

**COMMONWEALTH OF MASSACHUSETTS**  
**HEALTH POLICY COMMISSION**

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**TECHNICAL APPENDIX B4**  
**PRESCRIPTION DRUG SPENDING**

**ADDENDUM TO 2016 COST TRENDS REPORT**

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## 1 Summary

This appendix describes the Health Policy Commission’s (HPC) approach to the analyses contained in **Chapter 4: “Prescription Drug Spending”**.

## 2 Out-of-pocket expenses

### 2.1 Data

The HPC used the Massachusetts All-Payer Claims Database (APCD) for calendar years 2012-2014. The APCD includes commercially-insured Massachusetts residents enrolled in a comprehensive individual or group medical plan offered by one of the three major commercial payers: Blue Cross Blue Shield of Massachusetts, Harvard Pilgrim Health Care, and Tufts Health Plan. Expenditures calculated using the APCD do not capture payments outside the claims system. For more information on the APCD, see **Technical Appendix C: “Data Sources.”**

### 2.2 Definitions

Out-of-pocket expenses include copays, coinsurance, and deductibles.

Spending is calculated using the allowed amount indicated on the claim, which includes payments made by the insurer and the patient (out-of-pocket expenses).

### 2.3 Analysis

#### 2.3.1 Average spending and out-of-pocket expenses

Using the pharmacy claims and the member eligibility file of the APCD, the HPC calculated average spending and average out-of-pocket expenses for commercial members between 2012 and 2014. Total spending and total out-of-pocket expenses were divided by total member months (and multiplied by twelve to present figures as per member per year). All members in the APCD who had pharmacy benefit coverage were included in the total member months calculation (about 80 percent of all commercial members). These numbers are reported in the text of the chapter.

The rest of the analysis, starting with Exhibit 4.5 through the end of the chapter, includes only commercial members who had pharmacy benefit coverage and non-zero spending in the year (which is necessary to be captured in the pharmacy claims of the APCD). Approximately 70 percent of the commercial members with pharmacy benefit coverage used it at least once within the year. The remaining 30 percent are not in the pharmacy claims and are therefore excluded from the denominators of the remaining figures in **Exhibits 4.5** through **4.8** in the chapter.

Average spending and out-of-pocket expenses were calculated per member (who used the pharmacy drug coverage) per year in the same method as above. Average spending and out-of-pocket expenses were calculated per claim, as well.

### 2.3.2 Out-of-pocket spending by type of drug

The HPC also looked at average spending and cost sharing (out-of-pocket expenses) per member per year (PMPY) and per claim for branded and generic drugs. Drugs that were categorized as “unknown” (less than 0.01% of claims) were excluded from all following analyses. Average spending and cost sharing were calculated per claim and PMPY by summing total spending for branded and generic drugs and dividing by the number of claims or member months attributed to claims with the corresponding type of drug. Additionally, the average number of branded and generic drug claims PMPY was calculated in a similar method, summing the number of claims attributed to each type of drug and dividing by the corresponding number of member months (multiplied by twelve). These figures are presented in **Exhibit 4.5**.

### 2.3.3 Distribution of out-of-pocket spending

To analyze the distribution of out-of-pocket spending for prescription drug claims (as shown in **Exhibit 4.6**), the HPC sorted the sum of copay, coinsurance, and deductible amounts per claim into seven spending buckets (\$0, \$0-\$10, \$10-\$20, \$20-\$30, \$30-\$40, \$40-\$50, \$50+) for each year between 2012 and 2014. This same method was used for the distribution of cost sharing by member gender (in **Exhibit 4.7**).

### 2.3.4 Out-of-pocket spending by member gender

The HPC used the same method as described in section 2.3.3 to analyze out-of-pocket spending by member gender, presented in **Exhibit 4.7**.

### 2.3.5 Mylan EpiPen Analysis

The HPC used two national drug codes (NDCs), 495020500 and 495020501, to analyze Mylan’s EpiPen epinephrine injectors in the commercial claims. One claim includes two EpiPen injectors. The HPC calculated average total spending and average cost sharing per claim by dividing total spending and total out-of-pocket expenses by the number of EpiPen claims for each year. These figures are shown in **Exhibit 4.8**. In addition, the percent of EpiPens with high out-of-pocket costs (more than \$100 and more than \$300) in 2014 were identified in the claims and presented in the text of the chapter.