

# **Prescription Behavior Surveillance System (PBSS) Surveillance Report: Kentucky, 2013**

**April, 2015**

**Prepared for:**

The Prescription Behavior Surveillance System Oversight Committee

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The Prescription Behavior Surveillance System Oversight Committee consists of representatives from the sponsors, CDC, FDA, and BJA, as well as from the Substance Abuse and Mental Health Services Administration (SAMHSA), the IJIS Institute, the PDMP Training and Technical Assistance Center (TTAC), the COE and participating PDMPs.

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## INTRODUCTION

### *Overview of the Prescription Behavior Surveillance System (PBSS)*

As part of an effort to address the challenges associated with increasing misuse and abuse of controlled medications, the Bureau of Justice Assistance (BJA), the Centers for Disease Control and Prevention (CDC), and the Food and Drug Administration's (FDA) Safe Use Initiative have collaborated with the Prescription Drug Monitoring Program (PDMP) Center of Excellence (COE) at Brandeis University to undertake the Prescription Behavior Surveillance System (PBSS) project, beginning in fiscal year 2012. The PBSS is a public health surveillance and evaluation tool based on de-identified, longitudinal data from state PDMPs and is designed to measure trends in controlled substance (CS) prescribing and medical use as well as possible misuse, abuse and diversion. Because of the timeliness of PDMP data compared with health outcomes data such as overdose deaths, such a tool, updated frequently, can provide early warning of state, regional and national changes and emerging trends in prescription drug use and abuse. It can also be used to assess the quality of PDMP data and to evaluate the effectiveness of statewide policies such as pill mill laws and state mandates for prescribers to register with PDMPs and access PDMP data.

An Oversight Committee was established by the COE to help guide the system's functioning. The Committee consists of representatives from the sponsors, CDC, FDA, and BJA, as well as from the Substance Abuse and Mental Health Services Administration (SAMHSA), the IJIS Institute, the PDMP Training and Technical Assistance Center (TTAC), the COE and participating PDMPs. Issues the Oversight Committee has helped address include defining selection criteria for PDMP participation, specifying standards for PDMP data quality and for linking patient records<sup>1</sup>, developing prescription behavior measures, and developing a process for deciding who will have access to the database.

The COE has identified and partnered with state PDMPs to create a de-identified, multi-state database of PDMP data, to be updated quarterly. For the baseline years 2010-2013, and at each quarterly update thereafter, the COE generates standardized surveillance reports and conducts specialized analyses to be determined in collaboration with its federal and state partners. The COE, in consultation with the PBSS Oversight Committee, has developed and operationalized an initial set of prescription behavior surveillance measures for the PBSS standardized reports. The initial measures were developed in each of 7 areas:

1. Prescription rates – Measures report on patterns of prescriptions dispensed by patient demographic characteristics, drug class and specific drugs within drug classes. Drug classes include opioids (e.g., hydrocodone, oxycodone, codeine), stimulants (e.g., amphetamine, methylphenidate, lisdexamphetamine), and benzodiazepines (e.g., alprazolam, clonazepam, lorazepam).

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<sup>1</sup> The COE is currently working with a team assembled by the IJIS Institute to examine existing patient record linking solutions and recommend standards that such solutions should meet.

2. Daily dosages – Measures in this area are for specific opioid drugs, in morphine milligram equivalents.
3. Overlapping prescription rates – Measures focus on patients who fill prescriptions in a manner that may indicate inappropriate use of prescription drugs.
4. Multiple provider episode rates – Measures relate to the number of patients who exceed certain thresholds of prescriber and pharmacy usage within a specified time period.
5. Prescriber-based measures – Measures focus on the number and percentage of prescriptions by prescriber deciles, as defined by prescribing volume or distance from patient to prescriber.
6. Long-acting/extended release opioid measures – Measures report on prescribing of long-acting/extended release opioids to opioid-naïve patients (i.e. those with no opioid prescriptions in the previous 2 months).
7. Pharmacy-based measures – Similar to prescriber-based measures, by pharmacy deciles.

Such measures capture rates and trends in overall controlled substance prescribing as well as patterns of prescribing suggestive of non-medical use and diversion of controlled substances. They may therefore function as indicators of behavior implicated in prescription drug abuse and its associated health consequences, helping to target and assess the effectiveness of interventions and policies designed to mitigate the prescription drug abuse epidemic.

The PBSS database is comprised of PDMP data provided to the COE by states participating in the PBSS project, starting with data from the 2010 calendar year when available. Data may be missing for certain baseline reporting periods for some states if the state's PDMP was not yet in operation or data were not retained for that period. Missing data will become less of an issue over time as data will be updated annually and quarterly with comparisons to the previous data.

### ***Purpose of this Report***

The PBSS project compiles all of the measures quarterly for each participating state, beginning with the earliest data received from that state through the most recent quarter. The measures are provided in Excel tables, which allow examination of changes and trends over the longest available period. The current report represents a more user-friendly window on the measures, for a focal year – in this case 2013 – compared to the prior year. The report's purpose is to highlight levels of the PBSS measures for 2013 and call attention to apparently large changes in these measures from 2012. The report thus provides the reader a more efficient overview of the measures, while at the same time enabling interested readers to peruse the detailed tables from which the highlights were culled.

This report is organized into four main sections. The first section, *State-Specific PDMP information*, provides fundamental characteristics of the PDMP data presented in this report, including PDMP start date, schedules tracked, age restrictions and other PDMP information. *Technical Notes and Documentation* describes the data sources, definition of and methods of calculating measures, provisions for managing risk, and data limitations.

The third section, *Highlights of Analyses*, presents key findings on prescription rates, daily dosages, overlapping prescription rates, multiple provider episode rates, prescriber-based measures, long-acting/extended release opioid measures, and pharmacy-based measures. The fourth section provides references, followed by the *Tables* section, which presents detailed analyses of PDMP data for the state of Kentucky for the years 2012 and 2013. Finally, the *Appendices* display annual state population estimates by sex and age group and the percent missing by data element, quarter and year.

## STATE-SPECIFIC PDMP INFORMATION

**Table A. Kentucky PDMP Characteristics**

|  |  |
|--|--|
| <b>DATE PDMP OPERATIONAL</b> <sup>a</sup>                        | 1999   |
| <b>DATE OF USER ACCESS</b> <sup>b</sup>                          | 1999   |
| <b>AGENCY TYPE</b> <sup>a</sup>                                  | Kentucky Cabinet for Health & Family Services  |
| <b>PDMP TECHNICAL SPECS</b> <sup>b</sup>                         | ASAP v.4.1   |
| <b>SCHEDULES TRACKED</b> <sup>a</sup>                            | II, III, IV, V.  |
| <b>DATA COLLECTION FREQUENCY</b> <sup>a</sup>                    | Daily  |
| <b>REPORTING TO PDMP</b> <sup>b</sup>                            | All dispensers shall submit data to PDMP. Out-of-state pharmacies are required to submit information to the state PMP. Veterinarians are not required to report to PDMP.   |
| <b>LAW EXEMPTIONS</b> <sup>b</sup>                               | Drugs administered directly to a patient in a hospital, a resident of a health care facility, a resident of a child-caring facility, or an individual in a jail, correctional facility, or juvenile detention facility; drugs, other than any Schedule II controlled substance or a Schedule III controlled substance containing hydrocodone, dispensed by a practitioner at a facility licensed by the cabinet, provided that the quantity dispensed is limited to an amount adequate to treat the patient for a maximum of forty-eight (48) hours; drugs administered or dispensed to research subjects enrolled in a research protocol. |
| <b>STATE POPULATION, 2013</b> <sup>c</sup>                       | 4,395,295  |
| <b>STATE POPULATION as % of US POPULATION, 2013</b> <sup>c</sup> | 1.39%  |
| <b>TOTAL NUMBER of CS Rx</b>                                     | 5,674,156  |
| <b>N's BY DRUG TYPE</b>  | 2,967,595 (opioids); 631,245 (stimulants); 1,141,610 (benzodiazepines); 933,706 (other)  |
| <b>RECORD LINKAGE METHODOLOGY</b>                                | Probabilistic matching   |
| <b>PDMP CONTACT</b>  | David R. Hopkins<br>Program Manager/Kentucky Cabinet for Health & Family Services<br>275 East Main Street 5ED<br>Frankfort, KY 40621<br>Phone: (502) 569-2815 ext 3335. Fax: (502) 564-7876<br>Dave.Hopkins@ky.gov   |

Sources:

<sup>a</sup> PDMP Training and Technical Assistance Center, 2014.

<sup>b</sup> The National Alliance for Model State Drug Laws, 2013.

<sup>c</sup> U.S. Department of Commerce, 2014.

## TECHNICAL NOTES AND DOCUMENTATION

### *Data Sources*

#### PDMP data: All participating states

Each state PDMP participating in the PBSS project and/or its IT vendors provides the COE with three or four calendar years (2010-2013) of de-identified data followed by quarterly updates. Each quarterly update consists of the prior 12 months of data, so that any corrections to the data submitted by reporting pharmacies will be captured in the PBSS database. Data may be missing for certain baseline reporting periods for some states if the state's PDMP was not yet in operation or data were not retained for that period.

Each participating PDMP or its IT vendor created a unique project-specific patient identifier to link all records associated with the same patient. Then patient name, birth date (after age has been computed and added to the database), and street address were removed to create a de-identified database for analysis. Town and Zip Code<sup>2</sup> of patient residence were retained in the data provided to Brandeis to enable small geographic area analysis. Similarly, prescriber and pharmacy name, DEA registration number, and street address were removed from the database; town and Zip Code of prescriber and pharmacy location were retained; and a unique identifier for prescribers and pharmacies was created by the IT vendor. Thus, the data are longitudinal in that project-specific ID numbers created for each patient, prescriber and pharmacy are retained with each data submission and allow tracking of prescription activity over time.

The data fields provided to the PBSS by PDMPs include: de-identified patient ID, patient city, patient state, patient Zip Code, four-digit birth year, patient gender, de-identified dispenser ID number, dispenser city, dispenser state, dispenser Zip Code, prescription number, NDC code for drug dispensed, new or refill indicator, quantity dispensed, days' supply, number of refills ordered, de-identified prescriber ID number, prescriber city, prescriber state, prescriber Zip Code, written date, payment code and date filled.

Quarterly data updates are made available to Brandeis approximately 1 month after the close of the quarter. After Brandeis receives the de-identified data from the participating PDMPs and/or their IT vendors, we conduct data quality checks and compile the de-identified data for analysis. All PDMP data presented is based on the date the prescription was filled/dispensed.

#### Census data

We obtained annual state-level population data on DVD-ROM from the U.S. Department of Commerce, Economics and Statistics Administration, United States Census Bureau (U.S. Department of Commerce, 2011). The DVD product contains national and individual state population data files, including age and sex information in Summary File 1, and the 2010 Census Data Engine retrieval software. Postcensal estimates for

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<sup>2</sup> Most PBSS participating states provide 5-digit Zip Codes for patient, prescriber, and dispenser. However, some states are only permitted by state law to provide 3-digit Zip Codes. We adhere to what state law permits.

the post-2010 years, when available, were obtained from the U.S. Census website<sup>3</sup>. State population estimates are displayed in the Appendices.

### Redbook Select data

To assist in the analysis of PBSS prescription behavior surveillance measures, we subscribed to the quarterly RED BOOK Select Database, published by Truven Health Analytics. The RED BOOK database provides information on drug products approved by the FDA that are available for manufacture and distribution. Drug product information includes brand names, generic names, NDC numbers, dosage formulations, strength, therapeutic classification codes and pricing data. These data were employed to classify PDMP prescription data by controlled substance schedules, drug class and specific drugs within drug classes.

### ***Calculation of Measures***

Measures were developed by the COE in collaboration with members of the Oversight Committee.

### Prescription rates

Prescription rates are calculated as the number of new and refill prescriptions dispensed within the specified time period per 1,000 state residents, and are presented by sex, age group, drug class and specific drugs within drug class. For 2010, the population denominators used in computing these rates were from the U.S. Census Bureau's Summary File 1 (U.S. Department of Commerce, 2011); denominators for later years are based on postcensal estimates (U.S. Department of Commerce, 2014). Age was calculated as the person's age at the time the prescription was dispensed. This report focuses on three main controlled substance drug classes associated with adverse outcomes: Opioids, CNS stimulants, and benzodiazepines. In addition, data for carisoprodol and zolpidem are presented separately.

Specific drugs reported on in the opioid drug class include: Buprenorphine, butorphanol, codeine, dihydrocodeine, fentanyl: long-acting (LA), fentanyl: short-acting (SA), hydrocodone, hydromorphone, meperidine, methadone, morphine LA, morphine SA, oxycodone LA, oxycodone SA, oxymorphone LA, oxymorphone SA, pentazocine, tapentadol, and other unspecified opioids. If not reported separately, LA and SA formulations are grouped under the same drug name (e.g., tapentadol).

Specific drugs reported on in the stimulant drug class include: Amphetamine (including amphetamine-dextroamphetamine combinations), benzphetamine, dexamethylphenidate, dextroamphetamine, lisdexamfetamine, methylphenidate, and other unspecified CNS stimulants. The amphetamine category includes the combination of amphetamine and dextroamphetamine (e.g., Adderall) and the dextroamphetamine category includes only non-combination dextroamphetamine products such as Dexedrine.

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<sup>3</sup> Retrieved from <http://www.census.gov/popest/data/index.html>

Specific drugs reported on in the benzodiazepine drug class include: Alprazolam, clordiazepoxide, clonazepam, clorazepate, diazepam, flurazepam, lorazepam, oxazepam, temazepam, triazolam, and other unspecified benzodiazepines.

In the miscellaneous drug category, we currently report on carisoprodol and zolpidem; other drugs of interest may be tracked in the future. Effective January 11, 2012, carisoprodol was changed to a Schedule IV controlled substance in all states under federal law (U.S. DOJ, 2011); prior to this date, some states had not made carisoprodol a controlled substance, and therefore data for these years may be incomplete.

### Daily dosages

Daily dosages were calculated for specific opioid drugs in morphine milligram equivalents (MMEs)<sup>4</sup>. The measure was calculated by summing the MMEs in each month for each person and drug. We then calculated the days per month that the individual received prescriptions for the specified drug. Multiple prescriptions received on the same day counted as one day. We then computed total MMEs and days across prescriptions for each patient/drug. We divided the sum of MMEs by the number of days to get average MMEs per day for each patient in a month. Daily dosage therefore represents MME per day for every day an opioid was prescribed. For presentation in the final table, we calculated the average across patients for each quarter/drug.

### Overlapping prescriptions

Three main categories of measures were calculated to track overlapping prescriptions. The first measure examined overlapping prescriptions within the same drug class (e.g., opioids, stimulants and benzodiazepines). The percentage of prescribed days overlapping with another prescription within the same drug class was calculated as the number of days with more than one prescription in the same drug class divided by the total number of prescription days for that drug class per quarter. Thus, a day with two overlapping prescriptions is counted the same as a day with three overlapping prescriptions.

The second measure examined overlapping prescriptions across the opioid and benzodiazepine drug classes. Percentage of all opioid days prescribed overlapping with a benzodiazepine prescription was calculated as the number of days with both an opioid and benzodiazepine prescription divided by the total number of opioid prescription days.

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<sup>4</sup> Calculated using the CDC's National Center for Injury Prevention and Control's Morphine Milligram Equivalent (MME) table with 2011 NDCs, updated May 31, 2013. See also: Brandeis University PDMP Technical Assistance and Training Center, Technical Assistance Guide No. 02-13, Morphine Milligram Equivalents Calculator, accessed from [http://www.pdmpassist.org/pdf/bja\\_performance\\_measure\\_aid\\_mme\\_conversion\\_tool.pdf](http://www.pdmpassist.org/pdf/bja_performance_measure_aid_mme_conversion_tool.pdf), February 4, 2014.

A third category of overlapping prescription measures examined overlapping prescriptions across opioid-release formulations, (i.e. long-acting and short-acting): long-acting and short-acting, long-acting and long-acting, and short-acting and short-acting.

### Multiple provider episode measures

Multiple provider episode (MPE) rate measures provide information on patients who have obtained controlled substance prescriptions from multiple providers within a specified time period. In this report, MPE rates are defined as the number of unique patients, per 100,000 population, who received controlled substance prescriptions from five or more prescribers and filled them at five or more pharmacies, in each quarter and half-year. Unless otherwise specified in the report, quarterly MPE rates are presented.

The MPE rates are applied to Schedule II prescriptions only, Schedule II and III prescriptions only, and Schedule II, III and IV prescriptions in Table 5.1. These threshold measures are thought to be indicators of questionable activity. It is important to note that the MPE rates displayed are provided per 100,000 state residents. Thus, for example, a 2013 MPE rate for Schedule II, III or IV controlled substance prescriptions of 9.85 per 100,000 is 0.00985 per 100, or less than 0.01%. That is, less than one-hundredth of one percent of patients who filled a Schedule II-IV prescription during the reporting period met the five-prescriber and five-pharmacy threshold during that period.

Note also that this MPE rate is somewhat different than the performance measures required of Bureau of Justice Assistance PDMP grantees. The BJA performance measures are defined as the number of unique patients meeting the five prescriber/five pharmacy threshold, divided by the total number of patients who received a prescription drug during the reporting period. For the PBSS measures, the denominator is state residents. Currently, no standardized or validated criteria exist for identifying patients engaging in possible doctor shopping (i.e. MPEs) (Clark et al., 2012).

### Prescriber and pharmacy decile measures

For prescribers, deciles were based either on daily prescribing counts or on distance in miles between the patient and the prescriber of the drug type(s) shown in the table. For pharmacies, deciles were based either on daily dispensing counts or on distance in miles between the patient and the pharmacy dispensing the drug type(s) shown in the table. To calculate distance measures, the distances between patient and prescriber (or pharmacy) ZIPCODES were calculated using ZIPCODE centroids. Longitude and latitude values in radians for the ZIPCODES were obtained from the SASHELP.ZIPCODE file and the Great Circle Distance Formula was used to calculate the distance in miles between the two pairs of values. Prescriber measures were limited to in-state prescribers, and pharmacy measures were limited to in-state pharmacies, while out-of-state residents were included.

By default, SAS places tied values that overlap deciles (common for prescribers of low numbers of prescriptions) into the higher decile, which may result in fewer than 10 groups, or “deciles” that include more or less than 10% of prescribers (or pharmacies). In order to create 10 equal-sized decile groups, tied values were randomly assigned into the higher and lower decile groups.

### ***Provisions for Managing Risk***

No data are published or released in any form if there is a reasonable possibility that a particular individual patient, prescriber or dispenser can be directly or indirectly identified. Such a release is only permissible with the explicit written permission of the individual or reporting entity. De-identified data will be considered to have a reasonable possibility of indirectly identifying patients if they include tabulations of any of the following information:

- Tabulations that include identifying information such as patients’ gender, age, or other identifying information when that information, either alone or in combination with other factors, including geographic area, creates a risk of indirectly identifying the individual.
- Rates, frequencies, lists, or other tabulations or graphical presentations that represent fewer than 20 patients in a table cell or associated with a particular data point.

To avoid the risk of a particular individual or entity reporting prescription data being directly or indirectly identified from the information released:

- The COE does not use date of birth unless converted to age in years.
- The COE aggregates data before they are published to assure that an analysis does not create a risk of identifying patients or entities. Specifically, to minimize the possibility that a patient, prescriber or dispenser could be identified by means of their Zip Code (combined with other data sets), if a Zip Code has so few patients, prescribers or dispensers that it might pose the risk of identification, we aggregate data from that Zip Code with adjoining Zip Codes, until the combined numbers make it impossible to identify any patient, prescriber or dispenser.
- The COE utilizes the procedures described in section 10: Avoiding Inadvertent Disclosures in Published Tabular Data in the National Center for Health Statistics Staff Manual on Confidentiality (CDC, 2004).

### ***Analyses and Presentation of Data***

Differences in rates and trends reported are not necessarily statistically significant. In addition, reported changes between two time periods do not necessarily indicate a lasting change or trend.

The percentage of missing data may vary for sex, age, prescriber ZIPCODE, and payment type. In addition, some quarters of PDMP data provided were missing data for certain data fields. Because of differences in the amount of missing data, totals for the same measure presented in separate tables may differ slightly. Some

measures presented in the tables may lack data in certain quarters when data were missing from PDMP data provided to the COE.

### ***Data Limitations***

State-specific data limitations were described earlier in the State-Specific PDMP section. Other, more general, data limitations exist regarding the PBSS surveillance measures presented in this report. One caveat in interpreting the MPE measures is that PDMPs use different procedures for determining which prescription records belong to the same patient, called “linking” procedures. Some PDMPs count records as belonging to the same patient only if the patient identifying information (name, birth date, gender, and street address) in the different records matches exactly (called deterministic matching). Other PDMPs use probabilistic matching procedures, where slight variations in the spelling of patient names or single digit variations in birth date for patients with the same name, for example, are considered highly likely to represent the same patient. Even among PDMPs using a probabilistic linking procedure, however, procedures differ, as do thresholds for counting a highly likely match as a match. Because MPE rates depend on the number of patients who obtain prescriptions from multiple providers, and because different linking procedures will lead to different attributions of prescription records to patients, MPE rates are not strictly comparable across PDMPs, although they should be comparable over time within a PDMP, for reporting periods of the same length. This caveat applies to other patient-based measures as well, such as average daily dosage and overlapping prescriptions; and to many prescriber and dispenser indicators which depend on associating prescription records to patients, such as prescribing LA/ER opioids to opioid-naïve patients, and proportion of prescriber/dispenser patients who meet the MPE criteria.

## **HIGHLIGHTS OF ANALYSES BY DATA ELEMENT**

### ***Prescription Rates per 1,000 Population***

- **By drug class (Table 1.1).**
  - Opioids: 1,223.6;
  - Stimulants: 249.6;
  - Benzodiazepines: 554.6.
  
- **By drug class and sex (Table 1.1).**
  - Opioids: 1,332.8 for females vs. 1,107.1 for males;
  - Stimulants: 232.7 for females vs. 267.0 for males;
  - Benzodiazepines: 702.6 for females vs. 399.5 for males.
  - From 2012 to 2013:
    - Opioids and benzodiazepines decreased overall and for both sexes, while stimulants increased overall and for males, but decreased for females.

- **By drug class and age group (Table 1.2).**
  - Opioids:
    - Highest 3: 55-64 (2,071.0), 45-54 (1,912.7), 65 and older (1,853.0);
  - Stimulants:
    - Highest 3: 0-17 (527.4), 35-44 (243.8), 25-34 (227.5);
  - Benzodiazepines:
    - Highest 3: 65 and older (1,146.9), 55-64 (1,032.6), 45-54 (885.3).
  - From 2012 to 2013:
    - Opioids: decreased overall (-8.7%) and among all age groups;
    - Stimulants: increased overall (2.0%) and for all age groups, except for 65 and older (-8.4%);
    - Benzodiazepines: decreased overall (-10.2%) and for all age groups, except for 0-17 (1.5%).
  
- **By drug class, sex and age group (Table 1.3).**
  - Opioids: Higher for females than males for all age groups;
  - Stimulants: Higher for males than females as total rate. However, rates are higher for females for all age groups, except for 0-17 and 18-24.
  - Benzodiazepines: Higher for females than males for all age groups.
  
- **By specific opioid drug (Table 1.4).**
  - Highest 3: hydrocodone SA (688.0), oxycodone SA (191.3), buprenorphine (115.4).
  - From 2012 to 2013:
    - Largest 3 decreases: dihydrocodeine (-55.6%), meperidine (-26.4%), fentanyl SA (-21.1%);
    - Largest 3 increases: buprenorphine (30.6%), no other increases.
  
- **By specific stimulant drug (Table 1.5).**
  - Highest 3: amphetamine (75.9), methylphenidate (64.0), other unspecified stimulants (45.7);
  - From 2012 to 2013:
    - Largest 3 decreases: benzphetamine (-34.8%), other unspecified stimulants (-7.0%), dexmethylphenidate (-5.1%);
    - Largest 3 increases: amphetamine (6.5%), methylphenidate (5.6%), lisdexamfetamine (3.4%).
  
- **By specific benzodiazepine drug (Table 1.6).**
  - Highest 3: alprazolam (199.0), clonazepam (134.9), diazepam (89.3).
  - From 2012 to 2013:
    - Largest 3 decreases: oxazepam (-17.3%), flurazepam (-16.8%), chlordiazepoxide (-16.3%);
    - Largest 3 increases: other unspecified benzodiazepines (90.2%), no other increases.
  
- **By miscellaneous drug (Table 1.7).**
  - Carisoprodol: 17.3;

- Zolpidem: 132.5.
- From 2012 to 2013:
  - Carisoprodol decreased (-23.5%);
  - Zolpidem decreased (-11.7%).

### ***Mean Daily Dosages in Morphine Milligram Equivalents (MMEs)***

- **Overall and by specific opioid drug (Table 2.1).**

- All opioids (50.9);
- Highest 3: fentanyl SA (450.9), buprenorphine (168.0), fentanyl LA (157.6).  
From 2012 to 2013:
  - Opioids: increased overall (1.3%);
  - Largest 3 decreases: dihydrocodeine (-24.4%), oxymorphone LA (-8.7%), hydromorphone (-3.9%);
  - Largest 3 increases: fentanyl SA (22.3%), oxymorphone SA (7.7%), tapentadol (2.6%).

- **Percent of patients receiving >100 MMEs daily (Table 2.1).**

- All opioids (1.3%).
- From 2012 to 2013:
  - The percent of patients receiving >100 MMEs daily increased (3.6%).

### ***Overlapping Prescriptions***

- **From the same drug class (Table 3.1).**

- Opioids: overlapped with  $\geq 1$  opioid prescription on 15.7% of prescribed days;
- Stimulants: overlapped with  $\geq 1$  stimulant prescription on 12.6% of prescribed days;
- Benzodiazepines: overlapped with  $\geq 1$  benzodiazepine prescription on 8.0% of prescribed days.  
From 2012 to 2013:
  - The percentage of prescribed days overlapping with  $\geq 1$  prescription from the same drug class decreased for opioids (-12.0%), stimulants (-1.3%) and benzodiazepines (-17.5%).

- **Across the opioid and benzodiazepine drug classes (Table 3.2).**

- 21.2% of prescribed opioid days overlapped with  $\geq 1$  benzodiazepine prescription.
- From 2012 to 2013:
  - The overlap decreased (-5.4%).

- **Across opioid release formulations (Table 3.2).**

- 5.7% of LA/ER days overlapped with  $\geq 1$  SA prescription;
- 9.8% of LA/ER days overlapped with  $\geq 1$  LA/ER prescription;

- 9.8% of SA days overlapped with  $\geq 1$  SA prescription.
- From 2012 to 2013:
  - Overlapping LA/ER and SA opioid prescriptions decreased (-1.4%);
  - Overlapping LA/ER and LA/ER opioid prescriptions decreased (-10.4%);
  - Overlapping SA and SA opioid prescriptions decreased (-20.1%).

### ***Multiple Provider Episode Rates per 100,000 Population***

- **By controlled substance schedule (Tables 4.1 and 4.8).**
  - Schedule II:
    - Quarterly: 2.3;
    - Half-year: 15.3;
  - Schedule II or III:
    - Quarterly: 3.3;
    - Half-year: 21.7;
  - Schedules II-IV:
    - Quarterly: 6.1;
    - Half-year: 36.3.
  
- **By drug class (Tables 4.2 and 4.9).**
  - Opioids:
    - Quarterly: 6.1;
    - Half-year: 36.1;
  - Stimulants:
    - Quarterly: 1.5;
    - Half-year: 7.8;
  - Benzodiazepines:
    - Quarterly: 4.3;
    - Half-year: 24.0.
  
- **By drug schedule and age group (Table 4.1 and Table 4.8).**
  - Highest 2 age groups for all schedule combinations (II, II-III, and II-IV), quarterly and half-year MPE: 35-54, followed by 18-34.
  - From 2011 to 2012:
    - Quarterly MPE rates decreased overall, and for all schedule combinations and age groups.
    - Half-year MPE rates decreased for schedule II-III for all age groups.
  
- **By drug class and age group (Table 4.2 and Table 4.9).**
  - Highest 2 age groups for opioid, benzodiazepines, and stimulant drugs, quarterly and half-year MPE: 35-54, followed by 18-34.

- From 2011 to 2012:
  - Quarterly MPE rates decreased overall and for all drug classes and age groups.
  - Half-year MPE rates decreased overall and for all drug classes and age groups.
- **Percent of opioid prescriptions involved in an MPE (Table 4.3).**
  - All opioids: 0.4%;
  - Highest 3: hydromorphone (1.3%), other unspecified opioids (1.0%), buprenorphine (0.9%).
  - From 2012 to 2013:
    - Percentage of opioids prescriptions involved in MPE decreased overall (-56.1%), and for all opioid drugs, except for other unspecified opioids (24.7%)
- **Percent of stimulant prescriptions involved in an MPE (Table 4.4).**
  - All stimulants: 0.1%;
  - Highest 3: dextroamphetamine (0.5%), benzphetamine (0.3%), amphetamine (0.2%).
  - From 2012 to 2013:
    - The percentage stimulants involved in an MPE decreased overall (-48.2%), and for all drugs except benzphetamine (12.0%)
- **Percent of benzodiazepine prescriptions involved in an MPE (Table 4.5).**
  - All benzodiazepines: 0.2%;
  - Highest 3: triazolam (0.3%), clonazepam (0.3%), alprazolam and diazepam (0.2%).
  - From 2012 to 2013:
    - The percentage of benzodiazepines involved in an MPE decreased overall (-55.1%), and for all specific drugs, except for triazolam.
- **Percent of prescriptions for miscellaneous drugs involved in an MPE (4.6).**
  - Carisoprodol: 0.3%;
  - Zolpidem: 0.1%.
  - From 2012 to 2013:
    - The percentage of carisoprodol prescriptions involved in MPE decreased (-46.4%) as well for zolpidem prescriptions (-60.0%) prescriptions.
- **Percent of oxycodone and alprazolam in combination involved in an MPE (Table 4.7).**
  - 0.3% of patients were dispensed oxycodone and alprazolam in an MPE at any time during each quarter.
  - From 2012 to 2013:
    - The percentage of patients with oxycodone and alprazolam in combination involved in an MPE decreased (-43.3%).

- **Number and percent of unique patients with prescriptions paid by cash and by Medicaid (Table 4.10).**
  - Information not presented due to missing data.

### ***Prescriber-Based Measures***

- **Schedule II-IV controlled substance prescriptions by prescriber decile, based on volume (Table 5.1).**
  - All in-state prescribers: 2.0 prescription written daily (100.0% of prescriptions);
  - Top 10% of prescribers: 12.9 prescriptions written daily (63.7% of prescriptions);
  - Top 1% of prescribers: 34.6 prescriptions written daily (17.1% of prescriptions).
  - From 2012 to 2013:
    - The mean number of prescriptions written daily decreased for all in-state prescribers (-7.8%), the top 10% of prescribers (-8.2%), and the top 1% of prescribers (-6.5%).
- **Opioid prescriptions by prescriber decile, based on volume (Table 5.2).**
  - All in-state opioid prescribers: 1.2 prescriptions written daily (100.0% of prescriptions);
  - Top 10% of opioid prescribers: 7.7 prescriptions written daily (63.3% of prescriptions);
  - Top 1% of opioid prescribers: 25.2 prescriptions written daily (20.6% of prescriptions).
  - From 2012 to 2013:
    - The mean number of opioid prescriptions written daily decreased for all in-state opioid prescribers (-7.6%), for the top 10% of opioid prescribers (-6.7%) and the top 1% of opioid prescribers (-1.7%).
- **Stimulant prescriptions by prescriber decile, based on volume (Table 5.3).**
  - All in-state stimulant prescribers: 0.7 prescriptions written daily (100.0% of prescriptions);
  - Top 10% of stimulant prescribers: 3.7 prescriptions written daily (55.7% of prescriptions);
  - Top 1% of stimulant prescribers: 10.2 prescriptions written daily (15.2% of prescriptions).
  - From 2012 to 2013:
    - The mean number of stimulant prescriptions written daily increased for all in-state stimulant prescribers (4.8%), for the top 10% of stimulant prescribers (3.7%), and for the top 1% of stimulant prescribers (5.2%).
- **Benzodiazepine prescriptions by prescriber decile, based on volume (Table 5.4).**
  - All in-state benzodiazepine prescribers: 0.8 prescriptions written daily (100.0% of prescriptions);
  - Top 10% of benzodiazepine prescribers: 5.0 prescriptions written daily (67.1% of prescriptions);
  - Top 1% of benzodiazepine prescribers: 12.3 prescriptions written daily (16.3% of prescriptions).
  - From 2012 to 2013:
    - The mean number of benzodiazepine prescriptions written daily decreased for all in-state benzodiazepine prescribers (-9.6%), the top 10% of benzodiazepine prescribers (-8.9%), and for the top 1% of benzodiazepine prescribers (-9.8%).

- **Carisoprodol prescriptions by prescriber decile, based on volume (Table 5.5).**
  - All in-state carisoprodol prescribers: 0.1 prescriptions written daily (100.0% of prescriptions);
  - Top 10% of carisoprodol prescribers: 0.7 prescriptions written daily (55.4% of prescriptions);
  - Top 1% of carisoprodol prescribers: 2.4 prescriptions written daily (18.4% of prescriptions).
  - From 2012 to 2013:
    - The mean number of carisoprodol prescriptions written daily decreased for all in-state carisoprodol prescribers (-14.3%), the top 10% of carisoprodol prescribers (-11.5%), but increased for the top 1% of carisoprodol prescribers (-3.0%).
  
- **Zolpidem prescriptions by prescriber decile, based on volume (Table 5.6).**
  - All in-state zolpidem prescribers: 0.3 prescriptions written daily (100.0% of prescriptions);
  - Top 10% of zolpidem prescribers: 1.5 prescriptions written daily (48.2% of prescriptions);
  - Top 1% of zolpidem prescribers: 3.1 prescriptions written daily (9.6% of prescriptions).
  - From 2012 to 2013:
    - The mean number of zolpidem prescriptions written daily decreased for all in-state zolpidem prescribers (-3.0%), for the top 10% (-6.1%), and for the top 1% of zolpidem prescribers (-4.1%).
  
- **Mean daily dosage for opioids by prescriber decile, based on volume (Table 5.7).**
  - All in-state opioid prescribers: 49.7 MMEs daily;
  - Top 10% of opioid prescribers: 49.7 MMEs daily;
  - Top 1% of opioid prescribers: 54.7 MMEs daily.
  - From 2012 to 2013:
    - The mean daily dosage for opioid prescriptions increased for all in-state opioid prescribers (1.5%), the top 10% of opioid prescribers (0.3%), but decreased for the top 1% of opioid prescribers (-3.4%).
  
- **Median distance from patient to Schedule II-IV CS prescriber by prescriber decile, based on distance (Table 5.8).**
  - All in-state prescribers: 8.1 miles;
  - Top 10% of prescribers: 57.7 miles;
  - Top 1% of prescribers: 178.6 miles.
  - From 2012 to 2013:
    - The median distance from patient to Schedule II-IV prescriber increased for all in-state prescribers (0.6%), but decreased for the top 10% of prescribers (-11.2%) and for the top 1% of prescribers (-3.8%).
  
- **Median distance from patient to opioid prescriber by prescriber decile, based on distance (Table 5.9).**
  - All in-state opioid prescribers: 9.7 miles;
  - Top 10% of opioid prescribers: 62.1 miles;
  - Top 1% of opioid prescribers: 178.7 miles.

- From 2012 to 2013:
  - The median distance from patient to opioid prescriber increased for all in-state prescribers (4.6%) but decreased for the top 10% of prescribers (-9.0%), and for the top 1% of prescribers (-0.6%).
- **Percentage of patients with an MPE by prescriber decile, based on distance (Table 5.10).**
  - All in-state prescribers: 0.3%;
  - Top 10% of prescribers: 0.6%;
  - Top 1% of prescribers: 0.7%.
  - From 2012 to 2013:
    - The percentage of patients with an MPE decreased for all in-state prescribers (-54.4%), the top 10% of prescribers (-45.6%), and the top 1% of prescribers (-37.6%).
- **Prescriptions by payment type (limited to in-state prescribers) (Table 5.11).**
  - Information not presented due to missing data.
- **Percentage of prescribers with ≥10% of prescriptions paid for in cash (Table 5.11).**
  - Information not presented due to missing data.

### ***Long-Acting/Extended Release Opioid Measures***

- **Percentage of opioid-naïve patients (Table 6.1).**
  - 12.7% of patients who received a long-acting/extended release opioid prescription in each quarter had not received any opioid prescriptions in the previous 60 days.
  - From 2012 to 2013:
    - The percentage of opioid-naïve patients increased (3.6%).
- **Average daily dosage per LA/ER opioid prescription to opioid-naïve patients (Table 6.1).**
  - 136.9 MMEs.
  - From 2012 to 2013:
    - The average daily dosage increased (0.9%).

### ***Pharmacy-Based Measures***

- **Schedule II-IV controlled substance prescriptions by pharmacy decile, based on volume (Table 7.1).**
  - All in-state pharmacies: 24.8 prescriptions dispensed daily (100.0% of prescriptions);
  - Top 10% of pharmacies: 62.7 prescriptions dispensed daily (25.2% of prescriptions);
  - Top 1% of pharmacies: 107.1 prescriptions dispensed daily (4.1% of prescriptions).
  - From 2012 to 2013:
    - The mean number of prescriptions dispensed daily decreased for all in-state pharmacies

(-2.3%), the top 10% of pharmacies (-5.8%), and the top 1% of pharmacies (-5.4%).

- **Opioid prescriptions by pharmacy decile, based on volume (Table 7.2).**

- All in-state pharmacies: 13.3 prescriptions dispensed daily (100.0% of prescriptions);
- Top 10% of pharmacies: 35.0 prescriptions dispensed daily (26.3% of prescriptions);
- Top 1% of pharmacies: 65.0 prescriptions dispensed daily (4.8% of prescriptions).
- From 2012 to 2013:
  - The mean number of prescriptions dispensed daily decreased for all in-state pharmacies (-6.2%), for the top 10% of pharmacies (-6.9%), and for the top 1% of pharmacies (-4.3%).

- **Stimulant prescriptions by pharmacy decile, based on volume (Table 7.3).**

- All in-state pharmacies: 2.8 prescriptions dispensed daily (100.0% of prescriptions);
- Top 10% of pharmacies: 9.2 prescriptions dispensed daily (32.7% of prescriptions);
- Top 1% of pharmacies: 16.8 prescriptions dispensed daily (5.5% of prescriptions).
- From 2012 to 2013:
  - The mean number of stimulant prescriptions dispensed daily increased for all in-state pharmacies (1.5%), the top 10% of pharmacies (4.4%), and the top 1% of pharmacies (7.8%).

- **Benzodiazepine prescriptions by pharmacy decile, based on volume (Table 7.4).**

- All in-state pharmacies: 6.0 prescriptions dispensed daily (100.0% of prescriptions);
- Top 10% of pharmacies: 15.1 prescriptions dispensed daily (25.1% of prescriptions);
- Top 1% of pharmacies: 26.9 prescriptions dispensed daily (4.4% of prescriptions).
- From 2012 to 2013:
  - The mean number of benzodiazepine prescriptions dispensed daily decreased for all in-state pharmacies (-7.6%), the top 10% of pharmacies (-10.2%), and for the top 1% of pharmacies (-13.6%).

- **Carisoprodol prescriptions by pharmacy decile, based on volume (Table 7.5).**

- All in-state pharmacies: 0.2 prescriptions dispensed daily (100.0% of prescriptions);
- Top 10% of pharmacies: 0.8 prescriptions dispensed daily (37.4% of prescriptions);
- Top 1% of pharmacies: 2.0 prescriptions dispensed daily (8.6% of prescriptions).
- From 2012 to 2013:
  - The mean number of carisoprodol prescriptions dispensed daily decreased for all in-state pharmacies (-21.4%), the top 10% of pharmacies (-22.1%), and the top 1% of pharmacies (-22.2%).

- **Zolpidem prescriptions by pharmacy decile, based on volume (Table 7.6).**

- All in-state pharmacies: 1.4 prescriptions dispensed daily (100.0% of prescriptions);
- Top 10% of pharmacies: 4.1 prescriptions dispensed daily (27.9% of prescriptions);
- Top 1% of pharmacies: 7.2 prescriptions dispensed daily (4.8% of prescriptions).

- From 2012 to 2013:
  - The mean number of zolpidem prescriptions dispensed daily decreased for all in-state pharmacies (-12.2%), and for the top 10% of pharmacies (-7.7%), but increased for the top 1% of pharmacies (0.7%).
  
- **Mean daily dosage for opioids by pharmacy decile, based on volume (Table 7.7).**
  - All in-state pharmacies: 51.0 MMEs daily;
  - Top 10% of pharmacies: 53.9 MMEs daily;
  - Top 1% of pharmacies: 59.3 MMEs daily.
  - From 2012 to 2013:
    - The mean daily dosage for opioid prescriptions increased for all in-state pharmacies (1.6%), the top 10% of pharmacies (2.5%), and the top 1% of pharmacies (2.2%).
  
- **Median distance from patient to pharmacy for all Schedule II-IV prescriptions by pharmacy decile, based on distance (Table 7.8).**
  - All in-state pharmacies: 0.0 miles;
  - Top 10% of pharmacies: 10.3 miles;
  - Top 1% of pharmacies: 98.2 miles.
  - From 2012 to 2013:
    - The median distance from patient to pharmacy increased for the top 1% of all in-state pharmacies (20.5%) but decreased for the top 10% of pharmacies (-4.9%).
  
- **Median distance from patient to pharmacy for opioid prescriptions by pharmacy decile, based on distance (Table 7.9).**
  - All in-state pharmacies: 0.0 miles;
  - Top 10% of pharmacies: 10.0 miles;
  - Top 1% of pharmacies: 102.3 miles.
  - From 2012 to 2013:
    - The median distance from patient to pharmacy decreased for all in-state pharmacies (-100.0%), and for the top 10% of pharmacies (-2.3%), but increased for the top 1% of pharmacies (24.2%).
  
- **Percentage of patients with an MPE by pharmacy decile, based on distance (Table 7.10).**
  - All in-state pharmacies: 0.3%;
  - Top 10% of pharmacies: 0.3%;
  - Top 1% of pharmacies: 0.2%.
  - From 2012 to 2013:
    - The percentage of patients with an MPE decreased for all in-state pharmacies (-55.7%), the top 10% of pharmacies (-45.1%), and the top 1% of pharmacies (-48.4%).

- **Prescriptions by payment type (limited to in-state pharmacies) (Table 7.11).**
  - Information not presented due to missing data.
  
- **Percentage of pharmacies with  $\geq 10\%$  of prescriptions dispensed paid for in cash (Table 7.11).**
  - Information not presented due to missing data.
  
- **Pharmacies that filled Schedule II-IV CS prescriptions paid for by Medicaid and by cash (Table 7.11).**
  - Information not presented due to missing data.

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# **TABLES**

**Table 1.1 - Prescription rates by quarter and year<sup>a</sup> by drug class and sex**

**Kentucky**

| Drug Class         | Sex     | Jan-<br>Mar<br>2012 | Apr-<br>Jun<br>2012 | Jul-<br>Sep<br>2012 | Oct-<br>Dec<br>2012 | Jan-<br>Mar<br>2013 | Apr-<br>Jun<br>2013 | Jul-<br>Sep<br>2013 | Oct-<br>Dec<br>2013 | Annual<br>Rate<br>2012 | Annual<br>Rate<br>2013 | % Chg.<br>2012 to<br>2013 |
|--------------------|---------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|---------------------------|
| 1. Opioids         | Missing | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                   | 0.00                   | -                         |
|                    | Male    | 297.02              | 317.11              | 303.54              | 278.26              | 272.80              | 278.48              | 280.37              | 275.40              | 1195.93                | 1107.05                | -7.43                     |
|                    | Female  | 366.91              | 392.25              | 373.00              | 341.66              | 329.24              | 336.27              | 338.02              | 329.23              | 1473.82                | 1332.76                | -9.57                     |
|                    | Total   | 334.15              | 356.29              | 339.29              | 310.85              | 301.94              | 308.31              | 310.15              | 303.23              | 1340.58                | 1223.63                | -8.72                     |
| 2. Stimulants      | Missing | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                   | 0.00                   | -                         |
|                    | Male    | 62.59               | 62.85               | 64.22               | 66.24               | 68.66               | 64.56               | 65.42               | 68.33               | 255.90                 | 266.97                 | 4.33                      |
|                    | Female  | 56.61               | 60.06               | 59.49               | 57.08               | 58.76               | 58.51               | 58.10               | 57.31               | 233.24                 | 232.68                 | -0.24                     |
|                    | Total   | 59.67               | 61.50               | 61.86               | 61.63               | 63.65               | 61.51               | 61.72               | 62.75               | 244.66                 | 249.63                 | 2.03                      |
| 3. Benzodiazepines | Missing | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                   | 0.00                   | -                         |
|                    | Male    | 110.07              | 115.78              | 113.23              | 104.27              | 100.83              | 100.28              | 99.88               | 98.50               | 443.35                 | 399.49                 | -9.89                     |
|                    | Female  | 192.75              | 204.63              | 201.15              | 185.68              | 177.71              | 176.68              | 176.16              | 172.08              | 784.21                 | 702.63                 | -10.40                    |
|                    | Total   | 152.82              | 161.28              | 158.04              | 145.73              | 140.16              | 139.38              | 138.93              | 136.16              | 617.87                 | 554.63                 | -10.24                    |

**Notes:**

<sup>a</sup>Reported by quarter and year per 1,000 state residents. Limited to prescriptions to state residents in state's PDMP. Totals include prescriptions with missing data on age and sex.

**State Notes:**

Please refer to the Appendix 2 table for information on the % missing data for sex, age, payment type, patient ZIP code and prescriber ZIP Code, by quarter.

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 1.2 - Prescription rates by quarter and year<sup>a</sup> by drug class and age group**

**Kentucky**

| Drug Class         | Age Category | Jan-Mar<br>2012 | Apr-Jun<br>2012 | Jul-Sep<br>2012 | Oct-Dec<br>2012 | Jan-Mar<br>2013 | Apr-Jun<br>2013 | Jul-Sep<br>2013 | Oct-Dec<br>2013 | Annual<br>Rate<br>2012 | Annual<br>Rate<br>2013 | % Chg.<br>2012 to<br>2013 |
|--------------------|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------|------------------------|---------------------------|
| 1. Opioids         | Missing      | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            | 0.00                   | 0.00                   | -                         |
|                    | <18          | 19.92           | 23.42           | 21.66           | 20.08           | 17.21           | 19.38           | 20.30           | 19.63           | 85.08                  | 76.52                  | -10.06                    |
|                    | 18-24        | 124.70          | 139.20          | 132.26          | 119.17          | 105.06          | 111.50          | 118.24          | 111.79          | 515.33                 | 446.59                 | -13.34                    |
|                    | 25-34        | 335.26          | 357.39          | 340.82          | 305.21          | 292.20          | 303.53          | 306.87          | 299.43          | 1338.68                | 1202.03                | -10.21                    |
|                    | 35-44        | 443.41          | 466.54          | 440.96          | 400.00          | 390.17          | 392.74          | 394.73          | 387.56          | 1750.91                | 1565.20                | -10.61                    |
|                    | 45-54        | 536.80          | 568.39          | 539.41          | 498.19          | 475.48          | 479.26          | 482.96          | 474.97          | 2142.79                | 1912.67                | -10.74                    |
|                    | 55-64        | 543.41          | 578.74          | 556.84          | 520.17          | 510.51          | 519.95          | 522.89          | 517.64          | 2199.16                | 2070.99                | -5.83                     |
|                    | 65 and older | 547.39          | 582.42          | 558.92          | 509.79          | 460.75          | 472.54          | 468.29          | 451.40          | 2198.52                | 1852.98                | -15.72                    |
|                    | Total        | 334.15          | 356.29          | 339.29          | 310.85          | 301.94          | 308.31          | 310.15          | 303.23          | 1340.58                | 1223.63                | -8.72                     |
| 2. Stimulants      | Missing      | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            | 0.00                   | 0.00                   | -                         |
|                    | <18          | 115.89          | 114.06          | 119.41          | 127.93          | 135.73          | 124.73          | 128.40          | 138.54          | 477.29                 | 527.40                 | 10.50                     |
|                    | 18-24        | 57.83           | 56.39           | 56.26           | 53.56           | 61.33           | 56.10           | 55.75           | 54.35           | 224.04                 | 227.53                 | 1.56                      |
|                    | 25-34        | 56.19           | 60.60           | 58.92           | 54.36           | 57.99           | 59.50           | 57.61           | 55.13           | 230.07                 | 230.23                 | 0.07                      |
|                    | 35-44        | 59.41           | 64.36           | 62.14           | 57.12           | 60.85           | 63.08           | 61.36           | 58.52           | 243.03                 | 243.81                 | 0.32                      |
|                    | 45-54        | 42.68           | 47.23           | 45.56           | 42.39           | 44.25           | 45.75           | 45.47           | 43.42           | 177.86                 | 178.89                 | 0.58                      |
|                    | 55-64        | 26.73           | 29.95           | 29.05           | 26.97           | 28.01           | 29.39           | 28.83           | 27.74           | 112.70                 | 113.97                 | 1.13                      |
|                    | 65 and older | 8.86            | 9.80            | 9.37            | 8.54            | 8.40            | 8.68            | 8.48            | 7.95            | 36.57                  | 33.51                  | -8.37                     |
|                    | Total        | 59.67           | 61.50           | 61.86           | 61.63           | 63.65           | 61.51           | 61.72           | 62.75           | 244.66                 | 249.63                 | 2.03                      |
| 3. Benzodiazepines | Missing      | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            | 0.00                   | 0.00                   | -                         |
|                    | <18          | 5.17            | 5.59            | 6.34            | 5.44            | 5.11            | 5.51            | 6.37            | 5.88            | 22.54                  | 22.87                  | 1.46                      |
|                    | 18-24        | 23.41           | 25.91           | 25.42           | 22.42           | 19.02           | 18.78           | 19.18           | 19.52           | 97.16                  | 76.50                  | -21.26                    |
|                    | 25-34        | 100.01          | 104.67          | 99.07           | 87.92           | 78.38           | 77.35           | 77.14           | 76.93           | 391.67                 | 309.80                 | -20.90                    |
|                    | 35-44        | 177.41          | 184.05          | 177.28          | 161.04          | 151.71          | 149.10          | 148.73          | 145.81          | 699.78                 | 595.35                 | -14.92                    |
|                    | 45-54        | 251.08          | 264.02          | 258.80          | 239.56          | 224.21          | 221.55          | 221.31          | 218.27          | 1013.46                | 885.34                 | -12.64                    |
|                    | 55-64        | 267.97          | 285.40          | 282.72          | 265.19          | 258.55          | 258.64          | 259.44          | 255.93          | 1101.28                | 1032.56                | -6.24                     |
|                    | 65 and older | 337.57          | 356.27          | 352.28          | 326.89          | 291.60          | 291.48          | 286.73          | 277.07          | 1373.01                | 1146.88                | -16.47                    |
|                    | Total        | 152.82          | 161.28          | 158.04          | 145.73          | 140.16          | 139.38          | 138.93          | 136.16          | 617.87                 | 554.63                 | -10.24                    |

**Notes:**

<sup>a</sup>Reported by quarter and year per 1,000 state residents. Limited to prescriptions to state residents in state's PDMP.

**State Notes:**

Please refer to the Appendix 2 table for information on the % missing data for sex, age, payment type, patient ZIP code and prescriber ZIP Code, by quarter.

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 1.3 - Prescription rates by year<sup>a</sup>, by drug class, sex and age group**

**Kentucky**

| Drug Class         | Age Category | Annual Rate 2012 |         |            | Annual Rate 2013 |         |            |
|--------------------|--------------|------------------|---------|------------|------------------|---------|------------|
|                    |              | Female           | Male    | Both Sexes | Female           | Male    | Both Sexes |
| 1. Opioids         | Missing      | -                | -       | -          | -                | -       | -          |
|                    | <18          | 85.24            | 81.14   | 85.08      | 76.88            | 71.62   | 76.52      |
|                    | 18-24        | 632.58           | 400.82  | 515.32     | 538.41           | 355.26  | 446.58     |
|                    | 25-34        | 1513.85          | 1162.49 | 1338.69    | 1337.87          | 1062.59 | 1202.04    |
|                    | 35-44        | 1885.78          | 1609.37 | 1750.91    | 1668.55          | 1457.82 | 1565.20    |
|                    | 45-54        | 2261.73          | 2012.45 | 2142.79    | 2018.54          | 1799.91 | 1912.66    |
|                    | 55-64        | 2262.16          | 2123.48 | 2199.15    | 2104.57          | 2032.01 | 2070.99    |
|                    | 65 and older | 2390.86          | 1927.13 | 2198.53    | 2022.31          | 1632.58 | 1852.99    |
|                    | Total        | 1473.82          | 1195.93 | 1340.59    | 1332.76          | 1107.05 | 1223.63    |
| 2. Stimulants      | Missing      | -                | -       | -          | -                | -       | -          |
|                    | <18          | 284.80           | 659.55  | 477.29     | 315.36           | 728.91  | 527.40     |
|                    | 18-24        | 218.10           | 229.40  | 224.04     | 215.94           | 238.62  | 227.52     |
|                    | 25-34        | 306.82           | 154.53  | 230.06     | 292.73           | 166.93  | 230.22     |
|                    | 35-44        | 347.05           | 139.03  | 243.04     | 339.20           | 147.17  | 243.81     |
|                    | 45-54        | 255.74           | 97.40   | 177.87     | 257.04           | 98.19   | 178.89     |
|                    | 55-64        | 154.07           | 68.39   | 112.70     | 154.13           | 70.93   | 113.97     |
|                    | 65 and older | 43.49            | 27.13   | 36.57      | 40.58            | 24.37   | 33.52      |
|                    | Total        | 233.24           | 255.91  | 244.65     | 232.69           | 266.97  | 249.63     |
| 3. Benzodiazepines | Missing      | -                | -       | -          | -                | -       | -          |
|                    | <18          | 21.50            | 21.82   | 22.54      | 21.72            | 21.61   | 22.86      |
|                    | 18-24        | 119.02           | 75.70   | 97.16      | 89.61            | 63.28   | 76.50      |
|                    | 25-34        | 510.99           | 273.73  | 391.68     | 398.40           | 219.98  | 309.80     |
|                    | 35-44        | 894.17           | 503.81  | 699.78     | 761.44           | 426.89  | 595.36     |
|                    | 45-54        | 1250.68          | 765.91  | 1013.46    | 1097.32          | 665.07  | 885.33     |
|                    | 55-64        | 1332.43          | 850.44  | 1101.29    | 1245.39          | 803.68  | 1032.56    |
|                    | 65 and older | 1642.74          | 1002.28 | 1373.00    | 1396.99          | 823.12  | 1146.88    |
|                    | Total        | 784.21           | 443.35  | 617.87     | 702.63           | 399.50  | 554.62     |

**Notes:**

<sup>a</sup>Reported by quarter and year per 1,000 state residents. Limited to prescriptions to state residents in state's PDMP. Totals include prescriptions with missing data on age and sex.

**State Notes:**

Please refer to the Appendix 2 table for information on the % missing data for sex, age, payment type, patient ZIP code and prescriber ZIP Code, by quarter.

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 1.4 - Prescription rates by quarter and year<sup>a</sup> by major opioid drug category**

**Kentucky**

| Drug           | Jan-<br>Mar<br>2012 | Apr-<br>Jun<br>2012 | Jul-<br>Sep<br>2012 | Oct-<br>Dec<br>2012 | Jan-<br>Mar<br>2013 | Apr-<br>Jun<br>2013 | Jul-<br>Sep<br>2013 | Oct-<br>Dec<br>2013 | Annual<br>Rate<br>2012 | Annual<br>Rate<br>2013 | % Chg.<br>2012 to<br>2013 |
|----------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|---------------------------|
| Buprenorphine  | 18.58               | 20.68               | 24.65               | 24.47               | 25.25               | 28.91               | 30.04               | 31.18               | 88.38                  | 115.38                 | 30.55                     |
| Butorphanol    | 0.58                | 0.61                | 0.59                | 0.55                | 0.53                | 0.53                | 0.51                | 0.50                | 2.33                   | 2.07                   | -11.16                    |
| Codeine        | 9.37                | 9.60                | 10.80               | 10.35               | 9.91                | 9.35                | 9.01                | 8.54                | 40.12                  | 36.81                  | -8.25                     |
| Dihydrocodeine | 0.04                | 0.02                | 0.01                | 0.02                | 0.01                | 0.01                | 0.01                | 0.01                | 0.09                   | 0.04                   | -55.56                    |
| Fentanyl LA    | 5.16                | 5.54                | 5.49                | 5.04                | 4.88                | 4.87                | 4.88                | 4.70                | 21.23                  | 19.33                  | -8.95                     |
| Fentanyl SA    | 0.05                | 0.05                | 0.05                | 0.04                | 0.04                | 0.04                | 0.03                | 0.04                | 0.19                   | 0.15                   | -21.05                    |
| Hydrocodone SA | 197.20              | 209.94              | 193.41              | 176.57              | 172.19              | 173.83              | 173.91              | 168.07              | 777.12                 | 688.00                 | -11.47                    |
| Hydromorphone  | 1.56                | 1.71                | 1.61                | 1.54                | 1.47                | 1.51                | 1.48                | 1.51                | 6.42                   | 5.97                   | -7.01                     |
| Meperidine     | 0.36                | 0.36                | 0.30                | 0.27                | 0.25                | 0.24                | 0.24                | 0.22                | 1.29                   | 0.95                   | -26.36                    |
| Methadone      | 4.58                | 4.84                | 4.71                | 4.39                | 4.16                | 4.11                | 4.03                | 3.72                | 18.52                  | 16.02                  | -13.50                    |
| Morphine LA    | 5.60                | 6.09                | 6.13                | 5.82                | 5.59                | 5.68                | 5.78                | 5.72                | 23.64                  | 22.77                  | -3.68                     |
| Morphine SA    | 1.94                | 2.14                | 2.12                | 1.90                | 1.63                | 1.67                | 1.75                | 1.69                | 8.10                   | 6.74                   | -16.79                    |
| Oxycodone LA   | 4.43                | 4.83                | 4.72                | 4.39                | 4.12                | 4.08                | 4.05                | 4.04                | 18.37                  | 16.29                  | -11.32                    |
| Oxycodone SA   | 54.31               | 57.62               | 54.05               | 49.07               | 47.08               | 47.78               | 48.38               | 48.01               | 215.05                 | 191.25                 | -11.07                    |
| Oxymorphone LA | 1.38                | 1.08                | 0.93                | 0.84                | 0.82                | 0.86                | 0.87                | 0.89                | 4.23                   | 3.44                   | -18.68                    |
| Oxymorphone SA | 0.15                | 0.12                | 0.12                | 0.12                | 0.11                | 0.12                | 0.11                | 0.11                | 0.51                   | 0.45                   | -11.76                    |
| Pentazocine    | 0.51                | 0.54                | 0.59                | 0.53                | 0.48                | 0.44                | 0.46                | 0.42                | 2.17                   | 1.80                   | -17.05                    |
| Tapentadol     | 0.74                | 0.88                | 0.86                | 0.82                | 0.76                | 0.74                | 0.67                | 0.64                | 3.30                   | 2.81                   | -14.85                    |
| Other Opioids  | 0.05                | 0.05                | 0.05                | 0.05                | 0.05                | 0.04                | 0.05                | 0.05                | 0.20                   | 0.19                   | -5.00                     |
| <b>Total</b>   | <b>334.14</b>       | <b>356.29</b>       | <b>339.30</b>       | <b>310.86</b>       | <b>301.92</b>       | <b>308.31</b>       | <b>310.15</b>       | <b>303.24</b>       | <b>1340.59</b>         | <b>1223.62</b>         | <b>-8.73</b>              |

**Notes:**

<sup>a</sup>Reported by quarter and year per 1,000 state residents. Limited to prescriptions to state residents in state's PDMP.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 1.5 - Prescription rates by quarter and year<sup>a</sup> by major stimulant drug category**

**Kentucky**

| Drug                     | Jan-<br>Mar<br>2012 | Apr-<br>Jun<br>2012 | Jul-<br>Sep<br>2012 | Oct-<br>Dec<br>2012 | Jan-<br>Mar<br>2013 | Apr-<br>Jun<br>2013 | Jul-<br>Sep<br>2013 | Oct-<br>Dec<br>2013 | Annual<br>Rate<br>2012 | Annual<br>Rate<br>2013 | % Chg.<br>2012 to<br>2013 |
|--------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|---------------------------|
| Amphetamine <sup>b</sup> | 16.85               | 17.73               | 18.25               | 18.50               | 18.91               | 18.51               | 18.90               | 19.61               | 71.33                  | 75.93                  | 6.45                      |
| Benzphetamine            | 0.06                | 0.07                | 0.05                | 0.05                | 0.04                | 0.04                | 0.04                | 0.03                | 0.23                   | 0.15                   | -34.78                    |
| Dexmethylphenidate       | 4.58                | 4.26                | 4.38                | 4.54                | 4.54                | 4.05                | 4.07                | 4.19                | 17.76                  | 16.85                  | -5.12                     |
| Dextroamphetamine        | 0.61                | 0.56                | 0.54                | 0.53                | 0.55                | 0.56                | 0.56                | 0.55                | 2.24                   | 2.22                   | -0.89                     |
| Lisdexamfetamine         | 10.52               | 10.59               | 10.92               | 11.31               | 11.54               | 10.75               | 10.94               | 11.56               | 43.34                  | 44.79                  | 3.35                      |
| Methylphenidate          | 14.83               | 14.77               | 15.27               | 15.79               | 16.52               | 15.40               | 15.71               | 16.41               | 60.66                  | 64.04                  | 5.57                      |
| Other Stimulants         | 12.22               | 13.52               | 12.45               | 10.91               | 11.56               | 12.20               | 11.50               | 10.40               | 49.10                  | 45.66                  | -7.01                     |
| Total                    | 59.67               | 61.50               | 61.86               | 61.63               | 63.66               | 61.51               | 61.72               | 62.75               | 244.66                 | 249.64                 | 2.04                      |

**Notes:**

<sup>a</sup>Reported by quarter and year per 1,000 state residents. Limited to prescriptions to state residents in state's PDMP.

<sup>b</sup>Includes amphetamine-dextroamphetamine.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 1.6 - Prescription rates by quarter and year<sup>a</sup> by major benzodiazepine drug category**

**Kentucky**

| Drug                  | Jan-<br>Mar<br>2012 | Apr-<br>Jun<br>2012 | Jul-<br>Sep<br>2012 | Oct-<br>Dec<br>2012 | Jan-<br>Mar<br>2013 | Apr-<br>Jun<br>2013 | Jul-<br>Sep<br>2013 | Oct-<br>Dec<br>2013 | Annual<br>Rate<br>2012 | Annual<br>Rate<br>2013 | % Chg.<br>2012 to<br>2013 |
|-----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|---------------------------|
| Alprazolam            | 57.35               | 59.41               | 57.82               | 53.35               | 50.89               | 50.19               | 49.61               | 48.32               | 227.93                 | 199.01                 | -12.69                    |
| Chlordiazepoxide      | 1.17                | 1.20                | 1.18                | 1.05                | 0.99                | 0.96                | 0.97                | 0.93                | 4.60                   | 3.85                   | -16.30                    |
| Clonazepam            | 34.73               | 37.09               | 36.78               | 34.16               | 33.44               | 33.78               | 33.97               | 33.73               | 142.76                 | 134.92                 | -5.49                     |
| Clorazepate           | 0.91                | 1.02                | 1.06                | 1.06                | 1.01                | 1.01                | 0.98                | 0.98                | 4.05                   | 3.98                   | -1.73                     |
| Diazepam              | 24.96               | 26.81               | 25.66               | 23.43               | 22.62               | 22.37               | 22.37               | 21.90               | 100.86                 | 89.26                  | -11.50                    |
| Estazolam             | 0.08                | 0.08                | 0.08                | 0.07                | 0.07                | 0.07                | 0.06                | 0.06                | 0.31                   | 0.26                   | -16.13                    |
| Flurazepam            | 0.32                | 0.33                | 0.33                | 0.33                | 0.29                | 0.27                | 0.27                | 0.26                | 1.31                   | 1.09                   | -16.79                    |
| Lorazepam             | 23.07               | 24.54               | 24.41               | 22.29               | 21.25               | 21.28               | 21.21               | 20.69               | 94.31                  | 84.43                  | -10.48                    |
| Oxazepam              | 0.71                | 0.72                | 0.71                | 0.64                | 0.61                | 0.57                | 0.57                | 0.55                | 2.78                   | 2.30                   | -17.27                    |
| Temazepam             | 8.62                | 9.08                | 8.95                | 8.38                | 8.01                | 7.89                | 7.89                | 7.71                | 35.03                  | 31.50                  | -10.08                    |
| Triazolam             | 0.84                | 0.89                | 0.92                | 0.84                | 0.85                | 0.82                | 0.82                | 0.80                | 3.49                   | 3.29                   | -5.73                     |
| Other Benzodiazepines | 0.05                | 0.10                | 0.13                | 0.13                | 0.15                | 0.18                | 0.22                | 0.23                | 0.41                   | 0.78                   | 90.24                     |
| <b>Total</b>          | <b>152.81</b>       | <b>161.27</b>       | <b>158.03</b>       | <b>145.73</b>       | <b>140.18</b>       | <b>139.39</b>       | <b>138.94</b>       | <b>136.16</b>       | <b>617.84</b>          | <b>554.67</b>          | <b>-10.22</b>             |

**Notes:**

<sup>a</sup>Reported by quarter and year per 1,000 state residents. Limited to prescriptions to state residents in state's PDMP.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 1.7 - Prescription rates by quarter and year<sup>a</sup> by miscellaneous drug category**

**Kentucky**

| Drug         | Jan-<br>Mar<br>2012 | Apr-<br>Jun<br>2012 | Jul-<br>Sep<br>2012 | Oct-<br>Dec<br>2012 | Jan-<br>Mar<br>2013 | Apr-<br>Jun<br>2013 | Jul-<br>Sep<br>2013 | Oct-<br>Dec<br>2013 | Annual<br>Rate<br>2012 | Annual<br>Rate<br>2013 | % Chg.<br>2012 to<br>2013 |
|--------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|---------------------------|
| Carisoprodol | 6.04                | 6.09                | 5.60                | 4.93                | 4.58                | 4.56                | 4.27                | 3.92                | 22.66                  | 17.33                  | -23.52                    |
| Zolpidem     | 36.42               | 39.12               | 38.64               | 35.86               | 34.08               | 33.33               | 32.87               | 32.24               | 150.04                 | 132.52                 | -11.68                    |

**Notes:**

<sup>a</sup>Reported by quarter and year per 1,000 state residents. Limited to prescriptions to state residents in state's PDMP.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 2.1 - Mean daily dosage<sup>a</sup> per patient in morphine milligram equivalents (MMEs) by quarter and year<sup>b</sup>, by major opioid drug category**

**Kentucky**

| Opioid Drug (including combinations) | Jan-Mar 2012 | Apr-Jun 2012 | Jul-Sep 2012 | Oct-Dec 2012 | Jan-Mar 2013 | Apr-Jun 2013 | Jul-Sep 2013 | Oct-Dec 2013 | Annual Average 2012 | Annual Average 2013 | % Chg. 2012 to 2013 |
|--------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------------|---------------------|---------------------|
| % rec > 100 MMEs daily <sup>c</sup>  | 7.65         | 7.43         | 7.72         | 7.95         | 8.17         | 8.06         | 7.82         | 7.81         | 7.69                | 7.97                | 3.64                |
| Buprenorphine                        | 174.13       | 171.60       | 171.49       | 169.90       | 170.26       | 168.66       | 167.08       | 165.83       | 171.78              | 167.96              | -2.22               |
| Butorphanol                          | 15.44        | 14.65        | 15.17        | 15.92        | 16.30        | 15.93        | 15.62        | 14.87        | 15.30               | 15.68               | 2.48                |
| Codeine                              | 17.03        | 16.95        | 17.12        | 17.02        | 17.45        | 17.08        | 17.04        | 16.94        | 17.03               | 17.13               | 0.59                |
| Dihydrocodeine                       | 24.77        | 25.66        | 24.66        | 23.87        | 23.92        | 21.57        | 13.86        | 15.43        | 24.74               | 18.70               | -24.41              |
| Fentanyl LA                          | 156.63       | 156.47       | 158.00       | 158.35       | 157.48       | 157.88       | 157.89       | 157.00       | 157.36              | 157.56              | 0.13                |
| Fentanyl SA <sup>d</sup>             | 353.99       | 363.71       | 380.70       | 376.16       | 374.18       | 431.91       | 446.27       | 551.18       | 368.64              | 450.89              | 22.31               |
| Hydrocodone SA                       | 28.71        | 28.38        | 28.28        | 28.29        | 28.48        | 28.23        | 28.15        | 28.08        | 28.42               | 28.24               | -0.63               |
| Hydromorphone                        | 89.81        | 101.22       | 93.18        | 92.18        | 90.41        | 90.50        | 92.99        | 87.82        | 94.10               | 90.43               | -3.90               |
| Meperidine                           | 22.14        | 22.09        | 21.68        | 22.33        | 21.78        | 22.18        | 21.57        | 21.20        | 22.06               | 21.68               | -1.72               |
| Methadone                            | 147.61       | 146.88       | 146.42       | 146.30       | 144.31       | 143.92       | 142.74       | 141.31       | 146.80              | 143.07              | -2.54               |
| Morphine LA                          | 97.38        | 97.69        | 96.76        | 95.15        | 95.06        | 94.38        | 93.48        | 92.16        | 96.75               | 93.77               | -3.08               |
| Morphine SA                          | 87.17        | 94.14        | 91.00        | 90.03        | 86.96        | 88.83        | 92.53        | 84.63        | 90.59               | 88.24               | -2.59               |
| Oxycodone LA                         | 144.07       | 144.18       | 144.45       | 142.84       | 142.82       | 141.34       | 139.12       | 136.14       | 143.89              | 139.86              | -2.80               |
| Oxycodone SA                         | 70.38        | 69.84        | 70.19        | 69.08        | 68.95        | 67.71        | 66.39        | 66.04        | 69.87               | 67.27               | -3.72               |
| Oxymorphone LA                       | 176.13       | 169.99       | 163.32       | 159.76       | 158.40       | 156.75       | 151.15       | 144.55       | 167.30              | 152.71              | -8.72               |
| Oxymorphone SA                       | 81.75        | 86.13        | 95.88        | 96.03        | 99.09        | 95.07        | 97.36        | 95.92        | 89.95               | 96.86               | 7.68                |
| Pentazocine                          | 60.88        | 59.01        | 59.98        | 61.39        | 61.32        | 60.35        | 60.47        | 59.46        | 60.32               | 60.40               | 0.13                |
| Tapentadol                           | 107.23       | 107.91       | 106.12       | 106.23       | 109.85       | 108.61       | 109.92       | 110.36       | 106.87              | 109.69              | 2.64                |
| Other Opioid                         | 131.97       | 137.29       | 126.94       | 109.25       | 105.94       | 132.87       | 134.40       | 125.66       | 126.36              | 124.72              | -1.30               |
| Any Opioid                           | 50.28        | 49.86        | 50.44        | 50.59        | 51.16        | 50.95        | 50.78        | 50.77        | 50.29               | 50.92               | 1.25                |

**Notes:**

<sup>a</sup> Mean daily dosage is calculated for subjects that have a prescription in a given quarter and refers to MMEs per day prescribed (total number of MMEs prescribed divided by the total number of prescription days).

<sup>b</sup>Limited to prescriptions to state residents in state's PDMP.

<sup>c</sup>The % of patients receiving >100 MMEs daily refers to the % of patients with > 100 MMEs per day prescribed for all drugs used by the patient, calculated using the average daily MMEs over the three month period.

<sup>d</sup>Fentanyl SA products are not necessarily bioequivalent to each other and do not lend themselves readily to calculation of MMEs as a group. The MMEs shown here for fentanyl SA are likely an overestimate and the data should be interpreted with caution.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 3.1 - Percentage of prescribed days overlapping with another prescription from the same drug class<sup>a</sup>, by quarter and year<sup>b</sup>**

**Kentucky**

| Drug Class      | Jan-<br>Mar<br>2012 | Apr-<br>Jun<br>2012 | Jul-<br>Sep<br>2012 | Oct-<br>Dec<br>2012 | Jan-<br>Mar<br>2013 | Apr-<br>Jun<br>2013 | Jul-<br>Sep<br>2013 | Oct-<br>Dec<br>2013 | Annual<br>Average<br>2012 | Annual<br>Average<br>2013 | % Chg.<br>2012 to<br>2013 |
|-----------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------------|---------------------------|---------------------------|
| Opioids         | 17.85               | 18.30               | 18.37               | 16.67               | 15.30               | 16.02               | 15.73               | 15.62               | 17.80                     | 15.67                     | -11.97                    |
| Stimulants      | 12.18               | 12.52               | 13.49               | 12.90               | 12.10               | 12.49               | 12.63               | 13.23               | 12.77                     | 12.61                     | -1.25                     |
| Benzodiazepines | 9.84                | 10.02               | 10.16               | 8.95                | 7.69                | 8.32                | 8.04                | 8.10                | 9.74                      | 8.04                      | -17.45                    |

**Notes:**

<sup>a</sup>Calculated as the number of days with more than 1 prescription in the same drug class divided by the total number of prescription days for that drug class per quarter. Thus, a day with 2 overlapping prescriptions is counted the same as one with 3 overlapping prescriptions. The total number of prescription days for a drug class only includes any day with 1 or more prescriptions.

<sup>b</sup>Limited to prescriptions to state residents in state's PDMP.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 3.2 - Percentage of days with overlapping prescriptions across opioid and benzodiazepine drug classes and across opioid release-formulations<sup>a</sup>, by quarter and year<sup>b</sup>**

**Kentucky**

| Overlapping Prescriptions Across:               | Jan-Mar 2012 | Apr-Jun 2012 | Jul-Sep 2012 | Oct-Dec 2012 | Jan-Mar 2013 | Apr-Jun 2013 | Jul-Sep 2013 | Oct-Dec 2013 | Annual Average 2012 | Annual Average 2013 | % Chg. 2012 to 2013 |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------------|---------------------|---------------------|
| 1. Opioid & benzodiazepine classes <sup>c</sup> | 21.90        | 22.96        | 22.74        | 22.03        | 20.95        | 21.49        | 21.28        | 21.13        | 22.41               | 21.21               | -5.35               |
| 2. Opioid release-formulations                  |              |              |              |              |              |              |              |              |                     |                     |                     |
| a. Long acting & short acting <sup>d</sup>      | 5.48         | 5.83         | 5.97         | 5.89         | 5.56         | 5.74         | 5.78         | 5.77         | 5.79                | 5.71                | -1.38               |
| b. Long acting & long acting <sup>e</sup>       | 10.86        | 10.88        | 11.89        | 10.29        | 9.45         | 10.02        | 10.01        | 9.87         | 10.98               | 9.84                | -10.38              |
| c. Short acting & short acting <sup>f</sup>     | 12.68        | 12.83        | 12.61        | 10.81        | 9.59         | 10.11        | 9.78         | 9.60         | 12.23               | 9.77                | -20.11              |

**Notes:**

<sup>a</sup>Long acting includes both naturally long acting drugs such as methadone and drugs elsewhere labelled as extended-release.

<sup>b</sup>Limited to prescriptions to state residents in state's PDMP.

<sup>c</sup>Percentage of all opioid days prescribed overlapping with a benzodiazepine prescription calculated as the number of days with both an opioid and benzodiazepine prescription divided by the total number of opioid rx days.

<sup>d</sup>Percentage of prescribed days for Long Acting (LA)/Extended Release (ER) formulations that overlap with Short Acting (SA) formulations. Denominator is the total days of LA/ER prescriptions.

<sup>e</sup>Percentage of prescribed days for LA/ER formulations that overlap with other LA/ER formulations. Denominator is the total days of LA/ER prescriptions.

<sup>f</sup>Percentage of prescribed days for SA formulations that overlap with other SA formulations. Denominator is the total days of SA prescriptions. The denominator of total prescription days is calculated for each measure to include only any day with one or more prescriptions.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 4.1 - Multiple provider episode rates<sup>a</sup> by quarter and year<sup>b</sup>, by drug schedule and age group**

**Kentucky**

| Controlled Substance Schedule | Age Category | Jan-Mar 2012 | Apr-Jun 2012 | Jul-Sep 2012 | Oct-Dec 2012 | Jan-Mar 2013 | Apr-Jun 2013 | Jul-Sep 2013 | Oct-Dec 2013 | Annual Rate 2012 | Annual Rate 2013 | % Chg. 2012 to 2013 |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------------|------------------|---------------------|
| II                            | <18          | 1.12         | 0.93         | 0.84         | 0.74         | 0.69         | 0.39         | 0.30         | 0.39         | 0.91             | 0.44             | -51.65              |
|                               | 18-34        | 13.31        | 15.43        | 4.84         | 4.13         | 2.97         | 3.69         | 3.58         | 2.36         | 9.43             | 3.15             | -66.60              |
|                               | 35-54        | 19.86        | 21.96        | 7.12         | 3.69         | 3.48         | 4.07         | 3.73         | 4.41         | 13.16            | 3.92             | -70.21              |
|                               | 55 and older | 6.51         | 6.78         | 3.75         | 2.41         | 1.41         | 1.82         | 1.66         | 1.82         | 4.86             | 1.68             | -65.43              |
|                               | Total        | 10.36        | 11.44        | 4.20         | 2.74         | 2.15         | 2.51         | 2.33         | 2.31         | 7.19             | 2.33             | -67.59              |
| II and III                    | <18          | 1.30         | 1.21         | 1.02         | 0.74         | 0.69         | 0.39         | 0.39         | 0.39         | 1.07             | 0.47             | -56.07              |
|                               | 18-34        | 16.74        | 18.15        | 8.07         | 4.84         | 5.22         | 6.04         | 5.02         | 3.28         | 11.95            | 4.89             | -59.08              |
|                               | 35-54        | 21.71        | 23.97        | 9.64         | 4.86         | 5.18         | 5.85         | 5.51         | 5.43         | 15.05            | 5.49             | -63.52              |
|                               | 55 and older | 7.14         | 7.67         | 4.46         | 2.68         | 2.07         | 2.49         | 2.24         | 2.07         | 5.49             | 2.22             | -59.56              |
|                               | Total        | 11.85        | 12.90        | 5.84         | 3.29         | 3.29         | 3.70         | 3.31         | 2.86         | 8.47             | 3.29             | -61.16              |
| II, III, IV                   | <18          | 1.49         | 1.30         | 1.40         | 1.21         | 0.99         | 0.79         | 0.69         | 0.49         | 1.35             | 0.74             | -45.19              |
|                               | 18-34        | 26.73        | 30.86        | 14.32        | 9.18         | 9.22         | 10.14        | 7.99         | 6.04         | 20.27            | 8.35             | -58.81              |
|                               | 35-54        | 35.87        | 38.89        | 18.44        | 10.06        | 11.37        | 10.44        | 11.03        | 10.18        | 25.82            | 10.76            | -58.33              |
|                               | 55 and older | 12.85        | 13.38        | 7.67         | 6.07         | 4.56         | 4.15         | 4.73         | 3.65         | 9.99             | 4.27             | -57.26              |
|                               | Total        | 19.47        | 21.32        | 10.57        | 6.67         | 6.61         | 6.40         | 6.22         | 5.21         | 14.51            | 6.11             | -57.89              |

**Notes:**

<sup>a</sup>Multiple provider episode rate is defined as use of 5 or more prescribers and 5 or more pharmacies within 3 months and is based on the current 3 months. The controlled substance Schedule II category includes all schedule II drugs. The Schedule II and III category includes Schedule II or III drugs, and Schedule II, III, IV includes Schedule II, III or IV drugs.

<sup>b</sup>Reported by quarter and year per 100,000 state residents. The annual rate is calculated as the average quarterly rate for the specified year. Limited to prescriptions to state residents in state's PDMP.

**State Notes:**

Please refer to the Appendix 2 table for information on the % missing data for sex, age, payment type, patient ZIP code and prescriber ZIP Code, by quarter.

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 4.2 - Multiple provider episode rates<sup>a</sup> by quarter and year<sup>b</sup>, by drug class and age group**

**Kentucky**

| Drug Class         | Age Category | Jan-<br>Mar<br>2012 | Apr-<br>Jun<br>2012 | Jul-<br>Sep<br>2012 | Oct-<br>Dec<br>2012 | Jan-<br>Mar<br>2013 | Apr-<br>Jun<br>2013 | Jul-<br>Sep<br>2013 | Oct-<br>Dec<br>2013 | Annual<br>Rate<br>2012 | Annual<br>Rate<br>2013 | % Chg.<br>2012 to<br>2013 |
|--------------------|--------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|---------------------------|
| 1. Opioids         | <18          | 1.49                | 1.30                | 1.40                | 1.21                | 0.89                | 0.79                | 0.69                | 0.49                | 1.35                   | 0.72                   | -46.67                    |
|                    | 18-34        | 26.73               | 30.86               | 14.32               | 9.18                | 9.12                | 10.04               | 7.78                | 6.04                | 20.27                  | 8.25                   | -59.30                    |
|                    | 35-54        | 35.79               | 38.80               | 18.44               | 10.06               | 11.37               | 10.44               | 11.03               | 10.18               | 25.77                  | 10.76                  | -58.25                    |
|                    | 55 and older | 12.85               | 13.38               | 7.67                | 6.07                | 4.56                | 4.15                | 4.73                | 3.65                | 9.99                   | 4.27                   | -57.26                    |
|                    | Total        | 19.45               | 21.30               | 10.57               | 6.67                | 6.56                | 6.38                | 6.17                | 5.21                | 14.50                  | 6.08                   | -58.07                    |
| 2. Stimulants      | <18          | 1.30                | 0.93                | 0.74                | 0.65                | 0.89                | 0.69                | 0.59                | 0.39                | 0.91                   | 0.64                   | -29.67                    |
|                    | 18-34        | 4.64                | 6.76                | 4.13                | 2.02                | 2.77                | 2.25                | 2.46                | 1.23                | 4.39                   | 2.18                   | -50.34                    |
|                    | 35-54        | 5.36                | 6.20                | 3.94                | 2.01                | 2.97                | 2.29                | 2.04                | 2.12                | 4.38                   | 2.36                   | -46.12                    |
|                    | 55 and older | 1.43                | 1.78                | 1.16                | 0.98                | 0.66                | 0.66                | 1.00                | 0.66                | 1.34                   | 0.75                   | -44.03                    |
|                    | Total        | 3.20                | 3.90                | 2.49                | 1.42                | 1.81                | 1.46                | 1.51                | 1.12                | 2.75                   | 1.48                   | -46.18                    |
| 3. Benzodiazepines | <18          | 0.93                | 0.74                | 0.74                | 0.84                | 0.49                | 0.49                | 0.30                | 0.20                | 0.81                   | 0.37                   | -54.32                    |
|                    | 18-34        | 15.83               | 18.56               | 9.68                | 6.05                | 6.15                | 6.15                | 4.81                | 3.58                | 12.53                  | 5.17                   | -58.74                    |
|                    | 35-54        | 24.39               | 26.73               | 14.16               | 7.63                | 8.14                | 7.04                | 7.98                | 7.38                | 18.23                  | 7.64                   | -58.09                    |
|                    | 55 and older | 10.08               | 10.71               | 6.07                | 5.00                | 3.73                | 3.23                | 4.23                | 2.90                | 7.97                   | 3.52                   | -55.83                    |
|                    | Total        | 13.04               | 14.41               | 7.78                | 4.93                | 4.71                | 4.27                | 4.46                | 3.63                | 10.04                  | 4.27                   | -57.47                    |

**Notes:**

<sup>a</sup>Multiple provider episode rate is defined as use of 5 or more prescribers and 5 or more pharmacies within 3 months and is based on the current 3 months. Rates are calculated by drug class for those receiving a prescription in the drug class.

<sup>b</sup>Reported by quarter and year per 100,000 state residents. The annual rate is calculated as the average quarterly rate for the specified year. Limited to prescriptions to state residents in state's PDMP.

**State Notes:**

Please refer to the Appendix 2 table for information on the % missing data for sex, age, payment type, patient ZIP code and prescriber ZIP Code, by quarter.

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 4.3 - Percentage of total prescriptions for a type of opioid that were involved in a multiple provider episode<sup>a</sup>, by quarter and year<sup>b</sup> (%)**

**Kentucky**

| Opioid Drug<br>(including combinations) | Jan-Mar 2012 | Apr-Jun 2012 | Jul-Sep 2012 | Oct-Dec 2012 | Jan-Mar 2013 | Apr-Jun 2013 | Jul-Sep 2013 | Oct-Dec 2013 | Annual Rate 2012 | Annual Rate 2013 | % Chg. 2012 to 2013 |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------------|------------------|---------------------|
| Buprenorphine                           | 1.66         | 1.72         | 1.59         | 1.48         | 0.90         | 0.92         | 0.82         | 0.78         | 1.61             | 0.86             | -46.58              |
| Butorphanol                             | 0.43         | 0.82         | 1.35         | 0.91         | 0.26         | 0.26         | 0.31         | 0.41         | 0.88             | 0.31             | -64.77              |
| Codeine                                 | 0.60         | 0.63         | 0.58         | 0.46         | 0.31         | 0.28         | 0.24         | 0.27         | 0.57             | 0.28             | -50.88              |
| Dihydrocodeine                          | 0.00         | 0.00         | 0.00         | 0.00         | 0.00         | 0.00         | 0.00         | 0.00         | 0.00             | 0.00             | -                   |
| Fentanyl LA                             | 0.92         | 1.03         | 0.76         | 0.92         | 0.44         | 0.43         | 0.63         | 0.53         | 0.91             | 0.51             | -43.96              |
| Fentanyl SA                             | 1.28         | 1.47         | 12.00        | 5.00         | 1.27         | 0.62         | 0.00         | 0.59         | 4.94             | 0.62             | -87.45              |
| Hydrocodone SA                          | 0.77         | 0.76         | 0.56         | 0.44         | 0.24         | 0.25         | 0.24         | 0.22         | 0.63             | 0.24             | -61.90              |
| Hydromorphone                           | 2.14         | 2.05         | 2.10         | 1.88         | 0.98         | 1.62         | 1.40         | 1.14         | 2.04             | 1.29             | -36.76              |
| Meperidine                              | 0.57         | 0.88         | 0.54         | 0.51         | 0.18         | 0.10         | 0.38         | 0.21         | 0.63             | 0.22             | -65.08              |
| Methadone                               | 0.81         | 0.73         | 0.87         | 0.86         | 0.27         | 0.31         | 0.40         | 0.37         | 0.82             | 0.34             | -58.54              |
| Morphine LA                             | 0.84         | 1.13         | 0.88         | 0.89         | 0.40         | 0.47         | 0.60         | 0.44         | 0.94             | 0.48             | -48.94              |
| Morphine SA                             | 1.13         | 1.64         | 1.07         | 1.37         | 0.60         | 0.55         | 0.86         | 0.67         | 1.30             | 0.67             | -48.46              |
| Oxycodone LA                            | 0.82         | 0.91         | 0.87         | 0.91         | 0.27         | 0.39         | 0.32         | 0.35         | 0.88             | 0.33             | -62.50              |
| Oxycodone SA                            | 1.29         | 1.36         | 1.01         | 0.92         | 0.51         | 0.55         | 0.50         | 0.46         | 1.15             | 0.51             | -55.65              |
| Oxymorphone LA                          | 1.77         | 1.32         | 1.26         | 1.20         | 0.08         | 0.24         | 0.31         | 0.23         | 1.39             | 0.22             | -84.17              |
| Oxymorphone SA                          | 0.60         | 2.57         | 1.11         | 1.72         | 0.00         | 0.00         | 0.00         | 0.00         | 1.50             | 0.00             | -100.00             |
| Pentazocine                             | 0.45         | 0.80         | 0.66         | 0.65         | 0.29         | 0.21         | 0.25         | 0.22         | 0.64             | 0.24             | -62.50              |
| Tapentadol                              | 1.44         | 1.50         | 1.35         | 0.95         | 0.06         | 0.12         | 0.14         | 0.18         | 1.31             | 0.13             | -90.08              |
| Other Opioids                           | 0.93         | 1.70         | 0.44         | 0.00         | 0.00         | 0.00         | 3.83         | 0.00         | 0.77             | 0.96             | 24.68               |
| Total                                   | 0.92         | 0.95         | 0.75         | 0.65         | 0.36         | 0.38         | 0.37         | 0.34         | 0.82             | 0.36             | -56.10              |

**Notes:**

<sup>a</sup>Multiple provider episode rate is defined as use of 5 or more prescribers and 5 or more pharmacies within 3 months and is based on the current 3 months. When a prescription for a type of opioid was involved in any MPE, that prescription was counted as being involved.

<sup>b</sup>Limited to prescriptions to state residents in state's PDMP.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 4.4 - Percentage of total prescriptions for a type of stimulant that were involved in a multiple provider episode<sup>a</sup>, by quarter and year<sup>b</sup> (%)**

**Kentucky**

| Stimulant Drug           | Jan-<br>Mar<br>2012 | Apr-<br>Jun<br>2012 | Jul-<br>Sep<br>2012 | Oct-<br>Dec<br>2012 | Jan-<br>Mar<br>2013 | Apr-<br>Jun<br>2013 | Jul-<br>Sep<br>2013 | Oct-<br>Dec<br>2013 | Annual<br>Rate<br>2012 | Annual<br>Rate<br>2013 | % Chg.<br>2012 to<br>2013 |
|--------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|---------------------------|
| Amphetamine <sup>c</sup> | 0.44                | 0.45                | 0.45                | 0.40                | 0.21                | 0.22                | 0.24                | 0.19                | 0.44                   | 0.22                   | -50.00                    |
| Benzphetamine            | 0.00                | 0.99                | 0.00                | 0.00                | 0.56                | 0.00                | 0.54                | 0.00                | 0.25                   | 0.28                   | 12.00                     |
| Dexmethylphenidate       | 0.13                | 0.15                | 0.11                | 0.08                | 0.08                | 0.09                | 0.10                | 0.07                | 0.12                   | 0.09                   | -25.00                    |
| Dextroamphetamine        | 0.30                | 0.57                | 0.59                | 0.69                | 0.42                | 0.45                | 0.45                | 0.63                | 0.54                   | 0.49                   | -9.26                     |
| Lisdexamfetamine         | 0.20                | 0.21                | 0.19                | 0.19                | 0.10                | 0.08                | 0.10                | 0.09                | 0.20                   | 0.09                   | -55.00                    |
| Methylphenidate          | 0.14                | 0.16                | 0.13                | 0.13                | 0.10                | 0.11                | 0.10                | 0.06                | 0.14                   | 0.09                   | -35.71                    |
| Other Stimulants         | 0.31                | 0.25                | 0.26                | 0.24                | 0.14                | 0.16                | 0.13                | 0.12                | 0.27                   | 0.14                   | -48.15                    |
| Total                    | 0.27                | 0.28                | 0.27                | 0.24                | 0.14                | 0.15                | 0.15                | 0.12                | 0.27                   | 0.14                   | -48.15                    |

**Notes:**

<sup>a</sup>Multiple provider episode rate is defined as use of 5 or more prescribers and 5 or more pharmacies within 3 months and is based on the current 3 months.

<sup>b</sup>Limited to prescriptions to state residents in state's PDMP.

<sup>c</sup>Includes amphetamine-dextroamphetamine.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 4.5 - Percentage of total prescriptions for a type of benzodiazepine that were involved in a multiple provider episode<sup>a</sup>, by quarter and year<sup>b</sup> (%)**

**Kentucky**

| Benzodiazepine Drug   | Jan-<br>Mar<br>2012 | Apr-<br>Jun<br>2012 | Jul-<br>Sep<br>2012 | Oct-<br>Dec<br>2012 | Jan-<br>Mar<br>2013 | Apr-<br>Jun<br>2013 | Jul-<br>Sep<br>2013 | Oct-<br>Dec<br>2013 | Annual<br>Rate<br>2012 | Annual<br>Rate<br>2013 | % Chg.<br>2012 to<br>2013 |
|-----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|---------------------------|
| Alprazolam            | 0.52                | 0.51                | 0.50                | 0.45                | 0.24                | 0.24                | 0.24                | 0.23                | 0.50                   | 0.24                   | -52.00                    |
| Chlordiazepoxide      | 0.27                | 0.42                | 0.25                | 0.30                | 0.16                | 0.24                | 0.16                | 0.17                | 0.31                   | 0.18                   | -41.94                    |
| Clonazepam            | 0.73                | 0.74                | 0.63                | 0.57                | 0.30                | 0.30                | 0.33                | 0.29                | 0.67                   | 0.31                   | -53.73                    |
| Clorazepate           | 0.07                | 0.07                | 0.04                | 0.09                | 0.00                | 0.00                | 0.02                | 0.02                | 0.07                   | 0.01                   | -85.71                    |
| Diazepam              | 0.47                | 0.51                | 0.42                | 0.42                | 0.24                | 0.23                | 0.24                | 0.25                | 0.46                   | 0.24                   | -47.83                    |
| Estazolam             | 0.60                | 1.76                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.59                   | 0.00                   | -100.00                   |
| Flurazepam            | 0.93                | 0.63                | 0.55                | 0.35                | 0.00                | 0.08                | 0.09                | 0.00                | 0.62                   | 0.04                   | -93.55                    |
| Lorazepam             | 0.36                | 0.40                | 0.35                | 0.27                | 0.10                | 0.13                | 0.12                | 0.13                | 0.35                   | 0.12                   | -65.71                    |
| Oxazepam              | 0.13                | 0.22                | 0.45                | 0.36                | 0.04                | 0.00                | 0.04                | 0.00                | 0.29                   | 0.02                   | -93.10                    |
| Temazepam             | 0.34                | 0.34                | 0.28                | 0.25                | 0.11                | 0.06                | 0.11                | 0.07                | 0.30                   | 0.09                   | -70.00                    |
| Triazolam             | 0.44                | 0.21                | 0.20                | 0.19                | 0.27                | 0.31                | 0.36                | 0.34                | 0.26                   | 0.32                   | 23.08                     |
| Other Benzodiazepines | 0.00                | 0.00                | 2.22                | 0.00                | 0.00                | 0.26                | 0.00                | 0.20                | 0.56                   | 0.12                   | -78.57                    |
| Total                 | 0.52                | 0.53                | 0.48                | 0.43                | 0.22                | 0.22                | 0.23                | 0.22                | 0.49                   | 0.22                   | -55.10                    |

**Notes:**

<sup>a</sup>Multiple provider episode rate is defined as use of 5 or more prescribers and 5 or more pharmacies within 3 months and is based on the current 3 months.

<sup>b</sup>Limited to prescriptions to state residents in state's PDMP.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 4.6 - Percentage of total prescriptions for a specific drug that were involved in a multiple provider episode<sup>a</sup>, by quarter and year<sup>b</sup> (%)**

**Kentucky**

| Drug         | Jan-<br>Mar<br>2012 | Apr-<br>Jun<br>2012 | Jul-<br>Sep<br>2012 | Oct-<br>Dec<br>2012 | Jan-<br>Mar<br>2013 | Apr-<br>Jun<br>2013 | Jul-<br>Sep<br>2013 | Oct-<br>Dec<br>2013 | Annual<br>Rate<br>2012 | Annual<br>Rate<br>2013 | % Chg.<br>2012 to<br>2013 |
|--------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|---------------------------|
| Carisoprodol | 0.67                | 0.67                | 0.44                | 0.47                | 0.34                | 0.30                | 0.28                | 0.26                | 0.56                   | 0.30                   | -46.43                    |
| Zolpidem     | 0.38                | 0.36                | 0.35                | 0.29                | 0.15                | 0.15                | 0.14                | 0.13                | 0.35                   | 0.14                   | -60.00                    |

**Notes:**

<sup>a</sup>Multiple provider episode rate is defined as use of 5 or more prescribers and 5 or more pharmacies within 3 months and is based on the current 3 months.

<sup>b</sup>Limited to prescriptions to state residents in state's PDMP.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 4.7 - Percentage of patients with oxycodone and alprazolam in combination<sup>a</sup> who engaged in a multiple provider episode<sup>b</sup>, by quarter and year<sup>c</sup> (%)**

**Kentucky**

| Drug Combination     | Jan-<br>Mar<br>2012 | Apr-<br>Jun<br>2012 | Jul-<br>Sep<br>2012 | Oct-<br>Dec<br>2012 | Jan-<br>Mar<br>2013 | Apr-<br>Jun<br>2013 | Jul-<br>Sep<br>2013 | Oct-<br>Dec<br>2013 | Annual<br>Rate<br>2012 | Annual<br>Rate<br>2013 | % Chg.<br>2012 to<br>2013 |
|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|---------------------------|
| Oxycodone Alprazolam | 0.63                | 0.81                | 0.50                | 0.47                | 0.32                | 0.51                | 0.18                | 0.36                | 0.60                   | 0.34                   | -43.33                    |

**Notes:**

<sup>a</sup>Having a drug combination in the previous 3 months means being dispensed both drugs at any time during the 3 months.

<sup>b</sup>Multiple provider episode rate is defined as use of 5 or more prescribers and 5 or more pharmacies within 3 months and is based on the current 3 months.

<sup>c</sup>Limited to prescriptions to state residents in state's PDMP.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 4.8 - Multiple provider episode rates<sup>a</sup> by half-year and year<sup>b</sup>, by drug schedule and age group**

**Kentucky**

| Controlled Substance Schedule | Age Category | Jan-Jun 2012 | Jul-Dec 2012 | Jan-Jun 2013 | Jul-Dec 2013 | Annual Rate 2012 | Annual Rate 2013 | % Chg. 2012 to 2013 |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|------------------|------------------|---------------------|
| II                            | <18          | 4.65         | 4.00         | 2.17         | 2.37         | 4.33             | 2.27             | -47.58              |
|                               | 18-34        | 66.76        | 26.42        | 20.38        | 16.80        | 46.59            | 18.59            | -60.10              |
|                               | 35-54        | 88.67        | 34.19        | 28.00        | 27.74        | 61.43            | 27.87            | -54.63              |
|                               | 55 and older | 31.14        | 16.42        | 11.44        | 11.03        | 23.78            | 11.24            | -52.73              |
|                               | Total        | 48.37        | 20.48        | 15.75        | 14.81        | 34.43            | 15.28            | -55.62              |
| II and III                    | <18          | 5.21         | 4.56         | 2.76         | 2.66         | 4.88             | 2.71             | -44.47              |
|                               | 18-34        | 80.48        | 40.54        | 33.29        | 28.27        | 60.51            | 30.78            | -49.13              |
|                               | 35-54        | 98.14        | 45.01        | 38.35        | 37.67        | 71.57            | 38.01            | -46.89              |
|                               | 55 and older | 33.99        | 19.18        | 14.76        | 13.85        | 26.59            | 14.30            | -46.22              |
|                               | Total        | 54.93        | 27.46        | 22.47        | 20.89        | 41.19            | 21.68            | -47.37              |
| II, III, IV                   | <18          | 6.51         | 5.58         | 3.35         | 3.75         | 6.05             | 3.55             | -41.32              |
|                               | 18-34        | 123.85       | 68.28        | 50.90        | 46.70        | 96.06            | 48.80            | -49.20              |
|                               | 35-54        | 157.98       | 83.05        | 65.67        | 65.33        | 120.52           | 65.50            | -45.65              |
|                               | 55 and older | 57.81        | 35.60        | 25.79        | 24.88        | 46.70            | 25.33            | -45.76              |
|                               | Total        | 87.46        | 48.56        | 36.94        | 35.75        | 68.01            | 36.34            | -46.57              |

**Notes:**

<sup>a</sup>Multiple provider episode rate is defined as use of 5 or more prescribers and 5 or more pharmacies within 6 months and is based on the current 6 months. The controlled substance Schedule II category includes all schedule II drugs. The Schedule II and III category includes Schedule II or III drugs, and Schedule II, III, IV includes Schedule II, III or IV drugs.

<sup>b</sup>Reported by half-year and year per 100,000 state residents. The annual rate is calculated as the average half-year rate for the specified year.

Limited to prescriptions to state residents in state's PDMP.

**State Notes:**

Please refer to the Appendix 2 table for information on the % missing data for sex, age, payment type, patient ZIP code and prescriber ZIP Code, by quarter.

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 4.9 - Multiple provider episode rates<sup>a</sup> by half-year and year<sup>b</sup>, by drug class and age group**

**Kentucky**

| Drug Class         | Age Category | Jan-<br>Jun<br>2012 | Jul-<br>Dec<br>2012 | Jan-<br>Jun<br>2013 | Jul-<br>Dec<br>2013 | Annual<br>Rate<br>2012 | Annual<br>Rate<br>2013 | % Chg.<br>2012 to<br>2013 |
|--------------------|--------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|---------------------------|
| 1. Opioids         | <18          | 5.40                | 4.75                | 2.86                | 3.06                | 5.07                   | 2.96                   | -41.62                    |
|                    | 18-34        | 123.44              | 68.18               | 50.60               | 46.50               | 95.81                  | 48.55                  | -49.33                    |
|                    | 35-54        | 157.48              | 82.89               | 65.41               | 65.24               | 120.18                 | 65.33                  | -45.64                    |
|                    | 55 and older | 57.72               | 35.33               | 25.79               | 24.79               | 46.52                  | 25.29                  | -45.64                    |
|                    | Total        | 86.93               | 48.21               | 36.69               | 35.50               | 67.57                  | 36.09                  | -46.59                    |
| 2. Stimulants      | <18          | 5.02                | 3.91                | 2.66                | 2.96                | 4.47                   | 2.81                   | -37.14                    |
|                    | 18-34        | 23.30               | 15.03               | 12.50               | 9.73                | 19.16                  | 11.11                  | -42.01                    |
|                    | 35-54        | 27.74               | 16.76               | 13.41               | 12.90               | 22.25                  | 13.15                  | -40.90                    |
|                    | 55 and older | 7.14                | 5.09                | 3.98                | 4.06                | 6.11                   | 4.02                   | -34.21                    |
|                    | Total        | 15.89               | 10.23               | 8.11                | 7.45                | 13.06                  | 7.78                   | -40.43                    |
| 3. Benzodiazepines | <18          | 3.44                | 2.70                | 1.68                | 1.58                | 3.07                   | 1.63                   | -46.91                    |
|                    | 18-34        | 75.74               | 43.37               | 29.19               | 25.30               | 59.55                  | 27.24                  | -54.26                    |
|                    | 35-54        | 110.54              | 61.18               | 45.73               | 44.37               | 85.86                  | 45.05                  | -47.53                    |
|                    | 55 and older | 45.86               | 29.98               | 19.65               | 19.82               | 37.92                  | 19.74                  | -47.94                    |
|                    | Total        | 59.83               | 34.81               | 24.64               | 23.43               | 47.32                  | 24.03                  | -49.22                    |

**Notes:**

<sup>a</sup>Multiple provider episode rate is defined as use of 5 or more prescribers and 5 or more pharmacies within 6 months and is based on the current 6 months. Rates are calculated by drug class for those receiving a prescription in the drug class.

<sup>b</sup>Reported by half-year and year per 100,000 state residents. The annual rate is calculated as the average half-year rate for the specified year.

Limited to prescriptions to state residents in state's PDMP.

**State Notes:**

Please refer to the Appendix 2 table for information on the % missing data for sex, age, payment type, patient ZIP code and prescriber ZIP Code, by quarter.

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 4.10 - Number and percentage of unique patients with controlled substance prescriptions (Rxs) paid for by Medicaid and by cash<sup>a</sup>, by quarter and by year<sup>b</sup>**

**Kentucky**

| Patients with Rxs paid for by Medicaid and Cash | Jan-Mar 2012 | Apr-Jun 2012 | Jul-Sep 2012 | Oct-Dec 2012 | Jan-Mar 2013 | Apr-Jun 2013 | Jul-Sep 2013 | Oct-Dec 2013 | Annual Rate 2012 | Annual Rate 2013 | % Chg. 2012 to 2013 |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------------|------------------|---------------------|
| Number  | S            | S            | S            | S            | S            | S            | S            | S            | S                | S                | S                   |
| Percentage(%)                                   | S            | S            | S            | S            | S            | S            | S            | S            | S                | S                | S                   |

**Notes:**

<sup>a</sup>The number of unique patients with controlled substance prescriptions paid for by Medicaid and by cash which were (i) less than 10 days apart and within the same quarter, (ii) for the same drug, (iii) from a different prescriber, and (iv) where the number of days supply for the earlier prescription was greater than the number of days between the prescription fill dates. The percentage of unique patients is defined as the number of unique patients who meet the criteria above divided by the number of unique patients with at least one prescription paid for by Medicaid in the quarter.

<sup>b</sup>Reported by quarter and year. The annual rate is calculated as the average quarterly rate for the specified year.

Limited to prescriptions to state residents in state's PDMP.

**State Notes:**

Please refer to the Appendix 2 table for information on the % missing data for sex, age, payment type, patient ZIP code and prescriber ZIP Code, by quarter.

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 5.1 - Mean number per day and percentage of Schedule II-V controlled substance (CS) prescriptions (Rx) by prescriber percentile ranking, based on daily prescribing counts, by quarter and year<sup>a</sup>**

**Kentucky**

| Prescriber Percentile Ranking <sup>b</sup> by Total CS Rx Written per Day |                   | Jan-Mar 2012 | Apr-Jun 2012 | Jul-Sep 2012 | Oct-Dec 2012 | Jan-Mar 2013 | Apr-Jun 2013 | Jul-Sep 2013 | Oct-Dec 2013 | Annual Average 2012 | Annual Average 2013 | % Chg. 2012 to 2013 |
|---|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------------|---------------------|---------------------|
| 1st (Top 1%)  | Mean <sup>c</sup> | 37.26        | 38.17        | 37.55        | 35.23        | 35.93        | 35.31        | 33.99        | 33.29        | 37.05               | 34.63               | -6.53               |
|   | %                 | 16.69        | 16.56        | 17.25        | 17.04        | 17.19        | 17.19        | 17.09        | 16.96        | 16.89               | 17.11               | 1.30                |
| 1st-10th  | Mean              | 14.12        | 14.54        | 14.05        | 13.29        | 13.31        | 13.07        | 12.61        | 12.39        | 14.00               | 12.85               | -8.21               |
|   | %                 | 63.34        | 63.45        | 64.68        | 64.46        | 64.04        | 63.73        | 63.57        | 63.30        | 63.98               | 63.66               | -0.50               |
| 11th-20th   | Mean              | 3.90         | 3.98         | 3.73         | 3.57         | 3.60         | 3.54         | 3.43         | 3.43         | 3.80                | 3.50                | -7.89               |
|   | %                 | 17.48        | 17.39        | 17.15        | 17.31        | 17.31        | 17.26        | 17.32        | 17.53        | 17.33               | 17.36               | 0.17                |
| 21st-30th   | Mean              | 1.86         | 1.92         | 1.74         | 1.65         | 1.70         | 1.70         | 1.66         | 1.65         | 1.79                | 1.68                | -6.15               |
|   | %                 | 8.36         | 8.37         | 8.00         | 8.01         | 8.17         | 8.29         | 8.37         | 8.42         | 8.19                | 8.31                | 1.47                |
| 31st-40th   | Mean              | 1.06         | 1.09         | 0.98         | 0.93         | 0.97         | 0.97         | 0.95         | 0.94         | 1.02                | 0.96                | -5.88               |
|   | %                 | 4.75         | 4.75         | 4.52         | 4.51         | 4.65         | 4.73         | 4.77         | 4.79         | 4.63                | 4.74                | 2.38                |
| 41st-50th   | Mean              | 0.64         | 0.65         | 0.59         | 0.56         | 0.57         | 0.58         | 0.56         | 0.56         | 0.61                | 0.57                | -6.56               |
|   | %                 | 2.87         | 2.85         | 2.69         | 2.71         | 2.76         | 2.83         | 2.83         | 2.84         | 2.78                | 2.82                | 1.44                |
| 51st-60th   | Mean              | 0.36         | 0.37         | 0.33         | 0.32         | 0.33         | 0.33         | 0.32         | 0.31         | 0.35                | 0.32                | -8.57               |
|   | %                 | 1.63         | 1.63         | 1.52         | 1.54         | 1.58         | 1.62         | 1.60         | 1.60         | 1.58                | 1.60                | 1.27                |
| 61st-70th   | Mean              | 0.20         | 0.20         | 0.18         | 0.17         | 0.18         | 0.18         | 0.17         | 0.17         | 0.19                | 0.18                | -5.26               |
|   | %                 | 0.89         | 0.89         | 0.82         | 0.82         | 0.84         | 0.87         | 0.86         | 0.85         | 0.86                | 0.86                | 0.00                |
| 71st-80th   | Mean              | 0.10         | 0.10         | 0.09         | 0.08         | 0.08         | 0.09         | 0.08         | 0.08         | 0.09                | 0.08                | -11.11              |
|   | %                 | 0.44         | 0.43         | 0.39         | 0.40         | 0.41         | 0.42         | 0.42         | 0.42         | 0.42                | 0.42                | 0.00                |
| 81st-90th   | Mean              | 0.04         | 0.04         | 0.04         | 0.03         | 0.04         | 0.04         | 0.04         | 0.04         | 0.04                | 0.04                | 0.00                |
|   | %                 | 0.18         | 0.17         | 0.17         | 0.17         | 0.18         | 0.18         | 0.18         | 0.18         | 0.17                | 0.18                | 5.88                |
| 91st-100th  | Mean              | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01                | 0.01                | 0.00                |
|   | %                 | 0.06         | 0.06         | 0.06         | 0.06         | 0.07         | 0.06         | 0.07         | 0.07         | 0.06                | 0.07                | 16.67               |
| Total   | Mean              | 2.23         | 2.29         | 2.17         | 2.06         | 2.08         | 2.05         | 1.98         | 1.96         | 2.19                | 2.02                | -7.76               |

**Notes:**

<sup>a</sup>Limited to in-state prescribers of the drug type(s) shown in this table. Includes out-of-state-residents. Based on the total number of days in a quarter.

<sup>b</sup>Tied values that overlapped deciles were randomly assigned to the higher or lower decile so that all deciles are equal-sized.

<sup>c</sup>Mean refers to the mean number of controlled substances prescriptions written per day per prescriber percentile rank.

% refers to the percentage of all controlled substance prescriptions written per day per prescriber percentile rank.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 5.2 - Mean number per day and percentage of opioid prescriptions (Rxs) by prescriber percentile ranking, based on daily prescribing counts, by quarter and year<sup>a</sup>**

**Kentucky**

| Prescriber Percentile Ranking <sup>b</sup> by Total Opioid Rxs Written per Day |                   | Jan-Mar 2012 | Apr-Jun 2012 | Jul-Sep 2012 | Oct-Dec 2012 | Jan-Mar 2013 | Apr-Jun 2013 | Jul-Sep 2013 | Oct-Dec 2013 | Annual Average 2012 | Annual Average 2013 | % Chg. 2012 to 2013 |
|--|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------------|---------------------|---------------------|
| 1st (Top 1%)   | Mean <sup>c</sup> | 24.97        | 26.09        | 26.24        | 25.12        | 25.80        | 25.76        | 24.87        | 24.25        | 25.61               | 25.17               | -1.72               |
|  | %                 | 18.67        | 18.62        | 19.87        | 20.30        | 20.83        | 20.54        | 20.45        | 20.52        | 19.37               | 20.59               | 6.30                |
| 1st-10th   | Mean              | 8.25         | 8.60         | 8.35         | 7.86         | 7.84         | 7.92         | 7.65         | 7.47         | 8.27                | 7.72                | -6.65               |
|  | %                 | 61.87        | 61.82        | 63.59        | 63.97        | 63.64        | 63.13        | 63.10        | 63.24        | 62.81               | 63.28               | 0.75                |
| 11th-20th  | Mean              | 2.24         | 2.35         | 2.13         | 1.96         | 1.96         | 2.02         | 1.95         | 1.93         | 2.17                | 1.97                | -9.22               |
|  | %                 | 16.81        | 16.90        | 16.22        | 15.95        | 15.94        | 16.11        | 16.14        | 16.29        | 16.47               | 16.12               | -2.13               |
| 21st-30th  | Mean              | 1.20         | 1.25         | 1.13         | 1.04         | 1.05         | 1.08         | 1.06         | 1.02         | 1.16                | 1.05                | -9.48               |
|  | %                 | 8.97         | 9.02         | 8.58         | 8.45         | 8.51         | 8.65         | 8.74         | 8.64         | 8.76                | 8.64                | -1.37               |
| 31st-40th  | Mean              | 0.73         | 0.76         | 0.68         | 0.63         | 0.65         | 0.66         | 0.65         | 0.62         | 0.70                | 0.65                | -7.14               |
|  | %                 | 5.47         | 5.48         | 5.22         | 5.13         | 5.26         | 5.28         | 5.33         | 5.21         | 5.33                | 5.27                | -1.13               |
| 41st-50th  | Mean              | 0.44         | 0.45         | 0.41         | 0.38         | 0.39         | 0.41         | 0.39         | 0.37         | 0.42                | 0.39                | -7.14               |
|  | %                 | 3.27         | 3.26         | 3.09         | 3.13         | 3.15         | 3.25         | 3.21         | 3.17         | 3.19                | 3.20                | 0.31                |
| 51st-60th  | Mean              | 0.25         | 0.25         | 0.23         | 0.22         | 0.22         | 0.23         | 0.22         | 0.21         | 0.24                | 0.22                | -8.33               |
|  | %                 | 1.84         | 1.82         | 1.73         | 1.75         | 1.80         | 1.85         | 1.80         | 1.76         | 1.79                | 1.80                | 0.56                |
| 61st-70th  | Mean              | 0.13         | 0.13         | 0.12         | 0.11         | 0.12         | 0.12         | 0.11         | 0.11         | 0.12                | 0.12                | 0.00                |
|  | %                 | 0.99         | 0.96         | 0.88         | 0.90         | 0.94         | 0.97         | 0.95         | 0.94         | 0.93                | 0.95                | 2.15                |
| 71st-80th  | Mean              | 0.06         | 0.06         | 0.06         | 0.05         | 0.06         | 0.06         | 0.05         | 0.05         | 0.06                | 0.06                | 0.00                |
|  | %                 | 0.47         | 0.46         | 0.42         | 0.43         | 0.46         | 0.46         | 0.45         | 0.45         | 0.45                | 0.46                | 2.22                |
| 81st-90th  | Mean              | 0.03         | 0.03         | 0.03         | 0.02         | 0.03         | 0.03         | 0.03         | 0.03         | 0.03                | 0.03                | 0.00                |
|  | %                 | 0.21         | 0.21         | 0.19         | 0.20         | 0.21         | 0.21         | 0.21         | 0.21         | 0.20                | 0.21                | 5.00                |
| 91st-100th   | Mean              | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01                | 0.01                | 0.00                |
|  | %                 | 0.09         | 0.08         | 0.08         | 0.09         | 0.09         | 0.09         | 0.09         | 0.09         | 0.09                | 0.09                | 0.00                |
| Total  | Mean              | 1.33         | 1.39         | 1.31         | 1.23         | 1.23         | 1.25         | 1.21         | 1.18         | 1.32                | 1.22                | -7.58               |

**Notes:**

<sup>a</sup>Limited to in-state prescribers of the drug type(s) shown in this table. Includes out-of-state-residents. Based on the total number of days in a quarter.

<sup>b</sup>Tied values that overlapped deciles were randomly assigned to the higher or lower decile so that all deciles are equal-sized.

<sup>c</sup>Mean refers to the mean number of opioid prescriptions written per day per prescriber percentile rank.

% refers to the percentage of all opioid prescriptions written per day per prescriber percentile rank.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 5.3 - Mean number per day and percentage of prescriptions (Rx) for stimulants by prescriber percentile ranking, based on daily prescribing counts, by quarter and year<sup>a</sup>**

**Kentucky**

| Prescriber Percentile Ranking <sup>b</sup> by Total Stimulant Rx Written per Day |                   | Jan-Mar 2012 | Apr-Jun 2012 | Jul-Sep 2012 | Oct-Dec 2012 | Jan-Mar 2013 | Apr-Jun 2013 | Jul-Sep 2013 | Oct-Dec 2013 | Annual Average 2012 | Annual Average 2013 | % Chg. 2012 to 2013 |
|--|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------------|---------------------|---------------------|
| 1st (Top 1%)   | Mean <sup>c</sup> | 9.84         | 9.58         | 9.69         | 9.72         | 10.63        | 10.21        | 10.16        | 9.85         | 9.71                | 10.21               | 5.15                |
|  | %                 | 15.79        | 15.06        | 14.86        | 14.96        | 15.38        | 15.43        | 15.35        | 14.67        | 15.17               | 15.21               | 0.26                |
| 1st-10th   | Mean              | 3.53         | 3.52         | 3.57         | 3.61         | 3.87         | 3.63         | 3.61         | 3.64         | 3.56                | 3.69                | 3.65                |
|  | %                 | 56.72        | 56.04        | 55.87        | 56.28        | 56.26        | 55.57        | 55.45        | 55.34        | 56.23               | 55.66               | -1.01               |
| 11th-20th  | Mean              | 1.14         | 1.17         | 1.19         | 1.20         | 1.29         | 1.22         | 1.23         | 1.25         | 1.18                | 1.25                | 5.93                |
|  | %                 | 18.42        | 18.65        | 18.68        | 18.71        | 18.77        | 18.70        | 18.81        | 19.08        | 18.62               | 18.84               | 1.18                |
| 21st-30th  | Mean              | 0.68         | 0.69         | 0.70         | 0.70         | 0.75         | 0.72         | 0.71         | 0.73         | 0.69                | 0.73                | 5.80                |
|  | %                 | 10.90        | 11.07        | 10.96        | 10.95        | 10.90        | 11.11        | 10.97        | 11.07        | 10.97               | 11.01               | 0.36                |
| 31st-40th  | Mean              | 0.40         | 0.41         | 0.42         | 0.42         | 0.44         | 0.44         | 0.43         | 0.43         | 0.41                | 0.44                | 7.32                |
|  | %                 | 6.41         | 6.52         | 6.53         | 6.52         | 6.47         | 6.67         | 6.66         | 6.55         | 6.50                | 6.59                | 1.38                |
| 41st-50th  | Mean              | 0.22         | 0.23         | 0.24         | 0.23         | 0.25         | 0.25         | 0.25         | 0.25         | 0.23                | 0.25                | 8.70                |
|  | %                 | 3.63         | 3.67         | 3.77         | 3.60         | 3.64         | 3.86         | 3.87         | 3.81         | 3.67                | 3.80                | 3.54                |
| 51st-60th  | Mean              | 0.12         | 0.13         | 0.13         | 0.12         | 0.14         | 0.13         | 0.14         | 0.13         | 0.13                | 0.14                | 7.69                |
|  | %                 | 1.93         | 2.02         | 2.08         | 1.93         | 1.97         | 2.05         | 2.11         | 2.04         | 1.99                | 2.04                | 2.51                |
| 61st-70th  | Mean              | 0.06         | 0.07         | 0.07         | 0.07         | 0.07         | 0.07         | 0.07         | 0.07         | 0.07                | 0.07                | 0.00                |
|  | %                 | 1.02         | 1.06         | 1.10         | 1.04         | 1.05         | 1.06         | 1.13         | 1.09         | 1.06                | 1.08                | 1.89                |
| 71st-80th  | Mean              | 0.03         | 0.03         | 0.04         | 0.03         | 0.04         | 0.04         | 0.04         | 0.04         | 0.03                | 0.04                | 33.33               |
|  | %                 | 0.52         | 0.53         | 0.56         | 0.54         | 0.52         | 0.54         | 0.56         | 0.57         | 0.54                | 0.55                | 1.85                |
| 81st-90th  | Mean              | 0.02         | 0.02         | 0.02         | 0.02         | 0.02         | 0.02         | 0.02         | 0.02         | 0.02                | 0.02                | 0.00                |
|  | %                 | 0.26         | 0.27         | 0.28         | 0.26         | 0.26         | 0.28         | 0.28         | 0.28         | 0.27                | 0.28                | 3.70                |
| 91st-100th   | Mean              | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01                | 0.01                | 0.00                |
|  | %                 | 0.18         | 0.18         | 0.17         | 0.17         | 0.16         | 0.17         | 0.17         | 0.17         | 0.18                | 0.17                | -5.56               |
| Total  | Mean              | 0.62         | 0.63         | 0.64         | 0.64         | 0.69         | 0.65         | 0.65         | 0.66         | 0.63                | 0.66                | 4.76                |

**Notes:**

<sup>a</sup>Limited to in-state prescribers of the drug type(s) shown in this table. Includes out-of-state-residents. Based on the total number of days in a quarter.

<sup>b</sup>Tied values that overlapped deciles were randomly assigned to the higher or lower decile so that all deciles are equal-sized.

<sup>c</sup>Mean refers to the mean number of stimulant prescriptions written per day per prescriber percentile rank.

% refers to the percentage of all stimulant prescriptions written per day per prescriber percentile rank.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 5.4 - Mean number per day and percentage of prescriptions (Rxs) for benzodiazepines by prescriber percentile ranking, based on daily prescribing counts, by quarter and year<sup>a</sup>**

**Kentucky**

| Prescriber Percentile Ranking <sup>b</sup> by Total Benzodiazepine Rxs Written per Day |                   | Jan-Mar 2012 | Apr-Jun 2012 | Jul-Sep 2012 | Oct-Dec 2012 | Jan-Mar 2013 | Apr-Jun 2013 | Jul-Sep 2013 | Oct-Dec 2013 | Annual Average 2012 | Annual Average 2013 | % Chg. 2012 to 2013 |
|--|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------------|---------------------|---------------------|
| 1st (Top 1%)   | Mean <sup>c</sup> | 13.93        | 14.19        | 13.63        | 12.82        | 12.65        | 12.55        | 12.09        | 11.91        | 13.64               | 12.30               | -9.82               |
|  | %                 | 16.74        | 16.73        | 16.35        | 16.27        | 16.26        | 16.38        | 16.36        | 16.25        | 16.52               | 16.31               | -1.27               |
| 1st-10th   | Mean              | 5.55         | 5.71         | 5.58         | 5.28         | 5.22         | 5.12         | 4.94         | 4.86         | 5.53                | 5.04                | -8.86               |
|  | %                 | 67.18        | 67.37        | 67.31        | 67.26        | 67.17        | 66.96        | 67.27        | 66.95        | 67.28               | 67.09               | -0.28               |
| 11th-20th  | Mean              | 1.63         | 1.68         | 1.66         | 1.55         | 1.53         | 1.51         | 1.45         | 1.44         | 1.63                | 1.48                | -9.20               |
|  | %                 | 19.74        | 19.86        | 20.01        | 19.74        | 19.71        | 19.80        | 19.76        | 19.85        | 19.84               | 19.78               | -0.30               |
| 21st-30th  | Mean              | 0.60         | 0.60         | 0.59         | 0.57         | 0.57         | 0.57         | 0.53         | 0.53         | 0.59                | 0.55                | -6.78               |
|  | %                 | 7.31         | 7.11         | 7.10         | 7.31         | 7.38         | 7.44         | 7.24         | 7.30         | 7.21                | 7.34                | 1.80                |
| 31st-40th  | Mean              | 0.22         | 0.22         | 0.22         | 0.21         | 0.21         | 0.21         | 0.20         | 0.20         | 0.22                | 0.21                | -4.55               |
|  | %                 | 2.71         | 2.63         | 2.63         | 2.72         | 2.68         | 2.72         | 2.69         | 2.80         | 2.67                | 2.72                | 1.87                |
| 41st-50th  | Mean              | 0.11         | 0.11         | 0.10         | 0.10         | 0.10         | 0.10         | 0.09         | 0.09         | 0.11                | 0.10                | -9.09               |
|  | %                 | 1.29         | 1.28         | 1.25         | 1.27         | 1.26         | 1.31         | 1.27         | 1.30         | 1.27                | 1.29                | 1.57                |
| 51st-60th  | Mean              | 0.06         | 0.06         | 0.06         | 0.05         | 0.06         | 0.06         | 0.05         | 0.05         | 0.06                | 0.06                | 0.00                |
|  | %                 | 0.73         | 0.72         | 0.70         | 0.69         | 0.72         | 0.72         | 0.71         | 0.74         | 0.71                | 0.72                | 1.41                |
| 61st-70th  | Mean              | 0.04         | 0.04         | 0.04         | 0.04         | 0.04         | 0.04         | 0.03         | 0.03         | 0.04                | 0.04                | 0.00                |
|  | %                 | 0.45         | 0.44         | 0.44         | 0.45         | 0.47         | 0.46         | 0.46         | 0.47         | 0.45                | 0.47                | 4.44                |
| 71st-80th  | Mean              | 0.02         | 0.02         | 0.02         | 0.02         | 0.02         | 0.02         | 0.02         | 0.02         | 0.02                | 0.02                | 0.00                |
|  | %                 | 0.29         | 0.29         | 0.28         | 0.28         | 0.30         | 0.29         | 0.30         | 0.30         | 0.29                | 0.30                | 3.45                |
| 81st-90th  | Mean              | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01                | 0.01                | 0.00                |
|  | %                 | 0.17         | 0.16         | 0.15         | 0.15         | 0.16         | 0.16         | 0.16         | 0.15         | 0.16                | 0.16                | 0.00                |
| 91st-100th   | Mean              | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01                | 0.01                | 0.00                |
|  | %                 | 0.13         | 0.13         | 0.13         | 0.14         | 0.14         | 0.14         | 0.15         | 0.15         | 0.13                | 0.15                | 15.38               |
| Total  | Mean              | 0.83         | 0.85         | 0.83         | 0.79         | 0.78         | 0.76         | 0.73         | 0.73         | 0.83                | 0.75                | -9.64               |

**Notes:**

<sup>a</sup>Limited to in-state prescribers of the drug type(s) shown in this table. Includes out-of-state-residents. Based on the total number of days in a quarter.

<sup>b</sup>Tied values that overlapped deciles were randomly assigned to the higher or lower decile so that all deciles are equal-sized.

<sup>c</sup>Mean refers to the mean number of benzodiazepine prescriptions written per day per prescriber percentile rank.

% refers to the percentage of all benzodiazepine prescriptions written per day per prescriber percentile rank.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 5.5 - Mean number per day and percentage of prescriptions (Rx) for carisoprodol by prescriber percentile ranking, based on daily prescribing counts, by quarter and year<sup>a</sup>**

**Kentucky**

| Prescriber Percentile Ranking <sup>b</sup> by Total Specified Drug Rx Written per Day |                   | Jan-Mar 2012 | Apr-Jun 2012 | Jul-Sep 2012 | Oct-Dec 2012 | Jan-Mar 2013 | Apr-Jun 2013 | Jul-Sep 2013 | Oct-Dec 2013 | Annual Average 2012 | Annual Average 2013 | % Chg. 2012 to 2013 |
|---|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------------|---------------------|---------------------|
| 1st (Top 1%)  | Mean <sup>c</sup> | 2.51         | 2.35         | 2.24         | 2.21         | 2.34         | 2.76         | 2.48         | 2.00         | 2.33                | 2.40                | 3.00                |
|   | %                 | 16.59        | 16.13        | 15.91        | 16.74        | 17.34        | 19.45        | 20.20        | 16.70        | 16.34               | 18.42               | 12.73               |
| 1st-10th  | Mean              | 0.82         | 0.81         | 0.77         | 0.72         | 0.71         | 0.75         | 0.69         | 0.62         | 0.78                | 0.69                | -11.54              |
|   | %                 | 56.85        | 56.85        | 55.58        | 54.87        | 55.56        | 55.87        | 56.19        | 54.07        | 56.04               | 55.42               | -1.11               |
| 11th-20th   | Mean              | 0.24         | 0.24         | 0.23         | 0.21         | 0.21         | 0.21         | 0.20         | 0.19         | 0.23                | 0.20                | -13.04              |
|   | %                 | 16.53        | 16.79        | 16.57        | 16.57        | 16.21        | 16.01        | 16.22        | 16.21        | 16.62               | 16.16               | -2.77               |
| 21st-30th   | Mean              | 0.13         | 0.13         | 0.13         | 0.12         | 0.12         | 0.12         | 0.11         | 0.11         | 0.13                | 0.12                | -7.69               |
|   | %                 | 9.37         | 9.11         | 9.60         | 9.29         | 9.61         | 9.17         | 9.18         | 9.63         | 9.34                | 9.40                | 0.64                |
| 31st-40th   | Mean              | 0.08         | 0.08         | 0.09         | 0.08         | 0.08         | 0.08         | 0.07         | 0.07         | 0.08                | 0.08                | 0.00                |
|   | %                 | 5.68         | 5.72         | 6.13         | 6.33         | 6.17         | 6.09         | 5.83         | 6.44         | 5.97                | 6.13                | 2.68                |
| 41st-50th   | Mean              | 0.05         | 0.05         | 0.06         | 0.06         | 0.05         | 0.06         | 0.05         | 0.05         | 0.06                | 0.05                | -16.67              |
|   | %                 | 3.82         | 3.86         | 4.05         | 4.24         | 4.02         | 4.31         | 3.99         | 4.54         | 3.99                | 4.22                | 5.76                |
| 51st-60th   | Mean              | 0.04         | 0.04         | 0.04         | 0.04         | 0.04         | 0.04         | 0.04         | 0.04         | 0.04                | 0.04                | 0.00                |
|   | %                 | 2.66         | 2.67         | 2.72         | 3.00         | 2.84         | 2.91         | 2.90         | 3.14         | 2.76                | 2.95                | 6.88                |
| 61st-70th   | Mean              | 0.03         | 0.03         | 0.03         | 0.03         | 0.03         | 0.03         | 0.03         | 0.03         | 0.03                | 0.03                | 0.00                |
|   | %                 | 2.07         | 2.07         | 2.19         | 2.32         | 2.26         | 2.33         | 2.35         | 2.41         | 2.16                | 2.34                | 8.33                |
| 71st-80th   | Mean              | 0.02         | 0.02         | 0.02         | 0.02         | 0.02         | 0.02         | 0.02         | 0.02         | 0.02                | 0.02                | 0.00                |
|   | %                 | 1.50         | 1.39         | 1.57         | 1.68         | 1.60         | 1.66         | 1.56         | 1.67         | 1.54                | 1.62                | 5.19                |
| 81st-90th   | Mean              | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01                | 0.01                | 0.00                |
|   | %                 | 0.77         | 0.77         | 0.81         | 0.88         | 0.87         | 0.83         | 0.89         | 0.95         | 0.81                | 0.89                | 9.88                |
| 91st-100th  | Mean              | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01                | 0.01                | 0.00                |
|   | %                 | 0.77         | 0.77         | 0.78         | 0.83         | 0.86         | 0.82         | 0.88         | 0.94         | 0.79                | 0.88                | 11.39               |
| Total   | Mean              | 0.14         | 0.14         | 0.14         | 0.13         | 0.13         | 0.13         | 0.12         | 0.11         | 0.14                | 0.12                | -14.29              |

**Notes:**

<sup>a</sup>Limited to in-state prescribers of the drug type(s) shown in this table. Includes out-of-state-residents. Based on the total number of days in a quarter.

<sup>b</sup>Tied values that overlapped deciles were randomly assigned to the higher or lower decile so that all deciles are equal-sized.

<sup>c</sup>Mean refers to the mean number of prescriptions for specified drug written per day per prescriber percentile rank.

% refers to the percentage of all prescriptions for specified drug written per day per prescriber percentile rank.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 5.6 - Mean number per day and percentage of prescriptions (Rxs) for zolpidem by prescriber percentile ranking, based on daily prescribing counts, by quarter and year<sup>a</sup>**

**Kentucky**

| Prescriber Percentile Ranking <sup>b</sup> by Total Specified Drug Rxs Written per Day |                   | Jan-Mar 2012 | Apr-Jun 2012 | Jul-Sep 2012 | Oct-Dec 2012 | Jan-Mar 2013 | Apr-Jun 2013 | Jul-Sep 2013 | Oct-Dec 2013 | Annual Average 2012 | Annual Average 2013 | % Chg. 2012 to 2013 |
|--|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------------|---------------------|---------------------|
| 1st (Top 1%)   | Mean <sup>c</sup> | 3.06         | 3.34         | 3.28         | 3.13         | 3.13         | 3.10         | 3.04         | 3.02         | 3.20                | 3.07                | -4.06               |
|  | %                 | 9.37         | 9.58         | 9.43         | 9.50         | 9.55         | 9.53         | 9.60         | 9.69         | 9.47                | 9.59                | 1.27                |
| 1st-10th   | Mean              | 1.57         | 1.68         | 1.66         | 1.59         | 1.57         | 1.54         | 1.50         | 1.49         | 1.63                | 1.53                | -6.13               |
|  | %                 | 48.53        | 48.71        | 48.59        | 49.06        | 48.65        | 48.18        | 47.96        | 48.11        | 48.72               | 48.23               | -1.01               |
| 11th-20th  | Mean              | 0.75         | 0.80         | 0.79         | 0.73         | 0.73         | 0.71         | 0.70         | 0.69         | 0.77                | 0.71                | -7.79               |
|  | %                 | 23.03        | 23.09        | 23.02        | 22.66        | 22.46        | 22.28        | 22.32        | 22.25        | 22.95               | 22.33               | -2.70               |
| 21st-30th  | Mean              | 0.41         | 0.44         | 0.44         | 0.42         | 0.41         | 0.41         | 0.40         | 0.40         | 0.43                | 0.41                | -4.65               |
|  | %                 | 12.82        | 12.80        | 12.93        | 12.84        | 12.75        | 12.95        | 12.93        | 12.90        | 12.85               | 12.88               | 0.23                |
| 31st-40th  | Mean              | 0.23         | 0.24         | 0.24         | 0.22         | 0.23         | 0.23         | 0.23         | 0.23         | 0.23                | 0.23                | 0.00                |
|  | %                 | 6.96         | 6.82         | 6.96         | 6.77         | 7.09         | 7.35         | 7.39         | 7.36         | 6.88                | 7.30                | 6.10                |
| 41st-50th  | Mean              | 0.12         | 0.13         | 0.13         | 0.12         | 0.13         | 0.13         | 0.13         | 0.13         | 0.13                | 0.13                | 0.00                |
|  | %                 | 3.76         | 3.80         | 3.79         | 3.83         | 3.95         | 4.11         | 4.12         | 4.14         | 3.80                | 4.08                | 7.37                |
| 51st-60th  | Mean              | 0.07         | 0.07         | 0.07         | 0.07         | 0.07         | 0.07         | 0.07         | 0.07         | 0.07                | 0.07                | 0.00                |
|  | %                 | 2.16         | 2.10         | 2.07         | 2.12         | 2.24         | 2.28         | 2.34         | 2.33         | 2.11                | 2.30                | 9.00                |
| 61st-70th  | Mean              | 0.04         | 0.04         | 0.04         | 0.04         | 0.04         | 0.04         | 0.04         | 0.04         | 0.04                | 0.04                | 0.00                |
|  | %                 | 1.23         | 1.21         | 1.21         | 1.20         | 1.28         | 1.29         | 1.33         | 1.32         | 1.21                | 1.31                | 8.26                |
| 71st-80th  | Mean              | 0.02         | 0.03         | 0.02         | 0.02         | 0.03         | 0.03         | 0.03         | 0.03         | 0.02                | 0.03                | 50.00               |
|  | %                 | 0.75         | 0.76         | 0.73         | 0.76         | 0.80         | 0.80         | 0.82         | 0.81         | 0.75                | 0.81                | 8.00                |
| 81st-90th  | Mean              | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01                | 0.01                | 0.00                |
|  | %                 | 0.42         | 0.40         | 0.40         | 0.42         | 0.43         | 0.42         | 0.45         | 0.43         | 0.41                | 0.43                | 4.88                |
| 91st-100th   | Mean              | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01         | 0.01                | 0.01                | 0.00                |
|  | %                 | 0.34         | 0.32         | 0.32         | 0.33         | 0.34         | 0.34         | 0.35         | 0.35         | 0.33                | 0.35                | 6.06                |
| Total  | Mean              | 0.32         | 0.35         | 0.34         | 0.32         | 0.32         | 0.32         | 0.31         | 0.31         | 0.33                | 0.32                | -3.03               |

**Notes:**

<sup>a</sup>Limited to in-state prescribers of the drug type(s) shown in this table. Includes out-of-state-residents. Based on the total number of days in a quarter.

<sup>b</sup>Tied values that overlapped deciles were randomly assigned to the higher or lower decile so that all deciles are equal-sized.

<sup>c</sup>Mean refers to the mean number of prescriptions for specified drug written per day per prescriber percentile rank.

% refers to the percentage of all prescriptions for specified drug written per day per prescriber percentile rank.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 5.7 - Mean daily dosage for opioids in MMEs by prescriber percentile ranking, based on daily prescribing counts, by quarter and year<sup>a</sup>**

**Kentucky**

| Prescriber Percentile Ranking <sup>b</sup> by Total Opioid Rxs Written per Day | Jan-Mar 2012 | Apr-Jun 2012 | Jul-Sep 2012 | Oct-Dec 2012 | Jan-Mar 2013 | Apr-Jun 2013 | Jul-Sep 2013 | Oct-Dec 2013 | Annual Average 2012 | Annual Average 2013 | % Chg. 2012 to 2013 |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------------|---------------------|---------------------|
| 1st (Top 1%)   | 56.69        | 57.40        | 57.02        | 55.49        | 55.37        | 55.29        | 54.51        | 53.79        | 56.65               | 54.74               | -3.37               |
| 1st-10th   | 49.26        | 49.22        | 49.90        | 49.93        | 50.24        | 49.75        | 49.42        | 49.53        | 49.58               | 49.74               | 0.32                |
| 11th-20th  | 49.02        | 48.12        | 48.22        | 47.81        | 50.27        | 51.49        | 52.48        | 52.00        | 48.29               | 51.56               | 6.77                |
| 21st-30th  | 48.16        | 47.12        | 46.78        | 49.43        | 50.27        | 51.65        | 51.13        | 51.79        | 47.87               | 51.21               | 6.98                |
| 31st-40th  | 42.21        | 42.15        | 43.43        | 44.41        | 45.55        | 43.68        | 45.17        | 43.38        | 43.05               | 44.45               | 3.25                |
| 41st-50th  | 40.25        | 42.22        | 41.84        | 41.05        | 41.34        | 41.57        | 41.08        | 38.21        | 41.34               | 40.55               | -1.91               |
| 51st-60th  | 40.06        | 37.90        | 38.44        | 38.35        | 39.27        | 38.98        | 38.98        | 39.37        | 38.69               | 39.15               | 1.19                |
| 61st-70th  | 38.09        | 37.20        | 36.96        | 38.19        | 38.44        | 38.99        | 39.01        | 37.22        | 37.61               | 38.42               | 2.15                |
| 71st-80th  | 38.67        | 37.07        | 37.85        | 36.46        | 37.27        | 36.02        | 37.28        | 36.67        | 37.51               | 36.81               | -1.87               |
| 81st-90th  | 35.57        | 36.57        | 37.79        | 38.24        | 38.50        | 35.78        | 35.26        | 34.47        | 37.04               | 36.00               | -2.81               |
| 91st-100th   | 38.49        | 38.19        | 39.21        | 39.39        | 40.06        | 36.90        | 38.09        | 38.46        | 38.82               | 38.38               | -1.13               |
| Total  | 48.76        | 48.61        | 49.21        | 49.32        | 49.91        | 49.73        | 49.61        | 49.60        | 48.98               | 49.71               | 1.49                |

**Notes:**

<sup>a</sup>Limited to in-state prescribers of the drug type(s) shown in this table. Includes out-of-state-residents.

<sup>b</sup>Tied values that overlapped deciles were randomly assigned to the higher or lower decile so that all deciles are equal-sized.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 5.8 - Median distance in miles from patient to prescriber by prescriber percentile ranking, based on median distance in miles from patient to prescriber, for CS II-V prescriptions, by quarter and year<sup>a</sup>**

**Kentucky**

| Prescriber Percentile Ranking <sup>b</sup><br>by Median Distance in Miles<br>from Patient to CS II-V<br>Prescriber | Jan-<br>Mar<br>2012 | Apr-<br>Jun<br>2012 | Jul-<br>Sep<br>2012 | Oct-<br>Dec<br>2012 | Jan-<br>Mar<br>2013 | Apr-<br>Jun<br>2013 | Jul-<br>Sep<br>2013 | Oct-<br>Dec<br>2013 | Annual<br>Average<br>2012 | Annual<br>Average<br>2013 | % Chg.<br>2012<br>to<br>2013 |
|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------------|---------------------------|------------------------------|
| 1st (Top 1%)   | 181.10              | 177.60              | 186.70              | 196.60              | 177.50              | 174.10              | 180.40              | 182.20              | 185.50                    | 178.55                    | -3.75                        |
| 1st-10th (farthest)  | 65.30               | 66.00               | 64.20               | 64.40               | 62.10               | 59.30               | 57.60               | 51.70               | 64.98                     | 57.68                     | -11.23                       |
| 11th-20th  | 23.90               | 25.00               | 24.00               | 23.70               | 23.40               | 23.80               | 23.40               | 22.90               | 24.15                     | 23.38                     | -3.19                        |
| 21st-30th  | 15.20               | 15.30               | 15.30               | 15.20               | 15.00               | 15.00               | 15.00               | 15.00               | 15.25                     | 15.00                     | -1.64                        |
| 31st-40th  | 11.00               | 11.00               | 11.00               | 11.00               | 11.00               | 11.00               | 11.00               | 11.00               | 11.00                     | 11.00                     | 0.00                         |
| 41st-50th  | 9.00                | 8.90                | 8.90                | 9.00                | 8.90                | 9.00                | 9.10                | 9.00                | 8.95                      | 9.00                      | 0.56                         |
| 51st-60th  | 7.00                | 6.90                | 7.00                | 7.00                | 7.00                | 7.00                | 7.30                | 7.00                | 6.98                      | 7.08                      | 1.43                         |
| 61st-70th  | 6.00                | 5.90                | 5.90                | 5.80                | 6.00                | 6.00                | 6.00                | 6.00                | 5.90                      | 6.00                      | 1.69                         |
| 71st-80th  | 4.80                | 4.80                | 4.80                | 4.80                | 4.80                | 4.80                | 4.80                | 4.80                | 4.80                      | 4.80                      | 0.00                         |
| 81st-90th  | 1.30                | 0.90                | 1.30                | 1.20                | 0.90                | 1.50                | 1.30                | 1.30                | 1.18                      | 1.25                      | 5.93                         |
| 91st-100th (closest)   | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                      | 0.00                      | -                            |
| Total: Median distance<br>(miles)  | 8.00                | 8.00                | 8.00                | 8.00                | 8.00                | 8.10                | 8.10                | 8.00                | 8.00                      | 8.05                      | 0.63                         |

**Notes:**

<sup>a</sup>Limited to in-state prescribers of the drug type(s) shown in this table. Includes out-of-state-residents.

<sup>b</sup>Tied values that overlapped deciles were randomly assigned to the higher or lower decile so that all deciles are equal-sized.

**State Notes:**

Please refer to the Appendix 2 table for information on the % missing data for sex, age, payment type, patient ZIP code and prescriber ZIP Code, by quarter.

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 5.9 - Median distance in miles from patient to prescriber by prescriber percentile ranking, based on median distance in miles from patient to prescriber, for opioid prescriptions, by quarter and year<sup>a</sup>**

**Kentucky**

| Prescriber Percentile Ranking <sup>b</sup><br>by Median Distance in Miles<br>from Patient to Opioid<br>Prescriber | Jan-<br>Mar<br>2012 | Apr-<br>Jun<br>2012 | Jul-<br>Sep<br>2012 | Oct-<br>Dec<br>2012 | Jan-<br>Mar<br>2013 | Apr-<br>Jun<br>2013 | Jul-<br>Sep<br>2013 | Oct-<br>Dec<br>2013 | Annual<br>Average<br>2012 | Annual<br>Average<br>2013 | % Chg.<br>2012<br>to<br>2013 |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------------|---------------------------|------------------------------|
| 1st (Top 1%)  | 179.50              | 177.40              | 177.50              | 184.40              | 177.50              | 174.10              | 180.40              | 182.80              | 179.70                    | 178.70                    | -0.56                        |
| 1st-10th (farthest)   | 69.40               | 69.80               | 68.30               | 65.40               | 63.30               | 62.10               | 62.20               | 60.80               | 68.23                     | 62.10                     | -8.98                        |
| 11th-20th   | 25.70               | 26.00               | 25.70               | 25.20               | 24.90               | 25.50               | 25.70               | 26.00               | 25.65                     | 25.53                     | -0.47                        |
| 21st-30th   | 16.40               | 16.50               | 16.50               | 16.20               | 15.90               | 15.90               | 16.00               | 16.40               | 16.40                     | 16.05                     | -2.13                        |
| 31st-40th   | 11.60               | 11.30               | 11.60               | 11.60               | 11.40               | 11.40               | 11.60               | 11.80               | 11.53                     | 11.55                     | 0.17                         |
| 41st-50th   | 9.60                | 9.30                | 9.50                | 9.40                | 9.30                | 9.50                | 9.60                | 9.90                | 9.45                      | 9.58                      | 1.38                         |
| 51st-60th   | 7.50                | 7.30                | 7.50                | 7.40                | 7.40                | 7.50                | 7.70                | 7.70                | 7.43                      | 7.58                      | 2.02                         |
| 61st-70th   | 6.00                | 6.00                | 6.00                | 6.00                | 6.00                | 6.00                | 6.20                | 6.20                | 6.00                      | 6.10                      | 1.67                         |
| 71st-80th   | 4.80                | 4.80                | 4.80                | 4.80                | 4.80                | 4.80                | 4.80                | 4.80                | 4.80                      | 4.80                      | 0.00                         |
| 81st-90th   | 1.40                | 0.90                | 1.50                | 1.30                | 1.90                | 1.90                | 2.20                | 1.90                | 1.28                      | 1.98                      | 54.69                        |
| 91st-100th (closest)  | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                      | 0.00                      | -                            |
| Total: Median distance<br>(miles)   | 9.10                | 9.10                | 9.30                | 9.40                | 9.50                | 9.70                | 9.60                | 9.80                | 9.23                      | 9.65                      | 4.55                         |

**Notes:**

<sup>a</sup>Limited to in-state prescribers of the drug type(s) shown in this table. Includes out-of-state-residents.

<sup>b</sup>Tied values that overlapped deciles were randomly assigned to the higher or lower decile so that all deciles are equal-sized.

**State Notes:**

Please refer to the Appendix 2 table for information on the % missing data for sex, age, payment type, patient ZIP code and prescriber ZIP Code, by quarter.

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 5.10 - Percentage of patients with a multiple provider episode<sup>a</sup> among all patients seen, by prescriber percentile ranking, based on median distance in miles from patient to prescriber, by quarter and year<sup>b</sup>**

**Kentucky**

| Prescriber Percentile Ranking <sup>c</sup><br>by Median Distance in Miles<br>from Patient to Prescriber | Jan-<br>Mar<br>2012 | Apr-<br>Jun<br>2012 | Jul-<br>Sep<br>2012 | Oct-<br>Dec<br>2012 | Jan-<br>Mar<br>2013 | Apr-<br>Jun<br>2013 | Jul-<br>Sep<br>2013 | Oct-<br>Dec<br>2013 | Annual<br>Rate<br>2012 | Annual<br>Rate<br>2013 | % Chg.<br>2012 to<br>2013 |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|---------------------------|
| 1st (Top 1%)  | 1.19                | 1.56                | 0.80                | 0.80                | 0.68                | 0.80                | 0.47                | 0.76                | 1.09                   | 0.68                   | -37.61                    |
| 1st-10th (farthest)   | 1.29                | 1.34                | 0.97                | 0.94                | 0.57                | 0.65                | 0.66                | 0.60                | 1.14                   | 0.62                   | -45.61                    |
| 11th-20th   | 0.89                | 0.92                | 0.75                | 0.58                | 0.37                | 0.43                | 0.43                | 0.38                | 0.79                   | 0.40                   | -49.37                    |
| 21st-30th   | 0.81                | 0.89                | 0.66                | 0.57                | 0.30                | 0.35                | 0.36                | 0.32                | 0.73                   | 0.33                   | -54.79                    |
| 31st-40th   | 0.76                | 0.78                | 0.58                | 0.44                | 0.27                | 0.28                | 0.30                | 0.27                | 0.64                   | 0.28                   | -56.25                    |
| 41st-50th   | 0.70                | 0.64                | 0.58                | 0.46                | 0.25                | 0.25                | 0.26                | 0.21                | 0.60                   | 0.24                   | -60.00                    |
| 51st-60th   | 0.65                | 0.65                | 0.48                | 0.37                | 0.23                | 0.24                | 0.22                | 0.20                | 0.54                   | 0.22                   | -59.26                    |
| 61st-70th   | 0.50                | 0.48                | 0.38                | 0.32                | 0.17                | 0.17                | 0.17                | 0.17                | 0.42                   | 0.17                   | -59.52                    |
| 71st-80th   | 0.54                | 0.58                | 0.41                | 0.34                | 0.17                | 0.21                | 0.20                | 0.16                | 0.47                   | 0.19                   | -59.57                    |
| 81st-90th   | 0.41                | 0.41                | 0.31                | 0.27                | 0.17                | 0.15                | 0.16                | 0.13                | 0.35                   | 0.15                   | -57.14                    |
| 91st-100th (closest)  | 0.38                | 0.41                | 0.32                | 0.24                | 0.15                | 0.15                | 0.16                | 0.12                | 0.34                   | 0.15                   | -55.88                    |
| Total % patients with MPE<br>among all patients   | 0.66                | 0.68                | 0.52                | 0.42                | 0.25                | 0.27                | 0.27                | 0.24                | 0.57                   | 0.26                   | -54.39                    |

**Notes:**

<sup>a</sup>Multiple provider episode is defined as use of 5 or more prescribers and 5 or more pharmacies within 3 months and is based on the current 3 months.

<sup>b</sup>Limited to in-state prescribers of the drug type(s) shown in this table. Includes out-of-state-residents.

<sup>c</sup>Tied values that overlapped deciles were randomly assigned to the higher or lower decile so that all deciles are equal-sized.

**State Notes:**

Please refer to the Appendix 2 table for information on the % missing data for sex, age, payment type, patient ZIP code and prescriber ZIP Code, by quarter.

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 5.11 - Percentage of all Schedule II-V controlled substance (CS) prescriptions (Rxs) and all opioid Rxs by payment type and percentage of prescribers with 10% or more Schedule II-V controlled substance (CS) Rxs and opioid Rxs paid for in cash, by quarter and year<sup>a</sup> (%)**

**Kentucky**

| Measure   | Jan-<br>Mar<br>2012 | Apr-<br>Jun<br>2012 | Jul-<br>Sep<br>2012 | Oct-<br>Dec<br>2012 | Jan-<br>Mar<br>2013 | Apr-<br>Jun<br>2013 | Jul-<br>Sep<br>2013 | Oct-<br>Dec<br>2013 | Annual<br>Average<br>2012 | Annual<br>Average<br>2013 | % Chg.<br>2012<br>to<br>2013 |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------------|---------------------------|------------------------------|
| % of CS Rxs by Payment Type                                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| - Cash  | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| - Medicaid  | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| - Medicare  | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| - Private insurance   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| % of Opioid Rxs by Payment Type                               | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| - Cash  | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| - Medicaid  | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| - Medicare  | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| - Private insurance   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| % of prescribers with 10% or more CS Rxs paid for in cash     | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| % of prescribers with 10% or more opioid Rxs paid for in cash | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |

**Notes:**

<sup>a</sup>Limited to in-state prescribers of the drug type(s) shown in the table. Includes out-of-state residents. This table is populated only if the PDMP collects source of payment. Other payment types not shown; thus, totals may not sum to 100%.

**State Notes:**

Please refer to the Appendix 2 table for information on the % missing data for sex, age, payment type, patient ZIP code and prescriber ZIP Code, by quarter.  
S refers to table suppression of data when 25% or more of data are missing in measure to be computed.  
% Chg. denotes percentage change.

**Table 6.1 - Percentage of patients prescribed long-acting/extended release (LA/ER) opioids who were opioid-naïve<sup>a</sup> and mean daily dosage per LA/ER prescription, by quarter and year<sup>b</sup>**

**Kentucky**

| Measure                                  | Jan-Mar 2012 | Apr-Jun 2012 | Jul-Sep 2012 | Oct-Dec 2012 | Jan-Mar 2013 | Apr-Jun 2013 | Jul-Sep 2013 | Oct-Dec 2013 | Annual Rate/Average 2012 | Annual Rate/Average 2013 | % Chg. 2012 to 2013 |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------------------|--------------------------|---------------------|
| % opioid-naïve patients <sup>c</sup>     | 14.53        | 12.50        | 10.64        | 11.20        | 14.33        | 12.34        | 12.22        | 11.74        | 12.22                    | 12.66                    | 3.60                |
| Average daily dosage per Rx <sup>d</sup> | 140.87       | 133.76       | 137.29       | 131.12       | 136.88       | 138.15       | 134.49       | 138.12       | 135.76                   | 136.91                   | 0.85                |

**Notes:**

<sup>a</sup>Defined as one with no opioid prescriptions in the previous 60 days.

<sup>b</sup>Limited to prescriptions to state residents in state's PDMP.

<sup>c</sup>Calculated as the number of opioid-naïve patients receiving at least 1 LA/ER opioid Rx per quarter, divided by the total number of patients who received an LA/ER opioid Rx per quarter and multiplied by 100.

<sup>d</sup>Calculated as the average daily dosage in MMEs per LA/ER opioid Rx to opioid-naïve patients as defined above.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 7.1 - Mean number per day and percentage of Schedule II-V controlled substance (CS) prescriptions (Rxs) dispensed, by pharmacy percentile ranking, based on daily dispensing counts, by quarter and year<sup>a</sup>**

**Kentucky**

| Pharmacy Percentile Ranking <sup>b</sup> by Total CS Rxs Dispensed per Day |                   | Jan-Mar 2012 | Apr-Jun 2012 | Jul-Sep 2012 | Oct-Dec 2012 | Jan-Mar 2013 | Apr-Jun 2013 | Jul-Sep 2013 | Oct-Dec 2013 | Annual Average 2012 | Annual Average 2013 | % Chg. 2012 to 2013 |
|--|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------------|---------------------|---------------------|
| 1st (Top 1%)   | Mean <sup>c</sup> | 116.63       | 119.20       | 109.74       | 107.23       | 107.61       | 113.66       | 107.56       | 99.58        | 113.20              | 107.10              | -5.39               |
|  | %                 | 4.51         | 4.44         | 4.27         | 4.06         | 4.06         | 4.36         | 4.17         | 3.89         | 4.32                | 4.12                | -4.63               |
| 1st-10th   | Mean              | 67.31        | 69.51        | 66.45        | 62.86        | 63.81        | 63.11        | 62.74        | 61.03        | 66.53               | 62.67               | -5.80               |
|  | %                 | 26.05        | 26.51        | 26.06        | 24.91        | 25.15        | 25.32        | 25.45        | 24.95        | 25.88               | 25.22               | -2.55               |
| 11th-20th  | Mean              | 43.99        | 45.31        | 43.48        | 41.60        | 41.76        | 40.98        | 40.63        | 40.60        | 43.60               | 40.99               | -5.99               |
|  | %                 | 17.17        | 17.28        | 17.20        | 16.63        | 16.46        | 16.44        | 16.48        | 16.60        | 17.07               | 16.50               | -3.34               |
| 21st-30th  | Mean              | 36.10        | 36.86        | 35.36        | 33.97        | 34.19        | 33.41        | 33.03        | 32.64        | 35.57               | 33.32               | -6.33               |
|  | %                 | 13.97        | 14.06        | 13.99        | 13.58        | 13.59        | 13.40        | 13.40        | 13.46        | 13.90               | 13.46               | -3.17               |
| 31st-40th  | Mean              | 30.49        | 30.93        | 29.69        | 28.94        | 29.09        | 28.39        | 28.13        | 27.90        | 30.01               | 28.38               | -5.43               |
|  | %                 | 11.90        | 11.89        | 11.74        | 11.56        | 11.46        | 11.49        | 11.41        | 11.40        | 11.77               | 11.44               | -2.80               |
| 41st-50th  | Mean              | 25.56        | 25.51        | 24.66        | 24.57        | 24.67        | 24.06        | 23.84        | 23.86        | 25.08               | 24.11               | -3.87               |
|  | %                 | 9.97         | 9.73         | 9.75         | 9.82         | 9.81         | 9.65         | 9.67         | 9.84         | 9.82                | 9.74                | -0.81               |
| 51st-60th  | Mean              | 20.69        | 20.66        | 20.20        | 20.30        | 20.51        | 20.03        | 19.93        | 20.04        | 20.46               | 20.13               | -1.61               |
|  | %                 | 8.01         | 7.88         | 7.99         | 8.04         | 8.08         | 8.03         | 8.08         | 8.19         | 7.98                | 8.10                | 1.50                |
| 61st-70th  | Mean              | 16.39        | 16.22        | 15.97        | 16.30        | 16.62        | 16.27        | 16.12        | 16.18        | 16.22               | 16.30               | 0.49                |
|  | %                 | 6.40         | 6.24         | 6.32         | 6.52         | 6.55         | 6.58         | 6.54         | 6.61         | 6.37                | 6.57                | 3.14                |
| 71st-80th  | Mean              | 11.58        | 11.73        | 11.72        | 12.64        | 12.70        | 12.46        | 12.36        | 12.29        | 11.92               | 12.45               | 4.45                |
|  | %                 | 4.48         | 4.47         | 4.63         | 5.05         | 5.05         | 5.00         | 5.02         | 5.07         | 4.66                | 5.04                | 8.15                |
| 81st-90th  | Mean              | 4.96         | 4.77         | 5.56         | 7.91         | 7.95         | 8.04         | 7.87         | 7.69         | 5.80                | 7.89                | 36.03               |
|  | %                 | 1.94         | 1.82         | 2.20         | 3.16         | 3.13         | 3.23         | 3.19         | 3.14         | 2.28                | 3.17                | 39.04               |
| 91st-100th   | Mean              | 0.32         | 0.30         | 0.30         | 1.87         | 1.81         | 2.13         | 1.91         | 1.81         | 0.70                | 1.92                | 174.29              |
|  | %                 | 0.12         | 0.12         | 0.12         | 0.74         | 0.71         | 0.85         | 0.77         | 0.74         | 0.28                | 0.77                | 175.00              |
| Total  | Mean              | 25.73        | 26.18        | 25.33        | 25.09        | 25.31        | 24.88        | 24.68        | 24.40        | 25.58               | 24.82               | -2.97               |

**Notes:**

<sup>a</sup>Limited to in-state pharmacies. Includes out-of-state-residents.

<sup>b</sup>Tied values that overlapped deciles were randomly assigned to the higher or lower decile so that all deciles are equal-sized.

<sup>c</sup>Mean refers to the mean number of controlled substances prescriptions dispensed per day per pharmacy percentile rank.

% refers to the percentage of all controlled substance prescriptions dispensed per day per pharmacy percentile rank.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 7.2 - Mean number per day and percentage of opioid prescriptions (Rx) dispensed, by pharmacy percentile ranking, based on daily dispensing counts, by quarter and year<sup>a</sup>**

**Kentucky**

| Pharmacy Percentile Ranking <sup>b</sup> by Total Opioid Rx's Dispensed per Day |                   | Jan-Mar 2012 | Apr-Jun 2012 | Jul-Sep 2012 | Oct-Dec 2012 | Jan-Mar 2013 | Apr-Jun 2013 | Jul-Sep 2013 | Oct-Dec 2013 | Annual Average 2012 | Annual Average 2013 | % Chg. 2012 to 2013 |
|---|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------------|---------------------|---------------------|
| 1st (Top 1%)  | Mean <sup>c</sup> | 69.30        | 71.92        | 66.91        | 63.71        | 63.30        | 69.48        | 66.25        | 61.01        | 67.96               | 65.01               | -4.34               |
|   | %                 | 4.62         | 4.54         | 4.48         | 4.66         | 4.65         | 5.05         | 4.83         | 4.55         | 4.58                | 4.77                | 4.15                |
| 1st-10th  | Mean              | 38.27        | 39.81        | 37.95        | 34.41        | 34.99        | 35.56        | 35.44        | 34.01        | 37.61               | 35.00               | -6.94               |
|   | %                 | 26.68        | 26.97        | 26.81        | 25.84        | 26.18        | 26.53        | 26.56        | 26.08        | 26.58               | 26.34               | -0.90               |
| 11th-20th   | Mean              | 23.98        | 24.90        | 23.64        | 22.08        | 21.86        | 21.98        | 22.08        | 21.49        | 23.65               | 21.85               | -7.61               |
|   | %                 | 16.72        | 16.87        | 16.85        | 16.72        | 16.51        | 16.55        | 16.55        | 16.48        | 16.79               | 16.52               | -1.61               |
| 21st-30th   | Mean              | 19.60        | 20.65        | 19.39        | 18.10        | 17.93        | 18.01        | 18.04        | 17.63        | 19.44               | 17.90               | -7.92               |
|   | %                 | 13.66        | 13.99        | 13.82        | 13.71        | 13.53        | 13.44        | 13.52        | 13.52        | 13.80               | 13.50               | -2.17               |
| 31st-40th   | Mean              | 16.56        | 17.25        | 16.16        | 15.21        | 15.04        | 15.07        | 15.04        | 14.74        | 16.30               | 14.97               | -8.16               |
|   | %                 | 11.55        | 11.68        | 11.42        | 11.52        | 11.36        | 11.35        | 11.27        | 11.40        | 11.54               | 11.35               | -1.65               |
| 41st-50th   | Mean              | 13.89        | 14.04        | 13.40        | 12.65        | 12.57        | 12.59        | 12.50        | 12.40        | 13.50               | 12.52               | -7.26               |
|   | %                 | 9.69         | 9.51         | 9.55         | 9.58         | 9.49         | 9.39         | 9.37         | 9.51         | 9.58                | 9.44                | -1.46               |
| 51st-60th   | Mean              | 11.24        | 11.47        | 10.88        | 10.38        | 10.55        | 10.51        | 10.49        | 10.38        | 10.99               | 10.48               | -4.64               |
|   | %                 | 7.84         | 7.77         | 7.75         | 7.80         | 7.89         | 7.91         | 7.86         | 7.96         | 7.79                | 7.91                | 1.54                |
| 61st-70th   | Mean              | 9.09         | 9.08         | 8.73         | 8.45         | 8.52         | 8.40         | 8.47         | 8.37         | 8.84                | 8.44                | -4.52               |
|   | %                 | 6.34         | 6.15         | 6.17         | 6.40         | 6.43         | 6.27         | 6.35         | 6.47         | 6.27                | 6.38                | 1.75                |
| 71st-80th   | Mean              | 6.80         | 6.82         | 6.63         | 6.38         | 6.47         | 6.45         | 6.50         | 6.44         | 6.66                | 6.47                | -2.85               |
|   | %                 | 4.74         | 4.62         | 4.72         | 4.83         | 4.89         | 4.85         | 4.87         | 4.94         | 4.73                | 4.89                | 3.38                |
| 81st-90th   | Mean              | 3.60         | 3.33         | 3.66         | 3.93         | 4.01         | 4.03         | 3.99         | 3.89         | 3.63                | 3.98                | 9.64                |
|   | %                 | 2.51         | 2.25         | 2.61         | 2.97         | 3.03         | 3.01         | 2.99         | 2.98         | 2.59                | 3.00                | 15.83               |
| 91st-100th  | Mean              | 0.40         | 0.31         | 0.41         | 0.84         | 0.91         | 0.95         | 0.90         | 0.88         | 0.49                | 0.91                | 85.71               |
|   | %                 | 0.28         | 0.21         | 0.29         | 0.63         | 0.68         | 0.71         | 0.67         | 0.67         | 0.35                | 0.68                | 94.29               |
| Total   | Mean              | 14.36        | 14.78        | 14.08        | 13.24        | 13.28        | 13.36        | 13.35        | 13.02        | 14.12               | 13.25               | -6.16               |

**Notes:**

<sup>a</sup>Limited to in-state pharmacies. Includes out-of-state-residents.

<sup>b</sup>Tied values that overlapped deciles were randomly assigned to the higher or lower decile so that all deciles are equal-sized.

<sup>c</sup>Mean refers to the mean number of opioid prescriptions dispensed per day per pharmacy percentile rank.

% refers to the percentage of all opioid prescriptions dispensed per day per pharmacy percentile rank.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 7.3 - Mean number per day and percentage of prescriptions (Rxs) for stimulants dispensed, by pharmacy percentile ranking, based on daily dispensing counts, by quarter and year<sup>a</sup>**

**Kentucky**

| Pharmacy Percentile Ranking <sup>b</sup> by Total Stimulant Rxs Dispensed per Day |                   | Jan-Mar 2012 | Apr-Jun 2012 | Jul-Sep 2012 | Oct-Dec 2012 | Jan-Mar 2013 | Apr-Jun 2013 | Jul-Sep 2013 | Oct-Dec 2013 | Annual Average 2012 | Annual Average 2013 | % Chg. 2012 to 2013 |
|---|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------------|---------------------|---------------------|
| 1st (Top 1%)  | Mean <sup>c</sup> | 15.83        | 15.55        | 15.32        | 15.49        | 17.51        | 16.92        | 16.34        | 16.27        | 15.55               | 16.76               | 7.78                |
|   | %                 | 5.34         | 5.13         | 5.08         | 5.18         | 5.55         | 5.61         | 5.45         | 5.34         | 5.18                | 5.49                | 5.98                |
| 1st-10th  | Mean              | 8.69         | 8.82         | 8.87         | 8.89         | 9.55         | 9.03         | 9.09         | 9.16         | 8.82                | 9.21                | 4.42                |
|   | %                 | 31.41        | 31.46        | 31.81        | 32.37        | 32.69        | 32.63        | 32.71        | 32.80        | 31.76               | 32.71               | 2.99                |
| 11th-20th   | Mean              | 4.91         | 5.06         | 5.03         | 5.14         | 5.45         | 5.18         | 5.24         | 5.32         | 5.04                | 5.30                | 5.16                |
|   | %                 | 17.91        | 18.20        | 18.21        | 18.88        | 18.84        | 18.74        | 19.03        | 19.03        | 18.30               | 18.91               | 3.33                |
| 21st-30th   | Mean              | 3.78         | 3.79         | 3.72         | 3.68         | 3.82         | 3.66         | 3.67         | 3.76         | 3.74                | 3.73                | -0.27               |
|   | %                 | 13.78        | 13.62        | 13.47        | 13.41        | 13.19        | 13.25        | 13.34        | 13.46        | 13.57               | 13.31               | -1.92               |
| 31st-40th   | Mean              | 2.98         | 3.03         | 2.95         | 2.80         | 2.93         | 2.84         | 2.77         | 2.82         | 2.94                | 2.84                | -3.40               |
|   | %                 | 10.86        | 10.90        | 10.57        | 10.30        | 10.11        | 10.25        | 9.97         | 10.20        | 10.66               | 10.13               | -4.97               |
| 41st-50th   | Mean              | 2.32         | 2.33         | 2.29         | 2.18         | 2.33         | 2.21         | 2.18         | 2.19         | 2.28                | 2.23                | -2.19               |
|   | %                 | 8.45         | 8.37         | 8.29         | 7.94         | 8.03         | 8.05         | 7.93         | 7.84         | 8.26                | 7.96                | -3.63               |
| 51st-60th   | Mean              | 1.79         | 1.78         | 1.75         | 1.71         | 1.81         | 1.71         | 1.71         | 1.70         | 1.76                | 1.73                | -1.70               |
|   | %                 | 6.48         | 6.39         | 6.35         | 6.29         | 6.27         | 6.19         | 6.21         | 6.09         | 6.38                | 6.19                | -2.98               |
| 61st-70th   | Mean              | 1.31         | 1.31         | 1.34         | 1.28         | 1.37         | 1.31         | 1.30         | 1.30         | 1.31                | 1.32                | 0.76                |
|   | %                 | 4.76         | 4.70         | 4.80         | 4.66         | 4.72         | 4.72         | 4.68         | 4.68         | 4.73                | 4.70                | -0.63               |
| 71st-80th   | Mean              | 0.95         | 0.95         | 0.95         | 0.91         | 0.96         | 0.92         | 0.92         | 0.90         | 0.94                | 0.93                | -1.06               |
|   | %                 | 3.48         | 3.43         | 3.45         | 3.35         | 3.32         | 3.31         | 3.33         | 3.21         | 3.43                | 3.29                | -4.08               |
| 81st-90th   | Mean              | 0.60         | 0.60         | 0.62         | 0.57         | 0.61         | 0.58         | 0.58         | 0.57         | 0.60                | 0.59                | -1.67               |
|   | %                 | 2.20         | 2.16         | 2.24         | 2.07         | 2.11         | 2.11         | 2.12         | 2.03         | 2.17                | 2.09                | -3.69               |
| 91st-100th  | Mean              | 0.19         | 0.22         | 0.23         | 0.20         | 0.21         | 0.20         | 0.19         | 0.19         | 0.21                | 0.20                | -4.76               |
|   | %                 | 0.68         | 0.78         | 0.81         | 0.72         | 0.73         | 0.73         | 0.68         | 0.67         | 0.75                | 0.70                | -6.67               |
| Total   | Mean              | 2.75         | 2.78         | 2.77         | 2.74         | 2.90         | 2.76         | 2.76         | 2.79         | 2.76                | 2.80                | 1.45                |

**Notes:**

<sup>a</sup>Limited to in-state pharmacies. Includes out-of-state-residents.

<sup>b</sup>Tied values that overlapped deciles were randomly assigned to the higher or lower decile so that all deciles are equal-sized.

<sup>c</sup>Mean refers to the mean number of stimulant prescriptions dispensed per day per pharmacy percentile rank.

% refers to the percentage of all stimulant prescriptions dispensed per day per pharmacy percentile rank.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 7.4 - Mean number per day and percentage of prescriptions (Rxs) for benzodiazepines dispensed per day by pharmacy percentile ranking, based on daily dispensing counts, by quarter and year<sup>a</sup>**

**Kentucky**

| Pharmacy Percentile Ranking <sup>b</sup> by Total Benzodiazepine Rxs Dispensed per Day |                   | Jan-Mar 2012 | Apr-Jun 2012 | Jul-Sep 2012 | Oct-Dec 2012 | Jan-Mar 2013 | Apr-Jun 2013 | Jul-Sep 2013 | Oct-Dec 2013 | Annual Average 2012 | Annual Average 2013 | % Chg. to 2013 |
|--|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------------|---------------------|----------------|
| 1st (Top 1%)   | Mean <sup>c</sup> | 32.93        | 32.99        | 30.41        | 28.28        | 29.15        | 28.46        | 26.57        | 23.53        | 31.15               | 26.93               | -13.55         |
|  | %                 | 4.85         | 4.65         | 4.43         | 4.45         | 4.66         | 4.62         | 4.38         | 3.95         | 4.60                | 4.40                | -4.35          |
| 1st-10th   | Mean              | 17.31        | 17.66        | 16.81        | 15.52        | 15.50        | 15.25        | 15.18        | 14.53        | 16.83               | 15.12               | -10.16         |
|  | %                 | 26.67        | 26.28        | 25.80        | 25.10        | 25.24        | 25.22        | 25.22        | 24.86        | 25.96               | 25.14               | -3.16          |
| 11th-20th  | Mean              | 10.88        | 11.21        | 10.91        | 10.11        | 9.92         | 9.74         | 9.69         | 9.50         | 10.78               | 9.71                | -9.93          |
|  | %                 | 16.76        | 16.82        | 16.75        | 16.36        | 16.15        | 16.25        | 16.25        | 16.25        | 16.67               | 16.23               | -2.64          |
| 21st-30th  | Mean              | 8.61         | 9.06         | 8.88         | 8.30         | 8.14         | 7.97         | 7.93         | 7.73         | 8.71                | 7.94                | -8.84          |
|  | %                 | 13.27        | 13.60        | 13.63        | 13.42        | 13.38        | 13.30        | 13.30        | 13.22        | 13.48               | 13.30               | -1.34          |
| 31st-40th  | Mean              | 7.30         | 7.59         | 7.40         | 7.01         | 6.89         | 6.72         | 6.64         | 6.55         | 7.33                | 6.70                | -8.59          |
|  | %                 | 11.24        | 11.40        | 11.35        | 11.34        | 11.22        | 11.21        | 11.13        | 11.31        | 11.33               | 11.22               | -0.97          |
| 41st-50th  | Mean              | 6.20         | 6.41         | 6.20         | 5.88         | 5.79         | 5.71         | 5.70         | 5.67         | 6.17                | 5.72                | -7.29          |
|  | %                 | 9.55         | 9.61         | 9.52         | 9.51         | 9.52         | 9.52         | 9.56         | 9.71         | 9.55                | 9.58                | 0.31           |
| 51st-60th  | Mean              | 5.15         | 5.24         | 5.15         | 4.99         | 4.99         | 4.85         | 4.80         | 4.78         | 5.13                | 4.86                | -5.26          |
|  | %                 | 7.93         | 7.86         | 7.90         | 8.06         | 8.13         | 8.08         | 7.98         | 8.17         | 7.94                | 8.09                | 1.89           |
| 61st-70th  | Mean              | 4.25         | 4.29         | 4.26         | 4.05         | 4.05         | 3.95         | 3.95         | 3.90         | 4.21                | 3.96                | -5.94          |
|  | %                 | 6.55         | 6.44         | 6.54         | 6.55         | 6.59         | 6.59         | 6.63         | 6.72         | 6.52                | 6.63                | 1.69           |
| 71st-80th  | Mean              | 3.16         | 3.22         | 3.24         | 3.22         | 3.20         | 3.13         | 3.14         | 3.05         | 3.21                | 3.13                | -2.49          |
|  | %                 | 4.87         | 4.83         | 4.98         | 5.21         | 5.26         | 5.22         | 5.26         | 5.22         | 4.97                | 5.24                | 5.43           |
| 81st-90th  | Mean              | 1.82         | 1.89         | 1.99         | 2.16         | 2.17         | 2.14         | 2.12         | 2.01         | 1.97                | 2.11                | 7.11           |
|  | %                 | 2.80         | 2.83         | 3.06         | 3.49         | 3.53         | 3.56         | 3.56         | 3.44         | 3.05                | 3.52                | 15.41          |
| 91st-100th   | Mean              | 0.24         | 0.22         | 0.32         | 0.59         | 0.60         | 0.63         | 0.67         | 0.64         | 0.34                | 0.64                | 88.24          |
|  | %                 | 0.36         | 0.33         | 0.48         | 0.96         | 0.98         | 1.03         | 1.11         | 1.09         | 0.53                | 1.05                | 98.11          |
| Total  | Mean              | 6.50         | 6.67         | 6.52         | 6.18         | 6.12         | 6.00         | 5.98         | 5.83         | 6.47                | 5.98                | -7.57          |

**Notes:**

<sup>a</sup>Limited to in-state pharmacies. Includes out-of-state-residents.

<sup>b</sup>Tied values that overlapped deciles were randomly assigned to the higher or lower decile so that all deciles are equal-sized.

<sup>c</sup>Mean refers to the mean number of benzodiazepine prescriptions dispensed per day per pharmacy percentile rank.

% refers to the percentage of all benzodiazepine prescriptions dispensed per day per pharmacy percentile rank.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 7.5 - Mean number per day and percentage of prescriptions (Rxs) for carisoprodol dispensed, by pharmacy percentile ranking, based on daily dispensing counts, by quarter and year<sup>a</sup>**

**Kentucky**

| Pharmacy Percentile Ranking <sup>b</sup> by Total Specified Drug Rxs Dispensed per Day |                   | Jan-Mar 2012 | Apr-Jun 2012 | Jul-Sep 2012 | Oct-Dec 2012 | Jan-Mar 2013 | Apr-Jun 2013 | Jul-Sep 2013 | Oct-Dec 2013 | Annual Average 2012 | Annual Average 2013 | % Chg. 2012 to 2013 |
|--|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------------|---------------------|---------------------|
| 1st (Top 1%)   | Mean <sup>c</sup> | 3.07         | 2.86         | 2.34         | 2.15         | 2.06         | 2.40         | 2.09         | 1.55         | 2.61                | 2.03                | -22.22              |
|  | %                 | 9.42         | 8.69         | 7.80         | 8.12         | 8.22         | 9.72         | 9.17         | 7.39         | 8.51                | 8.63                | 1.41                |
| 1st-10th   | Mean              | 1.19         | 1.12         | 0.97         | 0.87         | 0.85         | 0.88         | 0.80         | 0.71         | 1.04                | 0.81                | -22.12              |
|  | %                 | 38.96        | 37.36        | 35.28        | 36.19        | 36.95        | 39.02        | 37.71        | 35.98        | 36.95               | 37.42               | 1.27                |
| 11th-20th  | Mean              | 0.50         | 0.50         | 0.47         | 0.41         | 0.39         | 0.38         | 0.35         | 0.33         | 0.47                | 0.36                | -23.40              |
|  | %                 | 16.27        | 17.01        | 17.10        | 17.01        | 16.93        | 16.79        | 16.57        | 17.13        | 16.85               | 16.86               | 0.06                |
| 21st-30th  | Mean              | 0.35         | 0.36         | 0.34         | 0.29         | 0.28         | 0.26         | 0.25         | 0.24         | 0.34                | 0.26                | -23.53              |
|  | %                 | 11.56        | 12.21        | 12.38        | 12.17        | 12.35        | 11.48        | 12.05        | 12.24        | 12.08               | 12.03               | -0.41               |
| 31st-40th  | Mean              | 0.28         | 0.27         | 0.26         | 0.23         | 0.22         | 0.20         | 0.20         | 0.19         | 0.26                | 0.20                | -23.08              |
|  | %                 | 9.02         | 9.25         | 9.66         | 9.78         | 9.45         | 9.08         | 9.17         | 9.65         | 9.43                | 9.34                | -0.95               |
| 41st-50th  | Mean              | 0.22         | 0.22         | 0.21         | 0.18         | 0.17         | 0.16         | 0.16         | 0.14         | 0.21                | 0.16                | -23.81              |
|  | %                 | 7.43         | 7.33         | 7.72         | 7.65         | 7.37         | 7.11         | 7.37         | 7.43         | 7.53                | 7.32                | -2.79               |
| 51st-60th  | Mean              | 0.18         | 0.18         | 0.17         | 0.14         | 0.13         | 0.13         | 0.12         | 0.12         | 0.17                | 0.13                | -23.53              |
|  | %                 | 5.87         | 5.95         | 6.24         | 5.96         | 5.85         | 5.68         | 5.76         | 5.93         | 6.01                | 5.81                | -3.33               |
| 61st-70th  | Mean              | 0.14         | 0.13         | 0.13         | 0.11         | 0.10         | 0.10         | 0.10         | 0.09         | 0.13                | 0.10                | -23.08              |
|  | %                 | 4.55         | 4.53         | 4.76         | 4.65         | 4.42         | 4.45         | 4.57         | 4.64         | 4.62                | 4.52                | -2.16               |
| 71st-80th  | Mean              | 0.10         | 0.10         | 0.09         | 0.08         | 0.08         | 0.08         | 0.07         | 0.07         | 0.09                | 0.08                | -11.11              |
|  | %                 | 3.29         | 3.36         | 3.42         | 3.36         | 3.36         | 3.32         | 3.45         | 3.59         | 3.36                | 3.43                | 2.08                |
| 81st-90th  | Mean              | 0.06         | 0.06         | 0.06         | 0.05         | 0.05         | 0.05         | 0.05         | 0.05         | 0.06                | 0.05                | -16.67              |
|  | %                 | 2.12         | 2.15         | 2.37         | 2.22         | 2.34         | 2.14         | 2.28         | 2.32         | 2.22                | 2.27                | 2.25                |
| 91st-100th   | Mean              | 0.03         | 0.03         | 0.03         | 0.02         | 0.02         | 0.02         | 0.02         | 0.02         | 0.03                | 0.02                | -33.33              |
|  | %                 | 0.92         | 0.85         | 1.07         | 1.02         | 0.98         | 0.93         | 1.06         | 1.09         | 0.97                | 1.02                | 5.15                |
| Total  | Mean              | 0.31         | 0.30         | 0.27         | 0.24         | 0.23         | 0.23         | 0.21         | 0.19         | 0.28                | 0.22                | -21.43              |

**Notes:**

<sup>a</sup>Limited to in-state pharmacies. Includes out-of-state-residents.

<sup>b</sup>Tied values that overlapped deciles were randomly assigned to the higher or lower decile so that all deciles are equal-sized.

<sup>c</sup>Mean refers to the mean number of prescriptions for specified drug dispensed per day per pharmacy percentile rank.

% refers to the percentage of all prescriptions for specified drug dispensed per day per pharmacy percentile rank.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 7.6 - Mean number per day and percentage of prescriptions (Rxs) for zolpidem dispensed, by pharmacy percentile ranking, based on daily dispensing counts, by quarter and year<sup>a</sup>**

**Kentucky**

| Pharmacy Percentile Ranking <sup>b</sup> by Total Specified Drug Rxs Dispensed per Day |                   | Jan-Mar 2012 | Apr-Jun 2012 | Jul-Sep 2012 | Oct-Dec 2012 | Jan-Mar 2013 | Apr-Jun 2013 | Jul-Sep 2013 | Oct-Dec 2013 | Annual Average 2012 | Annual Average 2013 | % Chg. 2012 to 2013 |
|--|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------------|---------------------|---------------------|
| 1st (Top 1%)   | Mean <sup>c</sup> | 6.85         | 7.78         | 7.20         | 6.84         | 6.86         | 7.78         | 7.54         | 6.68         | 7.17                | 7.22                | 0.70                |
|  | %                 | 3.92         | 4.18         | 4.34         | 4.43         | 4.16         | 5.34         | 4.82         | 4.79         | 4.22                | 4.78                | 13.27               |
| 1st-10th   | Mean              | 4.24         | 4.64         | 4.46         | 4.20         | 4.11         | 4.14         | 4.05         | 3.88         | 4.39                | 4.05                | -7.74               |
|  | %                 | 26.21        | 27.11        | 26.89        | 27.23        | 27.13        | 28.39        | 28.21        | 27.82        | 26.86               | 27.89               | 3.83                |
| 11th-20th  | Mean              | 2.80         | 2.96         | 2.85         | 2.67         | 2.59         | 2.49         | 2.44         | 2.40         | 2.82                | 2.48                | -12.06              |
|  | %                 | 17.30        | 17.31        | 17.21        | 17.29        | 17.30        | 17.09        | 17.17        | 17.37        | 17.28               | 17.23               | -0.29               |
| 21st-30th  | Mean              | 2.22         | 2.32         | 2.25         | 2.09         | 2.01         | 1.92         | 1.87         | 1.85         | 2.22                | 1.91                | -13.96              |
|  | %                 | 13.71        | 13.59        | 13.56        | 13.53        | 13.41        | 13.19        | 13.16        | 13.26        | 13.60               | 13.26               | -2.50               |
| 31st-40th  | Mean              | 1.82         | 1.86         | 1.84         | 1.68         | 1.66         | 1.59         | 1.55         | 1.53         | 1.80                | 1.58                | -12.22              |
|  | %                 | 11.25        | 10.90        | 11.22        | 10.89        | 11.04        | 10.88        | 10.93        | 11.08        | 11.07               | 10.98               | -0.81               |
| 41st-50th  | Mean              | 1.52         | 1.53         | 1.50         | 1.39         | 1.37         | 1.31         | 1.28         | 1.27         | 1.49                | 1.31                | -12.08              |
|  | %                 | 9.39         | 9.02         | 9.03         | 8.98         | 9.15         | 9.08         | 8.99         | 9.19         | 9.11                | 9.10                | -0.11               |
| 51st-60th  | Mean              | 1.21         | 1.24         | 1.22         | 1.13         | 1.11         | 1.04         | 1.03         | 1.02         | 1.20                | 1.05                | -12.50              |
|  | %                 | 7.46         | 7.26         | 7.34         | 7.32         | 7.35         | 7.16         | 7.26         | 7.27         | 7.35                | 7.26                | -1.22               |
| 61st-70th  | Mean              | 0.97         | 1.00         | 0.97         | 0.90         | 0.88         | 0.81         | 0.82         | 0.79         | 0.96                | 0.83                | -13.54              |
|  | %                 | 6.01         | 5.82         | 5.90         | 5.85         | 5.86         | 5.56         | 5.76         | 5.68         | 5.90                | 5.72                | -3.05               |
| 71st-80th  | Mean              | 0.74         | 0.78         | 0.76         | 0.69         | 0.67         | 0.63         | 0.62         | 0.61         | 0.74                | 0.63                | -14.86              |
|  | %                 | 4.56         | 4.55         | 4.57         | 4.49         | 4.46         | 4.32         | 4.39         | 4.35         | 4.54                | 4.38                | -3.52               |
| 81st-90th  | Mean              | 0.50         | 0.54         | 0.51         | 0.49         | 0.46         | 0.45         | 0.43         | 0.41         | 0.51                | 0.44                | -13.73              |
|  | %                 | 3.06         | 3.18         | 3.07         | 3.15         | 3.10         | 3.08         | 3.02         | 2.96         | 3.12                | 3.04                | -2.56               |
| 91st-100th   | Mean              | 0.17         | 0.21         | 0.20         | 0.20         | 0.18         | 0.18         | 0.16         | 0.14         | 0.20                | 0.17                | -15.00              |
|  | %                 | 1.06         | 1.24         | 1.21         | 1.27         | 1.20         | 1.24         | 1.12         | 1.03         | 1.20                | 1.15                | -4.17               |
| Total  | Mean              | 1.62         | 1.71         | 1.66         | 1.55         | 1.50         | 1.46         | 1.42         | 1.39         | 1.64                | 1.44                | -12.20              |

**Notes:**

<sup>a</sup>Limited to in-state pharmacies. Includes out-of-state-residents.

<sup>b</sup>Tied values that overlapped deciles were randomly assigned to the higher or lower decile so that all deciles are equal-sized.

<sup>c</sup>Mean refers to the mean number of prescriptions for specified drug dispensed per day per pharmacy percentile rank.

% refers to the percentage of all prescriptions for specified drug dispensed per day per pharmacy percentile rank.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 7.7 - Mean daily dosage for opioids in MMEs by pharmacy percentile ranking, based on daily dispensing counts, by quarter and year<sup>a</sup>**

**Kentucky**

| Pharmacy Percentile Ranking <sup>b</sup> by Total Opioid Rx's Dispensed per Day | Jan-Mar 2012 | Apr-Jun 2012 | Jul-Sep 2012 | Oct-Dec 2012 | Jan-Mar 2013 | Apr-Jun 2013 | Jul-Sep 2013 | Oct-Dec 2013 | Annual Average 2012 | Annual Average 2013 | % Chg. 2012 to 2013 |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------------|---------------------|---------------------|
| 1st (Top 1%)  | 56.85        | 59.59        | 57.21        | 58.37        | 55.29        | 61.39        | 60.66        | 59.72        | 58.01               | 59.27               | 2.17                |
| 1st-10th  | 52.36        | 52.29        | 52.52        | 52.98        | 53.92        | 53.53        | 54.06        | 53.95        | 52.54               | 53.87               | 2.53                |
| 11th-20th   | 52.30        | 50.67        | 52.15        | 51.52        | 52.38        | 52.61        | 52.11        | 52.31        | 51.66               | 52.35               | 1.34                |
| 21st-30th   | 49.29        | 48.89        | 49.59        | 50.40        | 49.65        | 49.96        | 49.69        | 49.82        | 49.54               | 49.78               | 0.48                |
| 31st-40th   | 50.07        | 50.70        | 51.53        | 50.56        | 50.92        | 50.58        | 51.91        | 49.97        | 50.72               | 50.85               | 0.26                |
| 41st-50th   | 47.72        | 46.40        | 47.77        | 48.94        | 49.85        | 48.87        | 47.26        | 50.46        | 47.71               | 49.11               | 2.93                |
| 51st-60th   | 46.55        | 48.40        | 47.76        | 49.23        | 50.17        | 49.85        | 49.69        | 48.94        | 47.99               | 49.66               | 3.48                |
| 61st-70th   | 48.88        | 47.33        | 46.79        | 47.02        | 50.71        | 50.66        | 49.68        | 48.33        | 47.51               | 49.85               | 4.93                |
| 71st-80th   | 44.44        | 46.27        | 47.98        | 46.90        | 45.89        | 46.95        | 45.60        | 46.80        | 46.40               | 46.31               | -0.19               |
| 81st-90th   | 45.23        | 44.09        | 46.28        | 45.93        | 45.69        | 44.52        | 43.47        | 44.21        | 45.38               | 44.47               | -2.01               |
| 91st-100th  | 47.84        | 54.60        | 48.73        | 47.47        | 45.09        | 45.78        | 44.25        | 43.66        | 49.66               | 44.70               | -9.99               |
| Total   | 50.02        | 49.75        | 50.39        | 50.53        | 51.16        | 51.01        | 50.85        | 50.86        | 50.17               | 50.97               | 1.59                |

**Notes:**

<sup>a</sup>Limited to in-state pharmacies. Includes out-of-state-residents.

<sup>b</sup>Tied values that overlapped deciles were randomly assigned to the higher or lower decile so that all deciles are equal-sized.

**State Notes:**

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 7.8 - Median distance in miles from patient to pharmacy, by pharmacy percentile ranking, based on median distance in miles from patient to pharmacy for all CS II-V prescriptions dispensed, by quarter and year<sup>a</sup>**

**Kentucky**

| Pharmacy Percentile Ranking <sup>b</sup><br>by Median Distance in Miles<br>from Patient to Pharmacy for<br>all CS II-V Rx's Dispensed | Jan-<br>Mar<br>2012 | Apr-<br>Jun<br>2012 | Jul-<br>Sep<br>2012 | Oct-<br>Dec<br>2012 | Jan-<br>Mar<br>2013 | Apr-<br>Jun<br>2013 | Jul-<br>Sep<br>2013 | Oct-<br>Dec<br>2013 | Annual<br>Average<br>2012 | Annual<br>Average<br>2013 | % Chg.<br>2012<br>to<br>2013 |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------------|---------------------------|------------------------------|
| 1st (Top 1%)  | 72.70               | 83.50               | 83.50               | 86.40               | 110.90              | 91.50               | 95.80               | 94.70               | 81.53                     | 98.23                     | 20.48                        |
| 1st-10th (farthest)   | 10.70               | 10.90               | 11.40               | 10.10               | 10.30               | 10.50               | 10.20               | 10.00               | 10.78                     | 10.25                     | -4.92                        |
| 11th-20th   | 6.20                | 6.50                | 6.50                | 6.30                | 6.50                | 6.40                | 6.40                | 6.30                | 6.38                      | 6.40                      | 0.31                         |
| 21st-30th   | 4.70                | 4.80                | 4.80                | 4.60                | 4.80                | 4.80                | 4.80                | 4.70                | 4.73                      | 4.78                      | 1.06                         |
| 31st-40th   | 3.00                | 3.10                | 2.90                | 2.90                | 2.90                | 2.80                | 3.00                | 2.90                | 2.98                      | 2.90                      | -2.68                        |
| 41st-50th   | 0.60                | 0.90                | 0.30                | 0.30                | 0.30                | 0.00                | 0.30                | 0.00                | 0.53                      | 0.15                      | -71.70                       |
| 51st-60th   | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                      | 0.00                      | -                            |
| 61st-70th   | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                      | 0.00                      | -                            |
| 71st-80th   | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                      | 0.00                      | -                            |
| 81st-90th   | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                      | 0.00                      | -                            |
| 91st-100th (closest)  | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                      | 0.00                      | -                            |
| Total: Median distance<br>(miles)   | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                      | 0.00                      | -                            |

**Notes:**

<sup>a</sup>Limited to in-state pharmacies. Includes out-of-state-residents.

<sup>b</sup>Tied values that overlapped deciles were randomly assigned to the higher or lower decile so that all deciles are equal-sized.

**State Notes:**

Please refer to the Appendix 2 table for information on the % missing data for sex, age, payment type, patient ZIP code and prescriber ZIP Code, by quarter.

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 7.9 - Median distance in miles from patient to pharmacy, by pharmacy percentile ranking, based on median distance in miles from patient to pharmacy for opioid prescriptions dispensed, by quarter and year<sup>a</sup>**

**Kentucky**

| Pharmacy Percentile Ranking <sup>b</sup><br>by Median Distance in Miles<br>from Patient to Pharmacy for<br>Opioid Rxs Dispensed | Jan-<br>Mar<br>2012 | Apr-<br>Jun<br>2012 | Jul-<br>Sep<br>2012 | Oct-<br>Dec<br>2012 | Jan-<br>Mar<br>2013 | Apr-<br>Jun<br>2013 | Jul-<br>Sep<br>2013 | Oct-<br>Dec<br>2013 | Annual<br>Average<br>2012 | Annual<br>Average<br>2013 | % Chg.<br>2012<br>to<br>2013 |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------------|---------------------------|------------------------------|
| 1st (Top 1%)  | 75.20               | 83.50               | 83.50               | 87.40               | 88.00               | 123.80              | 88.10               | 109.30              | 82.40                     | 102.30                    | 24.15                        |
| 1st-10th (farthest)   | 10.30               | 10.30               | 10.50               | 9.80                | 10.20               | 10.20               | 9.60                | 10.00               | 10.23                     | 10.00                     | -2.25                        |
| 11th-20th   | 6.50                | 6.60                | 6.80                | 6.50                | 6.50                | 6.50                | 6.50                | 6.50                | 6.60                      | 6.50                      | -1.52                        |
| 21st-30th   | 4.80                | 4.80                | 4.90                | 4.80                | 4.80                | 4.80                | 4.80                | 4.80                | 4.83                      | 4.80                      | -0.62                        |
| 31st-40th   | 3.20                | 3.30                | 3.10                | 3.10                | 3.10                | 3.00                | 3.10                | 3.10                | 3.18                      | 3.08                      | -3.14                        |
| 41st-50th   | 1.20                | 1.80                | 1.50                | 1.20                | 1.30                | 0.90                | 1.20                | 0.90                | 1.43                      | 1.08                      | -24.48                       |
| 51st-60th   | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                      | 0.00                      | -                            |
| 61st-70th   | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                      | 0.00                      | -                            |
| 71st-80th   | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                      | 0.00                      | -                            |
| 81st-90th   | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                      | 0.00                      | -                            |
| 91st-100th (closest)  | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                      | 0.00                      | -                            |
| Total: Median distance<br>(miles)   | 0.30                | 0.30                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.00                | 0.15                      | 0.00                      | -100.00                      |

**Notes:**

<sup>a</sup>Limited to in-state pharmacies. Includes out-of-state-residents.

<sup>b</sup>Tied values that overlapped deciles were randomly assigned to the higher or lower decile so that all deciles are equal-sized.

**State Notes:**

Please refer to the Appendix 2 table for information on the % missing data for sex, age, payment type, patient ZIP code and prescriber ZIP Code, by quarter.

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 7.10 - Percentage of patients with a multiple provider episode<sup>a</sup> among all patients dispensed to, by pharmacy percentile ranking, based on median distance in miles from patient to pharmacy, by quarter and year<sup>b</sup>**

**Kentucky**

| Pharmacy Percentile Ranking <sup>c</sup><br>by Median Distance in Miles<br>from Patient to Pharmacy | Jan-<br>Mar<br>2012 | Apr-<br>Jun<br>2012 | Jul-<br>Sep<br>2012 | Oct-<br>Dec<br>2012 | Jan-<br>Mar<br>2013 | Apr-<br>Jun<br>2013 | Jul-<br>Sep<br>2013 | Oct-<br>Dec<br>2013 | Annual<br>Rate<br>2012 | Annual<br>Rate<br>2013 | % Chg.<br>2012<br>to<br>2013 |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|------------------------------|
| 1st (Top 1%)  | 0.31                | 0.36                | 0.23                | 0.33                | 0.16                | 0.16                | 0.12                | 0.18                | 0.31                   | 0.16                   | -48.39                       |
| 1st-10th (farthest)   | 0.54                | 0.57                | 0.51                | 0.40                | 0.26                | 0.27                | 0.30                | 0.28                | 0.51                   | 0.28                   | -45.10                       |
| 11th-20th   | 0.67                | 0.70                | 0.59                | 0.50                | 0.31                | 0.32                | 0.33                | 0.29                | 0.62                   | 0.31                   | -50.00                       |
| 21st-30th   | 0.72                | 0.78                | 0.55                | 0.53                | 0.28                | 0.28                | 0.26                | 0.24                | 0.65                   | 0.27                   | -58.46                       |
| 31st-40th   | 1.01                | 0.99                | 0.76                | 0.61                | 0.33                | 0.35                | 0.36                | 0.33                | 0.84                   | 0.34                   | -59.52                       |
| 41st-50th   | 0.68                | 0.73                | 0.56                | 0.45                | 0.27                | 0.27                | 0.25                | 0.23                | 0.61                   | 0.26                   | -57.38                       |
| 51st-60th   | 0.62                | 0.60                | 0.52                | 0.45                | 0.25                | 0.27                | 0.23                | 0.23                | 0.55                   | 0.25                   | -54.55                       |
| 61st-70th   | 0.64                | 0.69                | 0.47                | 0.43                | 0.26                | 0.25                | 0.26                | 0.24                | 0.56                   | 0.25                   | -55.36                       |
| 71st-80th   | 0.67                | 0.69                | 0.50                | 0.41                | 0.23                | 0.29                | 0.31                | 0.22                | 0.57                   | 0.26                   | -54.39                       |
| 81st-90th   | 0.58                | 0.64                | 0.52                | 0.40                | 0.23                | 0.25                | 0.24                | 0.21                | 0.54                   | 0.23                   | -57.41                       |
| 91st-100th (closest)  | 0.69                | 0.66                | 0.52                | 0.45                | 0.24                | 0.23                | 0.25                | 0.22                | 0.58                   | 0.24                   | -58.62                       |
| Total % patients with MPE<br>among all patients   | 0.69                | 0.71                | 0.55                | 0.47                | 0.26                | 0.28                | 0.28                | 0.25                | 0.61                   | 0.27                   | -55.74                       |

**Notes:**

<sup>a</sup>Multiple provider episode is defined as use of 5 or more prescribers and 5 or more pharmacies within 3 months and is based on the current 3 months.

<sup>b</sup>Limited to in-state pharmacies. Includes out-of-state-residents.

<sup>c</sup>Tied values that overlapped deciles were randomly assigned to the higher or lower decile so that all deciles are equal-sized.

**State Notes:**

Please refer to the Appendix 2 table for information on the % missing data for sex, age, payment type, patient ZIP code and prescriber ZIP Code, by quarter.

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Table 7.11 - Percentage of all Schedule II-V controlled substance (CS) prescriptions (Rxs) and all opioid Rxs by payment type, percentage of pharmacies with 10% or more CS Rxs and opioid Rxs paid for in cash, and number and percentage of pharmacies that filled CS Rxs paid for by Medicaid and by cash, by quarter and year<sup>a</sup>**

**Kentucky**

| Measure  | Jan-<br>Mar<br>2012 | Apr-<br>Jun<br>2012 | Jul-<br>Sep<br>2012 | Oct-<br>Dec<br>2012 | Jan-<br>Mar<br>2013 | Apr-<br>Jun<br>2013 | Jul-<br>Sep<br>2013 | Oct-<br>Dec<br>2013 | Annual<br>Average<br>2012 | Annual<br>Average<br>2013 | % Chg.<br>2012<br>to<br>2013 |
|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------------|---------------------------|------------------------------|
| % of CS Rxs by Payment Type                                    | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| - Cash   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| - Medicaid   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| - Medicare   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| - Private insurance  | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| % of Opioid Rxs by Payment Type                                | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| - Cash   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| - Medicaid   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| - Medicare   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| - Private insurance  | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| % of pharmacies with 10% or more CS Rxs paid for in cash       | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| % of pharmacies with 10% or more opioid Rxs paid for in cash   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| Pharmacies that filled CS Rxs paid for by Medicaid and by cash | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| - Number of pharmacies   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |
| - % of pharmacies  | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                   | S                         | S                         | S                            |

**Notes:**

<sup>a</sup>Limited to in-state pharmacies. Includes out-of-state residents. This table is populated only if the PDMP collects source of payment. Other payment types not shown; thus, totals may not sum to 100%.

The number of pharmacies that filled CS Rxs paid for by Medicaid and by cash is defined as the number of pharmacies which filled CS Rxs paid for by Medicaid and by cash for the same patient where the Rxs were: (i) less than 10 days apart and within the same quarter, (ii) for the same drug, (iii) from a different prescriber, and (iv) where the number of days supply for the earlier prescription was greater than the number of days between the prescription fill dates.

The percentage of pharmacies that filled CS Rxs paid for by Medicaid and by cash is defined as the percentage of all pharmacies that met the criteria above.

**State Notes:**

Please refer to the Appendix 2 table for information on the % missing data for sex, age, payment type, patient ZIP code and prescriber ZIP Code, by quarter.

S refers to table suppression of data when 25% or more of data are missing in measure to be computed.

% Chg. denotes percentage change.

**Appendix 1 - Annual<sup>a</sup> estimates of state resident population, by sex and age groups**

**Kentucky**

| Age Category | 2012    |         |         | 2013    |         |         |
|--------------|---------|---------|---------|---------|---------|---------|
|              | Both    | Male    | Female  | Both    | Male    | Female  |
| <18          | 1074762 | 551055  | 523707  | 1014004 | 519341  | 494663  |
| 18-24        | 423887  | 216764  | 207123  | 420284  | 212813  | 207471  |
| 25-34        | 567662  | 286962  | 280700  | 556060  | 276983  | 279077  |
| 35-44        | 566136  | 283879  | 282257  | 560420  | 278980  | 281440  |
| 45-54        | 627061  | 309174  | 317887  | 618243  | 304455  | 313788  |
| 55-64        | 562778  | 272271  | 290507  | 571640  | 276257  | 295383  |
| 65 and older | 558129  | 237606  | 320523  | 634252  | 276967  | 357285  |
| Total        | 4380415 | 2157711 | 2222704 | 4374903 | 2145796 | 2229107 |

**Notes:**

<sup>a</sup>Population estimates as of July 1 of the specified year.

The previous year's population was used when population estimates for a given year are not yet available.

**Source:** U.S. Department of Commerce, Economics and Statistics Administration, United States Census Bureau, Population Division. Annual Estimates of the Resident Population for Selected Age Groups by Sex for the United States, States, Counties, and Puerto Rico Commonwealth and Municipios: April 1, 2010 to July 1, 2013. Release Date: June, 2014. <http://www.census.gov/popest/data/index.html>. Accessed July 8, 2014.

**State Notes:**

% Chg. denotes percentage change.

**Appendix 2 – Percent missing data by PDMP data element, state, quarter, and year (Limit to Schedules II-IV)**

**Kentucky**

| PDMP Data Element   | Jan-<br>Mar<br>2012 | Apr-<br>Jun<br>2012 | Jul-<br>Sep<br>2012 | Oct-<br>Dec<br>2012 | Jan-<br>Mar<br>2013 | Apr-<br>Jun<br>2013 | Jul-<br>Sep<br>2013 | Oct-<br>Dec<br>2013 | Annual<br>Average<br>2012 | Annual<br>Average<br>2013 |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------------|---------------------------|
| Method of payment   | 99.83               | 99.85               | 99.98               | 99.96               | 99.97               | 99.83               | 99.76               | 99.64               | 99.91                     | 99.80                     |
| Patient age         | 0.01                | 0.13                | 0.02                | 0.02                | 0.02                | 0.01                | 0.02                | 0.02                | 0.05                      | 0.02                      |
| Patient gender      | 0.52                | 0.31                | 0.18                | 0.17                | 0.17                | 0.17                | 0.18                | 0.18                | 0.30                      | 0.18                      |
| Patient zip code    | 1.61                | 0.45                | 0.39                | 0.36                | 0.35                | 0.33                | 0.32                | 0.31                | 0.70                      | 0.33                      |
| Pharmacy zip code   | 0.08                | 0.08                | 0.08                | 0.09                | 0.10                | 0.09                | 0.09                | 0.09                | 0.08                      | 0.09                      |
| Prescriber zip code | 0.15                | 0.12                | 0.10                | 0.08                | 0.08                | 0.06                | 0.06                | 0.05                | 0.11                      | 0.06                      |

**Notes:**

N/A=PDMP not yet operational or data not retained

**State Notes:**

% Chg. denotes percentage change.