MARIJUANA COCAINE PRESCRIPTION DRUGS

The Consumption and Consequences of Alcohol, Tobacco, and Drugs in Indiana: A State Epidemiological Profile 2016

Indiana State Epidemiological Outcomes Workgroup

RICHARD M. FAIRBANKS
SCHOOL OF PUBLIC HEALTH
INDIANA UNIVERSITY
Center for Health Policy
IUPUI

TOBACCO HEROIN METHAMPHETAMINE ALCOHOL

THE CONSUMPTION AND CONSEQUENCES OF ALCOHOL, TOBACCO, AND DRUGS IN INDIANA: A STATE EPIDEMIOLOGICAL PROFILE 2016

Developed by the Indiana State Epidemiological Outcomes Workgroup, 2016

Our Vision

Healthy, safe, and drug-free environments that nurture and assist all Indiana citizens to thrive.

Our Mission

To reduce substance use and abuse across the lifespan of Indiana citizens.

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This document, written for state policymakers and community leaders, presents data and analyses to support the development of a framework for advancing the mission of the Indiana Substance Abuse Prevention System.

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About the SEOW Support Team and the Center for Health Policy

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The mission of the Center for Health Policy (CHP) is to conduct research on critical health-related issues and translate data into evidence-based policy recommendations to improve community health. The CHP faculty and staff collaborate with public and private partners to conduct quality data-driven program evaluation and applied research analysis on relevant public health issues. The Center serves as a bridge between academic health researchers and federal, state, and local government as well as healthcare and community organizations.

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Introduction

In July 2005, Indiana's Office of the Governor received a grant from the U.S. Department of Health and Human Services' Center for Substance Abuse Prevention (CSAP) as part of CSAP's Strategic Prevention Framework State Incentive Grant (SPF SIG) program. The SPF SIG program represented a continuation of ongoing CSAP initiatives encouraging states to engage in data-based decision-making in the area of substance abuse prevention planning and grant making.

This grant was made on the heels of an earlier CSAP State Incentive Grant (SIG), which laid much of the groundwork for this new initiative. A great deal of work was completed under the first SIG to assess substance abuse prevention services and develop a strategic framework to guide policymaking in this area for the 21st century. The final report summarizing the outcomes of this work, entitled *Imagine Indiana Together: The Framework to Advance the Indiana Substance Abuse Prevention System*, was prepared by the Governor's Advisory Panel within the Division of Mental Health and Addiction (DMHA), Indiana Family and Social Services Administration. This report is available from DMHA and the Indiana Prevention Resource Center at Indiana University Bloomington.

As a requirement of the SPF SIG initiative, the State established a State Epidemiology and Outcomes Workgroup (SEOW) to facilitate data-based decision-making regarding substance abuse prevention programming through the collection, analysis, and reporting of available epidemiological data. After the end of the Indiana SPF SIG in 2010, the State decided to continue supporting the work of the SEOW as part of its long-term efforts to improve substance abuse prevention policy.

This report represents the 11th official *State Epidemiological Profile* completed by the SEOW. As in past years, we have updated the core set of analyses to reflect the most recent data available. In order to make the report most useful for state and local policymakers and service providers, we present detailed information and descriptive analyses regarding the patterns and consequences of substance use both for the state and, whenever possible, each of Indiana's 92 counties. The opioid epidemic still remains a significant public health concern. The costs attributable to the abuse of and addiction to prescription pain relievers and heroin are staggering both economically and in terms of human suffering,

As with our prior reports, our primary aim in preparing this annual document is to provide a useful reference tool for policymakers, communities, and professionals involved in substance abuse prevention and mental health promotion. We realize not everyone has the time or energy to review the contents in detail. For this reason, we again are offering drug fact sheets with summaries on each of the major substances. This report, as well as earlier versions and these supplemental resources, are available on the Center for Health Policy website (www.healthpolicy.iupui.edu). The website also has links to a series of issue briefs on critical topics related to drug abuse that are developed each year as part of the SEOW's work.

We appreciate your interest and leadership in addressing the problem of substance abuse in Indiana, and, as always, we welcome your feedback on this report and our work.

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1 Data Highlights

ALCOHOL

Alcohol is the most frequently used drug in both Indiana and the United States. Over half of the population 12 years and older reported current (past month) use (IN: 50.4%; U.S.: 52.2%) (Substance Abuse and Mental Health Services Administration [SAMHSA], 2017).[1]

More than one-fifth of Hoosiers (21.8%) engaged in binge drinking in the past month (U.S.: 22.9%). The highest rate was found among 18- to 25-year-olds (IN: 39.5%; U.S.: 37.8%) (SAMHSA, 2017).

An estimated 62.7% of Indiana college students currently drink alcohol and 35.7% engage in binge drinking (King & Jun, 2016).[2]

Youth Consumption—Underage Drinking

In Indiana, 10.1% of 12- to 17-year-old youths reported that they had consumed alcohol in the past 30 days (U.S.: 10.6%) (SAMHSA, 2017).

An estimated 30.5% of high school students (grades 9 through 12) reported current use of alcohol (U.S.: 32.8%), and 17.4% admitted to binge drinking in the past month (U.S.: 17.7%). Indiana and the nation were similar on both measures (Centers for Disease Control and Prevention [CDC], 2017b).

Alcohol Abuse and Dependence

The population-based rates for alcohol abuse and/or dependence were similar in Indiana (5.9%) and the nation (6.1%). The most affected age group encompassed 18- to 25-year-olds (IN: 12.5%; U.S.: 11.6%). The percentages of individuals ages 12 and older needing but not receiving treatment for alcohol use in the past year were also comparable (IN: 6.4%; U.S.: 6.2%) (SAMHSA, 2017).

According to substance abuse treatment data, alcohol was responsible for the largest percentage of admissions to treatment facilities in 2014. The percentage of treatment admissions in which alcohol dependence was indicated was comparable in Indiana (35.0%) and the nation (36.3%) (SAMHSA, 2014).

Morbidity and Mortality

Between 2000 and 2015, a total of 6,571 Hoosiers died from alcohol-induced causes. In 2015, Indiana's age-adjusted mortality rate for alcohol-attributable deaths was 9.4 per 100,000 population (U.S.: 9.1 per 100,000 population) (CDC, 2017b).

Motor Vehicle Crashes

In Indiana, the number of alcohol-related collisions decreased from 13,911 in 2003 to 8,642 in 2015. Also, the number of fatalities in crashes attributable to alcohol declined from 242 to 152 during those same years. The 2015 overall annual rate for alcohol-related collisions in Indiana was 1.3 per 1,000 population (Indiana State Police [ISP], 2016).

Legal Consequences

In 2014, nearly 21,000 arrests were made in Indiana for driving under the influence (DUI), along with over 7,000 arrests for public intoxication, and more than 8,000 arrests for liquor law violations. The arrest rates for these offenses were 3.2 for DUI (U.S.: 3.0), 1.1 for public intoxication (U.S.: 1.0), and 1.2 for liquor law violations (U.S.: 0.9)—all rates per 1,000 population (Federal Bureau of Investigation [FBI], 2014).

TOBACCO

Cigarette smoking remains the leading cause of preventable death in the United States, accounting for approximately one of every five deaths (U.S. Department of Health and Human Services [USDHHS], 2014). In Indiana, nearly one-third of the population ages 12 years and older (30.8%) reported using a tobacco product in the past month (U.S.: 24.6%). The age group with the highest rate of use was 18- to 25-year-olds (IN: 42.7%; U.S.: 34.0%). Most tobacco consumption involved cigarettes. Indiana's past-month smoking prevalence among individuals ages 12 years and older was 25.9% (U.S.:

[1]NSDUH estimates on binge drinking are based on 2014 survey results, because of a change in the definition of binge drinking. For more information, see Chapter 2, "Methods."
[2]Twenty Indiana colleges participated in the survey; results are based on nonrandom sampling and are not representative of all college students in Indiana.

20.1%). Again, the highest rate was found among 18- to 25-year-olds (IN: 35.1%; U.S.: 27.5%) (SAMHSA, 2017).

In 2015, adult (18 years and older) smoking prevalence in Indiana (20.6%) was the 12th highest in the nation and greater than the U.S. median rate (17.5%). Smoking prevalence was inversely associated with education and income level: High rates of use were found among individuals with less than a high school education and people whose household income was below $15,000 (CDC, 2017a).

Among Indiana college students, 13.0% reported currently smoking cigarettes and 10.4% are using electronic vapor products / e-cigarettes (King & Jun, 2016).

Youth Consumption

Over 9% of Indiana youth ages 12 to 17 currently use a tobacco product (U.S.: 6.5%), mostly cigarettes (IN: 6.7%; U.S.: 4.5%) (SAMHSA, 2017).

Past-month cigarette use decreased significantly from 2004 through 2014 among Indiana students: from 7.8% to 2.9% for middle school students, and from 21.3% to 12.0% for high school students. Unfortunately, current use of e-cigarettes is on the rise and increased significantly from 2012 to 2014 in both middle school students (from 1.3% to 5.2%) and high school students (from 3.9% to 15.6%) (Indiana State Department of Health, Tobacco Prevention and Cessation Commission [ISDH/TPCC], 2015).

Morbidity and Mortality

Tobacco causes serious health consequences, including lung cancer, respiratory illness, and heart disease. An estimated 11,100 Hoosiers die annually from smoking-attributable causes (USDHHS, 2014).

The age-adjusted annual tobacco-attributable mortality rate (per 100,000 population) was higher among Hoosiers (323.3) than the U.S. median (288.1) (CDC, 2009).

MARIJUANA

Marijuana is the most commonly used illicit substance. Nearly 14% of Indiana residents ages 12 and older reported past-year use (U.S.: 13.4%), and 8.7% reported past-month use (U.S.: 8.3%). Highest rates were found among 18- to 25-year-old Hoosiers (past-year: 33.6%; past-month: 20.7%); national rates were similar (SAMHSA, 2017).

Table 1.1 Adult Smoking Prevalence in Indiana, by Education and Income Levels (Behavioral Risk Factor Surveillance System, 2015)

	Smoking Prevalence (95% CI)
Education	
Less than high school	36.5% (29.9–43.1)
High school or GED	24.6% (21.7–27.5)
Some post-high school	19.2% (16.3–22.1)
College graduate	6.5% (5.0–8.0)
Income	
Less than $15,000	35.4% (28.9–41.8)
$15,000–$24,999	30.6% (25.8–5.3)
$25,000–$34,999	22.8% (17.5–28.1)
$35,000–$49,999	21.0% (16.3–25.7)
$50,000 and above	11.7% (9.6–13.8)
$50,000 and above	13.2% (11.7-14.7)

Note: CI = confidence interval
Source: CDC, 2017a

Marijuana use was also prevalent among Indiana college students, as 19.6% of students reported current use (King & Jun, 2016).

Youth Consumption

Among Indiana youth ages 12 to 17, an estimated 6.0% had used marijuana for the first time during the past year (U.S.: 7.2%). Patterns of current use among young people in that age group were similar in Indiana and the nation (IN: 8.1%; U.S.: 7.2%) (SAMHSA, 2017).

Significantly fewer Indiana high school students reported using marijuana in the past month than did students in the U.S. (IN: 16.4%; U.S.: 21.7). Black students (23.2%) were more likely to report current use than white students (14.9%) (CDC, 2017c).

Table 1.2 depicts current marijuana use among Indiana and U.S. 8th, 10th, and 12th grade students throughout the past decade (Gassman et al., 2016; Inter-university Consortium for Political and Social Research [ICPSR], 2016).

Table 1.2 Percentage of Indiana and U.S. 8th, 10th, and 12th Grade Students Reporting Current Marijuana Use, by Grade (Indiana Youth Survey and Monitoring the Future Survey, 2007–2016)

Grade	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Indiana 8th Grade	8.3%	7.1%	7.8%	8.9%	8.3%	8.0%	7.1%	6.8%	7.1%	6.6%
U.S. 8th Grade	5.7%	5.8%	6.5%	8.0%	7.2%	6.5%	7.0%	6.5%	6.5%	6.5%
Indiana 10th Grade	14.4%	13.5%	14.6%	16.8%	16.4%	15.4%	13.7%	13.6%	14.0%	13.7%
U.S. 10th Grade	14.2%	13.8%	15.9%	16.7%	17.6%	17.0%	18.0%	16.6%	14.8%	14.8%
Indiana 12th Grade	15.8%	16.2%	16.7%	19.2%	19.8%	17.8%	17.6%	17.6%	18.8%	20.3%
U.S. 12th Grade	18.8%	19.4%	20.6%	21.4%	22.6%	22.9%	22.7%	21.2%	21.3%	21.3%

Source: Gassman, et al., 2016; ICPSR, 2016

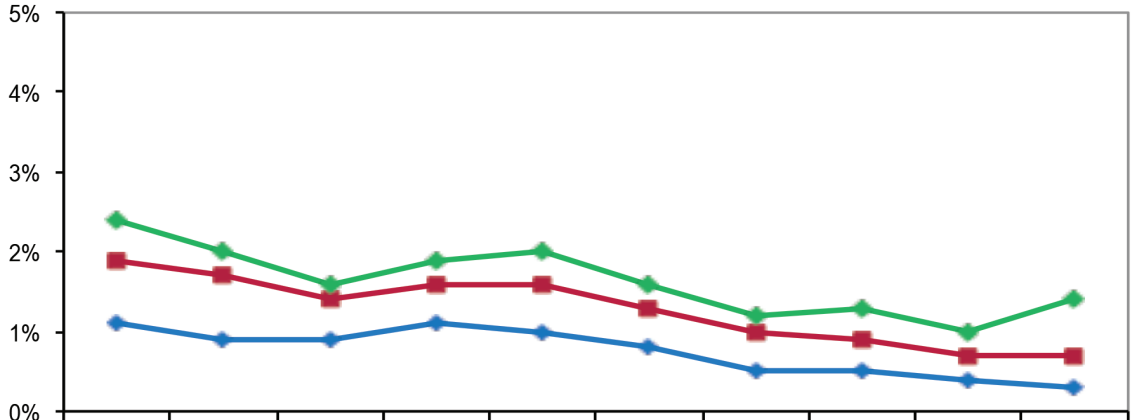
Marijuana Abuse and Dependence

In 2014, nearly one-half (48.3%) of Indiana residents in substance abuse treatment reported marijuana use at admission; the percentage was significantly higher in Indiana than the rest of the nation (35.6%). In Indiana's treatment population, marijuana use was most likely to be reported by males (52.5%), blacks (58.4%), and individuals under the age of 18 (90.3%). Just over one-fifth of Hoosiers in treatment (20.8%) reported marijuana dependence,[3] a percentage significantly higher than the nation's (15.2%). Again, males (23.7%), blacks (37.2%), and individuals under the age of 18 (74.4%) had statistically higher percentages (SAMHSA, 2014).

Legal Consequences

In 2014, the Indiana arrest rate for marijuana possession was 1.6 per 1,000 population (U.S.: 1.6); the Indiana arrest rate for marijuana sale/manufacture was 0.2 per 1,000 population (U.S.: 0.2) (FBI, 2014).

Figure 1.1 Percentage of Indiana 8th, 10th, and 12th Grade Students Reporting Current Cocaine/Crack Use (Indiana Youth Survey, 2007–2016)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
8th Grade	1.1%	0.9%	0.9%	1.1%	1.0%	0.8%	0.5%	0.5%	0.4%	0.3%
10th Grade	1.9%	1.7%	1.4%	1.6%	1.6%	1.3%	1.0%	0.9%	0.7%	0.7%
12th Grade	2.4%	2.0%	1.6%	1.9%	2.0%	1.6%	1.2%	1.3%	1.0%	1.4%

Source: Gassman et al., 2016

[3]We defined marijuana dependence as "individuals in substance abuse treatment listing marijuana as their primary substance at admission."

COCAINE

Population-based estimates on past-year cocaine use were similar between Indiana and the nation (IN: 1.2%; U.S.: 1.8%). Young adults from ages 18 to 25 displayed the highest rates (IN: 3.9%; U.S.: 5.0%) (SAMHSA, 2017).

Nearly 2% of Indiana college students reported current cocaine use (King & Jun, 2016).

Youth Consumption

The rates for past-year cocaine use among 12- to 17-year-olds were similar in Indiana (0.5%) and the United States (0.6%) (SAMHSA, 2017).

Among Indiana high school students, 4.0% reported having used cocaine at least once in their lifetime (U.S.: 5.2%); male students (5.2%) were more likely than female students (2.7%) to report lifetime cocaine use (CDC, 2017c).

From 2007 through 2016, rates for current cocaine/crack use among 8th, 10th, and 12th grade students in Indiana declined over the years (see Figure 1.1). However, due to lack of detail in the publicly available data sets, statistical significance of the results could not be determined (Gassman et al., 2016).

Cocaine Abuse and Dependence

In 2014, 10.9% of Indiana's treatment episodes involved cocaine use; this figure was significantly lower than the U.S. percentage (18.0%). Similarly, cocaine was reported as the primary drug of abuse in 3.8% of Indiana treatment episodes, which was significantly lower than the U.S. percentage of 5.4%. Significant differences within Indiana's treatment population were seen by gender, race, and age group (see Table 1.3) (SAMHSA, 2014).

Indiana law enforcement made nearly 1,600 arrests for possession and over 1,500 arrests for sale/manufacture of opiates and cocaine in 2014, representing arrest rates of 0.2 per 1,000 population for both possession (U.S.: 0.7) and sale/manufacture (U.S.: 0.2) of opiates and cocaine (U.S.: 0.2)) (FBI, 2014).[4]

Table 1.3 Percentage of Treatment Episodes with Cocaine Use and Dependence Reported at Treatment Admission in Indiana (Treatment Episode Data Set, 2014)

		Cocaine Use	Cocaine Dependence
Gender	Male	10.0%	3.3%
	Female	12.3%	4.5%
Race	White	8.8%	2.2%
	Black	23.5%	13.5%
	Other	12.2%	3.7%
Age Group	Under 18	1.8%	0.2%
	18-24	4.8%	1.2%
	25-34	9.5%	2.5%
	35-44	15.1%	5.9%
	45-54	19.7%	8.4%
	55 and over	15.7%	6.8%
Total		10.9%	3.8%

Source: SAMHSA, 2014

HEROIN

According to 2015 NSDUH estimates, 0.3% of Indiana residents ages 12 and older used heroin in the past year (U.S.: 0.3%) (SAMHSA, 2017).

Among Indiana college students, 0.2% reported past month use of heroin (U.S.: 0.2%) (King & Jun, 2016).

Youth Consumption

Lifetime heroin use among high school students has been similar in Indiana and the nation (IN: 2.4%; U.S.: 2.1%). No significant differences were detected by gender, race, or grade level in Indiana (CDC, 2017b).

In 2015, past-month heroin use among Indiana 12th grade students was 0.5% (U.S.: 0.2%) (Gassman et al., 2016; ICPSR, 2016).

Heroin Abuse and Dependence

In 2014, heroin use was reported in 15.9% of Indiana treatment episodes (U.S.: 25.8%), and heroin dependence[5] was reported in 12.3% of Indiana treatment episodes (U.S.: 22.1%). While Indiana's percentages were significantly lower than the nation's, it should be noted that both heroin use and dependence have increased significantly in Indiana's treatment population since 2001. Significant differences were seen by gender (more women reported use), race (whites had higher percentages), and age group (adults ages 18 to 34 were mostly affected) (SAMHSA, 2014).

[4]The Uniform Crime Reporting Program data set combines arrests for cocaine and opiates; arrest information is not available for cocaine or opiates alone.
[5]We defined heroin dependence as "individuals in substance abuse treatment listing heroin as their primary substance at admission."

Morbidity and Mortality

A potential consequence of injected heroin use is contraction of HIV and/or hepatitis (B or C) from contaminated needles. In 2015, 621 new HIV infections and 78 new AIDS cases were reported in Indiana. As of December 31, 2015, a total of 11,698 individuals were living in Indiana with HIV disease[6] (ISDH, 2016).

The estimated annual rate of AIDS diagnoses in Indiana adults and adolescents was 4.9 per 100,000 population in 2014 (U.S.: 7.8) (The Kaiser Family Foundation, 2015). Indiana's age-adjusted HIV/AIDS mortality rate for 2014 was 1.2 per 100,000 population (95% CI: 1.0–1.5), which was significantly lower than the U.S. rate of 2.0 per 100,000 population (95% CI: 1.9–2.0) (CDC, 2016).[7]

The hepatitis B virus (HBV) and hepatitis C virus (HCV) are usually transmitted via unprotected sex and among injection drug users. The incidence rates per 100,000 population for acute hepatitis in Indiana were 1.9 for HBV (U.S.: 0.9) and 1.8 for HCV (U.S.: 0.7) in 2013. Indiana's HCV incidence rate was significantly greater than the national rate and has seen a steady increase since 2010 (CDC, 2016). The age-adjusted mortality rate (per 100,000 population) attributable to hepatitis B and hepatitis C (acute and chronic) was 1.2 in Indiana, significantly lower than the national rate (U.S.: 2.0) (CDC, 2016).

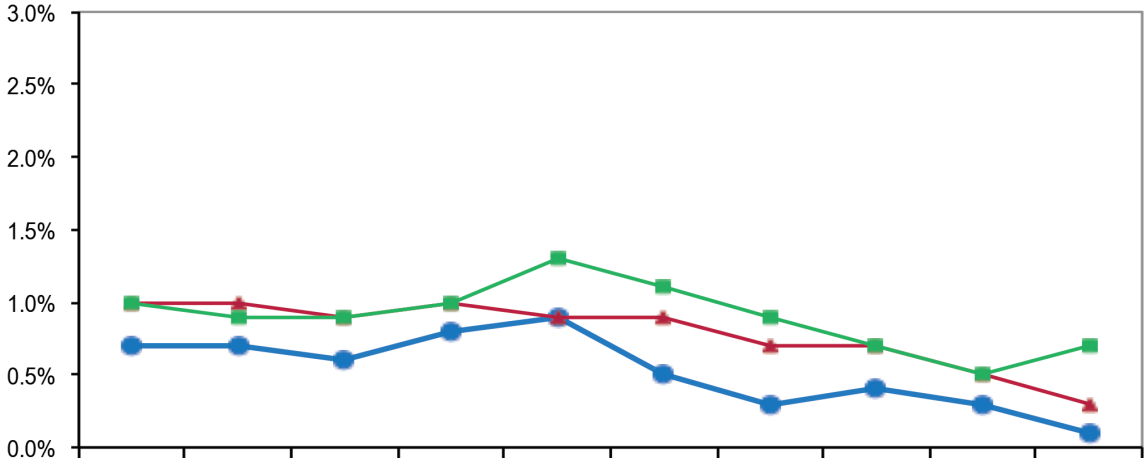
Legal Consequences

Indiana law enforcement made nearly 1,600 arrests for possession and over 1,500 arrests for sale/manufacture of opiates and cocaine in 2014, representing arrest rates of 0.2 per 1,000 population for both possession and sale/manufacture of opiates and cocaine. Indiana's arrest rates were lower for cocaine/opiate possession but comparable to the nation's for sale/manufacture (U.S.: 0.7 and 0.2 per 1,000 population, respectively) (FBI, 2014).[8]

METHAMPHETAMINE (METH)

Of Americans 12 years and older, 5.4% have used methamphetamine at least once in their lifetime; 0.6% used it in the past year; and 0.3% reported past-month use. Americans ages 18 to 25 had the highest past-year use (0.6%) (SAMHSA, 2017). There are currently no state-level NSDUH estimates for methamphetamine use available.

Figure 1.2 Percentage of Indiana 8th, 10th, and 12th Grade Students Reporting Monthly Methamphetamine Use (Indiana Youth Survey, 2007–2016)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
8th Grade	0.7%	0.7%	0.6%	0.8%	0.9%	0.5%	0.3%	0.4%	0.3%	0.1%
10th Grade	1.0%	1.0%	0.9%	1.0%	0.9%	0.9%	0.7%	0.7%	0.5%	0.3%
12th Grade	1.0%	0.9%	0.9%	1.0%	1.3%	1.1%	0.9%	0.7%	0.5%	0.7%

Source: Gassman et al., 2016

[6]HIV disease includes both HIV infections and AIDS cases.
[7]Mortality rates for HIV/AIDS are based on ICD-10 codes B20-B24 (Human immunodeficiency virus [HIV] disease).
[8]The Uniform Crime Reporting Program data set combines arrests for cocaine and opiates; arrest information is not available for cocaine or opiates alone.

In 2016, an estimated 0.2% of Indiana college students had used meth in the past month (U.S.: <0.05%) (King & Jun, 2016).

Youth Consumption Patterns

Lifetime prevalence of methamphetamine use among high school students was similar in Indiana and the nation (IN: 2.9%; U.S.: 3.0%). In Indiana, no significant rate differences were found by gender, race, or grade level (CDC, 2017b).

Monthly meth prevalence among 8th, 10th, and 12th grade students in Indiana is depicted in Figure 1.2 (Gassman et al., 2016).

Methamphetamine Abuse and Dependence

Between 2005 and 2014, the percentage of treatment admissions in Indiana with reported meth use and dependence[9] increased significantly; rising from 10.9% to 15.9% for use and from 5.9% to 9.8% for dependence. Significant differences were observed by gender (more women reported using meth), race (whites had the highest percentage of use), and age group (primarily 25- to 44-year-olds were affected).

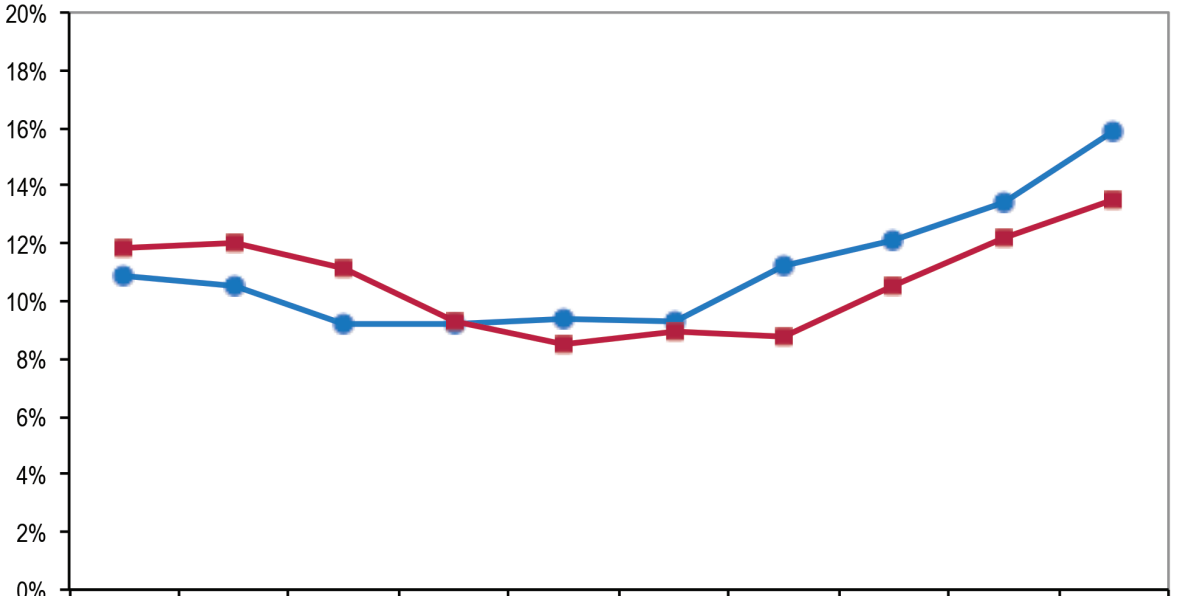
In the early- to mid-2000s, meth use in Indiana's treatment population was lower than or similar to that found in the rest of the nation. However, since 2009, Indiana's percentage surpassed the U.S. percentage (see Figure 1.3) (SAMHSA, 2014).

Legal Consequences

The Indiana State Police (ISP) seized 943 clandestine methamphetamine labs and made 622 meth lab arrests in 2016; these figures represent a decrease in both lab seizures and arrests from their peak in 2013 (ISP, 2017).

In Indiana, nearly 1,900 arrests were made for possession and just over 900 arrests for the sale/manufacture of synthetic drugs[10] in 2014; this represents annual arrest rates of 0.3 (U.S.: 0.2) and 0.1 (U.S.: 0.1), per 1,000 population, respectively (FBI, 2014).

Figure 1.3 Percentage of Treatment Episodes with Methamphetamine Use Reported at Treatment Admission in Indiana and U.S. (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indiana	10.9%	10.5%	9.2%	9.2%	9.4%	9.3%	11.2%	12.1%	13.4%	15.9%
U.S.	11.8%	12.0%	11.1%	9.3%	8.5%	8.9%	8.8%	10.5%	12.2%	13.5%

Source: SAMHSA, 2014

[9]We defined methamphetamine dependence as "individuals in substance abuse treatment listing methamphetamine as their primary substance at admission."
[10]The Uniform Crime Reporting Program collects arrest information on synthetic drugs. The category includes methamphetamine, methadone, and Demerol.

PRESCRIPTION DRUG ABUSE

In 2016, more than 11 million controlled prescription drugs were dispensed in Indiana, most of which were opioids[11] (6.4 million) (Indiana Professional Licensing Agency [IPLA], 2017).

In 2014, an estimated 4.4% of Indiana residents ages 12 and older reported nonmedical use of pain relievers in the past year. Indiana's prevalence rate was similar to the nation's (4.1%). Young adults ages 18 to 25 had the highest rate (IN: 9.5%; U.S.: 8.3%) (SAMHSA, 2017).[12]

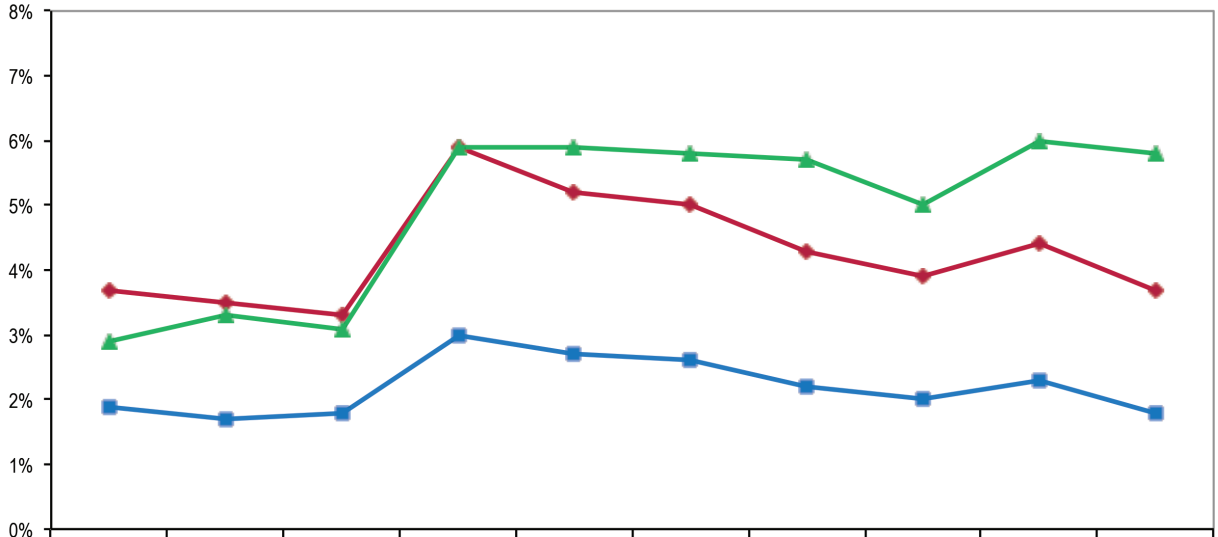
The Indiana College Substance Use Survey includes questions assessing a student's current (past month) use of various prescription medications for which he or she did not have a doctor's prescription. In 2016, 5.2% of college students misused prescription stimulants, 2.3% misused prescription painkillers, and 2.2% misused sedatives (King & Jun, 2016).

Youth Consumption

In 2014, nearly 5% of Hoosiers ages 12 to 17 used prescription pain medications for nonmedical purposes in the past year; Indiana's percentage was statistically similar to the nation's (4.6%) (SAMHSA, 2017).

For Indiana prevalence rates of current nonmedical use of prescription drugs[13] among 8th, 10th, and 12th grade students, see Figure 1.4.

Figure 1.4 Percentage of Indiana 8th, 10th, and 12th Grade Students Reporting Current Nonmedical Use of Prescription Drugs (Indiana Youth Survey, 2007–2016)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
8th	1.9%	1.7%	1.8%	3.0%	2.7%	2.6%	2.2%	2.0%	2.3%	1.8%
10th	3.7%	3.5%	3.3%	5.9%	5.2%	5.0%	4.3%	3.9%	4.4%	3.7%
12th	2.9%	3.3%	3.1%	5.9%	5.9%	5.8%	5.7%	5.0%	6.0%	5.8%

Source: Gassman et al., 2016

[11]IOpioids include pain relievers, such as oxycodone and hydrocodone.
[12]NSDUH estimates for nonmedical use of prescription pain relievers are based on 2014 survey results, because of a change in methodology pertaining to prescription drug misuse. For more information, see Chapter 2, "Methods."
[13]Includes Ritalin, Oxycontin, and Xanax

Table 1.6 Percentage of Treatment Episodes with Prescription Drug Abuse and Dependence Reported at Treatment Admission in Indiana, by Drug Category, Gender, Race, and Age Group (Treatment Episode Data Set, 2014)

		All Prescription Drugs		Pain Relievers		Sedatives/ Tranquilizers		Stimulants	
		Misuse	Dependence	Misuse	Dependence	Misuse	Dependence	Misuse	Dependence
Gender	Male	23.6%	10.8%	18.6%	9.0%	6.6%	1.4%	1.3%	0.3%
	Female	36.3%	20.1%	29.5%	16.8%	10.6%	2.7%	1.7%	0.6%
Race	White	32.1%	16.4%	25.7%	13.6%	9.2%	2.3%	1.7%	0.5%
	Black	7.4%	3.3%	5.8%	2.8%	2.0%	0.5%	0.4%	0.1%
	Other	25.0%	11.5%	20.2%	10.4%	6.4%	0.7%	1.3%	0.4%
Ethnicity	Hispanic	16.4%	7.1%	13.3%	6.1%	4.2%	0.7%	1.0%	0.3%
	Non-Hispanic	29.0%	14.8%	23.2%	12.3%	8.3%	2.0%	1.5%	0.4%
Age Group	Under 18	14.4%	3.8%	8.4%	2.5%	5.2%	1.1%	1.9%	0.3%
	18-24	27.9%	11.2%	20.9%	8.8%	9.0%	2.0%	1.5%	0.4%
	25-34	36.5%	19.2%	30.0%	16.3%	9.8%	2.4%	1.9%	0.6%
	35-44	28.3%	15.7%	23.0%	13.3%	8.1%	1.9%	1.5%	0.5%
	45-54	17.0%	9.7%	14.4%	8.4%	4.5%	1.1%	0.4%	0.2%
	55+	14.9%	9.2%	11.9%	7.6%	4.8%	1.4%	0.7%	0.2%

Source: SAMHSA, 2014

Prescription Drug Abuse and Dependence

Prescription drug abuse has increased significantly in Indiana's substance abuse treatment population, rising from 14.5% in 2005 (U.S.: 11.0%) to 28.5% in 2014 (U.S.: 20.2%). The increase was primarily due to pain relievers. Compared to the nation, Indiana's percentages were significantly higher for overall prescription drugs, as well as each individual prescription drug category other than stimulants. In Indiana, significant differences were seen by gender, race, and age group. For detailed information on prescription drug abuse and dependence[14] in Indiana's treatment population, see Table 1.4 (SAMHSA, 2014).

Legal Consequences

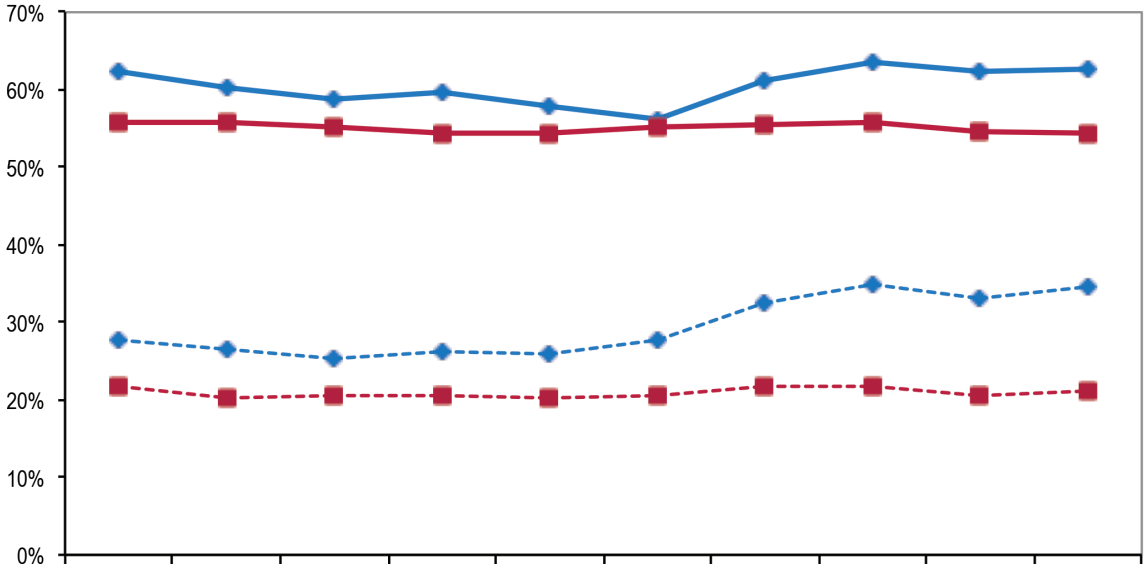
In 2014, law enforcement made over 2,800 arrests for possession and nearly 1,500 arrests for sale/manufacture of "other drugs" in Indiana. This represents arrest rates of 0.4 and 0.2 per 1,000 population, respectively. U.S. rates were significantly higher for possession (0.9) but the same for sale/manufacture (0.2) (FBI, 2014).

POLYSUBSTANCE ABUSE

Polysubstance abuse is a particularly serious pattern of drug use that involves consumption of two or more substances. A review of data from 2005 through 2014 revealed that over half of the individuals in substance abuse treatment reported using at least two drugs at the time of admission, and Indiana's rates were significantly higher than the nation's (see Figure 1.5). Furthermore, in one-third of Indiana treatment episodes, use of three or more substances was reported; Indiana's percentage increased significantly from 27.7% in 2005 to 34.5% in 2014 (see Figure 1.5). The percentages of polysubstance abuse were slightly higher for females, whites, and adults under the age of 35 (SAMHSA, 2014).

[14]We defined prescription drug dependence as "individuals in substance abuse treatment listing prescription drugs as their primary substance at admission."

Figure 1.5 Percentage of Indiana and U.S. Treatment Episodes with Polysubstance Abuse (Using at Least Two Substances; Using at Least Three Substances) Reported at Treatment Admission (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indiana 2+	62.4%	60.4%	58.8%	59.8%	57.8%	56.2%	61.1%	63.5%	62.3%	62.8%
U.S. 2+	55.7%	55.9%	55.2%	54.4%	54.4%	55.1%	55.5%	55.9%	54.7%	54.4%
Indiana 3+	27.7%	26.6%	25.3%	26.3%	26.0%	27.8%	32.6%	34.8%	33.2%	34.5%
U.S. 3+	21.7%	20.2%	20.6%	20.5%	20.1%	20.4%	21.6%	21.7%	20.4%	21.0%

Notes: The percentage of treatment episodes with three or more substances is a subgroup of (i.e., included in) the percentage of treatment episodes with two or more substances.
Source: SAMHSA, 2014

Cluster Analysis

We conducted a cluster analysis of 2014 Indiana TEDS data to determine the combinations of drugs currently used by polysubstance abusers within the state. Alcohol and marijuana were most widely indicated in polysubstance abuse. The drug clusters most frequently reported at substance abuse treatment admission in Indiana were (a) alcohol and marijuana, (b) alcohol, marijuana, and a drug in the "other drug" category, and (c) marijuana and a drug in the "other drug" category (SAMHSA, 2014).

MENTAL HEALTH

Mental illness is associated with a number of other chronic diseases, as well as tobacco and substance use, and higher rates of suicide. The current prevalence of mental illness (MI) is higher in Indiana (20.6%) than in the United States (18.0%) (SAMHSA, 2017). However, rates of lifetime depression for Hoosiers were similar to those for the nation (IN: 20.5%; U.S.: 19.0%) (CDC, 2017a). Within Indiana, having a history of depression was most likely among females and individuals who identified as multiracial (CDC, 2017a).

Individuals with mental health or substance use disorders do not always receive treatment. Of Hoosiers with a mental health disorder, 41.8% received treatment (U.S.: 44.7%) while only 15.2% of those with an illicit substance use disorder (U.S.: 11.7%) and just 4.3% of those with an alcohol use disorder received care (U.S.: 4.6%) (SAMHSA, 2017).

Based on information from the Data Assessment Registry Mental Health and Addiction (DARMHA), about two-thirds (64.1%) of the treatment population were diagnosed with serious mental illness (SMI) and one-third (34.9%) had a substance use disorder (SUD); furthermore, 22% of clients were diagnosed with both a

co-occurring mental illness and substance use disorder. For details of the treatment population, see Table 1.5 (Indiana Division of Mental Health and Addiction, 2015).

Finally, the percentage of attempted suicides among high school students were similar in Indiana (9.9%) and the broader United States (8.6%), and suicide deaths in Indiana have increased gradually since 2003 (CDC, 2017b).

Table 1.5 Demographic Characteristics of Clients by Serious Mental Illness (SMI), Substance Use Disorder (SUD), and Co-occurring Disorder (COD) Diagnosis, in Indiana (DARMHA, 2015)

		SMI	SUD	COD
Gender	Male	55.9% (55.6-56.2)	38.7% (38.3-39.0)	22.5% (22.2-22.8)
	Female	77.2% (71.9-72.6)	31.2% (30.8-31.5)	21.4% (21.1-21.7)
Race	White	65.2% (64.9-65.4)	35.7% (35.4-36.0)	22.3% (22.1-22.6)
	Black	62.4% (61.8-63.1)	34.5% (33.8-35.1)	23.4% (22.8-23.9)
	Other	58.7% (58.0-59.5)	29.7% (29.0-30.3)	17.1% (16.5-17.7)
Ethnicity	Hispanic	61.7% (61.0-62.5)	29.9% (29.2-30.7)	19.7% (19.0-20.3)
	Non-Hispanic	64.4% (64.1-64.6)	35.4% (35.2-35.7)	22.2% (22.0-22.4)
Age Group	Under 18	44.9% (44.5-45.4)	14.5% (14.2-14.8)	12.2% (11.9-12.4)
	18-24	63.8% (63.1-64.6)	49.4% (48.7-50.2)	24.6% (23.9-25.2)
	25-34	65.6% (65.0-66.2)	55.7% (55.1-56.3)	29.0% (28.5-29.6)
	35-44	74.4% (73.9-75.0)	47.4% (46.8-48.1)	25.7% (28.2-29.3)
	45-54	82.5% (81.9-82.9)	41.2% (40.6-41.9)	29.0% (28.3-29.6)
	55-64	87.2% (86.6-87.8)	32.5% (31.7-33.3)	24.5% (23.7-25.2)
	65+	91.1% (90.1-91.9)	18.0% (16.8-19.2)	14.8% (13.7-16.0)
Total		**64.1% (63.9-64.4)**	**34.9% (34.7-35.1)**	**22.0% (21.8-22.2)**

Source: Indiana Division of Mental Health and Addiction, 2016

INDICATORS OF SUBSTANCE ABUSE

To measure and compare the severity of substance abuse among Indiana counties, we identified county-level consumption and consequence data for individual drug categories, including alcohol, marijuana, cocaine and heroin, methamphetamine, and prescription drugs. We then ranked Indiana counties on the selected indicators, using a highest-need/highest-contributor model; i.e., counties received a priority score based on their need for intervention (measured by the rate[15] at which an indicator occurred) and their overall *contribution* to the problem (measured by the frequency with which an indicator occurred).

We then calculated an *overall substance abuse priority score* to assess severity of consumption and consequences of alcohol and other drugs within each county. This score was computed by averaging the priority scores from each drug category. The top 10 percent of counties, i.e., those with the highest overall scores and most severe problems, are listed in Table 1.8.

Table 1.8 Counties with Total Priority Scores in the Top 10 Percent

Top 10 Percent	Overall Priority Score
Delaware	204
Vanderburgh	203
Madison	195
Lake	176
Monroe	174
Allen	167
Cass	160
Howard	159
Clark	155
Kosciusko	148

Note: Overall substance abuse priority scores ranged from 12 to 204, with higher scores indicating a more severe problem.
Source: Indiana Family and Social Services Administration, 2016; FBI, 2014; ISP, 2016, 2017; Indiana Professional Licensing Agency, 2017

[15]The rate was calculated by taking the frequency of an event (e.g., number of arrests), dividing it by the specified population (e.g., county population), and multiplying the result by 1,000. This represents the rate per 1,000 population.

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2 Methods

This report describes the consumption and consequences of alcohol, tobacco, and other drugs in Indiana residents. We analyzed patterns among Indiana's overall adult, and youth population, and compared them to patterns found among the U.S. population. Based on discussions with the State Epidemiology and Outcomes Workgroup (SEOW), we have reviewed consumption and consequences data for the following drugs: alcohol, tobacco, marijuana, cocaine, heroin, methamphetamine, and prescription medications. Additionally, we examined the occurrence of polysubstance abuse (i.e., the use of two or more drugs) as well as indicators of mental health in Indiana. Furthermore, we rank-ordered Indiana counties on the severity of their substance abuse problems, based on data sources available to us.

Our research team completed statistical analyses on publicly available local and national data sets using Statistical Package for the Social Sciences (SPSS) and Statistical Analysis System (SAS) software. For surveys that do not have publicly available data sets, we conducted statistical analyses using online analysis software and/or analysis tables provided by the agencies that conducted the data collection. Whenever possible, we made statistical comparisons across gender, racial/ethnic, and age groups for both drug-consumption behaviors and drug-use consequences. For all comparisons, a *P* value of .05 or less, or the 95 percent Confidence Interval (CI) was used to determine statistical significance.[1]

Prevalence rates and other statistics may be presented somewhat differently across all chapters, depending on the data sources that provided the information.

We used two guidelines to determine potential priorities. The first guideline was statistical significance. Statistical significance is a mathematical concept used to determine whether differences between groups are true or due to chance. Significance in this context does not necessarily mean "meaningful" and does not convey practical or clinical importance. Specific drug consumption and consequence patterns that place Indiana statistically significantly higher than the United States were used as markers for areas that could potentially benefit from intervention.

The second guideline was clinical or substantive significance; i.e., consumption behaviors or drug-use consequences that are trending toward a higher frequency within a particular group of Hoosiers, such as specific gender, race/ethnicity, or age.

DATA SOURCES

The data for these analyses were gathered from various publicly available federal, state, and local-level surveys and data sets. In order to compare Indiana with the nation as a whole and to determine trends in drug use and drug-related consequences over time, we selected, whenever possible, surveys and data sources that had at least two years' worth of data available. In all cases, the most recent findings were included.

All of the data sources have important strengths and weaknesses, which were factored into the interpretations of the findings. In general, trends evident in multiple sources based on probability samples (rather than on nonrandom samples) were given more weight in the interpretation process. The following sections briefly describe the surveys and data sources used to complete these reports. An overview of these sources is also provided in the SEOW data sources list, beginning on page 22 at the end of this chapter.

Alcohol-Related Disease Impact (ARDI) Database

The Centers for Disease Control and Prevention's (CDC) ARDI software generates estimates of alcohol-related deaths and years of potential life lost (YPLL) due to alcohol consumption. To do this, ARDI either calculates estimates or uses predetermined estimates of alcohol-attributable fractions (AAFs)—that is, the proportion of deaths from various causes that are due to alcohol. These AAFs are then multiplied by the number of deaths caused by a specific condition (e.g., liver cancer) to obtain the number of alcohol-attributable deaths. Reports can be generated based on national or state-level data.

[1]Throughout the chapters, we use the terms "significant," "significantly different," or "statistically different" to report on a statistically significant difference between groups.

Automated Reporting Information Exchange System (ARIES) and Fatality Analysis Reporting System (FARS)

The Indiana State Police's ARIES is a central repository for all vehicle collisions reported in the state of Indiana, with and without alcohol involvement. Information on fatal accidents contained in the system is submitted to FARS. FARS is a national database of fatal motor vehicle accidents, which was developed by the National Highway Traffic Safety Administration's National Center for Statistics and Analysis in 1975. Comparisons between Indiana and the nation should be interpreted with caution as data submissions to the FARS database are done on a voluntary basis and may not include all fatal motor vehicle accidents within a state or the nation.

Behavioral Risk Factor Surveillance System (BRFSS) Survey

The CDC conducts the BRFSS annually with the assistance of health departments in all 50 states and the District of Columbia, Puerto Rico, Guam, and the U.S. Virgin Islands. BRFSS asks respondents ages 18 and older questions about health-related behaviors, including alcohol consumption and tobacco use. BRFSS results are available at the national and state levels as well as for selected metropolitan/micropolitan areas. BRFSS data allow for statistical comparisons across gender, age, race/ethnicity, educational attainment, and income level.

The BRFSS has traditionally used random-digit-dial telephone sampling of households with landline telephones. However, the increasing percentage of households abandoning their landline telephones for cell phones has significantly eroded the population coverage provided by landline-based surveys to 70% of the U.S. household population. To meet challenges for increasing non-coverage and decreasing response rates due to cell-phone-only households, BRFSS has expanded its traditional methodology to a dual frame survey of landline and cell phone numbers and has introduced a new weighting method called iterative proportional fitting, or raking.

Even though the State Epidemiological Profile continues to provide information on present and past BRFSS prevalence rates for alcohol and tobacco use, it would not be appropriate to directly compare estimates prior to 2011 with later estimates, due to different data adjustment methods and different sampling frames.

Data Assessment Registry for Mental Health and Addiction (DARMHA)

The Data Assessment Registry for Mental Health and Addiction (DARMHA) is an administrative database operated by Indiana's Division of Mental Health and Addiction (DMHA). The registry collects information on the entire Hoosier Assurance Plan (HAP) consumer population served by DMHA-contracted substance abuse and mental health providers. The registry was developed to support the use of information about the strengths and needs of clients to help make treatment decisions, monitor progress, and improve quality.

Hospital Discharge Data

The Indiana State Department of Health (ISDH) collects information on inpatients discharged from hospitals in Indiana. The data are publicly available in aggregate format and include information on hospitals, principal diagnoses and procedures, length of stay, total charges, etc. Additionally, ISDH provides reports (on request) on statewide outpatient visits, i.e., information contained in the State Emergency Department Dataset. Both datasets can be queried on diagnoses related to alcohol or drug use.

Indiana Adult Tobacco Survey (IN ATS)

The Indiana Adult Tobacco Survey (IN ATS), a survey by the Indiana Tobacco Prevention and Cessation Agency (ITPC), collects information on tobacco use among Hoosiers ages 18 and older. The survey uses a random-sampling design; African-American and Hispanic adults as well as residents in more rural regions of the state are oversampled. Data are available by gender, race/ethnicity, age group, income level, educational attainment, Indiana region, health insurance type, and number of children in household.

Indiana College Substance Use Survey

The Indiana College Substance Use Survey was developed in 2009 by the Indiana Collegiate Action Network (ICAN) and the Indiana Prevention Resource Center (IPRC), with input from Indiana institutions of higher education and the Indiana State Epidemiology and Outcomes Workgroup. The instrument was designed to assess prevalence of alcohol, tobacco and other drug use; consequences of use; alcohol availability; and student

perceptions of peer behaviors among Indiana college students. Information is available by gender, age category (under 21 vs. 21 or over), and type of institution (private vs. public). All two- and four-year colleges in Indiana are invited to participate in the survey. Results are based on nonrandom sampling and are not representative of all college students in Indiana. In 2016, 20 colleges participated in the survey, resulting in 9,898 usable responses.

Indiana Meth Lab Statistics and National Clandestine Laboratory Seizure System (NCLSS)

The Indiana State Police (ISP), Meth Suppression Section, collects data on clandestine meth lab seizures in the state, including number of meth labs seized, number of arrests made during lab seizures, and the number of children located at/rescued from meth labs. The information is then submitted to NCLSS, a database maintained by the U.S. Drug Enforcement Administration and the El Paso Intelligence Center. State and county-level information can be requested from the Indiana State Police.

Indiana Mortality Data and National Vital Statistics System (NVSS)

NVSS is a CDC-maintained data system that provides information on mortality rates by cause of death as coded in the World Health Organization's International Classification of Diseases, 10th Edition (ICD-10). Health departments in the 50 states, the District of Columbia, and U.S. territories provide CDC with data on deaths throughout the country. Using the query system on CDC's website (CDC WONDER), researchers can compute mortality rates for deaths due to diseases and events associated with alcohol, tobacco, and other drug use (e.g., cirrhosis, lung cancer, heart disease, suicide, homicide, etc.) at the national, state, and county level. The system also allows for comparisons across gender, age, and racial groups. Indiana mortality data can also be requested directly from the Indiana State Department of Health.

Indiana Scheduled Prescription Electronic Collection & Tracking (INSPECT)

INSPECT is the state's prescription drug monitoring program. The secure database collects basic demographic information on the patient, the type of controlled substance prescribed, the prescribing practitioner, and the dispensing pharmacy. Each time a controlled substance is dispensed, the dispenser (e.g., pharmacy, physician, etc.) is required to submit the information to INSPECT. The program was designed to help address problems of prescription drug abuse and diversion in Indiana. By compiling controlled substance information into an online database, INSPECT performs two critical functions: (1) maintaining a warehouse of patient information to assist healthcare professionals in making treatment decisions; and (2) providing an important investigative tool for law enforcement to help prevent the possible diversion of controlled substances.

Indiana Youth Survey (INYS)

The Indiana Youth Survey is an annual school-based assessment conducted by the Indiana Prevention Resource Center (IPRC) and funded through the Indiana Family and Social Services Administration/Division of Mental Health and Addiction. The survey is designed to monitor patterns of alcohol, tobacco, and other drug use; gambling behaviors; as well as risk and protective factors among Indiana middle and high school students, grades 6 through 12. Young people who complete the questionnaire are asked to report on their monthly use (use of drug at least once in the 30 days prior to the survey) of a wide range of substances.

In 2016, the INYS adopted two sampling approaches: (1) a probability sampling technique that generates a state-wide representative sample to provide statewide prevalence rates and risk and protective factors and (2) a convenience sampling technique that provides communities with local prevalence rates and risk and protective factors for needs assessment, planning and evaluation of substance abuse prevention programs, etc. For the random sample, which is conducted every other year, the target population contains all currently-operating public schools in Indiana. Only students in grades 6th, 8th, 10th, and 12th are surveyed. Monetary incentives are provided to the participating schools. In 2016, a total of 254 schools were selected, of which 113 schools participated in the survey and a total of 24,761 students were included in the data analyses. For the convenience sample, all public and private schools serving grades 6th through 12th are invited to participate in the survey every year. Schools that partake in the convenience samples do not

receive financial incentives. The benefits of participation include the ability to add up to 15 locally relevant questions and receiving a school corporation summary report prepared free-of-charge. More than 100,000 students have participated in the survey every year since 2005.

Indiana Youth Tobacco Survey (IYTS)

The CDC developed the National Youth Tobacco Survey as a way to estimate the current use of tobacco products among middle school and high school students in the United States. Student respondents are asked to describe their lifetime, annual, and current use of cigarettes and other tobacco products. The Indiana State Department of Health's Tobacco Prevention and Cessation Commission oversees Indiana's version of the survey, which includes CDC core and recommended questions, as well as state-specific items. IYTS is conducted every other year (even years); findings allow comparisons across gender, race/ethnicity, and grade levels.

Monitoring the Future (MTF) Survey

MTF is a national survey conducted annually by the National Institute on Drug Abuse in order to track changes in the drug consumption patterns of 8th, 10th, and 12th grade students throughout the United States. Respondents report on their lifetime, annual, and monthly use of a wide variety of substances, including alcohol, tobacco, heroin, cocaine, marijuana, methamphetamine, etc. Results from MTF are released annually and data sets are publicly available. Respondents are sampled randomly from schools throughout the country; data are not available at the state level.

National Survey on Drug Use and Health (NSDUH)

NSDUH is a national survey funded by SAMHSA and designed to monitor patterns and track changes in substance use for U.S. residents 12 years of age and older. The survey asks respondents to report on consumption patterns of substances including alcohol, tobacco, marijuana, cocaine, and other illicit drugs, as well as on the nonmedical (recreational) use of prescription medication. Additionally, NSDUH asks respondents whether they received treatment for drug abuse or drug dependence during the past (prior) year. The survey also includes several modules of questions that focus on mental health issues.

Prevalence rates for substance use and specific mental health indicators are provided for the nation and each state. Raw data files from NSDUH surveys are publicly available; however, they do not allow for comparisons among states because NSDUH eliminates state identifiers in the process of preparing public-use data files. Tables with prevalence numbers and rates are prepared by SAMHSA's Center for Behavioral Health Statistics and Quality and can be accessed online. Data reports are available since 1994. There is usually a two-year delay from the time of data collection to its availability.

In 2015, several changes were made to the NSDUH questionnaire and data collection process, causing some estimates not to be comparable with estimates from previous years. Items affected by these changes included binge drinking and prescription drug misuse. As part of the redesign, the definition of binge drinking for women was lowered from five or more drinks on one occasion to four or more drinks (for men, it remained at five or more drinks). Regarding prescription drug misuse, the modifications were substantial and included changing the definition of prescription drug misuse; revising the list of pertinent prescription drugs to exclude those that have been discontinued or are no longer legally available in the U.S.; adding questions that assess both appropriate use and misuse of prescription medication; and adding items that ask individuals to describe the ways they misuse prescription drugs and the motives driving their misuse. Due to these revisions, 2015 estimates cannot be compared to earlier years, nor can SAMHSA provide state-level estimates on these indicators, as state-level estimates require the use of two years' worth of data. SAMHSA will provide state-level estimates for binge drinking and prescription drug use starting with the 2017 NSDUH.

Treatment Episode Data Set (TEDS)

TEDS is a national database maintained by SAMHSA that records information about individuals entering treatment for substance abuse and/or dependence. State mental health departments submit data to TEDS on an annual basis. The information reported in TEDS includes age, race, ethnicity, gender, and other demographic characteristics, as well as information on the use of various substances. The data represent admissions rather than individuals, thus individuals may be admitted to treatment more than once in a given year. TEDS data become publicly available approximately two years after

the information is gathered. The format of the TEDS data allows for comparisons between Indiana and the United States by gender, race, and age groups.

County-level TEDS data for Indiana are available from the Indiana Family and Social Services Administration. While TEDS data can provide some information on drug use and abuse patterns both nationally and at the state level, the population on which the data are based may not be representative of all individuals in drug and alcohol treatment. For Indiana, TEDS data are limited to information on individuals entering substance abuse treatment who are 200% below the federal poverty level and receive state-funded treatment.

Uniform Crime Reporting Program (UCR)

UCR is a national database maintained by the FBI that records the number of arrests for various offenses, including property crimes, violent crimes, and drug-related crimes throughout the United States. Law enforcement agencies in the 50 states and the District of Columbia submit UCR data annually. Data are reported for each state and each county. UCR data sets are publicly available; however, there is a two-year lag from the time data are collected until they are published. The format of the UCR data sets allows for comparisons of arrests between Indiana and the entire United States, and for comparisons between juveniles and adults. Since the data are presented in an aggregate format, demographic variables such as gender, age, or race/ethnicity are not available.

While UCR data include information about drug possession and drug manufacturing arrests, the involvement of drugs or alcohol in the commission of other crimes such as rape, burglary, robbery, etc., is not recorded. Additionally, since states are not required to submit crime information to the FBI, the level of reporting varies considerably. Because of these variations, the FBI uses statistical algorithms to estimate arrests for counties in which reporting is less than 100 percent. In Indiana, typically about 60% of counties, on average, submit information to the FBI. Indiana has a rather low reporting rate, so UCR results should be interpreted with caution; however, completeness of reporting has been improving over the past years (see Table 2.1, page 26, for coverage indicator by county).

Youth Risk Behavior Surveillance System (YRBSS)

The YRBSS is a national survey of health-related behaviors among students in grades 9 through 12. The CDC conducts the survey biannually with the cooperation of state health departments throughout the nation. Student respondents are asked to describe whether they have engaged in numerous behaviors that could pose a danger to their health, including the use of alcohol, tobacco, and other drugs. CDC's online database allows comparisons between Indiana and the United States on gender, race/ethnicity, and grade level. Data for the YRBSS are available every other year (odd years), with a one-year lag between the end of data collection and the publication of results. Though YRBSS data for some states are available from 1991, Indiana started participating in data collection in 2003. Availability of state-level results is dependent upon sufficient participation to achieve an adequate response rate to weight the data.

CONSIDERATIONS

This report relies primarily on the data sources just discussed. These are either 1) publicly available sources that our researchers could access and analyze for this year's state epidemiological report or 2) agency data sources that were provided specifically to the SEOW. Because of the nature of the available data, there are significant limitations to the interpretations presented:

- Consistent comparisons across data sources are not always possible due to the nature of the survey questions asked and information gathered.
- Inconsistencies may occur within classifications of demographic characteristics (e.g., age ranges, racial categories, grade levels).
- Timeframes may be inconsistent for comparisons across substances and data sources (e.g., some data have longer gaps than others before they are made publicly available).
- State-level prevalence rates presented in national surveys are often estimated using statistical algorithms.
- Due to the reporting requirements for national databases, the data may not be representative of the actual population of either the state or the nation.

In future editions of this report, we will expand the data analysis as additional data sources are made available to the SEOW data analysis team.

SEOW DATA SOURCES LIST

Following is a list of the data sources used in this report, presented in a format for comparison.

Alcohol-Related Disease Impact (ARDI) Database

Description: ARDI provides state and national estimates on alcohol-related deaths and years of potential life lost (YPLL) based on alcohol-attributable fractions.
Sponsoring Organization/Source: Centers for Disease Control and Prevention (CDC)
Geographic Level: National and state levels
Availability: The database can be accessed at http://nccd.cdc.gov/DPH_ARDI/default/default.aspx .
Trend: 2006–2010 (all estimates are based on data averages from 2006 through 2010)
Strengths/Weaknesses: ARDI may underestimate the actual number of alcohol-related deaths and years of potential life lost.

Automated Reporting Information Exchange System (ARIES) and Fatality Analysis Reporting System (FARS)

Description: ARIES contains data on vehicle crashes with and without alcohol involvement; data on fatal crashes are submitted to FARS.
Sponsoring Organization/Source: Indiana State Police (ISP); U.S. Department of Transportation / National Highway Traffic Safety Administration (NHTSA)
Geographic Level: National, state, and county levels
Availability: Data are available from the NHTSA at http://www-fars.nhtsa.dot.gov/ and upon request from the Indiana State Police.
Trend: 1994–2015
Strengths/Weaknesses: The data are in aggregate format; comparisons by demographic variables such as age, gender, and race/ethnicity are not possible.

Behavioral Risk Factor Surveillance System (BRFSS) Survey

Description: BRFSS is an annual state health survey that monitors risk behaviors, including alcohol and tobacco consumption, related to chronic diseases, injuries, and death.
Sponsoring Organization/Source: Centers for Disease Control and Prevention (CDC); Indiana State Department of Health (ISDH)
Geographic Level: National and state
Availability: National and state data are available from the CDC at http://www.cdc.gov/brfss/brfssprevalence .
Trend: 1995–2015
Strengths/Weaknesses: CDC consistently works to test and improve BRFSS methodology in an effort to make findings result in more valid and reliable data for public health surveillance. Due to substantial changes in methodology starting with the 2011 survey, comparison of current estimates with estimates from previous years would not be appropriate.

Data Assessment Registry for Mental Health and Addiction (DARMHA)

Description: DARMHA is an administrative database that collects information on Indiana's consumer population served by DMHA-contracted substance abuse and mental health providers.
Sponsoring Organization/Source: Indiana Division of Mental Health and Addiction (DMHA)
Geographic Level: State and county levels
Trend: 2015
Availability: Memorandum of Understanding (MOU) between SEOW and DMHA.
Strengths/Weaknesses: Administrative data collected by behavioral health providers and submitted to DMHA.

Hospital Discharge Data

Description: Hospital discharge data are publicly available in aggregate format. Dataset can be queried by primary diagnosis (ICD-9 codes), e.g., alcohol- and drug-induced diseases.
Sponsoring Organization/Source: Indiana State Department of Health (ISDH)
Geographic Level: Indiana
Availability: Annual data are available at http://www.in.gov/isdh/20624.htm .
Trend: 1999–2015
Strengths/Weaknesses: The data are in aggregate format; comparisons by demographic variables such as age, gender, and race/ethnicity are not possible.

Indiana Adult Tobacco Survey (IN ATS)

Description: This survey measures tobacco use among Indiana adults, and includes items on tobacco use, cessation, secondhand smoke, and awareness.
Sponsoring Organization/Source: Indiana State Department of Health's Tobacco Prevention and Cessation Committee

Geographic Level: Indiana
Availability: Datasets can be requested from ITPC; reports are available at http://www.in.gov/isdh/tpc/2343.htm .
Trend: 2002, 2006–2015
Strengths/Weaknesses: IN ATS uses a random-sample design, making findings representative of all Hoosier adults. Oversampling of African-American and Hispanic adults, as well as residents in more rural regions, provides more robust estimates for these population groups.

Indiana College Substance Use Survey

Description: The survey measures the prevalence of alcohol, tobacco and other drug use; consequences of use; alcohol availability; and student perceptions of peer behaviors among Indiana college students.
Sponsoring Organization/Source: Indiana Collegiate Action Network (ICAN); Indiana Prevention Resource Center (IPRC)
Geographic Level: Indiana
Availability: Annual data are available at http://www.drugs.indiana.edu/indiana-college-survey/substance-use-survey.
Trend: 2009–2016
Strengths/Weaknesses: The survey utilizes a nonrandom sampling design; results, therefore, are not representative of all college students in Indiana.

Indiana Meth Lab Statistics and National Clandestine Laboratory Seizure System (NCLSS)

Description: The Indiana State Police (ISP), Meth Suppression Section, collects meth lab incidence data and submits the information to NCLSS, a national database. Data include: Number of meth labs seized, number of arrests made during lab seizures, and the number of children located at/rescued from meth labs.
Sponsoring Organization/Source: Indiana State Police (ISP), Meth Suppression Section; Drug Enforcement Administration (DEA), El Paso Intelligence Center (EPIC)
Geographic Level: National, state, and county
Availability: Indiana data from ISP are available on request; national data can be accessed at http://www.dea.gov/resource-center/meth-lab-maps.shtml .
Trend: 1995–2016
Strengths/Weaknesses: The data include all meth incidents, including labs, "dumpsites," or "chemical and glassware" seizures.

Indiana Mortality Data and National Vital Statistics System (NVSS)

Description: NVSS contains mortality data from all U.S. states; the online database can be queried on number of deaths and death rates from alcohol- and drug-related causes. Indiana data can also be directly requested from the Indiana State Department of Health (ISDH).
Sponsoring Organization/Source: Indiana State Department of Health (ISDH); CDC's National Center for Health Statistics
Geographic Level: National, state, and county levels
Availability: National mortality data can be accessed by underlying cause of death (ICD-10 codes) from CDC at http://wonder.cdc.gov/mortSQL.html; state data are available on request from the Indiana State Department of Health.
Trend: 1999–2014 (online from CDC); Indiana data for other years are available on request from ISDH.
Strengths/Weaknesses: The strengths of the NVSS include availability of multiple years of data and the relatively large number of American Indian, Alaska Native, and other Native American respondents. However, a primary weakness of the data are the quality of the race/ethnicity information, particularly for the American Indian/Alaska Native category, as data quality checks of the racial/ethnic distribution of the deceased in this category are lower than the distribution represented in Census estimates.

Indiana Scheduled Prescription Electronic Collection & Tracking (INSPECT)

Description: INSPECT is Indiana's prescription drug monitoring program; the online database collects information each time a controlled substance is dispensed.
Sponsoring Organization/Source: Indiana Professional Licensing Agency (IPLA)
Geographic Level: Indiana and counties (zip codes)
Availability: Eligible users (such as health care providers) may register for a secured account at www.in.gov/INSPECT .
Trend: 2010–2016
Strengths/Weaknesses: Data collection is statewide, and licensed dispensers (e.g., pharmacies, physicians) are required to submit information each time a controlled substance is dispensed.

Indiana Youth Survey (INYS)

Description: The Indiana Prevention Resource Center (IPRC) manages the Indiana Youth Survey. The survey is administered to students (6th through 12th graders) annually in a number of schools throughout the state.
Sponsoring Organization/Source: Indiana Prevention Resource Center (IPRC); Indiana Family and Social Services Administration (FSSA)/Indiana Division of Mental Health and Addiction (DMHA)
Geographic Level: State and regions
Availability: Reports with data tables are available at http://inys.indiana.edu/survey-results .
Trend: 1993–2016
Strengths/Weaknesses: School-specific survey results are valuable to participating schools and provide statewide prevalence estimates. Due to changes made to the survey, data cannot be compared to findings from previous years (prior to 2015).

Indiana Youth Tobacco Survey (IYTS) and National Youth Tobacco Survey (NYTS)

Description: IYTS is Indiana's adapted version of CDC's NYTS. The surveys collect data from students in grades 6 through 12 on all types of tobacco use, exposure to secondhand smoke, and access to tobacco.
Sponsoring Organization/Source: Indiana Tobacco Prevention and Cessation Agency (ITPC); Centers for Disease Control and Prevention (CDC)
Geographic Level: National and state
Availability: Data are available on request from ITPC, and annual reports can be accessed at http://www.in.gov/isdh/tpc/2343.htm . National data are available at http://www.cdc.gov/tobacco/data_statistics/surveys/NYTS/ .
Trend: 2000 through 2013 (NYTS) / 2000 through 2014 (IYTS)
Strengths/Weaknesses: The IYTS provides detailed statewide information regarding youth knowledge, attitudes, and behaviors. However, county-level data are not available.

Monitoring the Future (MTF) Survey

Description: MTF is an ongoing study of youth behaviors, attitudes, and values about substance use. Approximately 50,000 students in 8th, 10th, and 12th grades are surveyed annually. Follow-up surveys are distributed to a sample of each graduating class for a number of years after initial participation.
Sponsoring Organization/Source: National Institute on Drug Abuse (NIDA)
Geographic Level: National
Availability: Data tables are available at http://www.monitoringthefuture.org/data/data.html.
Trend: 1991–2015
Strengths/Weaknesses: A limitation of the survey design is that the target population does not include students who drop out of high school before graduation.

National Survey on Drug Use and Health (NSDUH)

Description: NSDUH provides national and state-level estimates on the use of alcohol, tobacco, and illicit drugs (including nonmedical prescription drug use), as well as mental health indicators in the general population ages 12 and older.
Sponsoring Organization/Source: Substance Abuse and Mental Health Services Administration (SAMHSA)
Geographic Level: National and state; some sub-state data are available using small-area estimation techniques.
Availability: National and state data tables are available at the NSDUH website at http://www.samhsa.gov/data/population-data-nsduh .
Trend: State estimates are available for 1999–2015.
Strengths/Weaknesses: State-level data do not allow for comparisons by gender or race/ethnicity.

Treatment Episodes Data Set (TEDS)

Description: TEDS provides information on demographic and substance abuse characteristics of individuals in alcohol and drug abuse treatment. Data are collected by treatment episode. A treatment episode is defined as the period from the beginning of treatment services (admission) to termination of services.
Sponsoring Organization/Source: Substance Abuse and Mental Health Services Administration (SAMHSA); Indiana Family and Social Services Administration (FSSA)/Division of Mental Health and Addiction (DMHA)
Geographic Level: National and state; county-level data available from FSSA upon special request
Availability: National and state TEDS data were acquired from SAMHSA's Drug & Alcohol Services Information System at http://wwwdasis.samhsa.gov/dasis2/teds.htm .
Trend: 1999–2014 national and state TEDS data; county-level data reported for 2016

Strengths/Weaknesses: In Indiana, these data are not representative of the state as a whole, as only individuals who are at or below the 200% poverty level are eligible for treatment at state-registered facilities.

Uniform Crime Reporting Program (UCR): County-Level Detailed Arrest and Offense Data

Description: The UCR program provides a nationwide view of crime based on the submission of statistics by local law enforcement agencies throughout the country.
Sponsoring Organization/Source: United States Department of Justice/Federal Bureau of Investigation (FBI)
Geographic Level: National, state, and county
Availability: Data can be downloaded from the National Archive of Criminal Justice Data website (http://www.icpsr.umich.edu/icpsrweb/content/NACJD/guides/ucr.html).
Trend: 1994–2014
Strengths/Weaknesses: Reporting of UCR data by jurisdictions across the state is often less than 100%, in which case statistical algorithms are employed to estimate arrest numbers. See Table 2.1 on page 26 for coverage indicator by Indiana county.

Youth Risk Behavior Surveillance System (YRBSS)

Description: This biannual national survey monitors health risks and behaviors among youth in grades 9 through 12.
Sponsoring Organization/Source: Centers for Disease Control and Prevention (CDC); Indiana State Department of Health (ISDH)
Geographic Level: National, state
Availability: National and state-level data are downloadable from selected published tables on the CDC website at http://nccd.cdc.gov/YouthOnline/App/Default.aspx .
Trend: For the nation, the survey tracks every other year from 1991 through 2015; Indiana data are available for 2003 through 2015 (though due to a low response rate, no Indiana estimates are available for 2013).
Strengths/Weaknesses: At the state level, data by ethnicity (Hispanic) might not be available for some variables.

Table 2.1 Coverage Indicator for the 2014 Uniform Crime Reporting Data, by County (in Percent)

County	Coverage Indicator
Adams	38.8%
Allen	89.5%
Bartholomew	96.5%
Benton	0.0%
Blackford	100.0%
Boone	48.6%
Brown	100.0%
Carroll	0.0%
Cass	95.6%
Clark	99.4%
Clay	0.0%
Clinton	100.0%
Crawford	100.0%
Daviess	100.0%
Dearborn	17.6%
Decatur	44.7%
DeKalb	50.3%
Delaware	100.0%
Dubois	42.1%
Elkhart	100.0%
Fayette	0.0%
Floyd	95.9%
Fountain	0.0%
Franklin	100.0%
Fulton	70.2%
Gibson	67.3%
Grant	100.0%
Greene	86.0%
Hamilton	68.6%
Hancock	94.7%
Harrison	97.3%
Hendricks	100.0%
Henry	64.1%
Howard	98.7%
Huntington	42.8%
Jackson	71.1%
Jasper	17.6%
Jay	89.0%
Jefferson	0.0%
Jennings	84.2%
Johnson	98.8%
Knox	44.9%
Kosciusko	100.0%
LaGrange	100.0%
Lake	69.2%
LaPorte	62.2%
Lawrence	90.6%
Madison	98.1%
Marion	94.9%
Marshall	31.1%
Martin	18.4%
Miami	100.0%
Monroe	99.6%
Montgomery	100.0%
Morgan	15.7%
Newton	58.3%
Noble	95.2%
Ohio	0.0%
Orange	0.0%
Owen	0.0%
Parke	25.0%
Perry	37.2%
Pike	20.3%
Porter	95.7%
Posey	87.6%
Pulaski	0.0%
Putnam	0.0%
Randolph	31.1%
Ripley	0.0%
Rush	27.3%
Saint Joseph	99.8%
Scott	50.7%
Shelby	100.0%
Spencer	0.0%
Starke	84.3%
Steuben	97.9%
Sullivan	46.7%
Switzerland	0.0%
Tippecanoe	98.8%
Tipton	65.9%
Union	0.0%
Vanderburgh	100.0%
Vermillion	27.6%
Vigo	97.9%
Wabash	67.6%
Warren	0.0%
Warrick	100.0%
Washington	0.0%
Wayne	43.8%
Wells	57.2%
White	85.4%
Whitley	31.7%

Note: The Coverage Indicator represents the proportion of county data that is not imputed for a given year. The indicator ranges from 0.0% (indicating that all data in the county are based on estimates) to 100.0% (indicating complete reporting; no computation).
Source: Federal Bureau of Investigation (FBI), 2014

3 Alcohol Use in Indiana: Consumption Patterns and Consequences

ALCOHOL CONSUMPTION

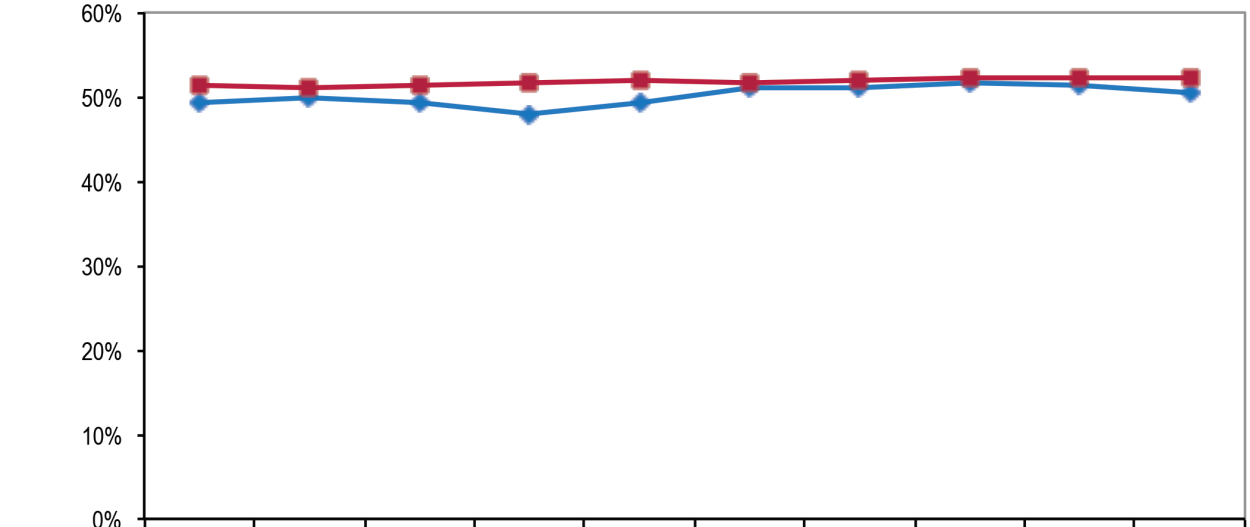
General Consumption Patterns

Alcohol is the most frequently used substance in both Indiana and the United States. In 2011, 11.2 million gallons of ethanol (the intoxicating agent in alcoholic beverages) were estimated to have been consumed in Indiana; this included, by volume, 119 million gallons of beer, 11.4 million gallons of wine, and 10.2 million gallons of spirits. The estimated annual per capita consumption of ethanol for the population 14 years and older was 2.0 gallons in Indiana and 2.3 gallons in the nation (National Institute on Alcohol Abuse and Alcoholism [NIAAA], 2016).

In 2016, a total of 11,691 permits for sale of alcoholic beverages were on file in Indiana, representing a rate of 1.8 licenses per 1,000 Hoosiers. Most licenses were in Marion (1,704) and Lake (894) Counties (Alcohol and Tobacco Commission, 2016).

Based on 2014–2015 averages calculated from the National Survey on Drug Use and Health (NSDUH), the Substance Abuse and Mental Health Services Administration (SAMHSA) estimated that 50.4% (95% Confidence Interval [CI]: 47.7–53.2) of Indiana residents 12 years of age or older had used alcohol during the past month; Indiana's prevalence rate for current alcohol use[1] was similar to the U.S. rate of 52.2% (95% CI: 51.7–52.6) (see Figure 3.1) (SAMHSA, 2017).

Figure 3.1 Percentage of Indiana and U.S. Population (12 Years and Older) Reporting Current Alcohol Use (National Survey on Drug Use and Health, 2006–2015)



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Indiana	49.4%	50.1%	49.3%	48.0%	49.4%	51.0%	51.2%	51.6%	51.5%	50.4%
U.S.	51.4%	51.0%	51.4%	51.8%	51.8%	51.8%	51.9%	52.1%	52.4%	52.2%

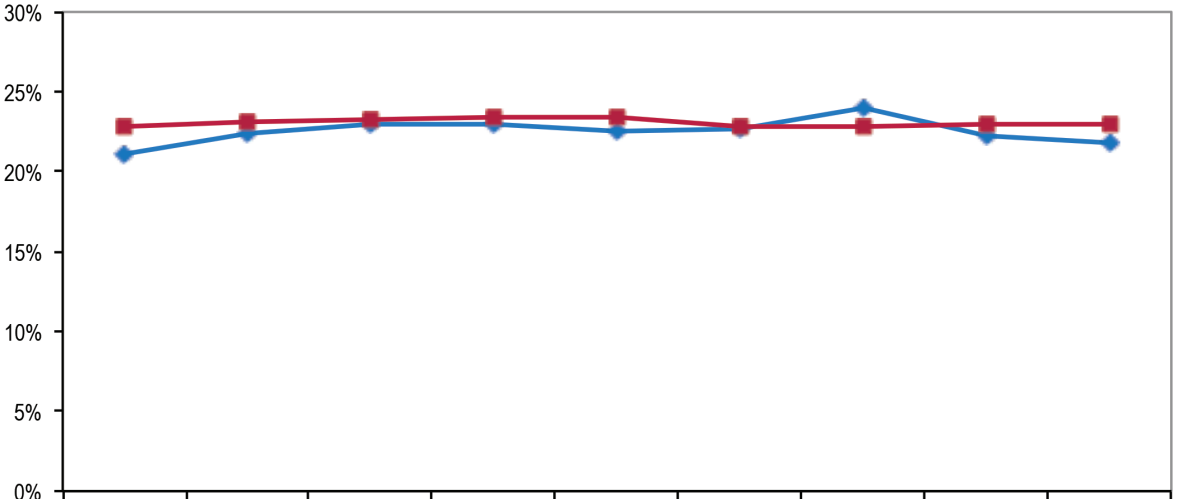
Source: SAMHSA, 2017

[1] Current alcohol use is defined as having used alcohol in the past 30 days or past month.

In 2015, SAMHSA redesigned the questions on the NSDUH pertaining to binge and heavy drinking. The definition of binge drinking for women was lowered from five or more drinks on one occasion to four or more drinks. As a result of these modifications, 2015 national data on binge alcohol use cannot be compared to NSDUH estimates from previous years. For the same reason, state-level data for binge alcohol use are currently not available as these estimates rely on pooled averages from two years' worth of data. State-level estimates will once again be available for the 2016 NSDUH (Center for Behavioral Health Statistics and Quality, 2016). Because of the NSDUH redesign, the current report relies upon data from the 2014 NSDUH for estimates of binge drinking, but provides 2015 estimates for all other alcohol-related patterns.

In previous years, NSDUH defined binge drinking as consumption of five or more alcoholic beverages on the same occasion (i.e., within a couple of hours of each other) on at least one day in the past month. In 2014, 21.8% of the Indiana population 12 years of age or older reported binge drinking (95% CI: 19.6–24.0), similar to that of the national average of 22.9% (95% CI: 22.5–23.3) (see Figure 3.2) (SAMHSA, 2017).

Figure 3.2 Percentage of Indiana and U.S. Population (12 years and older) Reporting Current Binge Drinking (National Survey on Drug Use and Health, 2006–2014)



	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indiana	21.1%	22.3%	23.0%	23.0%	22.6%	22.7%	24.0%	22.3%	21.8%
U.S.	22.8%	23.2%	23.3%	23.5%	23.4%	22.9%	22.8%	22.9%	22.9%

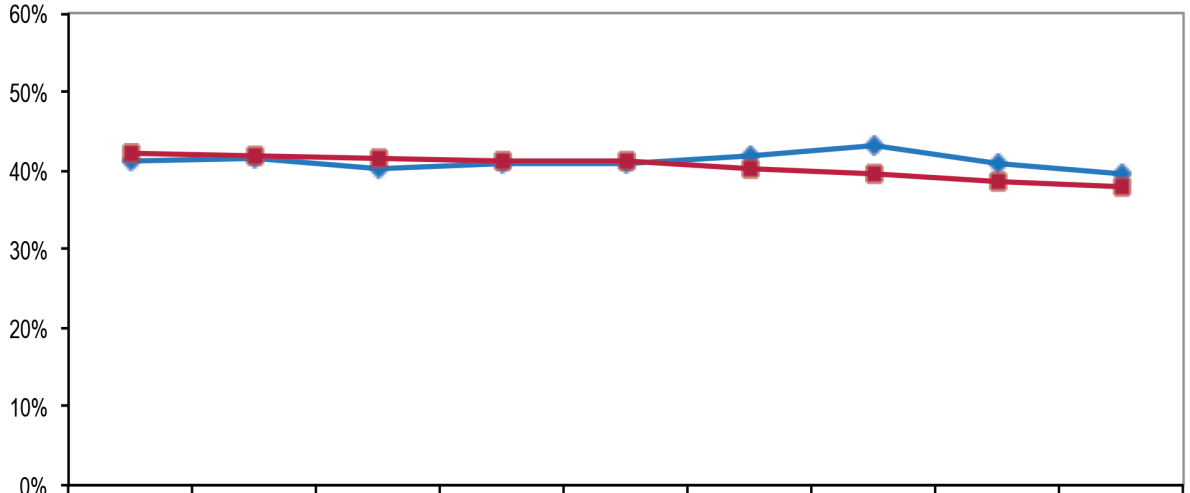
Note: Due to a change in the NSDUH question pertaining to binge drinking, no state-level estimates are currently available for 2015.
Source: SAMHSA, 2017

Adult Alcohol Consumption Patterns

According to 2014–2015 NSDUH results, 59.7% of Hoosiers (95% CI: 55.8–63.5) between the ages of 18 and 25 reported current alcohol use; the U.S. rate was similar at 59.0% (95% CI: 58.2–59.8). Past-month alcohol consumption was also similar among Indiana and U.S. adults 26 years and older with rates of 54.3% (95% CI: 50.5–58.1) and 56.2%, respectively (95% CI: 55.6–56.8) (SAMHSA, 2017).

Binge drinking was particularly widespread among young adults. The highest prevalence rate was found among 18- to 25year-olds, with the Indiana rate (39.5%; 95% CI: 35.7–43.3) and U.S. rate (37.8%; 95% CI: 37.1–38.6) being similar (see Figure 3.3). Among adults, binge drinking rates decreased with age; 21.0% (95% CI: 18.2–24.1) of Hoosiers ages 26 years and older reported having consumed five or more drinks on the same occasion during the last 30 days (U.S.: 22.2%, 95% CI: 21.7–22.7) (SAMHSA, 2017).

Figure 3.3 Percentage of Indiana and U.S. 18- to 25-Year-Olds Reporting Binge Drinking in the Past 30 Days (National Survey on Drug Use and Health, 2006–2014)



	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indiana	41.1%	41.5%	40.3%	40.8%	40.8%	41.8%	43.1%	40.9%	39.5%
U.S.	42.0%	42.0%	41.4%	41.4%	41.2%	40.2%	39.6%	38.7%	37.8%

Note: Due to a change in the NSDUH question pertaining to binge drinking, no state-level estimates are currently available for 2015.
Source: SAMHSA, 2017

Table 3.1 Percentage of Indiana Adults Having Used Alcohol in the Past 30 Days, by Gender, Race/Ethnicity, and Age Group (Behavioral Risk Factor Surveillance System, 2015)

		Indiana % (95% CI)
Gender	Male	56.3% (53.4–59.1)
	Female	42.9% (40.3–45.4)
Race/Ethnicity	White	50.1% (48.1–52.1)
	Black	47.1% (39.2–55.0)
	Hispanic	48.6% (38.9–58.3)
Age Group	18-24	54.1% (46.9–61.3)
	25-34	57.7% (52.1–63.3)
	35-44	58.3% (53.2–63.4)
	45-54	51.2% (46.9–55.4)
	55-64	48.1% (44.6–51.5)
	65+	31.2% (28.7–33.7)
Total		**49.4% (47.5–51.3)**

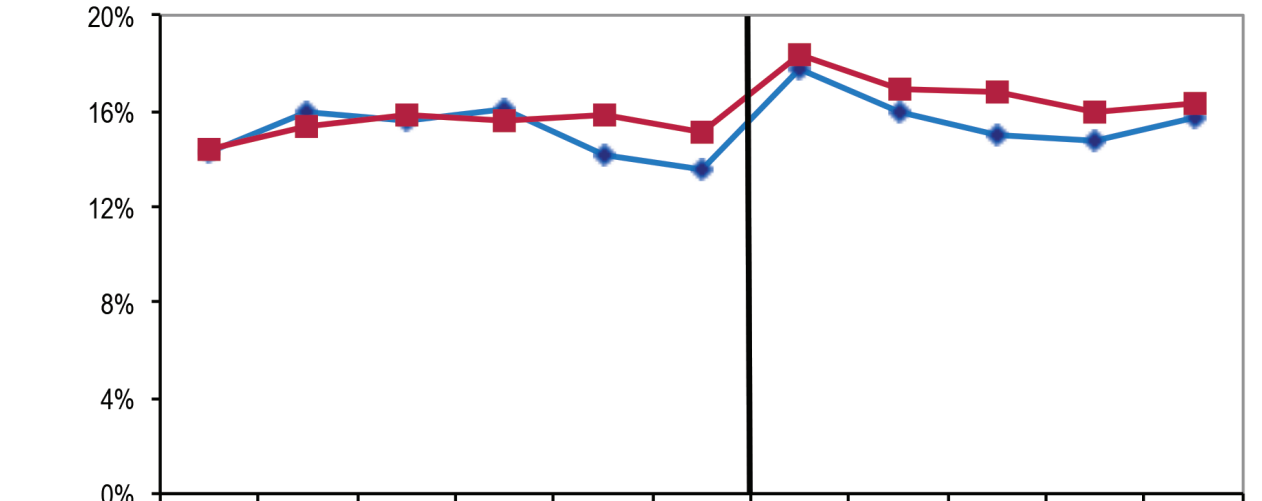
Source: CDC, 2017a

Based on findings from the 2015 Behavioral Risk Factor Surveillance System (BRFSS), adult prevalence rates for current alcohol use were 49.4% (95% CI: 47.5–51.3) for Indiana and 54.0% for the nation. In Indiana, rates were higher among males and among younger age groups (see Table 3.1) (Centers for Disease Control and Prevention [CDC], 2017a).

The BRFSS defines binge drinking as "males having five or more drinks on one occasion and females having four or more drinks on one occasion." The overall prevalence rate for adult binge drinking in Indiana (15.7%, 95% CI: 14.2–17.2) was similar to the U.S. median rate (16.3%) in 2015.

Statewide, binge alcohol use was significantly higher in males and more prevalent in younger individuals (see Table 3.2). Trends in binge drinking are shown in Figure 3.4. However, due to changes the CDC made to the BRFSS, survey data from 2011 and onward should not be compared to results from earlier years, though the data are provided here as a reference point. For more detailed information, see Chapter 2, "Methods."

Figure 3.4 Percentage of Indiana and U.S. Adults Reporting Binge Drinking in the Past 30 Days (Behavioral Risk Factor Surveillance System, 2005–2015)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Indiana	14.3%	15.9%	15.6%	16.1%	14.2%	13.5%	17.8%	15.9%	15.0%	14.8%	15.7%
U.S.	14.4%	15.4%	15.8%	15.6%	15.8%	15.1%	18.3%	16.9%	16.8%	16.0%	16.3%

Note: Beginning in 2011, prevalence rates should not be compared to earlier years due to changes in methodology.
Source: CDC, 2017a

Table 3.2 Percentage of Indiana Residents Who Engaged in Binge Drinking in the Past 30 Days, by Gender, Race/Ethnicity, and Age Group (Behavioral Risk Factor Surveillance System, 2015)

		Indiana % (95% CI)
Gender	Male	22.0% (19.5–24.5)
	Female	9.8% (8.1–11.5)
Race/Ethnicity	White	15.5% (13.9–17.1)
	Black	14.5% (8.8–20.1)
	Hispanic	21.5% (13.0–30.1)
Age Group	18-24	28.7% (22.3–35.0)
	25-34	21.8% (17.1–26.5)
	35-44	20.9% (16.7–25.0)
	45-54	14.0% (11.0–16.9)
	55-64	9.8% (7.7–12.0)
	65+	4.0% (2.9–5.1)
Total		**15.7% (14.2–17.2)**

Source: CDC, 2017a

Youth Alcohol Consumption Patterns/ Underage Drinking

According to the Youth Risk Behavior Surveillance System (YRBSS), during 2015, 30.5% (95% CI: 26.3–35.2) of high school students in Indiana had consumed at least one alcoholic drink in the past 30 days. No significant differences in alcohol consumption were observed by gender or race/ethnicity; however, rates varied by grade level, with 9th grade students reporting the lowest rate. Indiana's past-month alcohol prevalence among high school students was similar to the nation's rate (32.8%: 95% CI: 30.4–35.2) (CDC, 2017c).

In 2015, 17.4% (95% CI: 14.0–21.5) of high school students in Indiana said they had had five or more alcoholic drinks within a couple of hours at least once in the past month. This was statistically similar to the U.S. rate (17.7%; 95% CI: 15.8–19.8). Indiana's binge alcohol consumption among high school students decreased significantly from 28.9% in 2003 to 17.4% in 2015 (CDC, 2017c).

According to 2015 NSDUH estimates, 10.6% (95% CI: 8.22–12.3) of young people ages 12 to 17 consumed

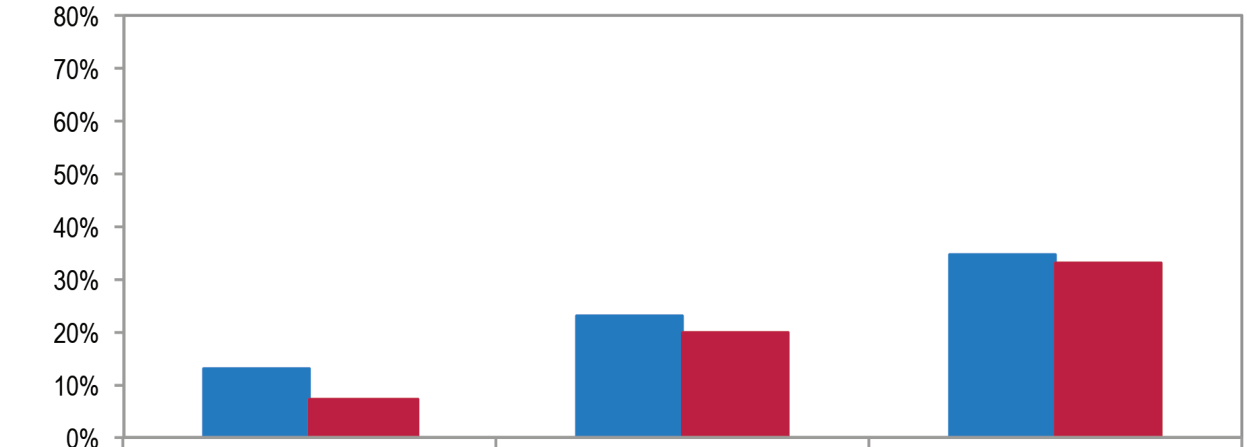
alcohol in the past 30 days in Indiana; the rate was the same on the national level (10.6%; 95% CI: 10.2–11.0; SAMHSA, 2017). In 2014, 6.3% (95% CI: 5.0–7.9) of Indiana youths in this age group engaged in binge drinking in the past month; the state's prevalence among 12- to 17-year-olds was similar to the nation's (6.2%; 95% CI: 5.9–6.5) (SAMHSA, 2017).

NSDUH also provides underage drinking prevalence estimates among 12- to 20-year-olds. In 2015, Indiana's rate for current use (21.0%; 95% CI: 18.6–23.6) was similar to that of the U.S. (21.6%; 95% CI: 21.0–22.2) (SAMHSA, 2017). Binge drinking rates in 2014 for 12- to 20-year-olds in Indiana (14.1%; 95% CI: 12.1–16.3) and the U.S. (14.0%; 95% CI: 13.5–14.5) were similar (SAMHSA, 2017).

In 2016, over one-third (34.6%) of Indiana 12th grade students reported using alcohol at least once during the past 30 days (Gassman et al., 2016). Overall, alcohol consumption patterns seemed to progress with age; i.e., 8th grade students showed lower prevalence rates than 10th and 12th grade students. For more detailed data on monthly alcohol use among Indiana and U.S. 8th, 10th, and 12th grade students, see Figure 3.5; for trend information (from 2005 through 2016) on monthly alcohol use among high school seniors, see Figure 3.6. For monthly and binge use by Indiana region and grade for 2016, see Appendix 3A, page 39.

The Indiana Prevention Resource Center (IPRC) developed the Indiana College Substance Use Survey to measure alcohol and other drug usage, attitudes, and perceptions among college students at two- and four-year institutions. According to 2016 results, which were based on 20 participating colleges, 62.7% of respondents reported past-month alcohol use; past-month consumption rates were significantly lower for underage students (52.0%) than for those ages 21 and older (74.0%). Similarly, past-month binge drinking prevalence (overall 35.7%) was significantly lower for underage students (31.4%) than for those ages 21 and older (40.2%) (King & Jun, 2016).[2]

Figure 3.5 Percentage of Indiana and U.S. 8th, 10th, and 12th Grade Students Reporting Monthly Alcohol Use (Indiana Youth Survey and Monitoring the Future Survey, 2016)

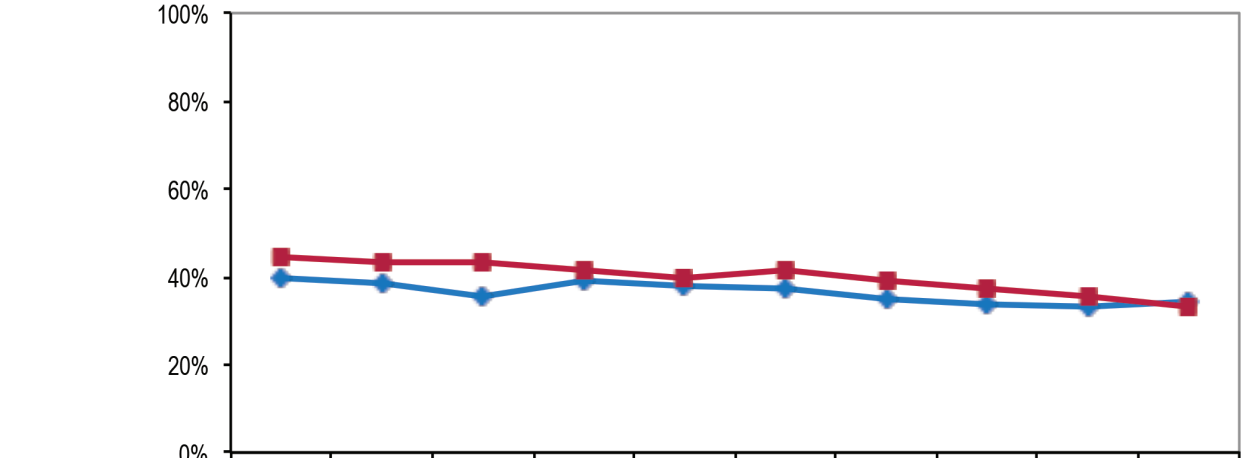


	8th Grade Monthly	10th Grade Monthly	12th Grade Monthly
Indiana	13.2%	22.9%	34.6%
U.S.	7.3%	19.9%	33.2%

Source: Gassman, et al., 2016; Inter-university Consortium for Political and Social Research, University of Michigan, 2016

[2]Twenty Indiana colleges participated in the 2016 survey; results are based on nonrandom sampling and are not representative of all college students in Indiana.

Figure 3.6 Percentage of Indiana and U.S. High School Seniors (12th Grade) Reporting Monthly Alcohol Use (Indiana Youth Survey and Monitoring the Future Survey, 2007–2016)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
IN Monthly Use	39.7%	38.4%	35.7%	39.4%	37.8%	37.6%	34.9%	33.9%	33.2%	34.6%
U.S. Monthly Use	44.4%	43.1%	43.5%	41.2%	40.0%	41.5%	39.2%	37.4%	35.3%	33.2%

Source: Gassman, et al., 2016; Inter-university Consortium for Political and Social Research, University of Michigan, 2016

CONSEQUENCES

Alcohol use is a major factor in homicides, suicides, violent crimes, and motor vehicle crashes. Heavy alcohol use can lead to serious patterns of abuse and/or dependence and is associated with other health compromising behaviors, such as cigarette smoking, illicit drug use, and risky sexual behaviors. Chronic alcohol use can lead to the development of cirrhosis and other serious liver diseases (CDC, 2016).

Alcohol Abuse and Dependence

Based on 2014–2015 NSDUH averages, the estimated prevalence for alcohol abuse and/or dependence[3] in the past year among those ages 12 and older was 5.9% (95% CI: 5.0–7.0) in Indiana, which was similar to the national estimate (6.1%; 95% CI: 6.0–6.3). Since at least 2006, Indiana's alcohol abuse/dependence prevalence rates have been similar to U.S. rates (see Figure 3.7). Of all age groups, adults ages 18 to 25 reported the highest prevalence rates both in Indiana and nationally across all years reviewed. Additionally, an estimated 6.4% (95% CI: 5.4–7.5) of those ages 12 and older were in need of but did not receive treatment for alcohol use in Indiana (U.S.: 6.2%; 95% CI: 6.0–6.4) (SAMHSA, 2017).

According to the Treatment Episode Data Set (TEDS), alcohol plays a major role in admissions to substance abuse treatment. In over half (53.3%) of Indiana treatment episodes in 2014, alcohol use was reported (U.S.: 51.9%), and in more than one-third (35.0%), alcohol dependence[4] was indicated (U.S.: 36.3%) (see Figure 3.8) (SAMHSA, 2014).

Factors significantly associated with alcohol abuse and dependence in Indiana included gender, race/ethnicity, and age:

Gender—A higher percentage of males (39.6%) in substance abuse treatment listed alcohol as their primary substance, compared to 27.6% of females.

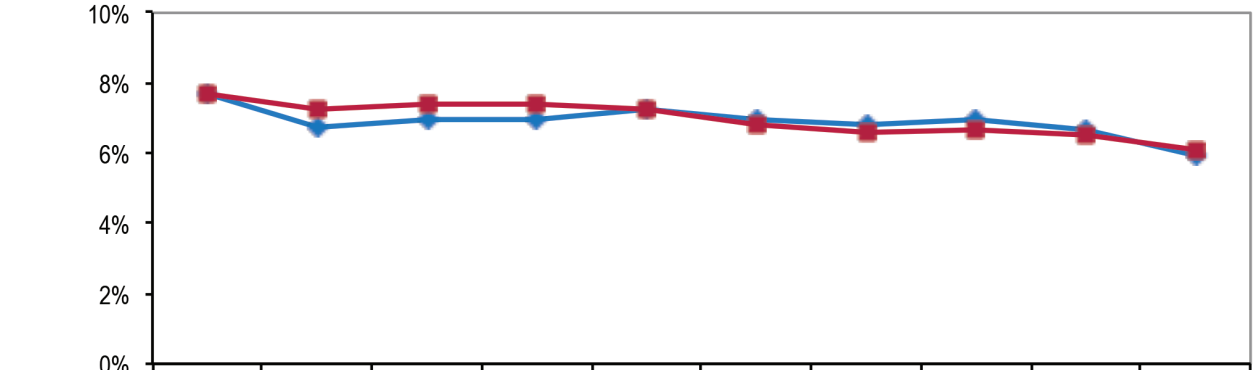
Race/ethnicity—Over one-third of whites (34.1%) reported alcohol as their primary substance; this percentage was below that for blacks (39.0%) and other races (37.9%). With regard to ethnicity, a significantly higher percentage of Hispanics (48.0%) reported alcohol dependence than non-Hispanics (34.6%).

[3]The NSDUH uses the terms "dependence" and "abuse" based on definitions found in the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV).
[4]We defined alcohol dependence as "individuals in substance abuse treatment listing alcohol as their primary substance at admission."

Age—In the treatment population, the percentage of Hoosiers with alcohol dependence increased with age; clients under the age of 18 had the lowest percentage (14.3%) and those ages 55 and older had the highest percentage (65.4%).

Table 3.3 depicts the percentage of Indiana residents, categorized by gender, race, ethnicity, and age group, in treatment for alcohol abuse and dependence. See Appendix 3B, page 40, for county-level treatment data.

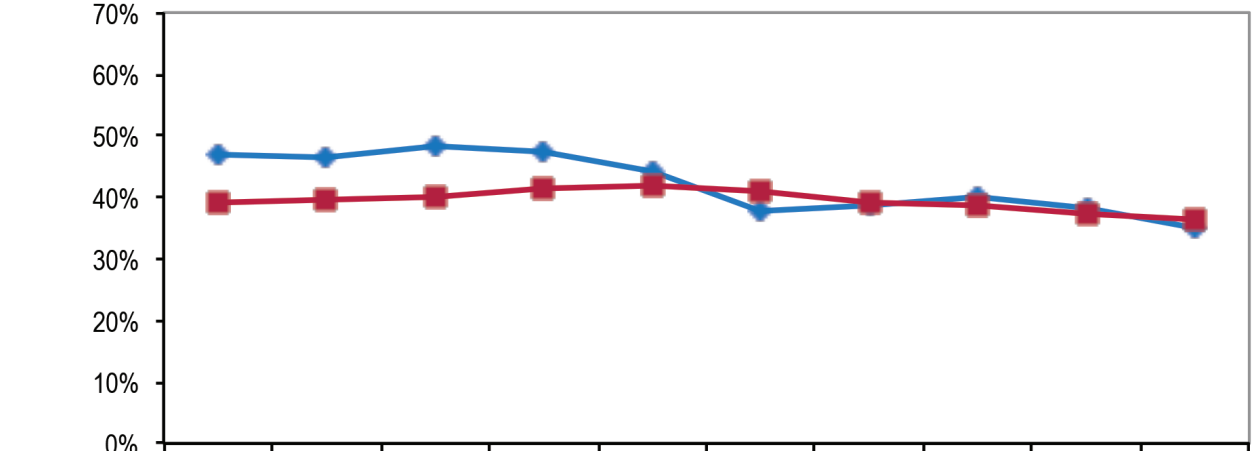
Figure 3.7 Percentage of Indiana and U.S. Population Ages 12 and Older with Alcohol Abuse and/or Dependence (National Survey on Drug Use and Health, 2006–2015)



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Indiana	7.7%	6.7%	6.9%	7.0%	7.2%	6.9%	6.8%	7.0%	6.7%	5.9%
U.S.	7.7%	7.2%	7.4%	7.4%	7.3%	6.8%	6.6%	6.7%	6.5%	6.1%

Source: SAMHSA, 2017

Figure 3.8 Percentage of Treatment Episodes in Indiana and the United States with Alcohol Dependence Reported at Treatment Admission (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indiana	47.0%	46.4%	48.1%	47.3%	44.2%	37.6%	38.5%	40.1%	38.0%	35.0%
U.S.	39.0%	39.5%	40.2%	41.3%	41.7%	40.9%	39.3%	38.9%	37.5%	36.3%

Source: SAMHSA, 2014

Table 3.3 Percentage of Treatment Episodes in Indiana with Alcohol Dependence Reported at Treatment Admission, by Gender, Race, Ethnicity, and Age Group (Treatment Episode Data Set, 2014)

		Alcohol Dependence
Gender	Male	39.6%
	Female	27.6%
Race	White	34.1%
	Black	39.0%
	Other	37.9%
Ethnicity	Hispanic	48.0%
	Non-Hispanic	34.6%
Age Group	Under 18	14.3%
	18-24	25.8%
	25-34	27.5%
	35-44	40.6%
	45-54	57.5%
	55+	65.4%
Total		**35.0%**

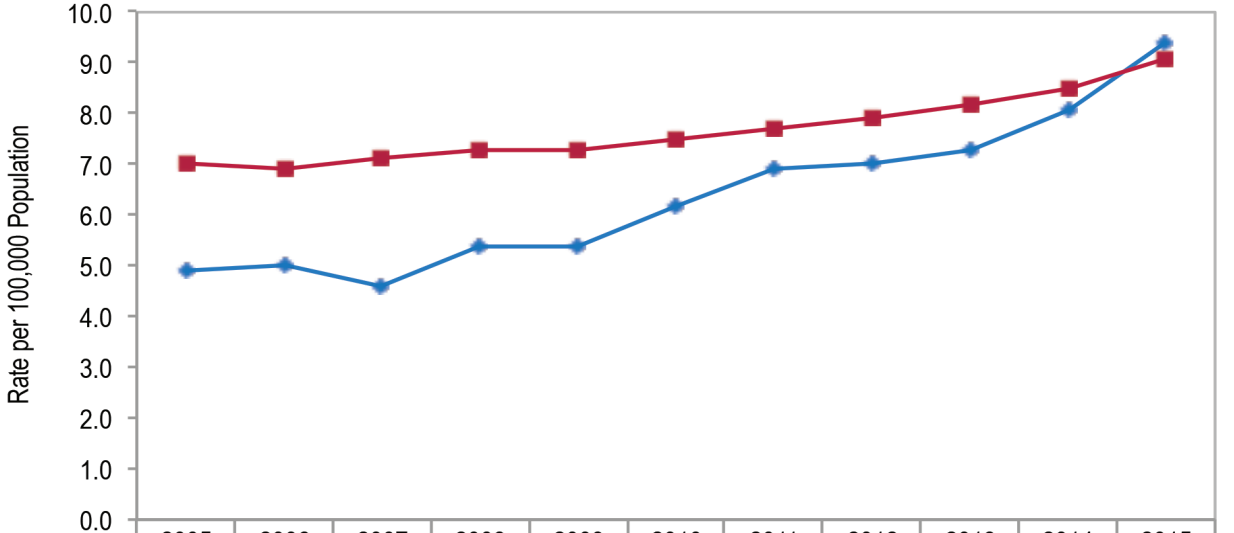
Source: SAMHSA, 2014

Alcohol-Related Morbidity and Mortality

Hospital discharge records show that in 2015, a total of 1,389 hospitalized patients were treated in Indiana for an alcohol-attributable primary diagnosis, representing one percent (0.7%) of all hospital discharges in the state (Indiana State Department of Health [ISDH], 2016).[5]

From 2000 through 2015, a total of 6,571 Hoosiers died from alcohol-induced causes (ISDH, 2017).[6] The age-adjusted mortality rate for alcohol-attributable deaths has climbed gradually throughout this time period in Indiana and the United States. Indiana's age-adjusted rate was 9.4 per 100,000 (95% CI: 8.7–10.1) in 2015, which was similar to the U.S. rate of 9.1 per 100,000 population (95% CI: 9.0–9.2) (see Figure 3.9) (CDC, 2017b).

Figure 3.9 Age-Adjusted Alcohol-attributable Mortality Rates per 100,000 Population in Indiana and the United States (CDC WONDER, 2005–2015)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Indiana	4.9	5.0	4.6	5.4	5.4	6.2	6.9	7.0	7.3	8.1	9.4
U.S.	7.0	6.9	7.1	7.3	7.3	7.5	7.7	7.9	8.2	8.5	9.1

Source: CDC, 2017b

[5]For our analysis, we only included primary diagnoses that were 100% attributable to alcohol, as listed in CDC's Alcohol-Related Disease Impact (ARDI) database. These included ICD-10 codes E24.4 (Alcohol-induced pseudo-Cushing's syndrome), F10 (Mental and behavioral disorders due to use of alcohol), G31.2 (Degeneration of nervous system due to alcohol), G62.1 (Alcoholic polyneuropathy), G72.1 (Alcoholic myopathy), I42.6 (Alcoholic cardiomyopathy), K29.2 (Alcoholic gastritis), K70 (Alcoholic liver disease), K86.0 (Alcohol-induced chronic pancreatitis), R78.0 (Finding of alcohol in blood), X45 (Accidental poisoning by and exposure to alcohol), X65 (Intentional self-poisoning by and exposure to alcohol), Y15 (Poisoning by and exposure to alcohol, undetermined cause) (Centers for Disease Control and Prevention, 2006-2010).

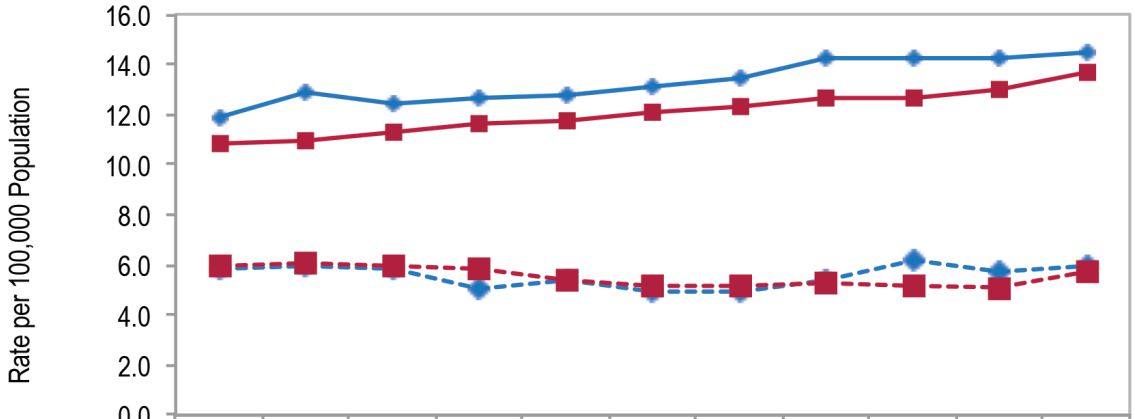
[6]Alcohol-induced causes of death include the following ICD-10 codes: E24.4, F10, G31.2, G62.1, G72.1, I42.6, K29.2, K70, K86.0, R78.0, X45, X65, Y15.

Though alcohol use is not associated with every suicide and homicide, these violent acts often involve individuals who have been drinking. According to CDC's Alcohol-Related Disease Impact (ARDI) database, 23% of suicides and 47% of homicides can be attributed to alcohol consumption (CDC, 2006–2010). (Appendix 3C, page 41, lists conditions that can be attributed to alcohol, along with their alcohol-attributable percentages.) For this reason, intentional self-harm (suicide)[7] and assault (homicide)[8] rates may provide additional information on alcohol's impact in a community.

From 2000 through 2015, a total of 13,114 Hoosiers died by suicide. Applying ARDI's estimate of 23%, this means that during these 16 years, a total of 3,016 suicide deaths were attributable to alcohol. Indiana's age-adjusted mortality rate for suicide was 14.5 per 100,000 population (95% CI: 13.5–15.3) in 2015, a rate statistically higher than the U.S. rate of 13.7 per 100,000 population (95% CI: 13.2–13.4) (see Figure 3.10). Rates were more than four times higher for males (23.8 per 100,000 population; 95% CI: 22.1–25.5) than for females (5.5 per 100,000 population; 95% CI: 4.7–6.3), and three times higher for whites (15.6 per 100,000 population; 95% CI: 14.5–16.6) than for blacks (5.0 per 100,000 population; 95% CI: 5.3–9.7) in Indiana (CDC, 2017b).

From 2000 through 2015, a total of 5,776 homicides were committed in Indiana. Applying ARDI's estimate of 47%, this means that 2,715 homicide deaths were attributable to alcohol during that time period. Indiana's age-adjusted homicide death rate was 6.0 per 100,000 population (95% CI: 5.4–6.6) in 2015, which was statistically similar to the U.S. rate of 5.7 per 100,000 population (95% CI: 5.6–5.7) (see Figure 3.10). In 2015, rates were three times higher for Indiana males (9.3 per 100,000 population; 95% CI: 8.2–10.3) than for females (2.8 per 100,000 population; 95% CI: 2.2–3.4), and almost 10 times higher for blacks (29.7 per 100,000 population; 95% CI: 25.6–33.8) than for whites (3.1 per 100,000 population; 95% CI: 2.6–3.5) (CDC, 2017b).

Figure 3.10 Age-Adjusted Mortality Rates per 100,000 Population for Intentional Self-Harm (Suicide) and Assault (Homicide), Indiana and the United States (CDC WONDER, 2005–2015)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Suicide Indiana	11.9	12.9	12.4	12.6	12.8	13.1	13.5	14.3	14.2	14.3	14.5
Suicide U.S.	10.8	10.9	11.3	11.6	11.8	12.1	12.3	12.6	12.6	13.0	13.7
Homicide Indiana	5.8	5.9	5.8	5.1	5.4	4.9	4.9	5.4	6.2	5.7	6.0
Homicide U.S.	6.0	6.1	6.0	5.8	5.4	5.2	5.2	5.3	5.2	5.1	5.7

Source: CDC, 2017b

[7]Intentional self-harm (suicide) includes ICD-10 codes X60–X84.
[8]Assault (homicide) includes ICD-10 codes X85–Y09.

Alcohol consumption during pregnancy is another major concern since fetal alcohol spectrum disorders (FASD) are a direct result of prenatal exposure to alcohol. FASD is not a clinical diagnosis, but an umbrella term used to describe a range of disorders such as fetal alcohol syndrome, alcohol-related neurodevelopmental disorder, and alcohol-related birth defects. Possible physical effects include brain damage; facial anomalies; growth deficiencies; defects of heart, kidney, and liver; vision and hearing problems; skeletal defects; and dental abnormalities. In the United States, the prevalence of fetal alcohol spectrum disorders is 10.0 per 1,000 live births (SAMHSA, Fetal Alcohol Spectrum Disorders Center for Excellence, 2007).

The Indiana Birth Defects and Problems Registry collects information on birth defects and birth problems for all children in Indiana from birth to 3 years old (5 years old for autism and fetal alcohol syndrome). State law requires doctors, hospitals, and other healthcare providers to submit a report to the registry at ISDH when a child is born with a birth defect. From 2008 through 2012, 116 children were born with fetal alcohol syndrome,[9] the most severe form of FASD, in Indiana (ISDH, 2008–2012).

Alcohol-Related Motor Vehicle Accidents

According to the Fatality Analysis Reporting System (FARS), a total of 746 fatal crashes occurred in Indiana in 2014, of which 192 (or 27%) were alcohol-related (U.S.: 9,068 alcohol-related crashes; 30%) (National Highway Traffic Safety Administration, 2014). Even though most fatal collisions happened in the afternoon between 3:00 and 5:59 p.m., the highest percentage of crashes attributable to alcohol-impaired driving[10] occurred at nighttime, especially between midnight and early morning hours (see Table 3.4).

Data from the Automated Reporting Information Exchange System (ARIES), part of the Indiana State Police's Vehicle Crash Records System, showed a decrease in alcohol-related collisions from 13,911 in 2003 to 8,642 in 2015. This represents a 38% drop. The number of fatal crashes with alcohol involvement also decreased, from 242 to 152, representing a 37% drop. (For a detailed listing of alcohol-related collisions and fatalities in Indiana by county for 2015, see Appendix 3D, pages 41-43). The overall rate for alcohol-related collisions in Indiana in 2015 was 1.3 per 1,000 population (Indiana State Police, 2016.

[9]The ICD-9 code for fetal alcohol syndrome is 760.71.
[10]Alcohol-impaired driving means that at least one driver or motorcycle rider had a blood alcohol content (BAC) of .08 or higher.

Table 3.4 Number of Fatal Crashes and Percent Alcohol-Related in Indiana, by Time of Day and Crash Type (Fatality Analysis Reporting System, 2014)

	Single Vehicle			Multiple Vehicle			All Crashes		
Time of Crash	Number	Alcohol-impaired Driving	Percent Alcohol-impaired Driving	Number	Alcohol-impaired Driving	Percent Alcohol-impaired Driving	Number	Alcohol-impaired Driving	Percent Alcohol-impaired Driving
Midnight to 2:59 a.m.	49	28	57%	17	7	41%	66	35	53%
3 a.m. to 5:59 a.m.	46	24	53%	16	6	36%	62	30	49%
6 a.m. to 8:59 a.m.	33	4	12%	39	3	8%	72	7	10%
9 a.m. to 11:59 a.m.	33	5	15%	40	3	8%	73	8	11%
Noon to 2:59 p.m.	33	7	21%	55	4	7%	88	11	12%
3 p.m. to 5:59 p.m.	53	16	30%	75	12	16%	128	28	22%
6 p.m. to 8:59 p.m.	61	18	30%	51	13	25%	112	31	28%
9 p.m. to 11:59 p.m.	75	28	38%	29	14	47%	104	42	40%
Total	**383**	**130**	**34%**	**322**	**61**	**19%**	**705**	**192**	**27%**

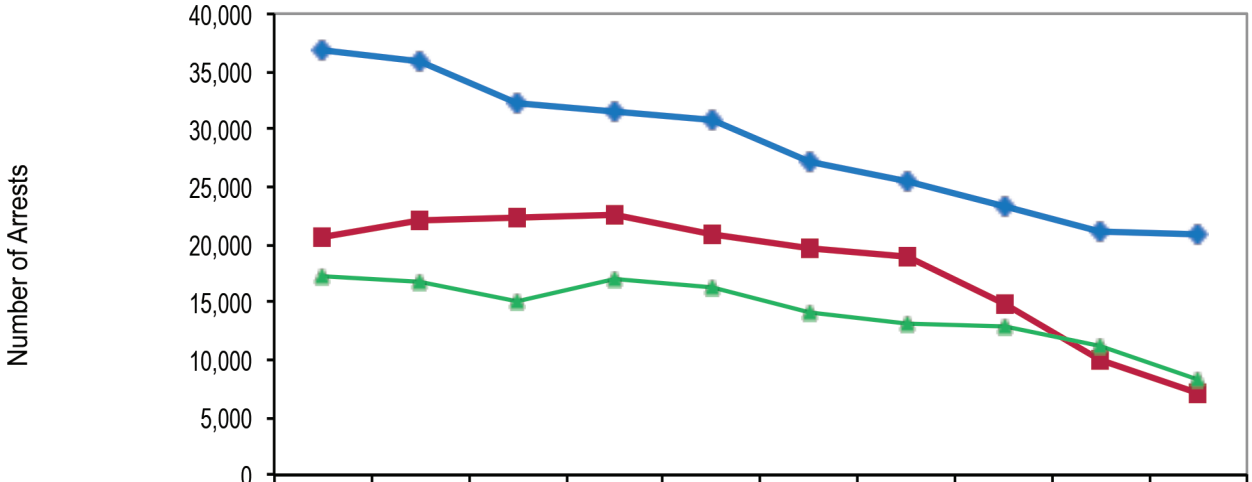
Note: National Highway Traffic Safety Administration estimates alcohol involvement when alcohol test results are unknown.
Source: National Highway Traffic Safety Administration, 2014

Alcohol-Related Crimes

Using the Uniform Crime Reporting Program (UCR) dataset, we compared alcohol-related offenses, including arrests for driving under the influence (DUI; commonly known as "drunk driving"), public intoxication ("public drunkenness"), and liquor law violations (i.e., violations of alcohol-related policies by the alcohol retail industry, including selling/furnishing alcohol to minors, minimum age of employee selling/serving alcohol, etc.), between Indiana and the United States (Federal Bureau of Investigation [FBI], 2014). In 2014, a total of 20,810 DUI arrests were made in Indiana. The arrest rate was statistically significantly higher for Hoosiers, at 3.2 per 1,000 population (95% CI: 3.1–3.3), compared to U.S. residents, at 3.0 per 1,000 population (95% CI: 3.0–3.0). Close to 7,100 Hoosiers were arrested for public intoxication; the arrest rate in Indiana of 1.1 per 1,000 population (95% CI: 1.0–1.2), was the same as the national rate. Additionally, almost 8,250 arrests occurred for liquor law violations in Indiana, representing an arrest rate of 1.2 per 1,000 population (95% CI: 1.1–1.3), which was significantly higher than the U.S. rate of 0.9 per 1,000 population (95% CI: 0.9–0.9) (see Figures 3.11–3.14).

Arrests for alcohol-related crimes varied among Indiana counties. These county differences are presented in Maps 3.1 through 3.3 (pages 46-48) and Appendix 3E (pages 44-45).

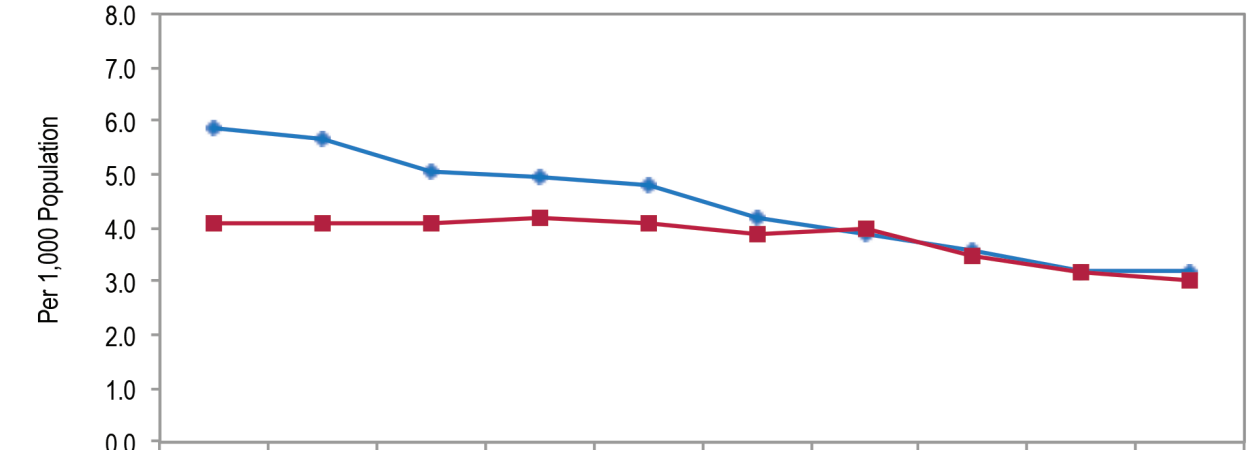
Figure 3.11 Number of Arrests for Driving Under the Influence (DUI), Public Intoxication, and Liquor Law Violations in Indiana (Uniform Crime Reporting Program, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
DUI	36,772	35,884	32,232	31,447	30,819	27,112	25,410	23,350	21,160	20,810
Public Intoxication	20,701	21,987	22,229	22,545	20,936	19,617	18,975	14,787	9,897	7,107
Liquor Law Violations	17,119	16,659	15,066	16,950	16,183	14,027	13,042	12,866	11,292	8,245

Source: FBI, 2014

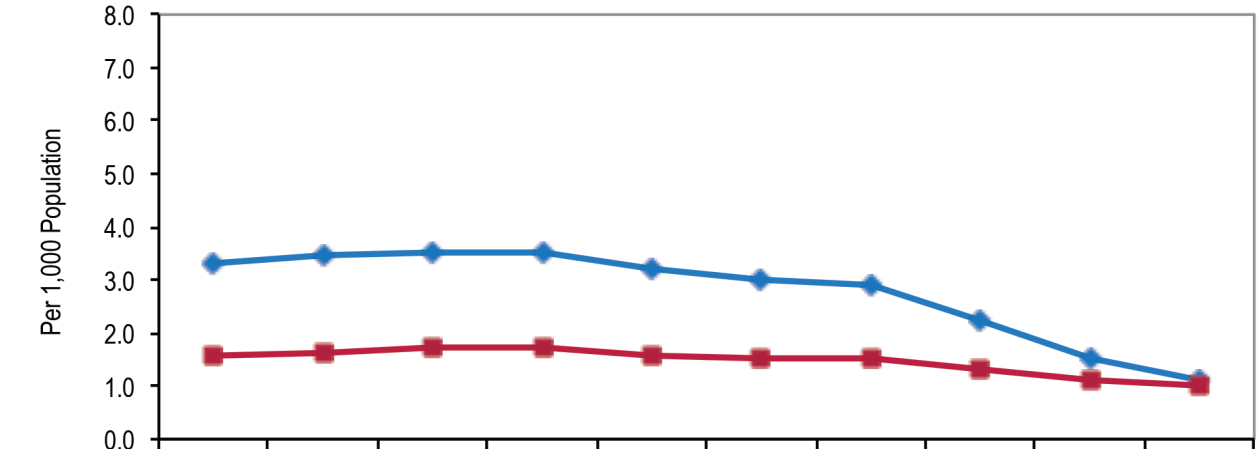
Figure 3.12 Arrest Rates, per 1,000 Population, for Driving Under the Influence (DUI) in Indiana and the United States (Uniform Crime Reporting Program, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indiana	5.9	5.7	5.1	4.9	4.8	4.2	3.9	3.6	3.2	3.2
U.S.	4.1	4.1	4.1	4.2	4.1	3.9	4.0	3.5	3.2	3.0

Source: FBI, 2014

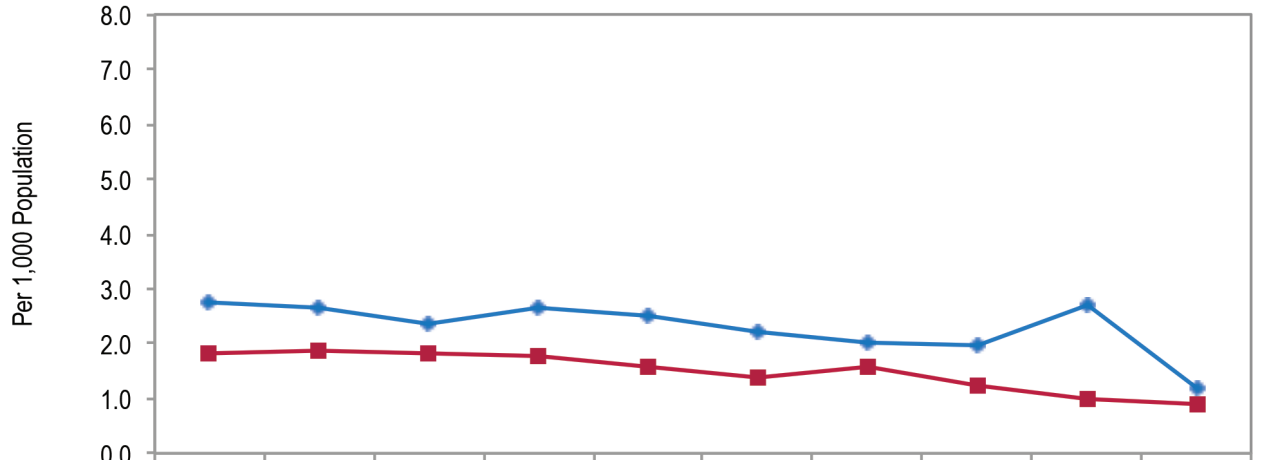
Figure 3.13 Arrest Rates, per 1,000 Population, for Public Intoxication in Indiana and the United States (Uniform Crime Reporting Program, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indiana	3.3	3.5	3.5	3.5	3.2	3.0	2.9	2.3	1.5	1.1
U.S.	1.6	1.6	1.7	1.7	1.6	1.5	1.5	1.3	1.1	1.0

Source: FBI, 2014

Figure 3.14 Arrest Rates, per 1,000 Population, for Liquor Law Violation in Indiana and the United States (Uniform Crime Reporting Program, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indiana	2.7	2.6	2.4	2.7	2.5	2.2	2.0	2.0	2.7	1.2
U.S.	1.8	1.9	1.8	1.8	1.6	1.4	1.6	1.2	1.0	0.9

Source: FBI, 2014

APPENDIX 3A

Percentage of Indiana Students Reporting Monthly and Binge Alcohol Use, by Region and Grade (Indiana Youth Survey, 2016)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Monthly	3.6	4.1	3.7	4.7	1.8*	3.3	4.0	3.1	4.6*
	Binge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7th Grade	Monthly	7.4	9.5*	10.2*	5.8	5.6*	5.5*	7.4	6.5	8.5
	Binge	2.6	3.7*	4.3*	2.6	0.9*	2.1	2.4	2.2	2.9
8th Grade	Monthly	13.2	15.2*	14.8*	10.7	11.2*	11.3*	14.0	12.6	13.6
	Binge	5.0	5.8	6.4*	4.6	3.6*	4.5	4.7	4.7	5.0
9th Grade	Monthly	18.2	19.4	17.6	18.6	15.8	15.3*	18.6	21.2*	18.1
	Binge	7.8	8.3	7.8	6.1	5.9*	6.5*	7.0	9.3*	9.1*
10th Grade	Monthly	22.9	26.3*	25.7*	21.8	23.2	18.5*	22.6	23.0	22.4
	Binge	9.8	12.1*	10.4	5.1*	10.4	7.3*	9.6	10.8	9.1
11th Grade	Monthly	26.9	30.0*	24.7	22.8	27.0	27.6	23.5*	27.0	27.8
	Binge	12.2	13.6	10.6	7.8*	11.9	11.8	9.6*	14.1*	13.7
12th Grade	Monthly	34.6	36.2	34.1	31.1	37.1	30.2*	30.0*	35.7	38.5*
	Binge	17.5	18.7	16.7	13.2	19.0	15.0*	13.7*	19.1	19.5*

Notes: * Indicates a local rate that is significantly different from the overall state rate ($P < 0.05$).
Beginning in 2015, the Indiana Youth Survey stopped asking 6th grade students about binge drinking.
Source: Gassman et al., 2016

APPENDIX 3B

Number of Treatment Episodes with Alcohol Use and Dependence Reported at Treatment Admission in Indiana, by County (Substance Abuse Population by County/Treatment Episode Data Set, 2016)

	Treatment Episodes	Alcohol Use		Alcohol Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**
Adams	295	165	55.9%	100	33.9%
Allen	1,618	1,077	66.6%	655	40.5%
Bartholomew	581	201	34.6%	123	21.2%
Benton	50	39	78.0%	23	46.0%
Blackford	82	31	37.8%	17	20.7%
Boone	187	68	36.4%	55	29.4%
Brown	83	42	50.6%	25	30.1%
Carroll	84	54	64.3%	33	39.3%
Cass	253	177	70.0%	105	41.5%
Clark	313	82	26.2%	73	23.3%
Clay	181	93	51.4%	65	35.9%
Clinton	227	109	48.0%	68	30.0%
Crawford	45	22	48.9%	14	31.1%
Daviess	169	71	42.0%	51	30.2%
Dearborn	449	229	51.0%	149	33.2%
Decatur	212	122	57.5%	76	35.8%
DeKalb	242	176	72.7%	106	43.8%
Delaware	1,138	462	40.6%	345	30.3%
Dubois	280	221	78.9%	151	53.9%
Elkhart	654	349	53.4%	245	37.5%
Fayette	234	82	35.0%	51	21.8%
Floyd	117	34	29.1%	33	28.2%
Fountain	48	16	33.3%	7	14.6%
Franklin	166	76	45.8%	47	28.3%
Fulton	143	97	67.8%	52	36.4%
Gibson	295	177	60.0%	125	42.4%
Grant	436	265	60.8%	163	37.4%
Greene	204	85	41.7%	53	26.0%
Hamilton	893	550	61.6%	384	43.0%
Hancock	193	90	46.6%	65	33.7%
Harrison	31	11	35.5%	9	29.0%
Hendricks	351	133	37.9%	100	28.5%
Henry	330	119	36.1%	78	23.6%
Howard	610	276	45.2%	182	29.8%
Huntington	147	67	45.6%	35	23.8%
Jackson	298	111	37.2%	61	20.5%
Jasper	105	49	46.7%	29	27.6%
Jay	188	86	45.7%	51	27.1%
Jefferson	366	155	42.3%	1,065	29.0%
Jennings	223	100	44.8%	63	28.3%
Johnson	275	136	49.5%	81	29.5%
Knox	298	146	49.0%	99	33.2%
Kosciusko	381	235	61.7%	140	36.7%
LaGrange	186	127	68.3%	66	35.5%
Lake	2,339	1,348	57.6%	965	41.3%
LaPorte	377	208	55.2%	145	38.5%
Lawrence	485	193	39.8%	114	23.5%
Madison	1,278	589	46.1%	366	28.6%
Marion	3,645	1,540	42.2%	1,002	27.5%
Marshall	205	104	50.7%	62	30.2%
Martin	62	28	45.2%	108	29.0%
Miami	272	163	59.9%	96	35.3%
Monroe	1,180	620	52.5%	427	36.2%
Montgomery	374	153	40.9%	100	26.7%
Morgan	482	177	36.7%	119	24.7%
Newton	33	15	45.5%	13	39.4%
Noble	307	178	58.0%	94	30.6%
Ohio	40	24	60.0%	17	42.5%
Orange	160	89	55.6%	52	32.5%
Owen	199	95	47.7%	58	29.1%
Parke	67	42	62.7%	27	40.3%
Perry	102	65	63.7%	39	38.2%
Pike	53	28	52.8%	26	49.1%
Porter	410	160	39.0%	101	24.6%
Posey	170	116	68.2%	75	44.1%
Pulaski	109	57	52.3%	32	29.4%
Putnam	215	86	40.0%	57	26.5%
Randolph	170	77	45.3%	50	29.4%
Ripley	184	103	56.0%	66	35.9%
Rush	138	62	44.9%	30	21.7%
Saint Joseph	1,231	620	50.4%	434	35.3%
Scott	165	42	25.5%	26	15.8%
Shelby	168	73	43.5%	50	29.8%
Spencer	144	89	61.8%	49	34.0%
Starke	193	48	24.9%	33	17.1%
Steuben	298	211	70.8%	131	44.0%
Sullivan	78	44	56.4%	25	32.1%
Switzerland	63	28	44.4%	18	28.6%
Tippecanoe	404	219	54.2%	130	32.2%
Tipton	70	32	45.7%	17	24.3%
Union	22	8	36.4%	7	31.8%
Vanderburgh	1,319	722	54.7%	439	33.3%
Vermillion	123	50	40.7%	31	25.2%
Vigo	803	392	48.8%	244	30.4%
Wabash	225	129	57.3%	83	36.9%
Warren	9	6	66.7%	<5	N/A
Warrick	267	159	59.6%	94	35.2%
Washington	63	18	28.6%	9	14.3%
Wayne	438	192	43.8%	108	24.7%
Wells	128	70	54.7%	33	25.8%
White	110	57	51.8%	29	26.4%
Whitley	105	73	69.5%	40	38.1%
Indiana	**33,170**	**16,629**	**50.1%**	**10,753**	**32.4%**

Notes: We defined alcohol dependence as “individuals in substance abuse treatment listing alcohol as their primary substance at admission.”
We calculated the percentages by dividing the number of reported alcohol use/dependence by the number of treatment episodes.
Information on treatment episodes <5 was suppressed due to confidentiality constraints.
Source: Indiana Family and Social Services Administration, 2016

APPENDIX 3C

Conditions that are Directly Attributable to Alcohol in Indiana (Alcohol-Related Disease Impact, Based on Averages from 2006–2010)

Condition	Percentage Directly Attributable to Alcohol
Alcohol abuse/dependence	100%
Alcohol cardiomyopathy	100%
Alcohol polyneuropathy	100%
Alcohol-induced chronic pancreatitis	100%
Alcoholic gastritis	100%
Alcoholic liver disease	100%
Alcoholic myopathy	100%
Alcoholic psychosis	100%
Degeneration of nervous system due to alcohol	100%
Fetal alcohol syndrome/Fetus and newborn affected by maternal alcohol use	100%
Alcohol poisoning	100%
Excessive blood alcohol level	100%
Suicide by and exposure to alcohol	100%

Condition	Percentage Directly Attributable to Alcohol
Chronic pancreatitis	84%
Gastroesophageal hemorrhage	47%
Homicide	47%
Fire Injuries	42%
Hypothermia	42%
Esophageal varices	40%
Liver cirrhosis, unspecified	40%
Portal hypertension	40%
Drowning	34%
Fall injuries	32%
Poisoning (not alcohol)	29%
Acute pancreatitis	24%
Suicide	23%

Source: Centers for Disease Control and Prevention, 2006–2010

APPENDIX 3D

Number and Rate (per 1,000) of All and Fatal Alcohol-Related Collisions in Indiana, by County (Automated Reporting Information Exchange System, 2015)

	All Collisions			Fatal Collisions		
County	Total Collisions	Alcohol-related Collisions	Alcohol-related Collision Rate	Total Fatal Collision	Alcohol-related Fatal Collisions	Alcohol-related Fatal Collision Rate
Adams	762	31	0.89	5	1	0.03
Allen	13,776	624	1.69	27	11	0.03
Bartholomew	2,220	72	0.89	18	3	0.04
Benton	166	9	1.04	1	0	0.00
Blackford	299	14	1.14	1	0	0.00
Boone	1,931	48	0.76	12	2	0.03
Brown	517	33	2.20	2	0	0.00
Carroll	489	22	1.11	3	1	0.05
Cass	1,143	50	1.32	3	1	0.03
Clark	5,012	154	1.33	15	1	0.01
Clay	773	35	1.32	7	1	0.04
Clinton	1,127	67	2.05	7	3	0.09
Crawford	335	11	1.05	5	1	0.10
Daviess	312	32	0.97	7	1	0.03
Dearborn	1,840	76	1.54	7	3	0.06
Decatur	917	33	1.24	0	0	0.00
DeKalb	1,333	47	1.10	7	0	0.00
Delaware	4,260	191	1.63	10	2	0.02
Dubois	1,650	90	2.12	5	1	0.02
Elkhart	7,379	239	1.17	31	7	0.03
Fayette	500	33	1.41	2	0	0.00
Floyd	2,794	110	1.43	8	2	0.03
Fountain	428	16	0.96	1	0	0.00

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APPENDIX 3D *(Continued from previous page)*

	All Collisions			Fatal Collisions		
County	**Total Collisions**	**Alcohol-related Collisions**	**Alcohol-related Collision Rate**	**Total Fatal Collision**	**Alcohol-related Fatal Collisions**	**Alcohol-related Fatal Collision Rate**
Franklin	500	30	1.31	2	0	0.00
Fulton	627	20	0.98	3	0	0.00
Gibson	1,189	56	1.66	12	3	0.09
Grant	2,404	53	0.78	7	0	0.00
Greene	953	36	1.11	2	1	0.03
Hamilton	8,093	291	0.94	12	2	0.01
Hancock	1,700	57	0.79	6	2	0.03
Harrison	1,300	43	1.09	10	1	0.03
Hendricks	4,456	159	1.01	11	1	0.01
Henry	1,103	46	0.94	7	2	0.04
Howard	2,602	100	1.21	12	3	0.04
Huntington	1,209	47	1.28	7	2	0.05
Jackson	1,723	63	1.43	7	0	0.00
Jasper	1,294	45	1.34	6	2	0.06
Jay	703	20	0.95	6	2	0.09
Jefferson	1,031	53	1.63	4	0	0.00
Jennings	825	28	1.00	3	0	0.00
Johnson	3,560	143	0.96	9	1	0.01
Knox	930	53	1.40	3	0	0.00
Kosciusko	2,611	95	1.21	8	2	0.03
LaGrange	981	38	0.98	6	0	0.00
Lake	16,750	741	1.52	56	11	0.02
LaPorte	3,818	203	1.83	10	4	0.04
Lawrence	1,589	67	1.47	3	0	0.00
Madison	3,979	180	1.39	15	2	0.02
Marion	34,278	1,202	1.28	88	13	0.01
Marshall	1,636	73	1.56	3	1	0.02
Martin	148	5	0.49	3	0	0.00
Miami	1,094	48	1.34	8	1	0.03
Monroe	4,315	205	1.42	7	1	0.01
Montgomery	1,147	43	1.12	5	2	0.05
Morgan	1,809	74	1.06	13	6	0.09
Newton	423	24	1.71	3	1	0.07
Noble	1,502	78	1.63	5	0	0.00
Ohio	164	6	1.01	1	0	0.00
Orange	625	28	1.43	3	0	0.00
Owen	637	33	1.58	7	2	0.10
Parke	533	32	1.89	3	1	0.06
Perry	481	33	1.71	4	2	0.10
Pike	221	19	1.51	5	0	0.00
Porter	5,240	258	1.54	20	6	0.04
Posey	659	39	1.53	4	1	0.04
Pulaski	431	21	1.63	1	0	0.00
Putnam	983	47	1.25	8	3	0.08
Randolph	549	22	0.87	8	1	0.04
Ripley	860	36	1.25	1	0	0.00
Rush	352	15	0.90	3	1	0.06
Saint Joseph	8,806	303	1.13	12	4	0.01
Scott	640	23	0.97	1	0	0.00
Shelby	1,247	40	0.90	8	0	0.00

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APPENDIX 3D *(Continued from previous page)*

	All Collisions			Fatal Collisions		
County	**Total Collisions**	**Alcohol-related Collisions**	**Alcohol-related Collision Rate**	**Total Fatal Collision**	**Alcohol-related Fatal Collisions**	**Alcohol-related Fatal Collision Rate**
Spencer	682	37	1.79	7	0	0.00
Starke	667	32	1.39	3	1	0.04
Steuben	1,510	54	1.57	5	2	0.06
Sullivan	472	29	1.39	6	1	0.05
Switzerland	175	7	0.67	2	0	0.00
Tippecanoe	7,481	261	1.40	15	4	0.02
Tipton	373	17	1.11	2	1	0.07
Union	118	5	0.70	2	0	0.00
Vanderburgh	7,347	272	1.50	15	3	0.02
Vermillion	379	25	1.59	4	1	0.06
Vigo	3,749	149	1.38	11	1	0.01
Wabash	984	36	1.12	12	3	0.09
Warren	227	9	1.09	2	0	0.00
Warrick	1,560	51	0.82	4	0	0.00
Washington	733	27	0.97	5	1	0.04
Wayne	2,605	111	1.66	7	1	0.01
Wells	761	28	1.00	3	2	0.07
White	921	43	1.77	12	3	0.12
Whitley	895	38	1.14	4	0	0.00
Indiana	**216,312**	**8,642**	**1.31**	**756**	**152**	**0.02**

Note: Rates based on numbers lower than 20 are unreliable.
Source: Indiana State Police, 2015

APPENDIX 3E

Number and Rate, per 1,000 Population, of Arrests for Driving Under the Influence (DUI), Public Intoxication, and Liquor Law Violations in Indiana, by County (Uniform Crime Reporting Program, 2014)

County	Number of Arrests for DUI	DUI Arrest Rate	Number of Arrests for Public Intoxication	Public Intoxication Arrest Rate	Number of Arrests for Liquor Law Violations	Liquor Law Violation Arrest Rate
Adams	77	2.2	5	0.1	35	1.0
Allen	1,231	3.4	429	1.2	161	0.4
Bartholomew	402	5.0	75	0.9	105	1.3
Benton	27	3.1	5	0.6	11	1.3
Blackford	39	3.2	7	0.6	6	0.5
Boone	225	3.7	29	0.5	86	1.4
Brown	26	1.7	0	0.0	9	0.6
Carroll	61	3.0	8	0.4	23	1.1
Cass	203	5.3	140	3.6	131	3.4
Clark	620	5.5	168	1.5	109	1.0
Clay	86	3.2	16	0.6	37	1.4
Clinton	78	2.4	7	0.2	74	2.3
Crawford	45	4.2	7	0.7	9	0.8
Daviess	122	3.7	14	0.4	54	1.7
Dearborn	171	3.4	26	0.5	53	1.1
Decatur	47	1.8	3	0.1	107	4.1
DeKalb	144	3.4	19	0.4	52	1.2
Delaware	559	4.8	293	2.5	200	1.7
Dubois	127	3.0	11	0.3	64	1.5
Elkhart	678	3.4	80	0.4	192	1.0
Fayette	81	3.4	24	1.0	45	1.9
Floyd	196	2.6	105	1.4	58	0.8
Fountain	53	3.2	12	0.7	26	1.5
Franklin	2	0.1	0	0.0	29	1.4
Fulton	49	2.4	17	0.8	19	0.9
Gibson	138	4.1	18	0.5	60	1.8
Grant	125	1.8	57	0.8	71	1.0
Greene	47	1.4	10	0.3	13	0.4
Hamilton	903	3.0	130	0.4	455	1.5
Hancock	205	2.7	18	0.2	68	0.9
Harrison	42	1.1	8	0.2	23	0.6
Hendricks	344	2.2	19	0.1	150	1.0
Henry	127	2.6	39	0.8	103	2.1
Howard	238	2.9	109	1.3	61	0.7
Huntington	130	3.5	11	0.3	43	1.2
Jackson	157	3.6	70	1.6	61	1.4
Jasper	108	3.2	10	0.3	31	0.9
Jay	92	4.3	29	1.3	26	1.2
Jefferson	106	3.3	24	0.7	52	1.6
Jennings	39	1.4	9	0.3	90	3.2
Johnson	419	2.8	42	0.3	278	1.9
Knox	93	2.5	34	0.9	57	1.5
Kosciusko	538	6.9	38	0.5	87	1.1
LaGrange	99	2.6	11	0.3	178	4.7
Lake	2,262	4.6	925	1.9	673	1.4
LaPorte	577	5.2	180	1.6	207	1.9
Lawrence	97	2.1	10	0.2	103	2.2
Madison	377	2.9	113	0.9	136	1.0

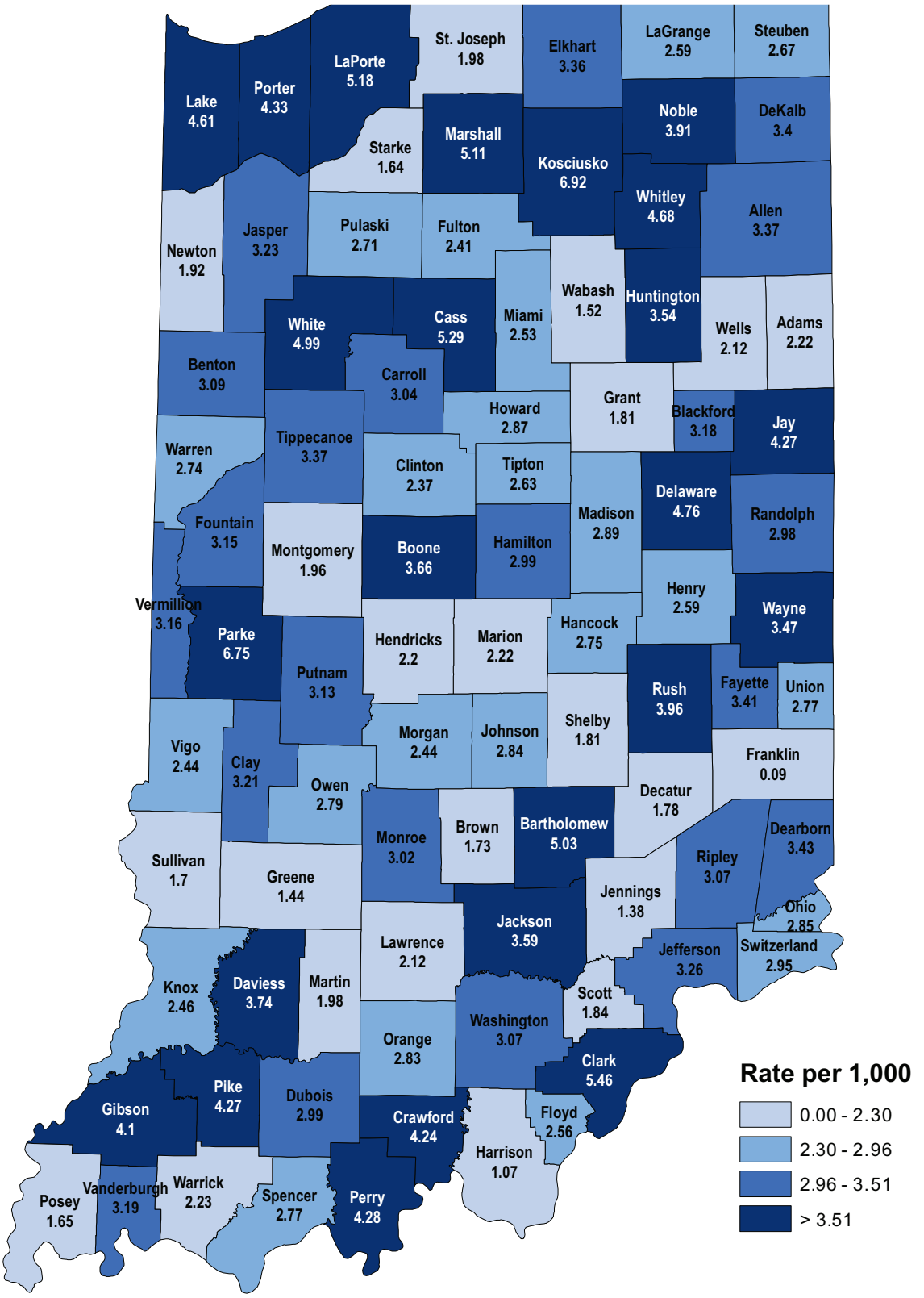
(continued on next page)

APPENDIX 3E *(Continued from previous page)*

County	Number of Arrests for DUI	DUI Arrest Rate	Number of Arrests for Public Intoxication	Public Intoxication Arrest Rate	Number of Arrests for Liquor Law Violations	Liquor Law Violation Arrest Rate
Marion	2,073	2.2	1,756	1.9	559	0.6
Marshall	241	5.1	32	0.7	70	1.5
Martin	20	2.0	8	0.8	9	0.9
Miami	91	2.5	29	0.8	22	0.6
Monroe	431	3.0	267	1.9	639	4.5
Montgomery	75	2.0	12	0.3	21	0.5
Morgan	171	2.4	37	0.5	111	1.6
Newton	27	1.9	9	0.6	10	0.7
Noble	186	3.9	13	0.3	53	1.1
Ohio	17	2.8	1	0.2	5	0.8
Orange	56	2.8	4	0.2	21	1.1
Owen	59	2.8	3	0.1	19	0.9
Parke	116	6.7	8	0.5	24	1.4
Perry	84	4.3	17	0.9	46	2.3
Pike	54	4.3	32	2.5	8	0.6
Porter	724	4.3	112	0.7	360	2.2
Posey	42	1.7	23	0.9	11	0.4
Pulaski	35	2.7	3	0.2	14	1.1
Putnam	117	3.1	21	0.6	50	1.3
Randolph	76	3.0	15	0.6	30	1.2
Ripley	92	3.1	15	0.5	42	1.4
Rush	67	4.0	2	0.1	48	2.8
Saint Joseph	528	2.0	49	0.2	177	0.7
Scott	44	1.8	45	1.9	34	1.4
Shelby	81	1.8	14	0.3	69	1.5
Spencer	58	2.8	4	0.2	23	1.1
Starke	38	1.6	17	0.7	23	1.0
Steuben	92	2.7	13	0.4	43	1.2
Sullivan	36	1.7	9	0.4	17	0.8
Switzerland	31	2.9	2	0.2	11	1.0
Tippecanoe	613	3.4	381	2.1	223	1.2
Tipton	41	2.6	11	0.7	7	0.4
Union	20	2.8	1	0.1	6	0.8
Vanderburgh	581	3.2	401	2.2	123	0.7
Vermillion	50	3.2	5	0.3	13	0.8
Vigo	265	2.4	169	1.6	243	2.2
Wabash	49	1.5	23	0.7	37	1.1
Warren	23	2.7	2	0.2	9	1.1
Warrick	137	2.2	19	0.3	34	0.6
Washington	85	3.1	14	0.5	35	1.3
Wayne	235	3.5	71	1.0	112	1.7
Wells	59	2.1	6	0.2	20	0.7
White	122	5.0	11	0.5	43	1.8
Whitley	156	4.7	7	0.2	50	1.5
Indiana	**20,810**	**3.2**	**7,107**	**1.1**	**8,245**	**1.2**

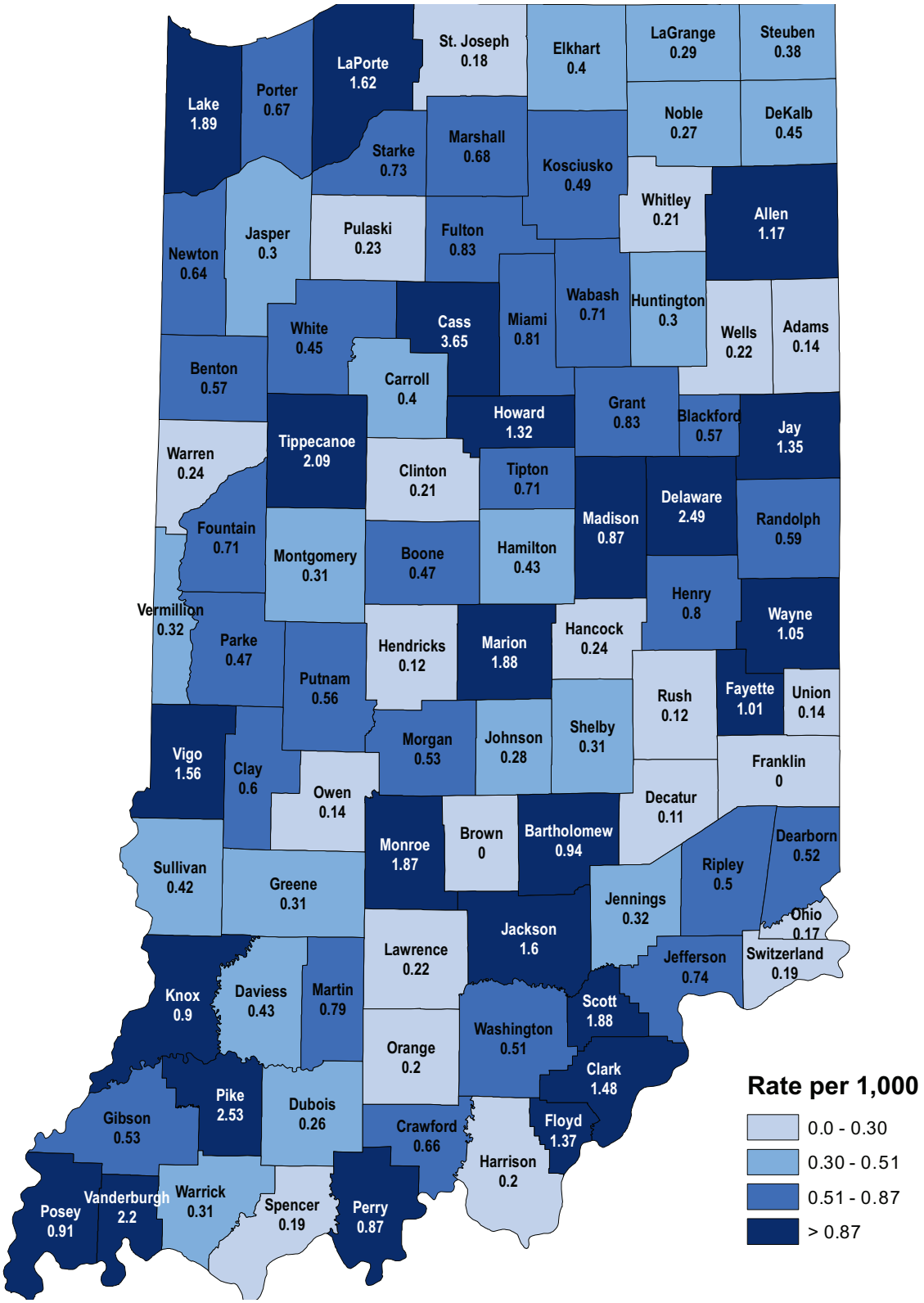
Note: Rates based on numbers lower than 20 are unreliable.
Source: FBI, 2014

Map 3.1 DUI Arrest Rates in Indiana, by County (Uniform Crime Reporting Program, 2014)



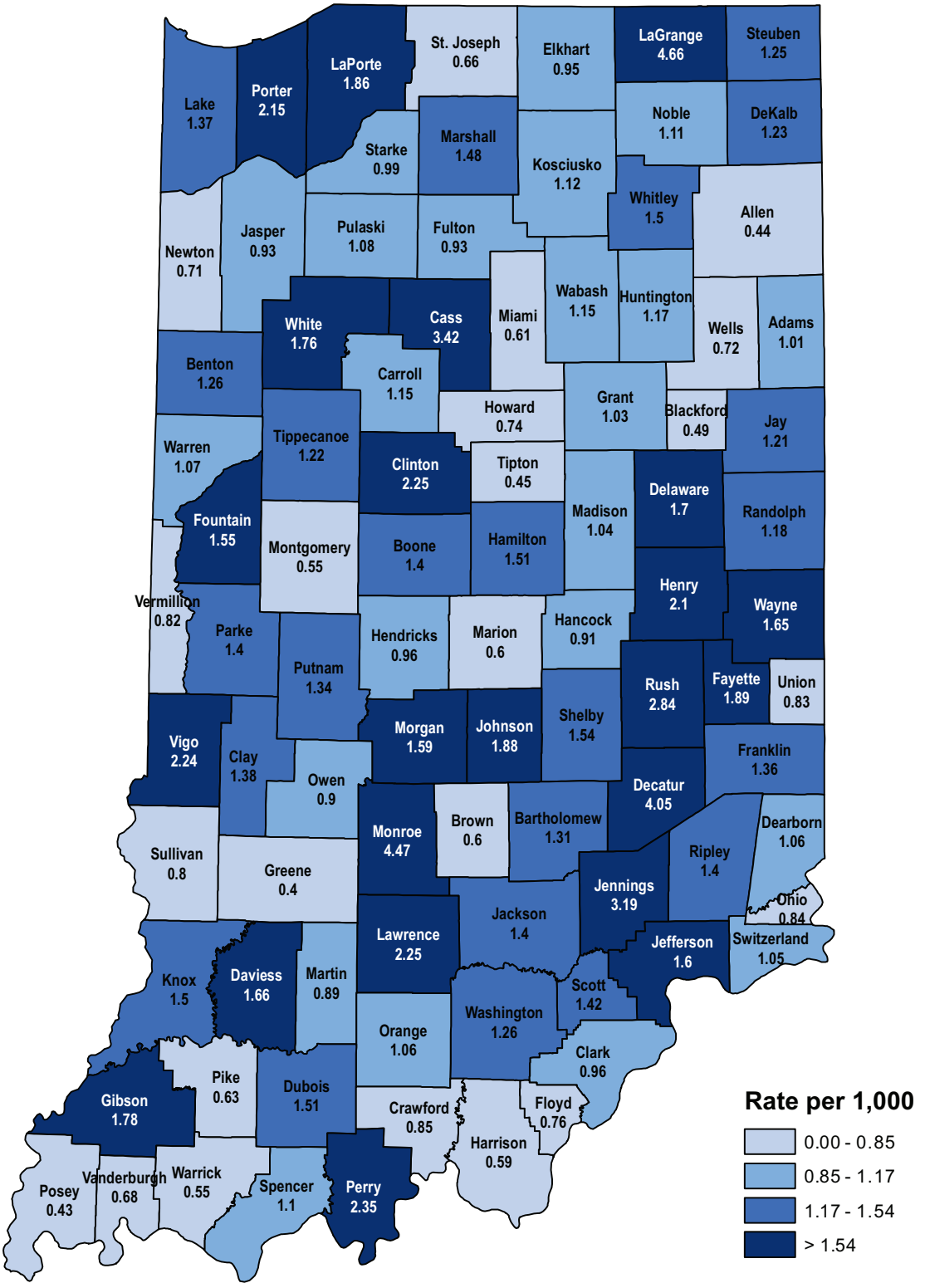
Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 3E (pages 44-45) for additional information.
Source: FBI, 2014

Map 3.2 Public Intoxication Arrest Rates per 1,000 in Indiana, by County (Uniform Crime Reporting Program, 2014)



Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 3E (pages 44-45) for additional information.
Source: FBI, 2014

Map 3.3 Liquor Law Violation Arrest Rates Per 1,000 in Indiana, by County (Uniform Crime Reporting Program, 2014)



Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 3E (pages 44-45) for additional information.
Source: FBI, 2014

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4 Tobacco Use in Indiana: Consumption Patterns and Consequences

TOBACCO CONSUMPTION

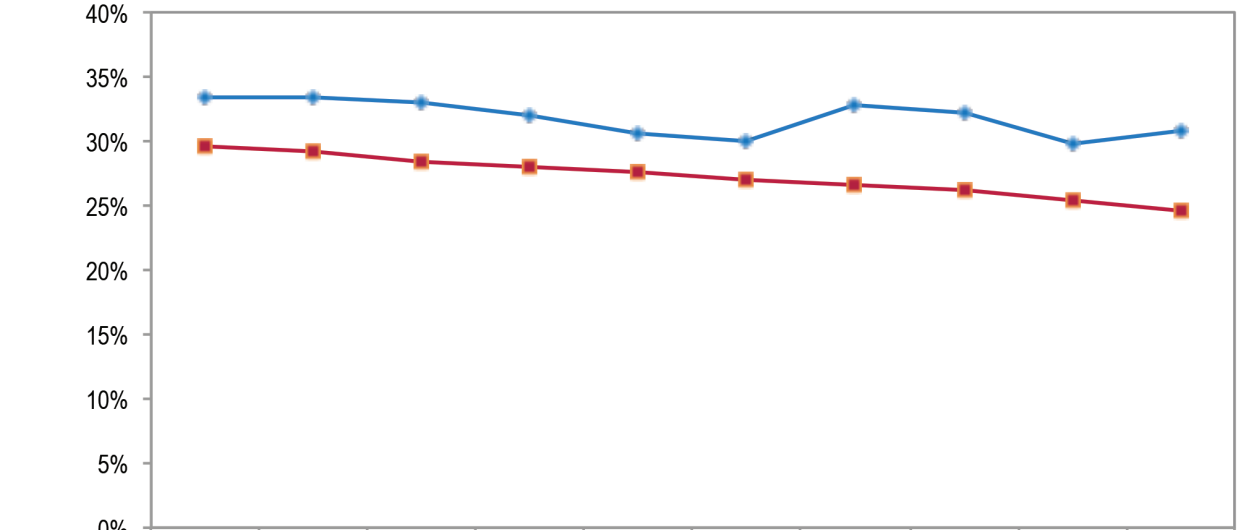
In the United States, one of every five deaths is related to cigarette smoking, making it the leading cause of preventable disease and death (U.S. Department of Health and Human Services [USDHHS], 2014). The adverse effects of tobacco on population health have been well-researched. In Indiana, more than 11,100 adults die every year from their own smoking, and 333,000 live with a tobacco-related disease (USDHHS, 2014). Furthermore, 151,000 (approximately 1 in 10) Indiana youth now under the age of 18 will prematurely die from a smoking-related illness (USDHHS, 2014). Also, over 1,300 adults, children, and infants died in 2014 as a result of exposure to secondhand smoke (Lewis & Zollinger, 2014). Indiana incurs close to $3 billion annually in health care costs directly caused by smoking, including nearly $590 million that is absorbed by Medicaid (Campaign for Tobacco-Free Kids, 2017b).

Though self-reported cigarette smoking has been on the decline, electronic vapor products, including e-cigarettes, have surged in popularity in recent years (Marynak et al., 2017). While e-cigarettes have been promoted as less dangerous than cigarettes, they have not been approved as safe by the U.S. Food and Drug Administration (FDA) and health effects of exposure to aerosol from e-cigarettes are currently unknown (Indiana State Department of Health, Tobacco Prevention and Cessation Commission [ISDH/TPCC], 2015a).

General Consumption Patterns

Estimates from the 2015 National Survey on Drug Use and Health (NSDUH) showed that 30.8% (95% Confidence Interval [CI]: 28.4–33.4) of Indiana residents 12 years and older used a tobacco product in the past month, which was significantly higher than the U.S. rate (24.6%; 24.2–25.0). Tobacco products include cigarettes, smokeless tobacco, cigars, and pipe tobacco. Indiana's rate has remained relatively stable for at least the past 10 years, from 2006 through 2015 (see Figure 4.1) (Substance Abuse and Mental Health Services Administration [SAMHSA], 2017).

Figure 4.1 Percentage of Indiana and U.S. Population (12 Years and Older) Reporting Any Tobacco Use in the Past Month (National Survey on Drug Use and Health, 2006–2015)

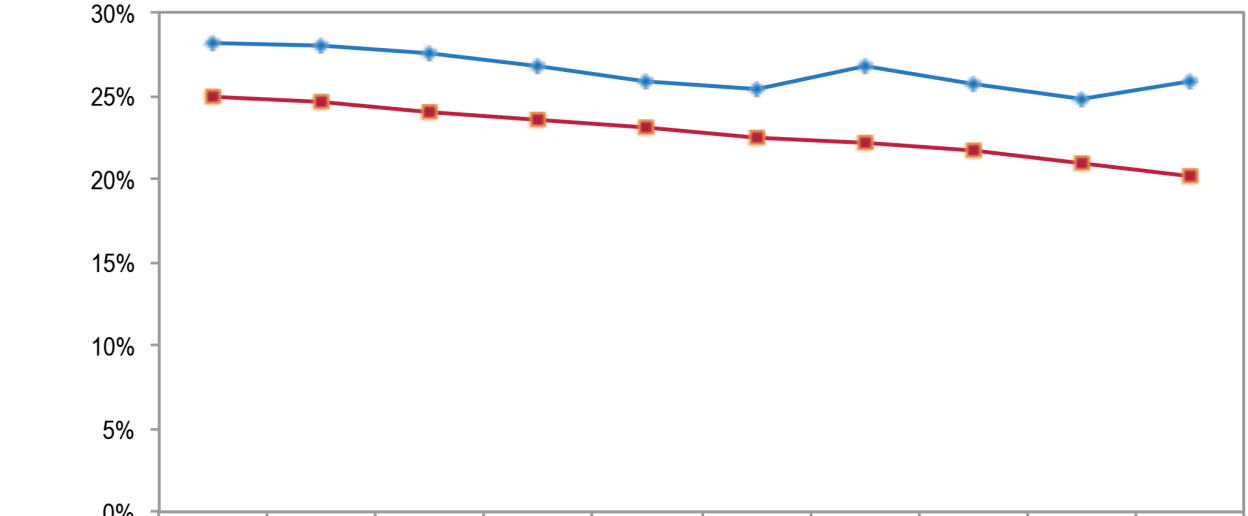


	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Indiana	33.4%	33.5%	32.9%	31.9%	30.6%	29.9%	32.9%	32.3%	29.8%	30.8%
U.S.	29.5%	29.1%	28.5%	28.0%	27.6%	27.0%	26.6%	26.1%	25.4%	24.6%

Source: SAMHSA, 2017

The majority of tobacco consumers smoked cigarettes. In 2015, 25.9% (95% CI: 23.7–28.2) of Hoosiers ages 12 years and older reported past-month use of cigarettes, which was significantly higher than the U.S. rate (20.1%; 95% CI: 19.7–20.5). Indiana's smoking prevalence remained relatively stable from 2006 (28.2%; 95% CI: 25.7–30.8) to 2015 (25.9%; 95% CI: 23.7–28.2) (see Figure 4.2).

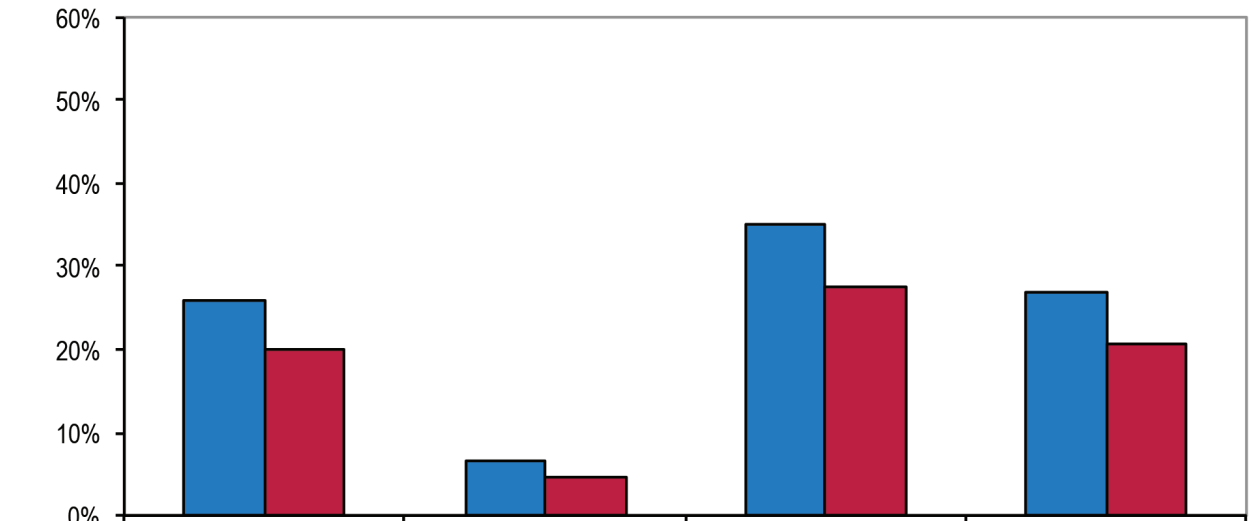
Figure 4.2 Percentage of Indiana and U.S. Population (12 Years and Older) Reporting Cigarette Use in the Past Month (National Survey on Drug Use and Health, 2006–2015)



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Indiana	28.2%	28.0%	27.6%	26.8%	25.9%	25.3%	26.8%	25.7%	24.8%	25.9%
U.S.	25.0%	24.6%	24.1%	23.6%	23.2%	22.5%	22.1%	21.7%	21.0%	20.1%

Source: SAMHSA, 2017

Figure 4.3 Percentage of Indiana and U.S. Population (12 Years and Older) Reporting Cigarette Use in the Past Month (National Survey on Drug Use and Health, 2015)



	Total	12-17	18-25	26 and older
Indiana	25.9%	6.7%	35.1%	26.8%
U.S.	20.1%	4.5%	27.5%	20.7%

Source: SAMHSA, 2017

In addition to smoking rates, cigarette consumption is an indicator of smoking behavior. Cigarette consumption decreased from 113.9 packs sold per capita in State Fiscal Year (SFY) 2001 to 63.7 packs sold per capita in SFY 2016 (ISDH/TPCC, 2016).

Adult Consumption Patterns

The highest rate of tobacco use occurred among 18- to 25-year-olds. An estimated 42.7% of Hoosiers in this age group (95% CI: 39.0–46.4) reported currently, i.e., within the past 30 days, using a tobacco product, which was significantly higher than the national rate (34.0%; 95% CI: 33.3–34.8). The 30-day prevalence rate for cigarette smoking among 18- to 25-year-olds was 35.1% (95% CI: 31.2–39.3) in Indiana (U.S.: 27.5%; 95% CI: 26.8–28.3) (see Figure 4.3).

Also, 31.6% (95% CI: 28.7–34.6) of Hoosiers ages 26 and older, used a tobacco product, and 26.8% (95% CI: 24.1–29.6) smoked cigarettes in the past month. U.S. rates were significantly lower for both tobacco use (25.1%; 95% CI: 24.7–25.6) and cigarette smoking (20.7%; 95% CI: 20.3–21.2) (SAMHSA, 2017).

The Behavioral Risk Factor Surveillance System (BRFSS) focuses on behaviors and conditions that are linked with leading causes of death. According to 2015 findings, the prevalence rate for adult smoking in Indiana was 20.6% (95% CI: 18.9–22.2). Moreover, 14.7% (95% CI: 13.2–16.2) of Hoosiers used cigarettes every day. Indiana's smoking prevalence rates were higher than national median rates: 17.5% of U.S. residents smoked in the past month and 11.9% reported smoking every day (Centers for Disease Control and Prevention [CDC], 2017a). Statistically significant differences in smoking prevalence were observed by age, educational attainment, and income, but not by gender or race (see Table 4.1):

- Younger adults displayed higher smoking rates than older adults.
- Educational attainment was inversely associated with prevalence rate, i.e., individuals who achieved higher levels of education had lower smoking rates.
- Income level was inversely associated with prevalence rate, i.e., individuals with higher income levels had lower smoking rates.

Table 4.1 Adult Smoking Prevalence in Indiana, by Gender, Race/Ethnicity, Age Group, Educational Attainment, and Income Level (Behavioral Risk Factor Surveillance System, 2015)

		Indiana (95% CI)
Gender	Male	21.9% (19.4 – 24.3)
	Female	19.3% (17.0 – 21.6)
Race / Ethnicity	White	20.9% (19.0 – 22.7)
	Black	21.6% (15.7 – 27.5)
	Hispanic	11.3% (5.5 – 17.1)
Age Group	18-24	24.4% (17.8 – 31.0)
	25-34	23.0% (18.0 – 28.0)
	35-44	21.0% (16.8 – 25.1)
	45-54	26.5% (22.7 – 30.3)
	55-64	19.7% (16.8 – 22.5)
	65+	10.9% (9.1 – 12.7)
Education	Less than High School	36.5% (29.9 – 43.1)
	High School or GED	24.6% (21.7 – 27.5)
	Some post-High School	19.2% (16.3 – 22.1)
	College Graduate	6.5% (5.0 – 8.0)
Income	Less than $15,000	35.4% (28.9 – 41.8)
	$15,000 – $24,999	30.6% (25.8 – 5.3)
	$25,000 – $34,999	22.8% (17.5 – 28.1)
	$35,000 – $49,999	21.0% (16.3 – 25.7)
	$50,000 and above	11.7% (9.6 – 13.8)
Total		20.6% (18.9 – 22.2)

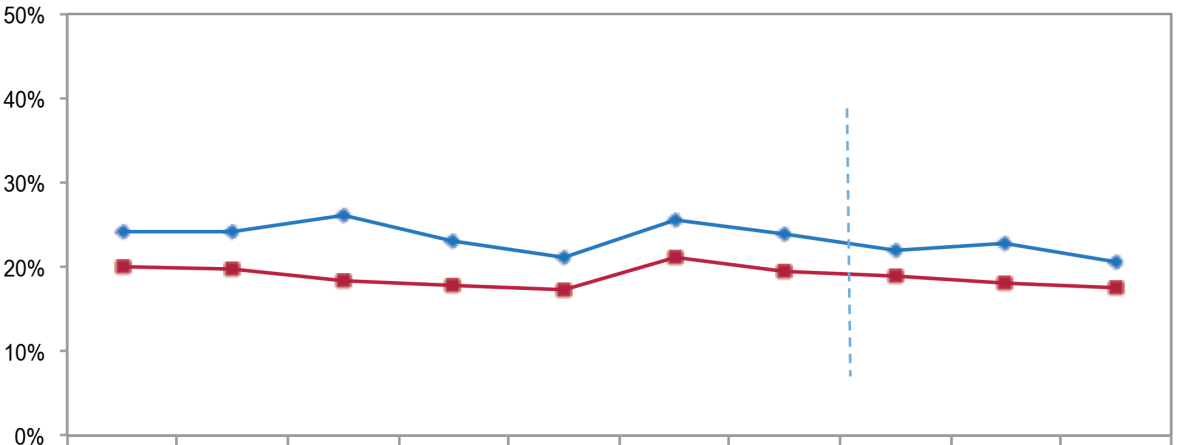
Source: CDC, 2017a

Adult smoking prevalence in Indiana has been above the U.S. level for at least the past ten years (see Figure 4.4). Adult smoking prevalence, as shown in Figure 4.4, has been trending downward since 2011 (due to changes in BRFSS methodology, findings starting in 2011 should not be compared to results from previous years; for more detailed information, see Chapter 2 "Methods").

The 2015 Indiana Adult Tobacco Survey (IATS) estimated the overall smoking prevalence among Indiana adults at 14.7%. Approximately 16.4% of adults in Indiana reported ever trying an e-cigarette. Both current cigarette smokers (68.0%) and former smokers (14.8%) were significantly more likely to have used e-cigarettes in their lifetime than never smokers (4.0%). However, there were increases in usage of e-cigarettes since 2013 by current (49.2%), former (9.8%), and never smokers (3.6%) (Brown, Raines, & Stedman, 2015).

The Indiana College Substance Use Survey includes questions on the use of various tobacco products. The 2016 survey, which was based on 20 participating colleges and universities, showed that cigarettes were still the most commonly used tobacco product, with 13.0% of Indiana college students reporting current (past-month) use (U.S.: 11.3%). Results for the different types of tobacco by demographic characteristics can be found in Table 4.2 (King & Jun, 2016).[1]

Figure 4.4 Percentage of Indiana and U.S. Population (18 Years and Older) Reporting Current Cigarette Use (Behavioral Risk Factor Surveillance System, 2006–2015)



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Indiana	24.1%	24.1%	26.0%	23.1%	21.2%	25.6%	24.0%	21.9%	22.9%	20.6%
U.S.	20.1%	19.8%	18.4%	17.9%	17.3%	21.2%	19.6%	19.0%	18.1%	17.5%

Note: Prevalence rates, starting with 2011, should not be compared to previous years due to changes in methodology.
Source: CDC, 2017a

Table 4.2 Rates of Past-Month (Current) Tobacco Use by Indiana College Students, by Type of Product and by Overall Use, Gender, Age Group, and Type of Institution (Indiana College Substance Use Survey, 2016)

	Indiana (Total)	Male	Female	Under 21	21 or Over
Cigarettes	13.0	17.2	10.5	10.5	15.6*
Cigars	8.0	14.3	4.2*	8.6	7.3*
Chewing/smokeless tobacco	4.3	10.2	0.8*	3.8	4.8*
Smoking tobacco with hookah/water pipe	7.8	9.7	6.6*	7.6	8.0
Electronic vapor products	10.4	14.6	7.9	11.4	9.4*

Note: *$P < 0.05$
Source: King & Jun, 2016

[1]Twenty Indiana colleges participated in the 2016 survey; results are based on nonrandom sampling and are not representative of all college students in Indiana.

Youth Consumption Patterns

The use of tobacco products has wide-ranging consequences for adolescents and young adults. Factors associated with youth tobacco use include low socioeconomic status; use and approval of tobacco use by peers or siblings; smoking by parents or guardians; accessibility, availability and price of tobacco products; a perception that tobacco use is normative; lack of parental support or involvement; low levels of academic achievement; lack of skills to resist influences to tobacco use; lower self-image or self-esteem; belief in functional benefits of tobacco use; and lack of self-efficacy to refuse offers of tobacco (CDC, 2016b).

Based on results from the 2015 NSDUH, 9.1% (95% CI: 7.3–11.2) of Hoosiers ages 12 to 17 used a tobacco product in the past month (U.S.: 6.5%; 95% CI: 6.2–6.8). Most tobacco use was attributable to cigarette smoking; i.e., 6.7% (95% CI: 5.3–8.5) of young Hoosiers smoked cigarettes (U.S.: 4.5%; 95% CI: 4.3–4.8) (SAMHSA, 2017).

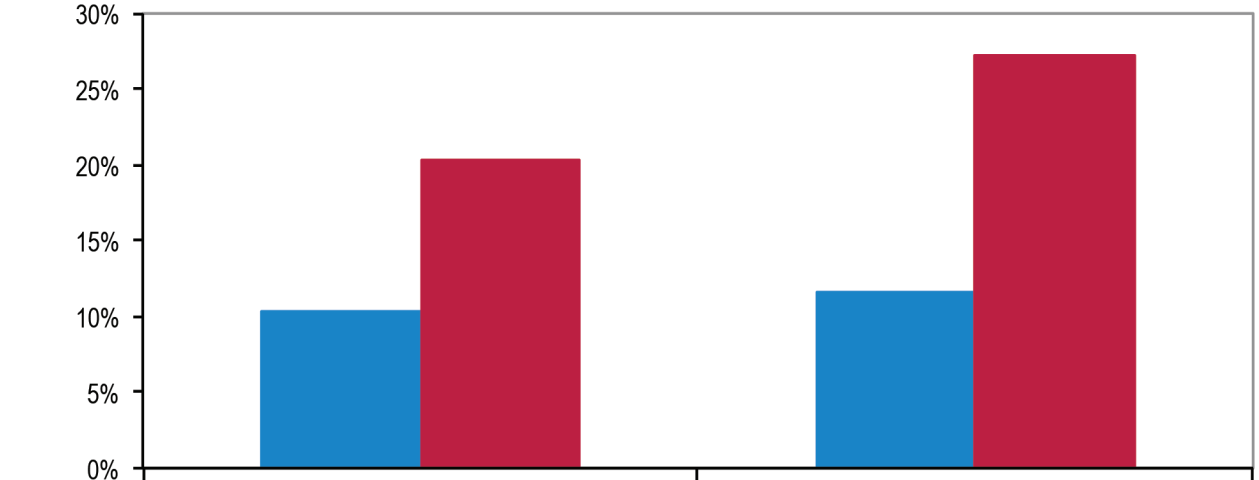
The Youth Risk Behavior Surveillance System (YRBSS) monitors health-risk behaviors such as tobacco, alcohol, and other drug use, which contribute to death and disability among youths in schools nationwide. According to 2015 YRBSS findings, almost one-third of high school students currently use a tobacco product, primarily electronic vapor products (see Table 4.3). In Indiana, rates of current cigarette use decreased significantly from 25.6% (95% CI: (23.2–28.2) in 2003 to 11.2% (95% CI: 8.3–14.8) in 2015; however, electronic vapor products have gained popularity with nearly one-fourth of high school students (23.9%; 95% CI: 20.6–27.7) reporting current use (CDC, 2017b). For more information, see Figures 4.5 through 4.7.

Table 4.3 Current Use of Tobacco Products in Indiana and U.S. High School Students (9th–12th grade), (Youth Risk Behavior Surveillance System, 2015)

	Indiana (95% CI)	U.S. (95% CI)
Any Tobacco Use	32.4% (27.3–38.0)	31.4% (29.1–33.8)
Electronic Vapor Products	23.9% (20.6–27.7)	24.1% (22.1–26.2)
Smoke Cigarettes	11.2% (8.3–14.8)	10.8% (9.4–12.4)
Smoke Cigars	11.4% (9.1–14.3)	10.3% (9.0–11.8)
Smokeless Tobacco	9.4% (5.9–14.7)	7.3% (6.1–8.6)

Source: CDC, 2017b

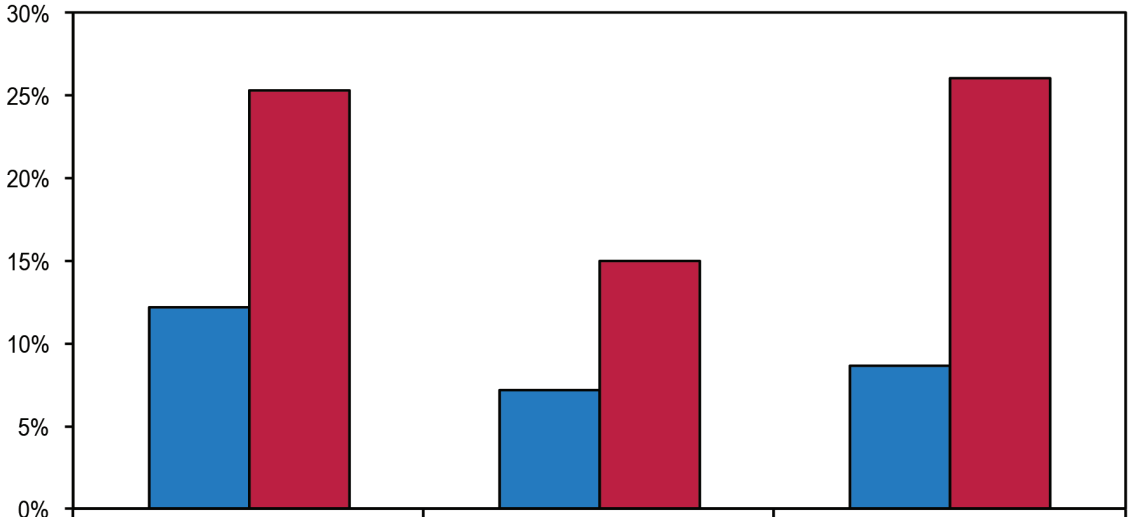
Figure 4.5 Rates of Current Use of Cigarettes and Electronic Vapor Products in Indiana High School Students (9th–12th Grade), by Gender (Youth Risk Behavior Surveillance System, 2015)



	Female	Male
Cigarettes	10.4%	11.7%
Electronic Vapor	20.3%	27.2%

Source: CDC, 2017b

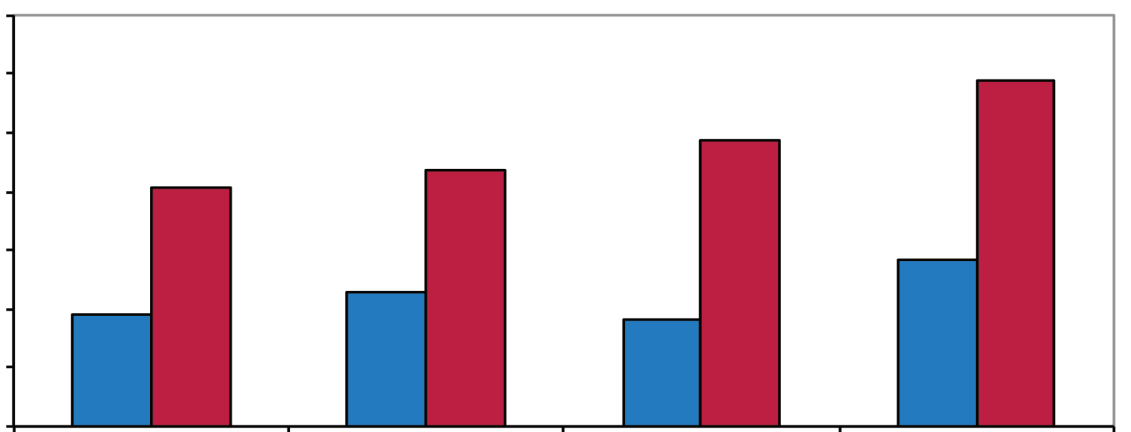
Figure 4.6 Rates of Current Use of Cigarettes and Electronic Vapor Products in Indiana High School Students (9th–12th Grade), by Race/Ethnicity (Youth Risk Behavior Surveillance System, 2015)



	White	Black	Hispanic
Cigarettes	12.1%	7.1%	8.6%
Electronic Vapor	25.3%	14.9%	26.0%

Source: CDC, 2017b

Figure 4.7 Rates of Current Use of Cigarettes and Electronic Vapor Products in Indiana High School Students (9th–12th Grade), by Grade (Youth Risk Behavior Surveillance System, 2015)

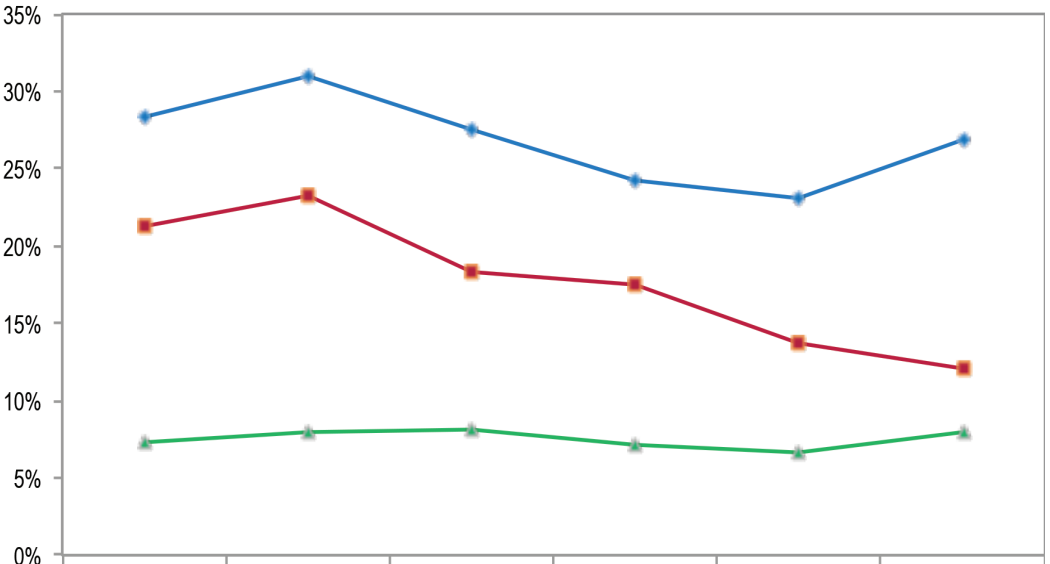


	9th Grade	10th Grade	11th Grade	12th Grade
Cigarettes	9.6%	11.5%	9.1%	14.2%
Electronic Vapor	20.4%	21.8%	24.3%	29.4%

Source: CDC, 2017b

The Indiana Youth Tobacco Survey (IYTS) is a statewide school-based survey of middle school (grades 6 through 8) and high school (grades 9 through 12) students that captures information on various tobacco-related issues, such as tobacco use, smoking cessation, tobacco-related attitudes and beliefs, social influences on tobacco use, and secondhand smoke exposure. According to IYTS results, cigarette and overall tobacco use declined significantly in Indiana from 2004 to 2014; however, consumption of smokeless tobacco products remained stable (see Figures 4.8 and 4.9) (ISDH/TPCC, 2015b).

Figure 4.8 Tobacco Use Among Indiana High School Students (9th–12th Grade) (Indiana Youth Tobacco Survey, 2004–2014)



	2004	2006	2008	2010	2012	2014
Tobacco Use	28.3%	31.0%	27.5%	24.2%	23.0%	26.9%
Cigarette Use	21.3%	23.2%	18.3%	17.5%	13.7%	12.0%
Smokeless Tobacco Use	7.3%	7.9%	8.2%	7.2%	6.6%	8.0%

Note: Due to the emergence of new tobacco products in recent years and corresponding changes to the survey instrument, the definition of "any tobacco use" has changed over time. Between 2004 and 2010, "any tobacco use" included cigarettes, cigars, smokeless tobacco, pipe, or bidis. In 2012 and 2014, "any tobacco use" included cigarettes, cigars, smokeless tobacco, bidis, pipe, hookah, snus, dissolvable tobacco, and e-cigarettes.
Source: ISDH/TPCC, 2015c

Based on 2014 IYTS results, a total of 4.8% of middle school students (95% CI: 3.5–6.0) and 20.5% of high school students (95% CI: 15.4–25.6) used any tobacco product[2] in the past month. Among middle school students, 2.9% (95% CI: 1.9–3.8) and among high school students, 12.0% (95% CI: 8.6–15.4) reported smoking cigarettes in the past month (ISDH/TPCC, 2015b).

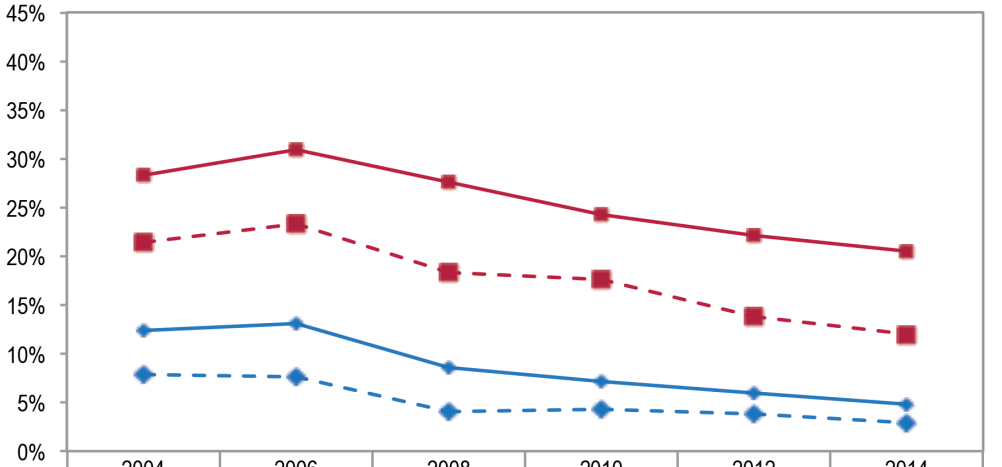
Appendix 4A (pages 63-66) shows the percentages, including 95% confidence intervals, of Indiana middle and high school students who reported current use of various tobacco products, grouped by gender, race/ethnicity, and grade, from 2004 through 2014.

The Indiana Youth Survey, conducted annually of students in Grades 6 to 12, assesses students' substance use, mental health, gambling, and risk and protective factors that can affect their success. Findings from the 2016 survey showed that tobacco use increased as students progressed in school, i.e., higher smoking rates occurred among 12th grade students than 8th-graders, both for cigarettes and electronic vapor products (such as e-cigarettes, vaping pens, and e-hookahs.) (see Figure 4.10) (Gassman et al., 2016). See Appendix 4B (page 67) for Indiana students' 2016 monthly cigarette and e-cigarette use by region and grade.

Comparisons between Indiana and the United States on 30-day prevalence of cigarette use among 12th grade students imply that (a) Hoosier students have had higher rates throughout the years, and (b) rates have been declining for both groups (see Figure 4.11). However, these results need to be interpreted with caution, as statistical significance could not be determined due to the lack of detail provided in the publicly available data set.

In 2014, 5.2% of middle school students and 15.6% of high school students in Indiana reported current use of e-cigarettes. Among Indiana youth who currently smoke cigarettes, 63.7% of middle school students and 65.9% of high school students also reported currently using e-cigarettes (ISDH/TPCC, 2015b).

Figure 4.9 Percentage of Indiana Middle School and High School Students Reporting Current Tobacco and Cigarette Use (Indiana Youth Tobacco Survey, 2004–2014)

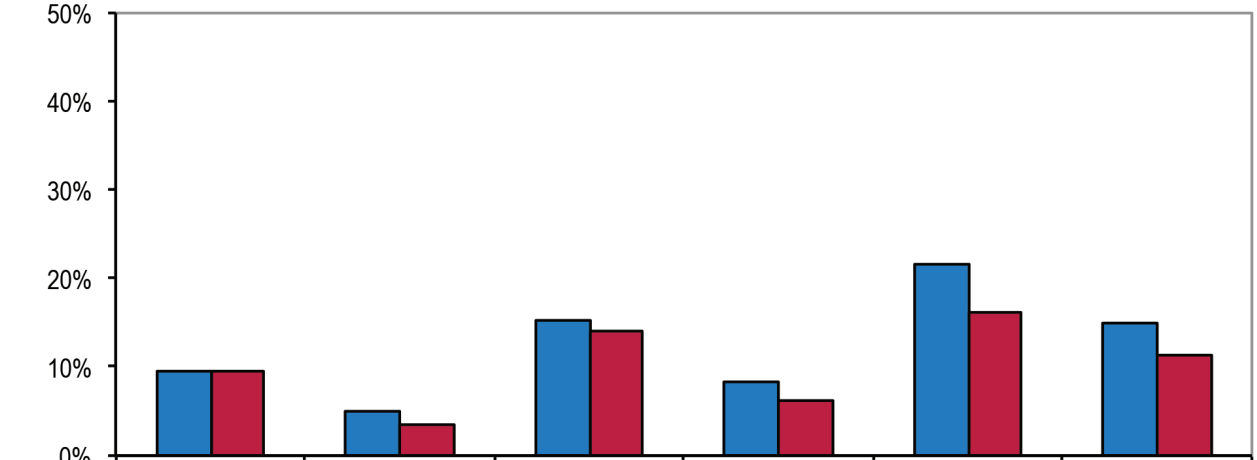


	2004	2006	2008	2010	2012	2014
Current MS Tobacco Use	12.4%	13.0%	8.5%	7.1%	5.9%	4.8%
Current HS Tobacco Use	28.3%	31.0%	27.5%	24.2%	22.0%	20.5%
Current MS Cigarettes Use	7.8%	7.7%	4.1%	4.4%	3.7%	2.9%
Current HS Cigarettes Use	21.3%	23.2%	18.3%	17.5%	13.7%	12.0%

Source: ISDH/TPCC, 2015b

[2]This included use of cigarettes, cigars, smokeless tobacco (chewing tobacco, snuff, or dip), pipe, bidis, or kreteks.

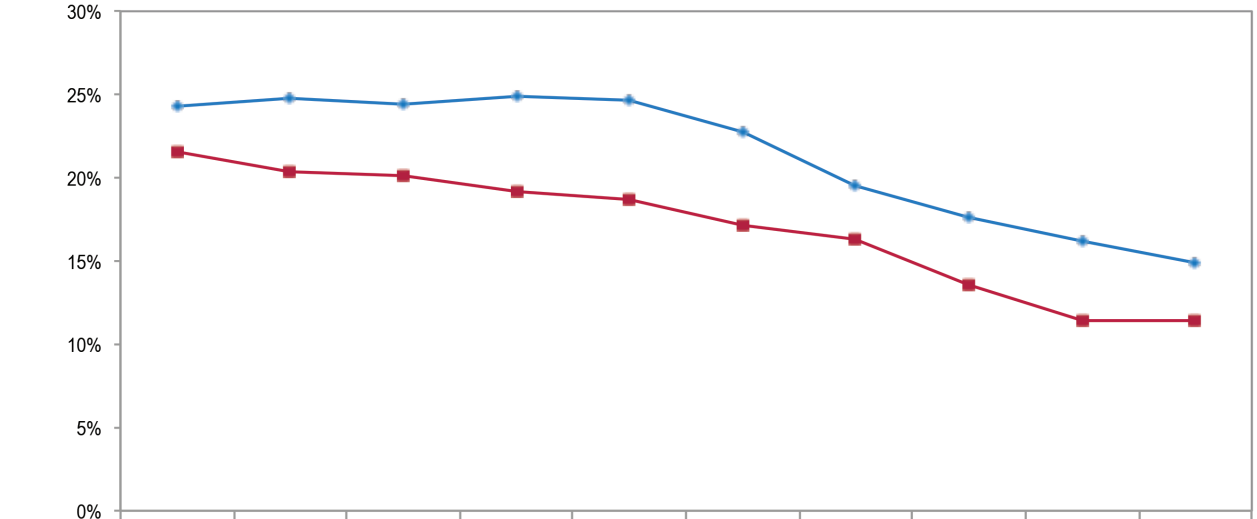
Figure 4.10 Monthly Cigarette and E-Cigarette Use Among 8th, 10th, and 12th Grade Students, Indiana and the United States (Indiana Youth Survey and Monitoring the Future Survey, 2016)



	8th Grade E-Cigs	8th Grade Cigarettes	10th Grade E-Cigs	10th Grade Cigarettes	12th Grade E-Cigs	12th Grade Cigarettes
Indiana	9.4%	5.1%	15.4%	8.4%	21.6%	14.9%
U.S.	9.5%	3.6%	14.0%	6.3%	16.2%	11.4%

Source: Gassman et al., 2016; Inter-university Consortium for Political and Social Research, 2016

Figure 4.11 Past-Month Smoking Prevalence for 12th Grade Students in Indiana and the United States (Indiana Youth Survey: 2007–2016; and Monitoring the Future Survey, 2007–2016)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Indiana	24.3%	24.8%	24.4%	24.9%	24.6%	22.8%	19.5%	17.6%	16.2%	14.9%
U.S.	21.6%	20.4%	20.1%	19.2%	18.7%	17.1%	16.3%	13.6%	11.4%	11.4%

Source: Gassman et al., 2016; Inter-university Consortium for Political and Social Research, 2016

CONSEQUENCES

Health Consequences

As the second major cause of death in the world, tobacco is responsible for approximately 6 million deaths every year, including about 600,000 deaths from exposure to second-hand smoke (World Health Organization, 2015). In the United States, cigarette smoking is the single most preventable cause of disease and death, causing more deaths annually than acquired immune deficiency syndrome (AIDS), alcohol, cocaine, heroin, homicide, suicide, motor vehicle crashes, and fires combined (USDHHS, 2014).

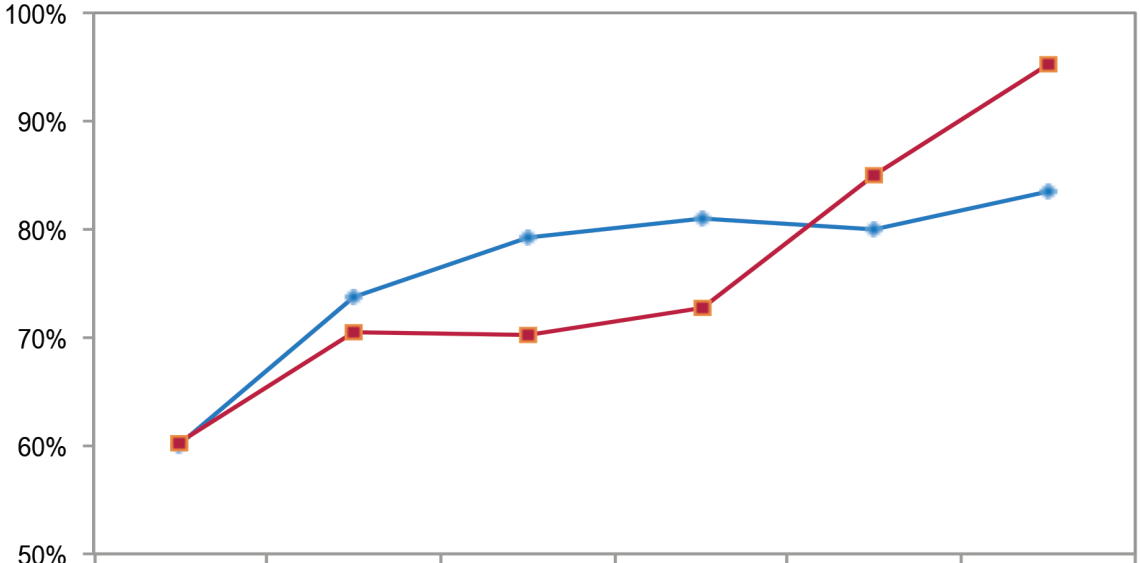
In the United States, tobacco use is responsible for more than 480,000 deaths per year among adults age 35 and older. In addition, 16 million adults are suffering from smoking-related conditions. On average, smoking reduces adult life expectancy by a minimum of 10 years. Smoking is the leading risk-factor for lung cancer, which is the foremost cause of cancer-related deaths for both males and females (Siegel, Miller, & Jemal, 2015).

Smoking affects respiratory health and is related to chronic coughing and wheezing among adults. Smokers are more likely than nonsmokers to have upper and lower respiratory tract infections. Generally, lung function deteriorates more quickly in smokers than in nonsmokers. Smoking contributes significantly to the number of deaths from lung cancer, heart disease, chronic lung diseases, and other illnesses (USDHHS, 2014). Adverse outcomes of smoking also include cancers of the oral cavity, pharynx, larynx, esophagus, bladder, stomach, cervix, kidney, and pancreas. Furthermore, smoking has been linked to liver, colorectal, prostate, and breast cancers, and can also result in acute myeloid leukemia (USDHHS, 2014). For smoking-attributable cancers, the risk generally increases with the number of cigarettes smoked and the number of years of smoking, and usually decreases after the smoker quits completely. The leading cause of cancer deaths is lung cancer, and cigarette smoking causes most cases. However, any tobacco use can be detrimental. Smokeless tobacco has been shown to cause oral cancers and may also be a risk factor for cardiovascular disease (CDC, 2016a). Other specific health-related outcomes include age-related macular degeneration, dental disease, diabetes, autoimmune disease, rheumatoid arthritis, systemic lupus erythematosus, and inflammatory bowel disease (USDHHS, 2014).

Smoking may harm men's and women's reproductive health, and the effects can be seen in fetuses, infants, and children. Smoking can affect men's sperm and lead to reduced fertility and increased risk for birth defects and miscarriage.

Women who smoke have an increased risk for infertility and ectopic pregnancies. Smoking during pregnancy results in health problems for both mothers and babies. These include increased risk of spontaneous abortions, pregnancy complications (e.g., placenta previa, placental abruption, and premature rupture of membranes before labor begins), premature delivery, low-birth-weight infants, stillbirth, and sudden infant death syndrome (SIDS). Mothers who smoke during pregnancy reduce their babies' lung function (CDC, 2016a). In Indiana, the percentage of births to mothers who smoked during pregnancy declined from 18.5% in 2007 to 14.3% in 2015; a higher percentage of white mothers (15.6%) smoked during pregnancy than black mothers (11.1%) (ISDH/Epidemiology Resource Center, 2016). The Indiana State Department of Health, Tobacco Prevention and Cessation provides county-level information on various smoking-related outcomes. For a detailed list, see Appendix 4C, pages 68-71.

Figure 4.12 Percentage of Smoke-free Homes and Workplaces in Indiana (Adult Tobacco Survey, 2002–2015)



	2002	2006	2007	2008	2013	2015
Homes	60.1%	73.8%	79.3%	81.1%	80.0%	83.4%
Workplaces	60.3%	70.4%	70.3%	72.8%	85.0%	95.3%

Source: Brown et al., 2015

Secondhand smoke: Secondhand smoke (sometimes called environmental tobacco smoke) has serious health consequences. An estimated 58 million nonsmoking Americans continue to be exposed to secondhand smoke in homes, vehicles, workplaces, and public places. Exposure to tobacco smoke can cause heart disease and lung cancer even in nonsmoking adults, increasing the risk by 25% to 30% for heart disease and by 20% to 30% for lung cancer. Children, in particular, are heavily impacted by secondhand smoke. Exposure increases their chance of developing significant lung conditions, especially asthma and bronchitis. Also, secondhand smoke can cause SIDS, acute respiratory infections, ear problems, and more frequent and severe asthma attacks in children. In the United States, secondhand smoke is responsible for nearly 34,000 deaths due to heart disease, more than 8,000 deaths from stroke, and over 7,300 lung cancer deaths each year among nonsmoking adults (USDHHS, 2014). An estimated 1,337 Hoosiers die each year from secondhand smoke (Lewis & Zollinger, 2014).

In Indiana, the percentage of smoke-free homes has increased from 60.1% in 2002 to 83.4% in 2015. However, among smokers, only 40.8% do not allow smoking in their homes. The percentage of smoke-free workplaces[3] rose from 60.3% to 95.3% during that time period (see Figure 4.12). Although Indiana is making progress, it is lagging behind the rest of the nation terms of *comprehensive* coverage from secondhand smoke exposure (comprehensive coverage includes workplaces, restaurants, and bars). With the addition of the statewide smoke-free air law in 2012, all Indiana residents are covered in most workplaces and restaurants, but exempts bars, clubs, and gaming facilities. As of March 2017, a total of 21 communities[4] in Indiana have passed comprehensive smoke-free air ordinances which cover all workplaces, including bars, to ensure that all workers are protected from secondhand smoke. These 21 comprehensive ordinances cover approximately 31% of all residents in Indiana. (ISDH/TPCC, 2017).

[3]This measure refers to the prevalence of workers reporting a 100% smoke-free workplace (Adult Tobacco Survey).
[4]These include Delaware Co., Hancock Co., Monroe Co., Vanderburgh Co., Vigo Co., Bloomington, Columbus, Cumberland, Elkhart, Fort Wayne, Franklin, Greencastle, Indianapolis, Lawrence, Plainfield, South Bend, Terre Haute, West Lafayette, and Zionsville.

E-cigarettes: The health effects of exposure to aerosol from e-cigarettes are currently unknown; however, research shows that the aerosol releases measurable amounts of carcinogens and other toxins into the air, including nicotine, formaldehyde, and acetaldehyde. In addition, e-cigarette aerosol has been found to contain a high concentration of ultra-fine particles. Exposure to fine and ultra-fine particles may exacerbate respiratory conditions and constrict arteries (ISDH/TPCC, 2014).

In 2016 the U.S. Surgeon General issued a report highlighting concerns related to e-cigarette use among youth and young adults (USDHHS, 2016). Key findings of the report are as follows:

- E-cigarette use among youth and young adults has become a public health concern.
- E-cigarettes are not the most commonly used tobacco product among youth, and use of e-cigarettes is strongly associated with use of other tobacco products.
- The use of products containing nicotine pose danger to youth, pregnant women, and fetuses. The use of products containing nicotine among youth, including e-cigarettes, is unsafe.
- E-cigarette aerosol is not harmless. It can contain harmful and potentially harmful constituents.
- E-cigarettes are marketed by promoting flavors and using a variety of media channels and approaches that have been used in the past to market tobacco to youth and young adults.

Economic Consequences

In 2014, the annual U.S. tobacco industry marketing expenditures were approximately $9.1 billion, including Indiana's share of $284.5 million. The state's total tobacco marketing expenditures declined after peaking at $475.4 million in 2003 (Campaign for Tobacco-Free Kids, 2016; Federal Trade Commission, 2016).

The federal excise tax is $1.01 per pack of cigarettes. The average state cigarette excise tax is $1.69 per pack, but varies from 17 cents in Missouri to $4.35 in New York; Indiana's tobacco excise tax rate is 99.5 cents per pack (Campaign for Tobacco-Free Kids, 2017a).

Cigarette smoking is estimated to be responsible for greater than $300 billion in annual health-related economic losses in the United States ($170 billion in direct medical costs and approximately $156 billion in lost productivity) (CDC, 2016a). In Indiana, $2.93 billion dollars of health-related costs in 2009 were smoking-attributable expenditures (SAE). Most of these costs accrued through hospital care ($1.57 billion) and prescription drugs ($525 million); the SAE estimate also included ambulatory care ($405 million), nursing home care ($283 million), and other health-related costs ($147 million) (CDC, 2016a). The combination of increased medical costs, higher insurance rates, added maintenance expenses, lower productivity, and higher rates of absenteeism due to smoking adds financial strain to U.S. businesses every year.

APPENDIX 4A - Part 1

Percentage of Indiana Middle School and High School Respondents Who Currently Use Any Tobacco Product, by Gender, Race/Ethnicity, and School Grade (Indiana Youth Tobacco Survey, 2004–2014)

	2004		2006		2008		2010		2012		2014	
	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
MIDDLE SCHOOL												
Gender												
Male	10.8	(8.8–12.8)	13.2	(10.3–16.1)	9.9	(7.3–12.5)	9.3	(7.0–11.6)	6.9	(5.1–8.8)	9.8	(7.5–12.0)
Female	14.0	(10.8–17.2)	12.7	(10.2–15.2)	7.1	(5.2–9)	4.5	(2.9–6.1)	6.4	(4.5–8.4)	6.3	(4.3–8.4)
Race/Ethnicity												
White	11.8	(9.2–14.4)	11.9	(9.1–14.7)	7.7	(5.5–9.9)	6.4	(5.0–7.8)	6.2	(4.4–8.0)	7.4	(5.1–9.8)
Black	13.8	(9.1–18.5)	17.4	(12.9–21.9)	10.6	(7.6–13.6)	9.0	(4.8–13.2)	5.9	(3.7–8.1)	9.8	(4.9–14.6)
Hispanic	13.6	(8.2–19.0)	12.5	(8.5–16.5)	11.5	(8.7–14.3)	12.2	(8.5–15.9)	9.3	(5.4–13.3)	11.3	(6.3–16.3)
Grade												
6	8.6	(4.7–12.5)	6.2	(4.3–8.1)	2.7	(1.2–4.2)	2.1	(0.6–3.6)	2.7	(1.2–4.1)	5.0	(2.3–7.6)
7	11.0	(8.4–13.6)	10.9	(8.9–12.9)	8.2	(6.0–10.4)	5.3	(3.6–7.0)	5.7	(3.8–7.5)	7.9	(5.4–10.5)
8	16.8	(12.6–21.0)	21.3	(16.3–26.3)	14.6	(10.9–18.3)	11.8	(7.6–16.0)	11.9	(8.6–15.2)	11.5	(7.9–15.2)
Total	**12.4**	**(10.2–14.6)**	**13.0**	**(10.6–15.4)**	**8.5**	**(6.6–10.4)**	**7.1**	**(5.7–8.5)**	**6.7**	**(5.2–8.3)**	**8.2**	**(6.4–10.0)**
HIGH SCHOOL												
Gender												
Male	33.0	(29.8–36.2)	35.0	(30.3–39.7)	31.2	(28.6–33.8)	28.6	(24.9–32.3)	28.3	(24.6–32.0)	30.4	(24.5–36.3)
Female	23.2	(20.8–25.6)	26.8	(22.0–31.6)	23.7	(20.9–26.5)	19.3	(16.6–22.0)	17.3	(13.6–21.1)	23.0	(19.1–27.0)
Race/Ethnicity												
White	28.5	(25.8–31.2)	31.9	(27.0–36.8)	28.4	(26.1–30.7)	24.5	(21.9–27.1)	23.6	(20.5–26.8)	28.4	(23.1–33.8)
Black	22.8	(18.5–27.1)	22.8	(16.9–28.7)	20.4	(16.6–24.2)	16.2	(12.4–20.0)	17.6	(11.0–24.2)	18.5	(14.3–22.6)
Hispanic	32.2	(25.4–39)	29.1	(23.1–35.1)	28.9	(24.5–33.3)	27.5	(22.7–32.3)	24.1	(18.4–29.7)	22.9	(16.2–29.7)
Grade												
9	24.4	(21.8–27.0)	23.8	(20.1–27.5)	19.2	(15.9–22.5)	17.9	(14.8–21.0)	15.2	(10.8–19.6)	20.5	(17.0–23.9)
10	24.7	(21.6–27.8)	30.2	(24.4–36.0)	25.6	(21.5–29.7)	20.9	(17.2–24.6)	19.2	(16.7–21.8)	21.3	(15.6–26.9)
11	31.0	(26.1–35.9)	35.0	(29.7–40.3)	33.2	(28.1–38.3)	28.7	(25.1–32.3)	27.3	(21.0–33.6)	27.3	(22.7–32.0)
12	34.3	(28.3–40.3)	37.2	(30.2–44.2)	34.3	(28.8–39.8)	29.4	(24.2–34.6)	31.1	(25.9–36.4)	38.9	(28.2–49.7)
Total	**28.3**	**(25.9–30.7)**	**31.0**	**(26.8–35.2)**	**27.5**	**(25.5–29.5)**	**24.2**	**(21.9–26.5)**	**23.0**	**(20.2–25.8)**	**26.9**	**(22.2–31.6)**

Note: *Due to the emergence of new tobacco products in recent years and corresponding changes to the survey instrument, the definition of “any tobacco use” has changed over time. Between 2004 and 2010, “any tobacco use” included cigarettes, cigars, smokeless tobacco, pipe, or bidis. In 2012 and 2014, “any tobacco use” included cigarettes, cigars, smokeless tobacco, bidis, pipe, hookah, snus, dissolvable tobacco, and e-cigarettes.
Source: ISDH/TPCC, 2015b

APPENDIX 4A - Part 2

Percentage of Indiana Middle School and High School Respondents Who Currently Use Cigarettes, by Gender, Race/Ethnicity, and School Grade (Indiana Youth Tobacco Survey, 2004–2014)

	2004		2006		2008		2010		2012		2014	
	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
MIDDLE SCHOOL												
Gender												
Male	5.7	(3.7–7.6)	7.1	(5.2–9.1)	4.5	(2.9–6.0)	5.2	(3.7–6.8)	3.6	(2.5–4.7)	2.9	(1.8–3.9)
Female	10.1	(7.5–12.6)	8.3	(6.2–10.5)	3.7	(2.4–4.9)	3.5	(1.9–5.1)	3.9	(2.8–5.0)	2.8	(1.6–4.0)
Race/Ethnicity												
White	8.2	(5.6–10.7)	7.4	(5.5–9.4)	7.0	(4.8–9.1)	4.1	(2.9–5.3)	3.5	(2.5–4.5)	2.8	(1.7–3.9)
Black	6.2	(2.9–9.6)	7.8	(4.5–11.1)	2.9	(1.3–4.4)	4.7*	(1.8–7.5)	1.9*	(0.0-4.0)	2.2*	(0.1–4.3)
Hispanic	7.6*	(2.9–12.3)	8.4	(5.3–11.5)	4.2	(2.5–6.0)	8.8	(5.6–12.0)	6.2	(3.2–9.2)	3.9*	(1.2–6.6)
Grade												
6	4.9*	(0.6–9.2)	2.9	(1.7–4.1)	1.3*	(0.3–2.2)	1.5*	(0.1–2.9)	1.1*	(0.2–2.0)	1.0*	(0.0–2.3)
7	8.2	(6.2–10.2)	5.4	(3.8–7.0)	4.1	(2.6–5.7)	2.6	(1.1–4.0)	3.2	(1.7–4.7)	3.4	(1.6–5.1)
8	10.2	(7.1–13.3)	14.6	(10.8–18.5)	6.9	(4.6–9.3)	8.1	(5.3–10.9)	7.0	(4.8–9.2)	4.3	(2.4–6.2)
Total	**7.8**	**(5.9–9.7)**	**7.7**	**(5.9–9.6)**	**4.1**	**(2.9–5.3)**	**4.4**	**(3.3–5.5)**	**3.7**	**(2.7–4.7)**	**2.9**	**(1.9–3.8)**
HIGH SCHOOL												
Gender												
Male	22.8	(20.1–25.6)	23.6	(20.0–27.1)	19.0	(16.0–21.9)	18.8	(15.6–21.9)	14.8	(12.2-17.4)	12.5	(9.1-15.9)
Female	19.4	(17.1–21.8)	22.7	(18.0–27.4)	17.5	(15.1–20.0)	15.8	(13.1–18.5)	12.7	(9.4-16.0)	11.3	(7.8-14.7)
Race/Ethnicity												
White	22.1	(19.4–24.9)	24.8	(20.6–28.9)	21.1	(17.6–24.6)	18.2	(15.4–20.9)	14.5	(11.8–17.2)	13.0	(9.2–16.7)
Black	12.6	(8.9–16.3)	12.5	(8.3–16.8)	12.7	(9.4–16.0)	9.2	(6.2–12.2)	8.6	(4.5–12.7)	5.3	(2.7–7.9)
Hispanic	22.6	(17.3–27.9)	19.9	(14.6–25.1)	15.5	(12.4–18.5)	21.0	(15.6–26.4)	14.1	(9.1–19.1)	8.5*	(2.8–14.2)
Grade												
9	18.5	(15.5–21.5)	16.4	(13.5–19.4)	11.5	(8.5–14.5)	13.2	(10.8–15.5)	10.0	(6.4–13.6)	9.0	(6.6–11.4)
10	19.1	(16.6–21.6)	22.5	(18.1–27.0)	16.9	(13.4–20.3)	14.1	(10.5–17.6)	11.5	(8.8–14.2)	8.9	(4.4–13.3)
11	22.9	(18.4–27.3)	27.5	(22.1–32.9)	23.4	(18.2–28.6)	21.2	(17.4–24.9)	18.2	(13.5–22.9)	11.0	(7.8–14.1)
12	25.6	(20.4–30.8)	28.1	(20.6–35.7)	22.7	(18.5–26.9)	21.5	(16.4–26.6)	15.6	(11.1–20.1)	19.1	(11.9–26.3)
Total	**21.3**	**(19.1–23.5)**	**23.2**	**(19.5–26.8)**	**18.3**	**(16.0–20.5)**	**17.5**	**(15.1–19.9)**	**13.7**	**(11.3–16.1)**	**12.0**	**(8.6–15.4)**

Note: *Indicates data are statistically unstable because the relative standard error is >30%. These estimates should be interpreted with caution.
Source: ISDH/TPCC, 2015b

APPENDIX 4A - Part 3

Percentage of Indiana Middle School and High School Respondents Who Currently Use Smokeless Tobacco, by Gender, Race/Ethnicity, and School Grade (Indiana Youth Tobacco Survey, 2004–2014)

	2004		2006		2008		2010		2012		2014	
	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
MIDDLE SCHOOL												
Gender												
Male	3.1	(1.5–4.7)	5.2	(3.1–7.3)	4.3	(2.7–5.9)	4.2	(2.6–5.8)	2.1	(1.0–3.2)	2.7	(1.7–3.7)
Female	1.1*	(0.3–2.0)	2.0	(1.1–2.8)	2.2	(1.0–3.4)	0.7*	(0.2–1.1)	0.8*	(0.2–1.4	0.9*	(0.2–1.5)
Race/Ethnicity												
White	2.3	(1.2–3.4)	3.4	(1.9–4.9)	4.1	(2.0–6.2)	2.4	(1.4–3.3)	1.6	(0.9–2.3)	1.7	(1.0–2.3)
Black	3.0*	(0.7–5.3)	3.9*	(1.4–6.3)	2.8	(1.3–4.3)	1.9*	(0.2–3.6)	0.0	(0.0–0.0)	1.0*	(0.0–2.3)
Hispanic	0.6*	(0.0–1.4)	2.7*	(0.8–4.6)	2.7	(1.1–4.2)	2.9*	(0.3–5.5)	1.7*	(0.3–3.1)	3.0*	(0.0–6.1)
Grade												
6	1.9*	(0.2–3.5)	1.5*	(0.6–2.3)	0.9*	(0.1–1.8)	0.5*	(0.0–1.3)	0.7*	(0.0–1.4)	1.1*	(0.2–2.1)
7	1.6*	(0.6–2.6)	3.2	(1.8–4.5)	2.9	(1.6–4.1)	1.7	(0.7–2.7)	1.2*	(0.1–2.3)	1.8	(0.9–2.8)
8	2.6	(1.1–4.1)	6.1	(2.9–9.3)	6.1	(3.4–8.8)	4.5	(2.3–6.8)	2.6	(1.1–4.1)	2.4	(1.2–3.5)
Total	2.2	(1.2–3.1)	3.6	(2.4–4.9)	3.3	(2.0–4.6)	2.5	(1.7–3.4)	1.5	(0.9–2.1)	1.8	(1.2–2.4)
HIGH SCHOOL												
Gender												
Male	11.8	(9.4–14.1)	14.1	(10.1–18.1)	13.9	(10.5–17.2)	11.8	(9.7–13.9)	11.2	(8.7–13.7)	13.6	(7.8–19.4)
Female	2.5	(1.6–3.3)	1.6	(0.7–2.5)	2.4	(1.5–3.4)	2.3	(1.3–3.3)	1.8	(0.9–2.7)	2.0	(1.1–2.9)
Race/Ethnicity												
White	7.8	(6.2–9.5)	8.9	(6.3–11.4)	10.3	(7.3–13.3)	7.5	(6.1–9.0)	7.3	(5.8–8.8)	9.4	(5.5–13.3)
Black	2.6*	(1.0–4.1)	2.5*	(0.9–4.0)	5.7	(3.1–8.3)	1.4*	(0.0–2.9)	2.2*	(0.3–4.1)	0.9*	(0.0–1.8)
Hispanic	7.6	(4.3–11.0)	7.1	(3.3–10.9)	4.5	(2.5–6.6)	10.2	(6.5–13.9)	6.0	(2.8–9.2)	2.7*	(0.6–4.7)
Grade												
9	6.2	(5.0–7.5)	6.9	(4.3–9.4)	4.6	(3.2–6.0)	3.7	(1.8–5.7)	5.7	(2.9–8.5)	7.3	(4.2–10.3)
10	7.3	(5.3–9.4)	7.0	(3.5–10.5)	8.5	(5.6–11.4)	7.9	(5.5–10.3)	5.9	(3.9–7.9)	4.2*	(1.2–7.1)
11	7.8	(5.0–10.6)	7.3	(3.6–11.1)	10.9	(5.9–15.9)	9.1	(6.9–11.4)	8.2	(5.1–11.3)	6.5	(4.5–8.4)
12	8.0	(5.5–10.5)	10.9	(6.9–14.9)	9.4	(6.5–12.4)	8.1	(4.7–11.6)	6.7	(3.5–9.9)	14.0	(7.0–21.0)
Total	7.3	(5.9–8.8)	7.9	(5.7–10.1)	8.2	(6.1–10.2)	7.2	(5.9–8.6)	6.6	(5.3–7.9)	8.0	(4.6–11.3)

Note: *Indicates data are statistically unstable because the relative standard error is >30%. These estimates should be interpreted with caution.

Source: ISDH/TPCC, 2015b

APPENDIX 4A - Part 4

Percentage of Indiana Middle and High School Respondents Who Currently Use E-cigarettes,** by Gender, Race/Ethnicity, and School Grade (Indiana Youth Tobacco Survey, 2012-2014)

	2012		2014	
	%	(95% CI)	%	(95% CI)
MIDDLE SCHOOL				
Gender				
Male	1.1	(0.4–1.9)	5.8	(4.2–7.4)
Female	1.5	(0.6–2.5)	4.2	(2.6–5.9)
Race/Ethnicity				
White	1.5	(0.8–2.3)	4.4	(2.7–6.1)
Black	0.2*	(0.0–0.5)	7.0	(2.7–11.3)
Hispanic	0.9*	(0.0–2.0)	7.4	(3.9–10.8)
Grade				
6	0.5*	(0.0–1.2)	2.4*	(0.5–4.4)
7	0.8*	(0.3–1.4)	4.9	(2.2–7.6)
8	2.7	(1.1–4.3)	8.0	(5.1–10.9)
Total	**1.3**	**(0.7–2.0)**	**5.2**	**(3.8–6.6)**
HIGH SCHOOL				
Gender				
Male	5.2	(3.6–6.8)	17.3	(13.4–21.2)
Female	2.6	(1.4–3.7)	13.6	(10.8–16.4)
Race/Ethnicity				
White	4.4	(3.4–5.3)	16.5	(13.2–19.9)
Black	1.1	(0.0–2.4)	10.0	(7.3–12.7)
Hispanic	4.5	(2.1–6.9)	13.5	(8.1–18.8)
Grade				
9	2.4	(1.3–3.6)	10.7	(7.7–13.6)
10	3.6	(2.5–4.8)	12.2	(8.7–15.8)
11	4.4	(2.7–6.2)	15.6	(11.7–19.5)
12	5.2	(3.5–6.8)	24.1	(16.4–31.8)
Total	**3.9**	**(3.0–4.7)**	**15.6**	**(12.5–18.6)**

Notes: *Indicates data are statistically unstable because the relative standard error is >30%. These estimates should be interpreted with caution.

**In 2012, current e-cigarette use was assessed by the question, “In the past 30 days, which of the following [tobacco] products have you used on at least one day?” and was the 8th response option available. In 2014, current e-cigarette use was assessed using the question, “During the past 30 days, on how many days did you use electronic cigarettes?” Students who reported using e-cigarettes on one or more of the past 30 days were considered current e-cigarette users.

Source: ISDH/TPCC, 2015b

APPENDIX 4B - Part 1

Percentage of Indiana Students Reporting Monthly Cigarette Use, by Region and Grade (Indiana Youth Survey, 2016)

	Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	1.3	1.0	1.9*	0.7	0.6	0.9	2.1*	0.9*	2.1*
7th Grade	2.8	1.9	4.2*	3.4	2.4	2.4	3.8*	2.1	3.6*
8th Grade	5.1	4.3	5.0	5.7	3.9	4.8	5.6	4.5	6.8*
9th Grade	7.3	6.7	6.4	7.4	6.9	5.1	9.0*	8.1	10.1*
10th Grade	8.4	7.8	7.5	10.7	10.4*	6.1	10.5*	10.1*	9.1
11th Grade	11.4	10.8	11.4	11.3	10.6	8.6	12.0	13.7*	14.1*
12th Grade	14.9	13.5	13.6	21.4*	14.5	12.2	15.9	16.6	17.5*

Note: * Indicates a local rate that is significantly different from the overall state rate (P < 0.05).

Source: Gassman et al., 2016

APPENDIX 4B - Part 2

Percentage of Indiana Students Reporting Monthly E-Cigarette Use, by Region and Grade (Indiana Youth Survey, 2015)

	Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7th Grade	4.9	5.9	6.3*	3.4	2.9	4.2	5.9	4.0	5.6
8th Grade	9.4	11.1*	10.5	7.4	5.8	9.9	8.9	9.0	9.0
9th Grade	13.7	14.7	13.1	13.9	11.4	11.9	14.5	15.9*	13.0
10th Grade	15.4	16.6	15.0	13.3	16.3	12.7	16.5	17.8*	14.8
11th Grade	18.8	18.9	15.0	16.4	17.5	19.2	18.3	21.3*	20.1
12th Grade	21.6	21.1	19.3	20.8	20.7	20.7	22.2	22.2	23.9*

Note: * Indicates a local rate that is significantly different from the overall state rate (P < 0.05).

The Indiana Youth Survey did not ask 6th grade students about e-cigarette use.

Source: Gassman et al., 2016

APPENDIX 4C - Part 1

Adult Smoking Prevalence and Chronic Disease Outcomes, by County

County	Estimated Adult Smoking Rate	Estimated Number of Adult Smokers	Asthma ER Visits Age-Adjusted Rate per 10,000 (2015)	Lung Cancer Average Mortality Rate per 100,000 (2010-2014)	COPD Average Age-adjusted Mortality Rate per 100,000 (2011-2015)	Major CVD Average Age-adjusted Mortality Rate per 100,000 (2011-2015)
Adams	19%	4,586	21.9	32.8	40.0	226.3
Allen	23%	58,785	45.0	43.9	52.5	225.1
Bartholomew	21%	12,084	40.5	58.4	62.9	237.2
Benton	Unreliable	Unreliable	26.8	77.8	42.3	254.9
Blackford	25%	2,431	43.3	56.6	64.2	244.7
Boone	15%	6,302	24.4	52.7	58.5	262.4
Brown	20%	2,419	Unstable Rate	51.8	50.1	209.3
Carroll	25%	3,765	24.2	51.4	46.3	207.4
Cass	Unreliable	Unreliable	43.6	65.9	62.4	238.2
Clark	24%	20,165	25.6	65.4	63.7	265.8
Clay	21%	4,299	35.9	58.3	61.5	282.0
Clinton	27%	6,598	40.8	57.5	60.4	280.8
Crawford	Unreliable	Unreliable	24.6	78.3	47.3	261.9
Daviess	16%	3,626	47.2	52.9	55.5	260.1
Dearborn	19%	7,234	25.5	61.7	51.4	236.3
Decatur	14%	2,639	49.2	51.7	49.0	266.1
DeKalb	28%	8,743	26.0	58.6	56.5	264.2
Delaware	24%	22,894	45.0	56.6	74.9	254.1
Dubois	14%	4,474	5.6	40.6	32.7	247.5
Elkhart	21%	29,096	44.5	46.8	49.1	243.6
Fayette	32%	5,937	27.5	69.9	71.4	271.4
Floyd	18%	9,941	27.1	54	58.8	264.4
Fountain	27%	3,534	60.9	60.2	70.1	253.8
Franklin	26%	4,472	12.4	52.7	48.1	224.1
Fulton	17%	2,652	35.0	67.1	67.8	301.7
Gibson	14%	3,465	47.4	46.7	55.5	245.7
Grant	32%	17,456	59.1	62.1	68.2	250.2
Greene	32%	7,985	24.8	65.3	63.8	260.9
Hamilton	12%	22,373	19.5	35.2	36.2	173.6
Hancock	23%	11,913	29.0	58.1	46.3	216.3
Harrison	20%	5,883	23.0	70.3	56.3	231.4
Hendricks	14%	14,652	15.3	50.5	53.0	207.0
Henry	28%	10,856	46.1	60.1	55.9	256.9
Howard	24%	15,194	57.3	52.8	61.6	274.4
Huntington	29%	8,154	40.0	49.2	61.1	268.5
Jackson	20%	6,278	67.9	69.3	68.2	250.1
Jasper	22%	5,532	34.1	66.6	51.6	274.2
Jay	20%	3,195	54.2	52	62.8	271.4
Jefferson	33%	8,393	31.0	65.4	73.0	307.9
Jennings	30%	6,357	55.6	66.8	76.3	279.5
Johnson	23%	23,956	39.0	51.3	72.4	242.9
Knox	22%	6,563	43.6	56.4	65.6	300.4
Kosciusko	27%	15,760	28.7	52.7	61.3	229.5
LaGrange	23%	5,489	27.4	40.3	48.1	262.0
Lake	26%	94,794	69.9	50.9	44.5	251.8
LaPorte	28%	23,963	52.5	58.1	56.4	272.6
Lawrence	30%	10,713	50.5	67.9	56.6	294.6
Madison	28%	28,069	87.0	69.3	66.7	248.9
Marion	25%	169,834	83.4	62.4	63.9	247.0
Marshall	23%	7,976	25.9	50.6	59.0	209.1
Martin	23%	1,821	Unstable Rate	59.8	54.7	247.7
Miami	30%	8,657	45.0	60.5	45.9	324.5
Monroe	20%	22,673	22.9	48.1	43.5	185.7
Montgomery	19%	5,468	51.3	52.7	65.1	265.2
Morgan	24%	12,453	41.6	63.8	77.5	269.8
Newton	Unreliable	Unreliable	31.1	70.3	65.1	254.2

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APPENDIX 4C - Part 1

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County	Estimated Adult Smoking Rate	Estimated Number of Adult Smokers	Asthma ER Visits Age-Adjusted Rate per 10,000 (2015)	Lung Cancer Average Mortality Rate per 100,000 (2010-2014)	COPD Average Age-adjusted Mortality Rate per 100,000 (2011-2015)	Major CVD Average Age-adjusted Mortality Rate per 100,000 (2011-2015)
Noble	23%	7,833	32.8	53.5	77.8	235.8
Ohio	Unreliable	Unreliable	Unstable Rate	83.8	49.4	210.9
Orange	Unreliable	Unreliable	52.8	61.8	69.5	263.4
Owen	Unreliable	Unreliable	32.8	60.4	60.1	276.9
Parke	31%	4,224	32.3	61.8	50.5	272.6
Perry	Unreliable	Unreliable	73.8	69.8	43.9	245.8
Pike	Unreliable	Unreliable	Unstable Rate	55	50.0	240.4
Porter	19%	23,493	44.0	51.2	43.3	213.6
Posey	Unreliable	Unreliable	20.7	45.6	52.9	222.5
Pulaski	Unreliable	Unreliable	29.4	58.5	64.0	311.9
Putnam	33%	9,932	25.1	72.6	46.7	245.4
Randolph	18%	3,503	47.7	59.2	53.5	238.4
Ripley	27%	5,749	39.0	58.7	48.4	245.4
Rush	Unreliable	Unreliable	83.1	62.6	82.8	275.1
Scott	28%	5,090	51.9	79.9	78.2	281.7
Shelby	25%	8,531	51.6	54.3	49.1	252.5
Spencer	18%	2,914	22.5	46.1	50.5	204.4
St. Joseph	23%	45,517	50.6	51.3	50.2	237.1
Starke	31%	5,515	51.8	78.5	67.2	342.0
Steuben	21%	5,495	40.7	53.9	40.2	238.6
Sullivan	25%	4,138	46.8	68.5	57.5	284.7
Switzerland	Unreliable	Unreliable	Unstable Rate	73	75.6	277.8
Tippecanoe	20%	26,981	38.0	45.1	45.9	228.3
Tipton	Unreliable	Unreliable	40.4	42.9	40.2	246.0
Union	Unreliable	Unreliable	Suppressed	43.4	64.7	268.9
Vanderburgh	22%	31,432	54.9	54.1	59.3	237.3
Vermillion	Unreliable	Unreliable	48.7	74.3	72.5	392.8
Vigo	26%	22,343	44.9	62	66.9	284.8
Wabash	18%	4,679	27.4	46.6	59.3	230.9
Warren	Unreliable	Unreliable	47.3	50.4	64.1	172.3
Warrick	14%	6,278	30.1	45.4	47.5	189.9
Washington	23%	4,835	44.3	69.9	70.7	292.8
Wayne	28%	14,704	41.9	63.5	62.3	263.1
Wells	21%	4,362	28.0	41.2	51.5	206.2
White	21%	3,934	53.8	54.6	65.3	228.7
Whitley	22%	5,597	35.1	51.1	53.6	226.1
Indiana	**20.6%**	**1,004,354**	**47.4**	**55.1**	**56.2**	**243.9**

Notes:

1) County-level adult smoking prevalence estimates were calculated using combined landline and cell phone BRFSS data from 2011–2015. The statewide landline and cell phone weight was used to calculate county-level estimates. County estimates are suppressed when the relative standard error is greater than 30%, when the half-width of the 95% confidence interval is greater than 10 percentage points, or when there were fewer than 50 respondents in the county.
2) Statewide adult smoking prevalence is from the 2015 Behavioral Risk Factor Surveillance system and is not comparable to county-level estimates.
3) Estimated number of adult smokers is calculated by multiplying the estimated county or state smoking prevalence by the county or state adult population total from the 2010 U.S. Census.
4) Data source for asthma emergency department visits: Indiana State Department of Health, Asthma Program. 2015 Indiana County Age-Adjusted Emergency Department and Hospitalization Rates (http://www.in.gov/isdh/files/2015%20County%20ED%20and%20Hosp%20aa%20Rates.pdf)
5) Data source for lung cancer mortality: Indiana State Cancer Registry Report Generator (http://www.in.gov/isdh/24360.htm)
6) Data source for other chronic disease data: Centers for Disease Control and Prevention. Wide-ranging Online Data for Epidemiologic Research (WONDER).

Source: ISDH/TPCC, 2015c

APPENDIX 4C - Part 2

County	Percentage of Live Births to Mothers who Smoked during Pregnancy (2015	Estimated cost of smoking-affected births	Estimated number of people living with tobacco-related illnesses	Annual deaths due to tobacco	Annual deaths due to Secondhand Smoke (SHS)	Economic burden of SHS
Adams	8.0	$71,920	1,617	54	7	$11.5 Million
Allen	9.8	$701,353	17,715	591	73	$118.7 Million
Bartholomew	16.2	$241,116	3,923	131	16	$25.7 Million
Benton	24.3	$35,309	449	15	2	$3 Million
Blackford	25.6	$42,065	673	22	3	$4.3 Million
Boone	10.0	$104,973	2,781	93	12	$18.9 Million
Brown	21.7	$35,362	824	27	3	$5.1 Million
Carroll	21.0	$55,610	1,038	35	4	$6.7 Million
Cass	17.8	$119,653	1,972	66	8	$13 Million
Clark	13.2	$266,554	5,746	192	23	$36.8 Million
Clay	22.8	$107,130	1,397	47	6	$9 Million
Clinton	17.2	$108,613	1,665	55	7	$11.1 Million
Crawford	26.3	$42,144	561	19	2	$3.6 Million
Daviess	13.1	$92,329	1,539	51	7	$10.6 Million
Dearborn	21.1	$153,584	2,563	85	10	$16.7 Million
Decatur	23.6	$112,812	1,310	44	5	$8.6 Million
DeKalb	20.8	$149,706	2,123	71	9	$14.1 Million
Delaware	22.8	$367,833	6,427	214	24	$39.3 Million
Dubois	11.2	$86,999	2,132	71	9	$14 Million
Elkhart	10.6	$458,906	9,657	322	41	$66 Million
Fayette	27.8	$93,626	1,261	42	5	$8.1 Million
Floyd	15.2	$187,632	3,869	129	15	$24.9 Million
Fountain	21.5	$58,394	892	30	4	$5.8 Million
Franklin	18.6	$57,085	1,165	39	5	$7.7 Million
Fulton	23.1	$81,561	1,070	36	4	$7 Million
Gibson	17.3	$91,154	1,732	58	7	$11.2 Million
Grant	36.1	$371,110	3,749	125	14	$23.4 Million
Greene	24.0	$109,835	1,727	58	7	$11.1 Million
Hamilton	2.0	$105,978	13,089	436	57	$91.7 Million
Hancock	10.1	$113,018	3,529	118	14	$23.4 Million
Harrison	20.6	$126,446	2,053	68	8	$13.1 Million
Hendricks	7.6	$181,749	7,208	240	30	$48.6 Million
Henry	21.2	$137,038	2,624	87	10	$16.5 Million
Howard	22.6	$300,156	4,314	144	17	$27.6 Million
Huntington	17.5	$103,140	1,935	64	8	$12.4 Million
Jackson	17.7	$138,451	2,183	73	9	$14.2 Million
Jasper	21.5	$111,533	1,700	57	7	$11.2 Million
Jay	18.3	$76,045	1,066	36	4	$7.1 Million
Jefferson	31.3	$157,695	1,714	57	7	$10.8 Million
Jennings	27.1	$115,558	1,434	48	6	$9.5 Million
Johnson	13.7	$350,325	7,018	234	29	$46.6 Million
Knox	25.8	$151,007	2,066	69	8	$12.8 Million
Kosciusko	13.4	$186,885	3,930	131	16	$25.8 Million
LaGrange	6.9	$70,558	1,661	55	8	$12.4 Million
Lake	9.1	$730,346	25,185	839	102	$165.7 Million
LaPorte	22.8	$414,896	5,880	196	23	$37.2 Million
Lawrence	30.4	$205,178	2,408	80	10	$15.4 Million
Madison	22.1	$453,178	6,915	231	27	$44 Million
Marion	10.9	$2,136,254	46,232	1,541	186	$301.8 Million
Marshall	16.4	$135,409	2,350	78	10	$15.7 Million
Martin	20.0	$35,308	536	18	2	$3.5 Million

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APPENDIX 4C - Part 2

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County	Percentage of Live Births to Mothers who Smoked during Pregnancy (2015	Estimated cost of smoking-affected births	Estimated number of people living with tobacco-related illnesses	Annual deaths due to tobacco	Annual deaths due to Secondhand Smoke (SHS)	Economic burden of SHS
Miami	19.3	$98,023	1,947	65	8	$12.3 Million
Monroe	14.9	$273,769	7,889	263	28	$46.1 Million
Montgomery	21.6	$138,744	1,980	66	8	$12.7 Million
Morgan	25.8	$271,882	3,522	117	14	$23 Million
Newton	26.9	$62,467	749	25	3	$4.8 Million
Noble	18.5	$164,304	2,369	79	10	$15.9 Million
Ohio	14.8	$10,853	330	11	1	$2 Million
Orange	27.5	$89,628	1,021	34	4	$6.6 Million
Owen	30.3	$93,816	1,131	38	4	$7.2 Million
Parke	14.9	$46,134	931	31	4	$5.8 Million
Perry	24.7	$78,825	1,038	35	4	$6.5 Million
Pike	23.4	$43,535	681	23	3	$4.3 Million
Porter	9.6	$223,451	8,498	283	34	$54.9 Million
Posey	15.4	$59,603	1,350	45	5	$8.7 Million
Pulaski	23.7	$43,449	697	23	3	$4.5 Million
Putnam	20.2	$99,302	2,047	68	8	$12.7 Million
Randolph	19.6	$80,117	1,352	45	5	$8.7 Million
Ripley	22.5	$98,998	1,450	48	6	$9.6 Million
Rush	19.1	$48,763	894	30	4	$5.8 Million
Scott	28.0	$114,072	1,255	42	5	$8.1 Million
Shelby	21.4	$143,853	2,294	76	9	$14.8 Million
Spencer	14.7	$38,129	1,085	36	4	$7 Million
St. Joseph	11.4	$538,746	13,734	458	55	$89.2 Million
Starke	29.7	$106,075	1,207	40	5	$7.8 Million
Steuben	27.2	$153,660	1,800	60	7	$11.4 Million
Sullivan	18.9	$52,872	1,153	38	4	$7.2 Million
Switzerland	28.6	$48,937	539	18	2	$3.5 Million
Tippecanoe	11.4	$369,691	9,361	312	36	$57.7 Million
Tipton	12.5	$24,444	836	28	3	$5.3 Million
Union	26.1	$24,456	385	13	2	$2.5 Million
Vanderburgh	17.4	$525,041	9,549	318	37	$60 Million
Vermillion	27.2	$62,425	852	28	3	$5.4 Million
Vigo	20.1	$350,751	5,792	193	22	$36 Million
Wabash	22.5	$103,276	1,737	58	7	$11 Million
Warren	21.5	$23,066	445	15	2	$2.8 Million
Warrick	9.5	$88,114	3,023	101	12	$19.9 Million
Washington	17.2	$77,547	1,444	48	6	$9.4 Million
Wayne	22.1	$236,493	3,622	121	14	$23 Million
Wells	16.8	$77,341	1,416	47	6	$9.2 Million
White	23.1	$95,050	1,276	43	5	$8.2 Million
Whitley	18.6	$100,530	1,715	57	7	$11.1 Million
Indiana	**14.3**	**$16,315,012**	**333,000**	**11,100**	**1,337**	

Notes:

1) Data source for smoking during pregnancy rates: Indiana State Department of Health. Indiana Natality Report, State and County Data 2014. Published December 2015.
2) Costs of smoking-affected births are calculated by multiplying the estimated number of smoking-affected births by $1,358 (the estimated cost per smoking-affected birth as calculated by Miller et al., 2001).
3) County-level estimates of the number of people living with a tobacco-related illness, deaths due to tobacco, deaths due to secondhand smoke, and economic burden of secondhand smoke represent the county's pro-rata share of tobacco-related illnesses based on the county's 2010 adult population.
4) The economic burden of secondhand smoke includes medical costs and premature death.

Source: ISDH/TPCC, 2015c

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5 Marijuana Use in Indiana: Consumption Patterns and Consequences

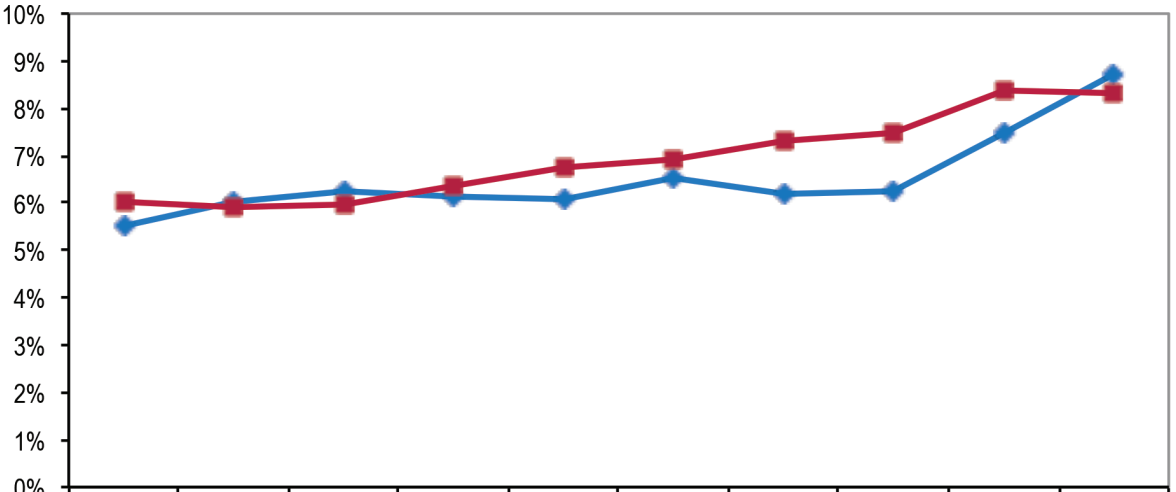
MARIJUANA CONSUMPTION

Marijuana is a product of the hemp plant, known as Cannabis sativa. Found in the dried leaves, stems, seeds, and flowers, delta-9-tetrahydrocannabinol (THC) is the primary psychoactive (mind-altering) chemical. The drug can be consumed in different ways: by smoking "joints" or "blunts" (hand-rolled cigarettes or cigars filled only with cannabis, not tobacco) and hookah (water pipes), mixing into foods, or brewing as tea (Hall & Solowij, 1998; National Institute on Drug Abuse [NIDA], 2016a). Recent studies show an increase in edible consumption of marijuana, especially in states that allow medical use of marijuana (NIDA, 2016a).

General Consumption Patterns

Marijuana is the most commonly used illicit drug in the United States (Azofeifa et al., 2016). According to the 2015 National Survey on Drug Use and Health (NSDUH), an estimated 8.7% (95% Confidence Interval [CI]: 7.4–10.2) of Indiana residents ages 12 and older reported current (past-month) marijuana use (U.S.: 8.3%; 95% CI: 8.1–8.6); past-year use was estimated at 13.9% (95% CI: 12.3–15.7; U.S.: 13.4%; 95% CI: 13.1–13.7) (Substance Abuse and Mental Health Services Administration [SAMHSA], 2017). For 10-year trend data on past-month marijuana use, see Figure 5.1.

Figure 5.1 Percentage of Indiana and U.S. Population (Ages 12 and Older) Reporting Current Marijuana Use (National Survey on Drug Use and Health, 2006–2015)



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Indiana	5.5%	6.0%	6.3%	6.1%	6.1%	6.5%	6.2%	6.3%	7.5%	8.7%
U.S.	6.0%	5.9%	6.0%	6.4%	6.8%	6.9%	7.3%	7.5%	8.4%	8.3%

Source: SAMHSA, 2017

Adult Consumption Patterns

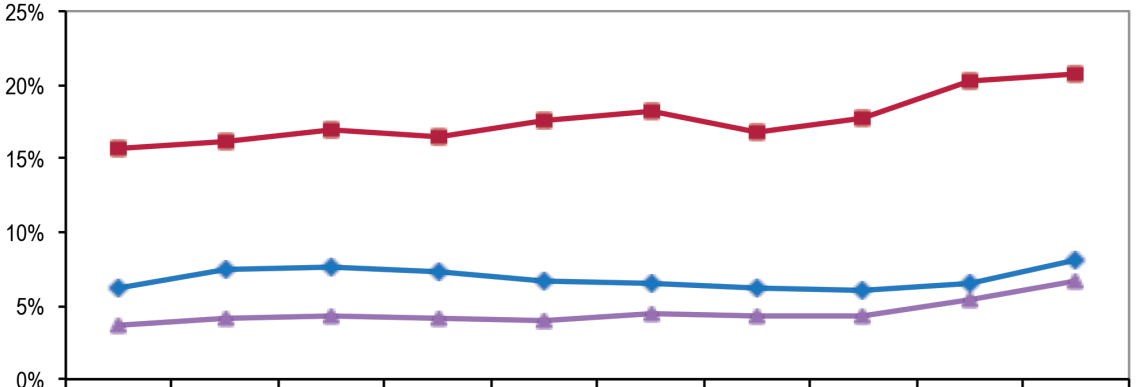
In the past decade, patterns of adult marijuana use in Indiana and the United States were similar. According to the 2015 NSDUH report, the highest prevalence was among individuals aged 18 to 25, with 20.7% (95% CI: 17.8–24.0) of Hoosiers in this age group reporting current marijuana use (U.S.: 19.7%; 95% CI: 19.1–20.3) and 33.6% (95% CI: 30.1–37.2) reporting past-year use (U.S.: 32.1; 95% CI: 31.4–32.8) (SAMHSA, 2017).

Prevalence rates were significantly lower in adults ages 26 and older, with 6.7% (95% CI: 5.4–8.3) of Hoosiers in that age group reporting past-month marijuana use (U.S.: 6.6%; 95% CI: 6.3–6.8) and 10.4% (95% CI: 8.7–12.4) reporting use in the past year (U.S.: 10.3%; 95% CI: 9.9–10.6) (SAMSHA, 2017). See Figure 5.2 for current marijuana use rates by age group in Indiana.

An estimated 9.0% (95% CI: 7.3–11.0) of Hoosiers ages 18 to 25 initiated marijuana, i.e., used marijuana for the first time, in the past year (U.S.: 7.9%; 95% CI: 7.5–8.3), as did 0.3% (95% CI: 0.2–0.5) of individuals 26 years and older (U.S.: 0.3%; 95% CI: 0.3–0.4) (SAMHSA, 2017).

Marijuana use was also prevalent among college students. Results from the 2016 Indiana College Substance Use Survey, based on twenty participating colleges and universities, showed that 19.6% of Indiana college students reported current marijuana use (U.S.: 21.1%). Users were more likely to be male and under the age of 21 (King & Jun, 2016).[1]

Figure 5.2 Percentage of Indiana Residents Reporting Current Marijuana Use, by Age Group (National Survey on Drug Use and Health, 2006–2015)



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
12-17	6.2%	7.4%	7.6%	7.2%	6.7%	6.5%	6.2%	6.0%	6.5%	8.1%
18-25	15.6%	16.2%	16.9%	16.5%	17.5%	18.2%	16.8%	17.7%	20.3%	20.7%
26 and older	3.6%	4.1%	4.3%	4.2%	4.1%	4.4%	4.3%	4.3%	5.4%	6.7%

Source: SAMHSA, 2017

[1]Twenty Indiana colleges participated in the survey; results are based on nonrandom sampling and are not representative of all college students in Indiana.

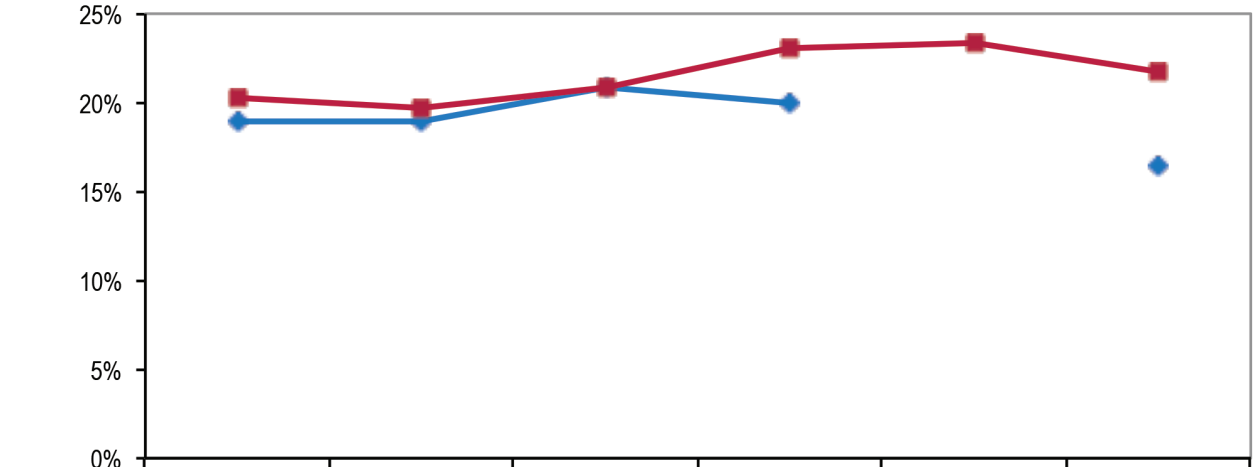
Youth Consumption Patterns

Age of first use is an important risk factor in the subsequent progression to substance abuse and dependence (King & Chassin, 2007). Adolescents who used marijuana by the age of 17 were found to be at greater risk of using other drugs and developing alcohol and drug abuse/dependence (Lynskey et al., 2003).

According to 2015 NSDUH findings, 12.1% (95% CI: 10.1–14.5) of 12- to 17-year-olds in Indiana reported using marijuana in the past year (U.S.: 13.5%; 95% CI: 13.1–13.9) and 8.1% (95% CI: 6.4-10.1) in the past month (U.S.: 7.2%; 95% CI: 6.9-7-6). Initiation, or first-time use, was reported in 6.0% (95% CI: 5.0-7.1) of Indiana youth in that age group (U.S.: 5.4%; 95% CI: 5.2–5.7) (SAMHSA, 2017). For past-month marijuana prevalence rates by age group in Indiana, see Figure 5.2.

The 2015 Youth Risk Behavior Surveillance System (YRBSS) estimated that 16.4% (95% CI: 14.1–18.9) of Indiana high school students (grades 9 through 12) used marijuana in the past month; a percentage significantly lower than the national rate of 21.7% (95% CI: 19.3–24.2). Use was more likely to occur in higher grade levels and in black or Hispanic students (Centers for Disease Control and Prevention [CDC], 2017). For more detailed information, see Table 5.1 and Figure 5.3.

Figure 5.3 Percentage of Indiana and U.S. High School Students Currently Using Marijuana (Youth Risk Behavior Surveillance System, 2005–2015)



	2005	2007	2009	2011	2013	2015
Indiana	18.9%	18.9%	20.9%	20.0%		16.4%
U.S.	20.2%	19.7%	20.8%	23.1%	23.4%	21.7%

Note: 2013 estimates for Indiana are not available.
Source: CDC, 2017

In 2015, 6.2% (95% CI: 5.3–7.4) of Indiana students reported having tried marijuana before the age of 13; that figure was comparable to the national rate (7.5%; 95% CI: 6.5–8.7) (CDC, 2017). For more detailed information, see Table 5.2.

Data from the Indiana Youth Survey (Gassman et al., 2016), and the Monitoring the Future (MTF) survey (Inter-university Consortium for Political and Social Research (ICPSR), 2016) show that marijuana use among 8th, 10th, and 12th grade students increased with grade level/age. Prevalence rates for current marijuana use in Indiana and the nation were similar; however, due to lack of detail in the publicly available dataset, statistical significance could not be determined. For current marijuana use trends among 8th, 10th, and 12th grade students from 2007 through 2016, see Figure 5.4; for monthly marijuana use by Indiana region and grade level for 2016, see Appendix 5A, page 85.

Table 5.1 Percentage of Indiana and U.S. High School Students Reporting Current (Past Month) Marijuana Use, by Grade, Gender, and Race/Ethnicity (Youth Risk Behavior Surveillance System, 2015)

		Indiana Prevalence Rate (95% CI)	U.S. Prevalence Rate (95% CI)
Grade	9th	13.7% (10.4–17.9)	15.2% (16.8–23.5)
	10th	16.8% (12.5–22.2)	20.0% (24.0–30.4)
	11th	17.0% (13.2–21.7)	24.8% (22.3–27.5)
	12th	18.4% (14.1–23.7)	27.6% (23.8–31.6)
Gender	Male	16.4% (13.8–19.4)	23.2% (20.4–26.3)
	Female	15.9% (12.7–19.7)	20.1% (17.6–22.9)
Race/Ethnicity	Black	23.2% (17.1–30.7)	28.9% (26.3–31.6)
	White	14.9% (12.4–17.8)	20.4% (17.8–23.3)
	Hispanic	18.1% (13.6–23.6)	27.6% (24.6–30.7)
Total		**16.4% (14.1–18.9)**	**21.7% (19.3–24.2)**

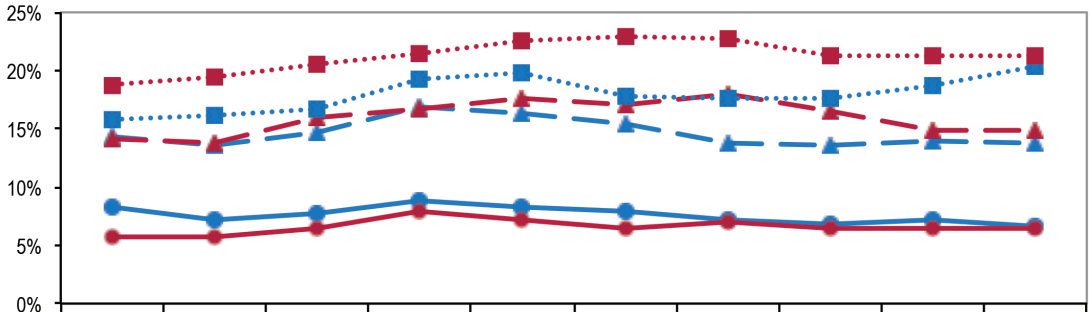
Source: CDC, 2017

Table 5.2 Percentage of Indiana and U.S. High School Students Reporting Marijuana Initiation Before Age 13, by Grade, Gender, and Race/Ethnicity (Youth Risk Behavior Surveillance System, 2015)

		Indiana Prevalence Rate (95% CI)	U.S. Prevalence Rate (95% CI)
Grade	9th	10.2% (7.6–13.4)	8.5% (7.1–10.1)
	10th	6.2% (4.4–8.8)	8.3% (6.5–10.5)
	11th	4.9% (3.1–7.6)	6.7% (5.3–8.4)
	12th	3.6% (2.1–6.1)	6.1% (4.9–7.5)
Gender	Male	6.9% (5.8–8.2)	9.2% (7.7–11.0)
	Female	5.2% (3.5–7.7)	5.6% (4.6–6.9)
Race/Ethnicity	Black	6.7% (4.0–11.2)	13% (9.6–17.5)
	White	5.4% (4.1–7.2)	6.7% (5.2–8.7)
	Hispanic	10.1% (6.9–14.5)	13.6% (11.7–15.7)
Total		**6.2% (5.3–7.4)**	**7.5% (6.5–8.7)**

Source: CDC, 2017

Figure 5.4 Percentage of Indiana and U.S. 8th, 10th, and 12th Grade Students Reporting Current Marijuana Use (Indiana Youth Survey and Monitoring the Future Survey, 2007–2016)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Indiana 8th Grade	8.3%	7.1%	7.8%	8.9%	8.3%	8.0%	7.1%	6.8%	7.1%	6.6%
U.S. 8th Grade	5.7%	5.8%	6.5%	8.0%	7.2%	6.5%	7.0%	6.5%	6.5%	6.5%
Indiana 10th Grade	14.4%	13.5%	14.6%	16.8%	16.4%	15.4%	13.7%	13.6%	14.0%	13.7%
U.S. 10th Grade	14.2%	13.8%	15.9%	16.7%	17.6%	17.0%	18.0%	16.6%	14.8%	14.8%
Indiana 12th Grade	15.8%	16.2%	16.7%	19.2%	19.8%	17.8%	17.6%	17.6%	18.8%	20.3%
U.S. 12th Grade	18.8%	19.4%	20.6%	21.4%	22.6%	22.9%	22.7%	21.2%	21.3%	21.3%

Source: Gassman et al., 2016; ICPSR, 2016

CONSEQUENCES OF MARIJUANA USE

Health-Related Consequences

The use of marijuana can result in adverse physical, mental, emotional, and behavioral changes. Short-term effects include memory impairment and learning problems, distorted perception, difficulty thinking and solving problems, loss of coordination, and increased heart rate. Long-term use has been linked to respiratory illnesses and an increased risk of heart attack and cancer (Crean, Crane, & Mason, 2011; Volkow, Baler, Compton, & Weiss, 2014). Furthermore, prolonged marijuana use can lead to mental health problems such as depression, anxiety, suicidal thoughts, and personality disturbances (Patton et al., 2002; Caspi et al., 2005).

Babies born to women who used marijuana during their pregnancy may be at an increased risk for neurobehavioral problems, potentially exhibiting difficulties with attention, memory, and problem solving (NIDA, 2016a).

Marijuana Dependence

The Treatment Episode Data Set (TEDS) collects information from clients being admitted to substance abuse treatment. The data show that from 2005 through 2014, Indiana exhibited a significantly higher percentage of treatment episodes reporting marijuana use and dependence[2] compared to the rest of the United States. From 2005 through 2014, roughly one-half of Indiana treatment admissions reported marijuana use (see Figure 5.5) and about one-fifth indicated marijuana dependence (see Figure 5.6) (SAMHSA, 2014).

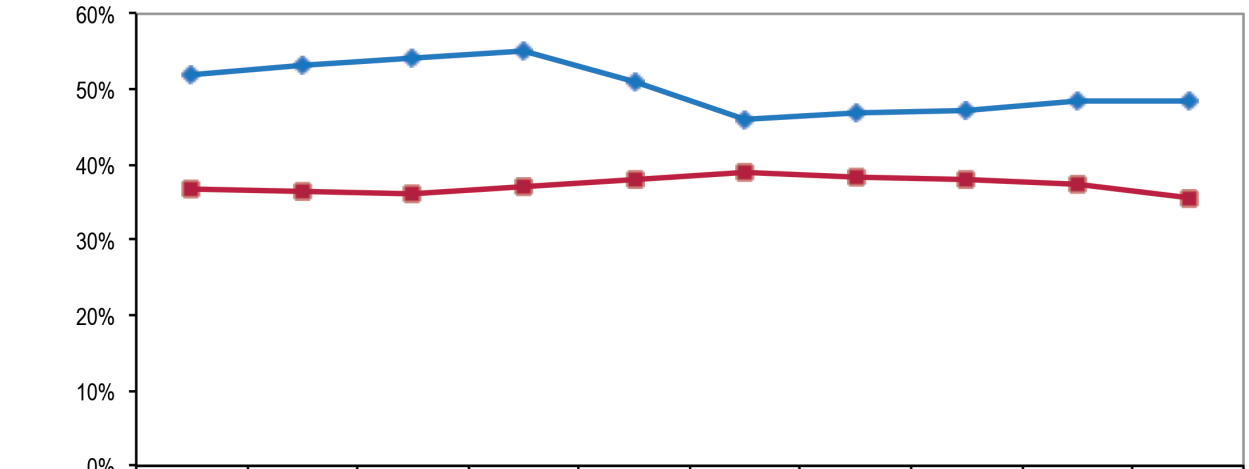
Statistically significant differences in marijuana use among Indiana's treatment population were observed by gender, race, and age, as follows:

- Across the years, the percentage of males reporting marijuana use and dependence was higher than the percentage of females (see Figures 5.7 and 5.8).
- The percentage of blacks who report marijuana use and dependence was higher compared to Whites and other races (see Figures 5.9 and 5.10).
- Marijuana use and dependence in the treatment population decreased by age; i.e., the highest percentage was found among adolescents under the age of 18 and the lowest among older adults ages 55 and above (see Figures 5.11 and 5.12).

For county-level information on marijuana use and dependence, see Appendix 5B, page 86 (Indiana Family and Social Services Administration, 2016).

[2]We defined marijuana dependence as "individuals in substance abuse treatment listing marijuana as their primary substance at admission."

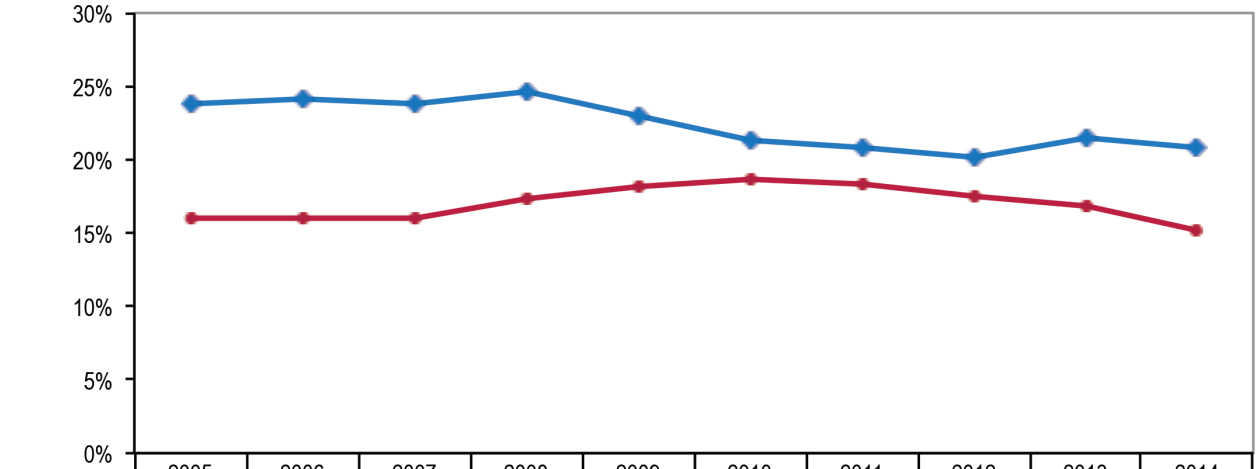
Figure 5.5 Percentage of Indiana and U.S. Treatment Episodes with Marijuana Use Reported at Treatment Admission (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indiana	52.0%	53.1%	54.0%	55.0%	51.0%	46.0%	46.9%	47.2%	48.3%	48.3%
U.S.	36.6%	36.4%	36.0%	37.1%	38.0%	39.0%	38.2%	38.0%	37.3%	35.6%

Source: SAMHSA, 2014

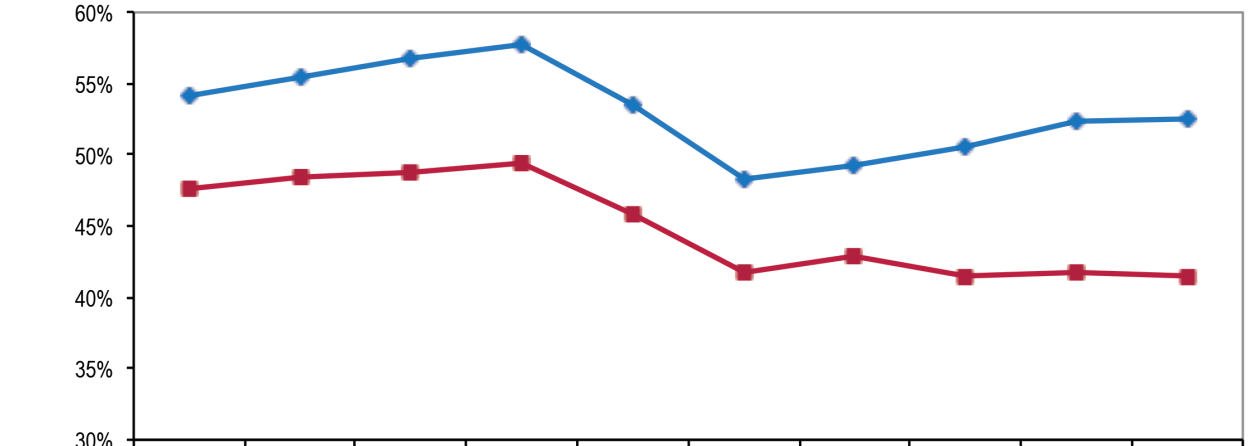
Figure 5.6 Percentage of Indiana and U.S. Treatment Episodes with Marijuana Dependence Reported at Treatment Admission (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indiana	23.8%	24.1%	23.8%	24.7%	23.0%	21.4%	20.9%	20.1%	21.5%	20.8%
U.S.	16.0%	16.0%	16.0%	17.3%	18.2%	18.6%	18.3%	17.5%	16.8%	15.2%

Source: SAMHSA, 2014

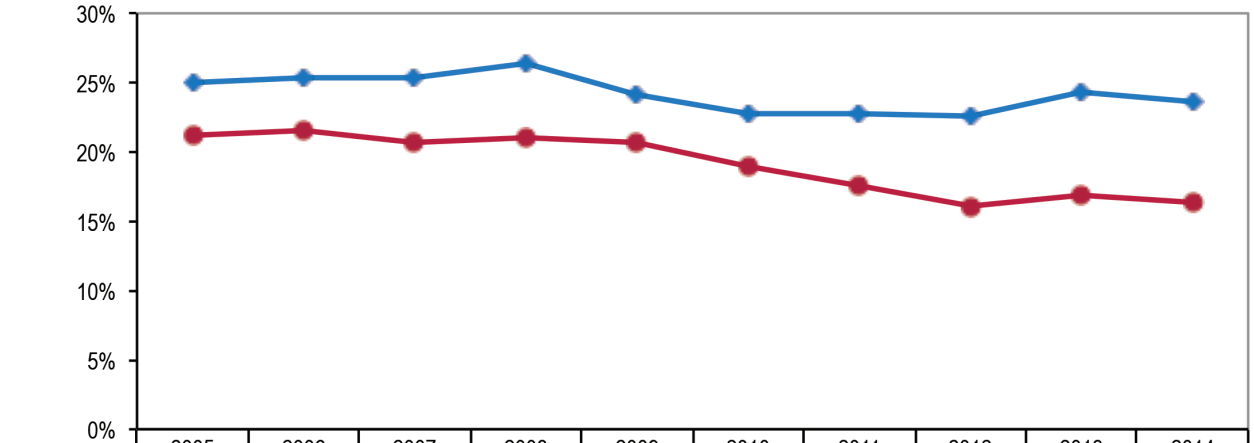
Figure 5.7 Percentage of Indiana Treatment Episodes with Marijuana Use Reported at Treatment Admission, by Gender (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Male	54.1%	55.5%	56.7%	57.7%	53.5%	48.3%	49.2%	50.6%	52.4%	52.5%
Female	47.7%	48.4%	48.7%	49.5%	45.9%	41.8%	42.9%	41.5%	41.7%	41.5%

Source: SAMHSA, 2014

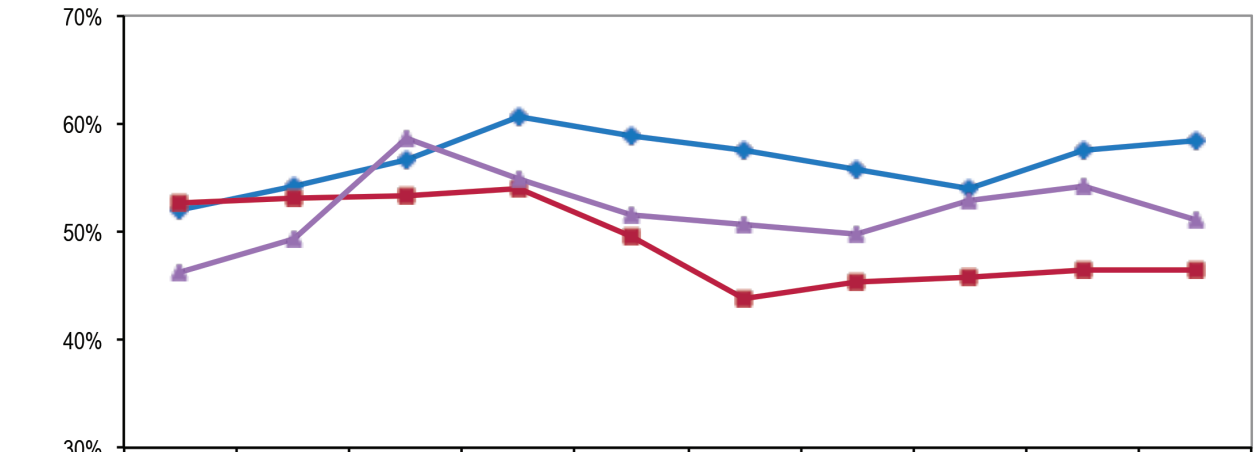
Figure 5.8 Percentage of Indiana Treatment Episodes with Marijuana Dependence Reported at Treatment Admission, by Gender (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Male	25.0%	25.4%	25.4%	26.4%	24.2%	22.8%	22.7%	22.5%	24.4%	23.7%
Female	21.2%	21.6%	20.6%	21.1%	20.6%	19.0%	17.6%	16.1%	16.8%	16.3%

Source: SAMHSA, 2014

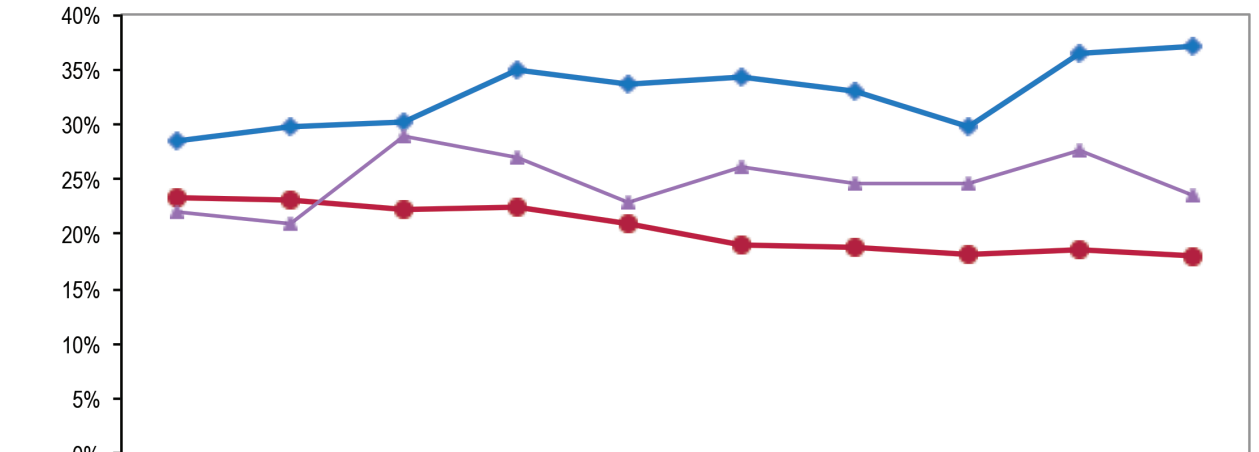
Figure 5.9 Percentage of Indiana Treatment Episodes with Marijuana Use Reported at Treatment Admission, by Race (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Black	52.0%	54.2%	56.6%	60.6%	58.8%	57.6%	55.8%	54.0%	57.6%	58.4%
White	52.7%	53.2%	53.3%	53.9%	49.6%	43.8%	45.4%	45.7%	46.4%	46.4%
Other	46.2%	49.4%	58.6%	54.9%	51.5%	50.7%	49.7%	52.9%	54.2%	51.2%

Source: SAMHSA, 2014

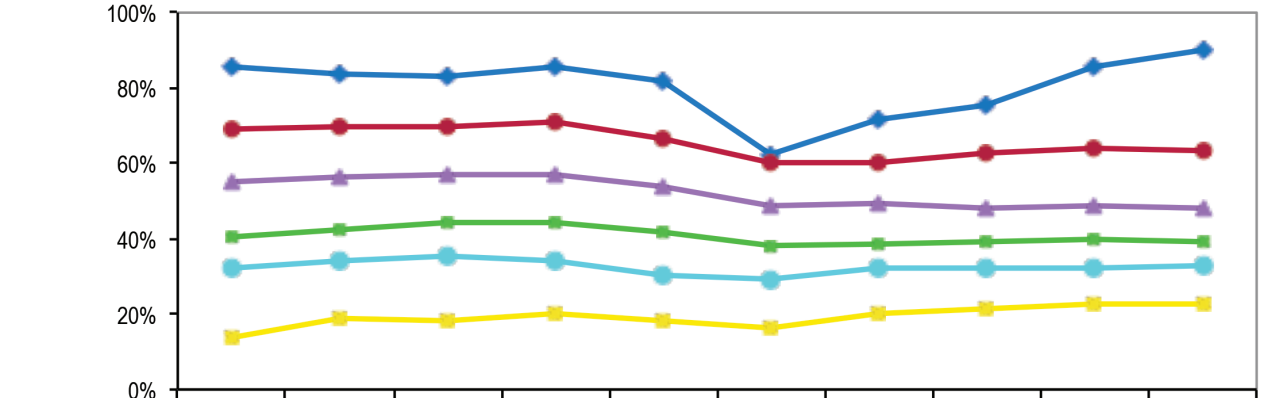
Figure 5.10 Percentage of Indiana Treatment Episodes with Marijuana Dependence Reported at Treatment Admission, by Race (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Black	28.4%	29.8%	30.2%	35.0%	33.7%	34.4%	32.9%	29.8%	36.4%	37.2%
White	23.3%	23.1%	22.2%	22.4%	20.9%	18.9%	18.7%	18.1%	18.5%	18.0%
Other	22.1%	20.9%	28.8%	27.0%	22.9%	26.0%	24.7%	24.6%	27.7%	23.5%

Source: SAMHSA, 2014

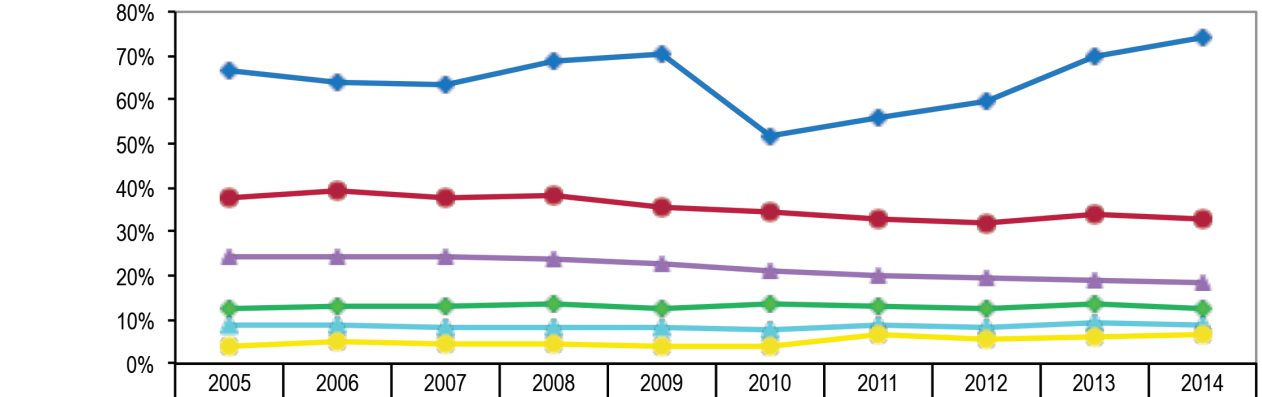
Figure 5.11 Percentage of Indiana Treatment Episodes with Marijuana Use Reported at Treatment Admission, by Age Group (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
under 18	85.9%	83.8%	83.3%	85.8%	82.0%	62.4%	71.9%	75.6%	85.8%	90.3%
18 to 24	68.9%	70.0%	69.7%	70.7%	66.3%	60.1%	60.4%	62.7%	64.2%	63.1%
25 to 34	55.2%	56.2%	57.0%	57.3%	53.9%	48.9%	49.1%	48.0%	48.5%	48.4%
35 to 44	40.8%	42.4%	44.0%	44.0%	41.5%	38.2%	38.9%	39.2%	39.6%	39.5%
45 to 54	32.1%	34.1%	35.1%	34.2%	30.3%	29.3%	32.2%	32.1%	32.2%	32.8%
55 and over	13.5%	19.2%	18.3%	20.0%	18.3%	16.5%	20.1%	21.3%	22.5%	22.7%

Source: SAMHSA, 2014

Figure 5.12 Percentage of Indiana Treatment Episodes with Marijuana Dependence Reported at Treatment Admission, by Age Group (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
under 18	66.4%	64.1%	63.3%	68.8%	70.3%	51.8%	56.2%	59.7%	69.6%	74.4%
18 to 24	37.9%	39.3%	37.6%	38.4%	35.7%	34.3%	33.0%	32.0%	34.0%	32.7%
25 to 34	24.4%	24.4%	24.3%	23.7%	22.8%	20.9%	20.2%	19.3%	19.1%	18.2%
35 to 44	12.5%	13.2%	13.0%	13.7%	12.6%	13.6%	13.1%	12.3%	13.5%	12.5%
45 to 54	8.7%	8.7%	8.5%	8.0%	8.0%	7.6%	8.7%	8.0%	9.4%	8.9%
55 and over	4.2%	5.2%	4.5%	4.5%	3.9%	4.0%	6.6%	5.8%	6.2%	6.4%

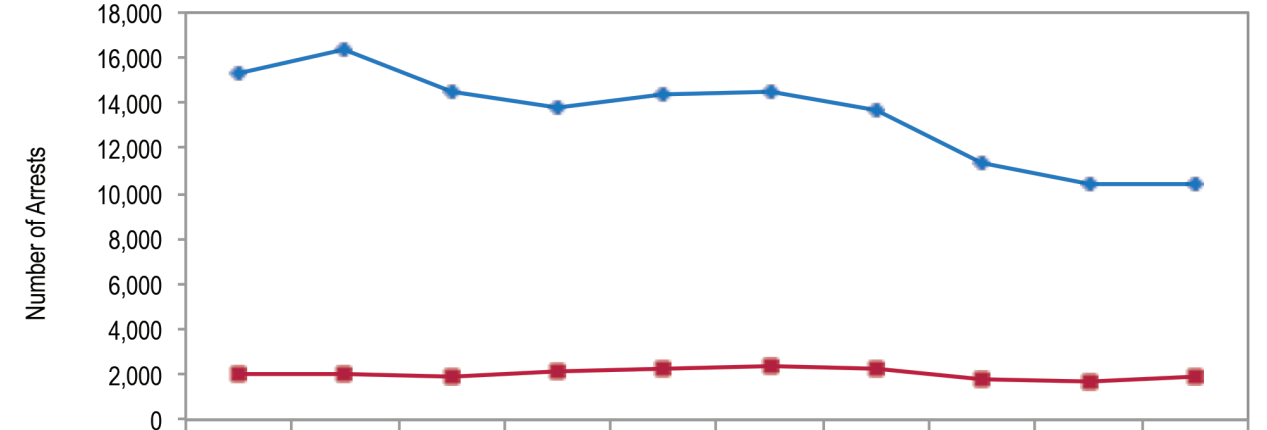
Source: SAMHSA, 2014

Criminal Consequences

The Uniform Crime Reporting (UCR) program collects drug violation arrest data nationwide. According to 2014 results, more than 10,000 arrests for possession of marijuana were made in Indiana, representing an arrest rate of 1.6 (95% CI: 1.6–1.6) per 1,000 population; the U.S. rate was the same. Additionally, more than 1,900 Hoosiers were arrested for selling marijuana; reflecting an arrest rate of 0.2 per 1,000 population (95% CI: 0.2–0.2); again, the U.S. rate was the same (see Figures 5.13 and 5.14) (Federal Bureau of Investigation [FBI], 2014).

Maps 5.1 and 5.2 (pages 89 and 90) and Appendix 5C (pages 87-88) depict the distribution of arrests for possession and sale/manufacture of marijuana by county.

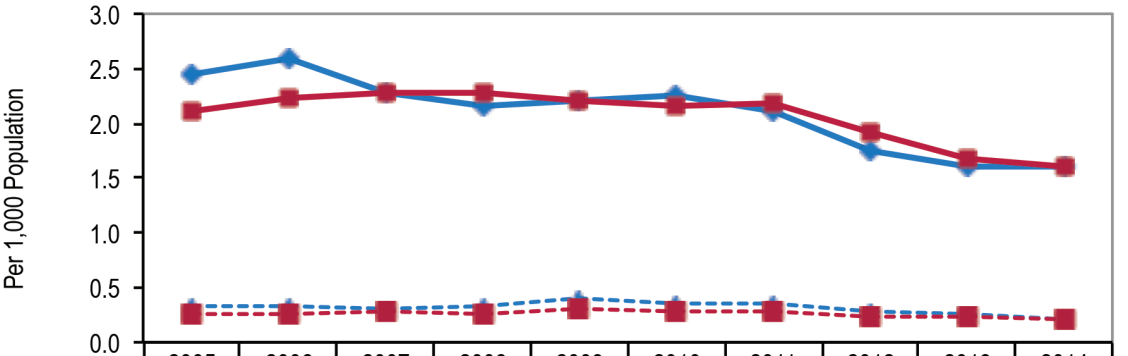
Figure 5.13 Number of Indiana Arrests for Marijuana Possession and Sale/Manufacture (Uniform Crime Reporting Program, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Possession	15,358	16,373	14,493	13,797	14,432	14,552	13,702	11,385	10,474	10,392
Sales	2,053	2,082	1,904	2,106	2,297	2,324	2,241	1,839	1,695	1,903

Source: FBI, 2014

Figure 5.14 Indiana and U.S. Arrest Rates for Marijuana Possession and Sale/Manufacture per 1,000 Population (Uniform Crime Reporting Program, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indiana Possession	2.4	2.6	2.3	2.2	2.2	2.2	2.1	1.7	1.6	1.6
U.S. Possession	2.1	2.2	2.3	2.3	2.2	2.2	2.2	1.9	1.7	1.6
Indiana Sales	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.2
U.S. Sales	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2

Source: FBI, 2014

APPENDIX 5A

Percentage of Indiana Students Reporting Monthly Marijuana Use, by Region and Grade (Indiana Youth Survey, 2016)

	Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	1.0	0.9	1.0	1.2	0.2	1.5*	1.3	0.5	0.8
7th Grade	2.8	3.1	4.4*	3.7	1.5	1.9	5.3*	2.0	2.4
8th Grade	6.6	8.4*	8.5*	4.6	3.5	7.7*	8.9*	3.8	5.4
9th Grade	10.0	11.8*	9.8	5.5	6.8	9.3	13.8*	8.5	8.5
10th Grade	13.7	16.1*	17.0*	9.3	13.8	12.7	16.8*	9.5	10.9
11th Grade	16.2	20.8*	16.5	13.4	13.3	16.3	17.9	13.8	12.5
12th Grade	20.3	24.5*	21.5	15.9	21.6	19.9	21.9	14.3	18.8

Note: * Indicates a local rate that is significantly different from the overall state rate ($P < 0.05$).

Source: Gassman et al., 2016

APPENDIX 5B

Number of Treatment Episodes with Marijuana Use and Dependence Reported at Treatment Admission in Indiana, by County (Substance Abuse Population by County/Treatment Episode Data Set, 2016)

	Treatment Episodes	Marijuana Use		Marijuana Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**
Adams	295	173	58.6%	79	26.8%
Allen	1,618	980	60.6%	416	25.7%
Bartholomew	581	291	50.1%	87	15.0%
Benton	50	32	64.0%	11	22.0%
Blackford	82	44	53.7%	13	15.9%
Boone	187	75	40.1%	47	25.1%
Brown	83	38	45.8%	12	14.5%
Carroll	84	43	51.2%	8	9.5%
Cass	253	132	52.2%	46	18.2%
Clark	313	65	20.8%	40	12.8%
Clay	181	80	44.2%	35	19.3%
Clinton	227	108	47.6%	47	20.7%
Crawford	45	22	48.9%	6	13.3%
Daviess	169	62	36.7%	35	20.7%
Dearborn	449	225	50.1%	61	13.6%
Decatur	212	117	55.2%	46	21.7%
DeKalb	242	144	59.5%	45	18.6%
Delaware	1,138	459	40.3%	195	17.1%
Dubois	280	162	57.9%	69	24.6%
Elkhart	654	321	49.1%	185	28.3%
Fayette	234	85	36.3%	31	13.2%
Floyd	117	15	12.8%	8	6.8%
Fountain	48	23	47.9%	6	12.5%
Franklin	166	75	45.2%	20	12.0%
Fulton	143	87	60.8%	31	21.7%
Gibson	295	138	46.8%	64	21.7%
Grant	436	257	58.9%	70	16.1%
Greene	204	86	42.2%	41	20.1%
Hamilton	893	424	47.5%	239	26.8%
Hancock	193	100	51.8%	53	27.5%
Harrison	31	<5	N/A	<5	N/A
Hendricks	351	146	41.6%	77	21.9%
Henry	330	111	33.6%	51	15.5%
Howard	610	249	40.8%	67	11.0%
Huntington	147	84	57.1%	39	26.5%
Jackson	298	147	49.3%	53	17.8%
Jasper	105	56	53.3%	13	12.4%
Jay	188	114	60.6%	35	18.6%
Jefferson	366	178	48.6%	55	15.0%
Jennings	223	106	47.5%	37	16.6%
Johnson	275	133	48.4%	57	20.7%
Knox	298	125	41.9%	49	16.4%
Kosciusko	381	238	62.5%	78	20.5%
LaGrange	186	111	59.7%	44	23.7%
Lake	2,339	929	39.7%	473	20.2%
LaPorte	377	136	36.1%	43	11.4%
Lawrence	485	235	48.5%	84	17.3%
Madison	1,278	700	54.8%	380	29.7%
Marion	3,645	1,626	44.6%	806	22.1%
Marshall	205	106	51.7%	58	28.3%
Martin	62	35	56.5%	16	25.8%
Miami	272	150	55.1%	43	15.8%
Monroe	1,180	559	47.4%	196	16.6%
Montgomery	374	216	57.8%	98	26.2%
Morgan	482	217	45.0%	93	19.3%
Newton	33	20	60.6%	<5	N/A
Noble	307	208	67.8%	84	27.4%
Ohio	40	17	42.5%	7	17.5%
Orange	160	82	51.3%	39	24.4%
Owen	199	94	47.2%	41	20.6%
Parke	67	28	41.8%	14	20.9%
Perry	102	63	61.8%	32	31.4%
Pike	53	22	41.5%	10	18.9%
Porter	410	166	40.5%	70	17.1%
Posey	170	84	49.4%	33	19.4%
Pulaski	109	47	43.1%	16	14.7%
Putnam	215	105	48.8%	60	27.9%
Randolph	170	88	51.8%	39	22.9%
Ripley	184	92	50.0%	32	17.4%
Rush	138	87	63.0%	35	25.4%
Saint Joseph	1,231	565	45.9%	302	24.5%
Scott	165	40	24.2%	9	5.5%
Shelby	168	91	54.2%	38	22.6%
Spencer	144	76	52.8%	38	26.4%
Starke	193	78	40.4%	15	7.8%
Steuben	298	154	51.7%	80	26.8%
Sullivan	78	37	47.4%	12	15.4%
Switzerland	63	28	44.4%	11	17.5%
Tippecanoe	404	231	57.2%	91	22.5%
Tipton	70	38	54.3%	21	30.0%
Union	22	10	45.5%	<5	N/A
Vanderburgh	1,319	727	55.1%	320	24.3%
Vermillion	123	55	44.7%	27	22.0%
Vigo	803	432	53.8%	220	27.4%
Wabash	225	135	60.0%	37	16.4%
Warren	9	5	55.6%	<5	N/A
Warrick	267	143	53.6%	45	16.9%
Washington	63	18	28.6%	7	11.1%
Wayne	438	195	44.5%	71	16.2%
Wells	128	86	67.2%	40	31.3%
White	110	47	42.7%	11	10.0%
Whitley	105	59	56.2%	22	21.0%
County Info Missing	27	7	25.9%	<5	N/A
Indiana	**33,170**	**16,034**	**48.3%**	**6,927**	**20.9%**

Note: We defined marijuana dependence as “individuals in substance abuse treatment listing marijuana as their primary substance at admission.”

We calculated the percentages by dividing the number of reported marijuana use/dependence by the number of treatment episodes.

Information on treatment episodes <5 was suppressed due to confidentiality constraints.

Source: Indiana Family and Social Services Administration, 2016

APPENDIX 5C

Number and Rate, per 1,000 Population, of Arrests for Marijuana Possession and Sale/Manufacture in Indiana, by County (Uniform Crime Reporting Program, 2014)

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Adams	31	0.9	9	0.3
Allen	567	1.6	42	0.1
Bartholomew	156	2.0	6	0.1
Benton	13	1.5	3	0.3
Blackford	23	1.9	2	0.2
Boone	125	2.0	9	0.1
Brown	14	0.9	3	0.2
Carroll	26	1.3	6	0.3
Cass	119	3.1	44	1.1
Clark	368	3.2	39	0.3
Clay	43	1.6	8	0.3
Clinton	66	2.0	9	0.3
Crawford	6	0.6	8	0.8
Daviess	69	2.1	2	0.1
Dearborn	78	1.6	14	0.3
Decatur	71	2.7	7	0.3
DeKalb	66	1.6	19	0.4
Delaware	255	2.2	4	0.0
Dubois	57	1.3	16	0.4
Elkhart	343	1.7	19	0.1
Fayette	46	1.9	9	0.4
Floyd	90	1.2	11	0.1
Fountain	27	1.6	6	0.4
Franklin	5	0.2	30	1.4
Fulton	22	1.1	6	0.3
Gibson	54	1.6	6	0.2
Grant	109	1.6	5	0.1
Greene	14	0.4	5	0.2
Hamilton	621	2.1	45	0.1
Hancock	83	1.1	29	0.4
Harrison	10	0.3	9	0.2
Hendricks	169	1.1	51	0.3
Henry	90	1.8	10	0.2
Howard	127	1.5	19	0.2
Huntington	40	1.1	15	0.4
Jackson	139	3.2	12	0.3
Jasper	31	0.9	14	0.4
Jay	47	2.2	3	0.1
Jefferson	58	1.8	12	0.4
Jennings	31	1.1	6	0.2
Johnson	411	2.8	31	0.2
Knox	59	1.6	13	0.3
Kosciusko	126	1.6	23	0.3
LaGrange	21	0.5	5	0.1
Lake	1,025	2.1	356	0.7
LaPorte	206	1.9	54	0.5
Lawrence	83	1.8	14	0.3
Madison	246	1.9	48	0.4
Marion	301	0.3	38	0.0

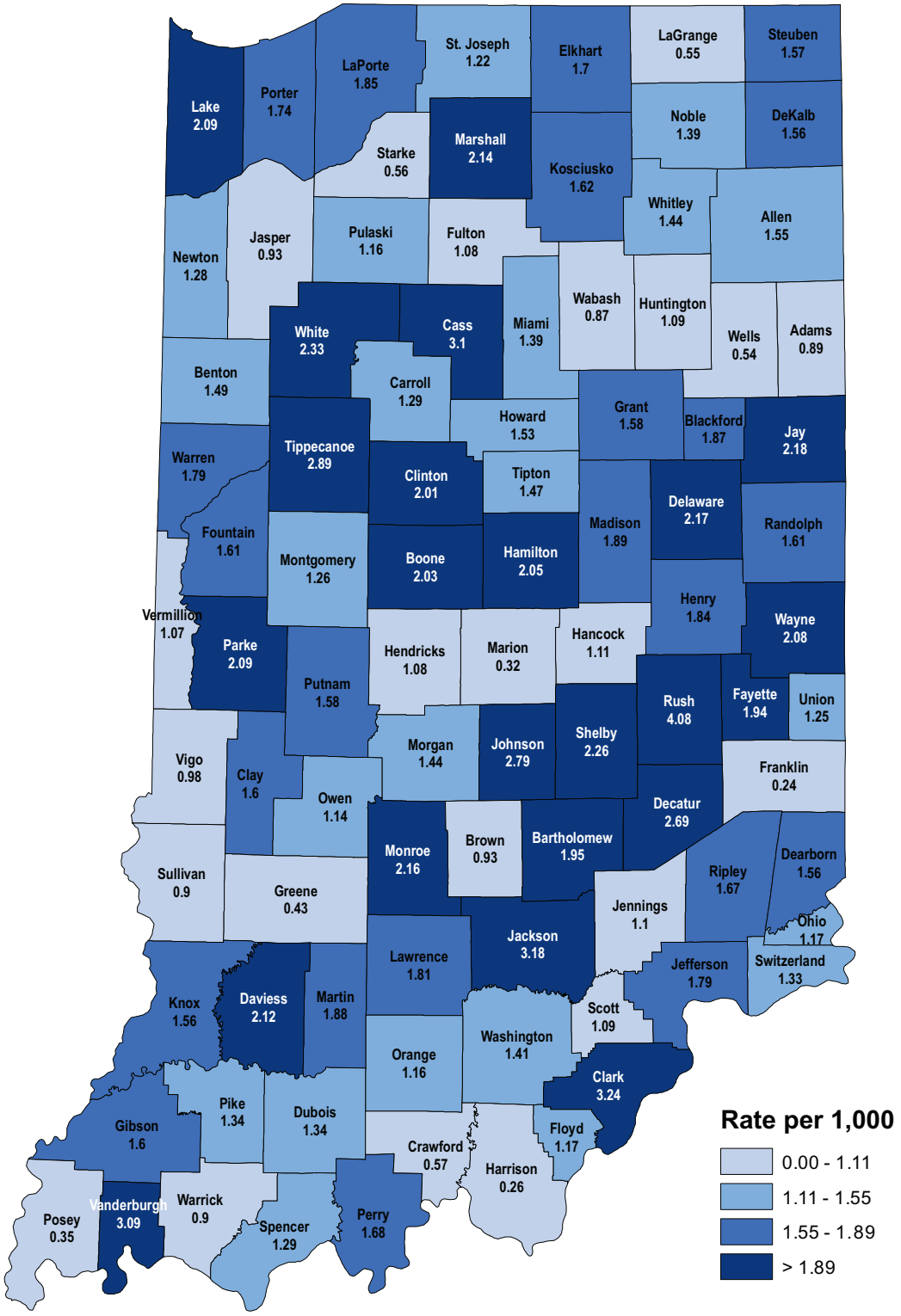
(continued on next page)

APPENDIX 5C *(Continued from previous page)*

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Marshall	101	2.1	25	0.5
Martin	19	1.9	1	0.1
Miami	50	1.4	45	1.2
Monroe	308	2.2	23	0.2
Montgomery	48	1.3	11	0.3
Morgan	101	1.4	66	0.9
Newton	18	1.3	0	0.0
Noble	66	1.4	4	0.1
Ohio	7	1.2	1	0.2
Orange	23	1.2	9	0.5
Owen	24	1.1	4	0.2
Parke	36	2.1	8	0.5
Perry	33	1.7	6	0.3
Pike	17	1.3	58	4.6
Porter	291	1.7	26	0.2
Posey	9	0.4	5	0.2
Pulaski	15	1.2	4	0.3
Putnam	59	1.6	10	0.3
Randolph	41	1.6	6	0.2
Ripley	50	1.7	18	0.6
Rush	69	4.1	9	0.5
Saint Joseph	325	1.2	72	0.3
Scott	26	1.1	4	0.2
Shelby	101	2.3	24	0.5
Spencer	27	1.3	7	0.3
Starke	13	0.6	9	0.4
Steuben	54	1.6	3	0.1
Sullivan	19	0.9	2	0.1
Switzerland	14	1.3	4	0.4
Tippecanoe	526	2.9	43	0.2
Tipton	23	1.5	6	0.4
Union	9	1.2	2	0.3
Vanderburgh	562	3.1	104	0.6
Vermillion	17	1.1	15	0.9
Vigo	106	1.0	38	0.4
Wabash	28	0.9	9	0.3
Warren	15	1.8	3	0.4
Warrick	55	0.9	11	0.2
Washington	39	1.4	8	0.3
Wayne	141	2.1	27	0.4
Wells	15	0.5	3	0.1
White	57	2.3	1	0.0
Whitley	48	1.4	15	0.5
Indiana	**10,392**	**1.6**	**1,903**	**0.3**

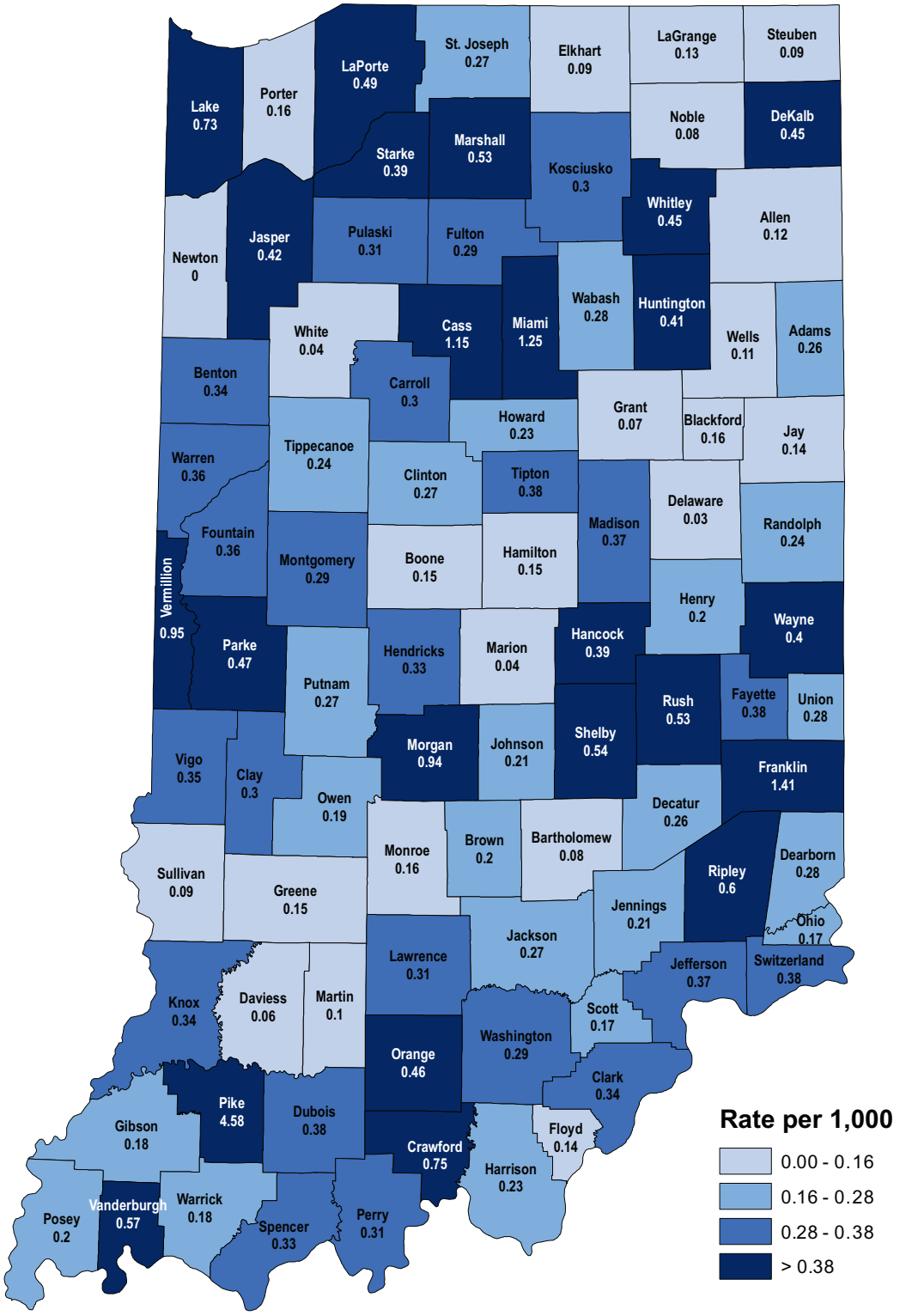
* Rates based on arrest numbers lower than 20 are unreliable.
Source: FBI, 2014

Map 5.1 Marijuana Possession Arrest Rates in Indiana, by County (Uniform Crime Reporting Program, 2014)



Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 5C (pages 89-90) for additional information.
Source: FBI, 2014

Map 5.2 Marijuana Sale/Manufacture Arrest Rates in Indiana, by County (Uniform Crime Reporting Program, 2014)



Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 5C (pages 89-90) for additional information.
Source: FBI, 2014

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6 Cocaine Use in Indiana: Consumption Patterns and Consequences

COCAINE CONSUMPTION

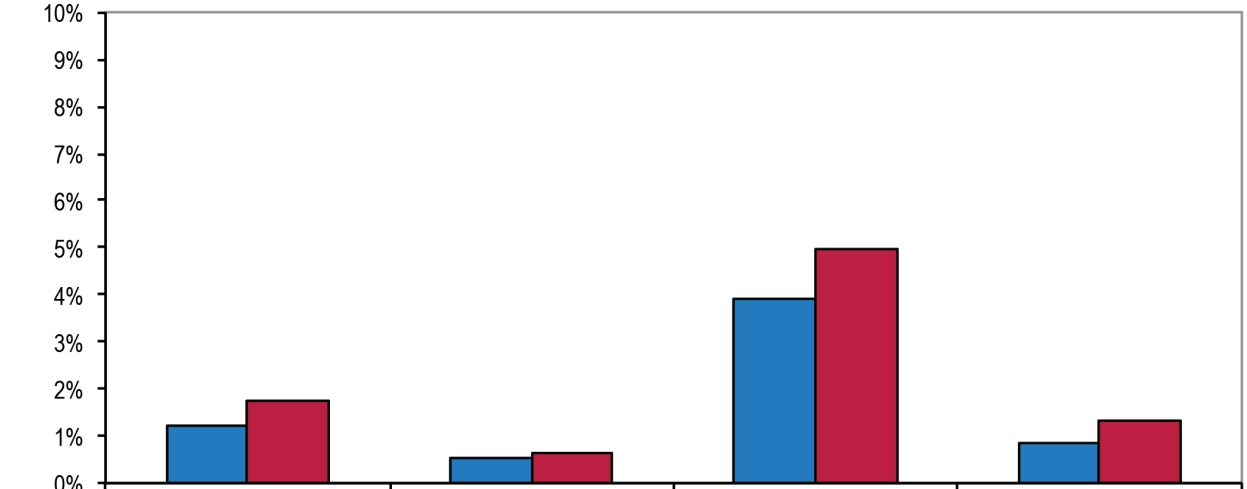
Cocaine is a highly addictive stimulant made from the leaves of the coca plant. Use of the drug results in an increase in levels of dopamine, the neurotransmitter responsible for motivation and reward. Due to the short duration of the desired effects, individuals who use cocaine will often increase the dose or take the drug repeatedly in order to boost the duration and intensity of the high. Cocaine can be snorted, smoked, or injected. When snorted, cocaine powder is inhaled through the nose where it is absorbed into the bloodstream through the nasal tissues, resulting in a high that may last 15 to 30 minutes. When injected, a needle is used to release the drug directly into the bloodstream. Smoking involves inhaling cocaine vapor or smoke into the lungs where absorption into the bloodstream results in a high that may last 5 to 10 minutes (National Institute on Drug Abuse [NIDA], 2016a, 2016b).

Crack is a popular form of cocaine in which the drug is processed into a rock crystal (often called "freebase cocaine") and then heated to produce vapors. These vapors are then inhaled. The name "crack" refers to the crackling sound made when the rock is heated (NIDA, 2016a, 2016b).

General Consumption Patterns

The National Survey on Drug Use and Health (NSDUH) provides national and state-level estimates of alcohol, tobacco, and other drug use. According to 2015 data, 1.2% (95% Confidence Interval [CI]: 0.9–1.8) of Indiana residents ages 12 and older reported having used cocaine in the past year (U.S.: 1.8%; 95% CI: 1.7–1.9) (see Figure 6.1) (Substance Abuse and Mental Health Services Administration [SAMHSA], 2017).

Figure 6.1 Percentage of Indiana and U.S. Population (12 Years and Older) Reporting Cocaine Use in the Past Year, by Age Group (National Survey on Drug Use and Health, 2015)

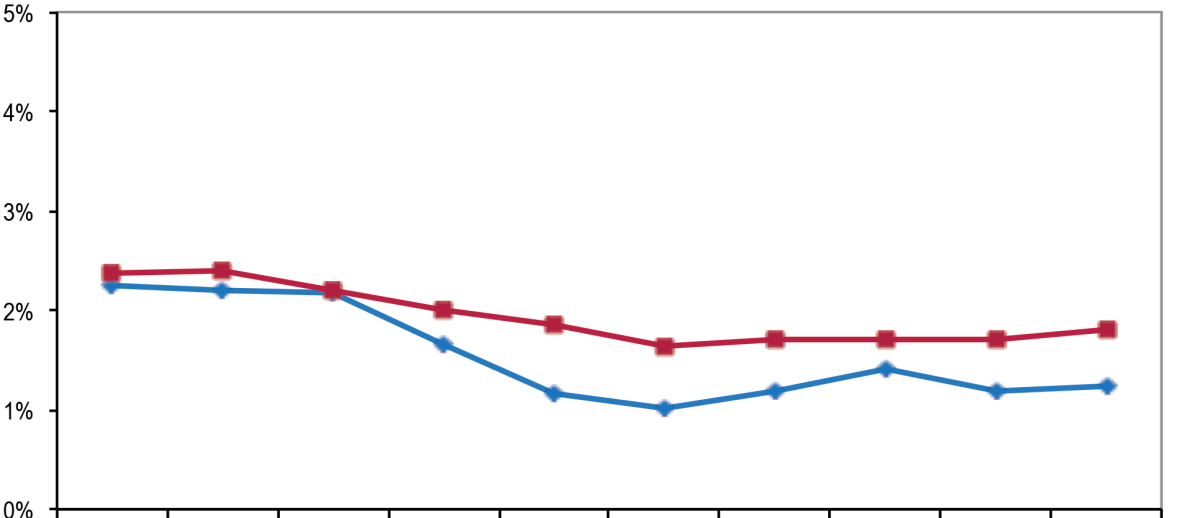


	Total	12-17	18-25	26 and older
Indiana	1.2%	0.5%	3.9%	0.9%
U.S.	1.8%	0.6%	5.0%	1.4%

Source: SAMHSA, 2017

NSDUH data from 2006 through 2015 show that past-year cocaine use in Indiana has slightly decreased over the past ten years, mirroring national rates (see Figure 6.2).

Figure 6.2 Percentage of Indiana and U.S. Population (12 Years and Older) Reporting Cocaine Use in the Past Year (National Survey on Drug Use and Health, 2006–2015)



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Indiana	2.2%	2.2%	2.2%	1.7%	1.2%	1.0%	1.2%	1.4%	1.2%	1.2%
U.S.	2.4%	2.4%	2.2%	2.0%	1.9%	1.6%	1.7%	1.7%	1.7%	1.8%

Source: SAMHSA, 2017

Adult Consumption Patterns

According to 2015 NSDUH estimates, the prevalence rate for cocaine use in Indiana was highest among 18- to 25-year-olds with 3.9% (95% CI: 2.8–5.5) of Hoosiers in that age group reporting past-year use. Adults ages 26 and older had a significantly lower rate (0.9%; 95% CI: 0.5–1.4) (see Figure 6.1) (SAMHSA, 2017).

The Indiana College Substance Use Survey provides estimates of alcohol, tobacco, and other drug use among Indiana college students. According to findings from the 2016 survey, which were based on 20 participating colleges and universities, 6.8% of Indiana college students reported having used cocaine at least once in their life, most of whom (65.4%) initiated use after starting college. Within Indiana, 1.9% of college students used cocaine in the past month (U.S.: 1.5%). Males reported significantly higher rates of current use (3.0%) than females (1.5%). Students over age 21 reported slightly higher rates of current use (2.1%) compared to students under age 21 (1.7%); however, this difference was statistically not significant (King & Jun, 2016).[1]

[1]Twenty colleges participated in the 2016 survey; results are based on nonrandom sampling and are not representative of all college students in Indiana.

Table 6.1 Percentage of Indiana and U.S. High School Students (Grades 9 through 12) Reporting Lifetime Cocaine Use, by Gender, Race/Ethnicity, and Grade (Youth Risk Behavior Surveillance System, 2015)

		Indiana (95% CI)	U.S. (95% CI)
Gender	Male	5.2% (3.4–7.9)	6.3% (5.1–7.9)
	Female	2.7% (1.7–4.2)	3.8% (3.1–4.6)
Race/Ethnicity	White	3.6% (2.3–5.6)	4.1% (3.3–5.2)
	Black	3.7% (1.2–10.7)	3.8% (2.5–6.0)
	Hispanic	7.9% (4.2–14.1)	8.0% (6.6–9.7)
Grade	9	3.5% (1.6–7.2)	3.4% (2.6–4.5)
	10	4.7% (3.4–6.5)	5.1% (3.8–6.8)
	11	4.7% (2.6–8.6)	5.0% (3.9–6.5)
	12	3.4% (1.8–6.3)	7.2% (5.6–9.1)
Total		4.0% (2.9–5.7)	5.2% (4.3–6.2)

Source: CDC, 2017

Youth Consumption Patterns

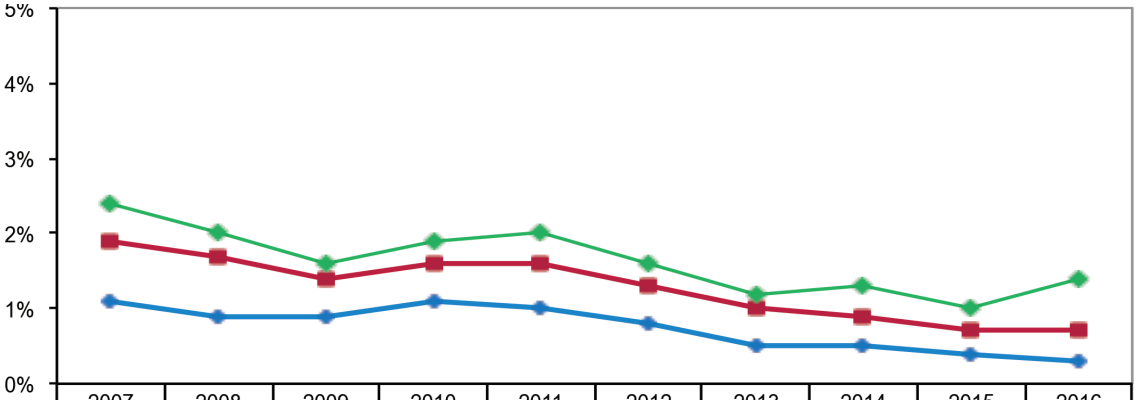
Findings from the 2015 NSDUH survey show that 0.5% (95% CI: 0.3–0.9) of 12- to 17-year-old Hoosiers used cocaine in the past year (see Figure 6.1). The national rate for this age group was similar (0.64%; 95% CI: 0.54–0.77) (SAMHSA, 2017).

According to the 2015 Youth Risk Behavior Surveillance System (YRBSS), 4.0% (95% CI: 2.9–5.7) of Indiana high school students (grades 9-12) reported that they had used a form of cocaine at least once in their life. National rates for lifetime use were similar, at 5.2% (95% CI: 4.3–6.2). The difference in Indiana prevalence rates by gender, race/ethnicity, or grade level was not statistically significant (see Table 6.1) (Centers for Disease Control and Prevention [CDC], 2017).

Overall prevalence of lifetime cocaine use among Indiana's high school students decreased from 7.9% (95% CI: 6.5–9.5) in 2003 to 4.0% (95% CI: 2.9–5.7) in 2016 (CDC, 2017).

According to the annual Indiana Youth Survey, rates of current cocaine and crack use among Indiana 8th, 10th, and 12th grade students have been on a downward trend since 2007, although there was a statistically significant increase in use rates among 12th graders from 2015 to 2016 (see Figure 6.3) (Gassman et al., 2016). For 2016 data on current cocaine and crack use among students in grades 7 through 12, by Indiana region, see Appendix 6A, page 99.

Figure 6.3 Percentage of Indiana 8th, 10th, and 12th Grade Students Reporting Current Cocaine/Crack Use (Indiana Youth Survey, 2007–2016)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
8th Grade	1.1%	0.9%	0.9%	1.1%	1.0%	0.8%	0.5%	0.5%	0.4%	0.3%
10th Grade	1.9%	1.7%	1.4%	1.6%	1.6%	1.3%	1.0%	0.9%	0.7%	0.7%
12th Grade	2.4%	2.0%	1.6%	1.9%	2.0%	1.6%	1.2%	1.3%	1.0%	1.4%

Source: Gassman, et al., 2016

CONSEQUENCES

Health Consequences

The effects of cocaine appear almost immediately after its use and tend to wear off within less than an hour. Cocaine's effects depend on the amount taken and its route of administration. Taken in small amounts, cocaine can make the user feel euphoric, energetic, talkative, and mentally alert; it might also decrease the need for food and sleep temporarily. Large amounts of the drug can intensify the euphoria, but may lead to bizarre, erratic, and even violent behavior. The route of a drug's administration affects its rate of absorption. Faster absorption of cocaine produces a more intense high, but is also shorter in duration. Cocaine use can lead to severe medical complications, including cardiovascular problems, respiratory difficulties, neurological effects, gastrointestinal complications, and may be fatal (NIDA, 2016b).

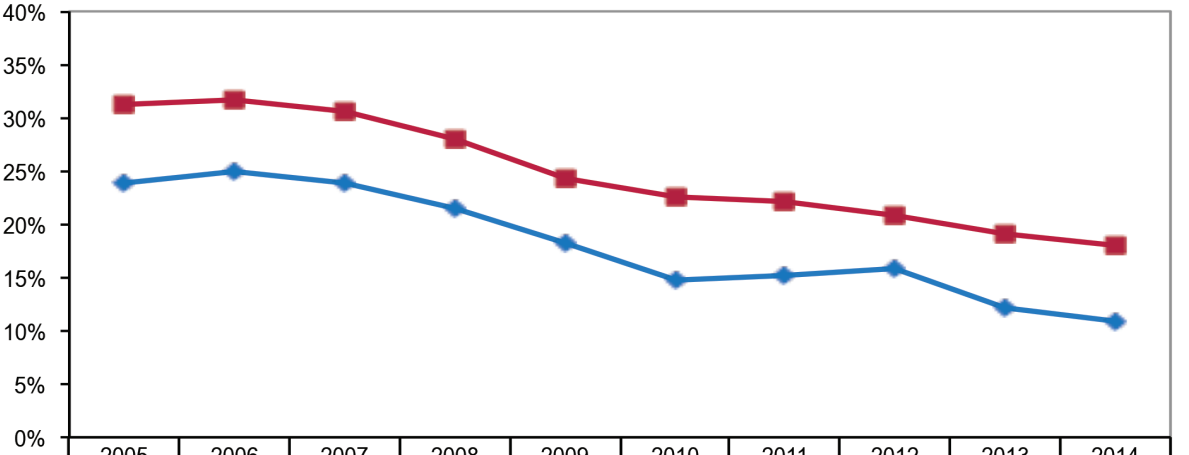
In addition, the effects of cocaine can extend beyond the user. Using cocaine during pregnancy may result in premature delivery, low birthweight, or neonatal abstinence syndrome (NIDA, 2016a). Additionally, users who inject cocaine intravenously are at higher risk for acquiring and/or transmitting HIV/AIDS and hepatitis C (HCV), if needles or other injection equipment are shared. Furthermore, use of cocaine can impair the immune system and cell function which usually results in more severe and advanced progression of HIV and HCV. However, even cocaine users who do not inject drugs are

Table 6.2 Percentage of Indiana Treatment Episodes with Cocaine Use Reported at Treatment Admission, by Gender, Race, and Age Group (Treatment Episode Data Set, 2014)

		Cocaine Use	Cocaine Dependence
Gender	Male	10.0%	3.3%
	Female	12.3%	4.5%
Race	White	8.8%	2.2%
	Black	23.5%	13.5%
	Other	12.2%	3.7%
Age Group	Under 18	1.8%	0.2%
	18-24	4.8%	1.2%
	25-34	9.5%	2.5%
	35-44	15.1%	5.9%
	45-54	19.7%	8.4%
	55 and over	15.7%	6.8%
Total		**10.9%**	**3.8%**

Source: SAMHSA, 2014

Figure 6.4 Percentage of Indiana and U.S. Treatment Episodes with Cocaine Use Reported at Treatment Admission (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indiana	23.8%	25.0%	23.9%	21.4%	18.3%	14.8%	15.2%	15.8%	12.2%	10.9%
U.S.	31.2%	31.7%	30.5%	27.9%	24.3%	22.6%	22.1%	20.8%	19.0%	18.0%

Source: SAMHSA, 2014

at an increased risk of contracting HIV, because they are more likely to engage in sexual risk behaviors related to HIV-transmission (NIDA, 2016b).

Cocaine Abuse and Dependence

According to findings from the 2014 Treatment Episode Data Set (TEDS), cocaine use was reported in 10.9% of treatment episodes in Indiana (U.S.: 18.0%) and dependence[2] in 3.8% (U.S.: 5.4%). Treatment admissions with reported cocaine use or dependence have been on a downward trend in Indiana and the United States at least for the past 10 years (see Figures 6.4 and 6.5) (SAMHSA, 2014).

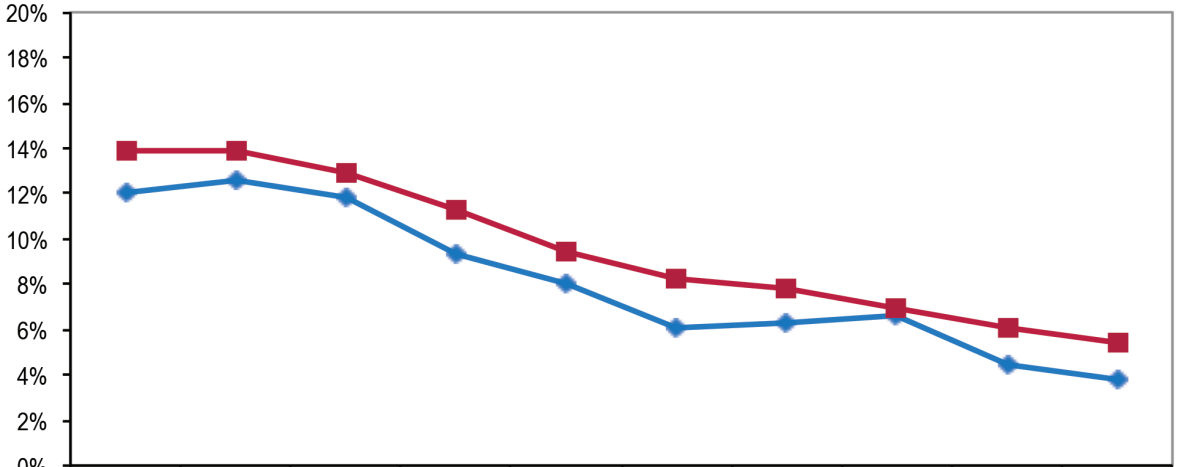
Gender, race, and age differences were associated with cocaine use and dependence in Indiana ($P < 0.001$). Generally, more women than men, more blacks than whites or other races, and more adults ages 35 and older reported use or dependence of the drug (see Table 6.2). (For county-level information on cocaine use, see Appendix 6B, page 100.)

Legal and Criminal Consequences

Possession or sale/manufacturing of cocaine can result in legal consequences. The Uniform Crime Reporting (UCR) Program provides the number of arrests for offenses regarding cocaine and opiates combined. In 2014, there were over 1,600 arrests for the possession of cocaine and opiates and 1,556 arrests for the sale/manufacturing of these drugs (see Figure 6.6). This translates to an arrest rate for possession of 0.2 per 1,000 (95% CI: 0.2–0.2) in Indiana compared to the national arrest rate for possession of 0.7 (95% CI: 0.7–0.7) (see Figure 6.7). While the national rate for possession was higher than Indiana's, arrest rates for sale/manufacture of cocaine and opiates were the same at 0.2 per 1,000 (Federal Bureau of Investigation (FBI), 2014).

The number and rates of arrests for both possession and sale/manufacture of cocaine and opiates steadily decreased from 2006 to 2012 and have remained relatively stable both nationally and in Indiana (see Figures 6.6 and 6.7). Maps 6.1 and 6.2 (pages 103-104) and Appendix 6C (pages 101-102) show Indiana's cocaine/opiates possession and sale/manufacture arrests by county for 2014.

Figure 6.5 Percentage of Indiana and U.S. Treatment Episodes with Cocaine Dependence Reported at Treatment Admission (Treatment Episode Data Set, 2005–2014)

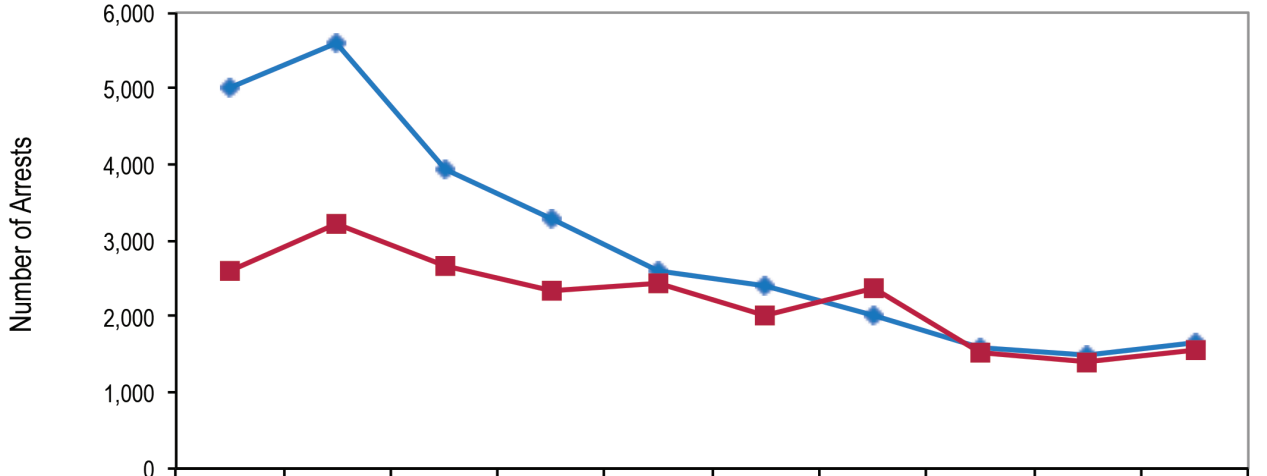


	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indiana	12.1%	12.6%	11.8%	9.3%	8.0%	6.1%	6.3%	6.6%	4.5%	3.8%
U.S.	13.9%	13.9%	12.9%	11.3%	9.4%	8.2%	7.8%	6.9%	6.1%	5.4%

Source: SAMHSA, 2014

[2]We defined cocaine dependence as "individuals in substance abuse treatment listing cocaine as their primary substance at admission."

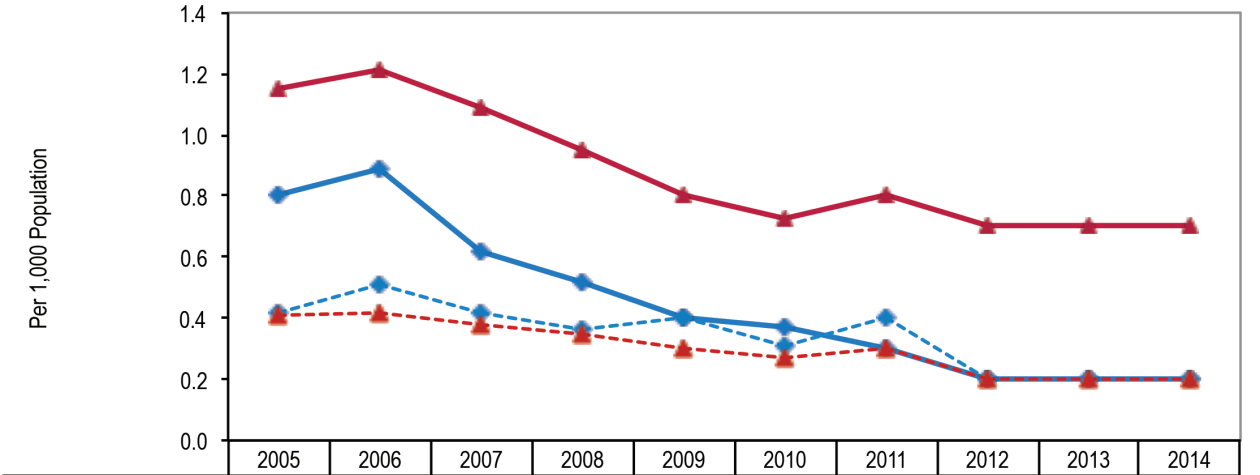
Figure 6.6 Number of Arrests for Cocaine and Opiates Possession and Sale/Manufacture in Indiana (Uniform Crime Reporting Program, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Possession	5,020	5,608	3,937	3,301	2,617	2,397	2,004	1,599	1,488	1,649
Sale	2,617	3,227	2,668	2,336	2,425	2,028	2,368	1,510	1,406	1,556

Source: FBI, 2014

Figure 6.7 Indiana and U.S. Arrest Rates, per 1,000 Population, for Cocaine and Opiates Possession and Sale/ Manufacture (Uniform Crime Reporting Program, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
IN Possession	0.8	0.9	0.6	0.5	0.4	0.4	0.3	0.2	0.2	0.2
U.S. Possession	1.2	1.2	1.1	1.0	0.8	0.7	0.8	0.7	0.7	0.7
IN Sale	0.4	0.5	0.4	0.4	0.4	0.3	0.4	0.2	0.2	0.2
U.S. Sale	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2

Source: FBI, 2014

APPENDIX 6A

Percentage of Indiana Students Reporting Monthly Crack/Cocaine Use, by Region and Grade (Indiana Youth Survey, 2016)

	Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
7th Grade	0.2	0.2	0.4*	0.0	0.2	0.2	0.0	0.1	0.3
8th Grade	0.3	0.3	0.4	0.4	0.3	0.3	0.2	0.2	0.3
9th Grade	0.4	0.5	0.5	0.0	0.2	0.4	0.7	0.3	0.4
10th Grade	0.7	0.7	0.9	0.0	1.5*	0.5	0.9	0.3*	0.3*
11th Grade	0.9	1.6*	0.9	0.8	0.5	1.0	1.0	0.4*	0.4*
12th Grade	1.4	1.4*	2.5*	0.0	1.5	1.4	2.1*	0.6*	0.7*

Notes: * Indicates a local rate that is significantly different from the overall state rate ($P < 0.05$).
Beginning in 2015, the Indiana Youth Survey combined crack/cocaine use into a single category and stopped asking 6th grade students about crack/cocaine use; also, lifetime prevalence is no longer available by region.
Source: Gassman et al., 2016

APPENDIX 6B

Number of Treatment Episodes with Cocaine Use and Dependence Reported at Treatment Admission in Indiana, by County (Substance Abuse Population by County/Treatment Episode Data Set, 2016)

	Treatment Episodes	Cocaine Use		Cocaine Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**
Adams	295	32	10.8%	<5	N/A
Allen	1,618	359	22.2%	118	7.3%
Bartholomew	581	32	5.5%	6	1.0%
Benton	50	8	16.0%	<5	N/A
Blackford	82	<5	N/A	<5	N/A
Boone	187	<5	N/A	<5	N/A
Brown	83	6	7.2%	<5	N/A
Carroll	84	<5	N/A	<5	N/A
Cass	253	17	6.7%	<5	N/A
Clark	313	24	7.7%	17	5.4%
Clay	181	<5	N/A	<5	N/A
Clinton	227	19	8.4%	<5	N/A
Crawford	45	<5	N/A	<5	N/A
Daviess	169	<5	N/A	<5	N/A
Dearborn	449	45	10.0%	5	1.1%
Decatur	212	9	4.2%	<5	N/A
DeKalb	242	10	4.1%	<5	N/A
Delaware	1,138	134	11.8%	39	3.4%
Dubois	280	5	1.8%	<5	N/A
Elkhart	654	78	11.9%	35	5.4%
Fayette	234	15	6.4%	6	2.6%
Floyd	117	<5	N/A	<5	N/A
Fountain	48	6	12.5%	<5	N/A
Franklin	166	6	3.6%	<5	N/A
Fulton	143	10	7.0%	<5	N/A
Gibson	295	5	1.7%	<5	N/A
Grant	436	39	8.9%	10	2.3%
Greene	204	<5	N/A	<5	N/A
Hamilton	893	68	7.6%	22	2.5%
Hancock	193	18	9.3%	5	2.6%
Harrison	31	<5	N/A	<5	N/A
Hendricks	351	17	4.8%	5	1.4%
Henry	330	30	9.1%	5	1.5%
Howard	610	87	14.3%	29	4.8%
Huntington	147	8	5.4%	<5	N/A
Jackson	298	10	3.4%	<5	N/A
Jasper	105	11	10.5%	<5	N/A
Jay	188	17	9.0%	<5	N/A
Jefferson	366	22	6.0%	5	1.4%
Jennings	223	12	5.4%	<5	N/A
Johnson	275	17	6.2%	<5	N/A
Knox	298	<5	N/A	<5	N/A
Kosciusko	381	32	8.4%	<5	N/A
LaGrange	186	10	5.4%	<5	N/A
Lake	2,339	439	18.8%	185	7.9%
LaPorte	377	59	15.6%	12	3.2%
Lawrence	485	16	3.3%	5	1.0%
Madison	1,278	122	9.5%	37	2.9%
Marion	3,645	651	17.9%	236	6.5%
Marshall	205	11	5.4%	<5	N/A
Martin	62	<5	N/A	<5	N/A
Miami	272	9	3.3%	<5	N/A
Monroe	1,180	88	7.5%	26	2.2%
Montgomery	374	33	8.8%	5	1.3%
Morgan	482	20	4.1%	<5	N/A
Newton	33	5	15.2%	<5	N/A
Noble	307	20	6.5%	<5	N/A
Ohio	40	<5	N/A	<5	N/A
Orange	160	7	4.4%	<5	N/A
Owen	199	5	2.5%	<5	N/A
Parke	67	<5	N/A	<5	N/A
Perry	102	7	6.9%	<5	N/A
Pike	53	<5	N/A	<5	N/A
Porter	410	54	13.2%	21	5.1%
Posey	170	<5	N/A	<5	N/A
Pulaski	109	6	5.5%	<5	N/A
Putnam	215	<5	N/A	<5	N/A
Randolph	170	15	8.8%	<5	N/A
Ripley	184	14	7.6%	<5	N/A
Rush	138	14	10.1%	<5	N/A
Saint Joseph	1,231	324	26.3%	155	12.6%
Scott	165	<5	N/A	<5	N/A
Shelby	168	19	11.3%	<5	N/A
Spencer	144	<5	N/A	<5	N/A
Starke	193	10	5.2%	<5	N/A
Steuben	298	15	5.0%	<5	N/A
Sullivan	78	<5	N/A	<5	N/A
Switzerland	63	<5	N/A	<5	N/A
Tippecanoe	404	21	5.2%	<5	N/A
Tipton	70	6	8.6%	<5	N/A
Union	22	<5	N/A	<5	N/A
Vanderburgh	1,319	75	5.7%	28	2.1%
Vermillion	123	<5	N/A	<5	N/A
Vigo	803	21	2.6%	5	0.6%
Wabash	225	9	4.0%	<5	N/A
Warren	9	<5	N/A	<5	N/A
Warrick	267	7	2.6%	<5	N/A
Washington	63	<5	N/A	<5	N/A
Wayne	438	107	24.4%	25	5.7%
Wells	128	16	12.5%	<5	N/A
White	110	<5	N/A	<5	N/A
Whitley	105	8	7.6%	<5	N/A
County Info Missing	27	<5	N/A	<5	N/A
Indiana	**33,170**	**3,509**	**10.6%**	**1,126**	**3.4%**

Notes: We defined cocaine dependence as “individuals in substance abuse treatment listing cocaine as their primary substance at admission.”
We calculated the percentages by dividing the number of reported cocaine use/dependence by the number of treatment episodes.
Information on treatment episodes <5 was suppressed due to confidentiality constraints.
Source: Indiana Family and Social Services Administration, 2016

APPENDIX 6C

Number and Rate, per 1,000 Population, of Arrests for Cocaine/Opiates Possession and Sale/Manufacture in Indiana, by County (Uniform Crime Reporting Program, 2014)

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Adams	4	0.1	4	0.1
Allen	97	0.3	48	0.1
Bartholomew	16	0.2	7	0.1
Benton	2	0.2	2	0.2
Blackford	2	0.2	4	0.3
Boone	14	0.2	9	0.1
Brown	4	0.3	0	0.0
Carroll	4	0.2	5	0.2
Cass	9	0.2	57	1.5
Clark	196	1.7	78	0.7
Clay	6	0.2	7	0.3
Clinton	16	0.5	6	0.2
Crawford	0	0.0	0	0.0
Daviess	16	0.5	29	0.9
Dearborn	12	0.2	13	0.3
Decatur	8	0.3	3	0.1
DeKalb	11	0.3	6	0.1
Delaware	35	0.3	113	1.0
Dubois	8	0.2	4	0.1
Elkhart	23	0.1	25	0.1
Fayette	8	0.3	8	0.3
Floyd	8	0.1	18	0.2
Fountain	4	0.2	4	0.2
Franklin	3	0.1	0	0.0
Fulton	5	0.2	4	0.2
Gibson	5	0.1	6	0.2
Grant	47	0.7	1	0.0
Greene	1	0.0	5	0.2
Hamilton	67	0.2	94	0.3
Hancock	23	0.3	1	0.0
Harrison	1	0.0	1	0.0
Hendricks	47	0.3	14	0.1
Henry	16	0.3	7	0.1
Howard	80	1.0	55	0.7
Huntington	6	0.2	4	0.1
Jackson	17	0.4	33	0.8
Jasper	6	0.2	8	0.2
Jay	10	0.5	15	0.7
Jefferson	9	0.3	9	0.3
Jennings	16	0.6	12	0.4
Johnson	48	0.3	42	0.3
Knox	9	0.2	7	0.2
Kosciusko	29	0.4	21	0.3
LaGrange	5	0.1	16	0.4
Lake	126	0.3	181	0.4
LaPorte	31	0.3	93	0.8
Lawrence	12	0.3	3	0.1
Madison	29	0.2	36	0.3
Marion	44	0.0	28	0.0

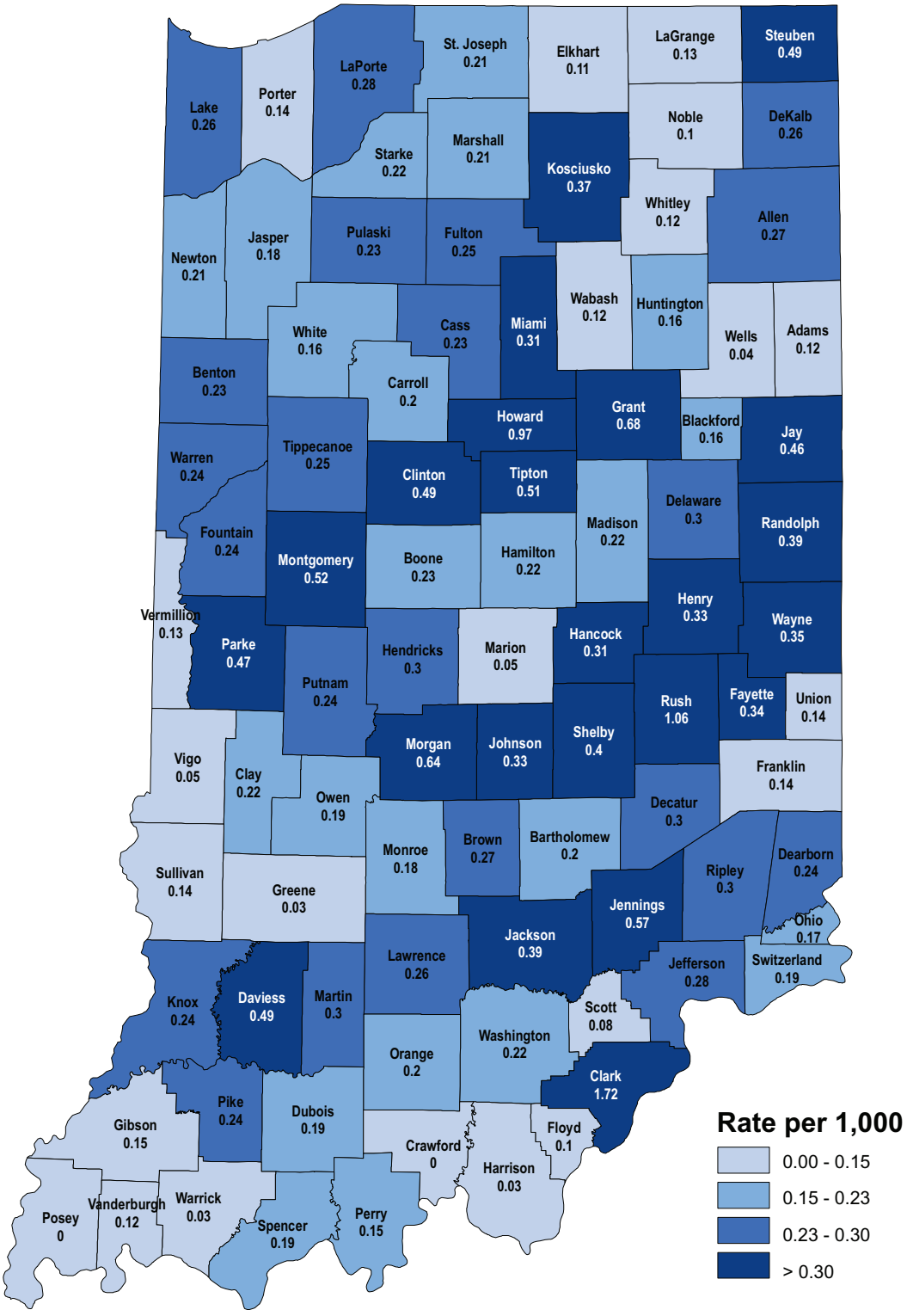
(continued on next page)

APPENDIX 6C *(Continued from previous page)*

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Marshall	10	0.2	12	0.3
Martin	3	0.3	1	0.1
Miami	11	0.3	36	1.0
Monroe	26	0.2	23	0.2
Montgomery	20	0.5	2	0.1
Morgan	45	0.6	39	0.6
Newton	3	0.2	2	0.1
Noble	5	0.1	19	0.4
Ohio	1	0.2	1	0.2
Orange	4	0.2	4	0.2
Owen	4	0.2	4	0.2
Parke	8	0.5	0	0.0
Perry	3	0.2	4	0.2
Pike	3	0.2	1	0.1
Porter	24	0.1	10	0.1
Posey	0	0.0	0	0.0
Pulaski	3	0.2	3	0.2
Putnam	9	0.2	9	0.2
Randolph	10	0.4	7	0.3
Ripley	9	0.3	9	0.3
Rush	18	1.1	4	0.2
Saint Joseph	55	0.2	30	0.1
Scott	2	0.1	2	0.1
Shelby	18	0.4	5	0.1
Spencer	4	0.2	4	0.2
Starke	5	0.2	3	0.1
Steuben	17	0.5	1	0.0
Sullivan	3	0.1	2	0.1
Switzerland	2	0.2	2	0.2
Tippecanoe	45	0.2	90	0.5
Tipton	8	0.5	1	0.1
Union	1	0.1	1	0.1
Vanderburgh	21	0.1	29	0.2
Vermillion	2	0.1	2	0.1
Vigo	5	0.0	6	0.1
Wabash	4	0.1	4	0.1
Warren	2	0.2	2	0.2
Warrick	2	0.0	1	0.0
Washington	6	0.2	7	0.3
Wayne	24	0.4	20	0.3
Wells	1	0.0	2	0.1
White	4	0.2	0	0.0
Whitley	4	0.1	6	0.2
Indiana	**1,649**	**0.2**	**1,556**	**0.2**

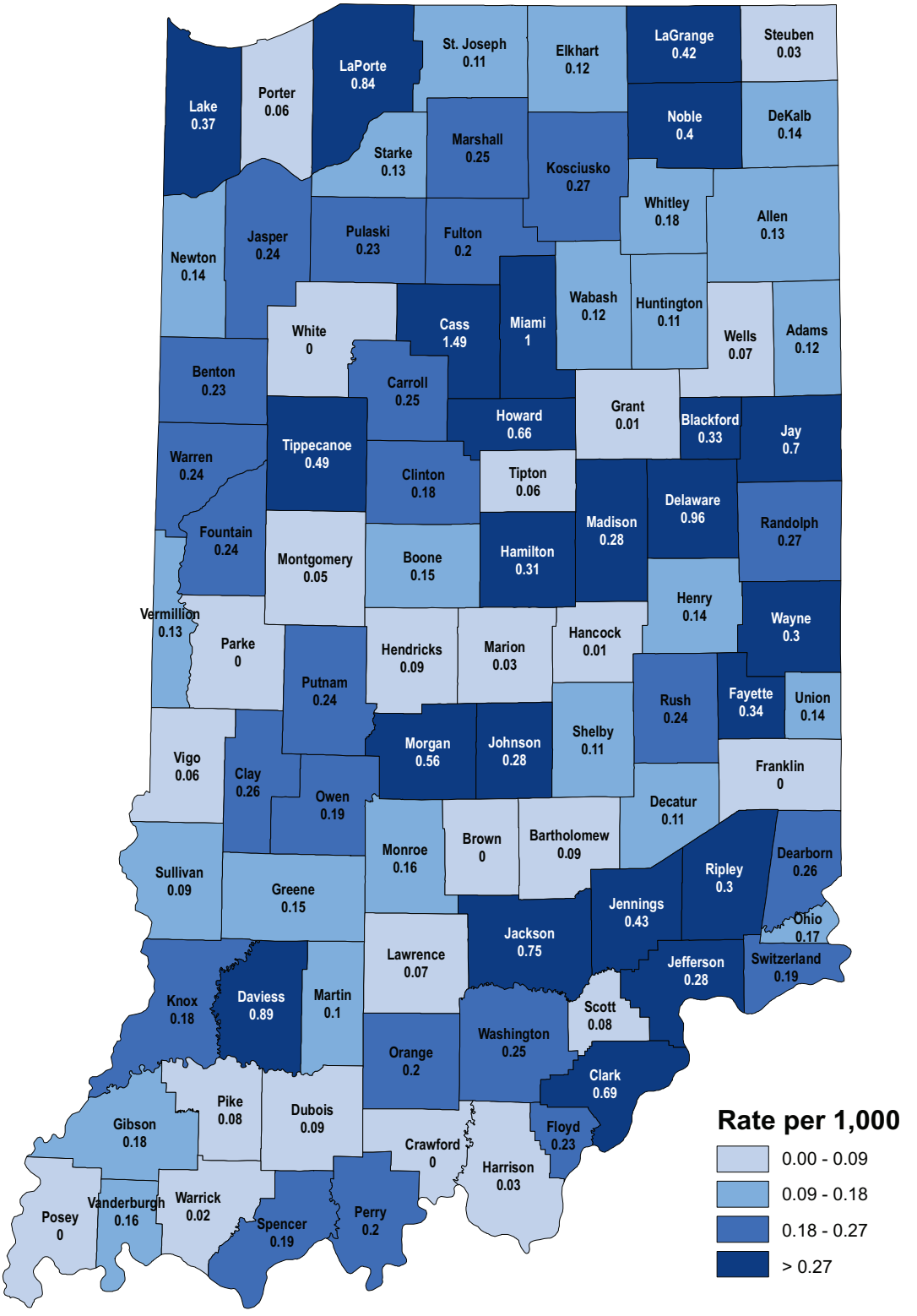
Note: Rates based on arrest numbers lower than 20 are unreliable.
Source: FBI, 2014

Map 6.1 Cocaine/Opiate Possession Arrest Rates in Indiana, by County (Uniform Crime Reporting Program, 2014)



Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 6C (pages 101-102) for additional information.
Source: FBI, 2014

Map 6.2 Cocaine/Opiate Sales Arrest Rates in Indiana, by County (Uniform Crime Reporting Program, 2014)



Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 6C (pages 101-102) for additional information.
Source: FBI, 2014

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7 Heroin Use in Indiana: Consumption Patterns and Consequences

HEROIN CONSUMPTION

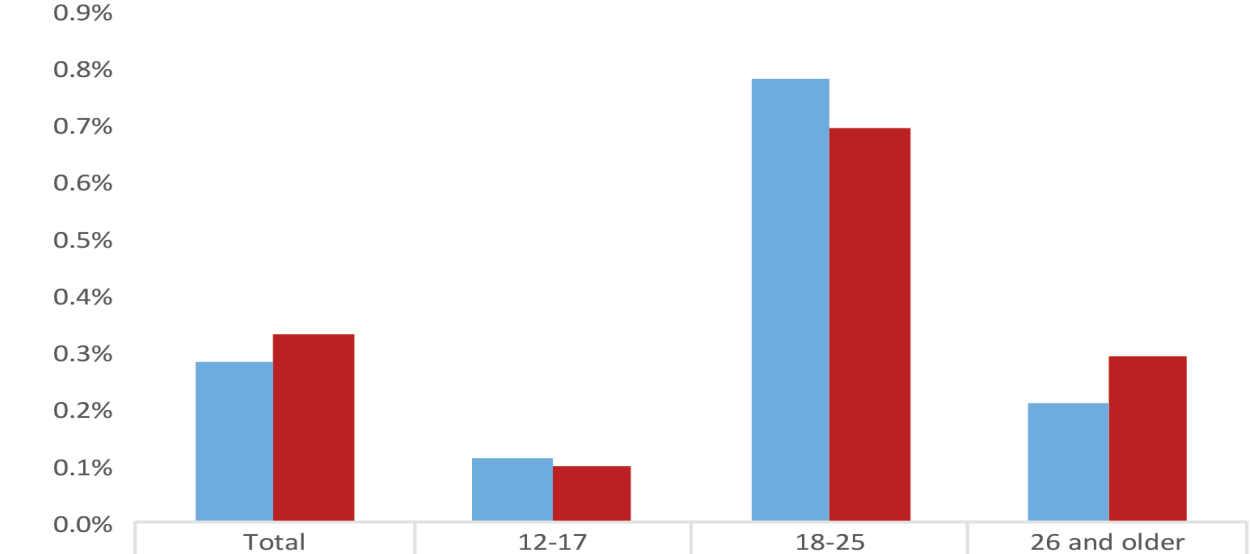
Heroin is a highly addictive opioid. It is derived from morphine, a naturally occurring substance extracted from the Asian opium poppy plant. Heroin can be injected, smoked, or snorted. When heroin enters the brain, it binds rapidly to opioid receptors, especially those involved in feelings of pleasure and pain. People who use heroin frequently experience an initial feeling of euphoria followed by a state of alternating wakefulness and drowsiness. The intensity of the euphoria, or "rush," depends on how much drug is taken and how rapidly it binds to the opioid receptors. It is estimated that about 23% of people who have used the drug become dependent; for those who use heroin over and over again, addiction is more likely. (National Institute on Drug Abuse [NIDA], 2014a, 2017a, 2017b).

General Consumption Patterns

Although heroin use in the general U.S. population is uncommon (an estimated 0.3%), the percentage of Americans using the drug is higher than it was 10 years ago (Lipari and Hughes, 2015). Heroin has also become a major concern in Indiana. Its rise in use, as evidenced by the increase in heroin overdose fatalities, has led to several efforts by state agencies and organizations to identify and develop sources of Indiana-specific data and surveillance (Indiana State Department of Health [ISDH], 2017).

According to findings from the 2015 National Survey on Drug Use and Health (NSDUH), 1.9% of Americans ages 12 and older had tried heroin at least once in their lifetime, 0.3% had used heroin in the past year, and 0.1% in the past month. Similarly, 0.3% (95% Confidence Interval [CI]: 0.1–0.5) of Hoosiers ages 12 and older reported using heroin in the past year (see Figure 7.1) (Substance Abuse and Mental Health Services Administration [SAMHSA], 2017).

Figure 7.1 Percentage of Indiana and U.S. Population (12 years and older) Reporting Past-Year Heroin Use, by Age Group (National Survey on Drug Use and Health, 2015)



	Total	12-17	18-25	26 and older
Indiana	0.3%	0.1%	0.8%	0.2%
U.S.	0.3%	0.1%	0.7%	0.3%

Source: SAMHSA, 2017

Adult Consumption Patterns

The Indiana College Substance Use Survey[1] provides estimates of alcohol, tobacco, and other drug use among Indiana college students. According to 2016 results, which are based on 20 participating colleges and universities, 1.0% of Indiana college students reported ever having used heroin. Of students who reported using heroin at least once in their lifetime, 64.4% first used heroin prior to starting college. Only a small percentage of college students reported using heroin in the past month (IN: 0.2%; U.S.: 0.05); male college students in Indiana had higher rates of past-month-use (0.3%) than female college students (less than 0.1%; P < .05). No significant differences were detected by age group (under 21 vs. 21 or over) (King & Jun, 2016).

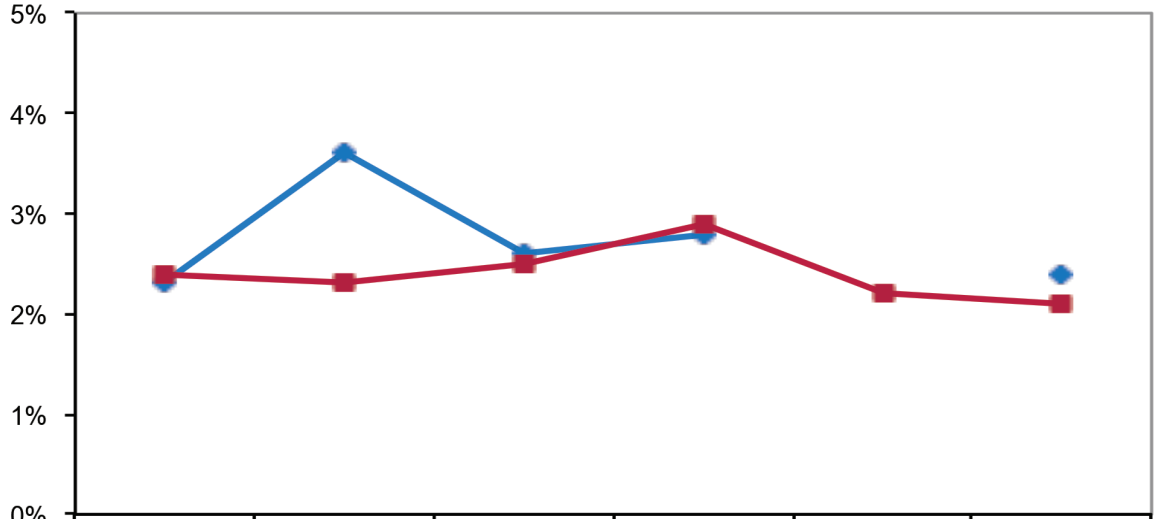
Youth Consumption Patterns

In 2015, 2.4% (95% CI: 1.3–4.4) of high school students (grades 9 through 12) in Indiana reported having tried heroin at least once in their life, according to the 2015 Youth Risk Behavior Surveillance System (YRBSS). Indiana's rate was similar to the national rate of 2.1% (95% CI: 1.5–2.8) (see Figure 7.2). No statistical differences by gender, race, or grade level were observed in 2015. Prevalence of lifetime heroin use has remained relatively stable among both Indiana and national high school students from 2005 through 2015 (Centers for Disease Control and Prevention [CDC], 2017b).

As noted previously, a common route of administration for heroin is by needle injection. According to the 2015 YRBSS, the percentage of high school students who used a needle to inject any illegal drug into their body one or more times during their lifetime was statistically similar in Indiana (2.2%; 95% CI: 1.1–4.3) and the nation (1.8%; 95% CI: 1.3–2.3) (CDC, 2017b).

Based on results from the 2016 Indiana Youth Survey, past-month heroin use among 7th through 12th grade students ranged from 0.1% to 0.5% (see Figure 7.3). Heroin use among Indiana 12th graders peaked in 2011 at 1.2%, but is now at 0.5% (see Figure 7.4). Within Indiana, rates of past-month heroin use among 7th and 9th grade students decreased from 2015 to 2016 (P < .05) (Gassman et al., 2016). For monthly heroin use rates in Indiana by region and grade level, see Appendix 7A, page 116.

Figure 7.2 Percentage of Indiana and U.S. High School Students (Grades 9 through 12) Who Have Used Heroin at Least Once During their Lifetime (Youth Risk Behavior Surveillance System, 2005–2015)

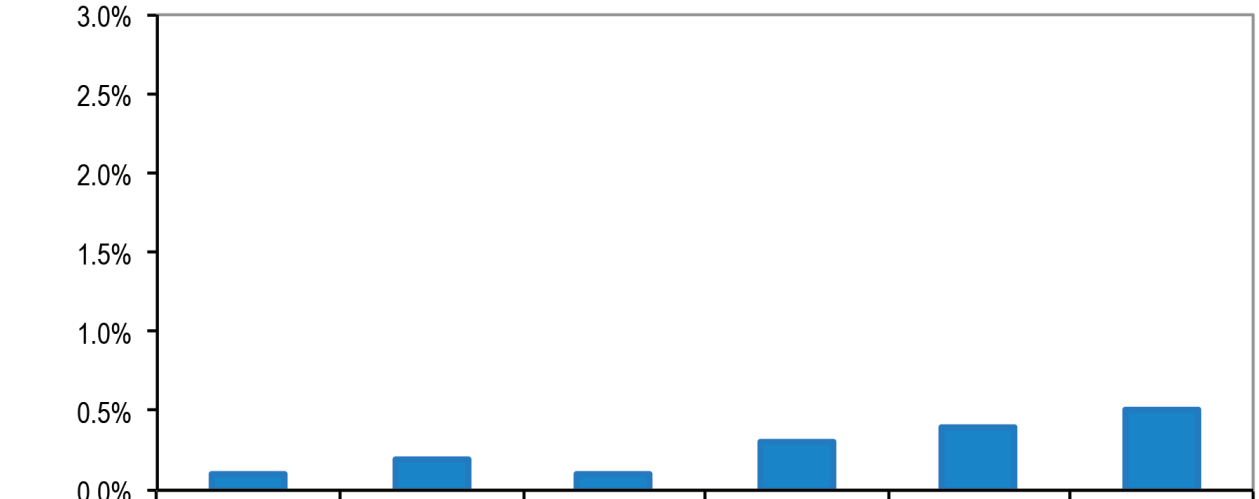


	2005	2007	2009	2011	2013	2015
Indiana	2.3%	3.6%	2.6%	2.8%		2.4%
U.S.	2.4%	2.3%	2.5%	2.9%	2.2%	2.1%

Note: 2013 estimates for Indiana are not available.
Source: CDC, 2017b

[1]Twenty Indiana colleges participated in the survey; results are based on nonrandom sampling and are not representative of all college students in Indiana.

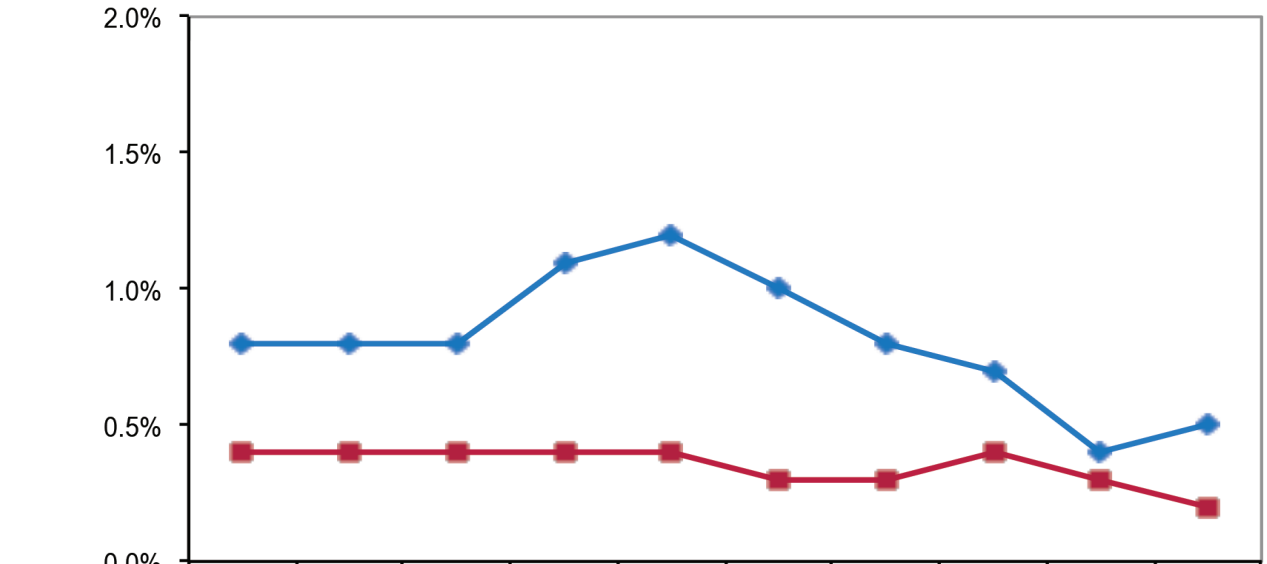
Figure 7.3 Percentage of Indiana 7th through 12th Grade Students Reporting Monthly Heroin Use (Indiana Youth Survey, 2016)



	7th	8th	9th	10th	11th	12th
Monthly Use	0.1%	0.2%	0.1%	0.3%	0.4%	0.5%

Source: Gassman et al., 2016

Figure 7.4 Percentage of Indiana and U.S. 12th Grade Students Reporting Monthly Heroin Use (Indiana Youth Survey and Monitoring the Future Survey, 2007–2016)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Indiana	0.8%	0.8%	0.8%	1.1%	1.2%	1.0%	0.8%	0.7%	0.4%	0.5%
U.S.	0.4%	0.4%	0.4%	0.4%	0.4%	0.3%	0.3%	0.4%	0.3%	0.2%

Source: Gassman, et al., 2016

CONSEQUENCES

Heroin use may result in a variety of serious health conditions. Short-term or immediate effects include euphoria; warm flushing of the skin; dry mouth; and a heavy feeling in the extremities, which may be accompanied by nausea, vomiting, and severe itching. The initial effects are followed by drowsiness, clouded thinking, and slowed breathing and heart rate. Long-term or repeated use can lead to addiction, a chronic relapsing disease beyond physical dependence that is characterized by uncontrollable drug-seeking. Furthermore, heroin use has been linked to fatal drug overdoses, infectious diseases like HIV/AIDS and hepatitis C, and pregnancy complications such as infants at risk for low birthweight and neonatal abstinence syndrome (NIDA, 2017a, 2017b).

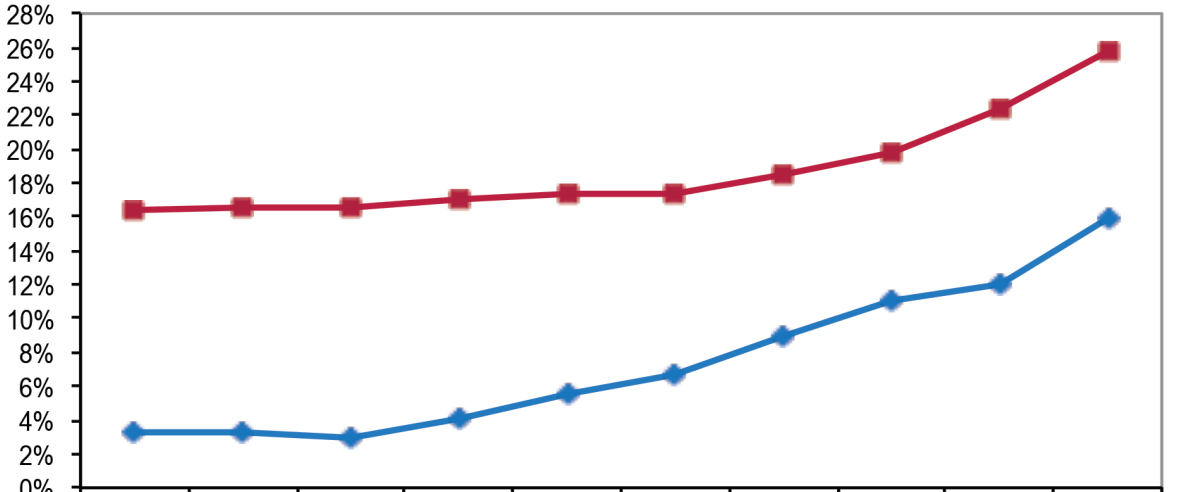
Because street heroin often contains toxic additives that do not easily dissolve, blood vessels leading to the heart, lungs, liver, kidneys, or brain can become clogged. Clogs of this nature can lead to infection or death of small patches of cells in vital organs (NIDA, 2014a).

Heroin Dependence

Data from the Treatment Episode Data Set (TEDS) spanning 2005 through 2014 show that the percentage of treatment episodes in which heroin use was reported at admission was significantly lower in Indiana than the United States ($P < 0.001$); however, reported use of heroin increased both within Indiana and nationally. In 2014, heroin use was reported in 15.9% of Indiana treatment admissions (U.S.: 25.8%), a nearly 400% increase from 3.3% reported in 2005 (see Figure 7.5) (SAMHSA, 2014).

Similarly, the percentage of drug treatment admissions for heroin dependence[2] has consistently been lower in Indiana than the rest of the nation ($P < 0.001$). However, heroin dependence in Indiana has increased

Figure 7.5 Percentage of Indiana and U.S. Treatment Episodes with Heroin Use Reported at Treatment Admission (Treatment Episode Data Set, 2005–2014)

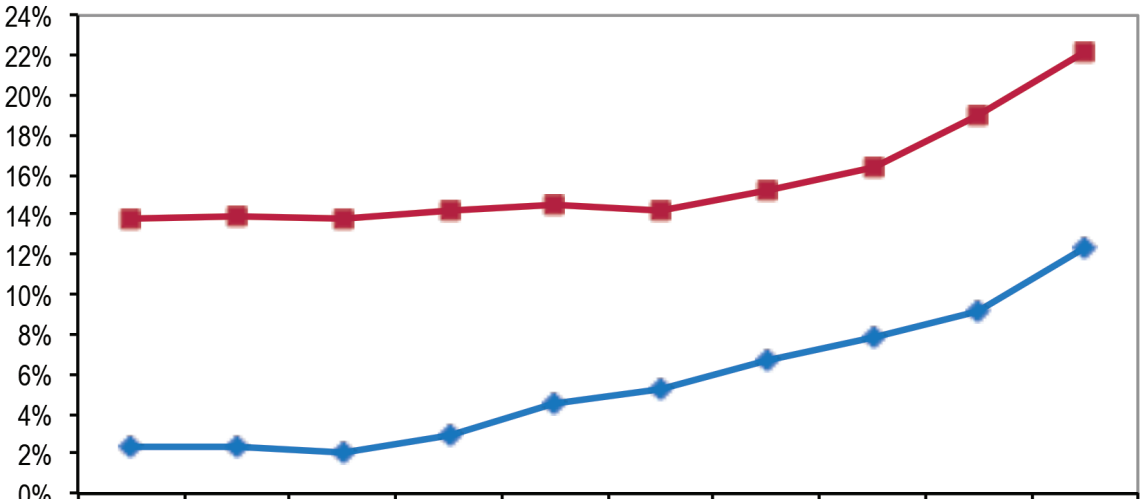


	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indiana	3.3%	3.2%	2.9%	4.1%	5.5%	6.6%	9.0%	11.1%	12.0%	15.9%
U.S.	16.4%	16.6%	16.5%	17.0%	17.3%	17.4%	18.5%	19.8%	22.4%	25.8%

Source: SAMHSA, 2014

[2]We defined heroin dependence as "individuals in substance abuse treatment listing heroin as their primary substance at admission."

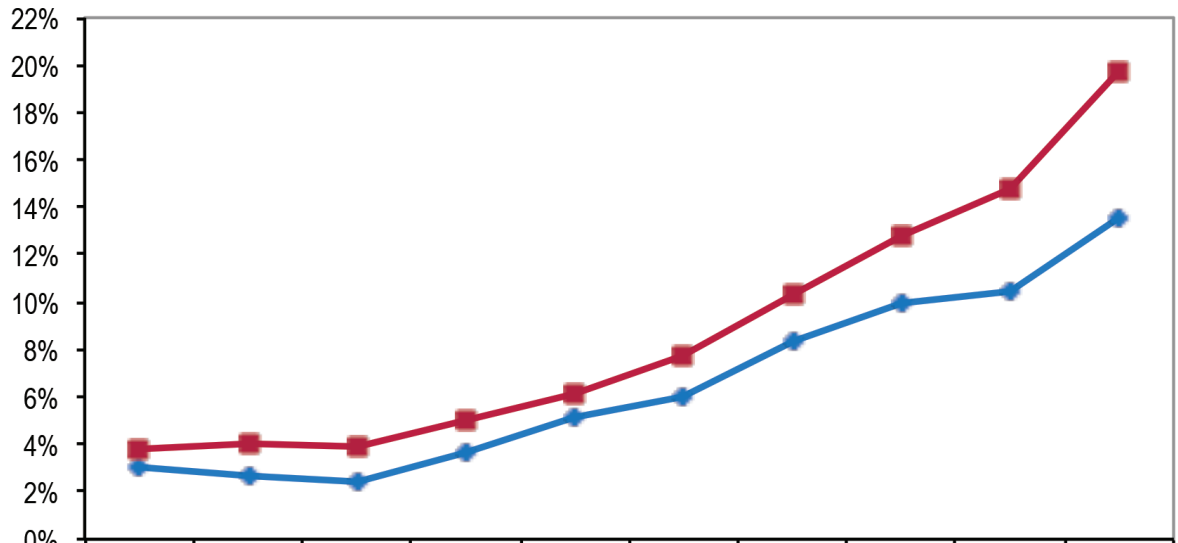
Figure 7.6 Percentage of Indiana and U.S. Treatment Episodes with Heroin Dependence Reported at Treatment Admission (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indiana	2.4%	2.3%	2.0%	2.9%	4.5%	5.3%	6.7%	7.9%	9.2%	12.3%
U.S.	13.8%	13.9%	13.8%	14.2%	14.5%	14.2%	15.2%	16.4%	19.0%	22.1%

Source: SAMHSA, 2014

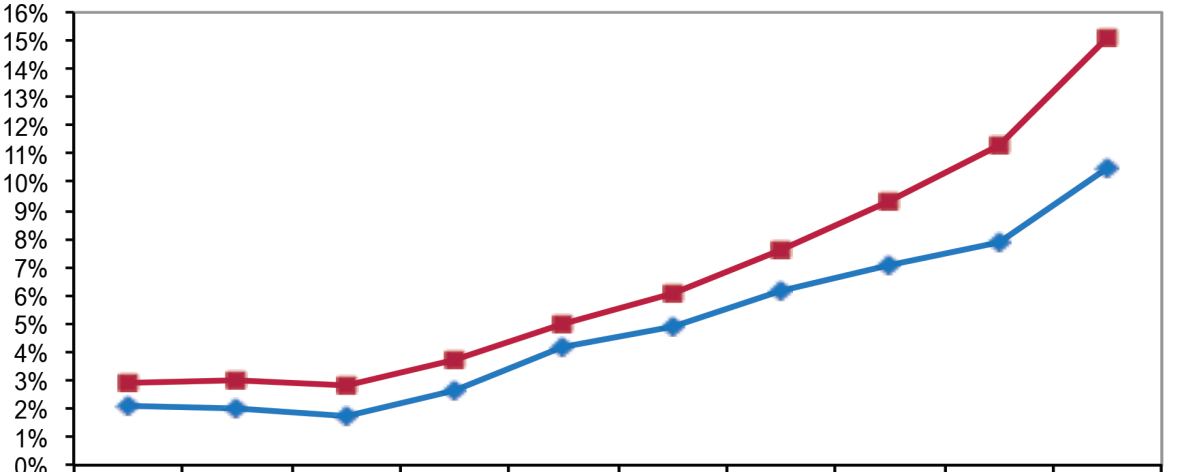
Figure 7.7 Percentage of Indiana Treatment Episodes with Heroin Use Reported at Treatment Admission, by Gender (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Male	3.0%	2.7%	2.4%	3.6%	5.1%	6.0%	8.3%	10.0%	10.4%	13.6%
Female	3.8%	4.0%	3.9%	5.0%	6.1%	7.7%	10.3%	12.8%	14.8%	19.7%

Source: SAMHSA, 2014

Figure 7.8 Percentage of Indiana Treatment Episodes with Heroin Dependence Reported at Treatment Admission, by Gender (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Male	2.1%	2.0%	1.7%	2.6%	4.2%	4.9%	6.2%	7.1%	7.9%	10.5%
Female	2.9%	3.0%	2.8%	3.7%	5.0%	6.1%	7.6%	9.3%	11.3%	15.1%

Source: SAMHSA, 2014

considerably, from 2.4% in 2005 to 12.3% in 2014 (see Figure 7.6). For county-level information on heroin use and dependence, see Appendix 7B, page 117.

Within Indiana's treatment population, reported heroin use and dependence differed significantly by gender, race, and age group:

- **Gender**—Reported heroin use and dependence increased among both males and females, but has consistently been higher in females ($P < .001$) (see Figures 7.7 and 7.8).
- **Race**—Since 2010, whites had the highest percentage of heroin use and dependence compared to all other races. While reported heroin use and dependence among blacks has remained relatively stable over the years, it has been steadily increasing among whites and other races (see Figures 7.9 and 7.10).
- **Age**—Since 2011, heroin use and dependence within Indiana's treatment population has been highest among adults ages 18 to 34. Use among minors under the age of 18 peaked in 2012 but has dropped since then to 1.7% for use and 1.1% for dependence (see Figures 7.11 and 7.12) (SAMHSA, 2014).

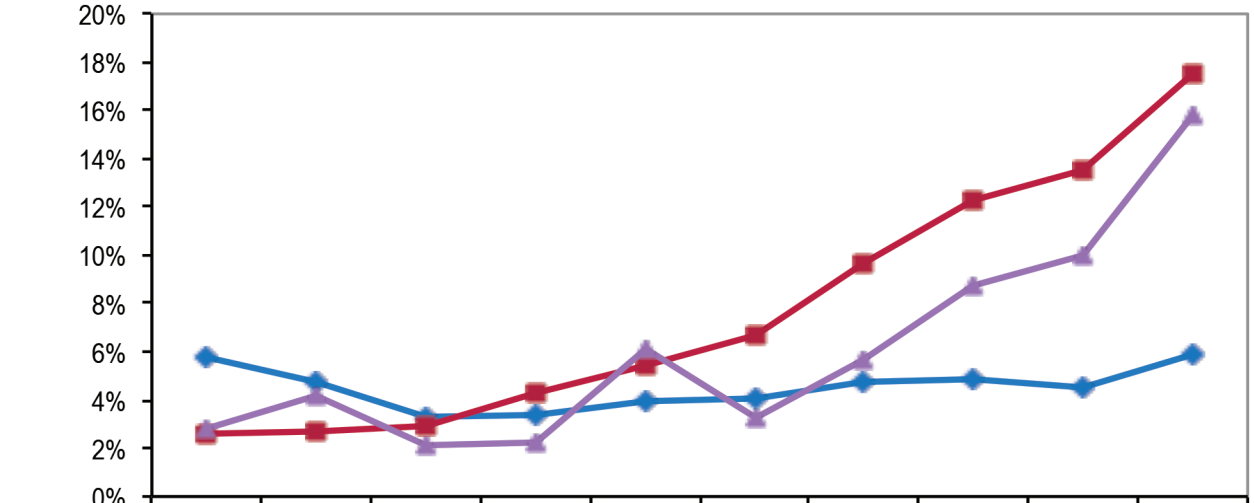
Overdose Mortality

In high doses, heroin, as well as all other opioids, can cause respiratory depression and death (NIDA, 2017a). The number of fatal overdoses where heroin was a contributing factor dramatically increased in Indiana from 7 deaths in 2004 to 239 deaths in 2015, a nearly 18-fold increase (see Figure 7.13) (ISDH, 2017).

HIV/AIDS

Heroin use, especially when injected, is a significant risk factor for contracting human immunodeficiency virus infection and acquired immune deficiency syndrome (HIV/AIDS) due to the common practice of needle-sharing among injection drug users. However, heroin use in any form is associated with risk behaviors related to HIV/AIDS transmission (NIDA, 2012). As of December 31, 2015, 11,698 individuals in Indiana were living with HIV or AIDS, 621 of which were newly reported cases (ISDH, 2016a). Of the new cases of HIV in 2016 in Indiana, 32% were related to injection drug use. In February of 2015, ISDH announced a spreading outbreak of HIV in southeastern Indiana tied to needle sharing among intravenous drug users (ISDH, 2015). Originally, 26 cases were confirmed within a two-month time period; by December of 2015 the number grew to 184 confirmed cases of HIV and by May of 2016 the number was up to 191 confirmed HIV cases (ISDH, 2016b). Due to this outbreak, the public health emergency declaration for Scott County has been extended until May 24, 2017, which will allow for continued syringe exchange programs in the area. As a state, Indiana's age-adjusted HIV/AIDS mortality rate for 2014 was 1.2 per 100,000

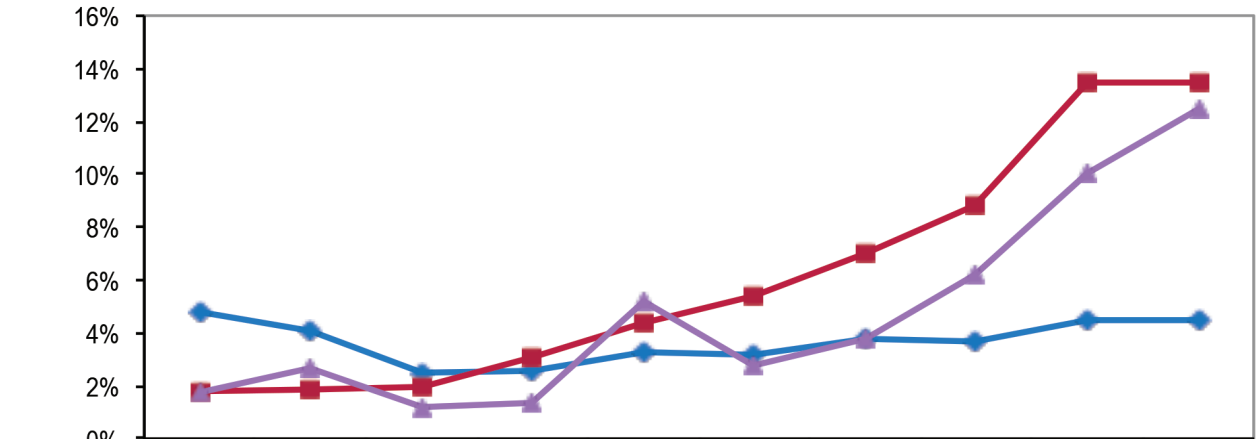
Figure 7.9 Percentage of Indiana Treatment Episodes with Heroin Use Reported at Treatment Admission, by Race (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Black	5.8%	4.8%	3.3%	3.4%	3.9%	4.1%	4.7%	4.9%	4.5%	5.9%
White	2.6%	2.7%	2.9%	4.3%	5.4%	6.7%	9.6%	12.3%	13.5%	17.5%
Other	2.8%	4.2%	2.1%	2.2%	6.1%	3.3%	5.7%	8.7%	10.0%	15.8%

Source: SAMHSA, 2014

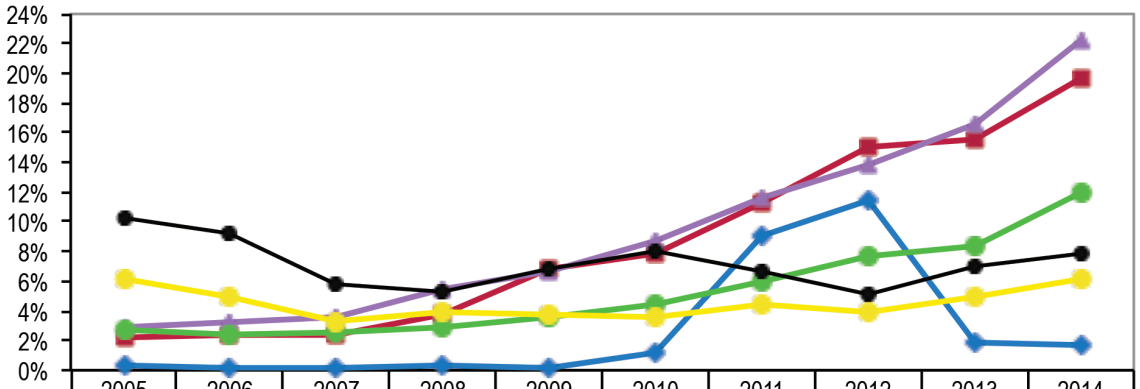
Figure 7.10 Percentage of Indiana Treatment Episodes with Heroin Dependence Reported at Treatment Admission, by Race (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Black	4.8%	4.1%	2.5%	2.6%	3.3%	3.2%	3.8%	3.7%	4.5%	5%
White	1.8%	1.9%	2.0%	3.1%	4.4%	5.4%	7.0%	8.8%	13.5%	14%
Other	1.8%	2.7%	1.2%	1.4%	5.2%	2.8%	3.8%	6.2%	10.0%	13%

Source: SAMHSA, 2014

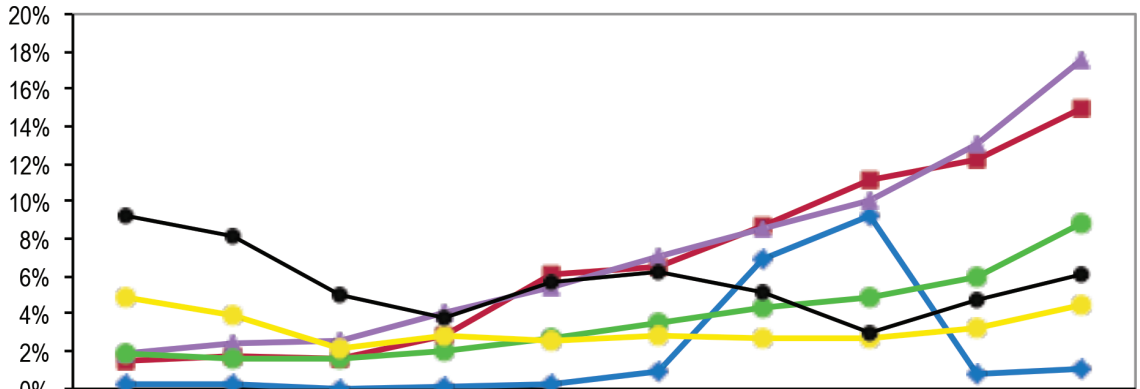
Figure 7.11 Percentage of Indiana Treatment Episodes with Heroin Use Reported at Treatment Admission, by Age Group (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Under 18	0.3%	0.2%	0.1%	0.4%	0.2%	1.1%	9.1%	11.5%	1.8%	1.7%
18 to 24	2.2%	2.4%	2.3%	3.8%	6.9%	7.8%	11.2%	15.1%	15.6%	19.7%
25 to 34	2.9%	3.2%	3.6%	5.5%	6.6%	8.7%	11.6%	13.9%	16.6%	22.2%
35 to 44	2.8%	2.4%	2.5%	2.9%	3.6%	4.4%	5.9%	7.7%	8.4%	11.9%
45 to 54	6.2%	5.0%	3.3%	3.9%	3.7%	3.6%	4.5%	3.9%	4.9%	6.2%
55 and over	10.2%	9.3%	5.8%	5.2%	6.9%	8.0%	6.6%	5.1%	7.0%	7.8%

Source: SAMHSA, 2014

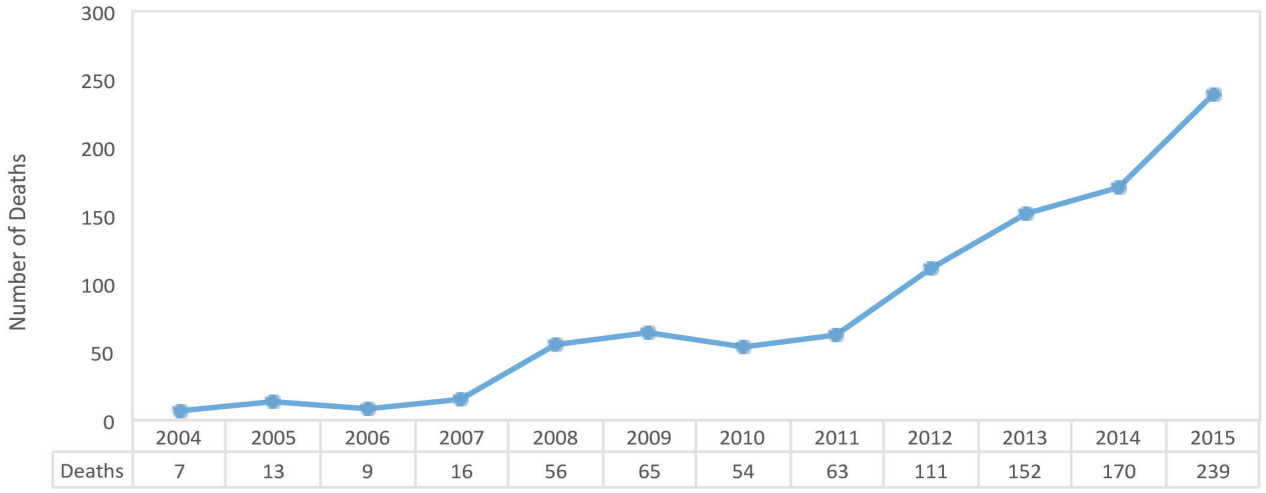
Figure 7.12 Percentage of Indiana Treatment Episodes with Heroin Dependence Reported at Treatment Admission, by Age Group (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Under 18	0.2%	0.2%	0.0%	0.1%	0.2%	0.9%	6.9%	9.3%	0.8%	1.1%
18 to 24	1.5%	1.7%	1.6%	2.8%	6.1%	6.5%	8.7%	11.2%	12.2%	14.9%
25 to 34	1.9%	2.4%	2.6%	4.0%	5.4%	7.0%	8.6%	10.1%	13.0%	17.5%
35 to 44	1.9%	1.6%	1.6%	2.0%	2.7%	3.5%	4.3%	4.9%	6.0%	8.9%
45 to 54	4.9%	3.9%	2.1%	2.9%	2.6%	2.8%	2.7%	2.7%	3.3%	4.5%
55 and over	9.3%	8.1%	5.0%	3.8%	5.7%	6.2%	5.2%	3.0%	4.8%	6.1%

Source: SAMHSA, 2014

Figure 7.13 Number of Overdose Deaths in Indiana with Heroin as a Contributing Factor (Overdose Mortality, 2004–2015)



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Deaths	7	13	9	16	56	65	54	63	111	152	170	239

Source: ISDH, 2017

population (95% CI: 1.0–1.5), which was significantly lower than the U.S. rate of 2.0 per 100,000 population (95% CI: 1.9–2.0) (CDC, 2016).[3]

Hepatitis

Hepatitis is a liver disease that is caused by viral infection. The most common types are hepatitis A, B, and C. The hepatitis B virus (HBV) and hepatitis C virus (HCV) are transmitted when blood of an infected person enters the body of a person who is not infected and are commonly associated with injection drug use (IDU). IDU is a major risk factor for both acquiring and transmitting HBV and HCV (CDC, 2014). It is estimated that each injection drug user infected with HCV is likely to infect 20 other people, extending the risk of infection far beyond the individual using the drug (NIDA, 2014b). Furthermore, an estimated 50% to 80% of injection drug users become infected with these viruses within five years after initiating IDU (CDC, 2014).

In 2014, there were 123 cases of hepatitis B and 5,289 cases of hepatitis C[4] in Indiana (ISDH, 2016a). In 2014, 126 acute cases of hepatitis B and 122 acute cases of hepatitis C occurred in Indiana, representing rates of 1.9 for HBV (U.S.: 0.9) and 1.8 for HCV (U.S.: 0.7), per 100,000 population (CDC, 2016). The HIV outbreak beginning in 2015 in southeastern Indiana has also been connected to the spread of HCV (ISDH, 2016b).

The 2014 age-adjusted mortality rate attributable to HBV and HCV[5] was 1.2 per 100,000 population (95% CI: 1.0–1.5) in Indiana, which was significantly lower than the national rate of 2.0 per 100,000 population (95% CI: 2.0–2.1) (CDC, 2016).

Legal Consequences

The Uniform Crime Reporting (UCR) Program collects information on arrests for possession and sale/manufacture of opiates and cocaine combined; data on either drug category individually are currently not available (all figures, tables, and maps summarizing UCR arrest data for cocaine and opiates are presented in Chapter 6 Cocaine). According to the 2014 data, there were over 1,600 arrests in Indiana for possession of cocaine or opiates, including heroin, and 1,556 arrests for the sale/manufacturing of these drugs. This translates to an arrest rate for possession of 0.2 per 1,000 (95% CI: 0.2–0.2) in Indiana compared to the national arrest rate for possession of 0.7 (95% CI: 0.7–0.7) (see Figure 6.7). While the national rate for possession was higher than Indiana's, arrest rates for sale/manufacture of cocaine and opiates were the same at 0.2 per 1,000 (Federal Bureau of Investigation [FBI], 2014). For trend information and comparisons with the United States, refer to Chapter 6, Cocaine, starting on page 97; for county-level data, see Maps 6.1 and 6.2 (pages 103 and 104) and Appendix 6C (pages 101-102).

[3]Mortality rates for HIV/AIDS are based on ICD-10 codes B20-B24 (Human immunodeficiency virus [HIV] disease).
[4]This included all suspected, probable, and confirmed Hepatitis C cases based on case investigations.
[5]Mortality rates for hepatitis B and C infections are based on the following ICD-10 codes: B16 (Acute hepatitis B), B17.0 (Acute delta-[super]infection of hepatitis B carrier), B17.1 (Acute hepatitis C), B18.0 (Chronic viral hepatitis B with delta-agent), B18.1 (Chronic viral hepatitis B without delta-agent), B18.2 (Chronic viral hepatitis C).

APPENDIX 7A

Percentage of Indiana Students Reporting Monthly Heroin Use in Indiana, by Region and Grade (Indiana Youth Survey, 2016)

	Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
7th Grade	0.1	0.2	0.3*	0.3	0.0	0.1	0.0	0.1	0.0
8th Grade	0.2	0.2	0.2	0.7	0.2	0.2	0.1	0.2	0.2
9th Grade	0.1	0.3	0.0	0.0	0.0	0.3	0.1	0.1	0.1
10th Grade	0.3	0.2	0.3	0.0	1.3*	0.3	0.2	0.0	0.1
11th Grade	0.4	0.5	0.5	0.2	0.1	0.6	0.3	0.3	0.3
12th Grade	0.5	0.5	0.7	0.0	0.6	0.4	1.1*	0.3	0.1

Notes: * Indicates a local rate that is significantly different from the overall state rate ($P < 0.05$).
Beginning in 2015, the Indiana Youth Survey stopped asking 6th grade students about heroin use.
Source: Gassman et al., 2016

APPENDIX 7B

Number and Percentage of Treatment Episodes with Heroin Use and Dependence Reported at Treatment Admission in Indiana, by County (Substance Abuse Population by County/Treatment Episode Data Set, 2016)

	Treatment Episodes	Heroin Use		Heroin Dependence	
County	Total	Number	%	Number	%
Adams	295	63	21.4%	47	15.9%
Allen	1,618	206	12.7%	153	9.5%
Bartholomew	581	124	21.3%	76	13.1%
Benton	50	<5	N/A	<5	N/A
Blackford	82	34	41.5%	32	39.0%
Boone	187	42	22.5%	35	18.7%
Brown	83	20	24.1%	13	15.7%
Carroll	84	11	13.1%	8	9.5%
Cass	253	43	17.0%	32	12.6%
Clark	313	55	17.6%	48	15.3%
Clay	181	10	5.5%	8	4.4%
Clinton	227	45	19.8%	36	15.9%
Crawford	45	6	13.3%	<5	N/A
Daviess	169	<5	N/A	<5	N/A
Dearborn	449	150	33.4%	109	24.3%
Decatur	212	24	11.3%	13	6.1%
DeKalb	242	12	5.0%	<5	N/A
Delaware	1,138	267	23.5%	197	17.3%
Dubois	280	11	3.9%	<5	N/A
Elkhart	654	55	8.4%	44	6.7%
Fayette	234	93	39.7%	72	30.8%
Floyd	117	24	20.5%	24	20.5%
Fountain	48	13	27.1%	7	14.6%
Franklin	166	54	32.5%	39	23.5%
Fulton	143	11	7.7%	6	4.2%
Gibson	295	<5	N/A	<5	N/A
Grant	436	80	18.3%	68	15.6%
Greene	204	33	16.2%	24	11.8%
Hamilton	893	169	18.9%	135	15.1%
Hancock	193	33	17.1%	28	14.5%
Harrison	31	10	32.3%	10	32.3%
Hendricks	351	92	26.2%	78	22.2%
Henry	330	51	15.5%	29	8.8%
Howard	610	204	33.4%	161	26.4%
Huntington	147	24	16.3%	13	8.8%
Jackson	298	45	15.1%	24	8.1%
Jasper	105	39	37.1%	30	28.6%
Jay	188	81	43.1%	70	37.2%
Jefferson	366	50	13.7%	25	6.8%
Jennings	223	45	20.2%	29	13.0%
Johnson	275	70	25.5%	63	22.9%
Knox	298	8	2.7%	<5	N/A
Kosciusko	381	50	13.1%	35	9.2%
LaGrange	186	<5	N/A	<5	N/A
Lake	2,339	551	23.6%	496	21.2%
LaPorte	377	121	32.1%	107	28.4%
Lawrence	485	67	13.8%	45	9.3%

	Treatment Episodes	Heroin Use		Heroin Dependence	
County	Total	Number	%	Number	%
Madison	1,278	173	13.5%	110	8.6%
Marion	3,645	924	25.3%	807	22.1%
Marshall	205	33	16.1%	27	13.2%
Martin	62	<5	N/A	<5	N/A
Miami	272	46	16.9%	32	11.8%
Monroe	1,180	261	22.1%	165	14.0%
Montgomery	374	91	24.3%	62	16.6%
Morgan	482	117	24.3%	84	17.4%
Newton	33	15	45.5%	10	30.3%
Noble	307	6	2.0%	<5	N/A
Ohio	40	7	17.5%	5	12.5%
Orange	160	11	6.9%	8	5.0%
Owen	199	25	12.6%	12	6.0%
Parke	67	6	9.0%	<5	N/A
Perry	102	<5	N/A	<5	N/A
Pike	53	<5	N/A	<5	N/S
Porter	410	153	37.3%	133	32.4%
Posey	170	5	2.9%	5	2.9%
Pulaski	109	12	11.0%	9	8.3%
Putnam	215	15	7.0%	7	3.3%
Randolph	170	53	31.2%	47	27.6%
Ripley	184	53	28.8%	45	24.5%
Rush	138	25	18.1%	10	7.2%
Saint Joseph	1,231	221	18.0%	187	15.2%
Scott	165	20	12.1%	17	10.3%
Shelby	168	41	24.4%	32	19.0%
Spencer	144	<5	N/A	<5	N/A
Starke	193	66	34.2%	55	28.5%
Steuben	298	<5	N/A	<5	N/A
Sullivan	78	<5	N/A	<5	N/A
Switzerland	63	11	17.5%	10	15.9%
Tippecanoe	404	85	21.0%	62	15.3%
Tipton	70	9	12.9%	<5	N/A
Union	22	9	40.9%	5	22.7%
Vanderburgh	1,319	57	4.3%	37	2.8%
Vermillion	123	13	10.6%	7	5.7%
Vigo	803	41	5.1%	31	3.9%
Wabash	225	53	23.6%	33	14.7%
Warren	9	<5	N/A	<5	N/A
Warrick	267	12	4.5%	<5	N/A
Washington	63	19	30.2%	18	28.6%
Wayne	438	192	43.8%	145	33.1%
Wells	128	28	21.9%	20	15.6%
White	110	11	10.0%	<5	N/A
Whitley	105	9	8.6%	5	4.8%
County Info Missing	27	9	33.3%	8	29.6%
Indiana	33,170	6,159	18.6%	4,765	14.4%

Note: We defined heroin dependence as “individuals in substance abuse treatment listing heroin as their primary substance at admission.”
We calculated the percentages by dividing the number of reported heroin use/dependence by the number of treatment episodes.
Information on treatment episodes <5 was suppressed due to confidentiality constraints.
Source: Indiana Family and Social Services Administration, 2016

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8 Methamphetamine Use in Indiana: Consumption Patterns and Consequences

METHAMPHETAMINE CONSUMPTION

Methamphetamine (meth) is a potent and highly addictive stimulant. Also known as "crystal" or "ice," it is a derivative of amphetamine. Similar to its parent compound amphetamine, meth affects the central nervous system, but its effects are more pronounced and longer-lasting. It can be injected, snorted, smoked, or ingested orally. Methamphetamine users feel a short, intense euphoria or "rush" when the drug is initially administered, followed by an extended high that can last up to 12 hours because of the drug's long half-life (Halkitis, Parsons, & Stirrat, 2001; Centers for Disease Control and Prevention [CDC], 2007). The immediate effects of methamphetamine include increased physical activity, wakefulness, and decreased appetite (National Institute on Drug Abuse [NIDA], 2014). The intensity of meth stimulation depends on the mode of use: Oral ingestion or snorting produces a longer-lasting, but less intense effect, while the effect from smoking or injecting intravenously is brief, but more intense (Homer et al., 2008).

General Consumption Patterns

Methamphetamine use in the general population is fairly low, so no state-level prevalence estimates currently exist. However, the National Survey on Drug Use and Health (NSDUH) measures lifetime, past year, and past month (current) use of methamphetamine in the United States. Based on 2015 NSDUH findings, 5.4% of Americans ages 12 and older used meth at least once in their lifetime, 0.6% used it in the past year, and 0.3% in the past-month (Substance Abuse and Mental Health Services Administration [SAMHSA], 2017).

Adult Consumption Patterns

According to national estimates from the 2015 NSDUH, past-year meth use was reported in 0.9% of Americans ages 18 to 25 and in 0.6% of adults ages 26 and older; past-month meth use was estimated at 0.4% in both age groups (SAMHSA, 2017).

The Indiana College Substance Use Survey provides estimates of alcohol, tobacco, and other drug use among Indiana college students. According to 2016 survey results, which were based on 20 participating colleges and universities, 0.2% of Indiana college students reported using meth in the past month (U.S.: < 0.05%). Use of meth seemed higher among male college students (0.4%) compared to their female counterparts (0.1%); however, the difference was not statistically significant (King & Jun, 2016).[1]

[1]Twenty Indiana colleges participated in the 2016 survey; results are based on nonrandom sampling and are not representative of all college students in Indiana.

Youth Consumption Patterns

According to the 2015 Youth Risk Behavior Surveillance System (YRBSS), 2.9% (95% Confidence Interval [CI]: 1.5–5.4) of Indiana high school students reported having used meth once or more in their lifetimes; the national rate was similar (3.0%; 95% CI: 2.4–3.8). Indiana's lifetime prevalence rate dropped significantly from 8.2% in 2003 to 2.9% in 2015 (see Figure 8.1). Rate differences by gender, race, and grade level were not significant in Indiana (see Table 8.1) (CDC, 2017).

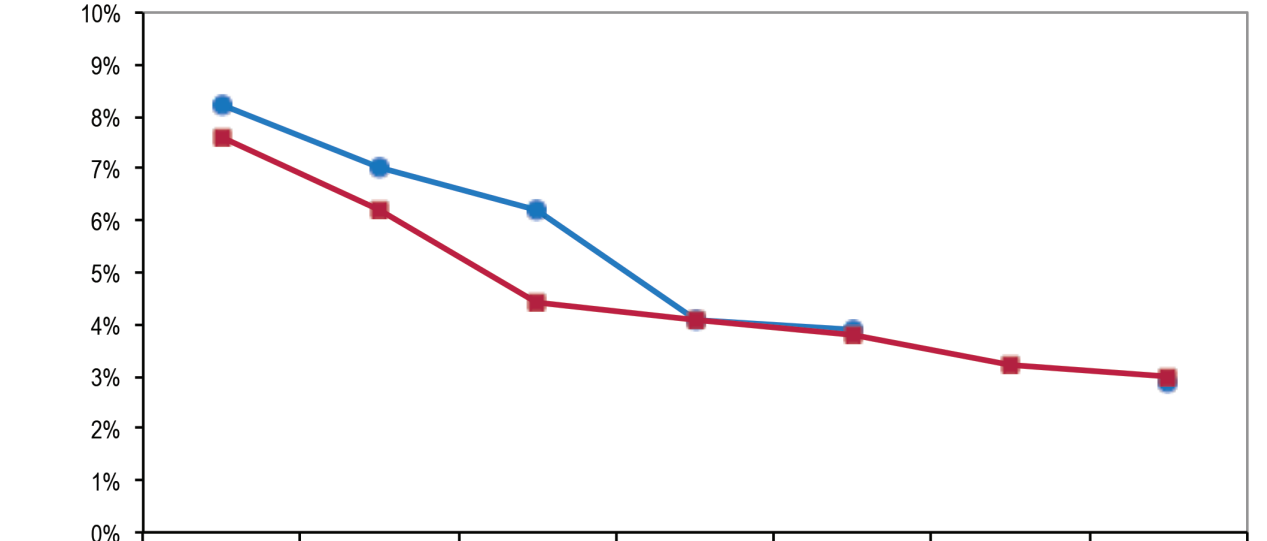
According to the Indiana Youth Survey (INYS), current (past month) rates of meth use among 8th, 10th, and 12th grade students seemed to have decreased from 2005 to 2016, though statistical significance could not be tested (see Figure 8.2). For monthly meth use in Indiana, by region and grade, see Appendix 8A, page 130.

Table 8.1 Percentage of Indiana and U.S. High School Students Reporting Lifetime Methamphetamine Use, by Gender, Race/Ethnicity, and Grade (Youth Risk Behavior Surveillance System, 2015)

		Indiana Prevalence % (95% CI)	U.S. Prevalence % (95% CI)
Gender	Male	4.1% (2.0–8.2)	3.6% (2.6–4.9)
	Female	1.4% (0.8–2.6)	2.3% (1.7–3.0)
Race/Ethnicity	Black	3.7% (1.2–10.7)	2.8% (1.5–5.1)
	White	2.4% (1.1–5.3)	2.1% (1.5–2.8)
	Hispanic	3.2% (1.4–7.0)	4.4% (3.3–5.9)
Grade	9th	3.5% (1.6–7.8)	2.0% (1.5–2.7)
	10th	2.3% (1.4–3.8)	3.3% (2.3–4.9)
	11th	3.7% (1.5–8.9)	2.8% (1.9–4.0)
	12th	1.6% (0.4–6.6)	3.8% (2.7–5.3)
Total		**2.9% (1.5-5.4)**	**3.0% (2.4-3.8)**

Source: CDC, 2017

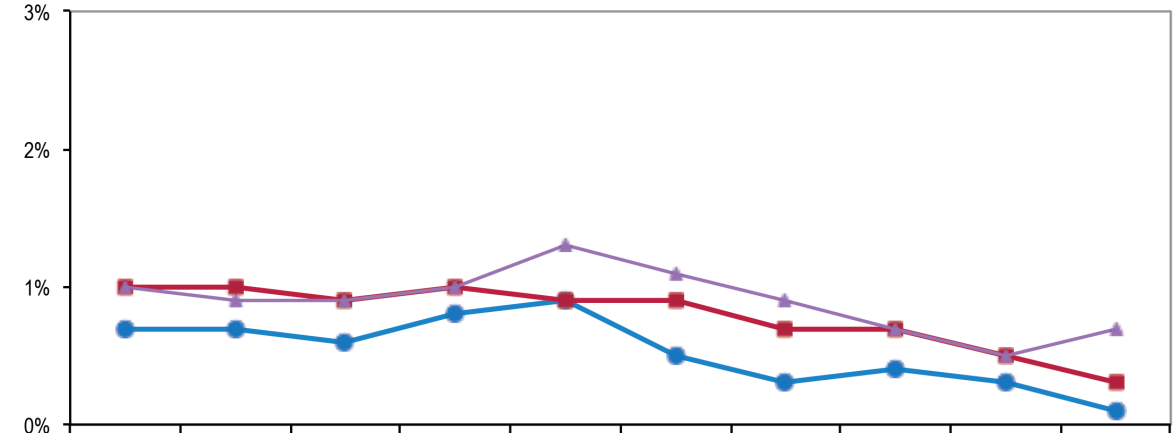
Figure 8.1 Percentage of Indiana and U.S. High School Students (9th–12th Grade) Reporting Lifetime Methamphetamine Use (Youth Risk Behavior Surveillance System, 2003–2015)



	2003	2005	2007	2009	2011	2013	2015
Indiana	8.2%	7.0%	6.2%	4.1%	3.9%		2.9%
U.S.	7.6%	6.2%	4.4%	4.1%	3.8%	3.2%	3.0%

Note: 2013 YRBSS data are not available for Indiana due to insufficient response rate.
Source: CDC, 2017

Figure 8.2 Percentage of Indiana 8th, 10th, and 12th Grade Students Reporting Current (Past Month) Methamphetamine Use, by Grade (Indiana Youth Survey, 2007–2016)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
8th Grade	0.7%	0.7%	0.6%	0.8%	0.9%	0.5%	0.3%	0.4%	0.3%	0.1%
10th Grade	1.0%	1.0%	0.9%	1.0%	0.9%	0.9%	0.7%	0.7%	0.5%	0.3%
12th Grade	1.0%	0.9%	0.9%	1.0%	1.3%	1.1%	0.9%	0.7%	0.5%	0.7%

Source: Gassman et al., 2016

CONSEQUENCES

Health-Related Consequences

Methamphetamine use has both short- and long-term health consequences. Short-term effects include increased wakefulness, physical activity, decreased appetite, cardiac problems, and hyperthermia (elevated body temperature). Chronic meth use causes physiological changes such as impaired memory, mood alterations, and diminished motor coordination. Additional long-term effects include insomnia, violent behavior, hallucinations, confusion, weight loss, stroke, and psychiatric problems (NIDA, 2014). Certain psychiatric conditions, such as paranoid psychosis, can result from both short- and long-term use, and may persist for a long period even after meth use has ceased. Also, clinical observations show a link between meth use and long-lasting brain injury (Ernst, Chang, Leonido-Yee, & Speck, 2000). Other health consequences of prolonged meth use include cardiovascular collapse; brain, liver, and kidney damage; severe tooth decay (or "meth mouth"); hepatitis; extreme weight loss; mental illness; increased risk of unsafe sex and risky sexual behaviors; increased risk of STD/HIV transmission (especially associated with injection drug use); unwanted pregnancy; and death (NIDA, 2014).

Meth labs and parental addiction pose serious risks to children, including chemical contamination; fires and explosions; physical, emotional, and sexual abuse; and abuse-related deaths (Messina, Marinelli-Casey, West, & Rawson, 2007; Petit & Curtis, 1999). Children living in meth labs may be exposed to highly toxic fumes created by meth production or the secondhand smoke of adults using the drug. Also, these children face a high risk of accidental ingestion of chemicals used for meth production, which may be fatal (Perez, Arsura, & Strategos, 1999). Low-level exposure to some of the meth ingredients may lead to headache, nausea, dizziness, and fatigue. Exposure to high levels of these chemicals can produce lung irritation, coughing, chest pain, dizziness, chemical burns (to the skin, eyes, mouth, and nose), damage to the brain, and even death (Office of Justice Programs, 2003; Irvine & Chin, 1997).

Meth Abuse and Dependence

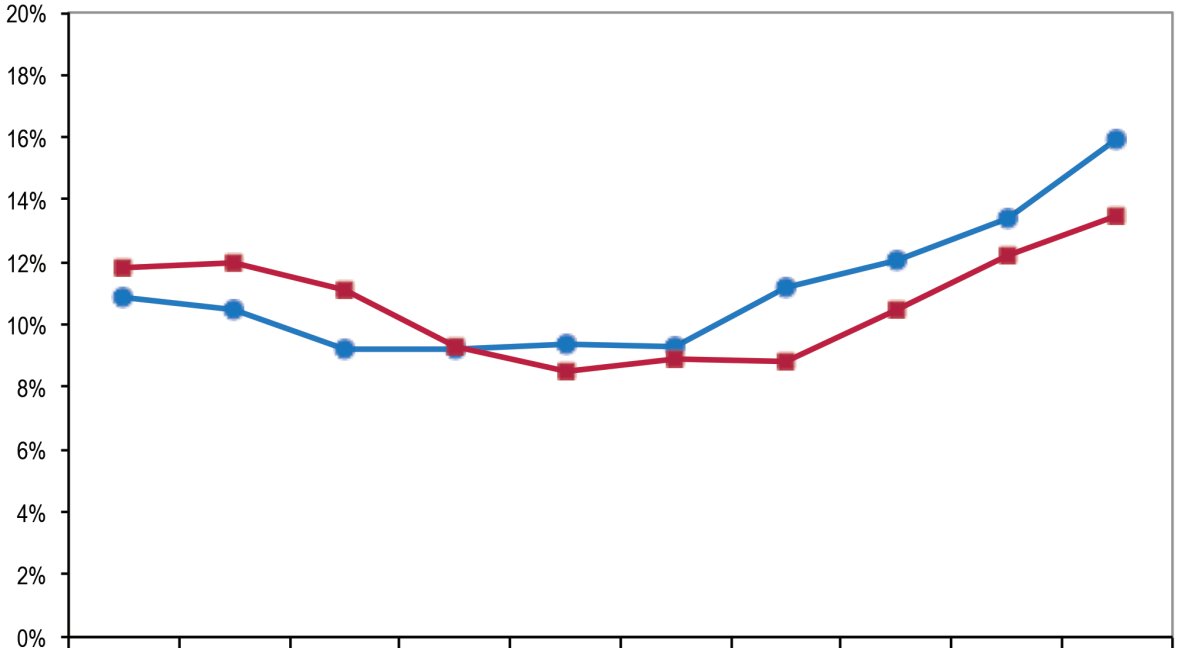
The Treatment Episode Data Set (TEDS) includes information gathered from patients at the time of substance abuse treatment admission (SAMHSA, 2014). Indiana TEDS data show an increase in the percentage of patients reporting meth use and dependence[2] at admission (see Figures 8.3 and 8.4).

In Indiana, statistically significant differences in meth use and dependence were observed by gender, race, and age group, as follows ($P < 0.001$):

- **Gender**—The percentage of female clients who reported meth use or dependence was significantly higher compared to their male counterparts (see Figures 8.5 and 8.6).
- **Race**—Meth use and dependence was highest among whites and lowest among blacks (see Figures 8.7 and 8.8).
- **Age**—Adults ages 25 to 44 reported the highest percentage of meth use and dependence (see Figures 8.9 and 8.10) (SAMHSA, 2014).

For county-level treatment data, see Appendix 8B, page 131.

Figure 8.3 Percentage of Treatment Episodes with Meth Use Reported at Treatment Admission in Indiana and the United States (Treatment Episode Data Set, 2005–2014)

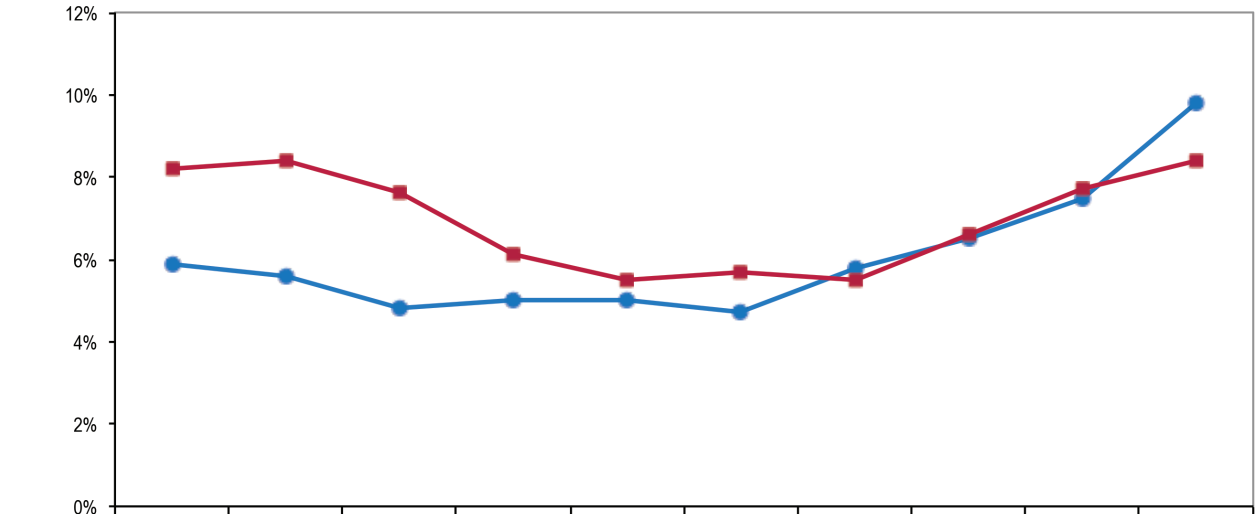


	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indiana	10.9%	10.5%	9.2%	9.2%	9.4%	9.3%	11.2%	12.1%	13.4%	15.9%
U.S.	11.8%	12.0%	11.1%	9.3%	8.5%	8.9%	8.8%	10.5%	12.2%	13.5%

Source: SAMHSA, 2014

[2]We defined methamphetamine dependence as "individuals in substance abuse treatment listing methamphetamine as their primary substance at admission."

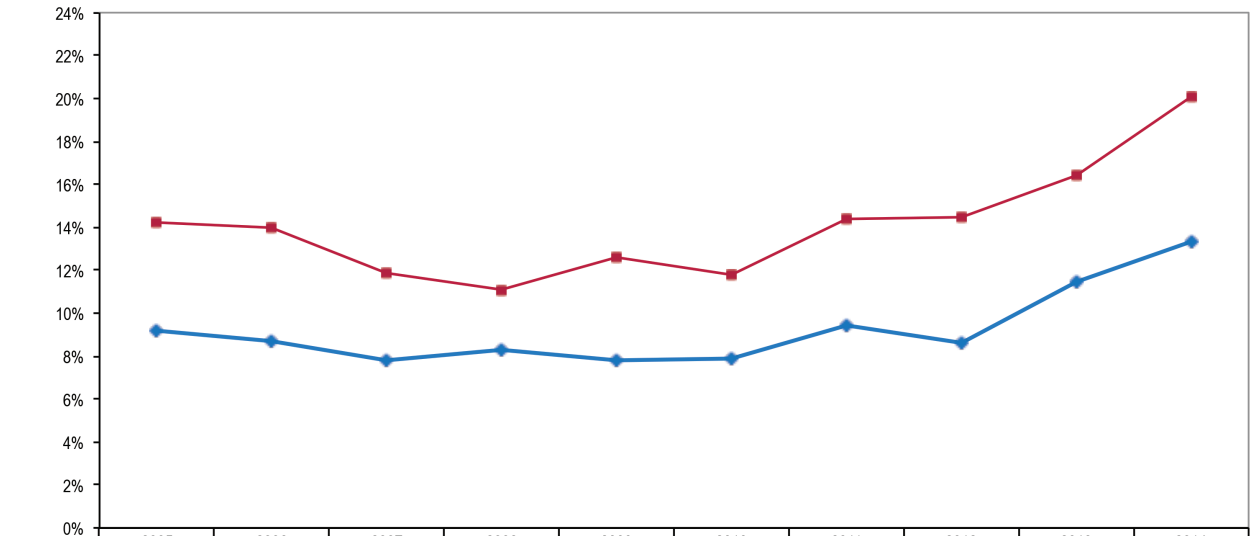
Figure 8.4 Percentage of Treatment Episodes with Meth Dependence Reported at Treatment Admission in Indiana and the United States (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indiana	5.9%	5.6%	4.8%	5.0%	5.0%	4.7%	5.8%	6.5%	7.5%	9.8%
U.S.	8.2%	8.4%	7.6%	6.1%	5.5%	5.7%	5.5%	6.6%	7.7%	8.4%

Source: SAMHSA, 2014

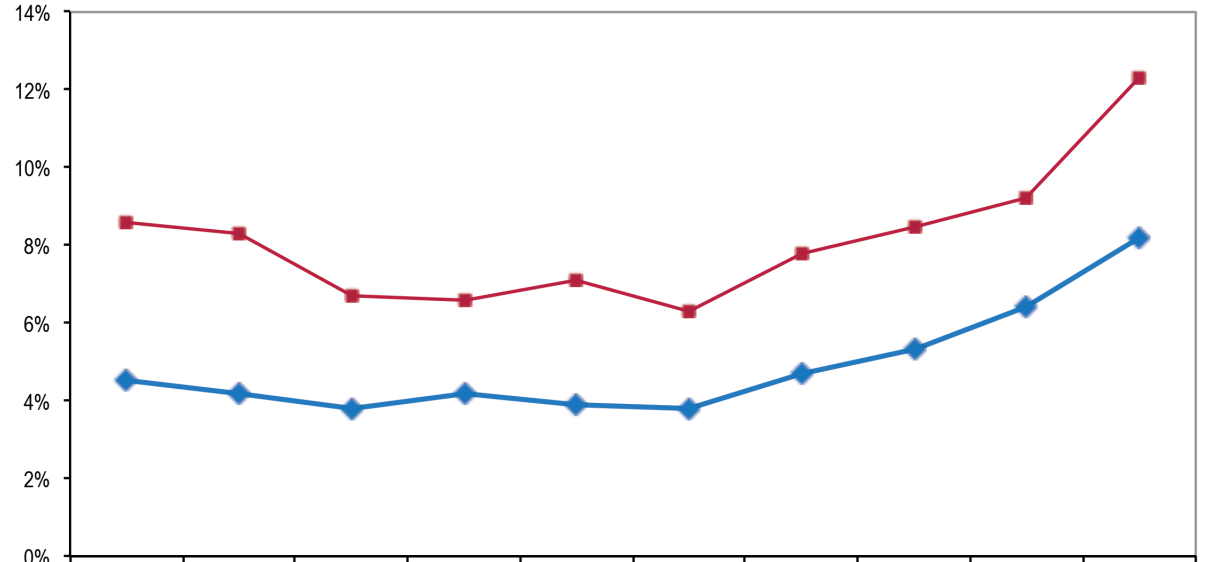
Figure 8.5 Percentage of Treatment Episodes with Meth Use Reported at Treatment Admission in Indiana, by Gender (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Male	9.2%	8.7%	7.8%	8.3%	7.8%	7.9%	9.4%	8.6%	11.5%	13.3%
Female	14.2%	14.0%	11.9%	11.1%	12.6%	11.8%	14.4%	14.5%	16.4%	20.1%

Source: SAMHSA, 2014

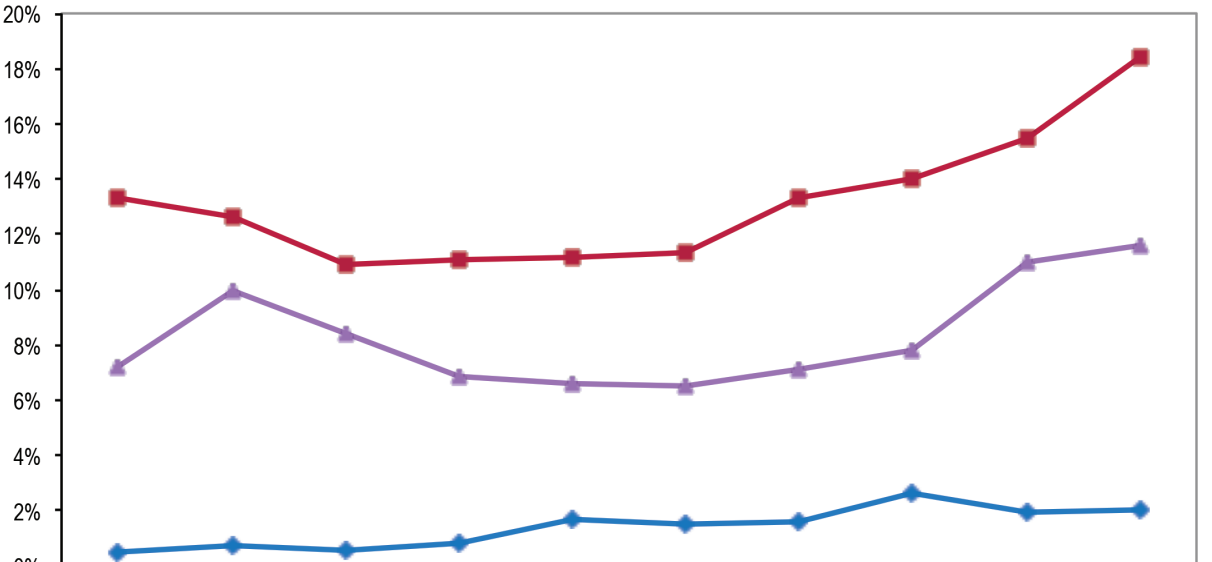
Figure 8.6 Percentage of Treatment Episodes with Meth Dependence Reported at Treatment Admission in Indiana, by Gender (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Male	4.5%	4.2%	3.8%	4.2%	3.9%	3.8%	4.7%	5.3%	6.4%	8.2%
Female	8.6%	8.3%	6.7%	6.6%	7.1%	6.3%	7.8%	8.5%	9.2%	12.3%

Source: SAMHSA, 2014

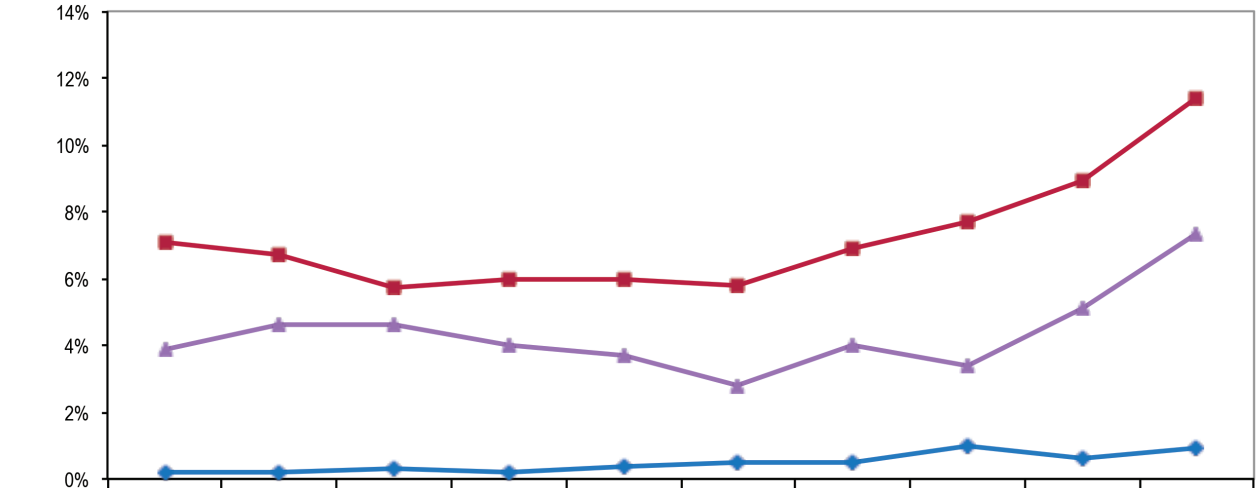
Figure 8.7 Percentage of Treatment Episodes with Meth Use Reported at Treatment Admission in Indiana, by Race (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Black	0.5%	0.7%	0.6%	0.8%	1.7%	1.5%	1.6%	2.6%	1.9%	2.0%
White	13.3%	12.6%	10.9%	11.1%	11.2%	11.3%	13.3%	14.0%	15.5%	18.4%
Other	7.2%	10.0%	8.4%	6.9%	6.6%	6.5%	7.1%	7.8%	11.0%	11.6%

Source: SAMHSA, 2014

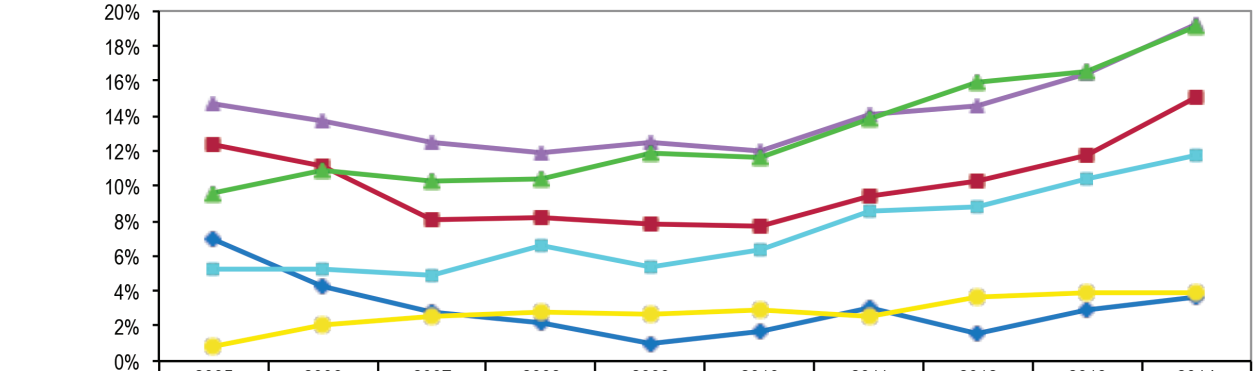
Figure 8.8 Percentage of Treatment Episodes with Meth Dependence Reported at Treatment Admission in Indiana, by Race (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Black	0.2%	0.2%	0.3%	0.2%	0.4%	0.5%	0.5%	1.0%	0.6%	0.9%
White	7.1%	6.7%	5.7%	6.0%	6.0%	5.8%	6.9%	7.7%	8.9%	11.4%
Other	3.9%	4.6%	4.6%	4.0%	3.7%	2.8%	4.0%	3.4%	5.1%	7.3%

Source: SAMHSA, 2014

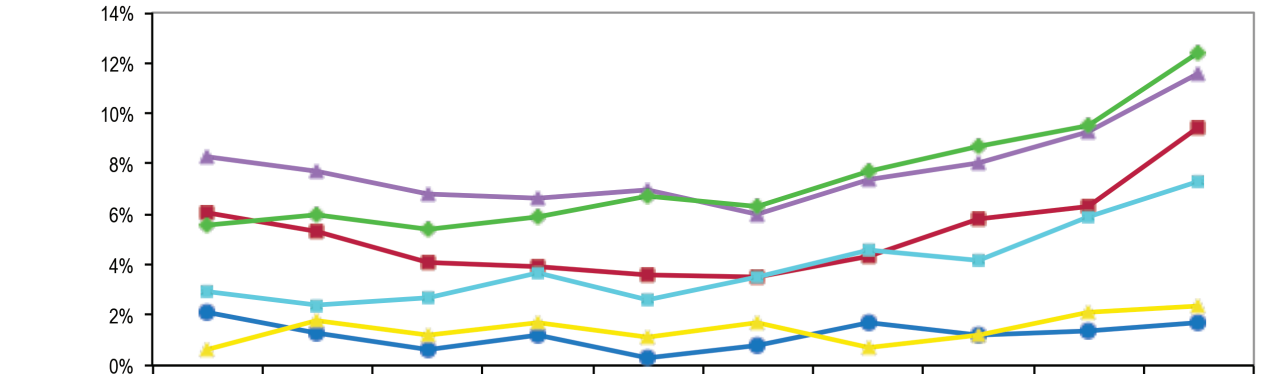
Figure 8.9 Percentage of Treatment Episodes with Meth Use Reported at Treatment Admission in Indiana, by Age Group (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Under 18	7.0%	4.3%	2.8%	2.2%	1.0%	1.7%	3.1%	1.6%	2.9%	3.7%
18 to 24	12.4%	11.1%	8.1%	8.2%	7.8%	7.7%	9.4%	10.3%	11.8%	15.1%
25 to 34	14.7%	13.7%	12.5%	11.9%	12.5%	12.0%	14.1%	14.6%	16.4%	19.2%
35 to 44	9.6%	10.9%	10.3%	10.4%	11.9%	11.6%	13.8%	15.9%	16.5%	19.1%
45 to 54	5.3%	5.3%	4.9%	6.6%	5.4%	6.4%	8.6%	8.8%	10.4%	11.8%
55 and over	0.8%	2.1%	2.5%	2.8%	2.7%	2.9%	2.5%	3.7%	3.9%	3.9%

Source: SAMHSA, 2014

Figure 8.10 Percentage of Treatment Episodes with Meth Dependence Reported at Treatment Admission in Indiana, by Age Group (Treatment Episode Data Set, 2005–2014)



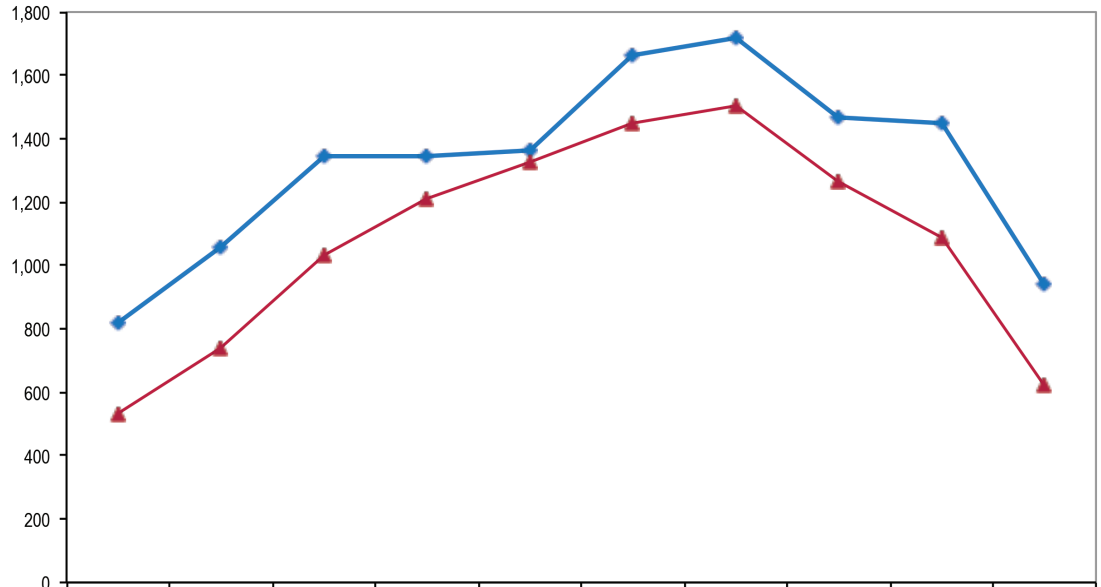
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Under 18	2.1%	1.3%	0.6%	1.2%	0.3%	0.8%	1.7%	1.2%	1.4%	1.7%
18 to 24	6.1%	5.3%	4.1%	3.9%	3.6%	3.5%	4.3%	5.8%	6.3%	9.4%
25 to 34	8.3%	7.7%	6.8%	6.6%	7.0%	6.0%	7.4%	8.0%	9.3%	11.6%
35 to 44	5.6%	6.0%	5.4%	5.9%	6.7%	6.3%	7.7%	8.7%	9.5%	12.4%
45 to 54	2.9%	2.4%	2.7%	3.7%	2.6%	3.5%	4.6%	4.2%	5.9%	7.3%
55 and over	0.6%	1.8%	1.2%	1.7%	1.1%	1.7%	0.7%	1.2%	2.1%	2.4%

Source: SAMHSA, 2014

Criminal Consequences

The Indiana State Police (ISP) seized 943 clandestine methamphetamine labs, and made 622 meth lab arrests in the state between January 1 and December 31, 2016. These numbers represent a remarkable decline in both lab seizures and arrests from the previous year (see Figure 8.11) (ISP, 2017). However, not all seizures involved the "traditional" clandestine lab. A popular technique for meth production is the one-pot or "shake and bake" method, which entails combining all the ingredients in one container (often a 2-liter or 20-ounce plastic soda bottle) and shaking. This can be done almost anywhere, even in a moving vehicle, and waste disposal is often along roadsides, in discarded plastic bottles (Blostein et al., 2009; Greene, Williams, & Wright, 2010). The number of meth labs seized by ISP included all meth incidents, such as labs, "dump sites," and "chemical and glassware" seizures. In 2016, a total of 862 seized labs (91% of all meth labs seized by ISP), were using the one-pot method, which was a major increase from 2010 (493 seizures, or 37%) (ISP, 2017). Map 8.1 (page 134) shows the number of meth labs seized by ISP in each county in 2016.

Figure 8.11 Number of Clandestine Methamphetamine Labs Seized and Number of Arrests Made at Methamphetamine Labs by the Indiana State Police (Indiana Meth Lab Statistics, 2007–2016)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Number of Lab Seizures	820	1,059	1,343	1,346	1,363	1,663	1,721	1,466	1,452	943
Number of Arrests	534	739	1,031	1,212	1,328	1,448	1,507	1,263	1,087	622

Source: ISP, 2017

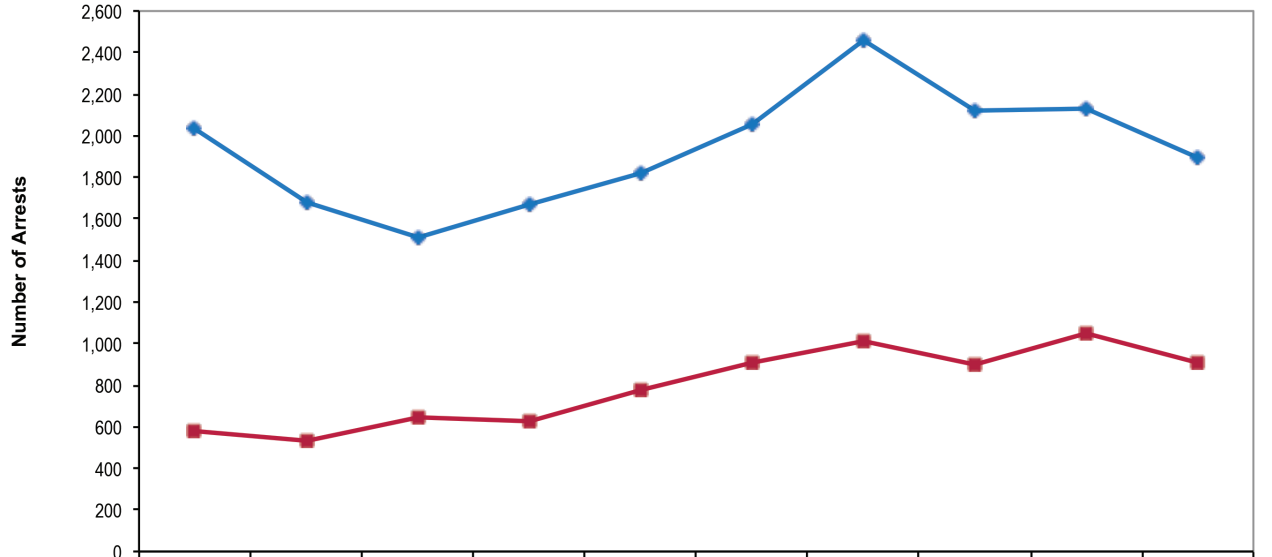
Methamphetamine is classified as a synthetic stimulant. The Uniform Crime Reporting (UCR) Program collects information on crimes associated with synthetic drug possession and sale/manufacture, defining "synthetic" to include a number of drugs in addition to methamphetamine, such as Demerol and methadone. According to 2014 results, 1,895 Hoosiers were arrested for possession of synthetic drugs, which represents an arrest rate of 0.3 (95% CI: 0.3–0.3) per 1,000 population; the U.S. rate was 0.2 (95% CI: 0.2–0.2). Additionally, 909 arrests were made in Indiana for the sale and manufacture of synthetic drugs. Indiana and U.S. arrest rates were the same, 0.1 (95% CI: 0.1–0.1) per 1,000 population (see Figures 8.12 and 8.13) (Federal Bureau of Investigation (FBI), 2014).

Maps 8.2 and 8.3 (pages 135 and 136), and Appendix 8C (pages 132–133) show arrest data for synthetic drug possession and sale/manufacture by county. Caution should be exercised when interpreting these data due to variations in reporting procedures and a lack of data to identify meth-specific arrests. In Indiana, reporting by county and local law enforcement jurisdictions is sometimes incomplete; therefore, a portion of these data is based on estimates. (For more details, see the discussion of UCR data in Chapter 2, "Methods.")

Social Consequences

In addition to the health-related and criminal consequences, meth use and abuse can have serious social impacts, affecting children and families in ways similar to other forms of substance abuse, such as contributing to increased interpersonal conflicts, violence, financial problems, and poor parenting (Sommers, Baskin, & Baskin-Sommers, 2006). Other social impacts of meth use include incarceration of parents and placement of children in protective custody. According to ISP data, the number of children who were taken from meth lab homes in Indiana peaked in 2013 (440 children), but dropped to 153 in 2016. (see Figure 8.14) (ISP, 2017).

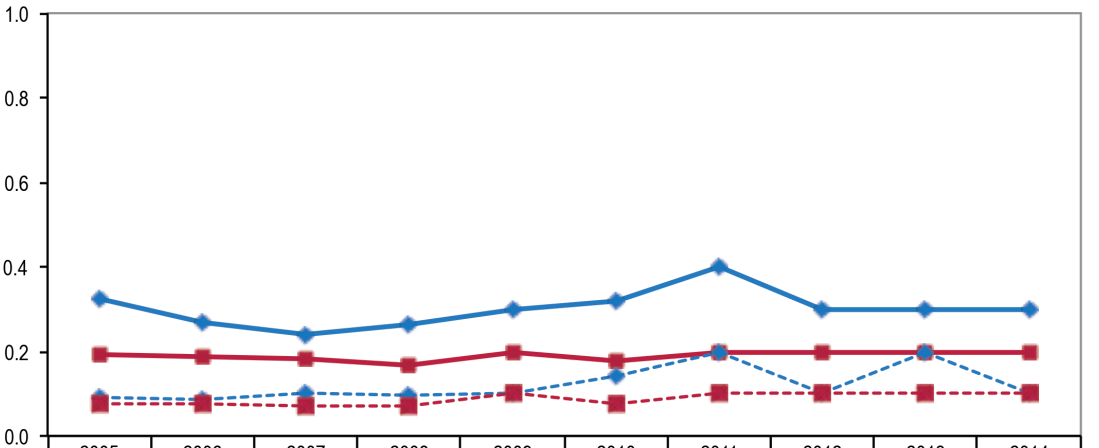
Figure 8.12 Number of Arrests for Synthetic Drug Possession and Sale/Manufacture in Indiana (Uniform Crime Reporting Program, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Possession	2,034	1,683	1,511	1,671	1,824	2,058	2,458	2,122	2,131	1,895
Sale	581	529	649	628	777	908	1,008	896	1,047	909

Source: FBI, 2014

Figure 8.13 Arrest Rates for Synthetic Drug Possession and Sale/Manufacture per 1,000 Population, Indiana and United States (Uniform Crime Reporting Program, 2005–2014)

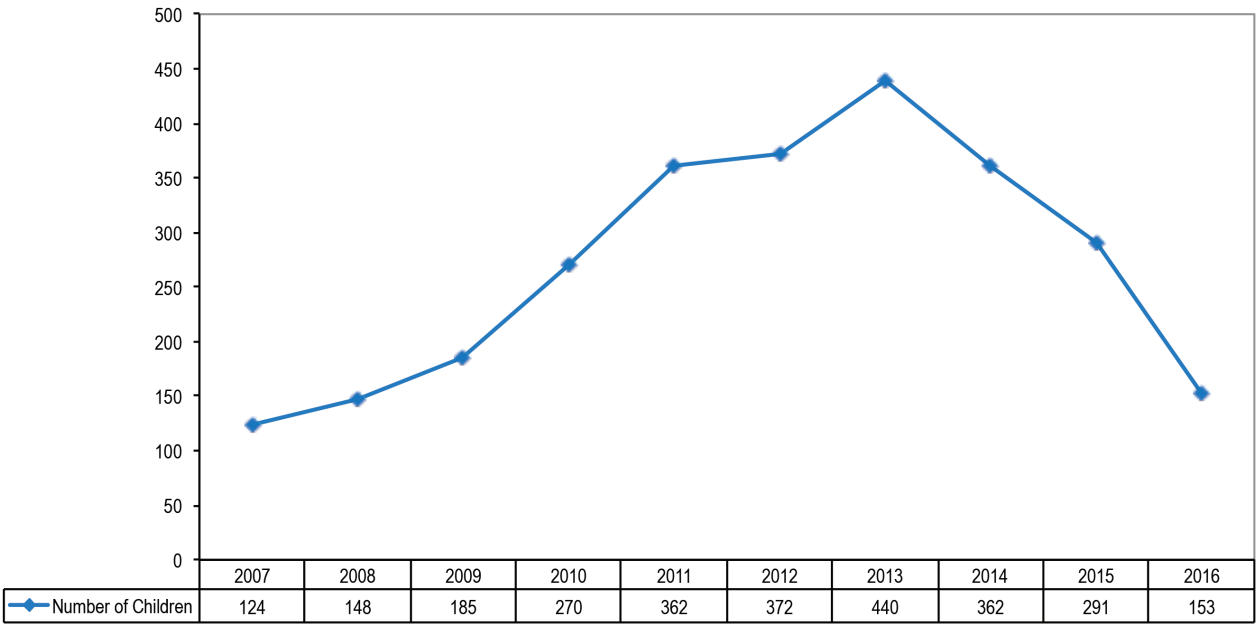


	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
IN Possession	0.3	0.3	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.3
U.S. Possession	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
IN Sale	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1
U.S. Sale	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Source: FBI, 2014

In addition to the health-related and criminal consequences, meth use and abuse can have serious social impacts on children and families in ways similar to other forms of substance abuse. These include contributing to increased interpersonal conflicts, violence, financial problems, and poor parenting (Sommers, Baskin, & Baskin-Sommers, 2006). Other social effects of meth use include incarceration of parents and placement of children in protective custody. According to ISP data, the number of children who were taken from meth lab homes in Indiana peaked in 2013 (440 children), but dropped to 153 in 2016. (see Figure 8.14) (ISP, 2017).

Figure 8.14 Number of Indiana Children Taken by the Indiana State Police from Methamphetamine Lab Homes (Indiana Meth Lab Statistics, 2007–2016)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Number of Children	124	148	185	270	362	372	440	362	291	153

Source: ISP, 2017

APPENDIX 8A

Percentage of Indiana Students Reporting Monthly Methamphetamine Use, by Region and Grade (Indiana Youth Survey, 2016)

	Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
7th Grade	0.1	0.2	0.2	0.0	0.0	0.1	0.1	0.1	0.1
8th Grade	0.1	0.2	0.1	0.0	0.2	0.2	0.3	0.1	0.1
9th Grade	0.2	0.3	0.1	0.0	0.1	0.4	0.3	0.2	0.2
10th Grade	0.3	0.3	0.4	0.0	0.2	0.5	0.5	0.2	0.3
11th Grade	0.5	0.7	0.5	0.4	0.2	0.5	0.5	0.4	0.4
12th Grade	0.7	0.5	0.7	0.0	0.7	0.5	2.2*	0.6	0.6

Notes: * Indicates a local rate that is significantly different from the overall state rate ($P < 0.05$).
Beginning in 2015, the Indiana Youth Survey stopped asking 6th grade students about methamphetamine use.
Source: Gassman et al., 2016

APPENDIX 8B

Number of Treatment Episodes with Methamphetamine Use and Dependence Reported at Treatment Admission in Indiana, by County (Substance Abuse Population by County/Treatment Episode Data Set, 2016)

	Treatment Episodes	Meth Use		Meth Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**
Adams	295	44	14.9%	20	6.8%
Allen	1,618	137	8.5%	66	4.1%
Bartholomew	581	309	53.2%	203	34.9%
Benton	50	<5	N/A	<5	N/A
Blackford	82	8	9.8%	<5	N/A
Boone	187	22	11.8%	14	7.5%
Brown	83	27	32.5%	13	15.7%
Carroll	84	23	27.4%	15	17.9%
Cass	253	54	21.3%	21	8.3%
Clark	313	31	9.9%	20	6.4%
Clay	181	62	34.3%	37	20.4%
Clinton	227	34	15.0%	13	5.7%
Crawford	45	20	44.4%	10	22.2%
Daviess	169	64	37.9%	50	29.6%
Dearborn	449	17	3.8%	9	2.0%
Decatur	212	86	40.6%	49	23.1%
DeKalb	242	85	35.1%	50	20.7%
Delaware	1,138	200	17.6%	98	8.6%
Dubois	280	59	21.1%	18	6.4%
Elkhart	654	128	19.6%	77	11.8%
Fayette	234	35	15.0%	13	5.6%
Floyd	117	13	11.1%	9	7.7%
Fountain	48	17	35.4%	11	22.9%
Franklin	166	32	19.3%	17	10.2%
Fulton	143	34	23.8%	12	8.4%
Gibson	295	104	35.3%	72	24.4%
Grant	436	20	4.6%	10	2.3%
Greene	204	59	28.9%	27	13.2%
Hamilton	893	34	3.8%	12	1.3%
Hancock	193	16	8.3%	8	4.1%
Harrison	31	<5	N/A	<5	N/A
Hendricks	351	60	17.1%	35	10.0%
Henry	330	42	12.7%	19	5.8%
Howard	610	117	19.2%	47	7.7%
Huntington	147	27	18.4%	13	8.8%
Jackson	298	139	46.6%	99	33.2%
Jasper	105	28	26.7%	14	13.3%
Jay	188	32	17.0%	17	9.0%
Jefferson	366	126	34.4%	82	22.4%
Jennings	223	114	51.1%	62	27.8%
Johnson	275	44	16.0%	30	10.9%
Knox	298	109	36.6%	75	25.2%
Kosciusko	381	115	30.2%	67	17.6%
LaGrange	186	84	45.2%	50	26.9%
Lake	2,339	21	0.9%	6	0.3%
LaPorte	377	9	2.4%	5	1.3%
Lawrence	485	179	36.9%	103	21.2%
Madison	1,278	178	13.9%	83	6.5%
Marion	3,645	296	8.1%	135	3.7%
Marshall	205	48	23.4%	17	8.3%
Martin	62	24	38.7%	14	22.6%
Miami	272	74	27.2%	31	11.4%
Monroe	1,180	298	25.3%	159	13.5%
Montgomery	374	86	23.0%	39	10.4%
Morgan	482	180	37.3%	111	23.0%
Newton	33	6	18.2%	<5	N/A
Noble	307	152	49.5%	91	29.6%
Ohio	40	<5	N/A	<5	N/A
Orange	160	51	31.9%	22	13.8%
Owen	199	75	37.7%	44	22.1%
Parke	67	20	29.9%	10	14.9%
Perry	102	32	31.4%	15	14.7%
Pike	53	16	30.2%	11	20.8%
Porter	410	<5	N/A	<5	N/A
Posey	170	64	37.6%	34	20.0%
Pulaski	109	19	17.4%	6	5.5%
Putnam	215	88	40.9%	36	16.7%
Randolph	170	25	14.7%	11	6.5%
Ripley	184	31	16.8%	12	6.5%
Rush	138	49	35.5%	31	22.5%
Saint Joseph	1,231	109	8.9%	59	4.8%
Scott	165	45	27.3%	25	15.2%
Shelby	168	46	27.4%	20	11.9%
Spencer	144	60	41.7%	34	23.6%
Starke	193	56	29.0%	26	13.5%
Steuben	298	79	26.5%	46	15.4%
Sullivan	78	24	30.8%	10	12.8%
Switzerland	63	10	15.9%	5	7.9%
Tippecanoe	404	91	22.5%	47	11.6%
Tipton	70	9	12.9%	8	11.4%
Union	22	<5	N/A	<5	N/A
Vanderburgh	1,319	482	36.5%	267	20.2%
Vermillion	123	53	43.1%	33	26.8%
Vigo	803	328	40.8%	192	23.9%
Wabash	225	53	23.6%	29	12.9%
Warren	9	<5	N/A	<5	N/A
Warrick	267	113	42.3%	72	27.0%
Washington	63	11	17.5%	<5	N/A
Wayne	438	24	5.5%	10	2.3%
Wells	128	24	18.8%	8	6.3%
White	110	33	30.0%	10	9.1%
Whitley	105	33	31.4%	18	17.1%
County Info Missing	27	<5	N/A	<5	N/A
Indiana	**33,170**	**6,533**	**19.7%**	**3,543**	**10.7%**

Notes: We defined methamphetamine dependence as “individuals in substance abuse treatment listing methamphetamine as their primary substance at admission.”
We calculated the percentages by dividing the number of reported methamphetamine use/dependence by the number of treatment episodes.
Information on treatment episodes <5 was suppressed due to confidentiality constraints.
Source: Indiana Family and Social Services Administration, 2016

APPENDIX 8C

Number and Rate, per 1,000 Population, of Arrests for Synthetic Drug Possession and Sale/Manufacture in Indiana, by County (Uniform Crime Reporting Program, 2014)

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Adams	8	0.2	5	0.1
Allen	106	0.3	14	0.0
Bartholomew	52	0.7	31	0.4
Benton	2	0.2	1	0.1
Blackford	33	2.7	10	0.8
Boone	10	0.2	5	0.1
Brown	6	0.4	2	0.1
Carroll	4	0.2	3	0.1
Cass	1	0.0	14	0.4
Clark	111	1.0	30	0.3
Clay	8	0.3	4	0.1
Clinton	9	0.3	2	0.1
Crawford	4	0.4	0	0.0
Daviess	15	0.5	14	0.4
Dearborn	10	0.2	6	0.1
Decatur	7	0.3	8	0.3
DeKalb	26	0.6	40	0.9
Delaware	91	0.8	9	0.1
Dubois	13	0.3	6	0.1
Elkhart	29	0.1	26	0.1
Fayette	9	0.4	4	0.2
Floyd	9	0.1	13	0.2
Fountain	6	0.4	3	0.2
Franklin	1	0.0	0	0.0
Fulton	3	0.1	2	0.1
Gibson	10	0.3	17	0.5
Grant	1	0.0	1	0.0
Greene	5	0.2	0	0.0
Hamilton	88	0.3	18	0.1
Hancock	8	0.1	16	0.2
Harrison	6	0.2	10	0.3
Hendricks	16	0.1	10	0.1
Henry	20	0.4	14	0.3
Howard	11	0.1	5	0.1
Huntington	7	0.2	14	0.4
Jackson	21	0.5	4	0.1
Jasper	5	0.1	6	0.2
Jay	32	1.5	14	0.7
Jefferson	12	0.4	6	0.2
Jennings	0	0.0	7	0.2
Johnson	18	0.1	11	0.1
Knox	10	0.3	7	0.2
Kosciusko	42	0.5	47	0.6
LaGrange	14	0.4	0	0.0
Lake	62	0.1	19	0.0
LaPorte	25	0.2	3	0.0
Lawrence	40	0.9	3	0.1
Madison	71	0.5	16	0.1
Marion	56	0.1	10	0.0

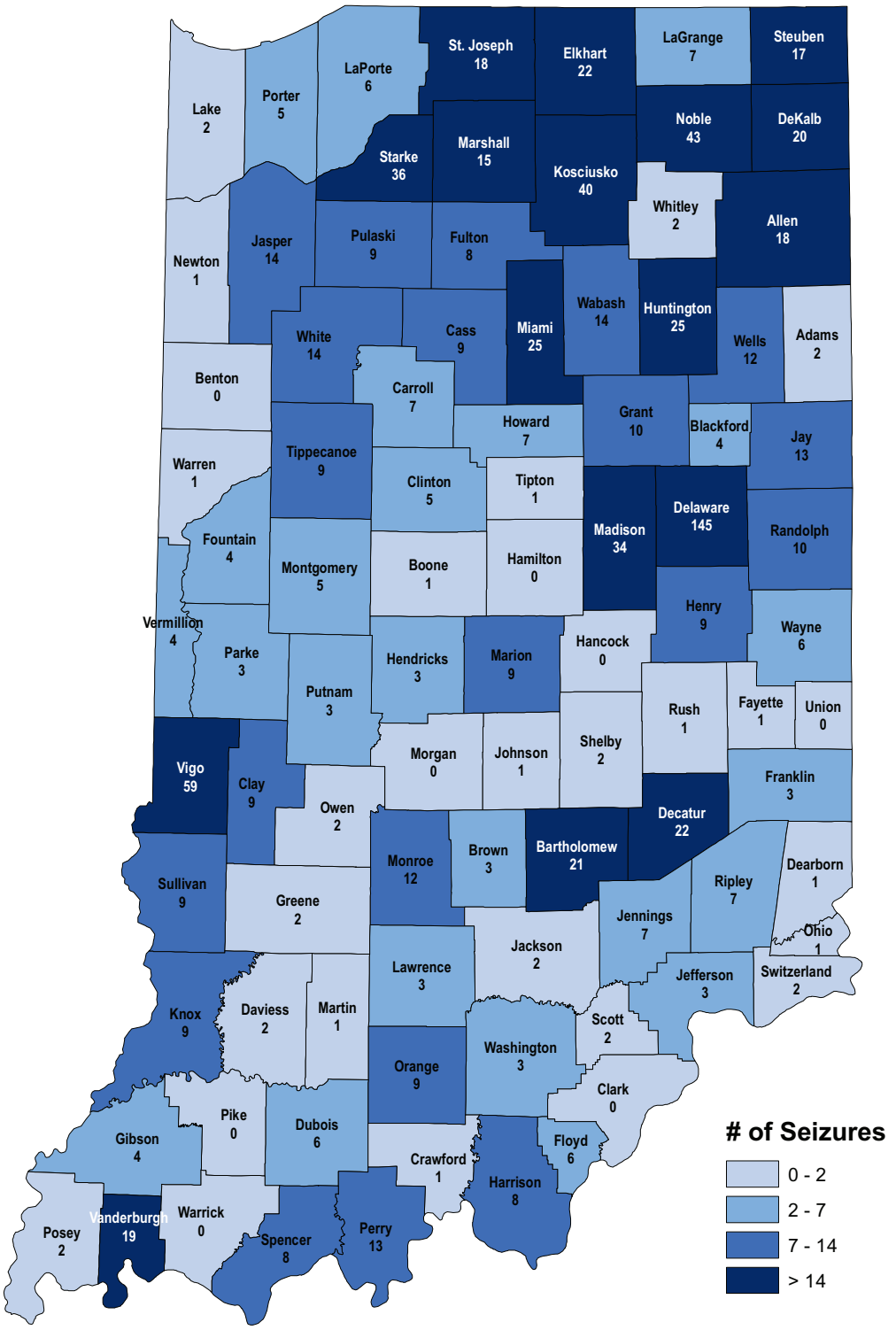
(continued on next page)

APPENDIX 8C *(Continued from previous page)*

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Marshall	29	0.6	13	0.3
Martin	3	0.3	0	0.0
Miami	6	0.2	2	0.1
Monroe	30	0.2	1	0.0
Montgomery	2	0.1	0	0.0
Morgan	15	0.2	6	0.1
Newton	9	0.6	3	0.2
Noble	21	0.4	25	0.5
Ohio	1	0.2	1	0.2
Orange	7	0.4	4	0.2
Owen	4	0.2	3	0.1
Parke	32	1.9	12	0.7
Perry	17	0.9	7	0.4
Pike	1	0.1	0	0.0
Porter	3	0.0	1	0.0
Posey	3	0.1	10	0.4
Pulaski	4	0.3	3	0.2
Putnam	10	0.3	5	0.1
Randolph	13	0.5	6	0.2
Ripley	10	0.3	7	0.2
Rush	4	0.2	6	0.4
Saint Joseph	53	0.2	4	0.0
Scott	30	1.3	11	0.5
Shelby	25	0.6	5	0.1
Spencer	7	0.3	4	0.2
Starke	4	0.2	2	0.1
Steuben	2	0.1	21	0.6
Sullivan	2	0.1	1	0.0
Switzerland	4	0.4	2	0.2
Tippecanoe	82	0.5	15	0.1
Tipton	12	0.8	19	1.2
Union	1	0.1	1	0.1
Vanderburgh	127	0.7	97	0.5
Vermillion	4	0.3	1	0.1
Vigo	22	0.2	37	0.3
Wabash	4	0.1	3	0.1
Warren	3	0.4	2	0.2
Warrick	45	0.7	44	0.7
Washington	8	0.3	4	0.1
Wayne	17	0.3	6	0.1
Wells	0	0.0	0	0.0
White	53	2.2	2	0.1
Whitley	13	0.4	3	0.1
Indiana	**1,895**	**0.3**	**909**	**0.1**

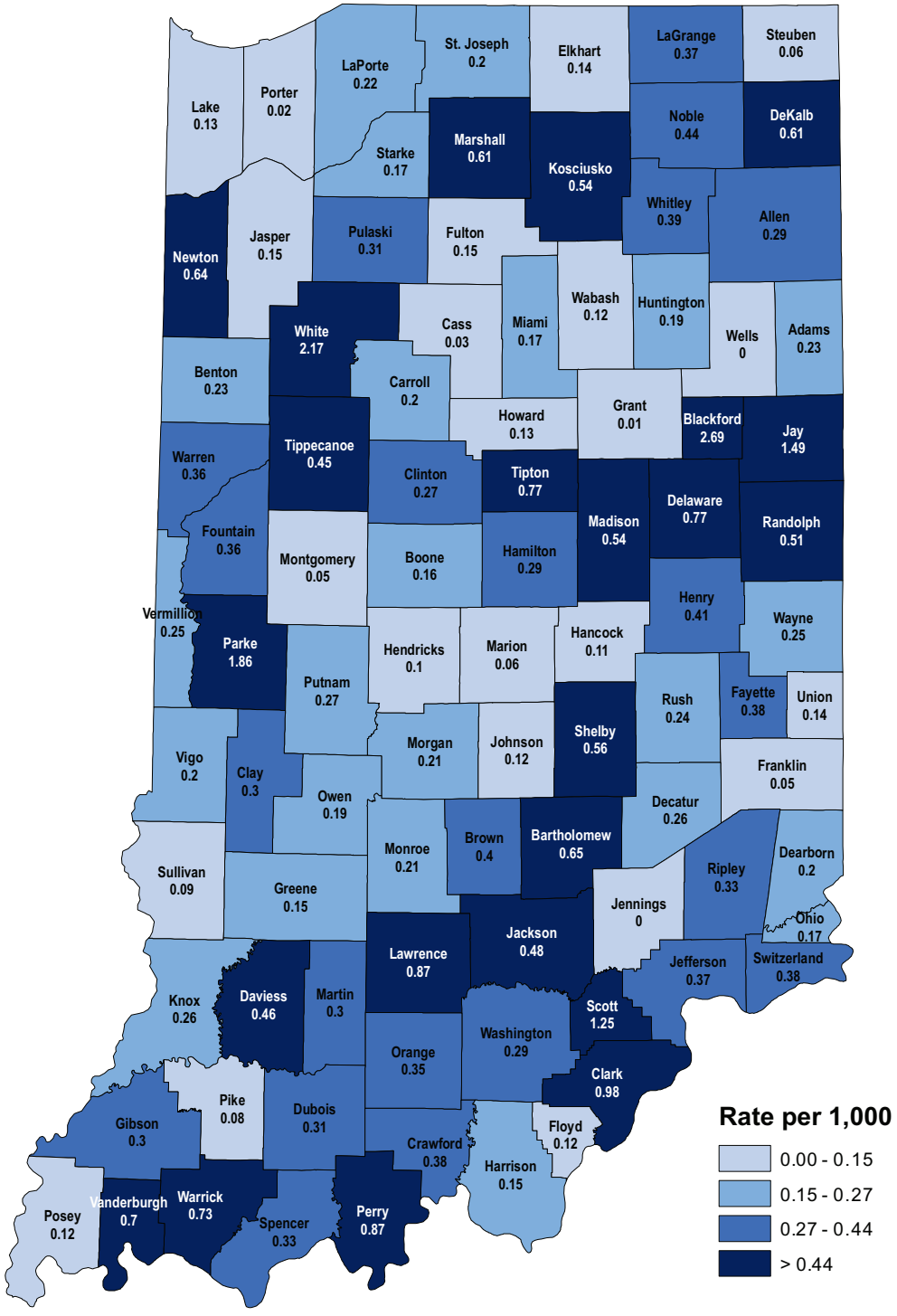
Note: Rates based on arrest numbers lower than 20 are unreliable.
Source: FBI, 2014

Map 8.1 Number of Clandestine Methamphetamine Labs Seized by the Indiana State Police (ISP), by County (Indiana Meth Lab Statistics, 2016)



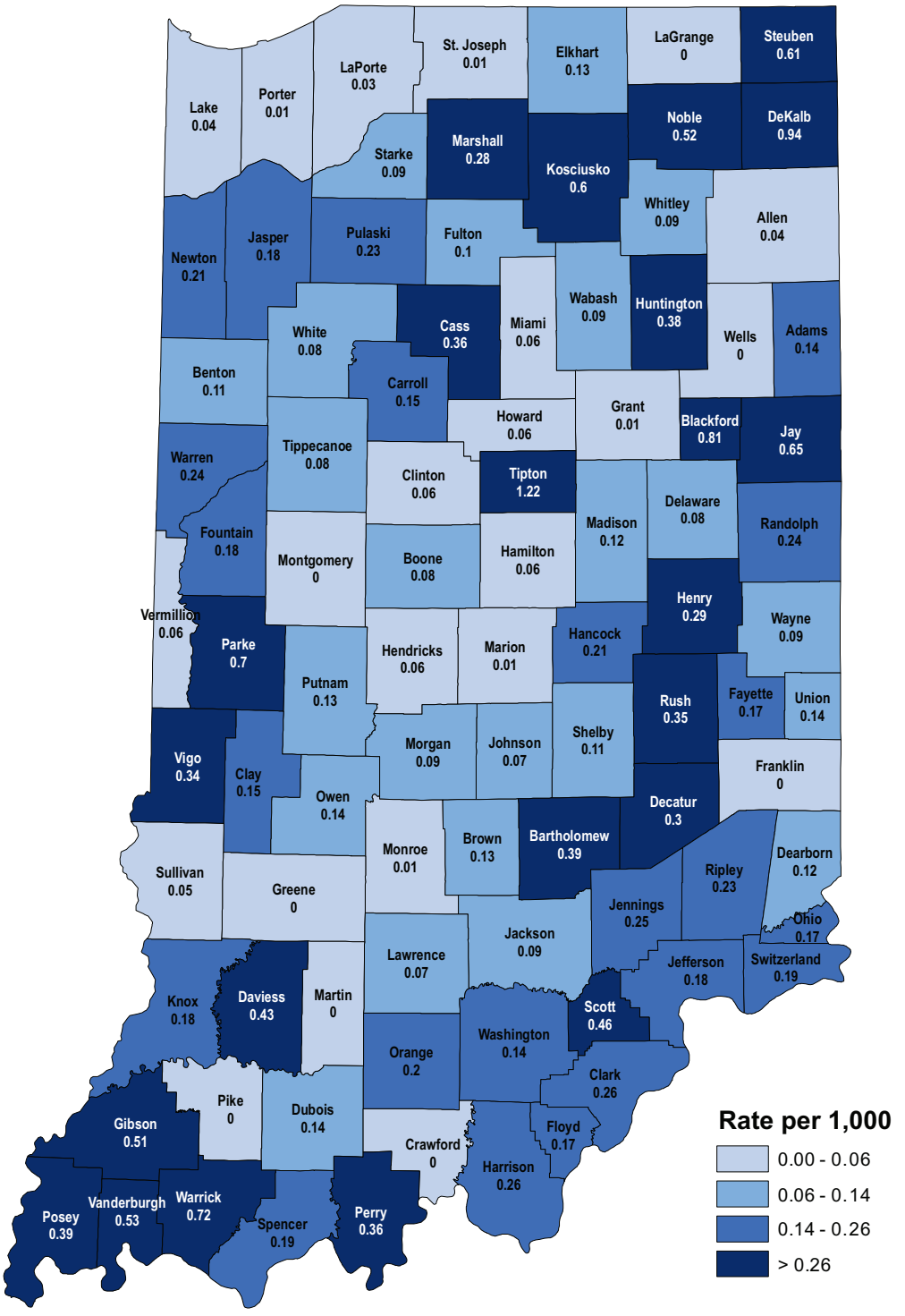
Source: ISP, 2017

Map 8.2 Arrest Rates for Synthetic Drug Possession, per 1,000 Population, in Indiana, by County (Uniform Crime Reporting Program, 2014)



Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 8C (pages 132–133) for additional information.
Source: FBI, 2014

Map 8.3 Arrest Rates for Synthetic Drug Sale/Manufacture, per 1,000 Population, in Indiana, by County (Uniform Crime Reporting Program, 2014)



Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 8C (pages 132–133) for additional information.
Source: FBI, 2014

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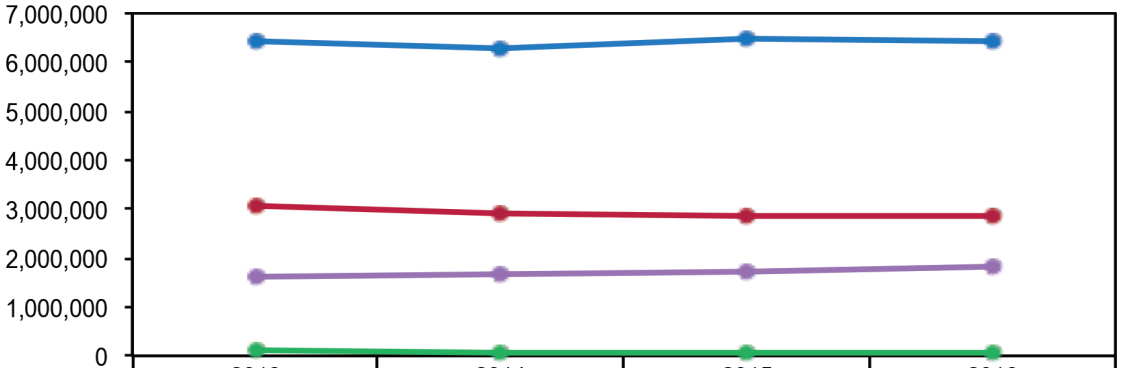
9 Prescription Drug Abuse in Indiana: Consumption Patterns and Consequences

Abuse of prescription drugs[1] is a serious and growing public health problem in the United States. According to the National Survey on Drug Use and Health (NSDUH), in 2015, 18.9 million Americans (7.1%) ages 12 years and older reported misuse[2] of prescription-type psychotherapeutics in the past 12 months. This included pain relievers, sedatives, tranquilizers, and stimulants (Substance Abuse and Mental Health Services Administration [SAMHSA], 2017). The National Institute on Drug Abuse (NIDA) lists the three most commonly abused types of prescription medicine as:

- *Opioids*, which are primarily prescribed to treat pain—examples include oxycodone (e.g., OxyContin®, Percocet®), hydrocodone (e.g., Vicodin®), codeine, and morphine;
- *Central nervous system (CNS) depressants*, such as sedatives and tranquilizers to treat sleep and anxiety disorders—examples include barbiturates (e.g., Mebaral®, Nembutal®) and benzodiazepines (e.g., Valium®, Xanax®); and
- *Stimulants,* which are often prescribed to treat narcolepsy and attention-deficit hyperactivity disorder (ADHD)—examples include dextroamphetamine (Dexedrine® and Adderall®) and methylphenidate (Ritalin® and Concerta®) (National Institute on Drug Abuse, 2014).

INSPECT is Indiana's prescription drug monitoring program, collecting information on all controlled substance (DEA Schedules II through V) dispensations within the state. In 2016, more than 11 million prescriptions for controlled substances were filled in Indiana and over half of these were opioids (see Figure 9.1) (Indiana Professional Licensing Agency [IPLA], 2017a). These results describe the legal dispensation of prescription pharmaceuticals; they infer use of the drugs but do not estimate misuse. See Appendix 9A for the number of opioid dispensations by county (page 148).

Figure 9.1 Dispensation of Prescribed Controlled Substances in Indiana (INSPECT, 2013–2016)



	2013	2014	2015	2016
Opioids	6,450,083	6,284,664	6,459,599	6,417,413
Benzodiazepnies	3,068,891	2,925,495	2,842,022	2,867,573
Stimulants	1,607,601	1,646,314	1,715,653	1,812,813
Muscle Relaxants	111,458	85,713	73,685	61,493

Source: IPLA, 2017a

[1]Throughout the report, the term "prescription drugs" refers to controlled substances (Schedules II-V) that are being prescribed by a healthcare professional. Other non-controlled prescriptions, such as blood pressure medication, cholesterol-lowering drugs, etc., are not included.

[2]The terms nonmedical use, misuse, and abuse of prescription drugs are used interchangeably throughout this report and refer to any type of use other than that prescribed by a healthcare professional.

General Consumption Patterns

In 2015, SAMHSA redesigned the questions in the NSDUH pertaining to the use and misuse of prescription drugs. The redesign included changing the definition of prescription drug misuse; revising the list of pertinent prescription drugs to exclude those that have been discontinued or are no longer legally available in the U.S.; adding questions that assess both appropriate use and misuse of prescription medication; and adding items that ask individuals to describe the ways they misuse prescription drugs and the motives driving their misuse. Due to these changes, estimates for 2015 cannot be compared to previous years of the NSDUH, nor can SAMHSA provide state-level estimates of past-year use, as these estimates require the use of two years' worth of data. SAMHSA will provide state-level estimates starting with the 2017 NSDUH (Hughes, Williams, Lipari, & Bose, 2016). In light of the NSDUH redesign, the consumption data presented in this report will continue to rely on data from the 2014 NSDUH.

The 2014 NSDUH estimated that 4.4% (95% Confidence Interval [CI]: 3.6–5.3) of Indiana residents ages 12 and older misused pain relievers in the past year (240,244 Hoosiers). Indiana's prevalence rate was similar to the nation's, at 4.1% (95% CI: 3.9–4.2) (SAMHSA, 2017). For trend information, see Figure 9.2.

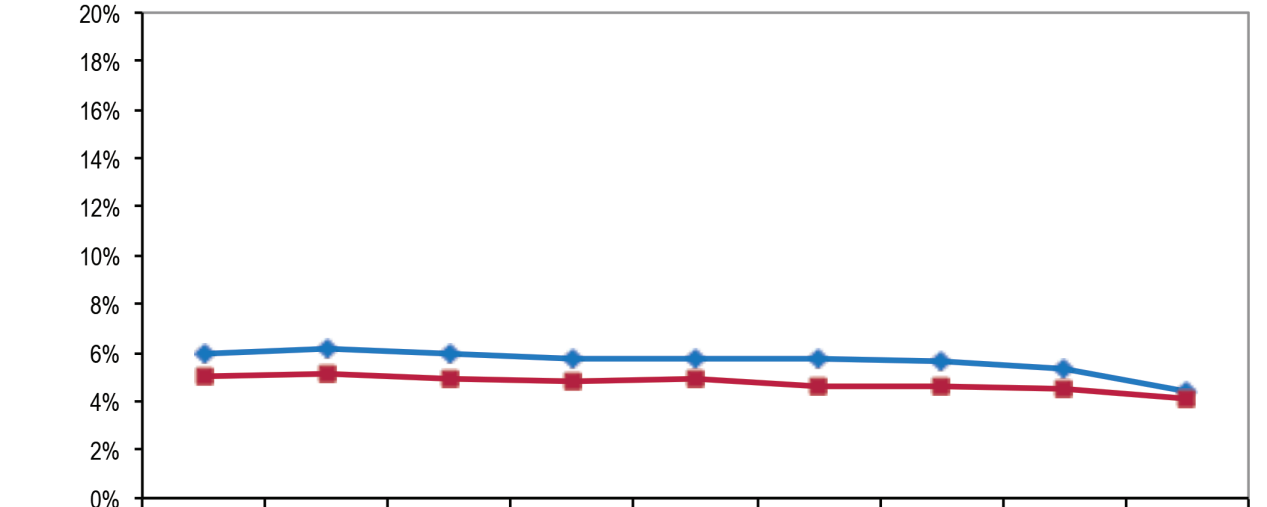
Adult Consumption Patterns

The 2014 NSDUH reports that young people ages 18 through 25 had the highest rate of prescription pain medication abuse. Indiana's past-year usage rate of 9.5% (95% CI: 7.8–11.7) was statistically similar to the nation's rate (8.3%; 95 % CI: 8.0–8.7) (see Figure 9.3).

The Indiana College Substance Use Survey[3] includes questions on the past-month use of prescription stimulants, prescription painkillers, and prescription sedatives not prescribed to the student. Findings from the 2016 survey, which were based on 20 participating colleges and universities, were as follows:

a) Misuse of prescription stimulants:
   - 5.2% of Indiana college students misused prescription stimulants in the past month.
   - Rates were significantly higher in males (7.7%) than females (3.8%).
   - No significant differences were found by age group (college students ages 21 or over compared to those under 21).

Figure 9.2 Prevalence of Past-Year Pain Reliever Use in Indiana and the United States (National Survey on Drug Use and Health, 2006 – 2014)



	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indiana	5.9%	6.2%	6.0%	5.7%	5.7%	5.7%	5.6%	5.3%	4.4%
U.S.	5.0%	5.1%	4.9%	4.8%	4.9%	4.6%	4.6%	4.5%	4.1%

Source: SAMHSA, 2017

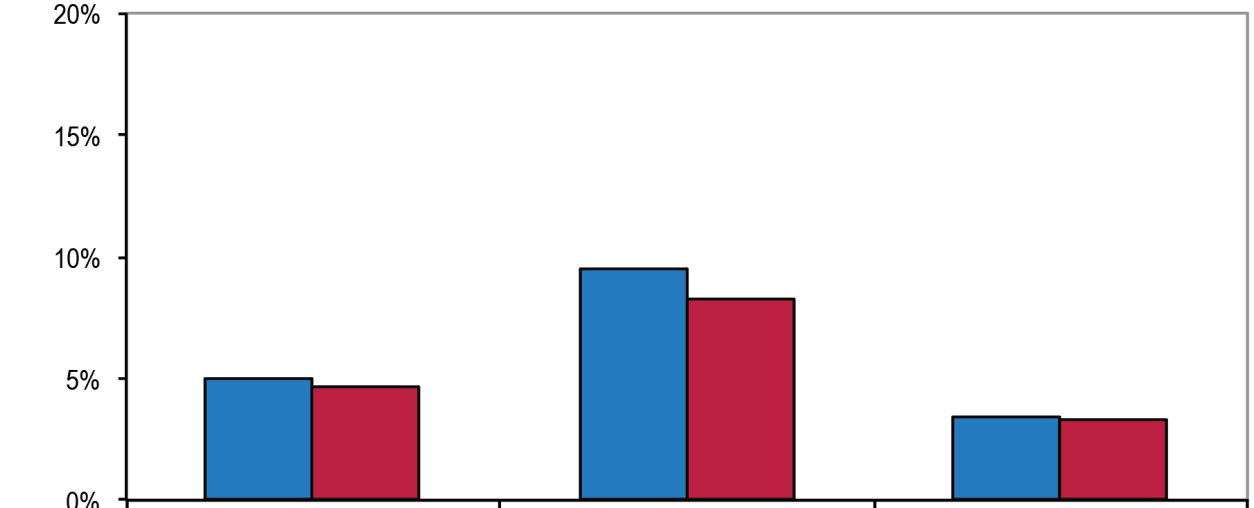
[3]Twenty colleges participated in the 2016 survey; results are based on nonrandom sampling and are not representative of all college students in Indiana.

b) Misuse of prescription painkillers:
- 2.3% of Indiana college students misused prescription painkillers in the past month.
- Rates were significantly higher in males (3.2%) than females (1.7%).
- No significant differences were found by age group (college students ages 21 or over compared to those under 21).

c) Misuse of prescription sedatives:
- 2.2% of Indiana college students misused sedatives in the past month.
- Rates were significantly higher in males (3.4%) than females (1.4%).
- No significant differences were found by age group (college students ages 21 or over compared to those under 21).

(King & Jun, 2016).

Figure 9.3 Prevalence of Past-Year Pain Reliever Use in Indiana and the United States, by Age Group (National Survey on Drug Use and Health, 2014)



	12-17	18-25	26 and older
Indiana	5.0%	9.5%	3.4%
U.S.	4.7%	8.3%	3.3%

Source: SAMHSA, 2014

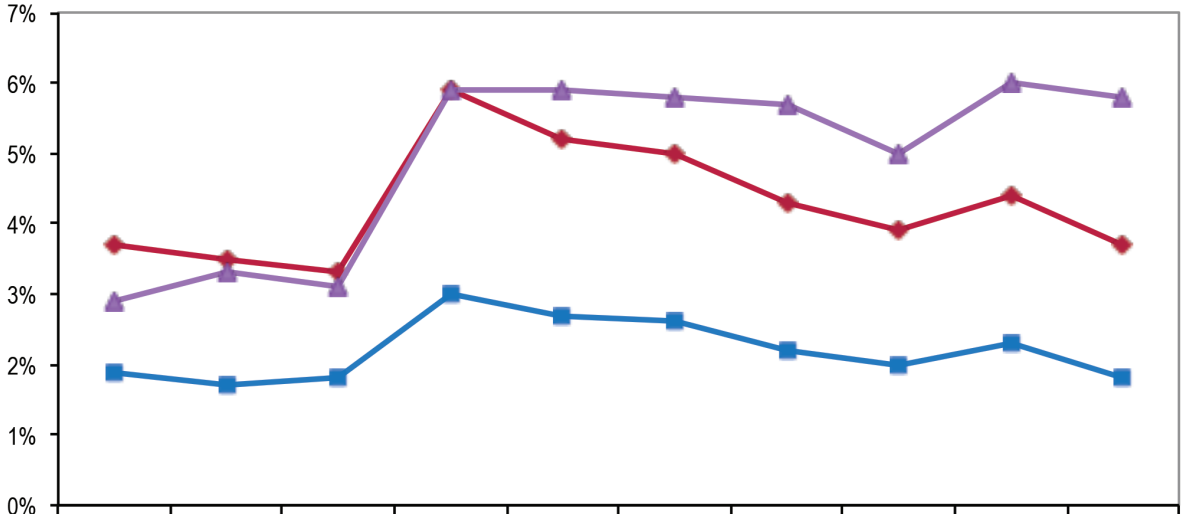
Youth Consumption Patterns

Estimates from the 2014 NSDUH suggest that 4.9% (95% CI: 3.8–6.4) of Indiana's youth ages 12 through 17 used prescription pain medications for nonmedical purposes in the past year. The national rate of prescription drug abuse by 12- to 17-year-olds was similar at 4.6% (95% CI: 4.4–5.0) (SAMHSA, 2014).

For Indiana prevalence rates of current nonmedical use of prescription drugs[4] among 8th, 10th, and 12th grade students, see Figure 9.4 (Gassman et al., 2016). For regional prevalence rates among Indiana students grades 6 through 12, see Appendix 9B, page 149.

[4]Includes Ritalin®, Oxycontin®, and Xanax®.

Figure 9.4 Percentage of Indiana 8th, 10th, and 12th Grade Students Reporting Current Nonmedical Use of Prescription Drugs (Indiana Youth Survey, 2007–2016)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
8th	1.9%	1.7%	1.8%	3.0%	2.7%	2.6%	2.2%	2.0%	2.3%	1.8%
10th	3.7%	3.5%	3.3%	5.9%	5.2%	5.0%	4.3%	3.9%	4.4%	3.7%
12th	2.9%	3.3%	3.1%	5.9%	5.9%	5.8%	5.7%	5.0%	6.0%	5.8%

Source: Gassman et al., 2016

PRESCRIPTION DRUG ABUSE CONSEQUENCES

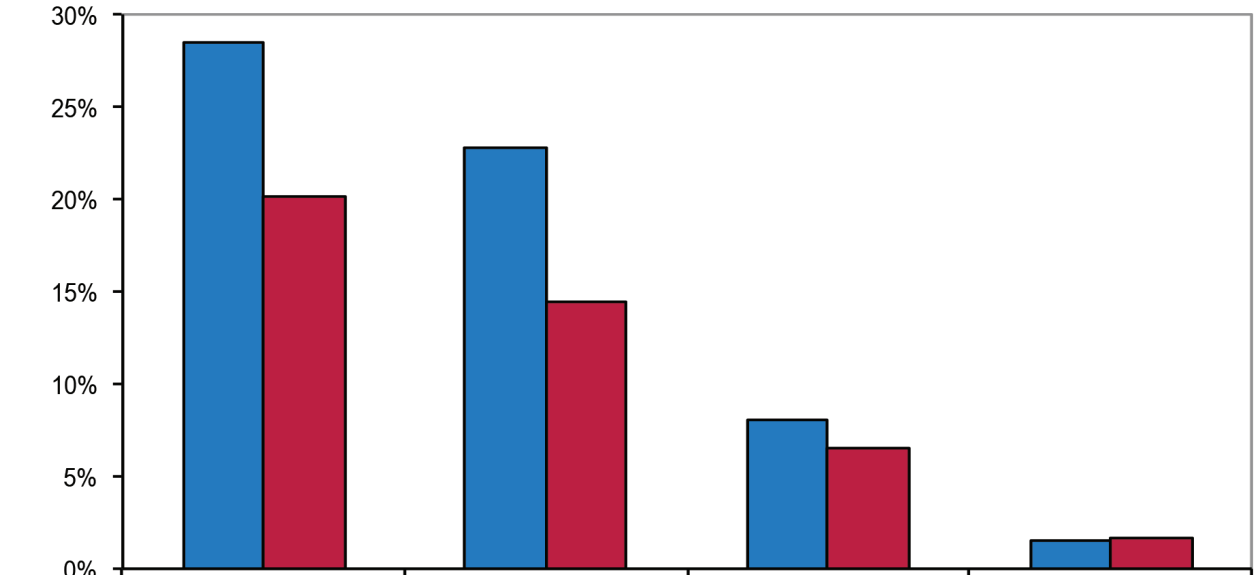
Prescription Drug Abuse and Dependence

Another method of tracking prescription drug abuse is to examine the Treatment Episode Data Set (TEDS) for individuals who report nonmedical use of pain relievers (opioids),[5] CNS depressants (sedatives and tranquilizers),[6] and stimulants[7] at the time of admission to substance abuse treatment.

In nearly 29% of Indiana treatment admissions, some type of prescription drug abuse was reported (U.S.: 20.2%) and in 14.4% of admissions, prescription drug dependence[8] was indicated (U.S.: 9.8%) in 2014. Abuse and dependence of all categories of prescription drugs, except stimulants, were significantly higher in Indiana than the United States (see Figures 9.5 and 9.6) (SAMHSA, 2014).

[5]We used TEDS variables "nonprescription methadone" and "other opiates/synthetics" to define pain reliever use (excludes heroin).
[6]We used TEDS variables "benzodiazepines," "other tranquilizers," "barbiturates," and "other sedatives/hypnotics" to define CNS depressant use.
[7]We used TEDS variables "other amphetamines" and "other stimulants" to define stimulant use.
[8]We defined prescription drug dependence as "individuals in substance abuse treatment listing prescription drugs as their primary substance at admission."

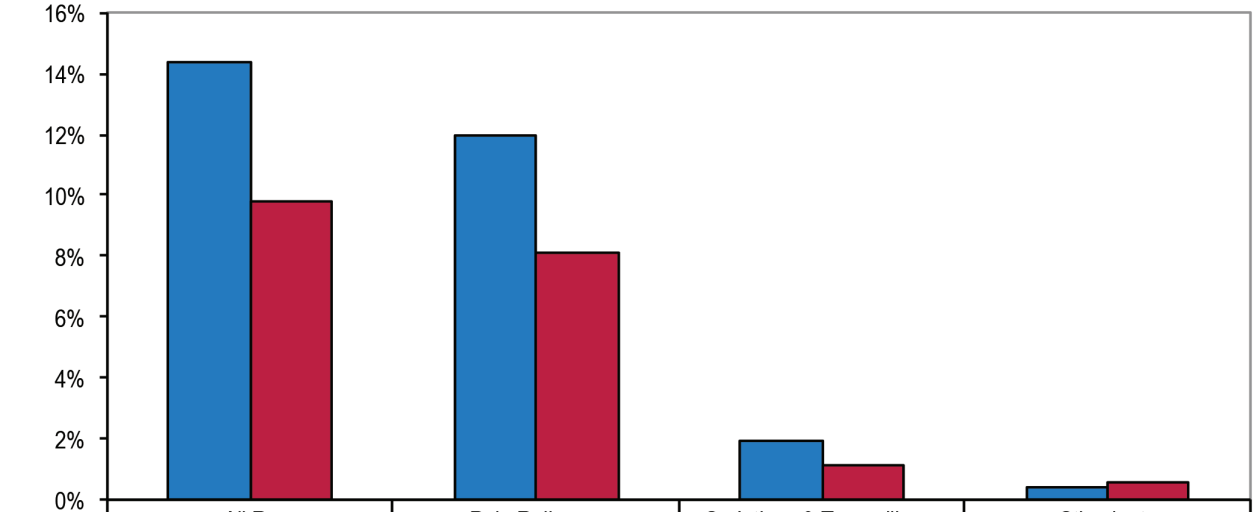
Figure 9.5 Percentage of Indiana and U.S. Treatment Episodes with Prescription Drug Misuse Reported at Treatment Admission, by Drug Category (Treatment Episode Data Set, 2014)



	All Rx	Pain Relievers	Sedatives & Tranquilizers	Stimulants
Indiana	28.5%	22.8%	8.1%	1.5%
U.S.	20.2%	14.5%	6.5%	1.6%

Source: SAMHSA, 2014

Figure 9.6 Percentage of Indiana and U.S. Treatment Episodes with Prescription Drug Dependence Reported at Treatment Admission, by Drug Category (Treatment Episode Data Set, 2014)



	All Rx	Pain Relievers	Sedatives & Tranquilizers	Stimulants
Indiana	14.4%	12.0%	1.9%	0.4%
U.S.	9.8%	8.1%	1.1%	0.6%

Source: SAMHSA, 2014

In Indiana, significant differences were seen by gender, race, ethnicity, and age group. Generally speaking, women, whites, non-Hispanics, and adults between the ages of 18 and 44 had the highest percentages of misuse and dependence across all prescription drug categories (see Table 9.1) (SAMHSA, 2014).

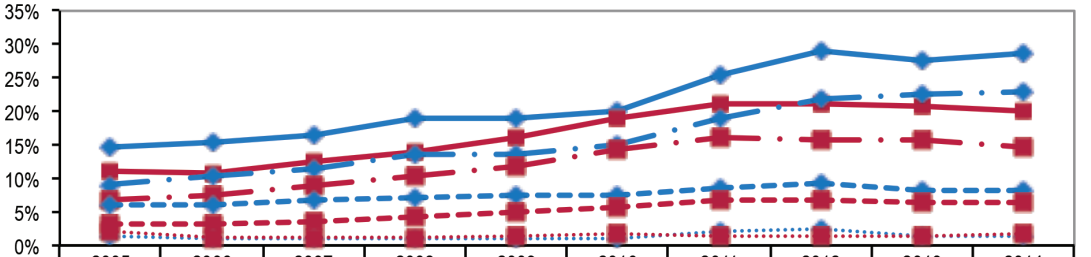
A review of TEDS data from 2005 through 2014 shows that overall, prescription drug abuse and dependence increased significantly from 2005 through 2014, mainly driven by the increase in prescription pain reliever consumption (see Figures 9.7 and 9.8). For county-level information, see Appendix 9C, pages 150-153.

Table 9.1 Percentage of Indiana Treatment Episodes with Prescription Drug Misuse and Dependence Reported at Treatment Admission, by Drug Category, Gender, Race, and Age Group (Treatment Episode Data Set, 2014)

		All Prescription Drugs		Pain Relievers		Sedatives/Tranquilizers		Stimulants	
		Misuse	Dep.	Misuse	Dep.	Misuse	Dep.	Misuse	Dep.
Gender	Male	23.6%	10.8%	18.6%	9.0%	6.6%	1.4%	1.3%	0.3%
	Female	36.3%	20.1%	29.5%	16.8%	10.6%	2.7%	1.7%	0.6%
Race	White	32.1%	16.4%	25.7%	13.6%	9.2%	2.3%	1.7%	0.5%
	Black	7.4%	3.3%	5.8%	2.8%	2.0%	0.5%	0.4%	0.1%
	Other	25.0%	11.5%	20.2%	10.4%	6.4%	0.7%	1.3%	0.4%
Ethnicity	Hispanic	16.4%	7.1%	13.3%	6.1%	4.2%	0.7%	1.0%	0.3%
	Non-Hispanic	29.0%	14.8%	23.2%	12.3%	8.3%	2.0%	1.5%	0.4%
Age Group	Under 18	14.4%	3.8%	8.4%	2.5%	5.2%	1.1%	1.9%	0.3%
	18-24	27.9%	11.2%	20.9%	8.8%	9.0%	2.0%	1.5%	0.4%
	25-34	36.5%	19.2%	30.0%	16.3%	9.8%	2.4%	1.9%	0.6%
	35-44	28.3%	15.7%	23.0%	13.3%	8.1%	1.9%	1.5%	0.5%
	45-54	17.0%	9.7%	14.4%	8.4%	4.5%	1.1%	0.4%	0.2%
	55+	14.9%	9.2%	11.9%	7.6%	4.8%	1.4%	0.7%	0.2%

Source: SAMHSA, 2014

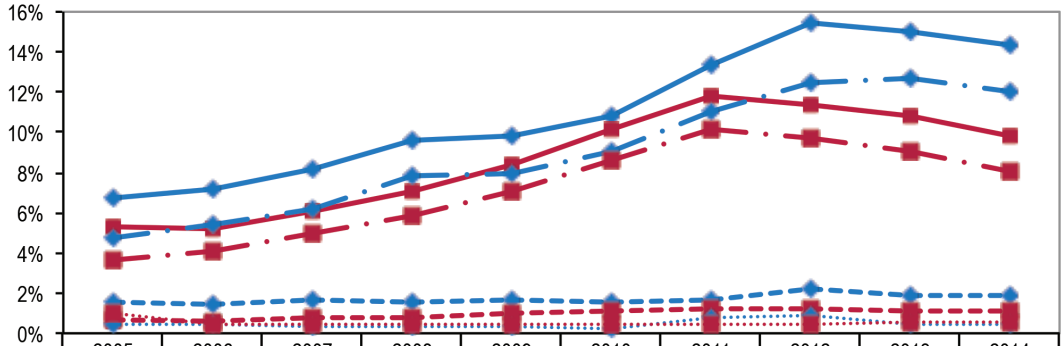
Figure 9.7 Percentage of Indiana and U.S. Treatment Episodes with Prescription Drug Misuse Reported at Treatment Admission, by Drug Category (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
IN: Rx	14.5%	15.5%	16.5%	18.9%	19.1%	20.2%	25.4%	29.1%	27.5%	28.5%
U.S.: Rx	11.0%	10.8%	12.4%	14.0%	16.2%	19.1%	21.0%	21.1%	20.9%	20.2%
IN: Pain Reliever	9.1%	10.2%	11.3%	13.7%	13.6%	15.2%	19.0%	22.0%	22.4%	22.8%
U.S.: Pain Reliever	6.8%	7.5%	8.8%	10.2%	11.9%	14.2%	16.0%	15.9%	15.6%	14.5%
IN: Sed/Tranq	6.0%	6.1%	6.6%	7.3%	7.6%	7.5%	8.4%	9.4%	8.1%	8.1%
U.S.: Sed/Tranq	3.2%	3.2%	3.7%	4.1%	4.9%	5.8%	6.6%	6.6%	6.5%	6.5%
IN: Stimulants	1.4%	1.2%	1.0%	1.0%	1.0%	1.0%	2.2%	2.6%	1.4%	1.5%
U.S.: Stimulants	2.0%	1.2%	1.2%	1.2%	1.3%	1.6%	1.5%	1.5%	1.5%	1.6%

Source: SAMHSA, 2014

Figure 9.8 Percentage of Indiana and U.S. Treatment Episodes with Prescription Drug Dependence Reported at Treatment Admission, by Drug Category (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
IN: Rx	6.7%	7.2%	8.2%	9.6%	9.8%	10.8%	13.4%	15.5%	15.0%	14.4%
U.S.: Rx	5.3%	5.2%	6.1%	7.1%	8.4%	10.2%	11.8%	11.4%	10.8%	9.8%
IN: Pain Reliever	4.7%	5.4%	6.2%	7.8%	7.9%	9.1%	11.0%	12.5%	12.7%	12.0%
U.S.: Pain Reliever	3.6%	4.1%	5.0%	5.9%	7.1%	8.6%	10.1%	9.7%	9.1%	8.1%
IN: Sed/Tranq	1.6%	1.4%	1.7%	1.6%	1.7%	1.5%	1.7%	2.2%	1.9%	1.9%
U.S.: Sed/Tranq	0.7%	0.6%	0.8%	0.8%	1.0%	1.1%	1.2%	1.2%	1.1%	1.1%
IN: Stimulants	0.4%	0.4%	0.3%	0.3%	0.3%	0.2%	0.8%	0.9%	0.5%	0.4%
U.S.: Stimulants	1.0%	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.6%	0.6%

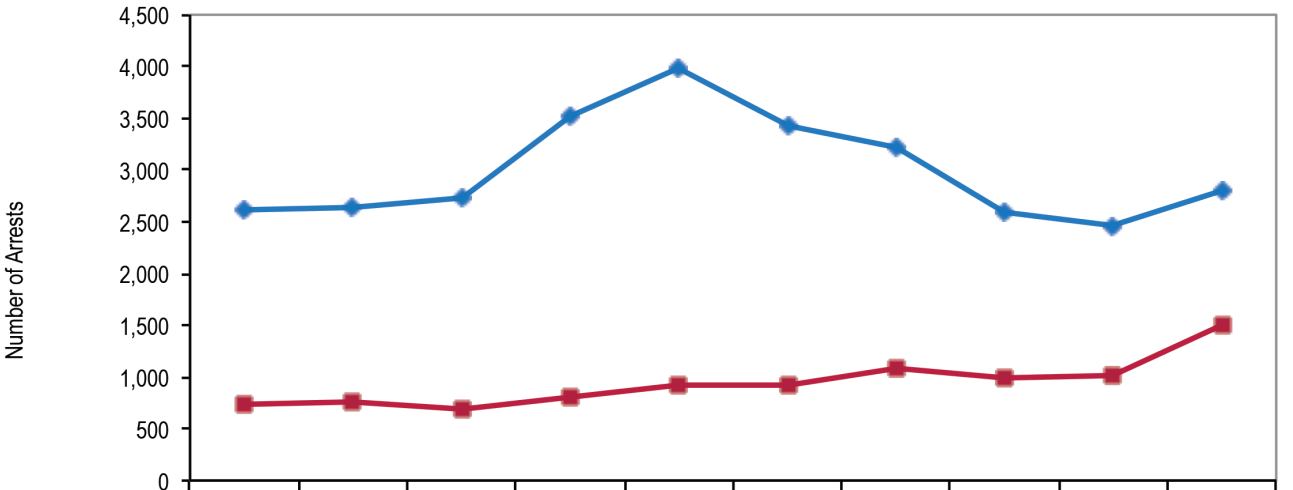
Source: SAMHSA, 2014

Criminal Consequences

Individuals illegally obtain prescription drugs through a variety of means, such as "doctor shopping" (going to a number of doctors to obtain prescriptions for a controlled pharmaceutical) or other prescription fraud; illegal online pharmacies; theft and burglary (from residences and pharmacies); and receiving/purchasing the medication from friends, family members, and dealers (Inciardi et al., 2009, 2010; McCabe & Boyd, 2005). Patients may also obtain controlled substances when physicians overprescribe, either negligently or intentionally (Manchikanti et al., 2012).

The Uniform Crime Reporting (UCR) Program collects information on criminal activities, including possession and sale/manufacture of various drugs (Federal Bureau of Investigation [FBI], 2014). The "other drugs" category in the data set refers to arrests involving barbiturates (sedatives) and Benzedrine (amphetamine/stimulant). In 2014, over 2,800 arrests were made for possession and nearly 1,500 arrests for sale/manufacture of "other drugs" in Indiana. This represents arrest rates of 0.4 (95% CI: 0.4–0.4) and 0.2 (95% CI: 0.1–0.2) per 1,000 population, respectively. The U.S. rates per 1,000 population were statistically higher for possession of "other drugs," at 0.9 per 1,000 population (95% CI: 0.9–0.9). However, the rates per 1,000 population were the same for sale/manufacture of "other drugs," at 0.2 per 1,000 population (95% CI: 0.2–0.2) (see Figures 9.9 and 9.10) (FBI, 2014). The distribution of arrest rates for possession and sale/manufacture in Indiana by county for 2014 is depicted on Maps 9.1 and 9.2, pages 156 and 157, and in Appendix 9D, pages 154-155.

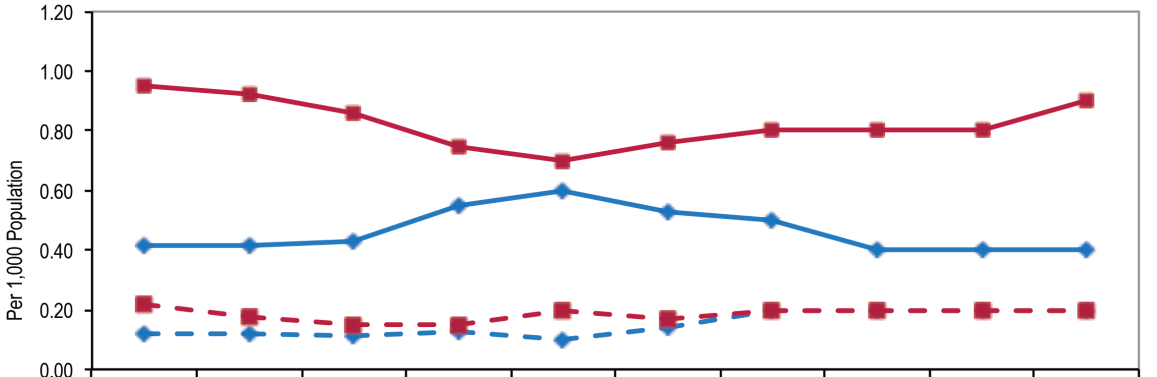
Figure 9.9 Number of Arrests for Possession and Sale/Manufacture of "Other Drugs" (Barbiturates and Benzedrine) in Indiana (Uniform Crime Reporting Program, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Possession	2,620	2,643	2,720	3,511	3,994	3,426	3,227	2,590	2,464	2,805
Sale	746	767	690	815	930	931	1,074	1,000	1,026	1,495

Source: FBI, 2014

Figure 9.10 Arrest Rates, per 1,000 Population, for Possession and Sale/Manufacture of "Other Drugs" (Barbiturates and Benzedrine) in Indiana and the United States (Uniform Crime Reporting Program, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
IN Possession	0.4	0.4	0.4	0.6	0.6	0.5	0.5	0.4	0.4	0.4
U.S. Possession	0.9	0.9	0.9	0.8	0.7	0.8	0.8	0.8	0.8	0.9
IN Sale	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
U.S. Sale	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

Source: FBI, 2014

Indiana has been hit hard by pharmacy burglaries, ranking first in the nation in 2015 with 175 robberies. According to data from the Indiana Professional Licensing agency, the number of robberies decreased to 75 in 2016, reflecting 106,921 total doses of controlled substances that were stolen and a purchase value of $246,138 (see Table 9.2) (IPLA, 2017b).

Fatal Drug Overdoses

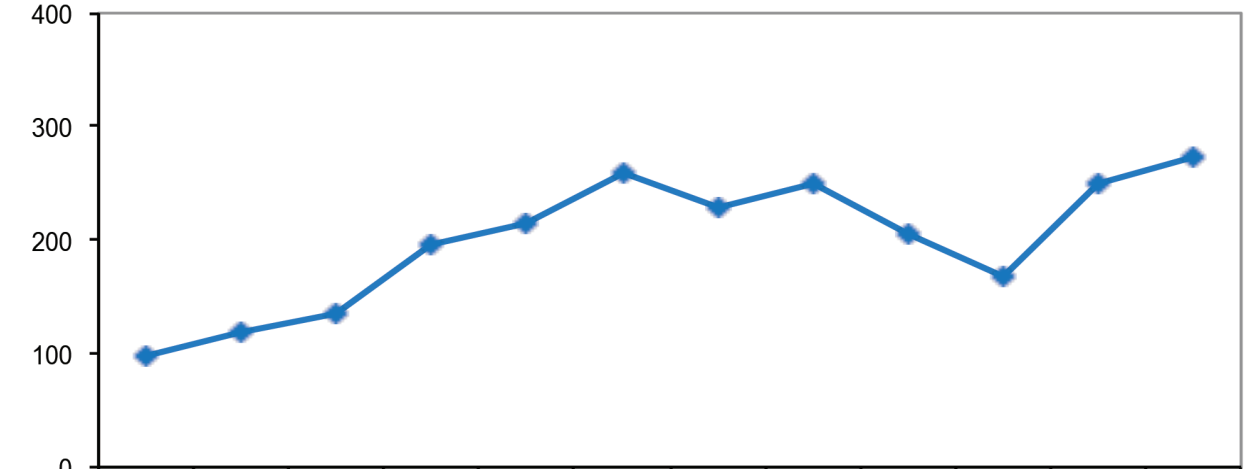
Drug poisonings (overdoses) are a serious problem in the United States. The number of overdose deaths increased from 281 in 2002 to 1,245 in 2014 (Centers for Disease Control and Prevention [CDC], 2017a).[9] The majority of overdose fatalities involve an opioid. According to the CDC, an estimated 91 Americans die every day from an opioid overdose (CDC, 2017b). The number of overdose deaths involving a prescription opioid nearly tripled in Indiana, from 98 in 2004 to 274 in 2015 (see Figure 9.11) (Indiana State Department of Health [ISDH], 2017). For drug overdose mortality rates, by county, from 2002–2015, see Map 9.3 on page 158.

Table 9.2 Pharmacy Robberies in Indiana (Summary Report 2016)

	2013	2014	2015	2016
Number of Robberies	71	80	175	75
Purchase Value of Stolen Drugs	$202,133	$293,079	$479,785	$246,138
Number of Doses Stolen				
Oxycodone	6,457	50,525	113,807	46,325
Hydrocodone	4,159	14,702	40,452	25,737
Others	1,735	10,502	29,442	34,859
Total	**12,351**	**75,729**	**183,701**	**106,921**

Source: IPLA, 2017b

Figure 9.11 Number of Drug Overdose Deaths Involving Opioid Pain Relievers in Indiana (Overdose Mortality, 2004–2015)



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Deaths	98	118	135	195	214	259	229	250	206	168	250	274

Source: ISDH, 2017

[9]Includes ICD-10 causes of death: X40-X44, X60-X64, X85, Y10-Y14

APPENDIX 9A

Number of Prescription Opioids Dispensed in Indiana, by County (INSPECT, 2016)

County	Opioids
Adams	23,779
Allen	283,006
Bartholomew	82,209
Benton	7,434
Blackford	22,025
Boone	50,544
Brown	8,675
Carroll	14,084
Cass	35,282
Clark	134,118
Clay	28,458
Clinton	36,976
Crawford	15,008
Daviess	29,781
Dearborn	38,450
Decatur	46,949
DeKalb	26,408
Delaware	136,125
Dubois	37,835
Elkhart	148,768
Fayette	33,489
Floyd	80,777
Fountain	20,308
Franklin	16,994
Fulton	20,139
Gibson	39,923
Grant	87,349
Greene	40,922
Hamilton	172,537
Hancock	70,528
Harrison	43,181
Hendricks	110,099
Henry	67,701
Howard	106,500
Huntington	36,965
Jackson	47,747
Jasper	39,427
Jay	16,865
Jefferson	39,940
Jennings	33,747
Johnson	142,623
Knox	54,621
Kosciusko	66,673
LaGrange	127,250
Lake	19,071
LaPorte	412,600
Lawrence	66,783
Madison	175,546
Marion	816,813
Marshall	40,900
Martin	14,732
Miami	36,458
Monroe	96,470
Montgomery	41,439
Morgan	84,222
Newton	12,078
Noble	44,787
Ohio	6,876
Orange	25,049
Owen	28,478
Parke	13,263
Perry	18,157
Pike	17,775
Porter	165,582
Posey	26,960
Pulaski	17,116
Putnam	34,676
Randolph	28,644
Ripley	31,438
Rush	18,192
Saint Joseph	38,004
Scott	44,047
Shelby	20,052
Spencer	236,701
Starke	36,620
Steuben	28,446
Sullivan	24,899
Switzerland	10,230
Tippecanoe	124,251
Tipton	15,042
Union	5,580
Vanderburgh	222,659
Vermillion	16,492
Vigo	103,911
Wabash	39,305
Warren	5,668
Warrick	60,794
Washington	29,691
Wayne	78,626
Wells	23,852
White	26,658
Whitley	33,218
Out of State	177,354
Indiana	**6,241,070**

Source: Indiana Professional Licensing Agency, 2017

APPENDIX 9B

Percentage of Indiana Students Reporting Monthly Nonmedical Prescription Drug Use, by Region and Grade (Indiana Youth Survey, 2016)

	Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	1.7	2.0	1.4	0.5	1.9	1.4	1.2	1.8	2.4*
7th Grade	1.6	1.6	2.0	1.8	0.7*	1.9	1.9	1.6	1.4
8th Grade	2.2	3.0*	2.2	3.1	2.5	2.1	2.5	1.7	1.5*
9th Grade	3.1	3.6	3.3	2.8	2.6	2.8	3.4	3.0	2.5
10th Grade	3.9	5.5*	4.3	4.6	4.0	3.0*	4.9*	2.7*	2.8*
11th Grade	4.9	6.6*	6.6*	4.3	4.8	4.4	4.6	3.7*	3.7*
12th Grade	6.0	7.0	7.0	2.6	7.0	6.1	6.6	4.7*	4.9*

Notes: Includes Ritalin®, Oxycontin®, and Xanax®.

* Indicates a local rate that is significantly different from the overall state rate ($P < 0.05$).

Beginning in 2015, lifetime prevalence is no longer available by region.

Source: Gassman et al., 2016

APPENDIX 9C — PART 1

Number of Treatment Episodes with Prescription Drug (Rx) Abuse and Dependence Reported at Treatment Admission in Indiana, by County and Drug Category (Substance Abuse Population by County/Treatment Episode Data Set, 2016)

County	Treatment Episodes Total	All Rx Abuse Number	All Rx Abuse %	All Rx Dependence Number	All Rx Dependence %	Opioid Abuse Number	Opioid Abuse %	Opioid Dependence Number	Opioid Dependence %
Adams	295	74	25.1%	25	8.5%	63	21.4%	24	8.1%
Allen	1,618	329	20.3%	136	8.4%	270	16.7%	121	7.5%
Bartholomew	581	179	30.8%	77	13.3%	150	25.8%	65	11.2%
Benton	50	13	26.0%	6	12.0%	8	16.0%	<5	8.0%
Blackford	82	38	46.3%	17	20.7%	31	37.8%	15	18.3%
Boone	187	44	23.5%	30	16.0%	41	21.9%	28	15.0%
Brown	83	17	20.5%	11	13.3%	13	15.7%	8	9.6%
Carroll	84	16	19.0%	6	7.1%	11	13.1%	5	6.0%
Cass	253	56	22.1%	23	9.1%	49	19.4%	23	9.1%
Clark	313	114	36.4%	96	30.7%	97	31.0%	83	26.5%
Clay	191	39	21.5%	13	7.2%	31	17.1%	12	6.6%
Clinton	227	57	25.1%	31	13.7%	42	18.5%	25	11.0%
Crawford	45	20	44.4%	11	24.4%	18	40.0%	10	22.2%
Daviess	169	47	27.8%	19	11.2%	32	18.9%	17	10.1%
Dearborn	449	207	46.1%	94	20.9%	184	41.0%	86	19.2%
Decatur	212	60	28.3%	25	11.8%	52	24.5%	21	9.9%
DeKalb	242	44	18.2%	14	5.8%	33	13.6%	12	5.0%
Delaware	1,138	426	37.4%	247	21.7%	366	32.2%	225	19.8%
Dubois	280	80	28.6%	33	11.8%	53	18.9%	24	8.6%
Elkhart	654	103	15.7%	54	8.3%	82	12.5%	46	7.0%
Fayette	234	121	51.7%	57	24.4%	106	45.3%	50	21.4%
Floyd	117	40	34.2%	34	29.1%	39	33.3%	34	29.1%
Fountain	48	17	35.4%	8	16.7%	17	35.4%	6	12.5%
Franklin	166	57	34.3%	23	13.9%	54	32.5%	23	13.9%
Fulton	143	33	23.1%	9	6.3%	27	18.9%	8	5.6%
Gibson	295	58	19.7%	20	6.8%	42	14.2%	13	4.4%
Grant	436	162	37.2%	77	17.7%	124	28.4%	65	14.9%
Greene	204	61	29.9%	30	14.7%	47	23.0%	23	11.3%
Hamilton	893	208	23.3%	85	9.5%	157	17.6%	77	8.6%
Hancock	193	46	23.8%	27	14.0%	31	16.1%	20	10.4%
Harrison	31	9	29.0%	7	22.6%	7	22.6%	7	22.6%
Hendricks	351	90	25.6%	50	14.2%	73	20.8%	44	12.5%
Henry	330	185	56.1%	137	41.5%	169	51.2%	120	36.4%
Howard	610	211	34.6%	85	13.9%	171	28.0%	75	12.3%
Huntington	147	66	44.9%	32	21.8%	57	38.8%	28	19.0%
Jackson	298	106	35.6%	51	17.1%	84	28.2%	42	14.1%
Jasper	105	39	37.1%	14	13.3%	34	32.4%	12	11.4%
Jay	188	54	28.7%	13	6.9%	41	21.8%	11	5.9%
Jefferson	366	174	47.5%	84	23.0%	154	42.1%	71	19.4%
Jennings	223	73	32.7%	26	11.7%	62	27.8%	21	9.4%
Johnson	275	79	28.7%	34	12.4%	67	24.4%	32	11.6%
Knox	298	105	35.2%	60	20.1%	73	24.5%	44	14.8%
Kosciusko	381	91	23.9%	27	7.1%	74	19.4%	20	5.2%
LaGrange	186	35	18.8%	10	5.4%	19	10.2%	10	5.4%
Lake	2,339	355	15.2%	170	7.3%	251	10.7%	133	5.7%
LaPorte	377	101	26.8%	61	16.2%	87	23.1%	58	15.4%
Lawrence	485	218	44.9%	108	22.3%	173	35.7%	84	17.3%
Madison	1,278	516	40.4%	284	22.2%	436	34.1%	249	19.5%
Marion	3,645	1,011	27.7%	552	15.1%	793	21.8%	497	13.6%
Marshall	205	63	30.7%	33	16.1%	53	25.9%	30	14.6%
Martin	62	18	29.0%	5	8.1%	16	25.8%	<5	N/A
Miami	272	72	26.5%	31	11.4%	62	22.8%	30	11.0%

(continued on next page)

APPENDIX 9C — PART 1 *(Continued from previous page)*

County	Treatment Episodes Total	All Rx Abuse Number	All Rx Abuse %	All Rx Dependence Number	All Rx Dependence %	Opioid Abuse Number	Opioid Abuse %	Opioid Dependence Number	Opioid Dependence %
Monroe	1,180	365	30.9%	180	15.3%	272	23.1%	147	12.5%
Montgomery	374	101	27.0%	33	8.8%	71	19.0%	26	7.0%
Morgan	482	129	26.8%	64	13.3%	96	19.9%	52	10.8%
Newton	33	8	24.2%	<5	N/A	6	18.2%	<5	N/A
Noble	307	50	16.3%	16	5.2%	33	10.7%	11	3.6%
Ohio	40	12	30.0%	7	17.5%	12	30.0%	7	17.5%
Orange	160	60	37.5%	32	20.0%	49	30.6%	29	18.1%
Owen	199	51	25.6%	28	14.1%	40	20.1%	18	9.0%
Parke	67	13	19.4%	6	9.0%	9	13.4%	5	7.5%
Perry	102	29	28.4%	8	7.8%	20	19.6%	6	5.9%
Pike	53	11	20.8%	<5	N/A	5	9.4%	<5	N/A
Porter	410	144	35.1%	75	18.3%	114	27.8%	69	16.8%
Posey	170	64	37.6%	20	11.8%	38	22.4%	10	5.9%
Pulaski	109	37	33.9%	15	13.8%	33	30.3%	15	13.8%
Putnam	215	40	18.6%	14	6.5%	29	13.5%	11	5.1%
Randolph	170	42	24.7%	17	10.0%	36	21.2%	14	8.2%
Ripley	184	55	29.9%	20	10.9%	48	26.1%	16	8.7%
Rush	138	53	38.4%	20	14.5%	46	33.3%	16	11.6%
Saint Joseph	1,231	185	15.0%	78	6.3%	132	10.7%	64	5.2%
Scott	165	109	66.1%	85	51.5%	104	63.0%	84	50.9%
Shelby	168	53	31.5%	20	11.9%	38	22.6%	16	9.5%
Spencer	144	41	28.5%	15	10.4%	28	19.4%	8	5.6%
Starke	193	103	53.4%	56	29.0%	84	43.5%	54	28.0%
Steuben	298	31	10.4%	11	3.7%	18	6.0%	8	2.7%
Sullivan	78	29	37.2%	18	23.1%	23	29.5%	15	19.2%
Switzerland	63	22	34.9%	12	19.0%	21	33.3%	12	19.0%
Tippecanoe	404	119	29.5%	39	9.7%	86	21.3%	32	7.9%
Tipton	70	27	38.6%	15	21.4%	26	37.1%	14	20.0%
Union	22	12	54.5%	6	27.3%	7	31.8%	<5	N/A
Vanderburgh	1,319	426	32.3%	205	15.5%	318	24.1%	169	12.8%
Vermillion	123	31	25.2%	19	15.4%	25	20.3%	14	11.4%
Vigo	803	139	17.3%	80	10.0%	93	11.6%	56	7.0%
Wabash	225	68	30.2%	30	13.3%	60	26.7%	26	11.6%
Warren	9	5	55.6%	<5	N/A	<5	N/A	<5	N/A
Warrick	267	87	32.6%	48	18.0%	70	26.2%	41	15.4%
Washington	63	22	34.9%	14	22.2%	16	25.4%	12	19.0%
Wayne	438	114	26.0%	53	12.1%	89	20.3%	43	9.8%
Wells	128	57	44.5%	20	15.6%	52	40.6%	19	14.8%
White	110	27	24.5%	<5	N/A	23	20.9%	<5	N/A
Whitley	105	30	28.6%	13	12.4%	21	20.0%	10	9.5%
County Info Missing	27	5	18.5%	<5	N/A	<5	N/A	<5	N/A
Indiana	**33,170**	**9,443**	**28.5%**	**4,620**	**13.9%**	**7,524**	**22.7%**	**3,961**	**11.9%**

Notes: We defined prescription drug dependence as “individuals in substance abuse treatment listing prescription drugs as their primary substance at admission.”

We calculated the percentages by dividing the number of reported prescription drug use/dependence by the number of treatment episodes.

Information on treatment episodes <5 was suppressed due to confidentiality constraints.

Source: Indiana Family and Social Services Administration, 2016

APPENDIX 9C — PART 2

County	CNS Depressant Abuse Number	CNS Depressant Abuse %	CNS Depressant Dependence Number	CNS Depressant Dependence %	Stimulant Abuse Number	Stimulant Abuse %	Stimulant Dependence Number	Stimulant Dependence %
Adams	8	2.7%	<5	N/A	5	1.7%	<5	N/A
Allen	71	4.4%	9	0.6%	24	1.5%	6	0.4%
Bartholomew	40	6.9%	8	1.4%	7	1.2%	<5	N/A
Benton	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Blackford	14	17.1%	<5	N/A	<5	N/A	<5	N/A
Boone	5	2.7%	<5	N/A	<5	N/A	<5	N/A
Brown	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Carroll	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Cass	8	3.2%	<5	N/A	7	2.8%	<5	N/A
Clark	22	7.0%	9	2.9%	6	1.9%	<5	N/A
Clay	13	7.2%	<5	N/A	<5	N/A	<5	N/A
Clinton	22	9.7%	<5	N/A	5	2.2%	<5	N/A
Crawford	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Daviess	18	10.7%	<5	N/A	<5	N/A	<5	N/A
Dearborn	39	8.7%	8	1.8%	9	2.0%	<5	N/A
Decatur	12	5.7%	<5	N/A	<5	N/A	<5	N/A
DeKalb	11	4.5%	<5	N/A	5	2.1%	<5	N/A
Delaware	93	8.2%	14	1.2%	19	1.7%	8	0.7%
Dubois	32	11.4%	7	2.5%	7	2.5%	<5	N/A
Elkhart	18	2.8%	5	0.8%	10	1.5%	<5	N/A
Fayette	24	10.3%	7	3.0%	<5	1.7%	<5	N/A
Floyd	<5	N/A	<5	N/A	<5	0.9%	<5	N/A
Fountain	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Franklin	7	4.2%	<5	N/A	<5	N/A	<5	N/A
Fulton	5	3.5%	<5	N/A	<5	N/A	<5	N/A
Gibson	17	5.8%	<5	N/A	6	2.0%	<5	N/A
Grant	53	12.2%	11	2.5%	22	5.0%	<5	N/A
Greene	11	5.4%	<5	N/A	8	3.9%	<5	N/A
Hamilton	55	6.2%	7	0.8%	12	1.3%	<5	N/A
Hancock	19	9.8%	5	2.6%	<5	N/A	<5	N/A
Harrison	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Hendricks	21	6.0%	<5	N/A	5	1.4%	<5	N/A
Henry	47	14.2%	15	4.5%	7	2.1%	<5	N/A
Howard	51	8.4%	8	1.3%	7	1.1%	<5	N/A
Huntington	12	8.2%	<5	N/A	5	3.4%	<5	N/A
Jackson	25	8.4%	7	2.3%	5	1.7%	<5	N/A
Jasper	14	13.3%	<5	N/A	<5	N/A	<5	N/A
Jay	17	9.0%	<5	N/A	<5	N/A	<5	N/A
Jefferson	38	10.4%	10	N/A	8	N/A	<5	N/A
Jennings	10	4.5%	<5	N/A	5	N/A	<5	N/A
Johnson	18	6.5%	<5	N/A	<5	N/A	<5	N/A
Knox	38	12.8%	9	3.0%	11	3.7%	7	2.3%
Kosciusko	20	5.2%	6	1.6%	10	2.6%	<5	N/A
LaGrange	5	2.7%	<5	N/A	13	7.0%	<5	N/A
Lake	125	5.3%	33	1.4%	12	0.5%	<5	N/A
LaPorte	15	4.0%	<5	N/A	5	1.3%	<5	N/A
Lawrence	67	13.8%	22	4.5%	9	1.9%	<5	N/A
Madison	163	12.8%	27	2.1%	20	1.6%	8	0.6%
Marion	301	8.3%	43	1.2%	37	1.0%	12	0.3%
Marshall	10	4.9%	<5	N/A	7	3.4%	<5	N/A
Martin	5	8.1%	<5	N/A	<5	N/A	<5	N/A
Miami	9	3.3%	<5	N/A	8	2.9%	<5	N/A
Monroe	108	9.2%	27	2.3%	24	2.0%	6	0.5%
Montgomery	27	7.2%	6	1.6%	11	N/A	<5	N/A

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APPENDIX 9C — PART 2 *(Continued from previous page)*

County	CNS Depressant Abuse Number	CNS Depressant Abuse %	CNS Depressant Dependence Number	CNS Depressant Dependence %	Stimulant Abuse Number	Stimulant Abuse %	Stimulant Dependence Number	Stimulant Dependence %
Morgan	41	8.5%	10	2.1%	6	N/A	<5	N/A
Newton	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Noble	9	2.9%	<5	N/A	13	N/A	<5	N/A
Ohio	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Orange	14	8.8%	<5	N/A	<5	N/A	<5	N/A
Owen	13	6.5%	9	4.5%	<5	N/A	<5	N/A
Parke	5	7.5%	<5	N/A	<5	N/A	<5	N/A
Perry	7	6.9%	<5	N/A	5	4.9%	<5	N/A
Pike	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Porter	38	9.3%	5	1.2%	5	1.2%	<5	N/A
Posey	21	12.4%	5	2.9%	11	6.5%	5	2.9%
Pulaski	6	5.5%	<5	N/A	<5	N/A	<5	N/A
Putnam	14	6.5%	<5	N/A	<5	N/A	<5	N/A
Randolph	10	5.9%	<5	N/A	<5	N/A	<5	N/A
Ripley	9	4.9%	<5	N/A	<5	N/A	<5	N/A
Rush	15	10.9%	<5	N/A	<5	N/A	<5	N/A
Saint Joseph	56	4.5%	6	0.5%	21	1.7%	8	0.6%
Scott	16	9.7%	<5	N/A	6	3.6%	<5	N/A
Shelby	20	11.9%	<5	N/A	<5	N/A	<5	N/A
Spencer	15	10.4%	5	3.5%	5	3.5%	<5	N/A
Starke	35	18.1%	<5	N/A	5	2.6%	<5	N/A
Steuben	7	2.3%	<5	N/A	7	2.3%	<5	N/A
Sullivan	5	N/A	<5	N/A	<5	N/A	<5	N/A
Switzerland	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Tippecanoe	35	8.7%	5	1.2%	7	1.7%	<5	N/A
Tipton	8	11.4%	<5	N/A	<5	N/A	<5	N/A
Union	7	31.8%	<5	N/A	<5	N/A	<5	N/A
Vanderburgh	171	13.0%	30	2.3%	26	2.0%	6	0.5%
Vermillion	14	11.4%	<5	N/A	<5	N/A	<5	N/A
Vigo	57	7.1%	20	2.5%	6	0.7%	<5	N/A
Wabash	10	N/A	<5	N/A	<5	N/A	<5	N/A
Warren	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Warrick	24	N/A	5	N/A	6	N/A	<5	N/A
Washington	6	N/A	<5	N/A	<5	N/A	<5	N/A
Wayne	32	N/A	9	N/A	5	N/A	<5	N/A
Wells	6	N/A	<5	N/A	<5	N/A	<5	N/A
White	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Whitley	<5	N/A	<5	N/A	8	N/A	<5	N/A
County Info Missing	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Indiana	**2,531**	**7.6%**	**503**	**1.5%**	**577**	**1.7%**	**156**	**0.5%**

Notes: We defined prescription drug dependence as “individuals in substance abuse treatment listing prescription drugs as their primary substance at admission.”

We calculated the percentages by dividing the number of reported prescription drug use/dependence by the number of treatment episodes.

Information on treatment episodes <5 was suppressed due to confidentiality constraints.

Source: Indiana Family and Social Services Administration, 2016

APPENDIX 9D

Number and Rate, per 1,000 Population, of Arrests for Possession and Sale/Manufacture of "Other Drugs" (including Barbiturates and Benzedrine) in Indiana, by County (Uniform Crime Reporting Program, 2014)

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Adams	17	0.5	11	0.3
Allen	145	0.4	76	0.2
Bartholomew	40	0.5	1	0.0
Benton	4	0.5	2	0.2
Blackford	4	0.3	1	0.1
Boone	16	0.3	8	0.1
Brown	9	0.6	0	.0
Carroll	9	0.4	6	0.3
Cass	96	2.5	125	3.3
Clark	130	1.1	23	0.2
Clay	15	0.6	7	0.3
Clinton	10	0.3	9	0.3
Crawford	5	0.5	0	0.0
Daviess	28	0.9	10	0.3
Dearborn	19	0.4	13	0.3
Decatur	75	2.8	32	1.2
DeKalb	18	0.4	20	.5
Delaware	3	0.0	32	0.3
Dubois	18	0.4	9	0.2
Elkhart	18	0.1	5	0.0
Fayette	13	0.5	13	0.5
Floyd	60	0.8	70	0.9
Fountain	12	0.7	6	0.4
Franklin	11	0.5	6	0.3
Fulton	9	0.4	26	1.3
Gibson	24	0.7	5	0.1
Grant	4	0.1	0	0.0
Greene	12	0.4	9	0.3
Hamilton	52	0.2	24	0.1
Hancock	2	0.0	3	0.0
Harrison	11	0.3	5	0.1
Hendricks	23	0.1	12	0.1
Henry	13	0.3	15	0.3
Howard	83	1.0	21	0.3
Huntington	16	0.4	9	0.2
Jackson	73	1.7	15	0.3
Jasper	11	0.3	14	0.4
Jay	6	0.3	4	0.2
Jefferson	20	0.6	11	0.3
Jennings	8	0.3	8	0.3
Johnson	65	0.4	29	0.2
Knox	21	0.6	13	0.3
Kosciusko	131	1.7	20	0.3
LaGrange	2	0.1	0	0.0
Lake	330	0.7	108	0.2
LaPorte	12	0.1	6	0.1
Lawrence	36	0.8	18	0.4
Madison	39	0.3	42	0.3
Marion	36	0.0	17	0.0

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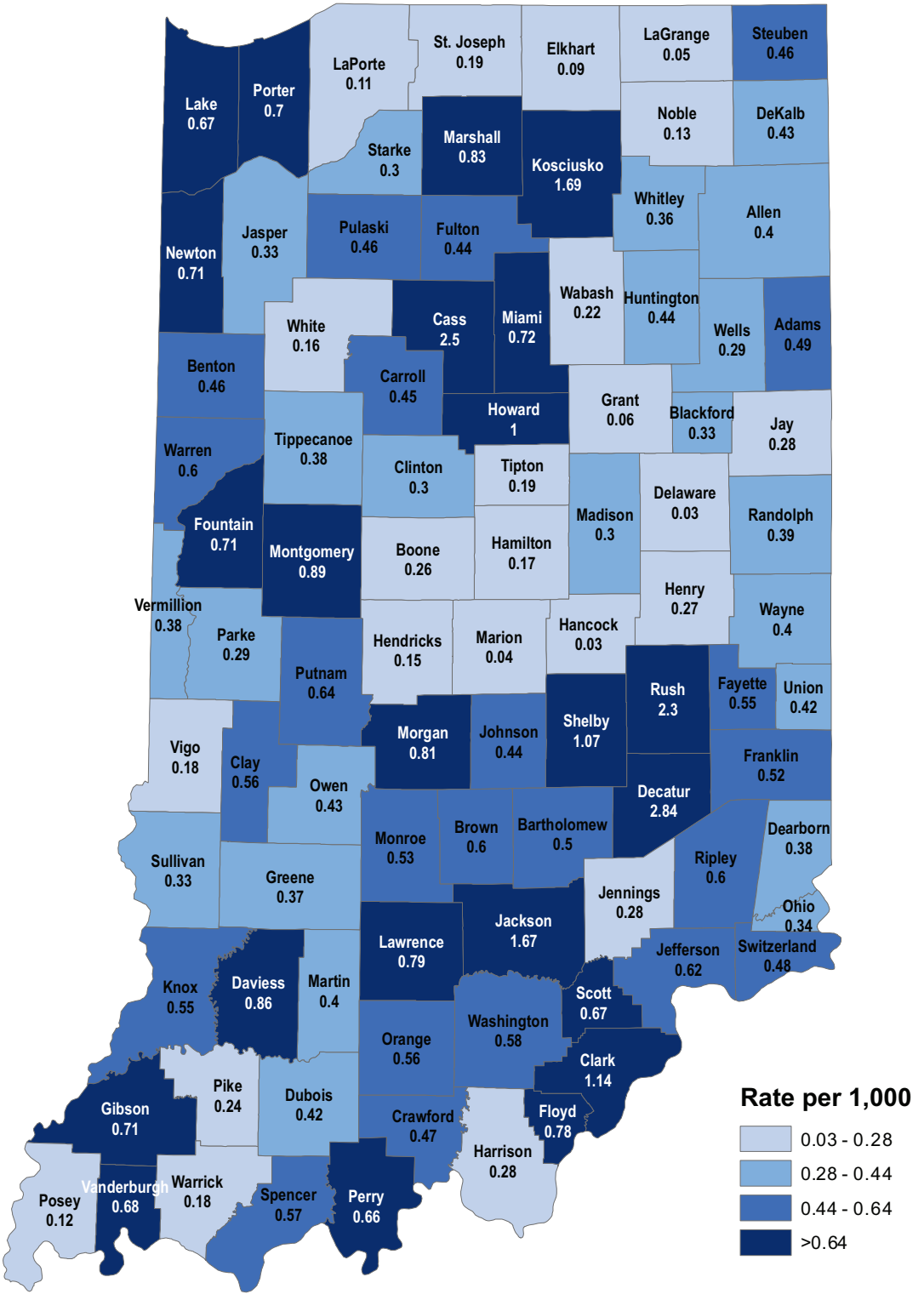
APPENDIX 9D *(Continued from previous page)*

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Marshall	39	0.8	43	0.9
Martin	4	0.4	3	0.3
Miami	26	0.7	39	1.1
Monroe	76	0.5	60	0.4
Montgomery	34	0.9	13	0.3
Morgan	57	0.8	18	0.3
Newton	10	0.7	3	0.2
Noble	6	0.1	2	0.0
Ohio	2	0.3	2	0.3
Orange	11	0.6	14	0.7
Owen	9	0.4	12	0.6
Parke	5	0.3	0	0.0
Perry	13	0.7	7	0.4
Pike	3	0.2	2	0.2
Porter	117	0.7	16	0.1
Posey	3	0.1	3	0.1
Pulaski	6	0.5	5	0.4
Putnam	24	0.6	13	0.3
Randolph	10	0.4	11	0.4
Ripley	18	0.6	17	0.6
Rush	39	2.3	13	0.8
Saint Joseph	52	0.2	27	0.1
Scott	16	0.7	8	0.3
Shelby	48	1.1	24	0.5
Spencer	12	0.6	8	0.4
Starke	7	0.3	9	0.4
Steuben	16	0.5	15	0.4
Sullivan	7	0.3	4	0.2
Switzerland	5	0.5	4	0.4
Tippecanoe	70	0.4	24	0.1
Tipton	3	0.2	0	0.0
Union	3	0.4	3	0.4
Vanderburgh	124	0.7	47	0.3
Vermillion	6	0.4	6	0.4
Vigo	20	0.2	31	0.3
Wabash	7	0.2	2	0.1
Warren	5	0.6	3	0.4
Warrick	11	0.2	29	0.5
Washington	16	0.6	10	0.4
Wayne	27	0.4	9	0.1
Wells	8	0.3	3	0.1
White	4	0.2	6	0.2
Whitley	12	0.4	8	0.2
Indiana	**2,805**	**0.4**	**1,495**	**0.2**

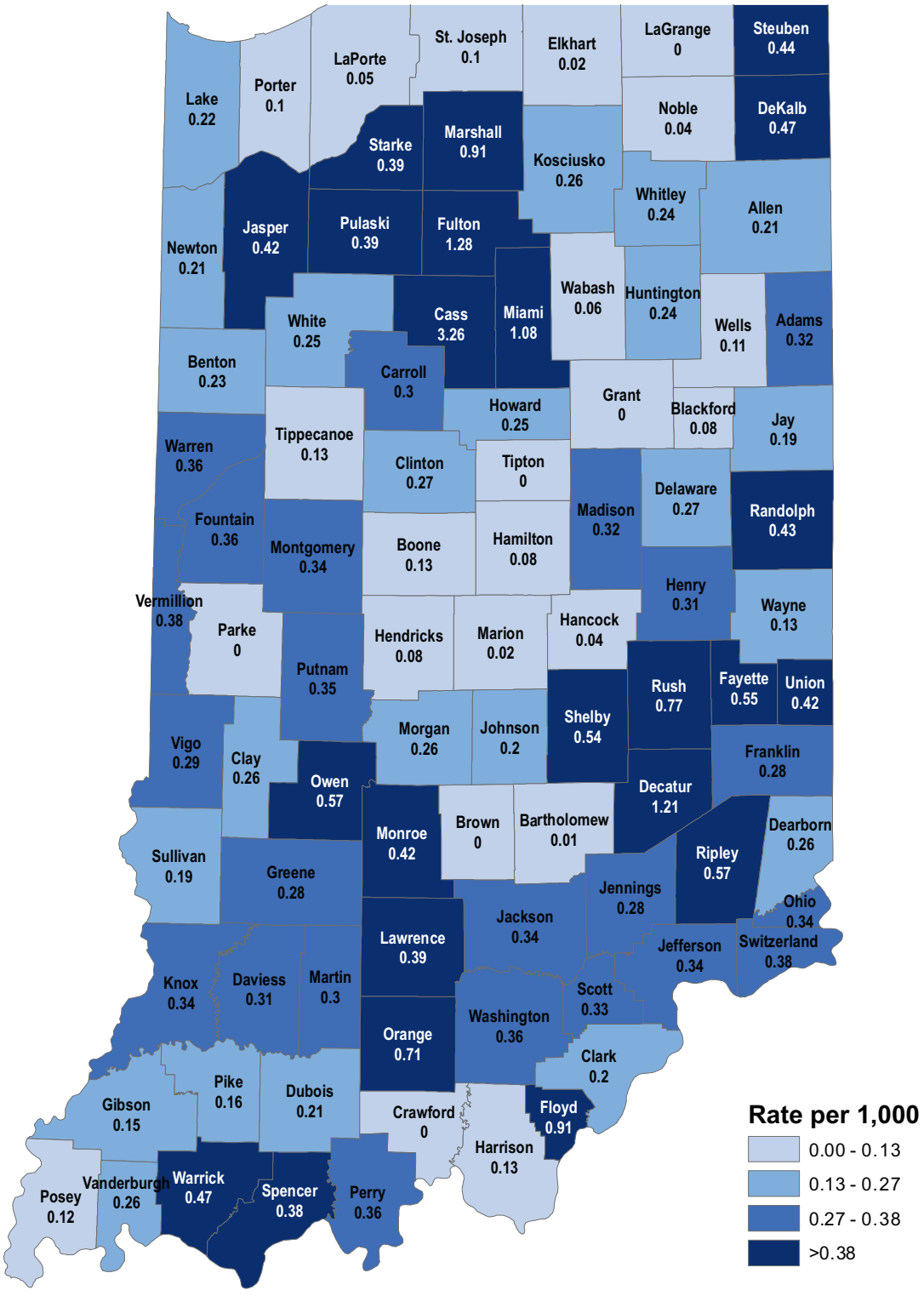
* Rates based on arrest numbers lower than 20 are unreliable.
Source: FBI, 2014

Map 9.1 Arrest Rates, per 1,000 Population, for Possession of "Other Drugs" (Barbiturates and Benzedrine) in Indiana, by County (Uniform Crime Reporting Program, 2014)



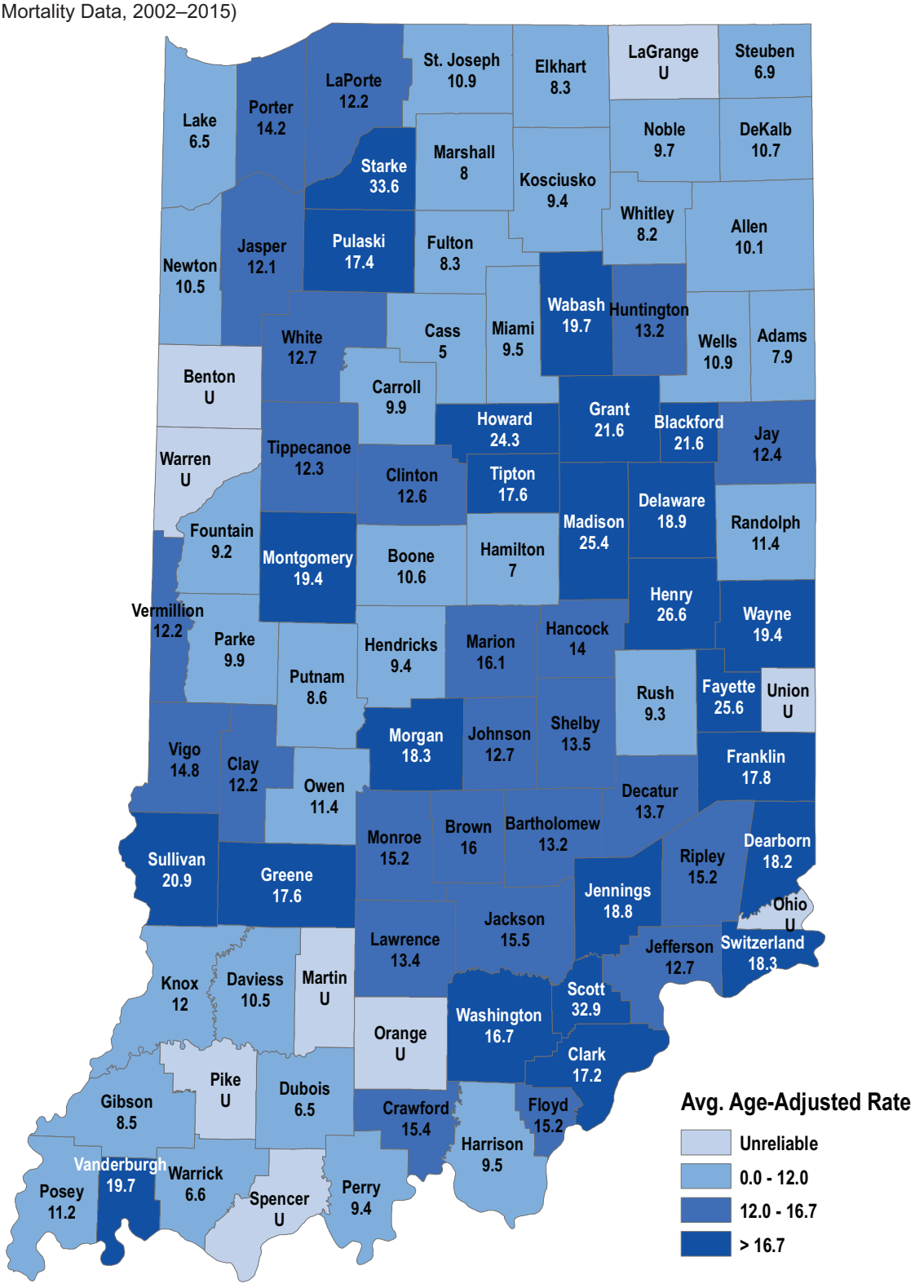
Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 9D (pages 154-155) for additional information.
Source: FBI, 2014

Map 9.2 Arrest Rates, per 1,000 Population, for Sale/Manufacture of "Other Drugs" (Barbiturates and Benzedrine) in Indiana, by County (Uniform Crime Reporting Program, 2014)



Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 9D (pages 154-155) for additional information.
Source: FBI, 2014

Map 9.3 Average Age-Adjusted Prescription Drug Overdose Mortality Rate per 100,000 in Indiana, by County (Indiana Mortality Data, 2002–2015)



Notes: Includes ICD-10 causes of death: X40, X41, X42, X43, X44, X60, X61, X62, X63, X64, Y10, Y11, Y12, Y13, and Y14.
Rates based on number of deaths <20 are not computed, but marked unstable ("U").
Source: CDC, 2017a

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10 Polysubstance Abuse

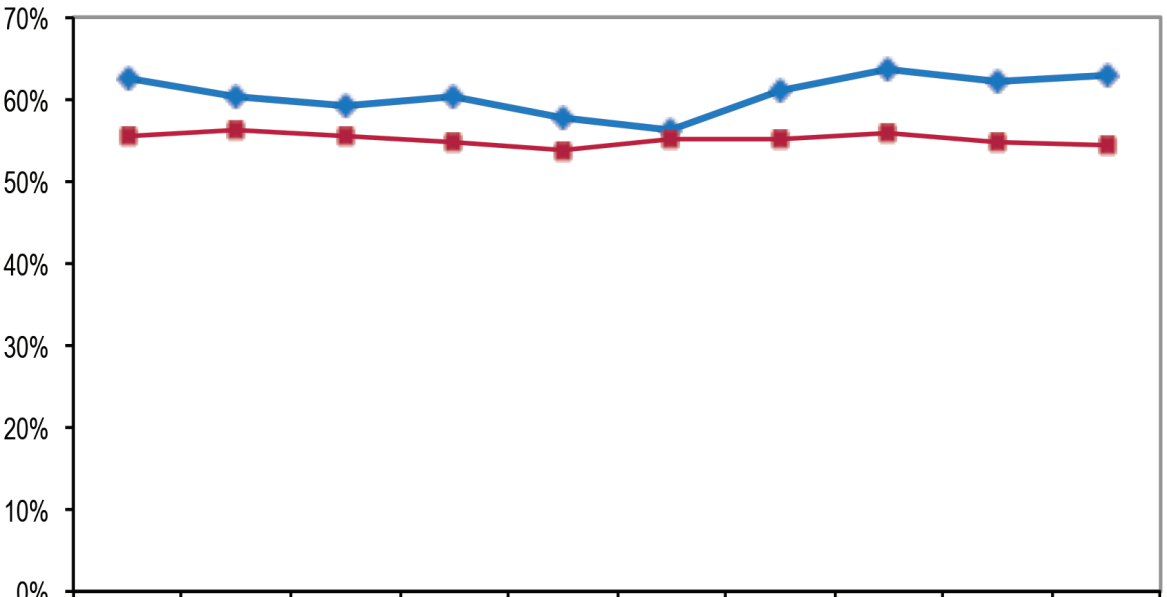
Polysubstance Abuse

Polysubstance abuse refers to substance abuse during which two or more substances are used in combination. It is a particularly serious pattern of drug abuse that appears to be generally established by late adolescence (Collins, Ellickson, & Bell, 1998).

Available data on polysubstance abuse are limited, and all information gathered for this chapter was provided by the Treatment Episode Data Set (TEDS) obtained from the Substance Abuse and Mental Health Services Administration (SAMHSA, 2014) and the Indiana Family and Social Services Administration (FSSA, 2016). For each treatment admission, the TEDS database allows the recording of a primary, secondary, and tertiary substance of abuse. The SEOW defined polysubstance abuse as any treatment admission where an individual reported using two or more substances. TEDS data for 2005 through 2014 indicate that a large proportion of the treatment population reported using at least two drugs at the time they were admitted to treatment (see Figures 10.1 and 10.2). In 2014, the percentage of polysubstance abuse reported among Indiana's treatment population was significantly higher compared to the rest of the United States (IN: 62.8%; U.S.: 54.3%; $P < .05$). Also, in 29% of Indiana treatment episodes, use of two drugs was reported; in 35%, use of three drugs was mentioned (see Figure 10.2).

County-level treatment data on individuals using two or more substances during 2016 is available in Appendix 10A, pages 170-171.

Figure 10.1 Percentage of Indiana and U.S. Treatment Episodes with Polysubstance Abuse (Use of at Least Two Substances) Reported at Treatment Admission (Treatment Episode Data Set, 2005–2014)



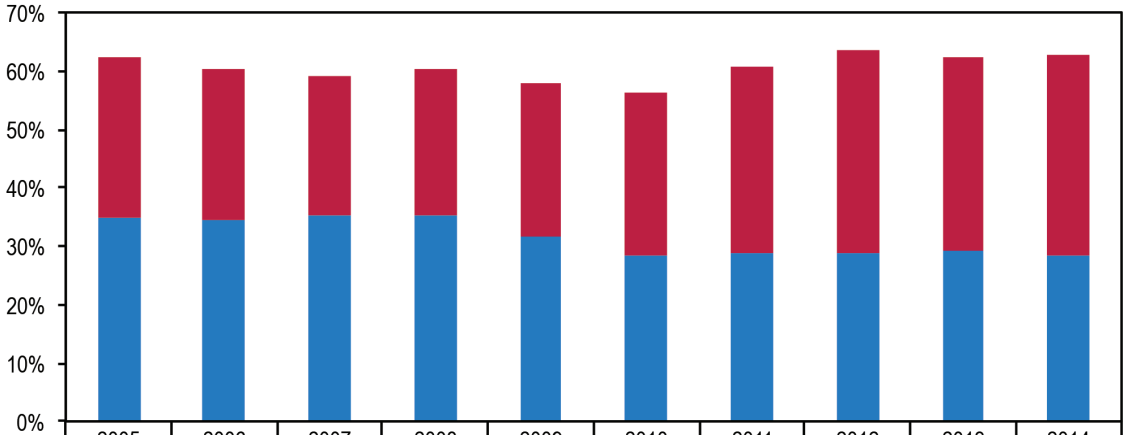
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Indiana	62.5%	60.5%	59.2%	60.4%	57.7%	56.2%	60.9%	63.5%	62.3%	62.8%
U.S.	55.4%	56.1%	55.5%	54.6%	53.8%	55.1%	55.1%	55.9%	54.7%	54.3%

Source: SAMHSA, 2014

Demographic Characteristics of Polysubstance Users

Gender—From 2005 through 2014, the percentage of both males and females reporting use of two or more substances at treatment admission fluctuated between 56% and 64% (see Figure 10.3). In 2014, men were more likely to report use of two substances, while women were more likely to report use of three substances (see Figure 10.4).

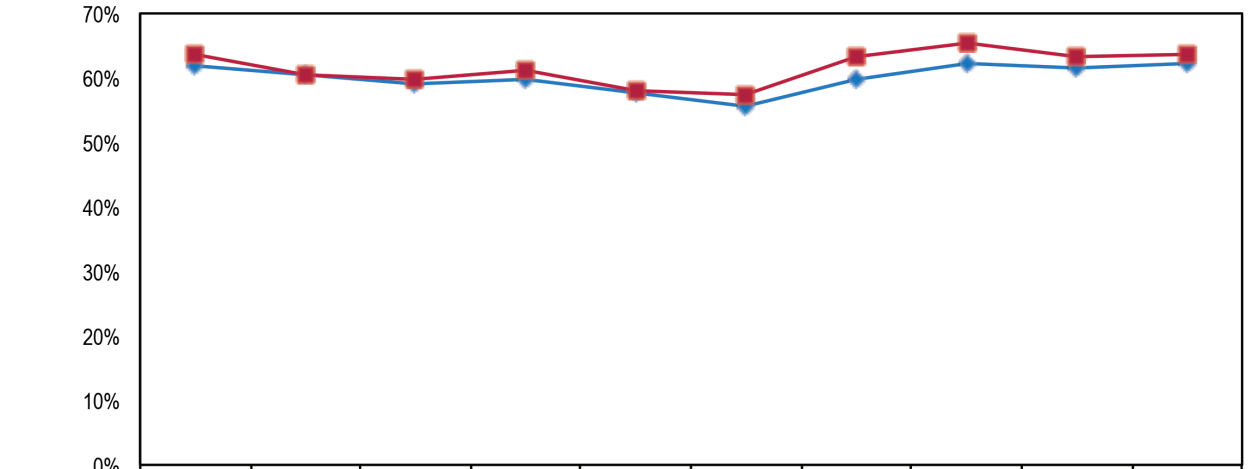
Figure 10.2 Percentage of Indiana Treatment Episodes with Use of Two and Three Substances Reported at Treatment Admission (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
3 Drugs Reported	27.5%	25.9%	23.9%	25.0%	25.9%	27.8%	32.2%	34.8%	33.2%	34.5%
2 Drugs Reported	35.0%	34.6%	35.3%	35.4%	31.8%	28.4%	28.7%	28.7%	29.1%	28.3%

Source: SAMHSA, 2014

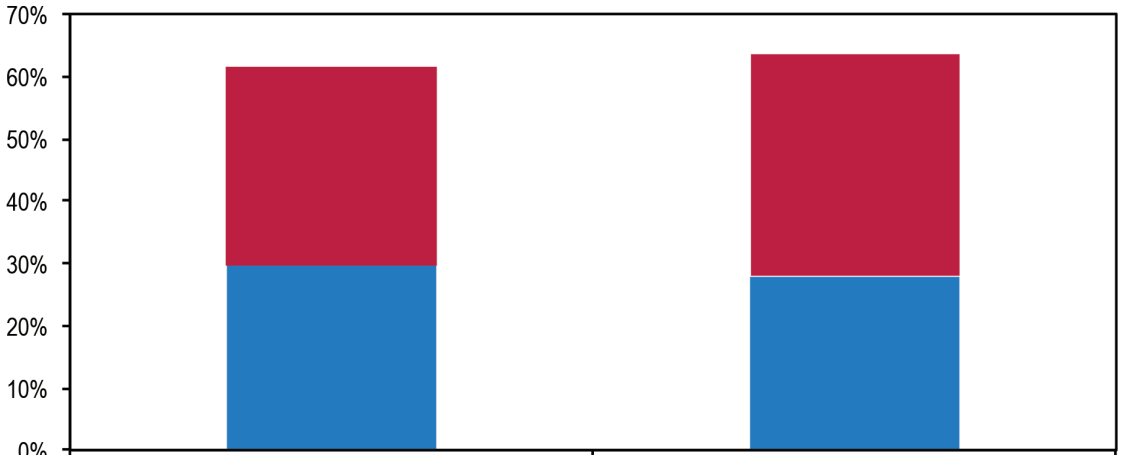
Figure 10.3 Percentage of Indiana Treatment Episodes with Polysubstance Abuse (Use of at Least Two Substances) Reported at Treatment Admission, by Gender (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Males	62.0%	60.6%	59.0%	59.9%	57.5%	55.6%	59.6%	62.3%	61.5%	62.3%
Females	63.5%	60.4%	59.6%	61.2%	58.1%	57.4%	63.4%	65.4%	63.4%	63.7%

Source: SAMHSA, 2014

Figure 10.4 Percentage of Indiana Treatment Episodes with Use of Two and Three Substances Reported at Treatment Admission, by Gender (Treatment Episode Data Set, 2014)



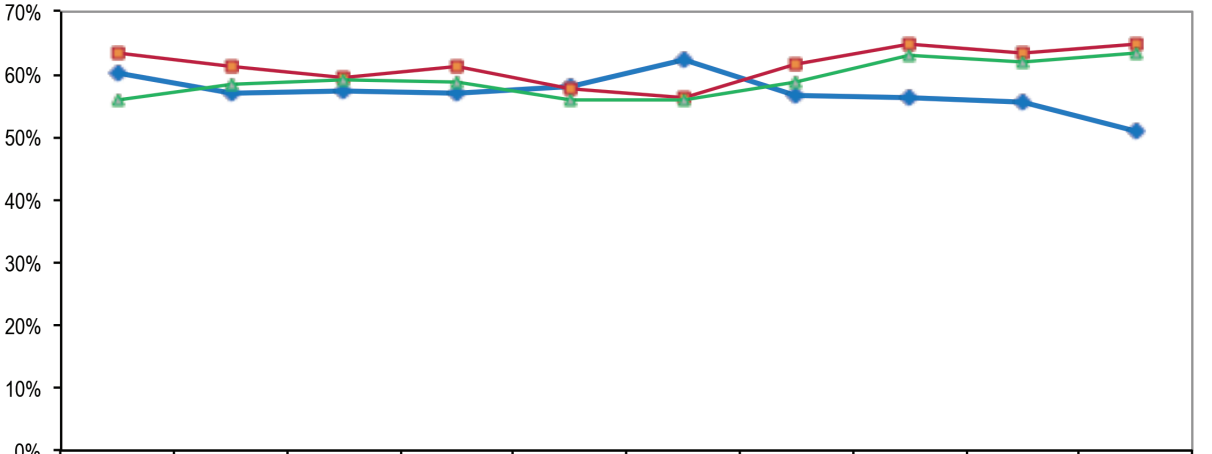
	Males	Females
3 Drugs Reported	31.7%	35.6%
2 Drugs Reported	29.8%	27.8%

Source: SAMHSA, 2014

Race—Overall, in 2014, blacks entering substance abuse treatment reported significantly less polysubstance abuse (50.9%) than did whites (64.7%) and persons of other races (63.3%) (see Figure 10.5). Blacks were more likely to report use of two substances, while whites and persons of other races were more likely to report use of three substances (see Figure 10.6).

Age—Adults 18 to 34 years of age reported the highest percentage of polysubstance abuse at treatment admission, while treatment entrants 55 years of age or older were the least likely to report the use of multiple substances (see Figures 10.7 and 10.8).

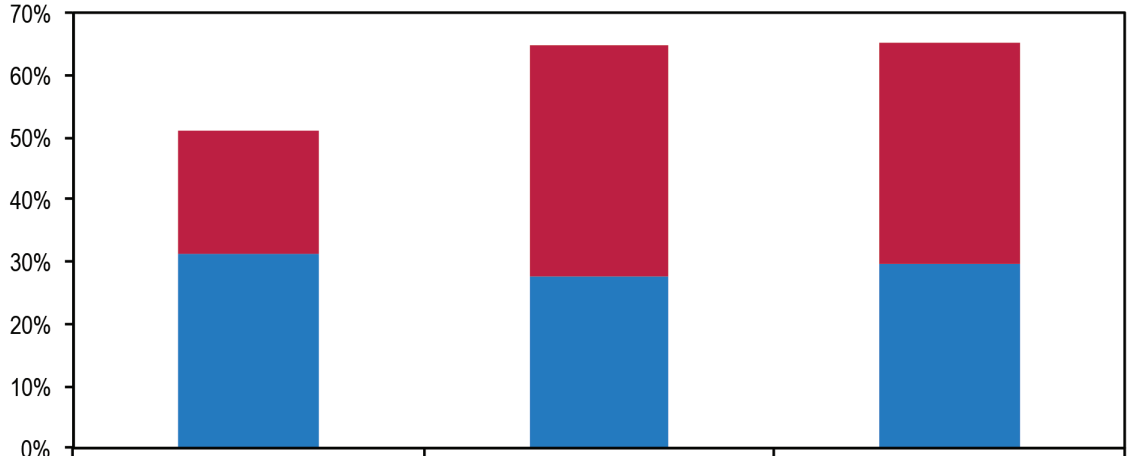
Figure 10.5 Percentage of Indiana Treatment Episodes with Polysubstance Abuse (Use of at Least Two Substances) Reported at Treatment Admission, by Race (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Black	60.3%	56.9%	57.5%	57.1%	58.1%	62.4%	56.5%	56.2%	55.7%	50.9%
White	63.4%	61.4%	59.6%	61.2%	57.8%	56.2%	61.7%	64.9%	63.4%	64.7%
Other	56.1%	58.3%	59.3%	58.6%	55.9%	55.8%	58.9%	63.2%	61.8%	63.3%

Source: SAMHSA, 2014

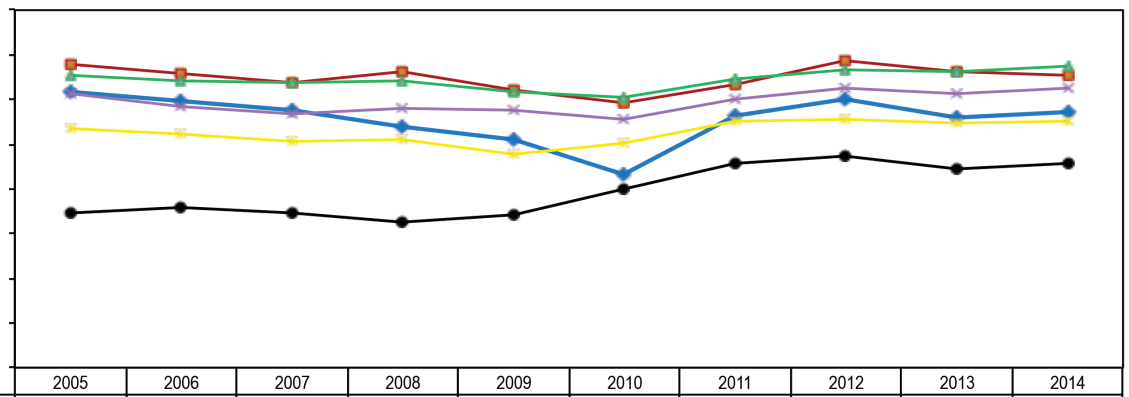
Figure 10.6 Percentage of Indiana Treatment Episodes with Use of Two and Three Substances Reported at Treatment Admission, by Race (Treatment Episode Data Set, 2014)



	Black	White	Other
3 Drugs Reported	19.6%	37.0%	35.5%
2 Drugs Reported	31.3%	27.7%	29.8%

Source: SAMHSA, 2014

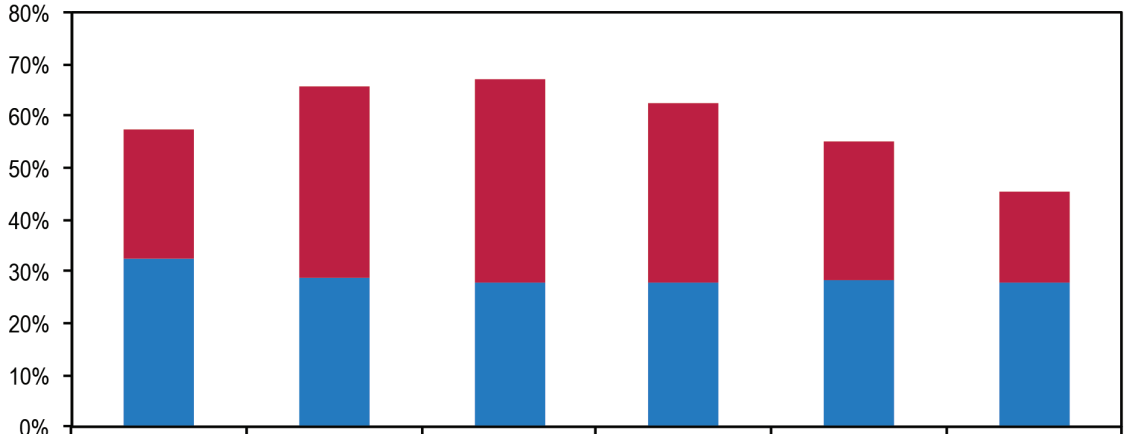
Figure 10.7 Percentage of Indiana Treatment Episodes with Polysubstance Abuse (Use of at Least Two Substances) Reported at Treatment Admission, by Age (Treatment Episode Data Set, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Under 18	61.6%	59.7%	57.5%	53.8%	50.9%	43.2%	56.3%	60.1%	56.0%	57.3%
18 to 24	68.0%	65.8%	63.7%	66.1%	62.3%	59.2%	63.4%	68.5%	66.4%	65.6%
25 to 34	65.6%	64.0%	63.7%	64.2%	61.9%	60.4%	64.7%	66.5%	66.3%	67.3%
35 to 44	61.3%	58.5%	57.0%	58.2%	57.5%	55.4%	60.0%	62.4%	61.5%	62.5%
45 to 54	53.5%	52.4%	50.6%	51.0%	47.6%	50.3%	55.0%	55.6%	54.8%	55.2%
55 and Over	34.8%	36.0%	34.7%	32.4%	34.2%	39.9%	45.6%	47.3%	44.4%	45.6%

Source: SAMHSA, 2014

Figure 10.8 Percentage of Indiana Treatment Episodes with Use of Two and Three Substances Reported at Treatment Admission, by Age (Treatment Episode Data Set, 2014)



	Under 18	18 to 24	25 to 34	35 to 44	45 to 54	55 and Over
3 Drugs Reported	25.1%	36.7%	39.2%	34.8%	27.1%	17.9%
2 Drugs Reported	32.3%	28.9%	28.0%	27.7%	28.1%	27.7%

Source: SAMHSA, 2014

Polysubstance Abuse Clusters in Indiana

Statewide Analysis—Using 2016 TEDS data provided to the SEOW by FSSA's Division of Mental Health and Addiction, we conducted a cluster analysis to determine the various combinations of drugs currently used by polysubstance abusers within the state. The cluster analysis was completed in two steps following standardized methods (Hair, Anderson, Tatham, & Black, 1995).

In the first step, we performed a hierarchical cluster analysis specifying solutions with 2 to 20 clusters using Ward's method (Hair et al., 1995). Second, we used the results of the hierarchical cluster analysis to create "seed points" to serve as cluster centroids for follow-up K-Means cluster analyses, specifying 2 to 20 clusters. We selected this two-step method because it produces clusters that are more easily interpretable (Hair et al., 1995).

Then, to select the final classification solution, we compared the cubic clustering criteria (the expected value of the within sum of squares) with the face-validity of the set of drugs across the clusters (Hair et al., 1995). The results of the K-Means cluster analyses indicated that a 10-cluster solution best fit the available data.

Table 10.1, page 174, shows the image matrix for the 10-cluster solution. The image matrix represents the percentage of individuals within a cluster who used each specific drug. Using cluster 1 as an example, 100% of the individuals in this cluster used alcohol, 0% used cocaine, 54% used marijuana, 0% used heroin, and so on. A specific drug was considered part of a cluster, if at least 50% of the individuals within the cluster used the drug.

The most frequently occurring drug clusters in Indiana were clusters 4, 1, 7, and 2. Individuals in cluster 4 reported using a combination of alcohol and marijuana. Polysubstance users in cluster 1 used alcohol, marijuana, and some other drug. The individuals making up cluster 7 reported using marijuana and some other drug. Polysubstance users in cluster 2 reported using a combination of alcohol, cocaine, and marijuana. These clusters accounted for more than half of polysubstance users in the analysis (57.8%); the remaining six clusters accounted for 42.2% of polysubstance use within Indiana's treatment population (see Table 10.2)

Overall, alcohol and marijuana were the most commonly reported drugs, with alcohol appearing in 4 of the 10 clusters and marijuana appearing in 8. Opiates-synthetic drugs and heroin each appeared in two

clusters. For detailed information on all 10 clusters, see Table 10.2 (page 174).

Table 10.3 (page 175) breaks down the clusters by demographic characteristics. In terms of gender, men accounted for at least half of the individuals within 7 of the 10 clusters. Men and women were nearly equally represented in cluster 7 (alcohol/opiates-synthetics). Women comprised just over half of the individuals in clusters 5 (heroin/methamphetamine) and 7 (marijuana/opiates-synthetics).

Racially, whites composed the largest percentage of polysubstance abusers across every cluster. Blacks, however, were more strongly represented in cluster 2, the only cluster that contained cocaine, and cluster 4 (alcohol/marijuana). Whites represented close to or over 90% of the population in clusters 3, 5, 6, and 10. These four clusters included opiates-synthetics, methamphetamine, or heroin.

Approximately 60% or more of polysubstance abusers within 5 of the 10 clusters were between the ages of 18 and 34 (clusters 4, 5, 7, 8, 9). The majority of individuals in clusters 3, 6, and 10 were between the ages of 25 to 44; persons in cluster 2 were typically 35 to 54; and those in cluster 4 were primarily 18 to 44 years of age. The youngest polysubstance users, those under 18, were more often found in clusters 1 (alcohol/marijuana/other drug), 4 (alcohol/marijuana), and 8 (marijuana/benzodiazepines). Older polysubstance users, those 45 years of age and above, were most strongly represented in cluster 1 (alcohol/marijuana/other drug), 2 (alcohol/cocaine/marijuana), and 6 (alcohol/opiates-synthetics).

County-Level Analyses—We completed cluster analyses for each of Indiana's 92 counties using the 2016 county-level TEDS data set. Appendix 10B (pages 172-177) lists the results of the cluster analysis for each county. Similar to the statewide findings, the most common polysubstance clusters at the county level were composed of both alcohol and marijuana (the top-ranked cluster in 26 counties) or alcohol, marijuana, and a drug falling in the other drug category (the top-ranked cluster in 14 counties) (See Appendix 10B, pages 172-177).

Table 10.1 Image Matrix for Polysubstance Abuse Clusters (Treatment Episode Data Set, 2016)

Image Matrix	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Cluster 7	Cluster 8	Cluster 9	Cluster 10
Drug										
Alcohol	1.00	0.74	0.13	1.00	0.04	1.00	0.00	0.00	0.29	0.00
Cocaine	0.00	1.00	0.01	0.00	0.18	0.00	0.09	0.06	0.13	0.10
Marijuana	0.54	0.50	0.62	1.00	0.16	0.00	0.53	0.90	0.90	0.67
Heroin	0.03	0.07	0.00	0.00	1.00	0.13	0.36	0.00	1.00	0.00
Methadone	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.02
Opiates-Synthetics	0.00	0.07	0.07	0.14	0.42	0.67	0.45	0.00	0.26	1.00
PCP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hallucinogens	0.00	0.01	0.02	0.01	0.01	0.01	0.01	0.10	0.00	0.00
Methamphetamine	0.00	0.13	1.00	0.20	0.58	0.34	0.00	0.35	0.00	0.42
Amphetamines	0.00	0.01	0.02	0.01	0.01	0.03	0.02	0.11	0.01	0.04
Stimulants	0.00	0.00	0.01	0.06	0.00	0.01	0.04	0.05	0.00	0.02
Benzodiazepines	0.01	0.01	0.02	0.05	0.15	0.20	0.07	0.78	0.09	0.30
Tranquilizers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
Barbiturates	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
Sedatives/Hypnotics	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01
Inhalants	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00
Over-the-Counter	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00
Other Drug	1.00	0.09	0.65	0.00	0.06	0.13	1.00	0.10	0.00	0.00

Note: Each number in the image matrix represents the percentage of persons within a cluster that used each individual drug. For example, in cluster 1, 100% used alcohol, 0% used cocaine, 54% used marijuana, 3% used heroin, and so on.
Source: Indiana Family and Social Services Administration, 2016

Table 10.2 Number and Percentage of Treatment Episodes within Each Cluster in Indiana (Treatment Episode Data Set, 2016)

Cluster	Number of Treatment Episodes Within Cluster (%)
1 Alcohol, Marijuana, Other Drug	3,072 (14.0)
2 Alcohol, Cocaine, Marijuana	2,181 (9.9)
3 Marijuana, Methamphetamine, Other Drug	1,868 (8.5)
4 Alcohol, Marijuana	4,858 (22.1)
5 Heroin, Methamphetamine	2,101 (9.6)
6 Alcohol, Opiates/Synthetics	1,561 (7.1)
7 Marijuana, Other Drug	2,372 (10.8)
8 Marijuana, Benzodiazepines	443 (2.0)
9 Marijuana, Heroin	1,636 (7.4)
10 Marijuana, Opiates/Synthetics	1,871 (8.5)
Total	**21,963 (100.0)**

Source: Indiana Family and Social Services Administration, 2016

Table 10.3 Demographic Characteristics of Polysubstance Abusers within Clusters in Indiana (Treatment Episode Data Set, 2016)

	Cluster 1		Cluster 2		Cluster 3		Cluster 4		Cluster 5	
	N	%	N	%	N	%	N	%	N	%
Gender										
Male	2,151	70.0	1,337	61.3	960	51.4	3,476	71.6	979	46.6
Female	921	30.0	844	38.7	908	48.6	1,382	28.4	1,122	53.4
Race										
White	2,530	82.4	1,343	61.6	1,711	91.6	3,758	77.4	1,885	89.7
Black	299	9.7	672	30.8	31	1.7	645	13.3	63	3.0
Other	243	7.9	166	7.6	126	6.7	455	9.4	153	7.3
Ethnicity										
Non-Hispanic	2,874	93.6	1,967	90.2	1,784	95.5	4,539	93.4	1,993	94.9
Hispanic	198	6.4	214	9.8	84	4.5	319	6.6	108	5.1
Age										
Under 18	139	4.5	20	0.9	20	1.1	294	6.1	10	0.5
18-24	572	18.6	178	8.2	310	16.6	1,214	25.0	442	21.0
25-34	890	29.0	545	25.0	832	44.5	1,687	34.7	1,104	52.5
35-44	605	19.7	626	28.7	482	25.8	983	20.2	407	19.4
45-54	552	18.0	569	26.1	197	10.5	505	10.4	93	4.4
55 and Older	314	10.2	243	11.1	27	1.4	175	3.6	45	2.1

	Cluster 6		Cluster 7		Cluster 8		Cluster 9		Cluster 10	
	N	%	N	%	N	%	N	%	N	%
Gender										
Male	874	56.0	1,197	50.5	255	57.6	945	57.8	900	48.1
Female	687	44.0	1,175	49.5	188	42.4	691	42.2	971	51.9
Race										
White	1,410	90.3	2,028	85.5	385	86.9	1,444	88.3	1,673	89.4
Black	34	2.2	176	7.4	30	6.8	84	5.1	67	3.6
Other	117	7.5	168	7.1	28	6.3	108	6.6	131	7.0
Ethnicity										
Non-Hispanic	1,478	94.7	2,193	92.5	419	94.6	1,547	94.6	1,782	95.2
Hispanic	83	5.3	179	7.5	24	5.4	89	5.4	89	4.8
Age										
Under 18	7	0.4	72	3.0	18	4.1	14	0.9	33	1.8
18-24	157	10.1	534	22.5	143	32.3	439	26.8	364	19.5
25-34	627	40.2	1,018	42.9	166	37.5	817	49.9	886	47.4
35-44	429	27.5	465	19.6	88	19.9	242	14.8	392	21.0
45-54	227	14.5	193	8.1	25	5.6	84	5.1	153	8.2
50 and Older	114	7.3	90	3.8	3	0.7	40	2.4	43	2.3

Source: Indiana Family and Social Services Administration, 2016

APPENDIX 10A

Number and Percentage of Treatment Episodes with Polysubstance Abuse (Use of Two and Three Substances) Reported at Treatment Admission in Indiana, by County (Substance Abuse Population by County/Treatment Episode Data Set, 2016)

	Treatment Episodes	Use of 2 Substances		Use of 3 Substances		Polysubstance Abuse	
County	Total	Number	Percentage	Number	Percentage	Number	Percentage
Adams	295	92	31.2%	129	43.7%	221	74.9%
Allen	1,618	547	33.8%	650	40.2%	1197	74.0%
Bartholomew	581	172	29.6%	238	41.0%	410	70.6%
Benton	50	16	32.0%	28	56.0%	44	88.0%
Blackford	82	27	32.9%	35	42.7%	62	75.6%
Boone	187	38	20.3%	26	13.9%	64	34.2%
Brown	83	29	34.9%	30	36.1%	59	71.1%
Carroll	84	30	35.7%	39	46.4%	69	82.1%
Cass	253	67	26.5%	155	61.3%	222	87.7%
Clark	313	30	9.6%	35	11.2%	65	20.8%
Clay	181	60	33.1%	77	42.5%	137	75.7%
Clinton	227	85	37.4%	81	35.7%	166	73.1%
Crawford	45	8	17.8%	22	48.9%	30	66.7%
Daviess	169	39	23.1%	46	27.2%	85	50.3%
Dearborn	449	109	24.3%	268	59.7%	377	84.0%
Decatur	212	62	29.2%	80	37.7%	142	67.0%
DeKalb	242	60	24.8%	129	53.3%	189	78.1%
Delaware	1,138	355	31.2%	285	25.0%	640	56.2%
DuBois	280	72	25.7%	124	44.3%	196	70.0%
Elkhart	654	179	27.4%	135	20.6%	314	48.0%
Fayette	234	62	26.5%	83	35.5%	145	62.0%
Floyd	117	12	10.3%	9	7.7%	21	17.9%
Fountain	48	9	18.8%	29	60.4%	38	79.2%
Franklin	166	51	30.7%	75	45.2%	126	75.9%
Fulton	143	36	25.2%	91	63.6%	127	88.8%
Gibson	295	93	31.5%	99	33.6%	192	65.1%
Grant	436	119	27.3%	236	54.1%	355	81.4%
Greene	204	66	32.4%	68	33.3%	134	65.7%
Hamilton	893	252	28.2%	198	22.2%	450	50.4%
Hancock	193	59	30.6%	40	20.7%	99	51.3%
Harrison	31	<5	n/a	<5	n/a	7	22.6%
Hendricks	351	108	30.8%	106	30.2%	214	61.0%
Henry	330	114	34.5%	102	30.9%	216	65.5%
Howard	610	172	28.2%	301	49.3%	473	77.5%
Huntington	147	36	24.5%	92	62.6%	128	87.1%
Jackson	298	77	25.8%	108	36.2%	185	62.1%
Jasper	105	26	24.8%	61	58.1%	87	82.9%
Jay	188	51	27.1%	90	47.9%	141	75.0%
Jefferson	366	97	26.5%	153	41.8%	250	68.3%
Jennings	223	70	31.4%	95	42.6%	165	74.0%
Johnson	275	92	33.5%	77	28.0%	169	61.5%
Knox	298	71	23.8%	90	30.2%	161	54.0%
Kosciusko	381	84	22.0%	241	63.3%	325	85.3%
LaGrange	186	34	18.3%	122	65.6%	156	83.9%
Lake	2,339	703	30.1%	521	22.3%	1,224	52.3%
LaPorte	377	106	28.1%	97	25.7%	203	53.8%

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APPENDIX 10A *(Continued from previous page)*

	Treatment Episodes	Use of 2 Substances		Use of 3 Substances		Polysubstance Abuse	
County	**Total**	**Number**	**Percentage**	**Number**	**Percentage**	**Number**	**Percentage**
Lawrence	485	133	27.4%	215	44.3%	348	71.8%
Madison	1,278	372	29.1%	406	31.8%	778	60.9%
Marion	3,645	1055	28.9%	1214	33.3%	2,269	62.2%
Marshall	205	64	31.2%	103	50.2%	167	81.5%
Martin	62	16	25.8%	30	48.4%	46	74.2%
Miami	272	63	23.2%	163	59.9%	226	83.1%
Monroe	1,180	352	29.8%	425	36.0%	777	65.8%
Montgomery	374	104	27.8%	177	47.3%	281	75.1%
Morgan	482	185	38.4%	152	31.5%	337	69.9%
Newton	33	9	27.3%	18	54.5%	27	81.8%
Noble	307	78	25.4%	172	56.0%	250	81.4%
Ohio	40	13	32.5%	16	40.0%	29	72.5%
Orange	160	47	29.4%	62	38.8%	109	68.1%
Owen	199	59	29.6%	68	34.2%	127	63.8%
Parke	67	19	28.4%	29	43.3%	48	71.6%
Perry	102	31	30.4%	41	40.2%	72	70.6%
Pike	53	17	32.1%	9	17.0%	26	49.1%
Porter	410	120	29.3%	135	32.9%	255	62.2%
Posey	170	42	24.7%	84	49.4%	126	74.1%
Pulaski	109	33	30.3%	56	51.4%	89	81.7%
Putnam	215	63	29.3%	81	37.7%	144	67.0%
Randolph	170	36	21.2%	61	35.9%	97	57.1%
Ripley	184	55	29.9%	81	44.0%	136	73.9%
Rush	138	37	26.8%	82	59.4%	119	86.2%
Saint Joseph	1,231	389	31.6%	272	22.1%	661	53.7%
Scott	165	39	23.6%	54	32.7%	93	56.4%
Shelby	168	42	25.0%	73	43.5%	115	68.5%
Spencer	144	34	23.6%	63	43.8%	97	67.4%
Starke	193	51	26.4%	109	56.5%	160	82.9%
Steuben	298	98	32.9%	113	37.9%	211	70.8%
Sullivan	78	23	29.5%	33	42.3%	56	71.8%
Switzerland	63	22	34.9%	25	39.7%	47	74.6%
Tippecanoe	404	120	29.7%	225	55.7%	345	85.4%
Tipton	70	22	31.4%	24	34.3%	46	65.7%
Union	22	<5	n/a	14	63.6%	18	81.8%
Vanderburgh	1,319	344	26.1%	652	49.4%	996	75.5%
Vermillion	123	34	27.6%	62	50.4%	96	78.0%
Vigo	803	267	33.3%	329	41.0%	596	74.2%
Wabash	225	48	21.3%	158	70.2%	206	91.6%
Warren	9	<5	n/a	6	66.7%	8	88.9%
Warrick	267	47	17.6%	141	52.8%	188	70.4%
Washington	63	7	11.1%	19	30.2%	26	41.3%
Wayne	438	122	27.9%	198	45.2%	320	73.1%
Wells	128	31	24.2%	79	61.7%	110	85.9%
White	110	37	33.6%	56	50.9%	93	84.5%
Whitley	105	22	21.0%	76	72.4%	98	93.3%
Missing County Data	27	8	29.6%	6	22.2%	14	51.9%
Indiana	**33,170**	**9,496**		**12,467**		**21,963**	

Note: The category “Polysubstance Abuse” is an aggregate of “Use of 2 Substances” and “Use of 3 Substances.” We calculated the percentages by dividing the number of reported polysubstance abuse by the number of treatment episodes. Information on treatment episodes <5 was suppressed due to confidentiality constraints.
Source: Indiana Family and Social Services Administration, 2016

APPENDIX 10B

Combination of Drugs Used Among Polysubstance Abusers in Substance Abuse Treatment, by County (Based on Cluster Analysis of Substance Abuse Population by County/Treatment Episode Data Set, 2016)

County	Cluster #	Cluster Composition	N	%
Adams				
	1	Alcohol/Marijuana	61	27.6%
	2	Alcohol/Marijuana/Other Drug	48	21.7%
	5	Alcohol/Cocaine/ Marijuana	25	11.3%
	7	Marijuana/Heroin	24	10.9%
	4	Heroin/Opiates-Synthetics	23	10.4%
	6	Marijuana/ Methamphetamine	21	9.5%
	3	Marijuana/Opiates-Synthetics/Other Drug	19	8.6%
		Total	221	
Allen				
	2	Alcohol/Marijuana	354	29.6%
	4	Alcohol/Cocaine/ Marijuana	212	17.7%
	1	Alcohol/Marijuana/Other Drug	184	15.4%
	6	Cocaine/Marijuana	173	14.5%
	3	Heroin/Opiates-Synthetics	144	12.0%
	5	Alcohol/Marijuana/ Opiates-Synthetics	130	10.9%
		Total	1,197	
Bartholomew				
	1	Marijuana/ Methamphetamine	161	39.3%
	2	Alcohol/Marijuana	130	31.7%
	3	Heroin/ Methamphetamine	119	29.0%
		Total	410	
Benton				
	2	Alcohol/Marijuana/Other Drug	14	31.8%
	1	Alcohol/Marijuana	12	27.3%
	4	Alcohol/Other Drug	10	22.7%
	3	Alcohol/Marijuana/ Opiates-Synthetics	8	18.2%
		Total	44	
Blackford				
	2	Marijuana/Heroin/ Opiates-Synthetics	24	38.7%
	1	Alcohol/Marijuana	20	32.3%
	3	Alcohol/Marijuana/ Opiates-Synthetics	18	29.0%
		Total	62	
Boone				
	3	Heroin/Opiates-Synthetics	27	42.2%
	1	Alcohol/Marijuana	21	32.8%
	2	Marijuana/ Methamphetamine	16	25.0%
		Total	64	
Brown				
	1	Marijuana/Heroin/ Methamphetamine	30	50.8%
	2	Alcohol/Marijuana	29	49.2%
		Total	59	
Carroll				
	1	Alcohol/Other Drug	25	36.2%
	2	Marijuana/ Methamphetamine/Other Drug	23	33.3%
	2	Alcohol/Marijuana	21	30.4%
		Total	69	

County	Cluster #	Cluster Composition	N	%
Cass				
	2	Alcohol/Other Drug	76	34.2%
	1	Alcohol/Marijuana/Other Drug	59	26.6%
	3	Alcohol/Marijuana	50	22.5%
	4	Alcohol/Opiates-Synthetics	37	16.7%
		Total	222	
Clark				
	1	Methamphetamine	22	33.8%
	2	Alcohol/Marijuana	15	23.1%
	4	Heroin/Opiates-Synthetics	15	23.1%
	3	Marijuana/Opiates-Synthetics	13	20.0%
		Total	65	
Clay				
	1	Alcohol/Marijuana/Other Drug	50	36.5%
	3	Opiates-Synthetics/ Methamphetamine/Other Drug	45	32.8%
	2	Marijuana/ Methamphetamine/Other Drug	42	30.7%
		Total	137	
Clinton				
	5*	Alcohol/Marijuana/ Heroin*	21	12.7%
	6	Marijuana/Other Drug	21	12.7%
	8	Marijuana/Heroin/ Opiates-Synthetics	20	12.0%
	1	Alcohol/Marijuana	38	10.7%
	4	Alcohol/Opiates-Synthetics	15	9.0%
	7	Opiates-Synthetics/ Other Drug	15	9.0%
	3	Heroin/Other Drug	12	7.2%
	2	Alcohol/Other Drug	24	3.4%
		Total	166	
Crawford				
		Insufficient data for analysis		
Daviess				
	1	Marijuana/ Methamphetamine	47	55.3%
	2	Alcohol/Other Drug	38	44.7%
		Total	85	
Dearborn				
	1	Alcohol/Marijuana/Other Drug	79	21.0%
	7	Alcohol/Other Drug	66	17.5%
	4	Marijuana/Heroin/ Opiates-Synthetics	48	12.7%
	2	Alcohol/Marijuana/ Opiates-Synthetics	43	11.4%
	3	Marijuana/Heroin/Other Drug	41	10.9%
	6	Heroin/Opiates-Synthetics/Other Drug	38	10.1%
	5	Marijuana/Heroin	35	9.3%
	8	Opiates-Synthetics/ Benzodiazepines	27	7.2%
		Total	377	

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APPENDIX 10B *(continued from previous page)*

County	Cluster #	Cluster Composition	N	%
Decatur				
	3	Marijuana/ Methamphetamine	58	40.8%
	2	Opiates-Synthetics/ Methamphetamine	44	31.0%
	1	Alcohol/Marijuana	40	28.2%
		Total	142	
DeKalb				
	3	Marijuana/Other Drug	52	52.5%
	2	Alcohol/Marijuana/ Methamphetamine	49	25.9%
	1	Alcohol/Marijuana	47	24.9%
	4	Marijuana/ Methamphetamine	41	21.7%
		Total	189	
Delaware				
	2	Alcohol/Marijuana	111	17.3%
	4	Marijuana/Opiates-Synthetics	98	15.3%
	6	Heroin/Opiates-Synthetics/ Methamphetamine	86	13.4%
	7	Alcohol/Opiates-Synthetics	61	9.5%
	5	Marijuana/ Methamphetamine	60	9.4%
	1	Alcohol/Cocaine	58	9.1%
	3	Marijuana/Heroin	57	8.9%
	8	Cocaine/Marijuana	56	8.8%
	9	Opiates-Synthetics/ Benzodiazepines	53	8.3%
		Total	640	
Dubois				
	2	Alcohol/Marijuana/ Methamphetamine	37	18.9%
	1	Alcohol/Marijuana/Other Drug	33	16.8%
	3	Alcohol/Opiates-Synthetics/ Methamphetamine/ Benzodiazepines	33	16.8%
	4	Alcohol/Marijuana	64	32.7%
	5	Alcohol/Marijuana/ Opiates-Synthetics	29	14.8%
		Total	196	
Elkhart				
	2	Alcohol/Marijuana	85	27.1%
	5	Marijuana/ Methamphetamine	65	20.7%
	3	Marijuana/Opiates-Synthetics	62	19.7%
	1	Alcohol/Cocaine/ Marijuana	58	18.5%
	4	Marijuana/Other Drug	44	14.0%
		Total	314	
Fayette				
	1	Heroin/Opiates-Synthetics	55	37.9%
	2	Marijuana/Heroin/ Opiates-Synthetics	50	34.5%
	3	Alcohol/Marijuana	40	27.6%
		Total	145	
Floyd				
	2	Heroin/Opiates-Synthetics	11	52.4%
	1	Alcohol/Marijuana/Other Drug	10	47.6%
		Total	21	

County	Cluster #	Cluster Composition	N	%
Fountain				
	2	Alcohol/Marijuana/Other Drug	12	31.6%
	3	Marijuana/Heroin/ Methamphetamine	11	28.9%
	4	Marijuana/ Opiates-Synthetics/ Methamphetamine	8	21.1%
	1	Opiates-Synthetics/ Other Drug	7	18.4%
		Total	38	
Franklin				
	2	Alcohol/Marijuana/Other Drug	47	36.5%
	3	Marijuana/Heroin/ Opiates-Synthetics	46	36.5%
	1	Marijuana/ Methamphetamine/Other Drug	33	26.2%
		Total	126	
Fulton				
	4	Marijuana/ Opiates-Synthetics/ Methamphetamine/Other Drug	34	26.8%
	3	Alcohol/Marijuana	33	26.0%
	2	Alcohol/Marijuana/Other Drug	32	25.2%
	1	Alcohol/Other Drug	28	22.0%
		Total	127	
Gibson				
	1	Alcohol/Marijuana/Other Drug	96	50.0%
	2	Marijuana/ Methamphetamine	96	50.0%
		Total	192	
Grant				
	4	Alcohol/Marijuana	66	18.6%
	1	Alcohol/Marijuana/Other Drug	63	17.7%
	2	Alcohol/Other Drug	52	14.6%
	6	Marijuana/Heroin	52	14.6%
	7	Marijuana/ Opiates-Synthetics/ Benzodiazepines	43	12.1%
	5	Alcohol/Marijuana/ Opiates-Synthetics	41	11.5%
	3	Marijuana/Other Drug	38	10.7%
		Total	355	
Greene				
	1	Alcohol/Other Drug	32	23.9%
	3	Alcohol/Marijuana	30	22.4%
	2	Heroin/Opiates-Synthetics	28	20.9%
	4	Marijuana/ Methamphetamine/Other Drug	26	19.4%
	5	Alcohol/Marijuana/ Methamphetamine	18	13.4%
		Total	134	
Hamilton				
	1	Alcohol/Marijuana	142	31.6%
	3	Alcohol/Marijuana/ Opiates-Synthetics	68	15.1%
	2	Alcohol/Cocaine/ Marijuana	51	11.3%
	4	Marijuana/Heroin	51	11.3%

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APPENDIX 10B *(continued from previous page)*

County	Cluster #	Cluster Composition	N	%
	5	Heroin/Opiates-Synthetics	39	8.7%
	7	Alcohol/Marijuana/Benzodiazepines	39	8.7%
	8	Alcohol/Marijuana/Other Drug	31	6.9%
	6	Marijuana/Methamphetamine	29	6.4%
		Total	450	
Hancock				
	1	Alcohol/Marijuana	39	39.4%
	2	Cocaine/Marijuana/Heroin	22	22.2%
	3*	Opiates-Synthetics	21	21.2%
	4	Marijuana/Methamphetamine	17	17.2%
		Total	99	
Harrison				
		Insufficient data for analysis		
Hendricks				
	2	Alcohol/Marijuana/Other Drug	75	35.0%
	3	Marijuana/Methamphetamine	38	17.8%
	4	Heroin/Other Drug	38	17.8%
	1	Heroin/Opiates-Synthetics	37	17.3%
	5	Alcohol/Other Drug	26	12.1%
		Total	214	
Henry				
	2	Opiates-Synthetics/Other Drug	49	22.7%
	4	Heroin/Opiates-Synthetics	49	22.7%
	3	Marijuana/Opiates-Synthetics	45	20.8%
	1	Opiates-Synthetics/Benzodiazepines	39	18.1%
	5	Alcohol/Marijuana	34	15.7%
		Total	216	
Howard				
	2	Alcohol/Marijuana	82	17.3%
	1	Heroin/Other Drug	75	15.9%
	5	Heroin/Methamphetamine	74	15.6%
	3	Alcohol/Marijuana/Other Drug	68	14.4%
	6	Alcohol/Cocaine	63	13.3%
	7	Heroin/Opiates-Synthetics	59	12.5%
	4	Opiates-Synthetics/Other Drug	52	11.0%
		Total	473	
Huntington				
	2	Marijuana/Opiates-Synthetics/Other Drug	42	32.8%
	3	Alcohol/Other Drug	33	25.8%
	1	Alcohol/Marijuana/Opiates-Synthetics	32	25.0%
	4	Heroin/Opiates-Synthetics/Methamphetamine	21	16.4%
		Total	128	
Jackson				
	1	Opiates-Synthetics/Methamphetamine	62	33.5%
	3	Marijuana/Methamphetamine	62	33.5%
	2	Alcohol/Marijuana	61	33.0%
		Total	185	

County	Cluster #	Cluster Composition	N	%
Jasper				
	2	Alcohol/Marijuana	31	35.6%
	1	Marijuana/Opiates-Synthetics	29	33.3%
	3	Marijuana/Methamphetamine	27	31.0%
		Total	87	
Jay				
	2	Marijuana/Heroin	42	29.8%
	3	Alcohol/Marijuana	34	24.1%
	4	Heroin/Opiates-Synthetics	25	17.7%
	1	Marijuana/Methamphetamine	23	16.3%
	5	Alcohol/Marijuana/Other-Drug	17	12.1%
		Total	141	
Jefferson				
	1	Marijuana/Opiates-Synthetics	98	39.2%
	3	Opiates-Synthetics/Methamphetamine	85	34.0%
	2	Alcohol/Marijuana	67	26.8%
		Total	250	
Jennings				
	2	Marijuana/Methamphetamine	53	32.1%
	3	Heroin/Methamphetamine	39	23.6%
	4	Alcohol/Methamphetamine	39	23.6%
	1	Alcohol/Marijuana	34	20.6%
		Total	165	
Johnson				
	3	Alcohol/Marijuana	73	43.2%
	1	Heroin/Opiates-Synthetics	42	24.9%
	4	Marijuana/Methamphetamine	31	18.3%
	2	Heroin/Opiates-Synthetics/Other Drug	23	13.6%
		Total	169	
Knox				
	1	Alcohol/Marijuana/Methamphetamine	49	30.4%
	2	Marijuana/Methamphetamine	40	24.8%
	4	Opiates-Synthetics/Methamphetamine	25	15.5%
	5	Alcohol/Other Drug	24	14.9%
	3	Marijuana/Opiates-Synthetics	23	14.3%
		Total	161	
Kosciusko				22.3%
	1	Alcohol/Marijuana	78	24.0%
	5	Marijuana/Opiates-Synthetics	66	20.3%
	2	Alcohol/Marijuana/Other Drug	59	18.2%
	3	Alcohol/Other Drug	46	14.2%
	4	Marijuana/Methamphetamine/Other Drug	38	11.7%
	6	Heroin/Methamphetamine	38	11.7%
		Total	325	
LaGrange				
	3	Alcohol/Marijuana/Other Drug	59	37.8%
	1	Alcohol/Marijuana/Methamphetamine	50	32.1%

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APPENDIX 10B *(continued from previous page)*

County	Cluster #	Cluster Composition	N	%
	2	Marijuana/ Methamphetamine/Other Drug	47	30.1%
		Total	156	
Lake				
	1	Alcohol/Marijuana	307	25.1%
	4	Alcohol/Marijuana/Other Drug	261	21.3%
	3	Cocaine/Marijuana/ Heroin	247	20.2%
	5	Alcohol/Cocaine	234	19.1%
	2	Heroin/Opiates-Synthetics	175	14.3%
		Total	1,224	
La Porte				
	2	Alcohol/Marijuana	99	48.8%
	3	Heroin/Opiates-Synthetics	59	29.1%
	1	Marijuana/Heroin	45	22.2%
		Total	203	
Lawrence				
	2	Opiates-Synthetics/ Methamphetamine	140	40.2%
	1	Alcohol/Marijuana	115	33.0%
	3	Marijuana/ Methamphetamine	93	26.7%
		Total	348	
Madison				
	5	Alcohol/Marijuana	199	25.6%
	6	Opiates-Synthetics/ Methamphetamine	133	17.1%
	7	Alcohol/Opiates-Synthetics	127	16.3%
	3	Marijuana/Opiates-Synthetics	115	14.8%
	1	Alcohol/Cocaine/ Marijuana	90	11.6%
	4	Marijuana/ Opiates-Synthetics/ Benzodiazepines	65	8.4%
	2	Marijuana/Other Drug	49	6.3%
		Total	778	
Marion				
	4	Alcohol/Marijuana	434	19.1%
	1	Opiates-Synthetics/ Other Drug	390	17.2%
	2	Marijuana/Other Drug	316	13.9%
	7	Alcohol/Marijuana	308	13.6%
	8	Marijuana/Heroin/ Opiates-Synthetics	251	11.1%
	5	Alcohol/Cocaine/ Marijuana	207	9.1%
	3	Heroin/Benzodiazepines	188	8.3%
	6	Heroin/ Methamphetamine	175	7.7%
		Total	2,269	
Marshall				
	2	Alcohol/Other Drug	48	35.0%
	1	Marijuana/Other Drug	44	32.1%
	3	Heroin/Opiates-Synthetics/Other Drug	34	24.8%
	4	Alcohol/Marijuana	11	8.0%
		Total	137	
Martin				
	3	Alcohol/Other Drug	19	41.3%
	1	Marijuana/ Methamphetamine/Other Drug	18	39.1%
	2	Alcohol/Opiates-Synthetics/ Benzodiazepines	9	19.6%
		Total	46	
Miami				
	3	Marijuana/Other Drug	85	37.6%
	1	Alcohol/Marijuana/Other Drug	81	35.8%
	2	Alcohol/Marijuana	60	26.5%
		Total	226	
Monroe				
	2	Alcohol/Marijuana/Other Drug	221	28.4%
	7	Marijuana/Heroin/ Methamphetamine	99	12.7%
	3	Alcohol/Other Drug	90	11.6%
	5	Marijuana/Opiates-Synthetics	83	10.7%
	4	Heroin/Opiates-Synthetics/ Methamphetamine	75	9.7%
	6	Alcohol/Opiates-Synthetics	73	9.4%
	8*	Heroin/Benzodiazepines	70	9.0%
	1	Alcohol/Cocaine/ Marijuana	66	8.5%
		Total	777	
Montgomery				
	1	Alcohol/Marijuana/Other Drug	83	29.5%
	3	Marijuana/ Methamphetamine	73	26.0%
	4*	Opiates-Synthetics/ Various Other Drugs	65	23.1%
	2	Marijuana/Other Drug	60	21.4%
		Total	281	
Morgan				
	1	Heroin/ Methamphetamine	106	31.5%
	2	Marijuana/ Methamphetamine	86	25.5%
	4	Alcohol/Marijuana	80	23.7%
	3	Alcohol/Marijuana/Other Drug	65	19.3%
		Total	337	
Newton				
	1	Alcohol/Marijuana	12	44.4%
	3	Marijuana/Heroin	9	33.3%
	2	Heroin/ Methamphetamine	6	22.2%
		Total	27	
Noble				
	1	Alcohol/Marijuana	101	40.4%
	3	Marijuana/ Methamphetamine	90	36.0%
	2	Alcohol/Other Drug	59	23.6%
		Total	250	
Ohio				
	1	Alcohol/Other Drug	16	55.2%
	2	Alcohol/Marijuana	7	24.1%
	3	Heroin/Opiates-Synthetics/Other Drug	6	20.7%
		Total	29	
Orange				
	3	Marijuana/Opiates-Synthetics	40	36.7%
	2	Alcohol/Marijuana	36	33.0%

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APPENDIX 10B *(continued from previous page)*

County	Cluster #	Cluster Composition	N	%
	1	Alcohol/Marijuana/ Methamphetamine	33	30.3%
		Total	109	
Owen				
	4	Alcohol/Other Drug	33	26.0%
	3	Marijuana/ Methamphetamine	30	23.6%
	2	Alcohol/Marijuana	25	19.7%
	5	Heroin/Opiates-Synthetics	20	15.7%
	1	Alcohol/Marijuana/ Methamphetamine	19	15.0%
		Total	127	
Parke				
	2	Alcohol/Other Drug	14	29.2%
	4	Methamphetamine/Other Drug	13	27.1%
	3	Marijuana/Other Drug	12	25.0%
	1	Alcohol/Marijuana	9	18.8%
		Total	48	
Perry				
	2	Alcohol/Marijuana	42	58.3%
	1	Marijuana/ Methamphetamine	30	41.7%
		Total	72	
Pike				
		Insufficient Cases for Analysis		
Porter				
	2	Marijuana/Heroin	140	54.9%
	1	Alcohol/Marijuana	115	45.1%
		Total	255	
Posey				
	3	Alcohol/Marijuana	62	49.2%
	2	Alcohol/ Methamphetamine	36	28.6%
	1	Alcohol/Marijuana/Other Drug	28	22.2%
		Total	126	
Pulaski				
	1	Alcohol/Marijuana/Other Drug	32	36.0%
	2	Alcohol/Other Drug	25	28.1%
	3	Marijuana/Opiates-Synthetics/Other Drug	16	18.0%
	4	Alcohol/Opiates-Synthetics	16	18.0%
		Total	89	
Putnam				
	1	Marijuana/Other Drug	81	56.3%
	2	Alcohol/Marijuana/Other Drug	63	43.8%
		Total	144	
Randolph				
	2	Marijuana/Heroin	49	50.5%
	1	Alcohol/Marijuana	48	49.5%
		Total	97	
Ripley				
	1	Alcohol/Marijuana	79	58.1%
	2	Marijuana/Heroin	57	41.9%
		Total	136	
Rush				
	2	Marijuana/Opiates-Synthetics	45	37.8%
	3	Alcohol/Marijuana	38	31.9%
	1	Marijuana/Other Drug	36	30.3%
		Total	119	

County	Cluster #	Cluster Composition	N	%
St. Joseph				
	1	Alcohol/Marijuana	131	19.8%
	2	Alcohol/Cocaine	100	15.1%
	3	Heroin/Opiates-Synthetics	61	9.2%
	4	Marijuana/ Methamphetamine	41	6.2%
	5	Alcohol/Other Drug	69	10.4%
	6	Cocaine/Marijuana	43	6.5%
	7	Alcohol/Cocaine/ Marijuana	73	11.0%
	8	Heroin/ Methamphetamine	48	7.3%
	9	Marijuana/Heroin	72	10.9%
	10	Marijuana/ Benzodiazepines	23	3.5%
		Total	661	
Scott				
	1	Marijuana/Opiates-Synthetics	55	59.1%
	2	Opiates-Synthetics/ Methamphetamine	38	40.9%
		Total	93	
Shelby				
	2	Marijuana/ Methamphetamine	79	68.7%
	1	Heroin/Opiates-Synthetics	36	31.3%
		Total	115	
Spencer				
	1	Alcohol/Marijuana	39	40.2%
	2	Alcohol/Marijuana/ Methamphetamine	31	32.0%
	3	Marijuana/ Methamphetamine	27	27.8%
		Total	97	
Starke				
	1	Marijuana/Other Drug	62	38.8%
	3*	Heroin/Various Other Drugs	55	34.4%
	2	Opiates-Synthetics/ Other Drug	43	26.9%
		Total	160	
Steuben				
	1	Alcohol/Marijuana	86	40.8%
	2	Marijuana/ Methamphetamine	63	29.9%
	3	Alcohol/Other Drug	62	29.4%
		Total	211	
Sullivan				
	3	Alcohol/Other Drug	34	60.7%
	1	Marijuana/Opiates-Synthetics	11	19.6%
	2	Marijuana/Other Drug	11	19.6%
		Total	56	
Switzerland				
	2	Alcohol/Other Drug	29	61.7%
	1	Marijuana/Opiates-Synthetics	18	38.3%
		Total	47	
Tippecanoe				
	4	Alcohol/Marijuana	87	25.2%
	2	Marijuana/Other Drug	81	23.5%
	5	Alcohol/Other Drug	70	20.3%
	1	Alcohol/Marijuana/Other Drug	56	16.2%
	3	Marijuana/Heroin	51	14.8%
		Total	345	

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APPENDIX 10B *(continued from previous page)*

County	Cluster #	Cluster Composition	N	%
Tipton				
	2	Alcohol/Marijuana	24	52.2%
	1	Marijuana/Opiates-Synthetics	12	26.1%
	3	Opiates-Synthetics/ Benzodiazepines	10	21.7%
		Total	46	
Union				
		Insufficient Cases for Analysis		
Vanderburgh				
	5	Marijuana/ Methamphetamine	220	22.1%
	2	Alcohol/Other Drug	198	19.9%
	6	Alcohol/Marijuana	176	17.7%
	1	Alcohol/ Methamphetamine	151	15.2%
	4	Marijuana/Opiates-Synthetics/	137	13.8%
	3	Opiates-Synthetics/ Methamphetamine	114	11.4%
		Total	996	
Vermillion				
	4	Opiates-Synthetics/ Methamphetamine/ Benzodiazepines	20	20.8%
	3	Marijuana/ Methamphetamine/Other Drug	30	20.0%
	2	Alcohol/Marijuana/Other Drug	18	18.8%
	1	Alcohol/Other Drug	17	17.7%
	5	Alcohol/Marijuana/ Methamphetamine	11	11.5%
		Total	96	
Vigo				
	2	Alcohol/Other Drug	161	27.0%
	1	Alcohol/Marijuana/Other Drug	125	21.0%
	3	Marijuana/ Methamphetamine/Other Drug	117	19.6%
	4	Alcohol/Marijuana/ Methamphetamine	103	17.3%
	5*	Opiates-Synthetics/ Methamphetamine	90	15.1%
		Total	596	
Wabash				
	1	Alcohol/Marijuana	71	34.5%
	4	Marijuana/Heroin/ Methamphetamine	53	25.7%
	3	Marijuana/Other Drug	42	20.4%
	2	Alcohol/Other Drug	40	19.4%
		Total	206	
Warren				
		Insufficient cases for analysis		
Warrick				
	4	Alcohol/Marijuana	50	26.6%
	2	Marijuana/ Methamphetamine	39	20.7%
	3	Alcohol/Opiates-Synthetics	37	19.7%
	1	Alcohol/Marijuana/ Methamphetamine	32	17.0%
	5	Marijuana/Opiates-Synthetics	30	16.0%
		Total	188	
Wayne				
	1	Alcohol/Marijuana	75	23.4%
	2	Cocaine/Heroin	60	18.8%
	4	Marijuana/Opiates-Synthetics	58	18.1%
	5	Marijuana/Heroin	54	16.9%
	3	Heroin/Other Drug	47	14.7%
	6	Heroin/ Methamphetamine	26	8.1%
		Total	320	
Wells				
	1	Alcohol/Marijuana	58	52.7%
	2	Marijuana/Opiates-Synthetics	52	47.3%
		Total	110	
White				
	1	Alcohol/Other Drug	51	54.8%
	2	Marijuana/ Methamphetamine/Other Drug	42	45.2%
		Total	93	
Whitley				
	2	Alcohol/Other Drug	32	32.7%
	1	Alcohol/Marijuana	26	26.5%
	3	Alcohol/Marijuana/Other Drug	20	20.4%
	4	Marijuana/Other Drug	20	20.4%
		Total	98	

Note: Results from the county-level cluster analysis differ from the state-level findings.
*Due to the small sample size and/or the nature of the data, this cluster was composed of one drug where at least 50% of individuals reported using it but where the second and/or third drug used could not be determined.
Source: Indiana Family and Social Services Administration, 2016

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11 Mental Health in Indiana

According to the U.S. Centers for Disease Control and Prevention (CDC, 2011), approximately 25% of U.S. adults currently have a mental illness, and about 50% will develop a mental illness during their lifetime. Mental illness is associated with a number of other chronic diseases, as well as tobacco use, substance abuse, and higher rates of suicide. It is also a significant barrier to accessing healthcare. Additionally, seven to ten million U.S. adults are living with both a diagnosable mental illness and substance use disorder in any given year (Substance Abuse and Mental Health Services Administration [SAMHSA], 2002). The National Survey on Drug Use and Health (NSDUH) report stated that of the 19.6 million adults with a past-year substance use disorder, 8.1 million (41.2%) also suffered from mental illness, while only 15.8% of adults without a past-year substance use disorder had a mental illness diagnosis in the past year (SAMHSA, 2017). Individuals diagnosed with both mental health and substance use disorders tend to have more complex problems, often resulting in a more chronic and persistent course of illness, poorer response to treatment, and higher rates of substance abuse relapse (Bradizza, Stasiewicz, & Paas, 2006; Davidson & White, 2007; Kessler, 2004).

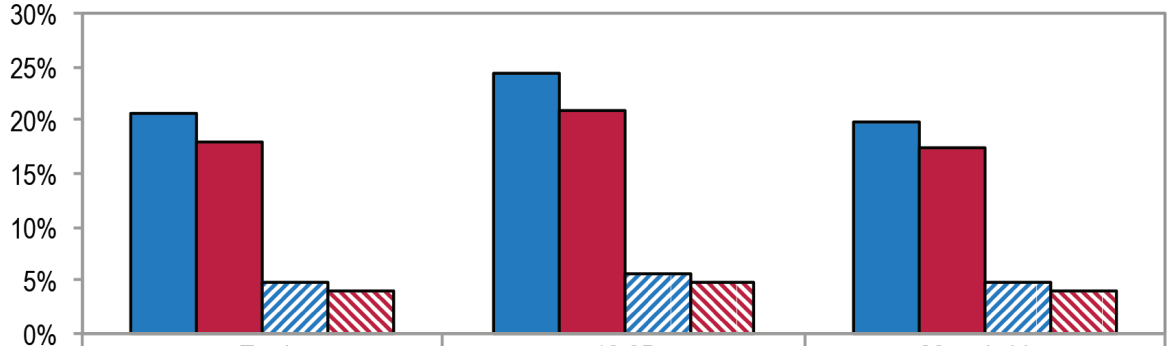
For this chapter, we compiled available state-level data on indicators related to mental health. Definitions of specific terms used in this chapter can be found in Appendix 11A, pages 187-188.

PREVALENCE OF PSYCHOLOGICAL DISTRESS IN INDIANA

General Prevalence

In 2015, a total of 20.6% Indiana adults reported having any mental illness (AMI) in the past year (95% CI [Confidence Interval]: 18.5–22.8); the U.S. rate of 18.0% (95% CI: 17.7–18.4) was statistically significantly lower. Indiana's past-year prevalence rate for serious mental illness (SMI) was similar to the nation's (IN: 4.8%, 95% CI: 3.9–5.9; U.S.:4.1%, 95% CI: 3.9–4.2). For AMI and SMI prevalence rates by age group, see Figure 11.1 (SAMHSA, 2017).

Figure 11.1 Percentage of Indiana and U.S. Population (18 Years and Older) Reporting Any Mental Illness (AMI) or Serious Mental Illness (SMI) in the Past Year, by Age Group (National Survey on Drug Use and Health, 2015)



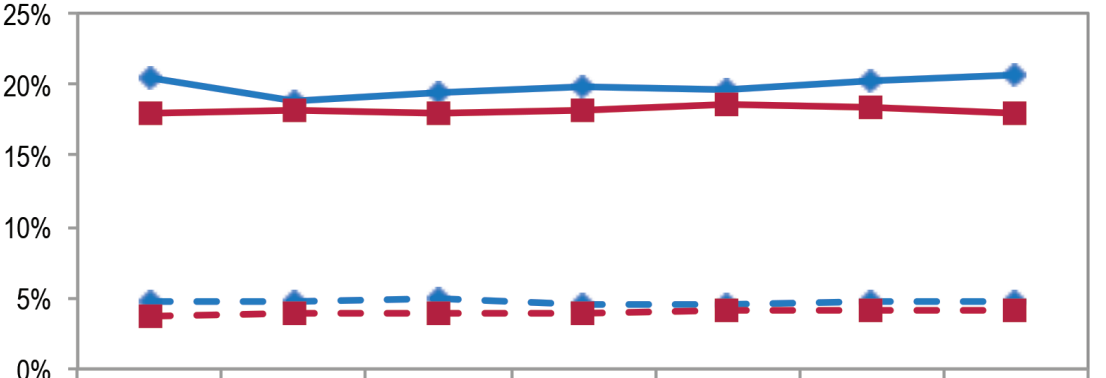
	Total	18-25	26 and older
Indiana AMI	20.6%	24.3%	19.9%
U.S. AMI	18.0%	20.9%	17.5%
Indiana SMI	4.8%	5.7%	4.7%
U.S. SMI	4.1%	4.9%	3.9%

Source: SAMHSA, 2017

For adults ages 18 and older, past-year prevalence of AMI or SMI remained fairly stable from 2009 to 2015 in Indiana and the nation (see Figure 11.2) (SAMHSA, 2017).

In 2015, 7.9% of Indiana adults (95% CI: 6.7–9.3) reported having had at least one major depressive episode (MDE) in the past year (U.S.: 6.6%, 95% CI: 6.4–6.9). For rates by age group, see Figure 11.3 (SAMHSA, 2017).

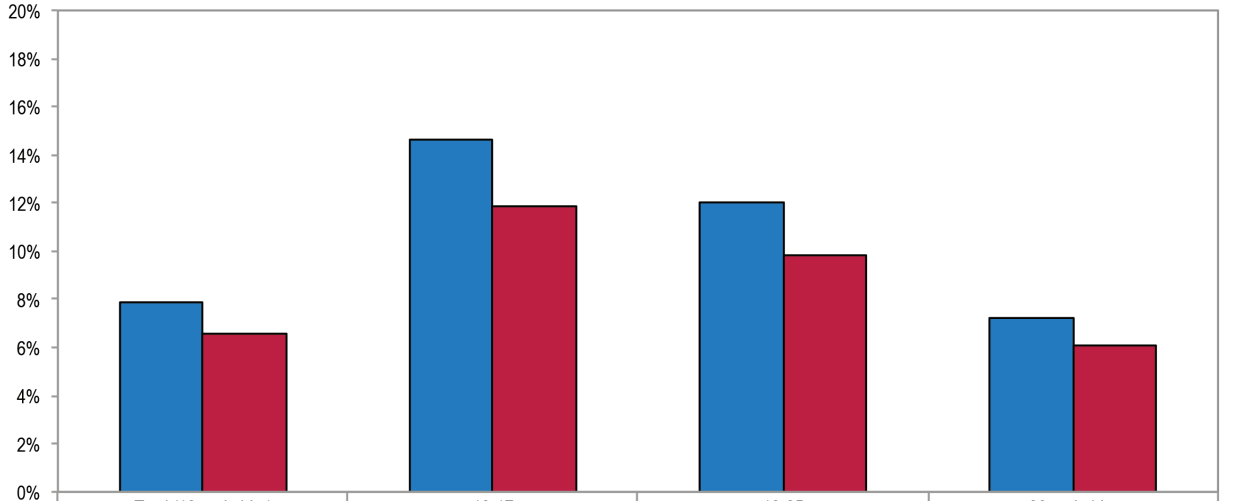
Figure 11.2 Percentage of Indiana and U.S. Population (18 Years and Older) Reporting Any Mental Illness (AMI) or Serious Mental Illness (SMI) in the Past Year (National Survey on Drug Use and Health, 2009–2015)



	2009	2010	2011	2012	2013	2014	2015
Indiana AMI	20.4%	18.8%	19.5%	19.9%	19.6%	20.3%	20.6%
U.S. AMI	17.9%	18.1%	17.9%	18.2%	18.5%	18.3%	18.0%
Indiana SMI	4.7%	4.8%	4.9%	4.5%	4.5%	4.8%	4.8%
U.S. SMI	3.7%	3.9%	4.0%	4.0%	4.1%	4.2%	4.1%

Source: SAMHSA, 2017

Figure 11.3 Percentage of Indiana and U.S. Population (12 Years and Older) Reporting at Least One Major Depressive Episode in the Past Year, by Age Group (National Survey on Drug Use and Health, 2015)



	Total (18 and older)	12-17	18-25	26 and older
Indiana	7.9%	14.6%	12.0%	7.2%
U.S.	6.6%	11.9%	9.8%	6.1%

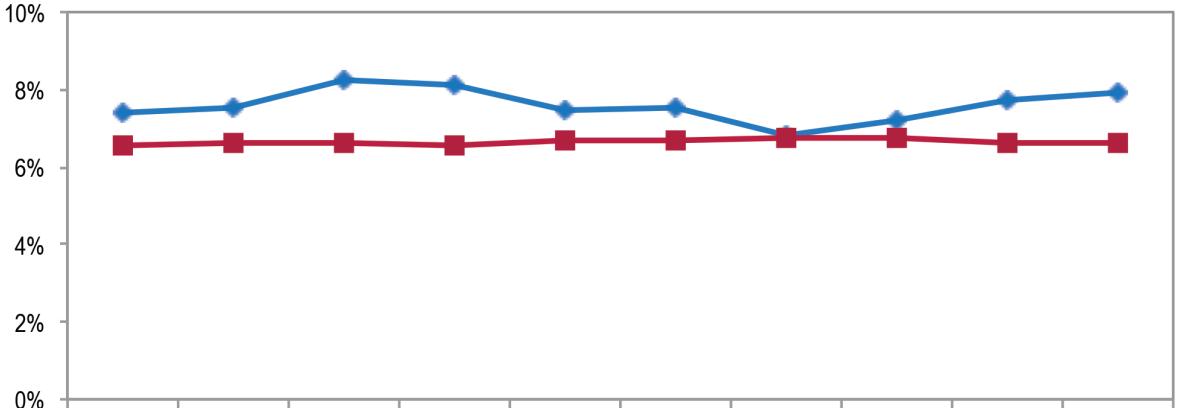
Note: There are minor wording differences in the questions in the adult and adolescent MDE modules. Therefore, data from youths ages 12 to 17 were not combined with data from persons ages 18 or older to produce the total MDE estimate.

Source: SAMHSA, 2017

The percentage of adults with a major depressive episode did not change significantly from 2006 to 2015 (see Figure 11.4) (SAMHSA, 2017).

According to the 2015 Behavioral Risk Factor Surveillance System (BRFSS), 20.5% of adults in Indiana reported ever being told that they had depression (U.S.: 19.0%). Within Indiana, history of depression was greatest among females, individuals who identified as multiracial, and individuals 18-24 years old (see Table 11.1) (CDC, 2017a).

Figure 11.4 Percentage of Indiana and U.S. Population (18 Years and Older) Reporting at Least One Major Depressive Episode in the Past Year (National Survey on Drug Use and Health, 2006–2015)



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Indiana	7.4%	7.6%	8.2%	8.1%	7.5%	7.6%	6.8%	7.2%	7.7%	7.9%
U.S.	6.5%	6.6%	6.6%	6.5%	6.7%	6.7%	6.7%	6.8%	6.6%	6.6%

Source: SAMHSA, 2017

Table 11.1 Percentage of Indiana and U.S. Population (18 Years and Older) Reporting a History of Depression (Behavioral Risk Factor Surveillance System, 2015)

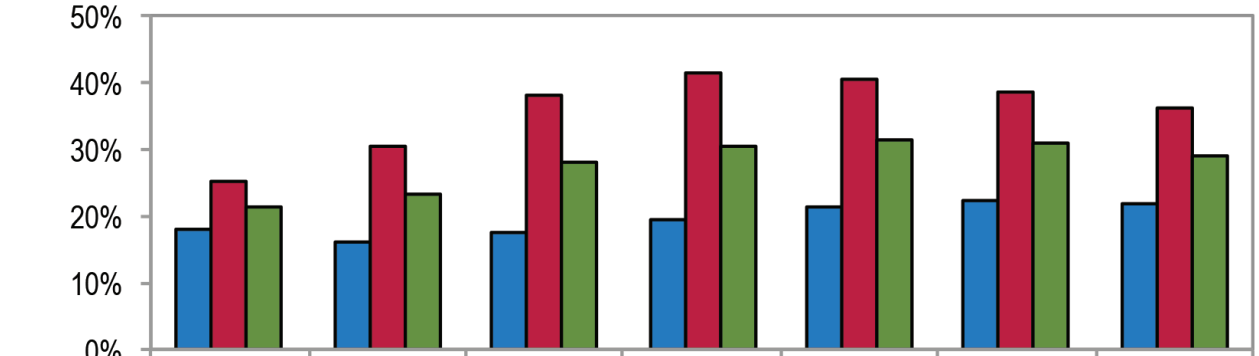
		Indiana (95% CI)	U.S.
Gender	Male	14.7% (12.7–16.7)	13.6%
	Female	25.9% (23.6–28.3)	20.1%
Race/Ethnicity	White	21.2% (19.5–22.9)	15.3%
	Black	15.0% (9.4–20.7)	18.9%
	Hispanic	15.9% (7.6–24.1)	15.0%
	Other	N/A	31.4%
	Multiracial	33.7% (18.7–48.6)	15.6%
Age Group	18-24	29.3% (22.5–36.1)	19.6%
	25-34	17.4% (13.3–21.6)	20.0%
	35-44	16.9% (13.0–20.9)	21.6%
	45-54	21.5% (18.3–24.7)	21.8%
	55-64	23.9% (21.1–26.8)	14.8%
	65+	15.8% (13.8–17.8)	18.7%
Total		**20.5% (18.9–22.0)**	

Source: CDC, 2017a

Youth Prevalence

Results from the Indiana Youth Survey show that more than one-fifth of students in grades 6 through 12 reported feeling sad or hopeless in 2016. The data suggest higher rates for female students (see Figure 11.5). However, due to the nature of the publicly available data, statistical significance of differences could not be determined (Gassman et al., 2016).

Figure 11.5 Percentage of Indiana Students (Grades 6 through 12) Reporting Feeling Sad or Hopeless (Indiana Youth Survey, 2016)



	6th grade	7th grade	8th grade	9th grade	10th grade	11th grade	12th grade
Males	18.0%	16.1%	17.7%	19.5%	21.1%	22.3%	21.6%
Females	25.0%	30.2%	38.1%	41.2%	40.6%	38.3%	36.1%
Total	21.5%	23.1%	28.0%	30.5%	31.2%	30.7%	29.1%

Source: Gassman et al., 2016

Table 11.2 Percentage of Indiana and U.S. High School Students (Grades 9 through 12) Reporting Feeling Sad or Hopeless (Youth Risk Behavior Surveillance System, 2015)

		Indiana (95% CI)	U.S. (95% CI)
Gender	Male	19.8 (17.5–22.3)	20.3 (18.9–21.8)
	Female	39.2 (33.6–45.0)	39.8 (36.5–43.2)
Race/Ethnicity	White	28.4 (25.8–31.1)	28.6 (25.8–31.5)
	Black	31.2 (22.2–41.8)	25.2 (21.7–29.1)
	Hispanic	36.8 (27.8–46.8)	35.3 (32.3–38.4)
Grade	9th	26.9 (23.0–31.2)	28.4 (25.9–31.0)
	10th	33.3 (27.8–39.3)	29.8 (26.6–33.1)
	11th	31.8 (25.7–38.7)	31.4 (28.3–34.8)
	12th	26.0 (21.6–30.8)	30.0 (27.5–32.6
Total		**29.4% (27.0–31.9)**	**29.9% (27.0–31.9)**

Source: CDC, 2017c

Based on the 2015 Youth Risk Behavior Surveillance System (YRBSS), the percentage of high school students who reported "stopping some of their normal activities during the past year due to feeling sad or hopeless almost every day for two weeks" did not differ significantly between Indiana and the nation (IN: 29.4%; U.S.: 29.9%). For rates by gender, race/ethnicity, and grade level, see Table 11.2 (CDC, 2017c).

Physically and verbally threatening behaviors, most often in the form of bullying, have been linked to a number of mental health problems in youth, primarily depression and anxiety (CDC, 2017c). The YRBSS collects information on some of these indicators. According to 2015 findings:

- 6.6% of Indiana high school students (95% CI: 4.8–9.0) reported being threatened or injured on school property at least once with a weapon (U.S.: 6.0%, 95% CI: 5.2–6.8);
- 18.1% of Indiana high school students (95% CI: 15.0–21.6) reported being in a physical fight at least once (U.S.: 22.6%, 95% CI: 20.9–24.4);
- 15.7% of Indiana high school students (95% CI: 14.0–17.7) reported being electronically bullied (U.S.:15.5%, 95% CI: 14.5–16.6); and
- 18.7% of Indiana high school students (95% CI: 16.1–21.5) reported being bullied on school property (U.S.: 20.2, 95% CI: 18.8–21.7) (CDC, 2017c).

CONSEQUENCES

Treatment

The 2015 NSDUH indicated that among U.S. adults ages 18 or older who had a mental illness, 8.8 million reported a perceived unmet need for treatment. The most commonly cited reason for not receiving mental health services was an inability to afford the costs of care (43.6%). Additionally, 8.1 million adults had a co-occurring mental illness and substance use disorder. Out of those with co-occurring disorders (CODs), 48.0% received either mental health care or substance use treatment, and 6.8% received both mental health care and specialty substance abuse treatment (Park-Lee, Lipari, & Hedden, 2016).

Findings from the SAMHSA Uniform Reporting System showed that the Indiana Division of Mental Health and Addiction (DMHA) served 133,387 Hoosiers in 2015, nearly all of which (132,685) were treated in community settings rather than state hospitals (1,154) with 452 individuals receiving treatment in both settings. The client population was predominately white (76.9%) and slightly more than half were female (52.9%) (SAMHSA, 2016). For more detailed client information, see Table 11.3.

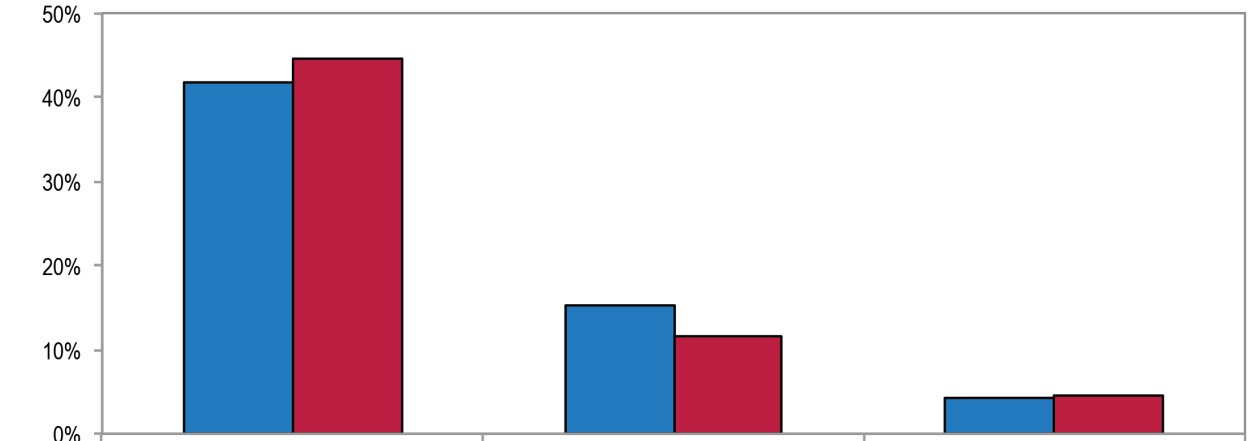
In 2013, the most recent year for which state-level estimates are available, the percentage of adults with a mental illness or with an alcohol use disorder who received any form of treatment was similar in Indiana and the U.S. (SAMHSA, 2015a, 2015b, 2017). In terms of persons with an illicit substance use disorder, a significantly larger percentage of persons received treatment in Indiana (15.2%; 95% CI: 15.0–15.4) compared to the U.S. (11.7%; 95% CI: 11.6–11.7) (SAMHSA, 2017) (see Figure 11.6).

Table 11.3 Characteristics of Adults with SMI and Children with Serious Emotional Disturbance (SED) Served by the Indiana Division of Mental Health and Addiction (Uniform Reporting System, 2015)

Gender	Male	47.1%
	Female	52.9%
Race	White	76.9%
	Black	14.5%
	Other/Unknown	8.6%
Ethnicity	Hispanic	6.0%
Age	0–17	40.0%
	18–64	57.0%
	65 and over	3.0%
Employment status (adults)	Employed	22.3%
	Unemployed	20.7%
	Not in labor force	57.0%
Medicaid funding status	Medicaid only	67.6%
	Both Medicaid and other funds	14.2%
	Non-Medicaid	18.2%
Total clients served		**133,387 (100.0%)**

Source: SAMHSA, 2016

Figure 11.6 Percentage of Indiana and U.S. Adults Who Received Any Mental Health Treatment, Any Illicit Substance Abuse Treatment, and Any Alcohol Abuse Treatment (National Survey on Drug Use and Health, 2013, 2015)



	Any Mental Health Treatment	Any Illicit Substance Abuse Treatment	Any Alcohol Abuse Treatment
Indiana	41.8%	15.2%	4.3%
U.S.	44.7%	11.7%	4.6%

Source: SAMHSA, 2015a, 2015b, 2017
Note: Data on mental health treatment utilization is based on the 2013 NSDUH as more current data are not yet available. Data on alcohol and substance abuse treatment are based on the 2015 NSDUH.

Co-occurring Mental Illness and Substance Use

Tobacco use is a significant problem in individuals with behavioral health conditions (Indiana State Department of Health, Tobacco Prevention and Cessation Commission, 2016); nearly 40% of all cigarettes in the United States are being smoked by individuals with mental illness and/or substance use disorders (SAMHSA, 2013). In Indiana, the smoking prevalence was considerably higher in adults with a mental illness (38.8%) compared to those without the condition (24.4%) (CDC, 2013b).

Based on information from the Data Assessment Registry Mental Health and Addiction (DARMHA), we find that in the treatment population, there was a significantly higher percentage of SMI (64.1%) than Substance Use Disorder (SUD) (34.9%), which, in turn, was significantly higher than the percentage of those with Co-Occurring Disorder (COD) (22.0%). This pattern was also found when looking at the DARMHA population by gender, race/ethnicity, and age group.

Males had a lower percentage of SMI (55.9%) but a higher percentage of SUD (38.7%) compared to females (SMI: 77.2%, SUD: 31.2%); COD did not differ significantly by gender. Similar to the previous year, race/ethnicity seemed to have little effect on diagnosis; most differences were not statistically significant. Age, however, was clearly associated with diagnosis.

The percentage of those with SMI significantly increased with age, from 44.9% for those under 18 to 91.1% for those 65 and older. SUD was lowest for those under 18 (14.5%) and highest for those 25-34 (55.7%) years of age, but then decreased significantly with age. COD was lowest for those under 18 (12.2%) and highest in both those 25-34 (29%) and 45-54 (29%) (see Table 11.4) (Indiana Division of Mental Health and Addiction, 2016). The patterns identified within the treatment population in 2015 are very similar to the patterns in the previous year.

Table 11.4 Demographic Characteristics of Clients by Serious Mental Illness (SMI), Substance Use Disorder (SUD), and Co-occurring Disorder (COD) Diagnosis (DARMHA, 2015)

		SMI	SUD	COD
Gender	Male	55.9% (55.6-56.2)	38.7% (38.3-39.0)	22.5% (22.2-22.8)
	Female	77.2% (71.9-72.6)	31.2% (30.8-31.5)	21.4% (21.1-21.7)
Race	White	65.2% (64.9-65.4)	35.7% (35.4-36.0)	22.3% (22.1-22.6)
	Black	62.4% (61.8-63.1)	34.5% (33.8-35.1)	23.4% (22.8-23.9)
	Other	58.7% (58.0-59.5)	29.7% (29.0-30.3)	17.1% (16.5-17.7)
Ethnicity	Hispanic	61.7% (61.0-62.5)	29.9% (29.2-30.7)	19.7% (19.0-20.3)
	Non-Hispanic	64.4% (64.1-64.6)	35.4% (35.2-35.7)	22.2% (22.0-22.4)
Age Group	Under 18	44.9% (44.5-45.4)	14.5% (14.2-14.8)	12.2% (11.9-12.4)
	18-24	63.8% (63.1-64.6)	49.4% (48.7-50.2)	24.6% (23.9-25.2)
	25-34	65.6% (65.0-66.2)	55.7% (55.1-56.3)	29.0% (28.5-29.6)
	35-44	74.4% (73.9-75.0)	47.4% (46.8-48.1)	25.7% (28.2-29.3)
	45-54	82.5% (81.9-82.9)	41.2% (40.6-41.9)	29.0% (28.3-29.6)
	55-64	87.2% (86.6-87.8)	32.5% (31.7-33.3)	24.5% (23.7-25.2)
	65+	91.1% (90.1-91.9)	18.0% (16.8-19.2)	14.8% (13.7-16.0)
Total		**64.1% (63.9-64.4)**	**34.9% (34.7-35.1)**	**22.0% (21.8-22.2)**

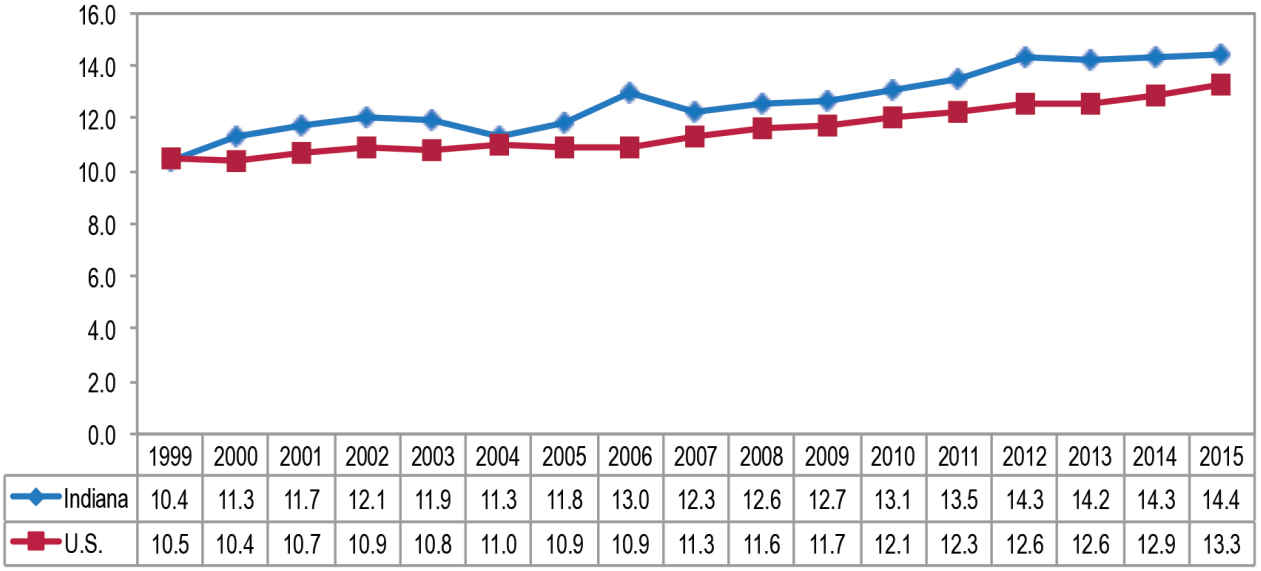
Source: Indiana Division of Mental Health and Addiction, 2015

Suicide Ideation, Attempt, and Completion

Suicide is a public health issue that is often associated with mental illness and substance abuse (CDC, 2013a; Lipari, Hughes, & Williams, 2016). Prior to actually making a suicide attempt, individuals may often spend significant amounts of time thinking about and planning how they might kill themselves. Among adults, those 18 to 25 years old are more likely than other age groups to contemplate suicide. Nationally, 7.4% (95% CI: 7.1–7.8) of adults between 18 and 25 years of age reported serious thoughts of suicide in the past year with a similar percent of Hoosiers in that age group reporting such thoughts (8.2%; 95% CI: 6.7–10.2) (Lipari, Hughes, & Williams, 2016). When compared to other states, Indiana ranked 10th in the percent of 18- to 25-year-olds who endorsed serious thoughts of suicide in the past year (Lipari, Hughes, & Williams, 2016).

Based on estimates from the 2015 YRBSS, nearly one in ten high school students attempted suicide in the past year. The overall percentages were similar in Indiana (9.9%) and the U.S. (8.6%). For prevalence rates by gender, race/ethnicity, and grade level, see Table 11.5 (CDC, 2017c).

Figure 11.7 Age-Adjusted Suicide Mortality Rate per 100,000 Population in Indiana and the United States (CDC WONDER, 1999–2015)



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Indiana	10.4	11.3	11.7	12.1	11.9	11.3	11.8	13.0	12.3	12.6	12.7	13.1	13.5	14.3	14.2	14.3	14.4
U.S.	10.5	10.4	10.7	10.9	10.8	11.0	10.9	10.9	11.3	11.6	11.7	12.1	12.3	12.6	12.6	12.9	13.3

Source: CDC, 2017b

Within Indiana, suicide is one of the top 10 leading causes of death for persons between the ages of 10 and 64 (National Center for Health Statistics, 2017). Although younger individuals are more likely to think about suicide, suicide deaths most frequently occur in adults between the ages of 45 and 54 (CDC, 2017b). Suicide mortality rates both nationally and in Indiana have increased significantly from 1999 to 2015 (see Figure 11.7) and were highest among whites and males (see Table 11.6) (CDC, 2017b). County-level suicide rates from 2002–2015 are presented in Map 11.1, page 186.

Table 11.5 Percentage of Indiana and U.S. High School Students (Grades 9 through 12) Reporting Attempting Suicide in the Past Year (Youth Risk Behavior Surveillance System, 2015)

		Indiana (95% CI)	U.S. (95% CI)
Gender	Male	8.7 (6.0–12.5)	5.5 (4.7–6.4)
	Female	10.9 (8.3–14.1)	11.6 (9.7–13.7)
Race/Ethnicity	White	8.7 (6.5–11.5)	6.8 (5.5–8.4)
	Black	14.5 (8.8–23.1)	8.9 (6.7–11.9)
	Hispanic	15.5 (8.9–25.8	11.3 (9.9–13.0)
Grade	9th	12.8 (7.7–12.7)	9.9 (8.5–11.5)
	10th	11.4 (8.6–14.9)	9.4 (7.6–11.6)
	11th	10.0 (6.4–15.2)	8.0 (6.8–9.5)
	12th	5.0 (2.7–9.0)	6.2 (4.9–7.9)
Total		**9.9 (7.7–12.7)**	**8.6 (7.6–9.6)**

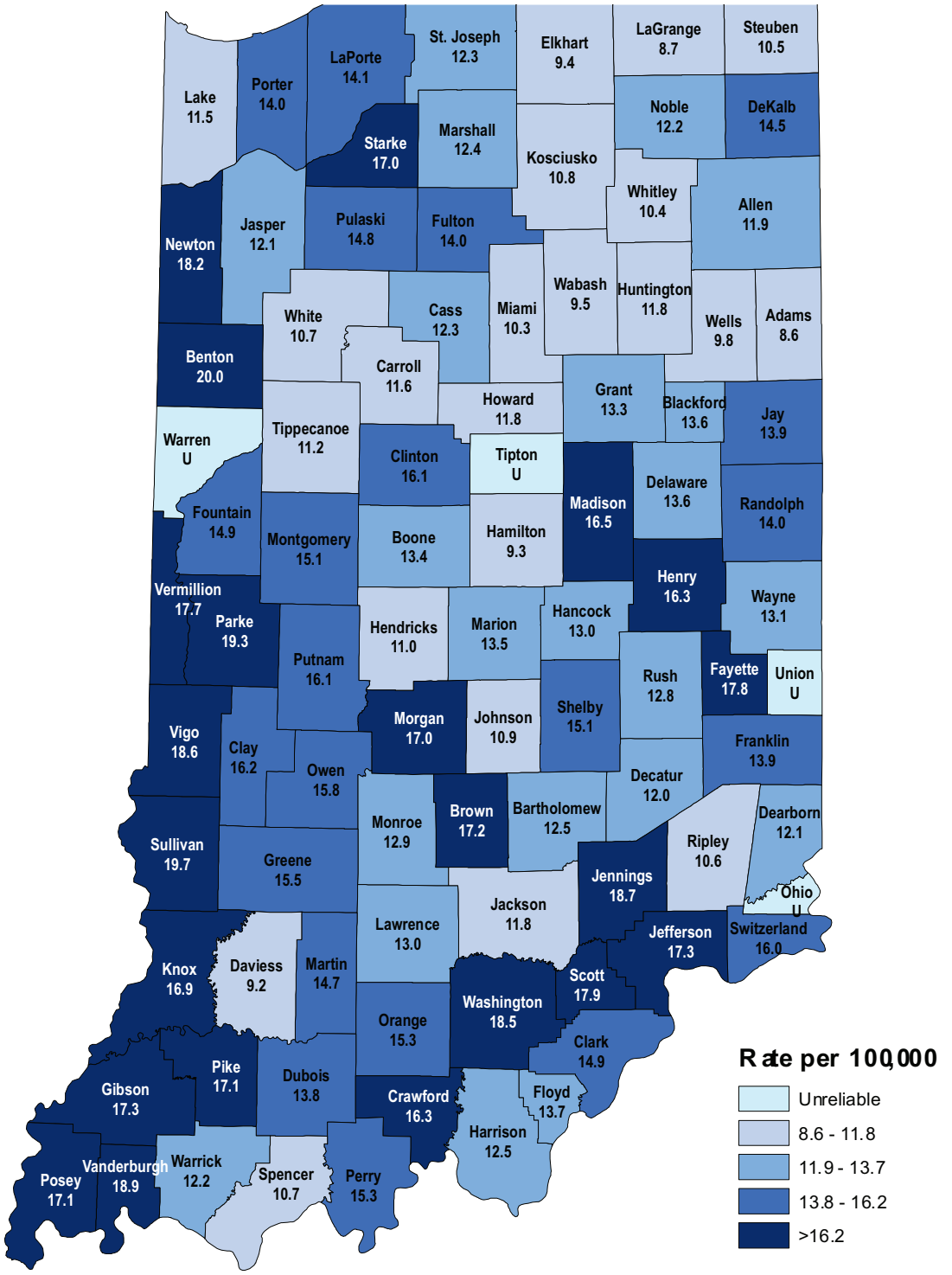
Source: CDC, 2017c

Table 11.6 Age-Adjusted Suicide Mortality Rate per 100,000 Population in Indiana and the United States (CDC WONDER, 2015)

		Indiana (95% CI)	U.S. (95% CI)
Gender	Male	23.8% (22.1-25.5)	21.1% (20.8-21.3)
	Female	5.5% (4.7 - 6.3)	6.0% (5.9-6.29)
Race/Ethnicity	White Non-Hispanic	16.0% (14.9-17.1)	17.0% (16.8-17.2)
	Black Non-Hispanic	7.5% (5.5-10.0)	5.5% (5.6-6.0)
	Hispanic	9.9% (6.5-14.5)	6.2% (6.0 – 6.4)
Total		**14.3 (13.3 - 15.2)**	**12.9% (12.8-13.0)**

Source: CDC, 2017b

Map 11.1 Average Age-Adjusted Suicide Rate in Indiana, by County (Indiana Mortality Data, 2002–2015)



Note: Rates based on numbers of death <20 are not computed, but marked as unreliable (“U”).
Source: CDC, 2017b

Appendix 11A
Definitions and Explanations

Any Mental Illness (AMI): "AMI among adults aged 18 or older is defined as currently or at any time in the past 12 months having had a diagnosable mental, behavioral, or emotional disorder (excluding developmental and substance use disorders) of sufficient duration to meet diagnostic criteria specified within the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)" (SAMHSA, 2017).

Serious Mental Illness (SMI): "SAMHSA defined SMI as persons aged 18 or older who currently or at any time in the past year have had a diagnosable mental, behavioral, or emotional disorder (excluding developmental and substance use disorders) of sufficient duration to meet the criteria specified within DSM-IV that has resulted in serious functional impairment, which substantially interferes with or limits one or more major life activities" (SAMHSA, 2017).

Major Depressive Episode (MDE): "MDE, as defined in NSDUH, is based on the definition of MDE in the DSM-IV (APA, 1994) and is measured for the lifetime and past year periods. Lifetime MDE is defined as having at least five or more of nine symptoms of depression in the same 2-week period in a person's lifetime, in which at least one of the symptoms was a depressed mood or loss of interest or pleasure in daily activities. Respondents who had MDE in their lifetime were defined as having past year MDE if they had a period of depression lasting 2 weeks or longer in the past 12 months while also having some of the other symptoms of MDE. It should be noted that, unlike the DSM-IV criteria for MDE, no exclusions were made in NSDUH for depressive symptoms caused by medical illness, bereavement, or substance use disorders" (SAMHSA, 2017).

Depression: "Has a doctor, nurse, or other health professional EVER told you that you had...a depressive disorder, including depression, major depression, dysthymia, or minor depression?" (CDC, 2017a).

Feeling Sad or Hopeless:

a) "Felt sad or hopeless (almost every day for 2 or more weeks in a row so that they stopped doing some usual activities during the 12 months before the survey)" (CDC, 2017c).
b) "During the past 12 months, did you ever feel so sad or hopeless almost every day for 2 weeks or more in a row that you stopped doing some usual activities?" (Gassman et al., 2016).

Mental Health Treatment: "Mental health treatment is using prescription medication or receiving outpatient or inpatient care for problems with emotions, nerves, or mental health. Respondents were asked not to include treatment for alcohol or drug use. Respondents with unknown treatment information were excluded" (SAMHSA, 2017).

Perceived Unmet Need for Mental Health Treatment: "Perceived unmet need for mental health treatment is defined as reporting at least one occurrence in the past 12 months of feeling the need for mental health treatment or counseling but not receiving it. This definition of unmet need does not preclude respondents from having received mental health treatment in the past 12 months. Respondents with unmet need may have eventually gotten mental health treatment or counseling, or they may have received mental health treatment but perceived the need for additional treatment that they did not receive" (SAMHSA, 2017).

Substance Abuse Treatment: "Substance abuse treatment is treatment to reduce or stop alcohol or illicit drug use or for medical problems associated with alcohol or illicit drug use. It includes treatment received at any location, such as a hospital (inpatient), rehabilitation facility (inpatient or outpatient), mental health center, emergency room, private doctor's office, self-help group, or prison/jail. Illicit drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically including data from original methamphetamine questions but not including new methamphetamine items added in 2005 and 2006" (SAMHSA, 2017).

Unmet Need for Substance Abuse Treatment: "Unmet need for substance abuse treatment is defined as a need for treatment that was not received. Respondents were classified as needing treatment for an alcohol or illicit drug problem if they met at least one of three criteria

during the past year: (1) dependent on alcohol or illicit drugs, (2) abused alcohol or illicit drugs, or (3) received treatment for alcohol or illicit drug use at a specialty facility (i.e., alcohol and drug rehabilitation facility [inpatient or outpatient], hospital [inpatient only], or mental health center). Adults are defined as people aged 18 or older" (SAMHSA, 2017).

Outpatient Services: "Outpatient services are treatment from a (1) private therapist, psychologist, psychiatrist, social worker, or counselor; (2) mental health clinic or center; (3) partial day hospital or day treatment program; or (4) in-home therapist, counselor, or family preservation worker…Mental health services include treatment for emotional or behavioral problems not caused by alcohol or drug use. Respondents with unknown receipt of mental health service information were excluded. Respondents could indicate multiple service sources; thus, these responsive categories are not mutually exclusive" (SAMHSA, 2017).

Inpatient Services: "An inpatient service is a stay of overnight or longer in a hospital or other facility for mental health problems…Mental health services include treatment for emotional or behavioral problems not caused by alcohol or drug use. Respondents with unknown receipt of mental health service information were excluded. Respondents could indicate multiple service sources; thus, these responsive categories are not mutually exclusive" (SAMHSA, 2017).

Nonspecialty Services: "Includes use of mental health services provided by a pediatrician or other family doctor…Mental health services include treatment for emotional or behavioral problems not caused by alcohol or drug use. Respondents with unknown receipt of mental health service information were excluded. Respondents could indicate multiple service sources; thus, these responsive categories are not mutually exclusive" (SAMHSA, 2017).

Suicide Attempts: "Attempted suicide one or more times during the 12 months before the survey" (CDC, 2017c).

Suicide Deaths: Suicide (intentional self-harm) deaths include ICD-10 codes X60-X84 (CDC, 2013a).

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12 Indicators of Substance Abuse

INDIANA COMMUNITIES AT RISK

To measure and compare the severity of substance abuse among Indiana counties, we identified county-level consumption and consequence data for individual drug categories, including alcohol, marijuana, cocaine and heroin, methamphetamine, and prescription drugs. We then ranked Indiana counties on the selected indicators, using a highest-need/highest-contributor model. Counties received a priority score based on their need for intervention (measured by the rate[1] at which an indicator occurred) and their overall *contribution* to the problem (measured by the frequency with which an indicator occurred).

For each indicator, counties were given three points if they were in the top 10 percent (90th percentile), two points if they were in the top 11 to 25 percent (75th percentile), one point if they were in the top 26 to 50 percent (50th percentile), and zero points if they fell below the 50th percentile. The points were then added up, averaged over the number of indicators, and multiplied by 100; this created a priority score for each drug category. Higher scores equated to larger burdens of substance abuse. For each substance, the top 10 percent of counties, i.e., those most severely affected, were determined.

We then calculated an *overall substance abuse priority score* to assess severity of consumption and consequences of alcohol and other drugs within each county. This score was computed by averaging the priority scores from each drug category. The top 10 percent of counties, i.e., those with the highest overall scores and most severe problems, are listed in Table 12.6.

The selection of substance abuse indicators was limited to datasets with de-identified county-level information, such as the

- 2016 Treatment Episode Data Set (TEDS) (Indiana Family and Social Services Administration [FSSA], 2016),[2]
- 2014 Uniform Crime Reporting (UCR) Program (Federal Bureau of Investigation [FBI], 2014),[3]
- 2015 Indiana Automated Reporting Information Exchange System (ARIES) (Indiana State Police [ISP], 2016),
- 2016 Methamphetamine Lab Statistics (Indiana State Police, 2017), and
- 2016 INSPECT data (Indiana Professional Licensing Agency [IPLA], 2017).

[1]The rate was calculated by taking the frequency of an event (e.g., number of arrests), dividing it by the specified population (e.g., county population), and multiplying the result by 1,000. This represents the rate per 1,000 population.
[2]Indiana TEDS data are limited to individuals entering substance abuse treatment who are 200% below the federal poverty level and receive state-funded treatment; therefore, data are not representative of the entire substance abuse treatment population.
[3]States are not required to submit crime information to the FBI, and level of reporting varies by county. The FBI uses statistical algorithms to estimate arrests for counties in which reporting is less than 100%. In Indiana, an average of about 60% of counties report the number of arrests, so the rest are estimated (see Table 2.1, page 26, for level of coverage by county).

INDICATORS OF ABUSE

Alcohol Indicators

Counties were assessed and ranked according to the following 10 indicators for alcohol abuse:

- number and rate of alcohol-related crashes
- number and rate of arrests for driving under the influence (DUI)
- number and rate of arrests for public intoxication
- number and rate of arrests for liquor law violations
- number and rate of substance abuse treatment episodes with reported alcohol use

The counties that scored in the top 10 percent based on these 10 alcohol indicators are shown in Table 12.1. For a complete listing of counties by all alcohol abuse indicators, see Appendix 12A, pages 195-197.

Table 12.1 Counties with Alcohol Priority Scores in the Top 10 Percent

Top 10 Percent	Alcohol Priority Score
Delaware	230
Monroe	230
Lake	220
LaPorte	220
Allen	200
Cass	200
Tippecanoe	200
Vanderburgh	200
Marion	190
Porter	190

Note: Alcohol priority scores ranged from 0 to 230, with higher scores indicating a more severe problem.
Source: FSSA, 2016; FBI, 2014; ISP, 2016

Marijuana Indicators

Following the methodology of the highest-need/highest-contributor model, we computed priority scores for marijuana abuse for each county. We examined communities based on the following six indicators for marijuana abuse:

- number and rate of arrests for possession of marijuana
- number and rate of arrests for sale/manufacture of marijuana
- number and rate of substance abuse treatment episodes with reported marijuana use

Table 12.2 lists the counties that ranked in the top 10 percent for marijuana abuse. For a complete listing of counties by all marijuana indicators, see Appendix 12B, pages 198-199.

Table 12.2 Counties with Marijuana Priority Scores in the Top 10 Percent

Top 10 Percent	Marijuana Priority Score
Vanderburgh	267
Lake	233
Madison	217
Cass	200
Hamilton	183
Monroe	167
Morgan	167
Rush	167
Tippecanoe	167
Wayne	167

Note: Marijuana priority scores ranged from 0 to 267, with higher scores indicating a more severe problem.
Source: FSSA, 2016; FBI, 2014

Cocaine and Heroin Indicators

Since the UCR data do not provide cocaine- or heroin-specific information, we used aggregated arrests for cocaine and opiates. In order to stay consistent with our methodology, we included both treatment admissions with reported use of cocaine and heroin. Our analysis is based on the following eight indicators:

- number and rate of arrests for possession of cocaine and opiates
- number and rate of arrests for sale/manufacture of cocaine and opiates
- number and rate of substance abuse treatment episodes with reported cocaine use
- number and rate of substance abuse treatment episodes with reported heroin use

Table 12.3 displays the counties with cocaine-heroin priority scores in the top 10 percent. For a complete listing of counties by cocaine and heroin abuse indicators, see Appendix 12C, pages 200-201.

Table 12.3 Counties with Cocaine and Heroin Priority Scores in the Top 10 Percent

Top 10 Percent	Cocaine-Heroin Priority Score
Howard	300
Delaware	263
Wayne	250
Lake	225
Madison	213
Allen	200
LaPorte	200
Clark	188
Jay	188
Dearborn	175
Fayette	175
Monroe	175
Montgomery	175
Morgan	175
Saint Joseph	175

Note: Cocaine-heroin priority scores ranged from 0 to 300, with higher scores indicating a more severe problem.
Source: FSSA, 2016; FBI, 2014

Methamphetamine (Meth) Indicators

We computed meth priority scores based on eight indicators:

- number and rate of arrests for possession of synthetic drugs
- number and rate of arrests for sale/manufacture of synthetic drugs
- number and rate of substance abuse treatment episodes with reported meth use
- number and rate of clandestine meth lab seizures

The UCR program does not collect meth-specific information, but includes arrests for possession and sale/manufacture of synthetic drugs, encompassing methamphetamine. For the top 10 percent of counties with the highest meth priority scores, see Table 12.4. A complete listing of all counties by methamphetamine indicators can be found in Appendix 12D, pages 202-203.

Table 12.4 Counties with Methamphetamine Priority Scores in the Top 10 Percent

Top 10 Percent	Meth Priority Score
Vanderburgh	238
Bartholomew	225
Kosciusko	225
Noble	225
Delaware	213
DeKalb	200
Jay	200
Vigo	200
Madison	715
Perry	163
Warrick	163

Note: Methamphetamine priority scores ranged from 0 to 238, with higher scores indicating a more severe problem.
Source: FSSA, 2016; FBI, 2014; ISP, 2016

Prescription Drug (Rx) Indicators

Prescription drug abuse refers to the nonmedical use of any prescription-type pharmaceutical, including opioids (pain relievers), depressants of the central nervous system (sedatives, hypnotics, and tranquilizers), and stimulants. We selected the following prescription drug indicators for our analysis:

- number and rate of arrests for possession of "other drugs" (barbiturates and Benzedrine)[4]
- number and rate of arrests for sale/manufacture of "other drugs" (barbiturates and Benzedrine)
- number and rate of treatment episodes with nonmedical prescription drug use reported
- number and rate of prescription opioids (pain relievers) dispensed

Table 12.5 lists the counties in the top 10 percent for prescription drug abuse. For a complete listing of counties by prescription drug abuse indicators, see Appendix 12E, pages 204-205.

Table 12.5 Counties with Prescription Drug (Rx) Priority Scores in the Top 10 Percent

Top 10 Percent	Rx Priority Score
Decatur	225
Howard	213
Lawrence	213
Madison	213
Vanderburgh	213
Monroe	200
Clark	163
Delaware	163
Floyd	163
Allen	163
Cass	150
Jackson	150
Jefferson	150
Marshall	150
Rush	150
Scott	150

Note: Prescription drug priority scores ranged from 0 to 225, with higher scores indicating a more severe problem.
Source: FSSA, 2016; FBI, 2014; IPLA. 2017

SEVERITY OF BURDEN – OVERALL RANKING OF COUNTIES

To measure the overall burden of substance abuse on Indiana communities, we averaged the priority scores across all five drug categories and ranked counties by severity of alcohol and drug problems. The top 10 percent of counties are displayed in Table 12.6. A complete listing of all counties by overall priority score can be found in Appendix 12F, page 206.

Table 12.6 Counties with Total Priority Scores in the Top 10 Percent

Top 10 Percent	Total Priority Score
Delaware	204
Vanderburgh	203
Madison	195
Lake	176
Monroe	174
Allen	167
Cass	160
Howard	159
Clark	155
Kosciusko	148

Note: Overall substance abuse priority scores ranged from 12 to 204, with higher scores indicating a more severe problem.
Source: FSSA, 2016; FBI, 2014; ISP, 2015, 2016; IPLA, 2017

[4]Barbiturates (central nervous system depressants) and Benzedrine (amphetamine/stimulant) are types of prescription drugs that are frequently used nonmedically or for recreational purposes.

APPENDIX 12A

Alcohol Abuse Indicators and Priority Scores by County, With Rank, All Rates per 1,000 Population (Uniform Crime Reporting Program, 2014; Treatment Episode Data Set, 2016; and Automated Reporting Information Exchange System, 2015)

County	DUI Arrests		Public Intoxication Arrests		Liquor Law Violation Arrests		Alcohol Use Reported at Treatment Admission		Alcohol-Related Collisions		Priority Score	Rank
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate		
Adams	77	2.22	5	*0.14	35	1.01	165	4.72	31	0.89	40	
Allen	1,231	3.37	429	1.17	161	0.44	1,077	2.92	624	1.69	200	Top 10
Bartholomew	402	5.03	75	0.94	105	1.31	201	2.48	72	0.89	150	Top 25
Benton	27	3.09	5	*0.57	11	*1.26	39	4.49	9	*1.04	50	
Blackford	39	3.18	7	*0.57	6	*0.49	31	2.52	14	*1.14	20	
Boone	225	3.66	29	0.47	86	1.40	68	1.07	48	0.76	80	Top 50
Brown	26	1.73	0	*0.00	9	*0.60	42	2.80	33	2.20	40	
Carroll	61	3.04	8	*0.40	23	1.15	54	2.72	22	1.11	10	
Cass	203	5.29	140	3.65	131	3.42	177	4.66	50	1.32	200	Top 10
Clark	620	5.46	168	1.48	109	0.96	82	0.71	154	1.33	150	Top 25
Clay	86	3.21	16	*0.60	37	1.38	93	3.51	35	1.32	50	
Clinton	78	2.37	7	*0.21	74	2.25	109	3.34	67	2.05	100	Top 50
Crawford	45	4.24	7	*0.66	9	*0.85	22	2.10	11	*1.05	30	
Daviess	122	3.74	14	*0.43	54	1.66	71	2.16	32	0.97	60	
Dearborn	171	3.43	26	0.52	53	1.06	229	4.63	76	1.54	130	Top 25
Decatur	47	1.78	3	*0.11	107	4.05	122	4.60	33	1.24	90	Top 50
DeKalb	144	3.40	19	*0.45	52	1.23	176	4.13	47	1.10	90	Top 50
Delaware	559	4.76	293	2.49	200	1.70	462	3.95	191	1.63	230	Top 10
Dubois	127	2.99	11	*0.26	64	1.51	221	5.20	90	2.12	140	Top 25
Elkhart	678	3.36	80	0.40	192	0.95	349	1.72	239	1.17	130	Top 25
Fayette	81	3.41	24	1.01	45	1.89	82	3.50	33	1.41	80	Top 50
Floyd	196	2.56	105	1.37	58	0.76	34	0.44	110	1.43	90	Top 50
Fountain	53	3.15	12	*0.71	26	1.55	16	*0.96	16	*0.96	40	
Franklin	2	*0.09	0	*0.00	29	1.36	76	3.32	30	1.31	30	
Fulton	49	2.41	17	*0.83	19	*0.93	97	4.77	20	0.98	50	
Gibson	138	4.10	18	*0.53	60	1.78	177	5.24	56	1.66	150	Top 25
Grant	125	1.81	57	0.83	71	1.03	265	3.90	53	0.78	90	Top 50
Greene	47	1.44	10	*0.31	13	*0.40	85	2.62	36	1.11	0	
Hamilton	903	2.99	130	0.43	455	1.51	550	1.78	291	0.94	160	Top 25
Hancock	205	2.75	18	*0.24	68	0.91	90	1.24	57	0.79	40	
Harrison	42	1.07	8	*0.20	23	0.59	11	*0.28	43	1.09	10	
Hendricks	344	2.20	19	*0.12	150	0.96	133	0.84	159	1.01	80	Top 50
Henry	127	2.59	39	0.80	103	2.10	119	2.43	46	0.94	80	Top 50
Howard	238	2.87	109	1.32	61	0.74	276	3.34	100	1.21	120	Top 25
Huntington	130	3.54	11	*0.30	43	1.17	67	1.83	47	1.28	60	
Jackson	157	3.59	70	1.60	61	1.40	111	2.52	63	1.43	120	Top 25
Jasper	108	3.23	10	*0.30	31	0.93	49	1.46	45	1.34	40	
Jay	92	4.27	29	1.35	26	1.21	86	4.07	20	0.95	80	Top 50
Jefferson	106	3.26	24	0.74	52	1.60	155	4.78	53	1.63	140	Top 25
Jennings	39	1.38	9	*0.32	90	3.19	100	3.58	28	1.00	60	
Johnson	419	2.84	42	0.28	278	1.88	136	0.91	143	0.96	110	Top 50

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APPENDIX 12A *(Continued from previous page)*

County	DUI Arrests		Public Intoxication Arrests		Liquor Law Violation Arrests		Alcohol Use Reported at Treatment Admission		Alcohol-Related Collisions		Priority Score	Rank
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate		
Knox	93	2.46	34	0.90	57	1.50	146	3.85	53	1.40	90	Top 50
Kosciusko	538	6.92	38	0.49	87	1.12	235	2.99	95	1.21	120	Top 25
LaGrange	99	2.59	11	*0.29	178	4.66	127	3.27	38	0.98	80	Top 50
Lake	2,262	4.61	925	1.89	673	1.37	1,348	2.76	741	1.52	220	Top 10
LaPorte	577	5.18	180	1.62	207	1.86	208	1.88	203	1.83	220	Top 10
Lawrence	97	2.12	10	*0.22	103	2.25	193	4.24	67	1.47	110	Top 50
Madison	377	2.89	113	0.87	136	1.04	589	4.54	180	1.39	160	Top 25
Marion	2,073	2.22	1,756	1.88	559	0.60	1,540	1.64	1,202	1.28	190	Top 10
Marshall	241	5.11	32	0.68	70	1.48	104	2.22	73	1.56	130	Top 25
Martin	20	1.98	8	*0.79	9	*0.89	28	2.74	5	*0.49	10	
Miami	91	2.53	29	0.81	22	0.61	163	4.55	48	1.34	70	
Monroe	431	3.02	267	1.87	639	4.47	620	4.28	205	1.42	230	Top 10
Montgomery	75	1.96	12	*0.31	21	0.55	153	4.00	43	1.12	30	
Morgan	171	2.44	37	0.53	111	1.59	177	2.54	74	1.06	90	Top 50
Newton	27	1.92	9	*0.64	10	*0.71	15	*1.07	24	1.71	40	
Noble	186	3.91	13	*0.27	53	1.11	178	3.73	78	1.63	110	Top 50
Ohio	17	*2.85	1	*0.17	5	*0.84	24	4.04	6	*1.01	20	
Orange	56	2.83	4	*0.20	21	1.06	89	4.54	28	1.43	30	
Owen	59	2.79	3	*0.14	19	*0.90	95	4.55	33	1.58	40	
Parke	116	6.75	8	*0.47	24	1.40	42	2.49	32	1.89	80	Top 50
Perry	84	4.28	17	*0.87	46	2.35	65	3.36	33	1.71	120	Top 25
Pike	54	4.27	32	2.53	8	*0.63	28	2.22	19	*1.51	70	
Porter	724	4.33	112	0.67	360	2.15	160	0.95	258	1.54	190	Top 10
Posey	42	1.65	23	0.91	11	*0.43	116	4.55	39	1.53	80	Top 50
Pulaski	35	2.71	3	*0.23	14	*1.08	57	4.42	21	1.63	40	
Putnam	117	3.13	21	0.56	50	1.34	86	2.29	47	1.25	70	
Randolph	76	2.98	15	*0.59	30	1.18	77	3.06	22	0.87	40	
Ripley	92	3.07	15	*0.50	42	1.40	103	3.59	36	1.25	40	
Rush	67	3.96	2	*0.12	48	2.84	62	3.72	15	*0.90	60	
Saint Joseph	528	1.98	49	0.18	177	0.66	620	2.31	303	1.13	120	Top 25
Scott	44	1.84	45	1.88	34	1.42	42	1.77	23	0.97	60	
Shelby	81	1.81	14	*0.31	69	1.54	73	1.64	40	0.90	20	
Spencer	58	2.77	4	*0.19	23	1.10	89	4.30	37	1.79	50	
Starke	38	1.64	17	*0.73	23	0.99	48	2.09	32	1.39	30	
Steuben	92	2.67	13	*0.38	43	1.25	211	6.14	54	1.57	90	Top 50
Sullivan	36	1.70	9	*0.42	17	*0.80	44	2.10	29	1.39	10	
Switzerland	31	2.95	2	*0.19	11	*1.05	28	2.66	7	*0.67	0	
Tippecanoe	613	3.37	381	2.09	223	1.22	219	1.18	261	1.40	200	Top 10
Tipton	41	2.63	11	*0.71	7	*0.45	32	2.10	17	*1.11	10	
Union	20	2.77	1	*0.14	6	*0.83	8	*1.11	5	*0.70	0	
Vanderburgh	581	3.19	401	2.20	123	0.68	722	3.97	272	1.50	200	Top 10

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APPENDIX 12A *(Continued from previous page)*

County	DUI Arrests		Public Intoxication Arrests		Liquor Law Violation Arrests		Alcohol Use Reported at Treatment Admission		Alcohol-Related Collisions		Priority Score	Rank
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate		
Vermillion	50	3.16	5	*0.32	13	*0.82	50	3.19	25	1.59	40	
Vigo	265	2.44	169	1.56	243	2.24	392	3.63	149	1.38	180	Top 25
Wabash	49	1.52	23	0.71	37	1.15	129	4.01	36	1.12	50	
Warren	23	2.74	2	*0.24	9	*1.07	6	*0.73	9	*1.09	0	
Warrick	137	2.23	19	0.31	34	0.55	159	2.57	51	0.82	40	
Washington	85	3.07	14	0.51	35	1.26	18	*0.65	27	0.97	30	
Wayne	235	3.47	71	1.05	112	1.65	192	2.87	111	1.66	180	Top 25
Wells	59	2.12	6	*0.22	20	0.72	70	2.50	28	1.00	0	
White	122	4.99	11	*0.45	43	1.76	57	2.35	43	1.77	100	Top 50
Whitley	156	4.68	7	*0.21	50	1.50	73	2.19	38	1.14	50	
Indiana	**20,810**	**3.15**	**7,107**	**1.08**	**8,245**	**1.25**	**16,615**	**2.52**	**8,642**	**1.31**		

* Rates that are based on numbers lower than 20 are unreliable.
Notes: Due to confidentiality concerns, health data (such as treatment data) with numbers less than five are not specified, but marked <5.
The alcohol priority score was based on 10 indicators and ranged from 0 to 230. Higher priority scores indicate a more severe problem.
Source: FBI, 2014; FSSA, 2016; ISP, 2015

APPENDIX 12B

Marijuana Abuse Indicators and Priority Scores by County, With Rank, All Rates per 1,000 Population (Uniform Crime Reporting Program, 2014; Treatment Episode Data Set, 2016)

County	Marijuana Possession Arrests		Marijuana Sale Arrests		Marijuana Use Reported At Treatment Admission		Priority Score	Rank
	Number	Rate	Number	Rate	Number	Rate		
Adams	31	0.89	9	*0.26	173	4.95	83	Top 50
Allen	567	1.55	42	0.12	980	2.66	133	Top 25
Bartholomew	156	1.95	6	*0.08	291	3.59	117	Top 50
Benton	13	*1.49	3	*0.34	32	3.69	33	
Blackford	23	1.87	2	*0.16	44	3.58	33	
Boone	125	2.03	9	*0.15	75	1.18	83	Top 50
Brown	14	*0.93	3	*0.20	38	2.54	0	
Carroll	26	1.29	6	*0.30	43	2.17	17	
Cass	119	3.10	44	1.15	132	3.48	200	Top 10
Clark	368	3.24	39	0.34	65	0.56	150	Top 25
Clay	43	1.60	8	*0.30	80	3.02	50	
Clinton	66	2.01	9	*0.27	108	3.31	100	Top 50
Crawford	6	*0.57	8	*0.75	22	2.10	50	
Daviess	69	2.12	2	*0.06	62	1.88	50	
Dearborn	78	1.56	14	*0.28	225	4.55	150	Top 25
Decatur	71	2.69	7	*0.26	117	4.41	117	Top 50
DeKalb	66	1.56	19	*0.45	144	3.38	117	Top 50
Delaware	255	2.17	4	*0.03	459	3.93	150	Top 25
Dubois	57	1.34	16	*0.38	162	3.82	100	Top 50
Elkhart	343	1.70	19	*0.09	321	1.58	117	Top 50
Fayette	46	1.94	9	*0.38	85	3.63	83	Top 50
Floyd	90	1.17	11	*0.14	15	*0.20	33	
Fountain	27	1.61	6	*0.36	23	1.39	33	
Franklin	5	*0.24	30	1.41	75	3.28	100	Top 50
Fulton	22	1.08	6	*0.29	87	4.28	50	
Gibson	54	1.60	6	*0.18	138	4.09	83	Top 50
Grant	109	1.58	5	*0.07	257	3.78	83	Top 50
Greene	14	*0.43	5	*0.15	86	2.65	0	
Hamilton	621	2.05	45	0.15	424	1.37	183	Top 10
Hancock	83	1.11	29	0.39	100	1.38	83	Top 50
Harrison	10	*0.26	9	*0.23	<5	N/A	17	
Hendricks	169	1.08	51	0.33	146	0.92	117	Top 50
Henry	90	1.84	10	*0.20	111	2.27	67	
Howard	127	1.53	19	*0.23	249	3.02	100	Top 50
Huntington	40	1.09	15	*0.41	84	2.29	50	
Jackson	139	3.18	12	*0.27	147	3.34	133	Top 25
Jasper	31	0.93	14	*0.42	56	1.67	50	
Jay	47	2.18	3	*0.14	114	5.40	100	Top 50
Jefferson	58	1.79	12	*0.37	178	5.49	150	Top 25
Jennings	31	1.10	6	*0.21	106	3.80	50	
Johnson	411	2.79	31	0.21	133	0.89	150	Top 25
Knox	59	1.56	13	*0.34	125	3.30	100	Top 50
Kosciusko	126	1.62	23	0.30	238	3.03	133	Top 25
LaGrange	21	0.55	5	*0.13	111	2.86	17	
Lake	1,025	2.09	356	0.73	929	1.90	233	Top 10
LaPorte	206	1.85	54	0.49	136	1.23	150	Top 25
Lawrence	83	1.81	14	*0.31	235	5.17	150	Top 25
Madison	246	1.89	48	0.37	700	5.40	217	Top 10
Marion	301	0.32	38	0.04	1,626	1.73	117	Top 50
Marshall	101	2.14	25	0.53	106	2.26	133	Top 25
Martin	19	*1.88	1	*0.10	35	3.42	33	
Miami	50	1.39	45	1.25	150	4.18	150	Top 25
Monroe	308	2.16	23	0.16	559	3.86	167	Top 10
Montgomery	48	1.26	11	*0.29	216	5.65	117	Top 50
Morgan	101	1.44	66	0.94	217	3.12	167	Top 10
Newton	18	*1.28	0	*0.00	20	*1.43	0	

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APPENDIX 12B *(Continued from previous page)*

County	Marijuana Possession Arrests		Marijuana Sale Arrests		Marijuana Use Reported At Treatment Admission		Priority Score	Rank
	Number	Rate	Number	Rate	Number	Rate		
Noble	66	1.39	4	*0.08	208	4.36	83	Top 50
Ohio	7	*1.17	1	*0.17	17	*2.86	0	
Orange	23	1.16	9	*0.46	82	4.18	83	Top 50
Owen	24	1.14	4	*0.19	94	4.50	50	
Parke	36	2.09	8	*0.47	28	1.66	67	
Perry	33	1.68	6	*0.31	63	3.26	50	
Pike	17	*1.34	58	4.58	22	1.75	100	Top 50
Porter	291	1.74	26	0.16	166	0.99	100	Top 50
Posey	9	*0.35	5	*0.20	84	3.29	17	
Pulaski	15	*1.16	4	*0.31	47	3.65	33	
Putnam	59	1.58	10	*0.27	105	2.79	67	
Randolph	41	1.61	6	*0.24	88	3.50	33	
Ripley	50	1.67	18	*0.60	92	3.21	100	Top 50
Rush	69	4.08	9	*0.53	87	5.22	167	Top 10
Saint Joseph	325	1.22	72	0.27	565	2.10	150	Top 25
Scott	26	1.09	4	*0.17	40	1.68	0	
Shelby	101	2.26	24	0.54	91	2.05	117	Top 50
Spencer	27	1.29	7	*0.33	76	3.67	33	
Starke	13	*0.56	9	*0.39	78	3.40	67	
Steuben	54	1.57	3	*0.09	154	4.48	83	Top 50
Sullivan	19	*0.90	2	*0.09	37	1.77	0	
Switzerland	14	*1.33	4	*0.38	28	2.66	17	
Tippecanoe	526	2.89	43	0.24	231	1.24	167	Top 10
Tipton	23	1.47	6	*0.38	38	2.49	17	
Union	9	*1.25	2	*0.28	10	*1.39	17	
Vanderburgh	562	3.09	104	0.57	727	4.00	267	Top 10
Vermillion	17	*1.07	15	*0.95	55	3.50	83	Top 50
Vigo	106	0.98	38	0.35	432	4.00	150	Top 25
Wabash	28	0.87	9	*0.28	135	4.20	83	Top 50
Warren	15	*1.79	3	*0.36	5	*0.60	33	
Warrick	55	0.90	11	*0.18	143	2.31	50	
Washington	39	1.41	8	*0.29	18	*0.65	17	
Wayne	141	2.08	27	0.40	195	2.91	167	Top 10
Wells	15	*0.54	3	*0.11	86	3.08	17	
White	57	2.33	1	*0.04	47	1.93	67	
Whitley	48	1.44	15	*0.45	59	1.77	50	Top 50
Indiana	**10,392**	**1.58**	**1,903**	**0.29**	**16,027**	**2.43**		

* Rates that are based on numbers lower than 20 are unreliable.
Notes: Due to confidentiality concerns, health data (such as treatment data) with numbers less than five are not specified, but marked <5.
The marijuana priority score was based on six indicators and ranged from 0 to 267. Higher priority scores indicate a more severe problem.
Source: FBI, 2014; FSSA, 2016

APPENDIX 12C

Cocaine and Heroin Abuse Indicators and Priority Scores by County, With Rank, All Rates per 1,000 Population (Uniform Crime Reporting Program, 2014; Treatment Episode Data Set, 2016)

County	Cocaine-Heroin Possession Arrests		Cocaine-Heroin Sale Arrests		Cocaine Use Reported at Treatment Admission		Heroin Use Reported at Treatment Admission		Priority Score	Rank
	Number	Rate	Number	Rate	Number	Rate	Number	Rate		
Adams	4	*0.12	4	*0.12	32	0.91	63	1.80	100	Top 50
Allen	97	0.27	48	0.13	359	0.97	206	0.56	200	Top 10
Bartholomew	16	*0.20	7	*0.09	32	0.39	124	1.53	113	Top 50
Benton	2	*0.23	2	*0.23	8	*0.92	<5	N/A	63	
Blackford	2	*0.16	4	*0.33	<5	N/A	34	2.76	75	Top 50
Boone	14	*0.23	9	*0.15	<5	N/A	42	0.66	50	
Brown	4	*0.27	0	*0.00	6	*0.40	20	1.34	50	
Carroll	4	*0.20	5	*0.25	<5	N/A	11	*0.55	13	
Cass	9	*0.23	57	1.49	17	*0.45	43	1.13	150	Top 25
Clark	196	1.72	78	0.69	24	0.21	55	0.48	188	Top 10
Clay	6	*0.22	7	*0.26	<5	N/A	10	*0.38	25	
Clinton	16	*0.49	6	*0.18	19	*0.58	45	1.38	150	Top 25
Crawford	0	*0.00	0	*0.00	<5	N/A	6	*0.57	0	
Daviess	16	*0.49	29	0.89	<5	N/A	<5	N/A	113	Top 50
Dearborn	12	*0.24	13	*0.26	45	0.91	150	3.03	175	Top 10
Decatur	8	*0.30	3	*0.11	9	*0.34	24	0.90	63	
DeKalb	11	*0.26	6	*0.14	10	*0.23	12	*0.28	50	
Delaware	35	0.30	113	0.96	134	1.15	267	2.28	263	Top 10
Dubois	8	*0.19	4	*0.09	5	*0.12	11	*0.26	13	
Elkhart	23	0.11	25	0.12	78	0.38	55	0.27	100	Top 50
Fayette	8	*0.34	8	*0.34	15	*0.64	93	3.97	175	Top 10
Floyd	8	*0.10	18	*0.23	<5	N/A	24	0.31	38	
Fountain	4	*0.24	4	*0.24	6	*0.36	13	*0.78	38	
Franklin	3	*0.14	0	*0.00	6	*0.26	54	2.36	50	
Fulton	5	*0.25	4	*0.20	10	*0.49	11	*0.54	50	
Gibson	5	*0.15	6	*0.18	5	*0.15	<5	N/A	25	
Grant	47	0.68	1	*0.01	39	0.57	80	1.18	163	Top 25
Greene	1	*0.03	5	*0.15	<5	N/A	33	1.02	25	
Hamilton	67	0.22	94	0.31	68	0.22	169	0.55	150	Top 25
Hancock	23	0.31	1	*0.01	18	*0.25	33	0.46	75	Top 50
Harrison	1	*0.03	1	*0.03	<5	N/A	10	*0.25	0	
Hendricks	47	0.30	14	*0.09	17	*0.11	92	0.58	113	Top 50
Henry	16	*0.33	7	*0.14	30	0.61	51	1.04	125	Top 50
Howard	80	0.97	55	0.66	87	1.05	204	2.47	300	Top 10
Huntington	6	*0.16	4	*0.11	8	*0.22	24	0.66	0	
Jackson	17	*0.39	33	0.75	10	*0.23	45	1.02	138	Top 50
Jasper	6	*0.18	8	*0.24	11	*0.33	39	1.17	75	Top 50
Jay	10	*0.46	15	*0.70	17	*0.80	81	3.84	188	Top 10
Jefferson	9	*0.28	9	*0.28	22	0.68	50	1.54	150	Top 25
Jennings	16	*0.57	12	*0.43	12	*0.43	45	1.61	150	Top 25
Johnson	48	0.33	42	0.28	17	*0.11	70	0.47	150	Top 25
Knox	9	*0.24	7	*0.18	<5	N/A	8	*0.21	50	
Kosciusko	29	0.37	21	0.27	32	0.41	50	0.64	138	Top 50
LaGrange	5	*0.13	16	*0.42	10	*0.26	<5	N/A	50	
Lake	126	0.26	181	0.37	439	0.90	551	1.13	225	Top 10
LaPorte	31	0.28	93	0.84	59	0.53	121	1.09	200	Top 10
Lawrence	12	*0.26	3	*0.07	16	*0.35	67	1.47	100	Top 50
Madison	29	0.22	36	0.28	122	0.94	173	1.33	213	Top 10
Marion	44	0.05	28	0.03	651	0.69	924	0.98	163	Top 25
Marshall	10	*0.21	12	*0.25	11	*0.23	33	0.70	63	
Martin	3	*0.30	1	*0.10	<5	N/A	<5	N/A	25	
Miami	11	*0.31	36	1.00	9	*0.25	46	1.28	125	Top 50

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APPENDIX 12C *(Continued from previous page)*

County	Cocaine-Heroin Possession Arrests		Cocaine-Heroin Sale Arrests		Cocaine Use Reported at Treatment Admission		Heroin Use Reported at Treatment Admission		Priority Score	Rank
	Number	Rate	Number	Rate	Number	Rate	Number	Rate		
Monroe	26	0.18	23	0.16	88	0.61	261	1.80	175	Top 10
Montgomery	20	0.52	2	*0.05	33	0.86	91	2.38	175	Top 10
Morgan	45	0.64	39	0.56	20	0.29	117	1.68	175	Top 10
Newton	3	*0.21	2	*0.14	5	*0.36	15	*1.07	25	
Noble	5	*0.10	19	*0.40	20	0.42	6	*0.13	75	Top 50
Ohio	1	*0.17	1	*0.17	<5	N/A	7	*1.18	25	
Orange	4	*0.20	4	*0.20	7	*0.36	11	*0.56	25	
Owen	4	*0.19	4	*0.19	5	*0.24	25	1.20	25	
Parke	8	*0.47	0	*0.00	<5	N/A	6	*0.36	38	
Perry	3	*0.15	4	*0.20	7	*0.36	<5	N/A	25	
Pike	3	*0.24	1	*0.08	<5	N/A	<5	N/A	13	
Porter	24	0.14	10	*0.06	54	0.32	153	0.91	100	Top 50
Posey	0	*0.00	0	*0.00	<5	N/A	5	*0.20	0	
Pulaski	3	*0.23	3	*0.23	6	*0.47	12	*0.93	50	
Putnam	9	*0.24	9	*0.24	<5	N/A	15	*0.40	50	
Randolph	10	*0.39	7	*0.27	15	*0.60	53	2.11	138	Top 50
Ripley	9	*0.30	9	*0.30	14	*0.49	53	1.85	138	Top 50
Rush	18	*1.06	4	*0.24	14	*0.84	25	1.50	125	Top 50
Saint Joseph	55	0.21	30	0.11	324	1.21	221	0.82	175	Top 10
Scott	2	*0.08	2	*0.08	<5	N/A	20	0.84	13	
Shelby	18	*0.40	5	*0.11	19	*0.43	41	0.92	88	Top 50
Spencer	4	*0.19	4	*0.19	<5	N/A	<5	N/A	13	
Starke	5	*0.22	3	*0.13	10	*0.44	66	2.87	75	Top 50
Steuben	17	*0.49	1	*0.03	15	*0.44	<5	N/A	75	Top 50
Sullivan	3	*0.14	2	*0.09	<5	N/A	<5	N/A	0	
Switzerland	2	*0.19	2	*0.19	<5	N/A	11	*1.05	38	
Tippecanoe	45	0.25	90	0.49	21	0.11	85	0.46	138	Top 50
Tipton	8	*0.51	1	*0.06	6	*0.39	9	*0.59	63	
Union	1	*0.14	1	*0.14	<5	N/A	9	*1.25	13	
Vanderburgh	21	0.12	29	0.16	75	0.41	57	0.31	100	Top 50
Vermillion	2	*0.13	2	*0.13	<5	N/A	13	*0.83	13	
Vigo	5	*0.05	6	*0.06	21	0.19	41	0.38	38	
Wabash	4	*0.12	4	*0.12	9	*0.28	53	1.65	38	
Warren	2	*0.24	2	*0.24	<5	N/A	<5	N/A	25	
Warrick	2	*0.03	1	*0.02	7	*0.11	12	*0.19	0	
Washington	6	*0.22	7	*0.25	<5	N/A	19	*0.68	25	
Wayne	24	0.35	20	0.30	107	1.60	192	2.87	250	Top 10
Wells	1	*0.04	2	*0.07	16	*0.57	28	1.00	50	
White	4	*0.16	0	*0.00	<5	N/A	11	*0.45	0	
Whitley	4	*0.12	6	*0.18	8	*0.24	9	*0.27	25	
Indiana	**1,649**	**0.25**	**1,556**	**0.24**	**3,506**	**0.54**	**6,150**	**0.94**		

* Rates that are based on numbers lower than 20 are unreliable.
Notes: Due to confidentiality concerns, health data (such as treatment data) with numbers less than five are not specified, but marked <5. The cocaine-heroin priority score was based on eight indicators and ranged from 0 to 300. Higher priority scores indicate a more severe problem.
Source: FBI, 2014; FSSA, 2016

APPENDIX 12D

Methamphetamine (Meth) Abuse Indicators and Priority Scores by County, With Rank, All Rates per 1,000 Population (Uniform Crime Reporting Program, 2014; Treatment Episode Data Set, 2016; Methamphetamine Lab Statistics, 2016)

County	Synthetic Possession Arrests		Synthetic Sale Arrests		Meth Use Reported at Treatment Admission		Meth Lab Seizures		Priority Score	Rank
	Number	Rate	Number	Rate	Number	Rate	Number	Rate		
Adams	8	*0.23	5	*0.14	44	1.26	2	*0.06	13	
Allen	106	0.29	14	*0.04	137	0.37	49	0.13	150	Top 25
Bartholomew	52	0.65	31	0.39	309	3.81	21	0.26	225	Top 10
Benton	2	*0.23	1	*0.11	<5	N/A	0	*0.00	0	
Blackford	33	2.69	10	*0.81	8	*0.65	4	*0.33	125	Top 25
Boone	10	0.16	5	*0.08	22	0.35	1	*0.02	13	
Brown	6	*0.40	2	*0.13	27	1.80	3	*0.20	38	
Carroll	4	*0.20	3	*0.15	23	1.16	7	*0.35	50	
Cass	1	*0.03	14	*0.36	54	1.42	9	*0.24	100	Top 50
Clark	111	0.98	30	0.26	31	0.27	0	*0.00	125	Top 25
Clay	8	*0.30	4	*0.15	62	2.34	9	*0.34	88	Top 50
Clinton	9	*0.27	2	*0.06	34	1.04	5	*0.15	25	
Crawford	4	*0.38	0	*0.00	20	*1.91	1	*0.10	25	
Daviess	15	*0.46	14	*0.43	64	1.94	2	*0.06	113	Top 50
Dearborn	10	*0.20	6	*0.12	17	*0.34	1	*0.02	25	
Decatur	7	*0.26	8	*0.30	86	3.24	22	0.83	150	Top 25
DeKalb	26	0.61	40	0.94	85	2.00	20	*0.47	200	Top 10
Delaware	91	0.77	9	*0.08	200	1.71	145	1.24	213	Top 10
Dubois	13	*0.31	6	*0.14	59	1.39	6	*0.14	100	Top 50
Elkhart	29	0.14	26	0.13	128	0.63	22	0.11	113	Top 50
Fayette	9	*0.38	4	*0.17	35	1.49	1	*0.04	38	
Floyd	9	*0.12	13	*0.17	13	*0.17	6	*0.08	38	
Fountain	6	*0.36	3	*0.18	17	*1.02	4	*0.24	38	
Franklin	1	*0.05	0	*0.00	32	1.40	3	*0.13	25	
Fulton	3	*0.15	2	*0.10	34	1.67	8	*0.39	63	
Gibson	10	*0.30	17	*0.51	104	3.08	4	*0.12	125	Top 25
Grant	1	*0.01	1	*0.01	20	*0.29	10	*0.15	25	
Greene	5	*0.15	0	*0.00	59	1.82	2	*0.06	25	
Hamilton	88	0.29	18	*0.06	34	0.11	0	*0.00	75	Top 50
Hancock	8	*0.11	16	*0.21	16	*0.22	0	*0.00	38	
Harrison	6	*0.15	10	*0.26	<5	N/A	8	*0.20	50	
Hendricks	16	*0.10	10	*0.06	60	0.38	3	*0.02	38	
Henry	20	0.41	14	*0.29	42	0.86	9	*0.18	100	Top 50
Howard	11	*0.13	5	*0.06	117	1.42	7	*0.08	63	
Huntington	7	*0.19	14	*0.38	27	0.74	25	0.68	125	Top 25
Jackson	21	0.48	4	*0.09	139	3.15	2	*0.05	100	Top 50
Jasper	5	*0.15	6	*0.18	28	0.84	14	*0.42	75	Top 50
Jay	32	1.49	14	*0.65	32	1.52	13	*0.62	200	Top 10
Jefferson	12	*0.37	6	*0.18	126	3.89	3	*0.09	113	Top 50
Jennings	0	*0.00	7	*0.25	114	4.09	7	*0.25	113	Top 50
Johnson	18	*0.12	11	*0.07	44	0.29	1	*0.01	25	
Knox	10	*0.26	7	*0.18	109	2.87	9	*0.24	113	Top 50
Kosciusko	42	0.54	47	0.60	115	1.46	40	0.51	225	Top 10
LaGrange	14	*0.37	0	*0.00	84	2.16	7	*0.18	75	Top 50
Lake	62	0.13	19	*0.04	21	0.04	2	*0.00	63	
LaPorte	25	0.22	3	*0.03	9	*0.08	6	*0.05	25	
Lawrence	40	0.87	3	*0.07	179	3.93	3	*0.07	138	Top 25
Madison	71	0.54	16	*0.12	178	1.37	34	0.26	175	Top 10
Marion	56	0.06	10	*0.01	296	0.32	9	*0.01	100	Top 50
Marshall	29	0.61	13	*0.28	48	1.02	15	*0.32	138	Top 25

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APPENDIX 12D *(Continued from previous page)*

County	Synthetic Possession Arrests		Synthetic Sale Arrests		Meth Use Reported at Treatment Admission		Meth Lab Seizures		Priority Score	Rank
	Number	Rate	Number	Rate	Number	Rate	Number	Rate		
Martin	3	*0.30	0	*0.00	24	2.35	1	*0.10	38	
Miami	6	*0.17	2	*0.06	74	2.06	25	0.70	100	Top 50
Monroe	30	0.21	1	*0.01	298	2.06	12	*0.08	100	Top 50
Montgomery	2	*0.05	0	*0.00	86	2.25	5	*0.13	38	
Morgan	15	*0.21	6	*0.09	180	2.58	0	*0.00	88	Top 50
Newton	9	*0.64	3	*0.21	6	*0.43	1	*0.07	38	
Noble	21	0.44	25	0.52	152	3.18	43	0.90	225	Top 10
Ohio	1	*0.17	1	*0.17	<5	N/A	1	*0.17	25	
Orange	7	*0.35	4	*0.20	51	2.60	9	*0.46	100	Top 50
Owen	4	*0.19	3	*0.14	75	3.59	2	*0.10	63	
Parke	32	1.86	12	*0.70	20	1.18	3	*0.18	125	Top 25
Perry	17	*0.87	7	*0.36	32	1.65	13	*0.67	163	Top 10
Pike	1	*0.08	0	*0.00	16	*1.27	0	*0.00	0	
Porter	3	*0.02	1	*0.01	<5	N/A	5	*0.03	0	
Posey	3	*0.12	10	*0.39	64	2.51	2	*0.08	75	Top 50
Pulaski	4	*0.31	3	*0.23	19	*1.47	9	*0.70	88	Top 50
Putnam	10	*0.27	5	*0.13	88	2.34	3	*0.08	75	Top 50
Randolph	13	*0.51	6	*0.24	25	0.99	10	*0.40	100	Top 50
Ripley	10	*0.33	7	*0.23	31	1.08	7	*0.24	75	Top 50
Rush	4	*0.24	6	*0.35	49	2.94	1	*0.06	75	Top 50
Saint Joseph	53	0.20	4	*0.01	109	0.41	18	*0.07	75	Top 50
Scott	30	1.25	11	*0.46	45	1.90	2	*0.08	125	Top 25
Shelby	25	0.56	5	*0.11	46	1.03	2	*0.04	50	
Spencer	7	*0.33	4	*0.19	60	2.90	8	*0.39	100	Top 50
Starke	4	*0.17	2	*0.09	56	2.44	36	1.57	113	Top 50
Steuben	2	*0.06	21	0.61	79	2.30	17	*0.49	150	Top 25
Sullivan	2	*0.09	1	*0.05	24	1.15	9	*0.43	38	
Switzerland	4	*0.38	2	*0.19	10	*0.95	2	*0.19	38	
Tippecanoe	82	0.45	15	*0.08	91	0.49	9	*0.05	125	Top 25
Tipton	12	*0.77	19	*1.22	9	*0.59	1	*0.07	113	Top 50
Union	1	*0.14	1	*0.14	<5	N/A	0	*0.00	13	
Vanderburgh	127	0.70	97	0.53	482	2.65	23	0.13	238	Top 10
Vermillion	4	*0.25	1	*0.06	53	3.38	4	*0.25	63	
Vigo	22	0.20	37	0.34	328	3.04	64	0.59	200	Top 10
Wabash	4	*0.12	3	*0.09	53	1.65	14	*0.44	75	Top 50
Warren	3	*0.36	2	*0.24	<5	N/A	1	*0.12	25	
Warrick	45	0.73	44	0.72	113	1.83	0	*0.00	163	Top 10
Washington	8	*0.29	4	*0.14	11	*0.40	3	*0.11	25	
Wayne	17	*0.25	6	*0.09	24	0.36	6	*0.09	38	
Wells	0	*0.00	0	*0.00	24	0.86	12	*0.43	50	
White	53	2.17	2	*0.08	33	1.36	14	*0.58	113	Top 50
Whitley	13	*0.39	3	*0.09	33	0.99	2	*0.06	25	
Indiana	**1,895**	**0.29**	**909**	**0.14**	**6,530**	**0.99**	**983**	**0.15**		

* Rates that are based on numbers lower than 20 are unreliable.
Notes: Due to confidentiality concerns, health data (such as treatment data) with numbers less than five are not specified, but marked <5. The methamphetamine priority score was based on eight indicators and ranged from 0 to 238. Higher priority scores indicate a more severe problem.
Source: FBI, 2014; FSSA, 2016; ISP, 2016

APPENDIX 12E

Prescription Drug (Rx) Abuse Indicators and Priority Scores by County, With Rank, Rates per 1,000 Population (except rate for prescription opioids dispensed is per capita) (Uniform Crime Reporting Program, 2014; Treatment Episode Data Set, 2016; INSPECT Data, 2016)

County	"Other" Drug Possession Arrests		"Other" Drug Sale Arrests		Rx Drug Abuse Reported at Treatment Admission		Controlled Substances Dispensed		Priority Score	Rank
	Number	Rate	Number	Rate	Number	Rate	Number	Rate (per capita)		
Adams	17	*0.49	11	*0.32	74	2.12	23,779	0.68	75	Top 50
Allen	145	0.40	76	0.21	329	0.89	283,006	0.77	150	Top 10
Bartholomew	40	0.50	1	*0.01	179	2.21	82,209	1.01	100	Top 50
Benton	4	*0.46	2	*0.23	13	*1.50	7,434	0.86	13	
Blackford	4	*0.33	1	*0.08	38	3.09	22,025	1.79	63	
Boone	16	*0.26	8	*0.13	44	0.69	50,544	0.80	25	
Brown	9	*0.60	0	*0.00	17	*1.14	8,675	0.58	13	
Carroll	9	*0.45	6	*0.30	16	*0.81	14,084	0.71	25	
Cass	96	2.50	125	3.26	56	1.47	35,282	0.93	150	Top 10
Clark	130	1.14	23	0.20	114	0.99	134,118	1.16	163	Top 10
Clay	15	*0.56	7	*0.26	39	1.47	28,458	1.07	38	
Clinton	10	*0.30	9	*0.27	57	1.75	36,976	1.13	50	
Crawford	5	*0.47	0	*0.00	20	*1.91	15,008	1.43	50	
Daviess	28	0.86	10	*0.31	47	1.43	29,781	0.91	63	
Dearborn	19	0.38	13	*0.26	207	4.19	38,450	0.78	100	Top 50
Decatur	75	2.84	32	1.21	60	2.26	46,949	1.77	225	Top 10
DeKalb	18	0.43	20	0.47	44	1.03	26,408	0.62	63	
Delaware	3	*0.03	32	0.27	426	3.65	136,125	1.16	163	Top 10
Dubois	18	*0.42	9	*0.21	80	1.88	37,835	0.89	50	
Elkhart	18	*0.09	5	*0.02	103	0.51	148,768	0.73	63	
Fayette	13	*0.55	13	*0.55	121	5.16	33,489	1.43	138	Top 25
Floyd	60	0.78	70	0.91	40	0.52	80,777	1.05	163	Top 10
Fountain	12	*0.71	6	*0.36	17	*1.02	20,308	1.22	63	
Franklin	11	*0.52	6	*0.28	57	2.49	16,994	0.74	50	
Fulton	9	*0.44	26	1.28	33	1.62	20,139	0.99	75	Top 50
Gibson	24	0.71	5	*0.15	58	1.72	39,923	1.18	88	Top 50
Grant	4	*0.06	0	*0.00	162	2.38	87,349	1.28	88	Top 50
Greene	12	*0.37	9	*0.28	61	1.88	40,922	1.26	75	Top 50
Hamilton	52	0.17	24	0.08	208	0.67	172,537	0.56	125	Top 50
Hancock	2	*0.03	3	*0.04	46	0.63	70,528	0.97	13	
Harrison	11	*0.28	5	*0.13	9	*0.23	43,181	1.09	25	
Hendricks	23	0.15	12	*0.08	90	0.57	110,099	0.70	63	
Henry	13	*0.27	15	*0.31	185	3.78	67,701	1.38	125	Top 50
Howard	83	1.00	21	0.25	211	2.56	106,500	1.29	213	Top 10
Huntington	16	*0.44	9	*0.24	66	1.80	36,965	1.01	50	
Jackson	73	1.67	15	*0.34	106	2.41	47,747	1.08	150	Top 10
Jasper	11	*0.33	14	*0.42	39	1.17	39,427	1.18	63	
Jay	6	*0.28	4	*0.19	54	2.56	16,865	0.80	25	
Jefferson	20	*0.62	11	*0.34	174	5.37	39,940	1.23	150	Top 10
Jennings	8	*0.28	8	*0.28	73	2.62	33,747	1.21	63	
Johnson	65	0.44	29	0.20	79	0.53	142,623	0.95	100	Top 50
Knox	21	0.55	13	*0.34	105	2.77	54,621	1.44	138	Top 25
Kosciusko	131	1.69	20	0.26	91	1.16	66,673	0.85	125	Top 50
LaGrange	2	*0.05	0	*0.00	35	0.90	127,250	3.28	63	
Lake	330	0.67	108	0.22	355	0.73	19,071	0.04	138	Top 25
LaPorte	12	*0.11	6	*0.05	101	0.91	412,600	3.72	88	Top 50
Lawrence	36	0.79	18	*0.39	218	4.79	66,783	1.47	213	Top 10
Madison	39	0.30	42	0.32	516	3.98	175,546	1.35	213	Top 10
Marion	36	0.04	17	*0.02	1,011	1.08	816,813	0.87	113	Top 50
Marshall	39	0.83	43	0.91	63	1.34	40,900	0.87	150	Top 10

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APPENDIX 12E *(Continued from previous page)*

County	"Other" Drug Possession Arrests		"Other" Drug Sale Arrests		Rx Drug Abuse Reported at Treatment Admission		Controlled Substances Dispensed		Priority Score	Rank
	Number	Rate	Number	Rate	Number	Rate	Number	Rate (per capita)		
Martin	4	*0.40	3	*0.30	18	*1.76	14,732	1.44	63	
Miami	26	0.72	39	1.08	72	2.01	36,458	1.02	138	Top 25
Monroe	76	0.53	60	0.42	365	2.52	96,470	0.67	200	Top 10
Montgomery	34	0.89	13	*0.34	101	2.64	41,439	1.08	138	Top 25
Morgan	57	0.81	18	*0.26	129	1.85	84,222	1.21	138	Top 25
Newton	10	*0.71	3	*0.21	8	*0.57	12,078	0.86	25	
Noble	6	*0.13	2	*0.04	50	1.05	44,787	0.94	13	
Ohio	2	*0.34	2	*0.34	12	*2.02	6,876	1.16	38	
Orange	11	*0.56	14	*0.71	60	3.06	25,049	1.28	125	Top 50
Owen	9	*0.43	12	*0.57	51	2.44	28,478	1.36	100	Top 50
Parke	5	*0.29	0	*0.00	13	*0.77	13,263	0.78	0	
Perry	13	*0.66	7	*0.36	29	1.50	18,157	0.94	38	
Pike	3	*0.24	2	*0.16	11	*0.87	17,775	1.41	25	
Porter	117	0.70	16	*0.10	144	0.86	165,582	0.99	138	Top 25
Posey	3	*0.12	3	*0.12	64	2.51	26,960	1.06	50	
Pulaski	6	*0.46	5	*0.39	37	2.87	17,116	1.33	88	Top 50
Putnam	24	0.64	13	*0.35	40	1.06	34,676	0.92	50	
Randolph	10	*0.39	11	*0.43	42	1.67	28,644	1.14	50	
Ripley	18	*0.60	17	*0.57	55	1.92	31,438	1.10	100	Top 50
Rush	39	2.30	13	*0.77	53	3.18	18,192	1.09	150	Top 10
Saint Joseph	52	0.19	27	0.10	185	0.69	38,004	0.14	88	Top 50
Scott	16	*0.67	8	*0.33	109	4.59	44,047	1.86	150	Top 10
Shelby	48	1.07	24	0.54	53	1.19	20,052	0.45	113	Top 50
Spencer	12	*0.57	8	*0.38	41	1.98	236,701	11.43	125	Top 50
Starke	7	*0.30	9	*0.39	103	4.49	36,620	1.60	113	Top 50
Steuben	16	*0.46	15	*0.44	31	0.90	28,446	0.83	63	
Sullivan	7	*0.33	4	*0.19	29	1.39	24,899	1.19	13	
Switzerland	5	*0.48	4	*0.38	22	2.09	10,230	0.97	50	
Tippecanoe	70	0.38	24	0.13	119	0.64	124,251	0.67	100	Top 50
Tipton	3	*0.19	0	*0.00	27	1.77	15,042	0.99	13	
Union	3	*0.42	3	*0.42	12	1.67	5,580	0.78	25	
Vanderburgh	124	0.68	47	0.26	426	2.34	222,659	1.22	213	Top 10
Vermillion	6	*0.38	6	*0.38	31	1.98	16,492	1.05	50	
Vigo	20	0.18	31	0.29	139	1.29	103,911	0.96	100	Top 50
Wabash	7	*0.22	2	*0.06	68	2.12	39,305	1.22	63	
Warren	5	*0.60	3	*0.36	5	*0.60	5,668	0.69	25	
Warrick	11	*0.18	29	0.47	87	1.41	60,794	0.98	75	Top 50
Washington	16	*0.58	10	*0.36	22	0.79	29,691	1.07	63	
Wayne	27	0.40	9	*0.13	114	1.70	78,626	1.17	88	Top 50
Wells	8	*0.29	3	*0.11	57	2.04	23,852	0.85	13	
White	4	*0.16	6	*0.25	27	1.11	26,658	1.10	13	
Whitley	12	*0.36	8	*0.24	30	0.90	33,218	0.99	0	
Indiana	**2,805**	**0.43**	**1,495**	**0.23**	**9,438**	**1.43**	**6,241,070**	**0.95**		

* Rates that are based on numbers lower than 20 are unreliable.
Notes: Due to confidentiality concerns, health data (such as treatment data) with numbers less than five, are not specified but marked <5. The prescription drug priority score was based on eight indicators and ranged from 0 to 225. Higher priority scores indicate a more severe problem.
Source: FBI, 2014; FSSA, 2016; IPLA, 2017

APPENDIX 12F

Total Priority Scores by County, Ranked in Descending Order (Uniform Crime Reporting Program, 2014; Treatment Episode Data Set, 2016; Indiana Automated Reporting Information Exchange System, 2015; Methamphetamine Lab Statistics, 2016; INSPECT data, 2016)

County	Total Priority Score	Rank
Delaware	204	Top 10
Vanderburgh	203	Top 10
Madison	195	Top 10
Lake	176	Top 10
Monroe	174	Top 10
Allen	167	Top 10
Cass	160	Top 10
Howard	159	Top 10
Clark	155	Top 10
Kosciusko	148	Top 10
Tippecanoe	146	Top 25
Wayne	144	Top 25
Lawrence	142	Top 25
Bartholomew	141	Top 25
Jefferson	141	Top 25
Hamilton	139	Top 25
LaPorte	137	Top 25
Marion	136	Top 25
Vigo	134	Top 25
Morgan	131	Top 25
Decatur	129	Top 25
Jackson	128	Top 25
Marshall	123	Top 25
Saint Joseph	122	Top 50
Jay	119	Top 50
Miami	117	Top 50
Dearborn	116	Top 50
Rush	115	Top 50
Johnson	107	Top 50
Porter	106	Top 50
Elkhart	104	Top 50
DeKalb	104	Top 50
Fayette	103	Top 50
Noble	101	Top 50
Montgomery	99	Top 50
Henry	99	Top 50
Knox	98	Top 50
Gibson	94	Top 50
Steuben	92	Top 50
Ripley	91	Top 50
Grant	90	Top 50
Jennings	87	Top 50
Clinton	85	Top 50
Hendricks	82	Top 50
Dubois	81	Top 50
Daviess	80	Top 50
Starke	79	Top 50
Perry	79	Top 50
Shelby	77	Bottom 50
Orange	73	Bottom 50
Floyd	72	Bottom 50
Randolph	72	Bottom 50
Scott	70	Bottom 50
Warrick	66	Bottom 50
Spencer	64	Bottom 50
Blackford	63	Bottom 50
Putnam	62	Bottom 50
Adams	62	Bottom 50
Parke	62	Bottom 50
Wabash	62	Bottom 50
Jasper	61	Bottom 50
Pulaski	60	Bottom 50
White	58	Bottom 50
Fulton	58	Bottom 50
Huntington	57	Bottom 50
LaGrange	57	Bottom 50
Owen	56	Bottom 50
Franklin	51	Bottom 50
Boone	50	Bottom 50
Clay	50	Bottom 50
Hancock	50	Bottom 50
Vermillion	50	Bottom 50
Posey	44	Bottom 50
Tipton	43	Bottom 50
Fountain	42	Bottom 50
Pike	42	Bottom 50
Martin	34	Bottom 50
Washington	32	Bottom 50
Benton	32	Bottom 50
Crawford	31	Bottom 50
Whitley	30	Bottom 50
Switzerland	28	Bottom 50
Brown	28	Bottom 50
Wells	26	Bottom 50
Newton	26	Bottom 50
Greene	25	Bottom 50
Carroll	23	Bottom 50
Warren	22	Bottom 50
Ohio	22	Bottom 50
Harrison	20	Bottom 50
Union	13	Bottom 50
Sullivan	12	Bottom 50

Note: Total priority scores ranged from 12 to 204. Higher priority scores indicate a more severe problem.
Source: FBI, 2014; FSSA, 2016; ISP, 2015, 2016; IPLA, 2017

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APPENDIX I: Data Sources Recommended by the State Epidemiology and Outcomes Work Group (SEOW)

Data Set	Source	Years	How to Access	Coverage	Target
Alcohol-Related Disease Impact (ARDI) Database	CDC	Based on averages 2006-2010	http://nccd.cdc.gov/DPH_ARDI/default/default.aspx	U.S. and states	General population
Automated Reporting Information Exchange System (ARIES)	ISP	Annual Most recent 2015	On request from ISP	Indiana and counties	Vehicle collisions in general population
Behavioral Risk Factor Surveillance System (BRFSS)	CDC	Annual 1995-2015	http://www.cdc.gov/brfss/brfssprevalence/index.html	U.S. and states	Adults 18 and older
Data Assessment Registry Mental Health and Addiction (DARMHA) System	DMHA	Annual Most recent 2015	On request from DMHA	Indiana	Substance abuse & mental health treatment population eligible for public services (200% FPL)
Fatality Analysis Reporting System (FARS)	NHTSA	Annual 1994-2014	http://www-fars.nhtsa.dot.gov/	U.S., states, and counties	General population
Hospital Discharge Database	ISDH	Annual 1999-2015	http://www.in.gov/isdh/20624.htm	Indiana and counties	General population
Indiana Adult Tobacco Survey (IATS)	ISDH/TPCC	Bi-annual 2002-2015	On request from ISDH	Indiana	Adults
Indiana College Substance Use Survey	ICAN/IPRC	Annual 2009-2016	http://www.drugs.indiana.edu/indiana-college-survey/substance-use-survey	Indiana	College students
Indiana Clandestine Meth Lab Seizures	ISP	Annual 1995-2016	On request from ISP	Indiana and counties	General population
Indiana Youth Survey	IPRC	Annual 1993-2016	http://inys.indiana.edu/survey-results	Indiana and regions	6th – 12th grade students in Indiana
Indiana Youth Tobacco Survey (IYTS)	ISDH/TPCC	Bi-annual 2000-2014	On request from ISDH	Indiana	6th – 12th grade students in Indiana

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APPENDIX I (continued)

Data Set	Source	Years	How to Access	Coverage	Target
Monitoring the Future (MTF) Survey	NIDA	Annual 1999-2016	http://www.monitoringthefuture.org/data/data.html	U.S.	8th, 10th, and 12th grade students
Mortality data (e.g., alcohol-, smoking-, and drug-related mortality)	ISDH	Annual Most recent 2015	On request from ISDH	Indiana and counties	General population
	CDC	Annual 1999-2015	http://wonder.cdc.gov/mortSQL.html	U.S., states, and counties	General population
National Survey on Drug Use and Health (NSDUH)	SAMHSA	Annual 1994-2015	http://www.samhsa.gov/data/population-data-nsduh	U.S., states, and some sub-state estimates	Population 12 years and older
Population Estimates	U.S. Census Bureau	Annual	http://www.census.gov/	U.S., states, and counties	General population
Treatment Episode Data Set (TEDS)	SAMHSA	Annual 1992-2014	http://wwwdasis.samhsa.gov/dasis2/teds.htm	U.S. and states; for county-level data contact Indiana DMHA	Substance abuse treatment population eligible for public services (200% FPL)
	DMHA	Annual 2016			
Uniform Crime Reporting Program (UCR)	FBI/NACJD	Annual 1994-2014	http://www.icpsr.umich.edu/icpsrweb/content/NACJD/guides/ucr.html	U.S., states, and counties	Arrests within general population
Uniform Reporting System (URS) – Mental Health National Outcomes Measures	SAMHSA	Annual Most recent 2015	http://www.samhsa.gov/data/reports-by-geography?tid=633&map=1	U.S. and states	Treatment population eligible for public services (200% FPL)
Youth Risk Behavior Surveillance System (YRBSS)	CDC	Bi-annual Indiana: 2003-2015	http://nccd.cdc.gov/YouthOnline/App/Default.aspx	U.S. and states	High school students

Abbreviations used: ARIES = Automated Reporting Information Exchange System; CDC = Centers for Disease Control and Prevention; DMHA = Division of Mental Health & Addiction; FBI = Federal Bureau of Investigation; ICAN = Indiana Collegiate Action Network; IPRC = Indiana Prevention Resource Center; ISDH = Indiana State Department of Health; ISP = Indiana State Police; NACJD = National Archive of Criminal Justice Data; NHTSA = National Highway Traffic Safety Administration; NIDA = National Institute on Drug Abuse; SAMHSA = Substance Abuse and Mental Health Services Administration; TPCC = Tobacco Prevention & Cessation Commission.

APPENDIX II: SUBSTANCE USE INDICATORS AT-A-GLANCE

SUBSTANCE	USE OR CONSEQUENCE	TARGET POPULATION	DATASET
Alcohol	Past-month use Past-month binge drinking (methodology change; no 2015 data) Alcohol dependence in the past year Alcohol use disorder in the past year	General population ages 12+	NSDUH
	Past-month alcohol use Past-month binge drinking Past-month heavy drinking Past-month chronic drinking	Adults ages 18+	BRFSS
	Lifetime use First time use Past-month use Past-month binge drinking Source of alcohol Largest number of drinks	Grades 9-12	YRBSS
	Past-month use Past-month binge drinking Mean age of first use	Grades 6-12	Indiana Youth Survey
	Use reported at treatment admission Primary use (dependence) reported at treatment admission	Treatment population at or below 200% FPL, in state-sponsored programs	TEDS
	Arrests for DUI Public intoxication Liquor law violation	General population	UCR
	Alcohol-related crashes Alcohol-related fatal crashes	General population	ARIES
	Alcohol-attributable deaths Alcohol-attributable fractions Years of potential life lost due to excessive alcohol use	General population	ARDI
	Alcohol-induced deaths	General population	ISDH
Tobacco	Past-month use of Tobacco product Cigarettes	General population ages 12+	NSDUH
	Past-month smoking Past-month smokeless tobacco Four-level smoking status	Adults ages 18+	BRFSS
	Past-month use of Tobacco Cigarettes E-cigarettes Smokeless tobacco	Middle and high school students	IYTS

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APPENDIX II (continued)

SUBSTANCE	USE OR CONSEQUENCE	TARGET POPULATION	DATASET
Tobacco (cont.)	Lifetime and past-month use of cigarettes First use of cigarettes Frequent use of cigarettes Smoked more than 10 cigarettes Daily use of cigarettes Sources of cigarettes Smoking cessation Past-month use of Any tobacco Cigars Smokeless tobacco Electronic vapor products	Grades 9-12	YRBSS
	Past-month use Cigarettes Smokeless tobacco Cigars Pipe Electronic vapor products Mean age of first use	Grades 6-12	INYS
	Percentage of smoke-free homes and work places	General population	IATS
Marijuana	Past-month use First use	General population ages 12+	NSDUH
	Lifetime use Marijuana Synthetic marijuana Past-month marijuana use First use of marijuana	Grades 9-12	YRBSS
	Past-month use Marijuana Synthetic marijuana Mean age of first use	Grades 6-12	INYS
	Use reported at treatment admission Primary use (dependence) reported at treatment admission	Treatment population at or below 200% FPL, in state-sponsored programs	TEDS
	Arrests for Possession of marijuana Sale of marijuana	General population	UCR

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APPENDIX II (continued)

SUBSTANCE	USE OR CONSEQUENCE	TARGET POPULATION	DATASET
Cocaine	Past-year use	General population ages 12+	NSDUH
	Lifetime use	Grades 9-12	YRBSS
	Past-month use of cocaine/crack Mean age of first use	Grades 6-12	INYS
	Use reported at treatment admission Primary use (dependence) reported at treatment admission	Treatment population at or below 200% FPL, in state-sponsored programs	TEDS
	Arrests for Possession of cocaine/opiates Sale of cocaine/opiates	General population	UCR
Heroin	Past-year use	General population ages 12+	NSDUH
	Lifetime use of heroin Used a needle to inject any illegal drug at least once during their lifetime	Grades 9-12	YRBSS
	Past-month use Mean age of first use	Grades 6-12	INYS
	Use reported at treatment admission Primary use (dependence) reported at treatment admission	Treatment population at or below 200% FPL, in state-sponsored programs	TEDS
	Arrests for Possession of cocaine/opiates Sale of cocaine/opiates	General population	UCR
Methamphetamine	Lifetime use	Grades 9-12	YRBSS
	Past-month use Mean age of first use	Grades 6-12	INYS
	Use reported at treatment admission Primary use (dependence) reported at treatment admission	Treatment population at or below 200% FPL, in state-sponsored programs	TEDS
	Arrests for Possession of synthetic drugs Sale of synthetic drugs	General population	UCR
	Clandestine meth lab seizures Children identified/rescued in lab homes Arrests made during lab seizures	General population	ISP Meth Lab Seizures

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APPENDIX II (continued)

SUBSTANCE	USE OR CONSEQUENCE	TARGET POPULATION	DATASET
Prescription Drugs	Past-year nonmedical use of pain relievers (methodology change; no 2015 data)	General population ages 12+	NSDUH
	Past-month use of prescription drugs Mean age of first use	Grades 6-12	INYS
	Past-year dispensation of controlled substances	General population	INSPECT
	Use reported at treatment admission Primary use (dependence) reported at treatment admission	Treatment population at or below 200% FPL, in state-sponsored programs	TEDS
	Arrests for Possession of 'other drugs' Sale of 'other drugs'	General population	UCR
	Poisoning/overdose deaths (Rx-related mortality)	General population	ISDH
Polysubstance Abuse	Use of 2+ substances reported at treatment admission	Treatment population at or below 200% FPL, in state-sponsored programs	TEDS

Abbreviations used: ARDI = Alcohol-Related Disease Impact database; ARIES = Automated Reporting Information Exchange System; BRFSS = Behavioral Risk Factor Surveillance System; IATS = Indiana Adult Tobacco Survey; INSPECT = Indiana Scheduled Prescription Drug Electronic Collection and Tracking system; INYS = Indiana Youth Survey; ISDH = Indiana State Department of Health; ISP = Indiana State Police; IYTS = Indiana Youth Tobacco Survey; NSDUH = National Survey on Drug Use and Health; SAMMEC = Smoking-Attributable Mortality, Morbidity, and Economic Costs; TEDS = Treatment Episode Data Set; UCR = Uniform Crime Reporting program; YRBSS = Youth Risk Behavior Surveillance System.

Additional information on these datasets, including how to access them, can be found in Chapter 2 and Appendix I.

The Consumption and Consequences of Alcohol, Tobacco, and Drugs in Indiana: A State Epidemiological Profile 2016

Indiana State Epidemiological Outcomes Workgroup

The Indiana State Epidemiological Outcomes Workgroup (SEOW) was established in April 2006 to review epidemiological data on the patterns and consequences of substance use and abuse in Indiana and to make recommendations to the State of Indiana regarding priorities for prevention funding for the following year. The priorities were developed based on a systematic analysis of available data, the results of which are detailed in this report.

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Our Vision

"Healthy, safe, and drug-free environments that nurture and assist all Indiana citizens to thrive."

Our Mission

"To reduce substance use and abuse across the lifespan of Indiana citizens."

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