

## Statistical Brief #505

November 2017

### Total Expenses, Total Utilization, and Sources of Payment for Outpatient Prescription Opioids in the U.S. Adult Civilian Noninstitutionalized Population, 2015

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#### Introduction

Prescription drugs are essential to improving the quality of life for millions of Americans living with acute or chronic pain. However, misuse, abuse, addiction, and overdose of these products, especially opioids, have become serious public health problems in the United States.<sup>1</sup> Examining use and expenses for prescribed opioids can help inform the efforts to address these problems.

This Statistical Brief presents Medical Expenditure Panel Survey (MEPS) Household Component (HC) estimates of total expenses, total purchases and sources of payment for all opioids, as well as the top four opioid products ranked by total expenses in 2015, which are: Hydrocodone, Oxycodone, Tramadol, and Codeine.

Only prescriptions purchased or obtained in an outpatient setting are included in these estimates. Prescription medicines administered in an inpatient setting or in a clinic or physician's office are excluded. All differences between estimates discussed in the text are statistically significant at the 0.05 level.

Because of methodological and definitional differences, readers should use caution when comparing MEPS data with data from other sources. Details on the MEPS methodology and differences with other sources are included in the Definitions section of this Statistical Brief.

#### Findings

In 2015, there was an estimated total of \$10.7 billion paid for outpatient prescription opioids by the adult U.S. civilian noninstitutionalized population (figure 1); 41.6 million adults or 16.8 percent of the 247.2 million adults in the U.S. civilian noninstitutionalized population purchased one or more outpatient prescription opioids in 2015 (data not shown). The top four opioid products ranked by total expenses were the following: Hydrocodone (\$5.0 billion), Oxycodone (\$2.8 billion), Tramadol (\$0.6 billion) and Codeine (\$0.2 billion).

During 2015, there was an estimated total of 152.8 million opioid outpatient prescription purchases for adults in the U.S. civilian noninstitutionalized population (figure 2). The top four products ranked by total purchases in 2015 were the following: Hydrocodone (61.7 million prescriptions), Oxycodone (33.0 million prescriptions), Tramadol (26.5 million prescriptions) and Codeine (13.1 million prescriptions).

Total outpatient prescription opioid expenses for adults in 2015 were largely financed by third-party payers (figure 3). In 2015, private insurance/TRICARE paid 29.6 percent of total opioid expenses, Medicare paid 33.2 percent, individuals and family members paid 19.3 percent, Medicaid/CHIP paid 11.0 percent, and other sources paid 6.9 percent. Comparing the distribution of spending by source of payment for all outpatient prescription medicines and all outpatient prescription opioids for adults, a higher proportion was paid out-of-pocket for opioids (19.3 percent) than all prescription drugs (13.3 percent).

Comparing the distribution of spending by source of payment for the top four opioid products individually, Hydrocodone had the highest proportion of total expenses paid by private insurance/TRICARE and Medicare (35.8 percent and 28.4 percent, respectively) followed by individual and family out-of-pocket payments (18.8 percent), Medicaid (10.4 percent), and other sources (6.5 percent) (figure 4). Oxycodone had the highest proportion of total expenses paid by Medicare (44.4 percent) and the lowest proportions paid by Medicaid (8.4 percent) and other sources (6.1 percent). Tramadol had about a quarter of total expenses paid by the following sources: private insurance/ TRICARE (23.1 percent), Medicare (29.1 percent) and out-of-pocket payments by individuals and family members (28.3 percent), while Medicaid (10.1 percent) and other sources (9.5 percent) each paid about 10 percent. Finally, individual and self and family out-of-pocket payments and Medicaid sources totaled nearly 80 percent of total expenses for Codeine (43.4 percent 35.5 percent, respectively) while private insurance/ TRICARE, Medicare, and other sources combined paid about twenty percent of total expenses (8.3 percent, 8.1 percent and 4.8 percent).

In 2015, for adults, the average annual total and out-of-pocket expense per fill for outpatient prescription opioids was \$70 and \$13, respectively (figure 5). Examining the top four opioid products, Hydrocodone and Oxycodone products had higher average total (\$81 and \$84, respectively) and out-of-pocket expenses (\$15 and \$16, respectively) per fill than Tramadol (\$24, \$7) and Codeine (\$18, \$8).

During 2015, the average annual and out-of-pocket expense per person for all outpatient prescriptions among adults with one or more prescription drug opioid purchase during the year was \$3,391 and \$404, respectively (figure 6). Examining the top four opioid products, among adults with one or more purchases of the top four opioid products, Hydrocodone, Oxycodone, and Tramadol, had higher average out-of-pocket expenses for all outpatient prescriptions per person (\$400, \$495, and \$513, respectively) than Codeine (\$262).

#### Highlights

- In 2015, total outpatient prescription opioid expenses for adults totaled \$10.7 billion with hydrocodone and oxycodone accounting for nearly three-quarters of total expenses (\$5.0 and \$2.8 billion, respectively).
- Total outpatient prescription opioid purchases for adults totaled 152.8 million prescriptions with Hydrocodone, Oxycodone, and Tramadol accounting for about 80 percent of these prescriptions (61.7, 33.0, and 26.5 million prescriptions, respectively) in 2015.
- For adults during 2015, Medicare paid 33.2 percent of total expenses on outpatient prescription opioids, private insurance (including TRICARE) paid 29.6 percent, individuals and family members paid 19.3 percent, Medicaid/CHIP paid 11.0 percent and other sources paid 6.9 percent.
- The average annual and out-of-pocket expense per person for all outpatient prescriptions among adults with one or more prescription drug opioid purchase in 2015 were \$3,391 and \$404, respectively.

<sup>1</sup>Johns Hopkins Bloomberg School of Public Health, The Prescription Opioid Epidemic: An evidence-based approach, November 2015.

## Data Source

The estimates in this Statistical Brief are based upon data from the MEPS HC-178A: 2015 Prescribed Medicines Data File and MEPS HC-174: 2015 Full Year Population Characteristics File.

## Definitions

### *Expenses and utilization*

Utilization was defined as purchasing (or obtaining) outpatient prescription opioids in the year of interest. Refills as well as original prescriptions are included in expense and utilization estimates. Expenses include the total direct payments from all sources to pharmacies for prescriptions reported by respondents in the MEPS-HC. Manufacturer rebates to payers and pharmacy benefit companies were not measured and were not subtracted from total direct payments.

MEPS estimates of opioid use may differ from estimates based on other data sources for several reasons. For example, MEPS and the Substance Abuse and Mental Health Services Administration's (SAMSHA) National Survey on Drug Use and Health (NSDUH) have substantial differences in methodologies and objectives. The NSDUH any use estimates comprise both prescribed use and misuse. Misuse includes taking medications for the feeling and any way the doctor did not prescribe. NSDUH respondents report use in inpatient settings, as well outpatient. Moreover, NSDUH includes targeted questions with show cards for specific drugs, is self-reported using audio computer assisted self-interviewing (ACASI), surveys persons 12 and older, and questions are asked based on a 12 month recall period.

In contrast, MEPS includes only prescribed drugs purchased in outpatient settings. Prescription medicines administered in an inpatient setting or in a clinic or physician's office are excluded. MEPS data are household reported and one respondent reports for the entire household. MEPS uses computer assisted personal interviewing (CAPI), and questions are asked using a recall period of 3-6 months. Finally, this Statistical Brief's population is for adults defined as 18 years of age and older.

### *All Opioids, and opioid products: Codeine, Hydrocodone, Oxycodone, and Tramadol*

All opioids, as well as the top four opioid products ranked by total expenses in 2015, (Hydrocodone, Oxycodone, Tramadol, and Codeine) are grouped and defined using the Multum Lexicon database from Cerner Multum, Inc. For additional information on these and other Multum Lexicon variables, as well as the Multum Lexicon database at Cerner Multum, Inc., please refer to the Multum.com web site.

### *Age*

Age was defined using the last available age in 2015 for each sampled person. Adults were defined as person's age equal to or greater than 18 years of age.

### *Sources of payment*

- *Out-of-pocket*: This category includes expenses paid by the user or other family member.
- *Private insurance*: This category includes payments made by insurance plans covering hospital and medical care (excluding payments from Medicare, Medicaid, and other public sources). Payments from Medigap plans or TRICARE (Armed Forces—related coverage) are included.
- *Medicare*: Medicare is a federally financed health insurance plan for persons age 65 and older, persons receiving Social Security disability payments, and persons with end-stage renal disease. Medicare Part A, which provides hospital insurance, is automatically given to those who are eligible for Social Security. Medicare Part B provides supplementary medical insurance that pays for medical expenses and can be purchased for a monthly premium. Medicare Part D provides optional coverage for prescribed medicines.
- *Medicaid/CHIP*: Medicaid and CHIP are means-tested government programs jointly financed by federal and state funds that provide health care to those who are eligible. Medicaid is designed to provide health coverage to families and individuals who are unable to afford necessary medical care while CHIP provides coverage to additional low-income children not eligible for Medicaid. Eligibility criteria for both programs vary significantly by state.
- *Other sources*: This category includes payments from the Department of Veterans Affairs (except TRICARE); other federal sources (Indian Health Service, military treatment facilities, and other care provided by the Federal Government); various state and local sources (community and neighborhood clinics, state and local health departments, and state programs other than Medicaid/CHIP); Workers' Compensation; various unclassified sources (e.g., automobile, homeowner's, or other liability insurance, and other miscellaneous or unknown sources); Medicaid/CHIP payments reported for persons who were not reported as enrolled in the Medicaid or CHIP programs at any time during the year; and private insurance payments reported for persons without any reported private health insurance coverage during the year.

## About MEPS-HC

MEPS-HC is a nationally representative longitudinal survey that collects detailed information on health care utilization and expenditures, health insurance, and health status, as well as a wide variety of social, demographic, and economic characteristics for the U.S. civilian noninstitutionalized population. It is cosponsored by the Agency for Healthcare Research and Quality (AHRQ) and the National Center for Health Statistics.

## References

For a detailed description of the MEPS-HC survey design, sample design, and methods used to minimize sources of nonsampling error, see the following publications:

Cohen, J. *Design and Methods of the Medical Expenditure Panel Survey Household Component*. MEPS Methodology Report No. 1. AHCPR Pub. No. 97-0026. Rockville, MD: Agency for Healthcare Policy and Research, 1997.  
[http://www.meps.ahrq.gov/mepsweb/data\\_files/publications/mr1/mr1.pdf](http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr1/mr1.pdf)

Cohen, S. *Sample Design of the 1996 Medical Expenditure Panel Survey Household Component*. MEPS Methodology Report No. 2. AHCPR Pub. No. 97-0027. Rockville, MD: Agency for Health Care Policy and Research, 1997.  
[http://www.meps.ahrq.gov/mepsweb/data\\_files/publications/mr2/mr2.pdf](http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr2/mr2.pdf)

Cohen, S. Design Strategies and Innovations in the Medical Expenditure Panel Survey. *Medical Care*, July 2003: 41(7) Supplement: III-5—III-12.

Ezzati-Rice, T.M., Rohde, F., Greenblatt, J. *Sample Design of the Medical Expenditure Panel Survey Household Component, 1998–2007*. Methodology Report No. 22. March 2008. Agency for Healthcare Research and Quality, Rockville, MD.  
[http://www.meps.ahrq.gov/mepsweb/data\\_files/publications/mr22/mr22.pdf](http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr22/mr22.pdf)

Stagnitti, Marie N., Beauguard, K., and Solis, A. *Design, Methods, and Field Results of the Medical Expenditure Panel Survey Medical Provider Component (MEPS MPC)—2006 Calendar Year Data*, Methodology Report No. 23. November 2008. Agency for Healthcare Research and Quality, Rockville, MD. [http://www.meps.ahrq.gov/mepsweb/data\\_files/publications/mr23/mr23.pdf](http://www.meps.ahrq.gov/mepsweb/data_files/publications/mr23/mr23.pdf)

Sing, M., Banthin, J., Selden, T., et al.: Reconciling Medical Expenditure Estimates from the MEPS and NHEA, 2002. *Health Care Financing Review* 28(1):25–40, Fall 2006. Internet Address: <https://www.cms.gov/HealthCareFinancingReview/downloads/06Fallpg25.pdf>

### **Suggested Citation**

Stagnitti, M.N. *Total Expenses, Total Utilization, and Sources of Payment for Outpatient Prescription Opioids in the U.S. Adult Civilian Noninstitutionalized Population, 2015*. Statistical Brief #505. November 2017. Agency for Healthcare Research and Quality, Rockville, MD. [http://www.meps.ahrq.gov/mepsweb/data\\_files/publications/st505/stat505.pdf](http://www.meps.ahrq.gov/mepsweb/data_files/publications/st505/stat505.pdf).

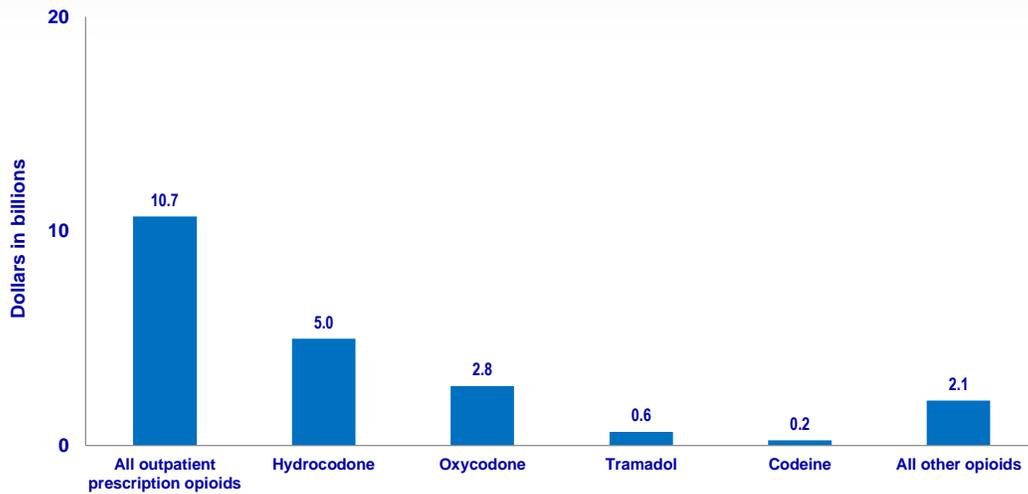
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AHRQ welcomes questions and comments from readers of this publication who are interested in obtaining more information about access, cost, use, financing, and quality of health care in the United States. We also invite you to tell us how you are using this Statistical Brief and other MEPS data and tools and to share suggestions on how MEPS products might be enhanced to further meet your needs. Please email us at [MEPSProjectDirector@ahrq.hhs.gov](mailto:MEPSProjectDirector@ahrq.hhs.gov) or send a letter to the address below:

Joel Cohen, PhD, Director  
Center for Financing, Access, and Cost Trends  
Agency for Healthcare Research and Quality  
5600 Fishers Lane  
Rockville, MD 20857



**Figure 1. Total expenses for all outpatient prescription opioids and the top four opioid products\*, U.S. civilian noninstitutionalized adult population, 2015**



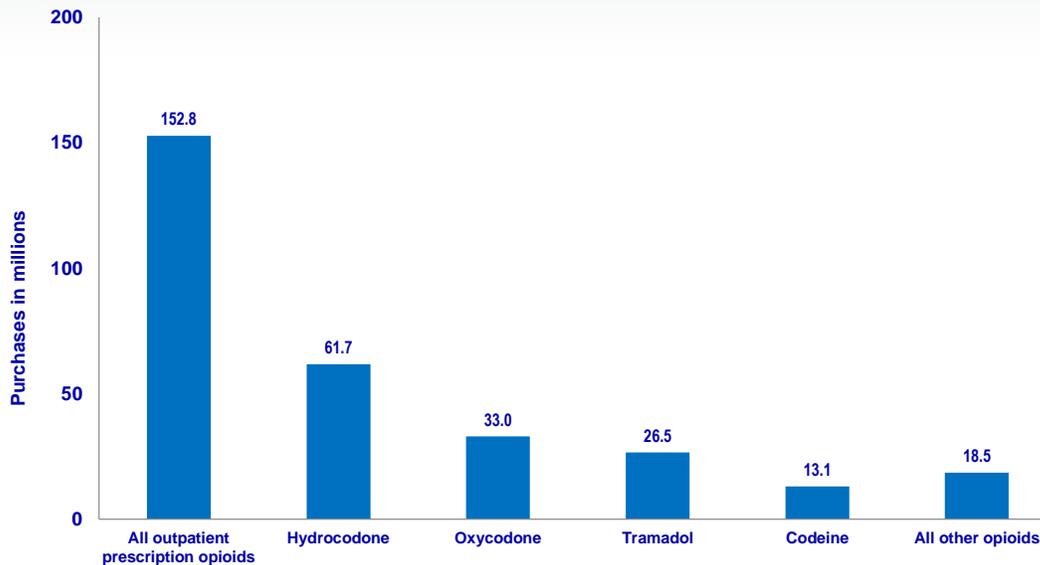
\*Ranked by total expenses in 2015

Note: Estimates are for the U.S. civilian noninstitutionalized population.

Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2015



**Figure 2. Total outpatient prescription opioid purchases for all opioids and the top four opioid products\*, U.S. civilian noninstitutionalized adult population, 2015**



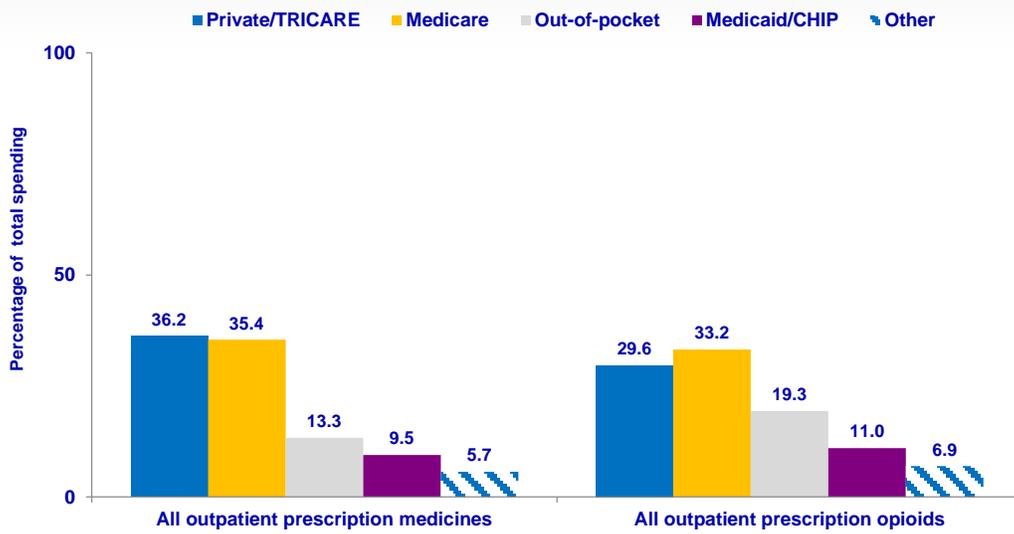
\*Ranked by total purchases in 2015

Note: Estimates are for the U.S. civilian noninstitutionalized population.

Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2015



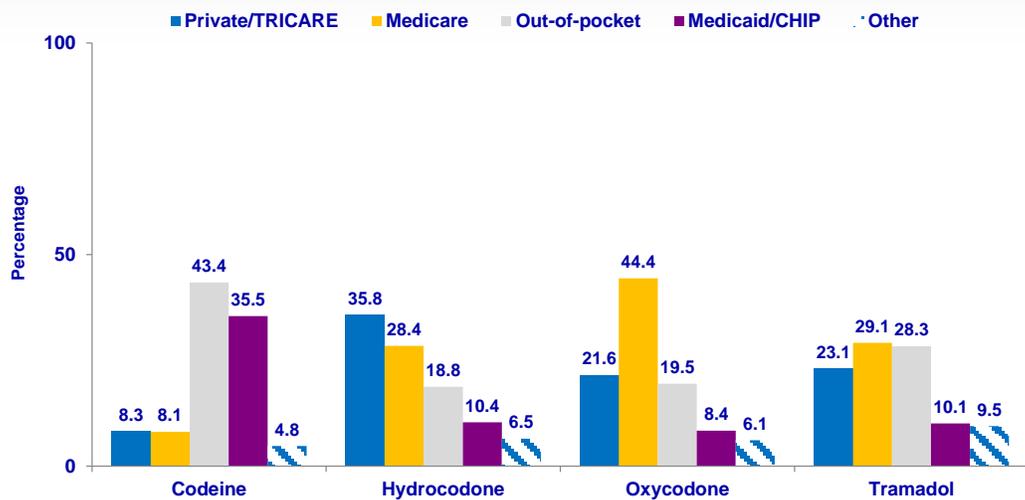
**Figure 3. Distribution of spending by source of payment for all outpatient prescription medicines and all outpatient prescription opioids, U.S. civilian noninstitutionalized adult population, 2015**



Note: Estimates are for the U.S. civilian noninstitutionalized population. Percentages may not add to exactly 100.0 due to rounding.  
 Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2015



**Figure 4. Distribution of spending by source of payment for the top four opioid products\*, U.S. civilian noninstitutionalized adult population, 2015**

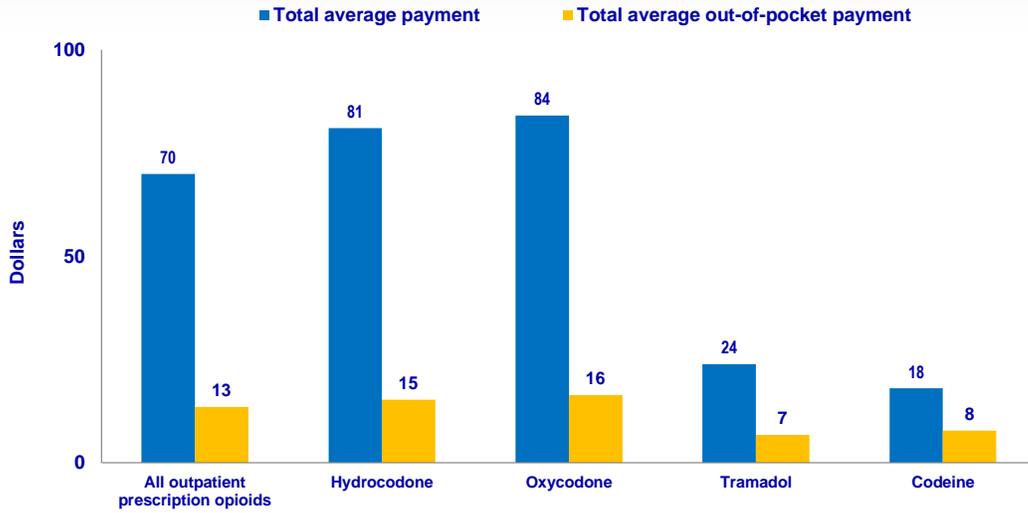


\*Ranked by total expenses in 2015

Note: Estimates are for the U.S. civilian noninstitutionalized population. Percentages may not add to exactly 100.0 due to rounding.  
 Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2015



**Figure 5. Average annual total and out-of-pocket expense per fill for all outpatient prescription opioids and the top four opioid products\*, U.S. civilian noninstitutionalized adult population, 2015**



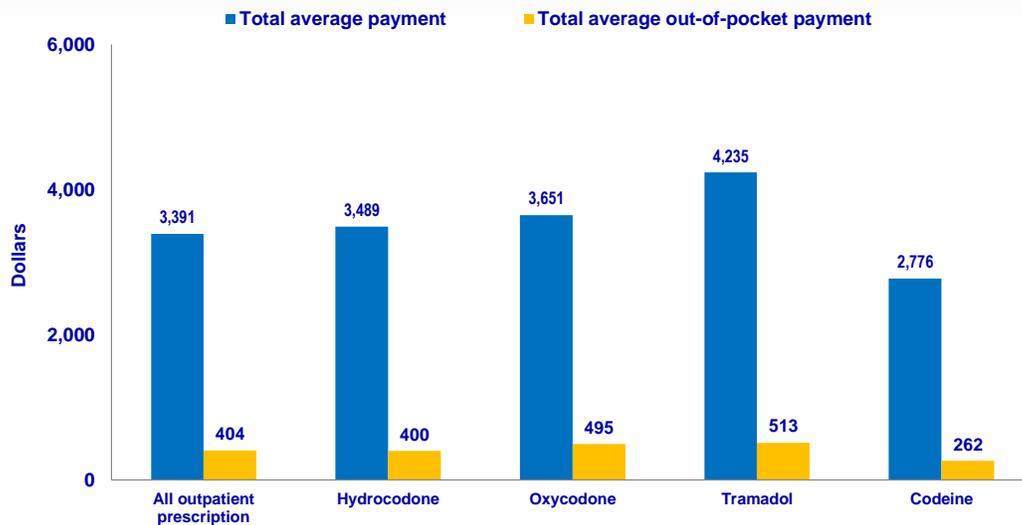
\*Ranked by total expenses in 2015

Note: Estimates are for the U.S. civilian noninstitutionalized population.

Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2015



**Figure 6. Average annual and out-of-pocket expense per person for all outpatient prescriptions among adults with one or more prescription drug opioid purchase and with one or more purchase of the top four opioid products\*, U.S. civilian noninstitutionalized adult population, 2015**



\*Ranked by total expenses in 2015

Note: Estimates are for the U.S. civilian noninstitutionalized population.

Source: Center for Financing, Access, and Cost Trends, AHRQ, Household Component of the Medical Expenditure Panel Survey, 2015