please see embedded file below for Appendix A tables. The link below will open up a separate Excel file.



Cost of Dispensing Survey

The COD survey is below for reference.

|  |  |
| --- | --- |
| Question Number | Question Description |
| 1 | National Provider Identifier (NPI) (10 digits) |
| 2 | NCPDP Provider Number (if known) |
| 3 | Provider name |
| 4 | Street address |
| 5 | Street address (additional) |
| 6 | City |
| 7 | State |
| 8 | ZIP code |
| 9 | County |
| 10 | Contact person |
| 11 | Contact person email |
| 12 | Telephone number |
| 13 | Fax number |
| 14 | Was there a change in pharmacy ownership during the reporting period? |
| 15 | Was the pharmacy open the entire year? |
| 16 | Select the appropriate provider type |
| 17 | Number of years this location has been in business as a pharmacy |
| 18 | Does the pharmacy provide 24-hour emergency service? |
| 19 | Hours per week the pharmacy department is open (maximum of 168) |
| 20 | Square footage for the prescription area at the end of the reporting period |
| 21 | Square footage for the non-prescription area at the end of the reporting period |
| 22 | Total square footage (sum of previous 2 questions) |
| 23 | Total number of Medicaid fee-for-service (FFS) prescriptions filled by this pharmacy during the reporting period |
| 24 | All other prescriptions |
| 25 | Total prescriptions (sum of previous 2 questions) |
| 26 | Total number of Medicaid FFS prescriptions that were sterile compounds |
| 27 | Total number of Medicaid FFS prescriptions that were non-sterile compounds |
| 28 | Total Medicaid FFS compound prescriptions (sum of previous 2 questions) |
| 29 | Total number of prescriptions that were sterile compounds |
| 30 | Total number of prescriptions that were non-sterile compounds |
| 31 | Total compound prescriptions (sum of previous 2 questions) |
| 32 | Total number of Medicaid FFS prescriptions that were delivered outside of the pharmacy to Medicaid beneficiaries |
| 33 | Total number of prescriptions that were delivered outside of the pharmacy to the recipient |
| 34 | Radius of the delivery area expressed in miles |
| 35 | Total Number of LTC prescriptions billed to Medicaid FFS during the reporting period |
| 36 | Total number of LTC prescriptions filled during the reporting period |
| 37 | Total number of 340B prescriptions billed to Medicaid FFS during the reporting period |
| 38 | Total number of 340B prescriptions filled during the reporting period |
| 39 | Total number of specialty prescriptions billed to Medicaid FFS during the reporting period |
| 40 | Total number of specialty prescriptions filled during the reporting period |
| 41 | Beginning date range of financial reports |
| 42 | Ending date range of financial reports |
| 43 | Prescription sales other than over-the-counter or 340B sales |
| 44 | OTC sales dispensed and sold by pharmacy department |
| 45 | OTC sales by staff not in pharmacy department |
| 46 | Sales of drugs purchased through the 340B program |
| 47 | Revenue for medication therapy management (MTM) from all payers |
| 48 | Revenue for special packaging, including blister packs |
| 49 | Revenue for compounding not included elsewhere |
| 50 | Other sales such as retail sales and services |
| 51 | Total sales (sum of previous 9 questions, should tie to total net sales on financial statements or tax returns) |
| 52 | Cost of goods sold (COGS): pharmaceuticals (this will not be included in the dispensing fee calculation) |
| 53 | Non-pharmacy COGS |
| 54 | Total COGS (sum of previous 2 questions) |
| 55 | Prescription containers, labels, and other pharmacy supplies |
| 56 | Professional liability insurance for licensed personnel |
| 57 | Pharmacy department licenses, permits, and fees |
| 58 | Dues, subscriptions and continuing education for the pharmacy department |
| 59 | Delivery expenses (prescription related) |
| 60 | Expenses for compounding |
| 61 | Bad debts for prescriptions (including uncollected copayments) |
| 62 | Computer systems costs related only to the pharmacy department for dispensing services |
| 63 | Claim transmission charges |
| 64 | Depreciation directly related to pharmacy department (including computers, software and equipment) |
| 65 | Professional education and training |
| 66 | Costs for 340B program management |
| 67 | Other 340B costs (list other costs in comments section) |
| 68 | Other pharmacy department-specific costs not identified elsewhere |
| 69 | Total pharmacy department non-payroll costs (sum of previous 14 questions) |
| 70 | Number of pharmacist full-time employees (FTEs) |
| 71 | Number of other pharmacy department FTEs (do not include pharmacist(s) counted in previous question) |
| 72 | Pharmacist manager (owner) wages |
| 73 | Pharmacist manager (non-owner) wages |
| 74 | Staff pharmacist wages |
| 75 | Pharmacy technician wages |
| 76 | Delivery personnel wages |
| 77 | Other personnel wages (explain in comments section) |
| 78 | Pharmacy department payroll taxes |
| 79 | Pharmacy department benefits (Including health insurance and pension/profit sharing/retirement expenses) |
| 80 | Total pharmacy department payroll (sum of previous 8 questions) |
| 81 | Wages, payroll taxes, and benefits for personnel directly attributed to non-pharmacy sales and services |
| 82 | Wages, payroll taxes, and benefits for personnel directly attributed to administrative or shared services |
| 83 | Payroll taxes and benefits not reported elsewhere |
| 84 | General employee expenses attributable to all employee types |
| 85 | Non-pharmacy department payroll (sum of previous 4 questions) |
| 86 | Total payroll expense (sum of total pharmacy department payroll and previous question) |
| 87 | Does the provider or a related party own the building? |
| 88 | If so, is the building fully depreciated? |
| 89 | If owned by a related party, enter the amount of building depreciation in the reporting period (this number is not included in the total facility cost) |
| 90 | Rent (explain in comments section if building is owned) |
| 91 | Utilities (gas, electric, water, and sewer) |
| 92 | Real estate taxes |
| 93 | Facility insurance |
| 94 | Maintenance and cleaning |
| 95 | Depreciation expense (e.g., building, leasehold improvements, furniture, and fixtures) |
| 96 | Mortgage interest |
| 97 | Other facility-specific costs not identified elsewhere (explain in comments section) |
| 98 | Total facility costs (sum of previous 8 questions) |
| 99 | Marketing and advertising |
| 100 | Professional services (e.g., accounting, legal, consulting) |
| 101 | Security costs |
| 102 | Telephone and data communication |
| 103 | Transaction fees/merchant fees/credit card fees |
| 104 | Computer systems and support |
| 105 | Depreciation (not captured elsewhere) |
| 106 | Amortization |
| 107 | Office supplies |
| 108 | Office expense |
| 109 | Other insurance (not captured elsewhere) |
| 110 | Taxes other than real estate, payroll, or sales |
| 111 | Franchise fees (if applicable) |
| 112 | Other interest |
| 113 | Charitable contributions |
| 114 | Corporate overhead |
| 115 | Other costs not included elsewhere (explain in comments section) |
| 116 | Total non-facility overhead (sum of previous 17 questions) |
| 117 | Total overhead (sum of previous question and total facility costs) |
| 118 | Total net sales from your financial statements or tax return |
| 119 | Total net sales reported in the survey (same value as question 51) |
| 120 | Sales variance (difference between the previous 2 questions, if not zero, please explain in comments section) |
| 121 | Total payroll expenses from your financial statements or tax return |
| 122 | Total payroll reported in the survey (same value as question 86) |
| 123 | Payroll variance (difference between the previous 2 questions, if not zero, please explain in comments section) |
| 124 | Total expenses from your financial statements |
| 125 | Total expenses reported in the survey (question 69, total pharmacy department non-payroll costs + 86, total payroll expense + 117, total overhead) |
| 126 | Total expense variance (difference between the previous 2 questions, if not zero, please explain in comments section) |
| 127 | The Comments section is for comments and clarifications. If reporting more than one location, be specific as to which location the comment pertains. If comments are provided in response to a question, be specific as to which question the comment pertains. |

Mercer Health & Benefits LLC

333 South 7th Street, Suite 1400

Minneapolis, MN 55402

www.mercer-government.mercer.com

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1. These counts are non-unique. Pharmacies that had multiple missing essential data elements are counted multiple times. [↑](#footnote-ref-1)