

SUBSTANCE USE AND THE ACA IN KENTUCKY

Introduction

Policy issues related to substance use have gained national attention in recent years, driven in large part by recent increases in drug overdose deaths. In 2011, the U.S. Centers for Disease Control and Prevention declared that “overdoses involving prescription painkillers are at epidemic levels,” having more than tripled in the prior decade.¹ Since then, overdose deaths from heroin, an illegal opioid similar to many prescription painkillers, have also increased — more than tripling nationally between 2010 and 2014.²

Kentucky’s experience with opioid use began earlier and has been more severe than the experiences of many other states. In 2000, only nine counties in the U.S. had overdose death rates of more than 20 per 100,000 people, and four of these were located in Kentucky. By 2014, more than half of Kentucky counties (64) had overdose rates that high.³ This represents a quadrupling of deaths due to drug overdose, from less than 250 in 2000 to more than 1,000 each year since 2010. According to the Kentucky Justice and Public Safety Cabinet, drug overdose deaths reached 1,248 in 2015.⁴

Over the past two decades, the Commonwealth has taken efforts to curb problems related to substance use. In 1998, Kentucky became one of the first states to launch a prescription drug monitoring program—the Kentucky All Schedule Prescription Electronic Reporting (KASPER) system—to monitor medical use of controlled substances, such as prescription opioid painkillers. KASPER has since been enhanced and now offers health care providers and pharmacies real-time 24-hour access to prescription information that can be used to monitor and prevent overuse of prescription medications.⁵ Policymakers have also adopted policies aimed at reducing the impact of illegal drugs, such as passing the 2015 Senate Bill 192, which authorized expanded use of naloxone, a drug that treats opioid overdoses, and funded substance use treatment programs.^{6,7}

Naloxone is a medication used to counteract overdoses from heroin and other opioids. Also known by the brand name Narcan, it works by blocking opioid receptors in the brain to reverse to toxic effects of an overdose.

This report provides an overview of substance use in Kentucky, focusing particularly on issues related to prescription opioid painkillers and heroin. It examines the rise of substance use in Kentucky, compares the Commonwealth to the U.S. and other states, and discusses recent provisions of the Affordable Care Act (ACA) designed to increase access to substance use treatment. Finally, this report examines early data on the effects of implementation of the ACA on substance use in Kentucky. While other factors have also probably played a role, evidence shows that Kentucky has experienced increases in treatment for substance use, including a 15% increase in inpatient treatment admissions since 2012 and a more than 700% increase in substance use treatment services provided through the Commonwealth’s Medicaid expansion since 2014.

Substance Use in Kentucky

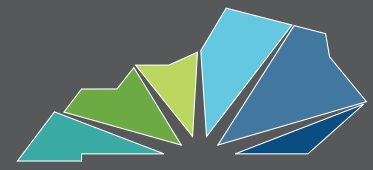
In Kentucky, nearly 100,000 people age 12 and older report being dependent on or abusing illicit drugs.⁸ While the ACA includes several provisions designed to increase access to treatment of various substance use disorders, this report focuses largely on opioids — both prescription opioid pain killers and the related illegal opioid heroin — because of concerns nationally and in Kentucky about the rise in preventable opioid-related deaths.⁹

Drug Overdoses

Nationally and in Kentucky, deaths due to drug overdose have followed a long-term increasing trend. Since 2000, U.S. drug overdoses have nearly tripled from about 17,000 to 47,000 in 2014.¹⁰ The U.S. Centers for Disease Control and Prevention estimated that in 2001, approximately six per 100,000 people died of drug overdoses in both Kentucky and the U.S. Since that time, overdose deaths in the Commonwealth have increased more rapidly and have remained significantly higher than the national average. By 2014, the death rate due to drug overdoses in Kentucky was more than 24 per 100,000 people, compared to 15 per 100,000 people in the U.S. (Figure 1). Additionally, Kentucky’s overdose death rate was significantly higher than all but two neighboring states in 2014 (Figure 2). West Virginia’s overdose rate of 34 deaths was significantly higher, and Ohio’s rate of 24 was not significantly different from Kentucky’s rate.

The Kentucky Justice and Public Safety Cabinet reports that the majority of drug overdoses since 2011 resulted from opioid use. While most of these opioid-related overdoses were caused by prescription painkillers, heroin deaths have climbed by more than 500%, from 42 deaths in 2011 to 222 deaths in 2014.¹¹ In 2011, prescription opioids accounted for 53% of overdose deaths in Kentucky, while heroin deaths represented just 4% (Figure 3). By 2014, prescription opioids overdoses declined slightly to 47%, and heroin deaths had increased to 22%. This shift toward more heroin overdose deaths may reflect changes in the types of substances being used in Kentucky. Research has found that people often progress from using prescription opioids to heroin because it provides stronger effects, is often less expensive than prescription opioids, and may sometimes be more readily available.¹² For instance, a national study found that about 80% of people who reported using heroin reported earlier misuse of prescription painkillers.¹³ Additionally, evidence suggests that some people may be transitioning to heroin use in response to efforts to make prescription painkillers harder to obtain and changes in prescription painkiller formulas designed to make them more resistant to misuse.^{14,15,16}

Heroin is an addictive illegal opioid drug that is made from the opium poppy plant. Like other opioids, heroin causes feelings of euphoria by stimulating the reward centers of the brain.



Opioid painkiller prescriptions

Studies have found that many people who use heroin or misuse prescription opioid painkillers began with “legitimate” prescriptions to treat pain, such as chronic back pain or surgical pain, or obtained them from friends and family members with prescriptions.^{17,18} The Commonwealth has had one of the highest rates of painkiller prescriptions in the U.S., potentially contributing to opioid misuse in Kentucky. In 2012, Kentucky had a prescription rate of 128 painkillers per 100 people—a rate of more than one prescription per person (Figure 4). Only three other states had rates higher than Kentucky: Alabama and Tennessee with 143 prescriptions per 100 people, and West Virginia with 138. The Commonwealth is located in a region of the U.S. with high rates of prescription painkillers, sharing borders with four of the other 11 states with at least one opioid prescription per person (Indiana, Ohio, Tennessee and West Virginia). Some research has suggested that higher use of opioids in the Appalachian regions—including parts of Kentucky and neighboring states—may be related to their rural populations, which tend to have higher rates of chronic pain and injury, and the area’s economy, which is dependent on heavy-labor, injury-prone jobs, such as mining.^{19,20,21,22}

In part because of concerns about overuse and oversupply of opioid painkillers, Kentucky and most other states have created prescription drug monitoring systems to track controlled substances.²³ These systems, such as KASPER in Kentucky, provide a tool that allow states to monitor health care providers’ prescribing practices to identify if any are overprescribing painkillers, which are commonly called “pill mills,” and to identify individuals who are obtaining opioid prescriptions from multiple providers, commonly called “doctor shopping.”

There are three types of opioids: 1) natural opiates, such as morphine, 2) semi-synthetic opioids, such as hydrocodone and oxycodone, which are chemically derived from natural opiates, and 3) fully synthetic opioids, such as fentanyl, which are chemically created to mimic natural opiates. All three types of opioids stimulate the same reward centers of the brain, creating feelings of euphoria. Because of this, a person who has become chemically dependent on prescription opioid painkillers may substitute heroin for similar effects.

Public reports from the KASPER system show that two prescription opioids—hydrocodone and oxycodone—have consistently been the most commonly prescribed controlled substances in Kentucky since 2013, when the Commonwealth began reporting these data.²⁴ From the first quarter of 2013 to the second quarter of 2016, the number of hydrocodone doses dispensed in Kentucky has declined more than 15%, from more than 49 million to 41 million per quarter (Figure 5).²⁵ During that same time, however, oxycodone doses increased 10% from about 17.5 million to more than 19 million per quarter.

Oxycodone and hydrocodone are commonly prescribed semi-synthetic opioid painkillers and are chemical cousins of other natural and fully synthetic opioids. In addition to relieving pain, oxycodone and hydrocodone stimulate the reward centers of the brain, like other opioids.

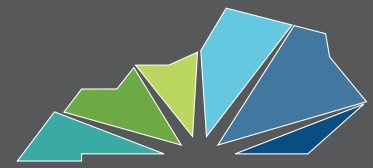
Drug abuse and dependence rates

Even though Kentucky has a higher rate of drug overdose deaths than the U.S., Kentuckians do not report higher rates of abuse or dependence on illicit drugs. In 2013/2014, 2.7% of Kentuckians age 12 and older reported abuse or dependence on illicit drugs, such as marijuana, cocaine, heroin, and non-medical use of prescription drugs, including opioid painkillers. This rate was not significantly different from the U.S. rate of 2.6%.²⁶ One potential explanation for Kentucky’s higher drug overdose death rate despite similar illicit drug abuse and dependence is that Kentuckians may use drugs that are more likely to result in overdose deaths. For example, compared to other states, in 2011/2012 Kentuckians age 12 and older reported relatively low abuse and dependence of marijuana, a drug that isn’t known to cause overdose deaths, while they reported moderate non-medical use of painkillers, which can cause overdose deaths.^{27,28}

Substance use varies by age, with young adults ages 18-25 reporting the highest rates of abuse and dependence in both Kentucky and the U.S. In 2013/2014, 6.6% of Kentucky young adults reported abuse or dependence on illicit drugs, which was significantly higher than Kentuckians overall (12+), as well as those ages 12-17 (2.9%) and older adults (2.0%) (Figure 6). The higher rates of abuse for young adults is particularly relevant when examining the impacts of the ACA on substance use, because young adults tend to have the highest rates of uninsurance—a potential barrier to obtaining treatment for substance use. Additionally, since Kentucky’s implementation of the ACA’s Medicaid expansion, more than 100,000 Kentucky young adults have gained coverage that includes substance use treatment services.²⁹

Regional differences in Kentucky substance use

Within Kentucky, people report problems related to substance use across the state, with certain differences by region. The Kentucky Health Issues Poll, funded by the Foundation for a Healthy Kentucky and Interact for Health, asks whether respondents have family members or friends who have experienced problems as a result of using heroin or prescription painkillers. In 2015, one in four Kentuckians (24.7%) said they knew someone with problems from prescription painkillers, (Figure 7). In Eastern Kentucky, nearly one in three people (32.6%) reported knowing someone with problems from using prescription painkillers, which was significantly higher than the state rate. Only Western Kentucky had a lower rate (16.3%), while the remaining regions of Northern Kentucky, Greater Louisville and Greater Lexington were not significantly different. While fewer Kentuckians reported knowing someone with problems related to heroin (12.6%), this varied by region.



Approximately one in three Northern Kentuckians (34.9%) said they knew someone with heroin-related problems, which was significantly higher than the average Kentucky rate, while the rate in Western Kentucky was significantly lower (7.9%).

This is consistent with data from the Kentucky Justice and Public Safety Cabinet, which show relatively high heroin-related drug overdose deaths in Northern Kentucky.³⁰ In Western Kentucky, fewer than one in ten people (7.9%) reported knowing someone with heroin-related problems. The significantly lower reporting of problems with prescription painkillers and heroin in Western Kentucky is consistent with data showing that counties in that region of the state have lower rates of drug overdose deaths.³¹ Responses from people living in the other three regions were not significantly different than the state rate.

Substance use and the Affordable Care Act

Before implementation of the ACA, approximately 585,000 Kentuckians lacked coverage for substance use treatment because they were without any form of health insurance in 2012.³² Another 326,000 Kentuckians in 2012 were enrolled in individual-market or small-employer health insurance plans that were not required to cover substance use services, and which often included stricter limitations when they did cover substance use treatment.^{33,34,35}

The ACA increased access to substance use treatment for those with new access to Medicaid coverage and for those purchasing private coverage in the individual market and small-employer plans by:

1. Expanding the number of people with health insurance
2. Requiring health insurance to cover treatment of substance use
3. Requiring that coverage of substance use treatment be comparable to physical health treatment

Expanding access to coverage

The ACA was designed to reduce uninsurance primarily by allowing states to expand their Medicaid programs to people with incomes up to 138% of Federal Poverty Guidelines (FPG) and by establishing health insurance marketplaces where people with incomes between 139-400% of FPG could receive financial assistance to purchase private health insurance. Since Kentucky implemented these provisions in 2014, the number of uninsured Kentuckians has dropped by about 320,000 people—from 585,000 in 2012 to 265,000 in 2015.³⁶

Requiring coverage of substance use treatment

As part of the ACA's health insurance reforms, the ACA requires that all individual-market and fully insured small-employer health insurance cover 10 Essential Health Benefits (EHBs), including mental health and substance use treatment.

Dating back to 2000, a Kentucky law already required fully insured large employers offering health insurance to cover substance use treatment, but this requirement did not apply to fully insured small employers or self-insured employers, regardless of size.³⁷

The ACA also required states that expanded their Medicaid programs to provide coverage of the 10 EHBs to newly eligible beneficiaries. This stands in contrast to traditional Medicaid, which typically provides substance abuse treatment services only as optional benefits. Before the ACA, Kentucky's Medicaid program limited substance use benefits to pregnant women and children, however, since expanding its Medicaid program, the Commonwealth has now extended these benefits to those with traditional Medicaid.³⁸ However, while states are required to provide substance use treatment benefits to Medicaid expansion beneficiaries, they are permitted to adopt limits. For example, while Kentucky's Medicaid program covers certain types of medication-assisted treatment for opioid dependence, it does not cover maintenance treatment using the medication methadone.^{39,40} Additionally, federal law prohibits Medicaid from covering treatment in institutions for mental diseases for non-elderly adults, which generally includes inpatient substance use treatment centers with more than 16 beds.

Requiring parity of substance use treatment

Before the ACA, the 2008 federal Mental Health Parity and Addiction Equity Act (MHPAEA) required that when large employers of 50 or more workers offered health insurance—either fully or self-insured—with substance use treatment coverage, the substance use benefits needed to be provided in “parity” with the medical coverage provided for physical health conditions.⁴¹ The law does not require self-insured employers to cover substance use treatment, but studies have found that nearly all employer-sponsored plans provide this coverage.⁴² The ACA expanded the MHPAEA, requiring that individual market and fully insured small employer health insurance also meet substance use parity requirements.

Parity in substance use treatment coverage means that coverage must be comparable with similar coverage for physical health conditions. For example, under parity, substance use services cannot have higher cost-sharing, such as higher co-pays; more-restrictive limitations, such as requirements for pre-authorization not required for treatment of physical conditions; or limits on the number of services if they weren't also applied to physical conditions. Additionally, the same 2000 Kentucky law requiring fully insured large employers to cover substance use treatment also requires that they offer those benefits in parity with medical service coverage.⁴³

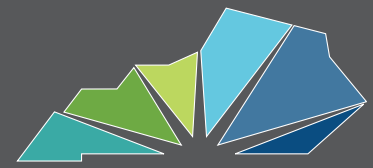


Table 1: Substance use parity requirements

Coverage Type	Coverage Sub-type	Coverage Requirement	Parity Requirement
Individual Market		ACA	ACA/MHPAEA
Fully insured ESI	Small	ACA	ACA/MHPAEA
	Large	KY	KY & MHPAEA
Self-insured employer (small or large)		Optional	MHPAEA
	Expansion	ACA	ACA/MHPAEA
Medicaid	Traditional	Optional	Optional

The table shows whether substance use coverage or parity is required or optional. If required, the table lists the source of the requirement.

ESI: Employer-Sponsored Insurance; ACA: Affordable Care Act.

ACA/MHPAEA-Affordable Care Act, applying the 2008 Mental Health Parity and Addiction Equity Act.

KY-Kentucky's 2000 HB268 substance use treatment coverage and parity law.

MHPAEA- 2008 federal Mental Health Parity and Addiction Equity Act

Access to substance use treatment in Kentucky

Since implementation of the ACA, Kentucky has experienced increases in multiple measures of substance use treatment, including inpatient admissions for substance use treatment, substance use treatment services covered by Medicaid, and dispensing of the medication buprenorphine, which is used to treat opioid substance use disorders. There are multiple factors that may contribute to these changes in substance use treatment, including increases in the prevalence of prescription opioid and heroin use, and increases in state funding for substance use treatment.⁴⁴ However, by reducing the number of uninsured Kentuckians by more than 300,000 and setting new requirements that another 300,000 Kentuckians' health insurance cover substance use treatment in parity with physical health, the ACA likely has played a role in increased substance use treatment.

Inpatient substance use treatment admissions

In the past decade, the number of inpatient substance use treatment admissions in Kentucky has dropped by nearly 33%, from a high of more than 24,500 in 2006 to a low of about 16,500 in 2012 (Figure 8). These data include admissions at substance use treatment centers that receive public funding from the Commonwealth. This drop coincided with statistically significant increases in overdose death rates in the state, suggesting it was driven by gaps in access rather than a decline in need for treatment. Since 2012, however, inpatient admissions for substance use treatment have risen to about 19,000, an increase of nearly 15%. Unlike Kentucky, most neighboring states have experienced continued declines in inpatient substance use admissions since 2012, with the exceptions of Tennessee and West Virginia. In addition to changes in the number of treatment admissions, these data also show changing trends in the types of substances that Kentuckians seeking treatment are using. In 2005, opioids were the primary substance for slightly more than one in 10 Kentucky inpatient admissions (2.0% heroin and 9.6% other opioids) (Figure 9). Ten years later, opioids accounted for nearly half of inpatient treatment admissions in Kentucky (25.6% heroin and 19.6% other opioids). Similar to Kentucky, all of its neighboring states

have experienced a shift toward increased treatment of opioid use (heroin and non-heroin opioids) compared to other drugs.

Because the increase began a year before ACA implementation in 2014, this suggests there were probably other factors that have contributed to increased treatment. For example, in 2012, Kentucky passed a law designed to reduce overprescribing and misuse of prescription opioids by requiring providers to use the KASPER system, which may have driven some people to seek treatment because they lost access to prescription opioids.⁴⁵ However, because increases have continued into 2014 and 2015, the ACA's policies to expand access to substance use treatment also likely played a role.

Medicaid substance use treatment services

Since Kentucky expanded its Medicaid program under the ACA, the program has covered an increasing number of Kentuckians. By the second quarter of 2016, more than 493,000 Kentuckians were enrolled in the Commonwealth's Medicaid expansion.⁴⁶ Enrollment in the Commonwealth's traditional Medicaid program has also increased about 22% from 2014 to 142,500 non-elderly adults in 2016.

Along with the increases in enrollment and coverage of substance use treatment services, Kentucky's Medicaid program has paid for an increasing number of substance use services. Between the first quarter of 2014 and the second quarter of 2016, alcohol and drug use treatment services grew by more than 700% for Medicaid expansion beneficiaries, from about 1,500 to more than 11,000 (Figure 10). Substance use treatment services also grew for non-elderly adults enrolled in traditional Medicaid, increasing by more than 300% in the same time period, from nearly 1,300 to more than 4,000 services.

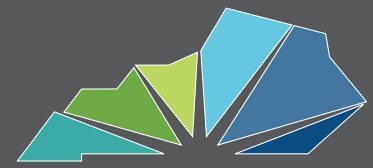
Prior research suggests that many of those enrolled in Kentucky's Medicaid expansion were uninsured before 2014, so many of these substance use treatment services were likely provided to people with limited access before implementation of the ACA.⁴⁷ Additionally, because coverage of substance use treatment was limited before 2014, many of the services provided through traditional Medicaid since then may have gone untreated earlier.

Medication therapy

Treatment for substance use disorders differs based on the types of substances used. For opioid use, research supports a combination of treatments that employs both behavioral therapies, such as counseling, and medication-assisted treatment.^{48,49}

The U.S. Food and Drug Administration has approved three medications for use treating opioid use disorders:

- **Methadone** is an opioid that can be used to reduce withdrawal symptoms and cravings, but it does not typically produce the same euphoria as other opioids. It is only available through specially licensed treatment programs.⁵⁰



- Similar to methadone, **buprenorphine** also is an opioid that can be used to reduce withdrawal symptoms and cravings. Additionally, it does not typically produce the same euphoria as other opioids, especially when combined with the medication naloxone.^{51,52} Unlike methadone, it can be prescribed by health care providers outside of special treatment programs.
- **Naltrexone** is a non-opioid that works differently than methadone and buprenorphine. Instead of reducing withdrawal, Naltrexone is used to prevent relapse by blocking the euphoria and causing withdrawal symptoms if a person takes opioids.⁵³

• In one common formulation, known by the brand name Suboxone, buprenorphine is combined with the medication naloxone, which also is used to reverse the toxic effects of opioid overdoses. With this combination, Suboxone is designed to both reduce the symptoms of withdrawal and prevent the feelings of euphoria typically caused by opioids.

Kentucky reports data from the KASPER system on the number of doses of buprenorphine dispensed each quarter. Since the first quarter of 2013, the number of buprenorphine doses dispensed has increased 73%, from approximately 2 million to 3.5 million (Figure 11). Because buprenorphine use was already increasing in 2013, before implementation of the ACA in Kentucky, there are likely other factors that have played a role. For example, compared to methadone, buprenorphine was only recently approved by the FDA for opioid dependence treatment and may be replacing methadone treatment in some circumstances.⁵⁴ However, when examined alongside other data, such as the increases in substance use treatment services in Medicaid, which covers buprenorphine, these data suggest that increased coverage of substance use treatment likely plays a role.

Conclusion

While increases in drug overdose deaths have recently brought national attention to the issue of opioid use, data show that Kentucky was one of the earliest and hardest-hit states in this epidemic. The Commonwealth and its neighboring states have some of the highest rates of opioid painkiller prescriptions in the country, potentially leading to the misuse of these drugs. While data show that use of the most commonly prescribed opioid painkiller (hydrocodone) is declining, the state has experienced a recent increase in deaths related to heroin.

The ACA was designed to improve access to substance use treatment in three ways: First, the law's expansion of Medicaid eligibility and financial assistance for people to purchase private health coverage are designed to reduce uninsurance. Second, the law makes substance use treatment an essential health benefit that most insurance plans must cover. Third, the law requires health insurance to cover substance use treatment comparably to treatment for physical health conditions.

Early evidence suggests that the law has played a role in expanding access to substance use treatment in Kentucky. Since implementation of the ACA, the Commonwealth's Medicaid program has provided increasing numbers of substance use treatment services, and the state has continued to see increases in inpatient admissions and utilization of certain medications for treating substance use disorders. However, while research suggests that access to evidence-based substance use treatment can play an important role in recovery for individuals with substance use disorders, the ACA's focus on expanding and improving treatment are not designed as a complete solution to the long-term rise in opioid-related problems in Kentucky. Substance use is a complex issue, and it will be important to consider multiple facets of the problem, including potential drivers of prescription opioid use, such as the prevalence of injuries and disability, and an emphasis on medication management of pain; and limitations on access to treatment for substance use, such as shortages of qualified health professionals and availability of treatment services in high-need regions. It will be important to consider other policy options for addressing the rise of opioid use in the Commonwealth, such as ways to reduce the initiation of prescription painkiller misuse, in addition to ensuring access to treatment.

Substance Use Policy Timeline

1998

Launch of KASPER

In 1998, Kentucky became one of the first states to launch a prescription drug monitoring program, the Kentucky All Schedule Prescription Electronic Reporting (KASPER) system. The system was created to monitor the use of controlled substances, including prescription opioid painkillers.

2000

House Bill 268

In 2000, Kentucky passed a law requiring fully-insured large employers to cover substance use treatment in parity with physical health, but it did not apply to fully-insured small employers or self-insured employers of any size.

2003

Funding for eKASPER

In 2003, the Kentucky General Assembly appropriated funding to improve the KASPER system and allow it to produce real-time reports.

2004

Senate Bill 14

In 2004, the Kentucky legislature passed a bill that expanded the ability to share KASPER data with organizations including law enforcement entities and Medicaid.

2008

Mental Health Parity and Addiction Equity Act

This 2008 federal law required large employers (50+ employees) — both fully-insured and self-insured — that offered health insurance with substance use treatment benefits to cover substance use similarly to physical health conditions.

2007 - 2009

The Great Recession

Officially from December 2007 to June 2009, the Great Recession was a time of high job loss and unemployment that resulted in rising poverty across the U.S.

2010

Affordable Care Act Passage

The 2010 Patient Protection and Affordable Care Act (ACA) made numerous reforms to the U.S. health insurance market, including allowing states to expand their Medicaid programs to non-elderly childless adults, and requiring individual market and small-employer plans to cover substance use treatment.

2011

CDC Declares Prescription Painkiller Overdose Epidemic

In 2011, the U.S. Centers for Disease Control and Prevention (CDC) declared an epidemic due to the large increases in overdoses compared to the prior decade.

2012

House Bill 1

In 2012, Kentucky legislators passed a bill requiring providers to use the KASPER system when prescribing controlled substances, with the goal of reducing overprescribing and the misuse of prescription drugs, including opioids.

2014

Kentucky Expands Medicaid Program and Adds Substance Use Benefits to Traditional Medicaid Effect

In 2014, Kentucky implemented the ACA's option to expand its Medicaid program, which included substance use treatment coverage for newly eligible Kentuckians, and it also added substance use treatment coverage to the Commonwealth's traditional Medicaid program.

2015

Senate Bill 192

In 2015, the Kentucky General Assembly passed a bill that funded substance use treatment programs and authorized expanded use of naloxone, drug that treats opioid overdoses.

Figure 1: Drug Overdose Deaths Per 100,000 People, Kentucky and U.S., 2000-2014

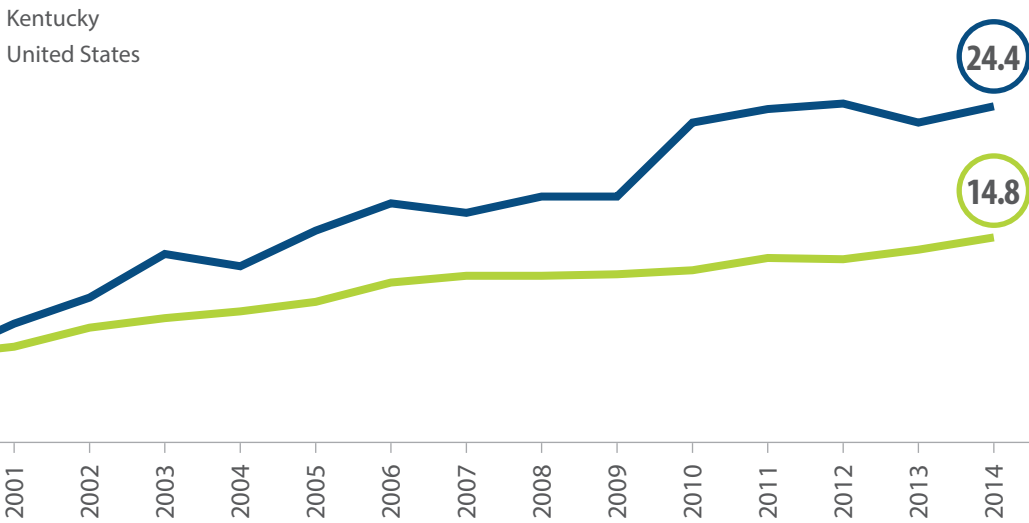


Figure 2: Drug Overdose Deaths Per 100,000 People, Kentucky and Neighboring States, 2014

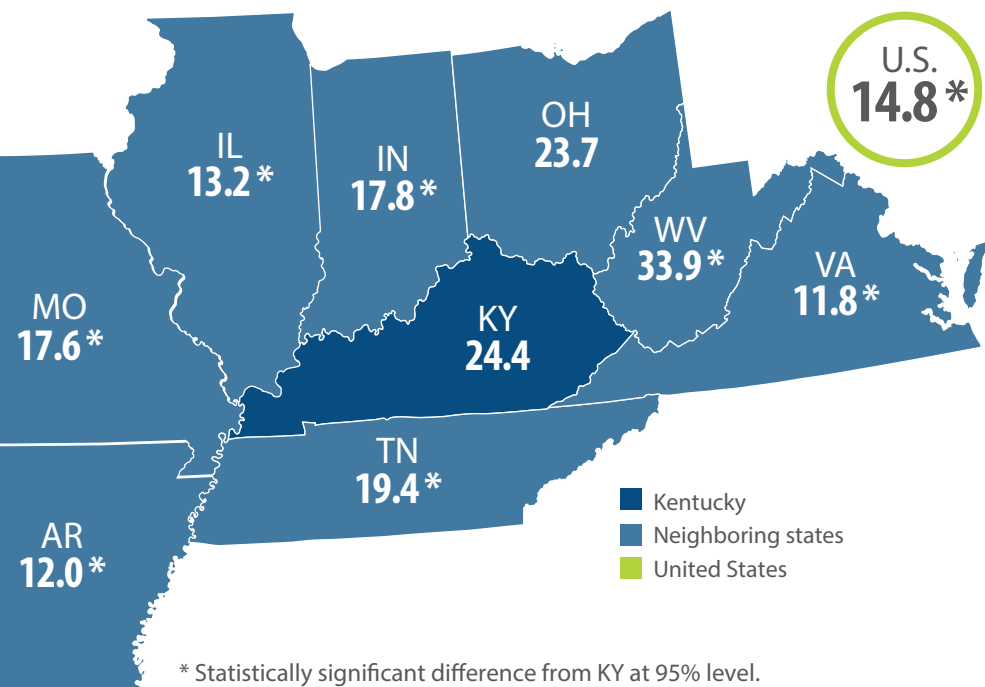
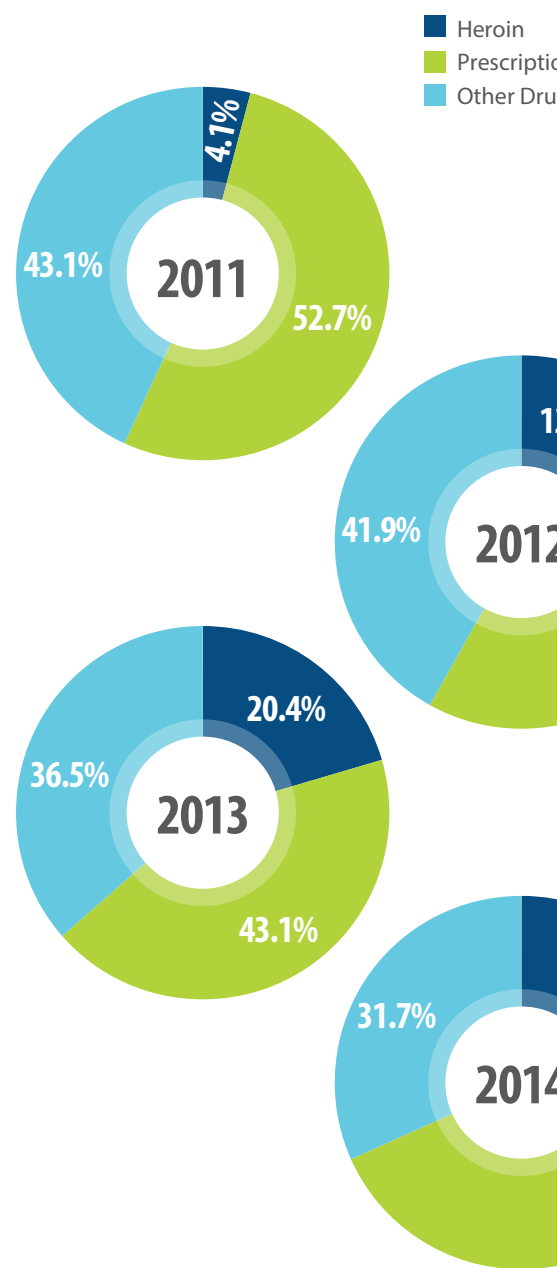


Figure 3: Kentucky Drug Overdose Deaths by Drug Type, 2011-2014



PRESCRIPTION PAIN KILLERS

Figure 4: Number of Opioid Painkiller Prescriptions Per 100 People, 2012

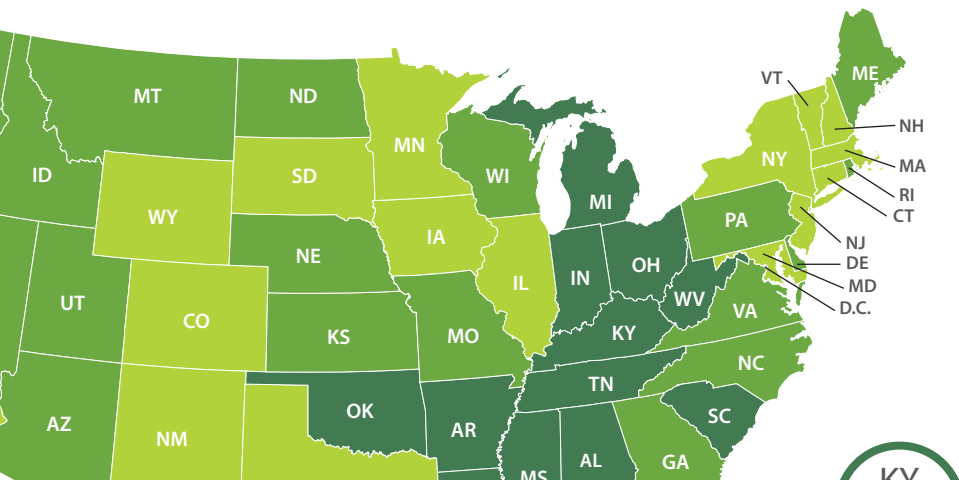
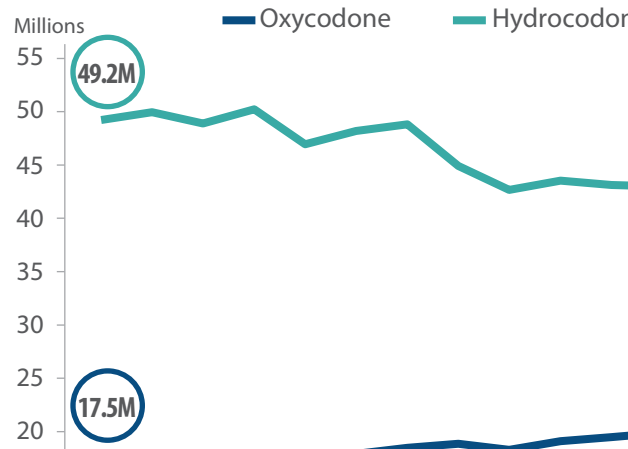
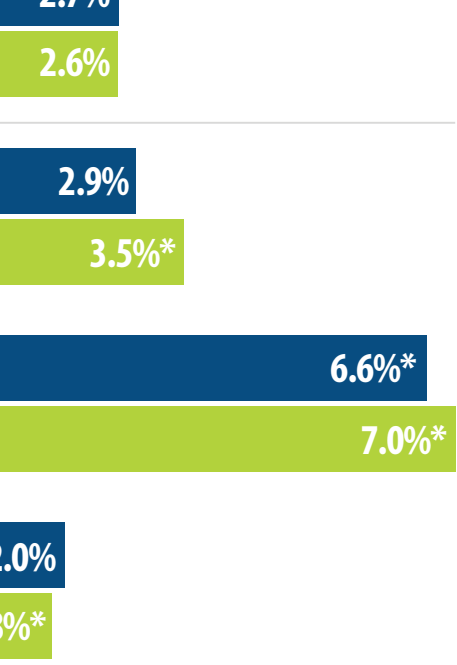


Figure 5: Number of Hydrocodone and Oxycodone Doses Dispensed in Kentucky, 2013 Q1-2014





Significant difference from all ages (12+) level.

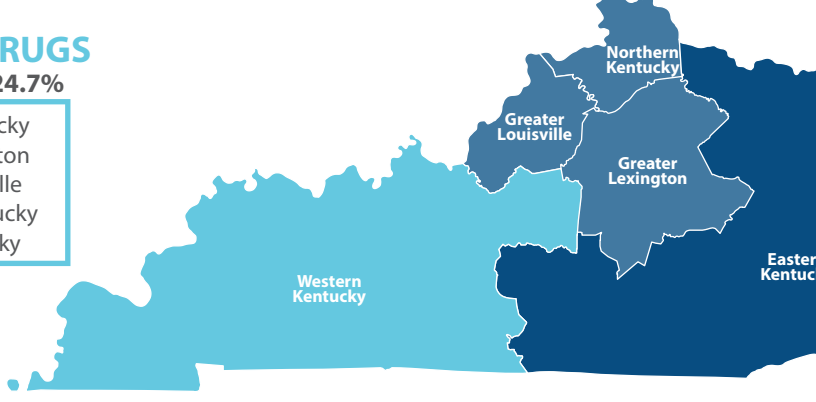
9.8% in Eastern Kentucky
 16.7% in Greater Louisville
 13.8% in Greater Lexington
 34.9% in Northern Kentucky



PRESCRIPTION DRUGS

Overall Kentucky rate: 24.7%

16.3% in Western Kentucky
 24.6% in Greater Lexington
 26.9% in Greater Louisville
 30.0% in Northern Kentucky
 32.6% in Eastern Kentucky



Regional rates compared to overall Kentucky rates

Significantly Lower Not Significantly Different Significantly Higher

SUBSTANCE ABUSE TREATMENT

Kentucky Substance Abuse Treatment Inpatient Admissions, 2005-2015

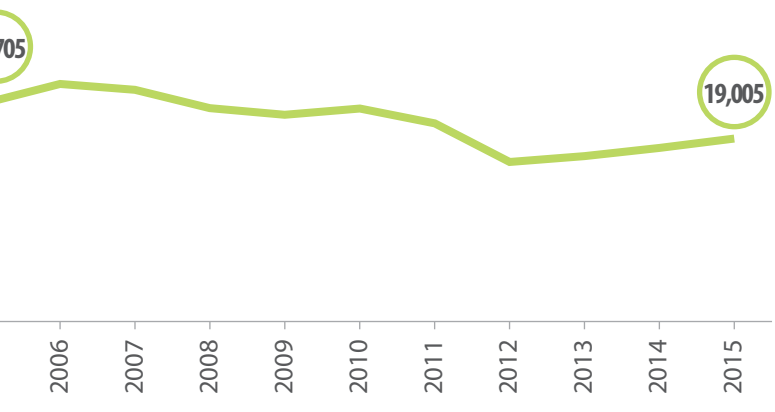
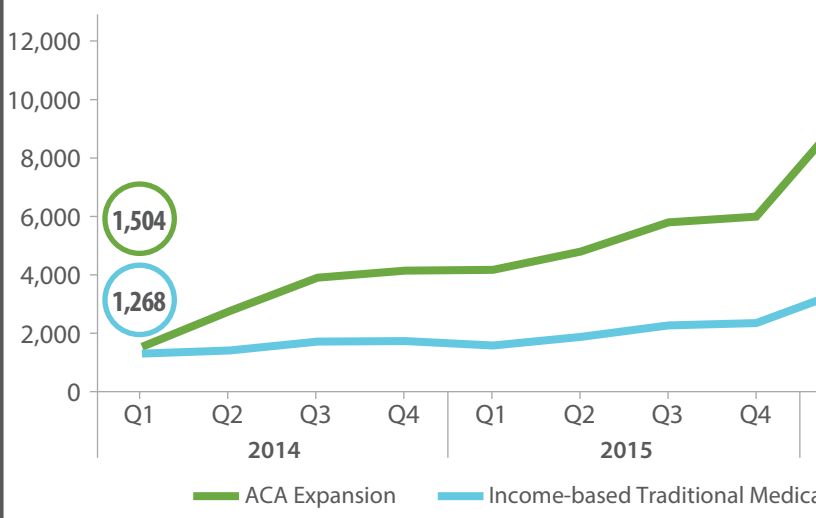


Figure 10: Kentucky Medicaid Substance Use Treatment Services by Population Type, 2014 Q1-2015 Q4



Kentucky Substance Abuse Treatment Inpatient Admissions by Drug Type, 2005 and 2015

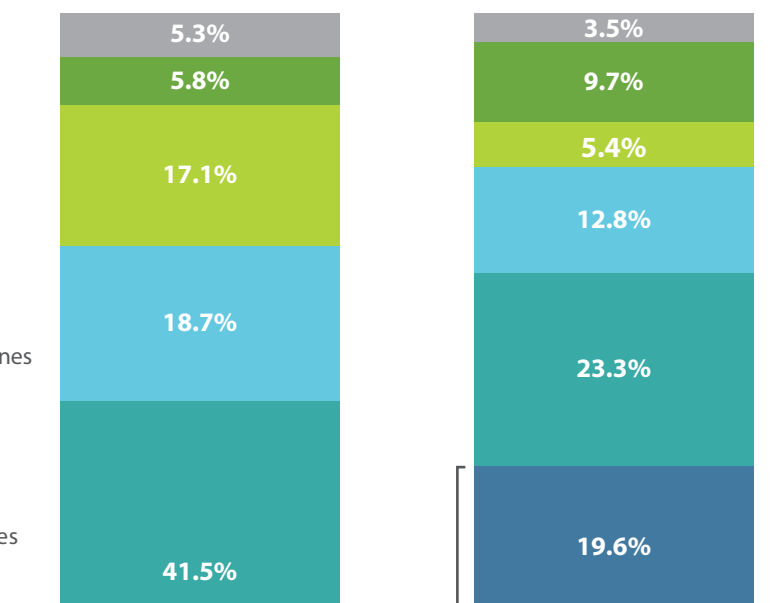
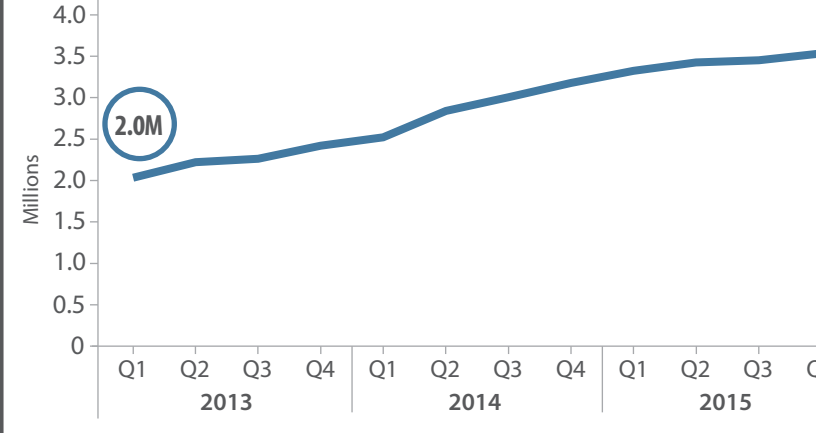
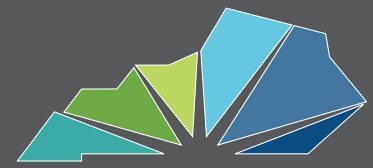


Figure 11: Number of Buprenorphine Doses Dispensed in Kentucky, 2013 Q1-2016 Q2

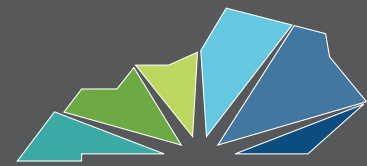


Sources: See page 11 for figures' source notes.

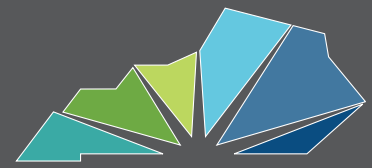


References

- 1 U.S. Centers for Disease Control and Prevention. "Prescription Painkiller Overdoses at Epidemic Levels." CDC Newsroom. 2011. Available at: https://www.cdc.gov/media/releases/2011/p1101_flu_pain_killer_overdose.html
- 2 U.S. Centers for Disease Control and Prevention. "Drug Overdose Deaths in the United States Hit Record Numbers in 2014." 2016. Available at: https://www.cdc.gov/media/releases/2011/p1101_flu_pain_killer_overdose.html
- 3 U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. "Drug Poisoning Mortality: United States, 1999-2014." 2016. Available at: <https://blogs.cdc.gov/nchs-data-visualization/drug-poisoning-mortality/>
- 4 Tilley, J., & Ingram, V. "2015 Overdose Fatality Report." 2015. Available at: <http://odcp.ky.gov/Documents/2015%20KY%20ODCP%20Overdose%20Fatality%20Report%20Final.pdf>
- 5 Kentucky Cabinet for Health and Family Services. "Kentucky All Schedule Prescription Electronic Reporting (KASPER)." 2006. Available at: <http://chfs.ky.gov/nr/rdonlyres/7057e43d-e1fd-4552-a902-2793f9b226fc/0/kaspersummaryreportversion2.pdf>
- 6 Richardson, K., & Sebastian, T. "Gov. Beshear Signs Landmark Anti-Heroin Bill." 2015. Available at: <http://kentucky.gov/Pages/Activity-Stream.aspx?viewMode=ViewDetailInNewPage&eventID=%7B3B6958E7-F44D-4293-A774-F3670DF3DF24%7D&activityType=PressRelease>
- 7 Richardson, K., & Sebastian, T. "Gov. Beshear Announces Plan for Funds to Curb Heroin Use." 2015. Available at: <http://kentucky.gov/Pages/Activity-Stream.aspx?viewMode=ViewDetailInNewPage&eventID=%7B93FE2AF1-C542-4DC3-B8BB-329AC333BB53%7D&activityType=PressRelease>
- 8 Substance Abuse and Mental Health Services Administration. "Behavioral Health Barometer: Kentucky, 2015." 2015. Available at: http://www.samhsa.gov/data/sites/default/files/2015_Kentucky_BHBarometer.pdf
- 9 Heroin and many prescription painkillers are part of a family of drugs commonly called "opioids" or "opiates." Experts sometimes distinguish between those "opiates" that are naturally derived from the opium poppy plant, such as morphine, and "opioids" that are created synthetically, such as oxycodone and fentanyl. In this report, we use the term "opioid" as a general term referring to both naturally derived and synthetic versions.
- 10 U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. "Drug Poisoning Mortality: United States, 1999-2014." 2016. Available at: <https://blogs.cdc.gov/nchs-data-visualization/drug-poisoning-mortality/>
- 11 Tilley, J. & Ingram, V. "2015 Combined Annual Report: Kentucky Office of Drug Control Policy and Kentucky Agency for Substance Abuse Policy." 2016. Available at: <http://odcp.ky.gov/Documents/2015%20Final%20combined%20annual%20report.pdf>
- 12 Canfield, M., Keller, C., Frydrych, L., Ashrafioun, L., Purdy, C., & Blondell, R. "Prescription Opioid Use Among Patients Seeking Treatment for Opioid Dependence." *Journal of Addiction Medicine*. 2010; 5(1):86. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/20543897>
- 13 Muhuri, P., Gfroerer, J. & Davies, C. "Associations of Nonmedical Pain Reliever Use and Initiation of Heroin Use in the United States." SAMHSA Center for Behavioral Health Statistics and Quality Data Review. 2013. Available at: <http://www.samhsa.gov/data/sites/default/files/DR006/DR006/nonmedical-pain-reliever-use-2013.htm#endnote2>
- 14 Cicero, T., & Ellis, M. "Abuse-Deterrent Formulations and the Prescription Opioid Abuse Epidemic in the United States: Lessons Learned from OxyContin." *Journal of the American Medical Association Psychiatry*. 2015;72(5): 424-30. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/25760692>
- 15 Huecker, M. & Shoff, H. "The Law of Unintended Consequences: Illicit for Licit Narcotic Substitution." *The Western Journal of Emergency Medicine*. 2014; 15(4): 561-563. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4100869/#b14-wjem-15-561>
- 16 Cicero, T., Ellis, M., & Harney, J. "Shifting Patterns of Prescription Opioid and Heroin Abuse in the United States." *The New England Journal of Medicine*. 2015; 373(18): 1789-1790. Available at: <http://www.nejm.org/doi/pdf/10.1056/NEJMc1505541>
- 17 Keyes, K., Cerda, M., Brady, J., Havens, J., & Galea, S. "Understanding the Rural-Urban Differences in Nonmedical Prescription Opioid Use and Abuse in the United States." *The American Journal of Public Health*. 2014; 104(2): e52-e59. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3935688/#bib68>
- 18 Canfield, M., Keller, C., Frydrych, L., Ashrafioun, L., Purdy, C., & Blondell, R. "Prescription Opioid Use Among Patients Seeking Treatment for Opioid Dependence." *Journal of Addiction Medicine*. 2010; 5(1):86. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/20543897>
- 19 Leukefeld, C., Walker, R., Havens, J., Leedham, C., & Tolbert, V. "What Does the Community Say: Key Informant Perceptions of Rural Prescription Drug Use." *Journal of Drug Issues*. 2007;37(3): 503-524. Available at: <http://jod.sagepub.com/content/37/3/503.short>
- 20 Keyes, K., Cerda, M., Brady, J., Havens, J., & Galea, S. "Understanding the Rural-Urban Differences in Nonmedical Prescription Opioid Use and Abuse in the United States." *The American Journal of Public Health*. 2014; 104(2): e52-e59. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3935688/#bib68>
- 21 Leff, M., Stallones, L., Keefe, T., Rosenblatt, R., & Reeds, M. "Comparison of Urban And Rural Non-Fatal Injury: The Results of a Statewide Survey." *Injury Prevention*. 2003; 9(4): 332-337. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1731041/>
- 22 Hoffman, P., Meier, B., & Council, J. "A Comparison of Chronic Pain between an Urban and Rural Population." *Journal of Community Health Nursing*. 2002; 19(4): 213-224. Available at: https://www.jstor.org/stable/3427701?seq=8#page_scan_tab_contents
- 23 In addition to opioid painkillers, the KASPER system tracks other controlled substances prescribed by health care providers, including stimulants, such as Ritalin and Adderall; benzodiazepines, such as Xanax and Valium; and opioids used to treat substance use, such as methadone and buprenorphine.
- 24 Kentucky Cabinet for Health and Family Services. "KASPER Trend and Threshold Analysis Reports." 2016. Available at: <http://www.chfs.ky.gov/os/oig/kaspertrendreports>



- 25 Kentucky Cabinet for Health and Family Services. "KASPER Trend and Threshold Analysis Reports." 2016. Available at: <http://www.chfs.ky.gov/os/oig/kaspertrendreports>
- 26 SHADAC analysis of NSDUH data. Accessible at: <http://www.samhsa.gov/data/population-data-nsduh/reports?tab=33>
- 27 Substance Abuse and Mental Health Services Administration. "2011-2012 National Survey on Drug Use and Health National Maps of Prevalence Estimates, by State." 2012. Available at: <http://archive.samhsa.gov/data/NSDUH/2k12State/Maps/NSDUHsaeMaps2012.htm>
- 28 U.S. Department of Justice, Drug Enforcement Administration. "Drugs of Abuse." 2015. Available at: https://www.dea.gov/pr/multimedia-library/publications/drug_of_abuse.pdf
- 29 State Health Access Data Assistance Center. "Study of the Impact of the ACA Implementation in Kentucky: Quarterly Snapshot: April-June 2016." 2016. Available at: <https://www.healthy-ky.org/res/images/resources/Quarterly-Snapshot-6-FINAL.pdf>
- 30 Tilley, J., & Ingram, V. "2015 Overdose Fatality Report." 2015. Available at: <http://odcp.ky.gov/Documents/2015%20KY%20ODCP%20Overdose%20Fatality%20Report%20Final.pdf>
- 31 U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. "Drug Poisoning Mortality: United States, 1999-2014." 2016. Available at: <https://blogs.cdc.gov/nchs-data-visualization/drug-poisoning-mortality/>
- 32 SHADAC Data Center. Available at: <http://datacenter.shadac.org/>
- 33 Beronio, K., Po, R., Skopec, L., & Glied, S. "Affordable Care Act Will Expand Mental Health and Substance Use Disorder Benefits and Parity Protections for 62 Million Americans." U.S. Department of Health and Human Services, Assistant Secretary for Planning and Evaluation. 2013. Available at: https://aspe.hhs.gov/sites/default/files/pdf/76591/rb_mental.pdf
- 34 The Henry J. Kaiser Family Foundation. "Market Share and Enrollment of Largest Three Insurers – Individual Market." 2012. Available at: <http://kff.org/other/state-indicator/market-share-and-enrollment-of-largest-three-insurers-individual-market/?currentTimeframe=2&sortModel=%7B%22collid%22:%22Location%22,%22sort%22:%22asc%22%7D>
- 35 The Henry J. Kaiser Family Foundation. "Market Share and Enrollment of Largest Three Insurers - Small Group Market." 2014. Available at: <http://kff.org/other/state-indicator/market-share-and-enrollment-of-largest-three-insurers-small-group-market/?currentTimeframe=0>
- 36 SHADAC analysis of American Community Survey. Accessible at: <http://datacenter.shadac.org/>
- 37 Kentucky General Assembly. "Acts of the General Assembly." 2000. Available at: <http://www.lrc.ky.gov/statrev/tables/00rs/actsmas.pdf>
- 38 Letter from Commissioner Lisa Lee to Medicaid Providers. March 20, 2015. Available at: <http://chfs.ky.gov/NR/rdonlyres/0090158B-A487-4032-87F0-92762FB-FEEB7/0/ProvLtrPolicyClarification032015.pdf>
- 39 Letter from Commissioner Lisa Lee to Medicaid Providers. March 20, 2015. Available at: <http://chfs.ky.gov/NR/rdonlyres/0090158B-A487-4032-87F0-92762FB-FEEB7/0/ProvLtrPolicyClarification032015.pdf>
- 40 Substance Abuse and Mental Health Services Administration. "Medicaid Coverage and Financing of Medications to Treat Alcohol and Opioid Use Disorders." 2014. Available at: <http://store.samhsa.gov/shin/content/SMA14-4854/SMA14-4854.pdf>
- 41 Beronio, K., Po, R., Skopec, L., & Glied, S. "Affordable Care Act Will Expand Mental Health and Substance Use Disorder Benefits and Parity Protections for 62 Million Americans." U.S. Department of Health and Human Services, Assistant Secretary for Planning and Evaluation. 2013. Available at: https://aspe.hhs.gov/sites/default/files/pdf/76591/rb_mental.pdf
- 42 Morton, J. & Aleman, P. "Trends in employer-provided mental health and substance abuse benefits." Monthly Labor Review. 2005; 128: 25-35. Available at: <http://www.bls.gov/opub/mlr/2005/04/art3full.pdf>
- 43 Kentucky General Assembly. "Acts of the General Assembly." 2000. Available at: <http://www.lrc.ky.gov/statrev/tables/00rs/actsmas.pdf>
- 44 Kentucky Office of Drug Control Policy. "2016 Legislative Initiatives." 2016. Available at: <http://odcp.ky.gov/Pages/Legislative-Initiatives.aspx>
- 45 Freeman, P., Goodin, A., Troske, S., Talbert, J. "Kentucky House Bill 1 Impact Evaluation." 2015. Available at: <http://www.chfs.ky.gov/NR/rdonlyres/8D6E-BE65-D16A-448E-80FF-30BED11EBDEA/0/KentuckyHB1ImpactStudyReport03262015.pdf>
- 46 SHADAC analysis of Kentucky Medicaid data obtained through the Cabinet for Health and Family Services.
- 47 State Health Access Data Assistance Center. "Annual Report: Study of the Impact of the ACA Implementation in Kentucky." 2016. Available at: <https://www.healthy-ky.org/res/images/resources/FINAL-FULL-Annual-Report-2.29-1-.pdf>
- 48 National Institute on Drug Abuse. "Principles of Drug Addiction Treatment: A Research-Based Guide." 2012. Available at: https://d14rmgtrwzf5a.cloudfront.net/sites/default/files/podat_1.pdf
- 49 Substance Abuse and Mental Health Services Administration. "Medication-Assisted Treatment For Opioid Addiction in Opioid Treatment Programs." 2014. Available at: <http://store.samhsa.gov/shin/content/SMA12-4214/SMA12-4214.pdf>
- 50 Mann, C., Frieden, T., Hyde, P., Volkow, N., & Koob, G. "Information Bulletin: Medication Assisted Treatment for Substance Use Disorders." 2014. Available at: <https://www.medicare.gov/Federal-Policy-Guidance/Downloads/CIB-07-11-2014.pdf>
- 51 Whelan, P., & Remski, K. "Buprenorphine vs Methadone Treatment: A Review of Evidence in Both Developed and Developing Worlds." Journal of Neurosciences in Rural Practice. 2012; 3(1): 45-50. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3271614/>



52 Mann, C., Frieden, T., Hyde, P., Volkow, N., & Koob, G. "Information Bulletin: Medication Assisted Treatment for Substance Use Disorders." 2014. Available at: <https://www.medicaid.gov/Federal-Policy-Guidance/Downloads/CIB-07-11-2014.pdf>

53 Mann, C., Frieden, T., Hyde, P., Volkow, N., & Koob, G. "Information Bulletin: Medication Assisted Treatment for Substance Use Disorders." 2014. Available at: <https://www.medicaid.gov/Federal-Policy-Guidance/Downloads/CIB-07-11-2014.pdf>

54 Whelan, P., & Remski, K. "Buprenorphine vs Methadone Treatment: A Review of Evidence in Both Developed and Developing Worlds." Journal of Neurosciences in Rural Practice. 2012; 3(1): 45-50. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3271614/>

Infographic Source Notes

Figures 1 and 2: U.S. Centers for Disease Control and Prevention, National Center for Health Statistics' Drug Poisoning Mortality dataset.
Accessible at: <https://blogs.cdc.gov/nchs-data-visualization/drug-poisoning-mortality/>

Figure 3: Kentucky Justice and Public Safety Cabinet report of Office of Vital Statistics death certificate files.
Accessible at: <http://odcp.ky.gov/Documents/2015%20Final%20combined%20annual%20report.pdf>

Figure 4: U.S. Centers for Disease Control and Prevention analysis of IMS National Prescription Audit, 2012.
Accessible at: <http://www.cdc.gov/vitalsigns/opioid-prescribing/infographic.html>

Figure 5 and 11: Kentucky All Schedule Prescription Electronic Reporting (KASPER) Quarterly Trend Reports.
Accessible at: <http://www.chfs.ky.gov/os/oig/kasptrendreports>

Figure 6: SHADAC analysis of National Survey on Drug Use and Health.
Accessible at: <http://www.samhsa.gov/data/population-data-nsduh/reports?tab=33>

Figure 7: SHADAC analysis of Kentucky Health Issues Poll.
Accessible at: <http://www.oasisdataarchive.org/>

Figures 8 and 9: Substance Abuse and Mental Health Services Administration, Treatment Episode Data Set.
Accessible at: http://www.samhsa.gov/data/sites/default/files/2014_Treatment_Episode_Data_Set_State_Admissions_9_15_16.pdf and https://www.dasis.samhsa.gov/webt/tedsweb/tab_year.choose_year_web_table?t_state=KY

Figure 10: SHADAC analysis of data provided by the Kentucky Cabinet for Health and Family Services.

Figure 11: Kentucky All Schedule Prescription Electronic Reporting (KASPER) Quarterly Trend Reports.
Accessible at: <http://www.chfs.ky.gov/os/oig/kasptrendreports>