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PRESCRIPTION DRUGS

The Consumption and Consequences of Alcohol, Tobacco, and Drugs in Indiana: A State Epidemiological Profile 2017

Indiana State Epidemiological Outcomes Workgroup

RICHARD M. FAIRBANKS
SCHOOL OF PUBLIC HEALTH
INDIANA UNIVERSITY
Center for Health Policy
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INDIANA FAMILY & SOCIAL SERVICES ADMINISTRATION
FSSA

TOBACCO

HEROIN

METHAMPHETAMINE

ALCOHOL

THE CONSUMPTION AND CONSEQUENCES OF ALCOHOL, TOBACCO, AND DRUGS IN INDIANA: A STATE EPIDEMIOLOGICAL PROFILE 2017

Developed by the Indiana State Epidemiological Outcomes Workgroup, 2017

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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The Center for Health Policy (CHP) is the research hub of the department of Health Policy and Management. Our mission is to generate evidence that informs decision-making in Indiana and beyond. CHP Fellows and staff conduct rigorous research and evaluation on health system performance and health policy issues, with a specific focus on: population health and analytics; substance misuse and mental health services; and public health systems and services research.

The CHP has a vibrant research portfolio including funding from the National Institutes of Health (NIH), the Agency for Healthcare Research and Quality (AHRQ), the Robert Wood Johnson Foundation, various state agencies in Indiana, and numerous other government agencies nationwide.

The Center is directed by Dr. Joshua Vest.

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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 use 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 Epidemiological Outcomes Workgroup (SEOW) to facilitate data-based decision-making regarding substance use 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 12th 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.

We incorporated a few changes in this year's report. Instead of describing all prescription drugs in one chapter, we separated them according to their drug class and mechanism of action. In other words, prescription pain reliever and heroin data were combined in Chapter 5 "Opioids" and information on prescription stimulants (such as Adderall and Ritalin), cocaine/crack, and methamphetamine made up Chapter 6 "Stimulants."

A new element to this year's SEOW report is the addition of an online data tool. The Tableau software on our website will allow users to review and interact with data tables, graphs, and maps.

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 use 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 (https://fsph.iupui.edu/research-centers/centers/health-policy). 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 Executive Summary

Substance use continues to be a major public health concern, negatively impacting a variety of health, legal, and social outcomes. Nearly one-fourth of Hoosiers ages 12 and older engaged in binge drinking in the past month and one-tenth used an illicit substance. Furthermore, 7.1% of Indiana residents met criteria for substance use disorder (SUD) in the past year and 6.6% needed but did not receive treatment for their SUD (Substance Abuse and Mental Health Services Administration [SAMHSA], 2016).

Another concern is polysubstance use, i.e., the use of two or more substances over a defined period, simultaneously or at differing times, for recreational purposes. In over two-thirds of Indiana treatment admissions, the use of multiple substances was indicated, with 29.7% reporting the use of two drugs and 38.5% reporting the use of three drugs (Indiana Family and Social Services Administration [FSSA], 2017).

During state fiscal year 2017, a total of 12,786 children were removed from their parents by the Department of Child Services in Indiana; almost two-thirds (62.8%) of these removals were due to parental alcohol and/or drug use (Indiana Department of Child Services, 2017).

Alcohol

Alcohol is the most frequently used substance in Indiana and the United States. Over half of the population ages 12 and older consumed alcohol within the past month (SAMHSA, 2016). Indiana and U.S. rates of underage drinking among 12- to 17-year-olds were similar (IN: 9.3%; U.S.: 9.4%).

Excessive alcohol consumption contributes to a number of health and economic consequences. Prolonged and compulsive use of alcohol can lead to alcohol use disorder. In 2016, almost one-fourth of Indiana residents ages 12 or older reported binge drinking, which was similar to the national rate (IN: 23.4%; U.S.: 24.2%). About 5% of Hoosiers suffered from alcohol use disorder within the past year (U.S.: 5.7%). The highest rate was found among 18- to 25-year-olds (IN: 11.4%; U.S.: 10.8%) (SAMHSA, 2016).

Alcohol-related collisions decreased from 13,911 in 2003 to 8,608 in 2016. The number of fatal crashes also decreased from 242 to 149 (Indiana State Police, 2016). The age-adjusted mortality rates for alcohol-attributable deaths have climbed gradually from 2000 through 2016 in both Indiana and the United States. Indiana's age-adjusted rate was 9.4 per 100,000 in 2016, which was similar to the U.S. rate of 9.5 per 100,000 (Centers for Disease Control and Prevention [CDC], 1999-2016).

In addition to health consequences and mortality, alcohol misuse has disproportionately contributed to the United States' economic burden. In 2010, excessive alcohol consumption cost the United States $249 billion, with Indiana attributing $4.5 billion (CDC, 2017).

Tobacco / Nicotine

Even though cigarette smoking has declined in recent years, tobacco use is still a public health issue. Cigarette smoking and tobacco-related diseases cost the United States more than $300 billion per year. In 2016, over 15% of adults still reported smoking cigarettes (down from almost 21%in 2005). Indiana's rates have been consistently higher than the national rates, with 21.1% of adult Hoosiers currently smoking cigarettes (U.S.: 17.0%) (CDC, 2018a).

The decline of cigarette smoking has given rise to other tobacco products. E-cigarettes, hookahs, and other tobacco products gained more popularity and market themselves as safer than cigarettes (Indiana State Department of Health, Tobacco Prevention and Cessation Commission [ISDH/TPCC], 2015). Approximately 23.7% of adults in Indiana reported trying an e-cigarette in 2017 (ISDH/TPCC, 2018). E-cigarettes have appealed to younger people as well. About 24% of Indiana high school students and 12% of Indiana college students reported current use of e-cigarettes (CDC, 1991-2015; King & Jun, 2017).

Tobacco is the leading cause of preventable disease and death in the United States. Tobacco causes 6 million deaths worldwide, about 600,000 of which are from secondhand smoke exposure (World Health Organization, 2015). The U.S. experiences more than

480,000 deaths from tobacco use, about 41,000 of which are from secondhand smoke exposure (CDC, 2018b). In Indiana, more than 11,100 adults die every year from smoking, and 333,000 live with a tobacco-related disease (US Department of Health and Human Services [USDHHS], 2014).

Opioids

Opioid misuse and addiction have created a national crisis in the United States. According to 2015–2016 averages from the National Survey on Drug Use and Health (NSDUH), almost 5% of Indiana residents ages 12 or older misused pain relievers (U.S.: 4.5%) and 0.4% reported using heroin in the past year (U.S.: 0.3%) (SAMHSA, 2016). Rates were generally higher among young adults ages 18 to 25 for misuse of opioids (IN: 9.9%; U.S.: 7.8%) and heroin (IN: 0.9%; U.S.: 0.6%).

Opioid treatment programs (OTPs) provide medication-assisted treatment to individuals with opioid use disorder. In Indiana, a total of 13,697 unique patients were treated in OTPs in 2017 (FSSA, 2018). According to the Treatment Episode Data Set (TEDS), in nearly 22% of Indiana treatment admissions, misuse of prescription opioids was reported, and in close to 20% of treatment admissions, heroin use was reported (SAMHSA, 2015).

Non-fatal emergency department visits due to an opioid overdose rose from 1,856 in 2011 to 8,297 in 2016 (45 to 125.1 visits per 100,000 population) (ISDH, 2017). Overdose deaths involving opioids rose from 347 in 2011 to 785 in 2016 (5.3 to 11.8 deaths per 100,000 population) (ISDH, 2017).

Other Illicit Drugs

Marijuana is the most commonly used illicit drug in the United States (Azofeifa et al., 2016). An estimated 8.8% of Indiana residents ages 12 and older reported current (past-month) marijuana use (U.S.: 8.6%; 95%); past-year use was estimated at 13.4% (U.S.: 13.7%). The highest prevalence was among individuals ages 18 to 25, with 19.6% of Hoosiers in this age group reporting current marijuana use (U.S.: 20.3%) and 33.6% reporting past-year use (U.S.: 32.6%) in 2016 (SAMHSA, 2016). In about half of Indiana treatment admissions, marijuana use was reported (U.S.: 33.4%) (SAMHSA, 2015).

Stimulants encompass both legal (prescription stimulants such as Ritalin and Adderall) and illicit drugs (such as cocaine and methamphetamine). An estimated 1.3% of Indiana residents ages 12 and older used cocaine in the past year, similar to the national rate of 1.8%. Cocaine use was highest among young adults ages 18 to 25, with 3.9% reporting past year use (U.S.: 5.5%) (SAMHSA, 2016).

Data from the TEDS indicate that methamphetamine was the most widely used stimulant among the treatment population. In 2015, 17.7% of admissions to substance use treatment in Indiana reported current methamphetamine use, a significantly higher percentage than the nation's (U.S.: 13.7%). Cocaine was the second most frequently used stimulant in Indiana's treatment population, with 11.1% of admissions reporting use in 2015; this percentage was significantly lower than that noted for the rest of the nation (U.S.: 17.6%). A small percentage (IN: 1.7%; U.S.: 1.6%) of the treatment population reported the use of other stimulants at the time of admission.

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2 Alcohol Use in Indiana: Consumption Patterns and Consequences

INTRODUCTION

Alcohol is the most frequently used substance in both Indiana and the United States. In 2015, the National Institute on Alcohol Abuse and Alcoholism (NIAAA) estimated that Hoosiers 14 years and older consumed 11.5 million gallons of ethanol (the intoxicating agent in alcoholic beverages). By volume, this equates to 118 million gallons of beer, 11.7 million gallons of wine, and 11.5 million gallons of spirits. This level of use represents an annual per capita consumption rate of 2.1 gallons of ethanol for Hoosiers age 14 and older (NIAAA, 2017). In 2016, there were 11,691 alcohol beverage permits on file in Indiana, representing a rate of 1.8 licenses per 1,000 Hoosiers; thus, Indiana residents have many points of access to alcohol (Alcohol and Tobacco Commission, 2016).

Alcohol's legal status, its wide availability, and its social acceptability are all contributors to patterns of excessive or risky use, such as heavy drinking or binge drinking. Excessive consumption of alcohol is responsible for significant morbidity and mortality due to alcohol-related health problems (e.g., cirrhosis and other serious liver diseases), alcohol use disorders, homicides, suicides, violent crimes, and vehicle crashes. Additionally, other health-compromising behaviors such as cigarette smoking, illicit drug use, and risky sexual behaviors have also been linked to drinking (CDC, 2016).

Alcohol use can also contribute to adverse social outcomes such as job loss and involvement with the criminal justice and social service system. In 2010, the most recent year for which estimates are available, Indiana spent $4.5 billion to deal with the negative consequences of excessive alcohol use, with much of these expenses tied to outcomes associated with binge drinking (Sacks, Gonzales, Bouchery, Tomedi, & Brewer, 2015).

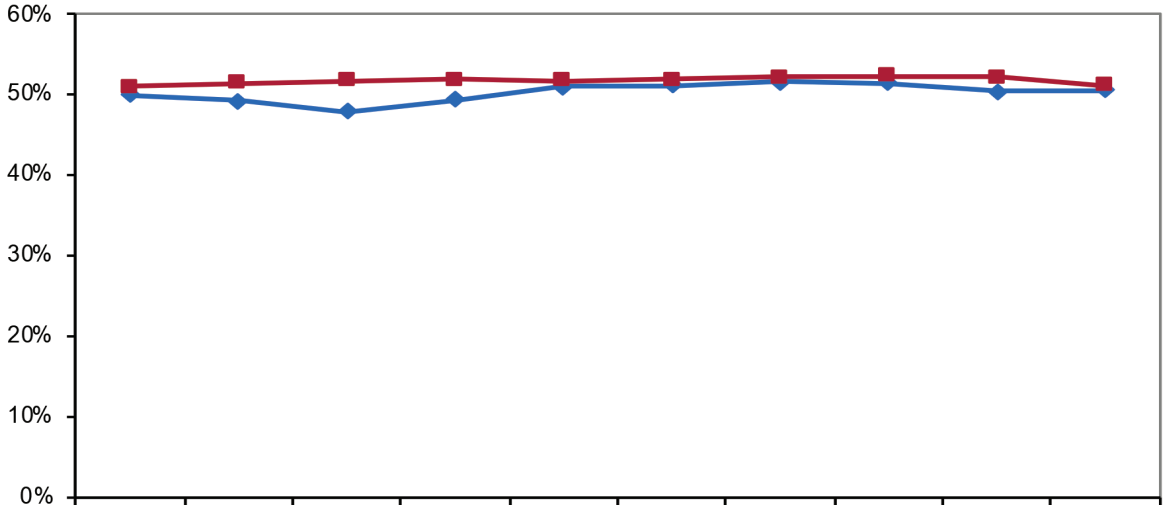
PREVALENCE OF ALCOHOL CONSUMPTION IN THE GENERAL POPULATION

National Survey on Drug Use and Health

Based on 2015–2016 averages from the Substance Abuse and Mental Health Services Administration (SAMHSA)'s National Survey on Drug Use and Health (NSDUH), an estimated 50.5% (95% Confidence Interval [CI]: 47.7–53.3) 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 51.2% (95% CI: 50.8–51.7) (see Figure 2.1). Those reporting the highest level of use were young adults between the ages of 18 and 25. Drinking was significantly more common among Indiana residents in that age group (59.4%; 95% CI: 55.7–63.0) compared to their national counterparts (51.2%, 95% CI: 50.8–51.7). Furthermore, 9.3% (95% CI: 7.5–11.6) of young people ages 12 to 17 consumed alcohol in the past 30 days in Indiana (see Figure 2.2); the rate was similar on the national level (9.4%; 95% CI: 9.0–9.8). NSDUH also provides underage drinking prevalence estimates among 12- to 20-year-olds. In 2016, Indiana's rate for current alcohol use in underage Hoosiers (20.9%; 95% CI: 18.3–23.7) was similar to that of the U.S. (19.8%; 95% CI: 19.2–20.5) (SAMHSA, 2016).

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

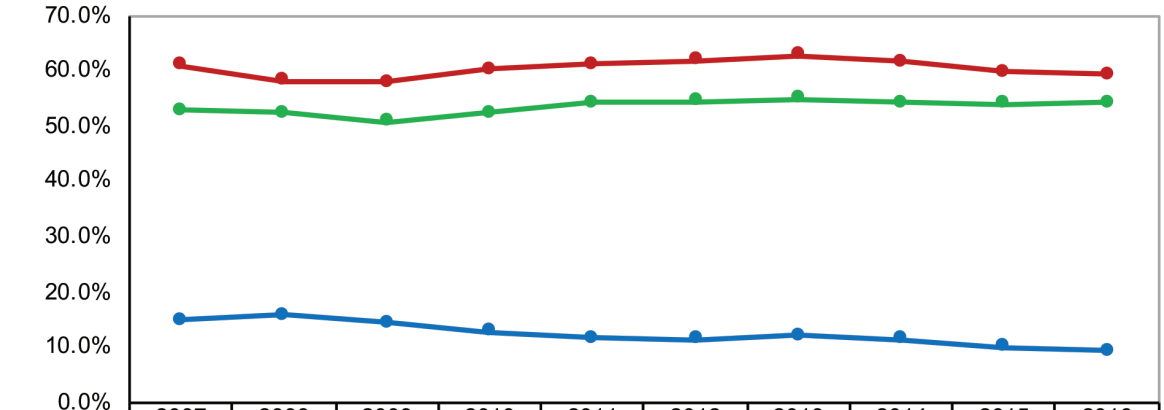
Figure 2.1 Percentage of Indiana and U.S. Population (12 Years and Older) Reporting Current Alcohol Use (National Survey on Drug Use and Health, 2007–2016)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Indiana	50.1%	49.3%	48.0%	49.4%	51.0%	51.2%	51.6%	51.5%	50.4%	50.5%
U.S.	51.0%	51.4%	51.8%	51.8%	51.8%	51.9%	52.1%	52.4%	52.2%	51.2%

Source: SAMHSA, 2016

Figure 2.2 Percentage of Indiana Population Reporting Current Alcohol Use by Age Group (National Survey on Drug Use and Health, 2007–2016)

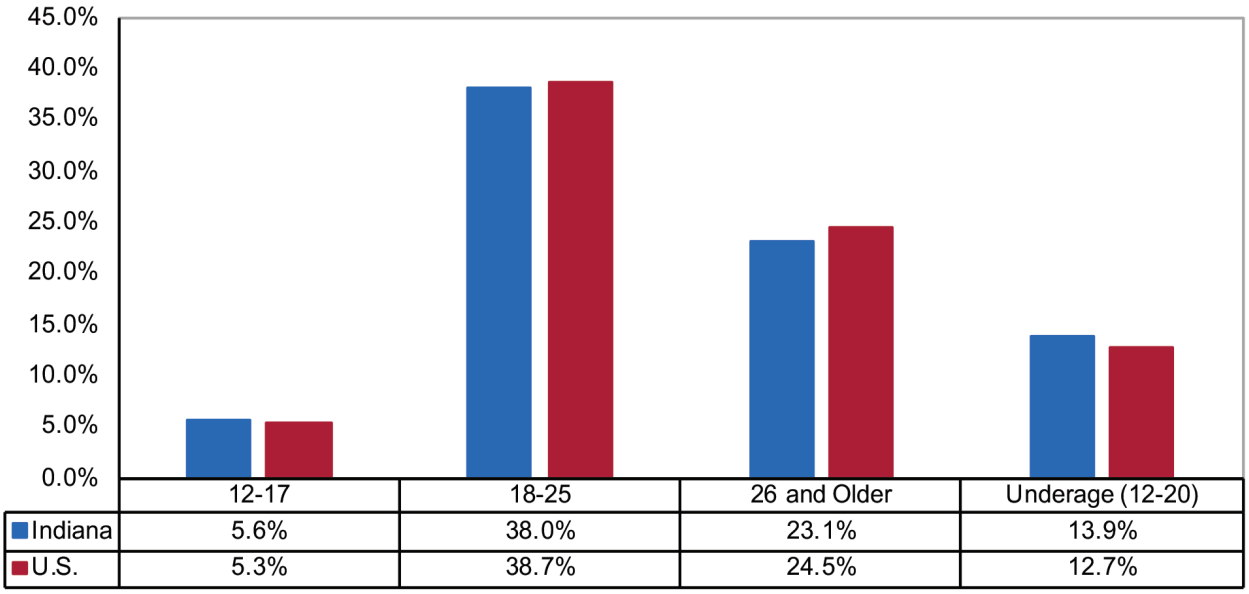


	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
12-17	14.9%	15.7%	14.4%	12.7%	11.6%	11.3%	12.0%	11.4%	10.1%	9.3%
18-25	61.0%	58.2%	57.9%	60.2%	61.1%	61.8%	62.7%	61.7%	59.7%	59.4%
26 and Older	52.9%	52.3%	50.8%	52.3%	54.3%	54.5%	54.8%	54.3%	54.0%	54.2%

Source: SAMHSA, 2016

In 2015, SAMHSA redesigned the questions on the NSDUH pertaining to binge drinking. 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). 2016 is the first year for which both national- and state-level estimates are available. These new estimates of binge drinking cannot be compared with estimates from previous years (Center for Behavioral Health Statistics and Quality, 2016). Based on the new definition for binge drinking, the NSDUH estimated that in 2016, 23.4% of Indiana's population 12 years of age or older reported binge drinking (95%

Figure 2.3 Current Binge Drinking in Indiana and the U.S. by Age Group (National Survey on Drug Use and Health, 2016)



	12-17	18-25	26 and Older	Underage (12-20)
Indiana	5.6%	38.0%	23.1%	13.9%
U.S.	5.3%	38.7%	24.5%	12.7%

Source: SAMHSA, 2017

Table 2.1 Percentage of Indiana Adults Having Used Alcohol in the Past 30 Days, by Gender, Race/Ethnicity, and Age Group (Behavioral Risk Factor Surveillance System, 2016)

		Indiana % (95% CI)
Gender	Male	58.3% (56.2–60.4)
	Female	41.7% (39.6–43.8)
Race/Ethnicity	White	52.8% (51.3–54.3)
	Black	52.3% (46.9–57.7)
	Hispanic	46.1% (39.2–53.0)
Age Group	18-24	52.7% (47.3–58.1)
	25-34	63.1% (59.1–67.1)
	35-44	59.8% (56.1–63.5)
	45-54	54.3% (51.2–57.4)
	55-64	49.0% (46.5–51.6)
	65+	36.8% (34.9–38.7)
Total		**52.0% (50.6–53.4)**

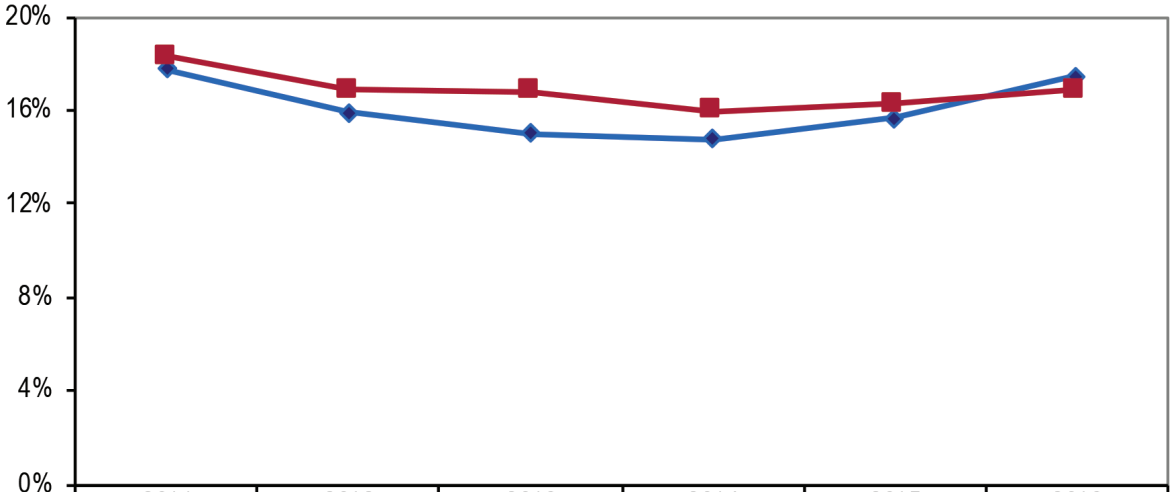
Source: CDC, 2017

CI: 21.2–25.8); this represents a rate similar to the national average of 24.2% (95% CI: 24.2–25.0). Binge drinking was more prevalent among 18- to 25-year-olds than among any other age group (U.S.: 38.7%; 95% CI: 37.9–39.5; IN: 38.0%; 95% CI: 34.2–42.0). Binge drinking rates in 2016 for underage individuals were similar in Indiana (13.9%; 95% CI: 11.9–16.1) and the U.S. (12.7%; 95% CI: 12.9–13.3) (SAMHSA, 2016) (see Figure 2.3).

Behavioral Risk Factor Surveillance System

Based on findings from the Centers for Disease Control and Prevention (CDC)'s Behavioral Risk Factor Surveillance System (BRFSS), adult prevalence rates for current alcohol use in 2016 were 52.0% (95% CI: 50.6–53.4) for Indiana and 55.0% for the nation. In Indiana, rates were higher among males and among younger age groups (see Table 2.1) (CDC, 2017).

Figure 2.4 Percentage of Indiana and U.S. Adults Reporting Binge Drinking in the Past 30 Days (Behavioral Risk Factor Surveillance System, 2011–2016)



	2011	2012	2013	2014	2015	2016
Indiana	17.8%	15.9%	15.0%	14.8%	15.7%	17.5%
U.S.	18.3%	16.9%	16.8%	16.0%	16.3%	16.9%

Source: CDC, 2017

Table 2.2 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, 2016)

		Indiana % (95% CI)
Gender	Male	23.3% (21.4–25.1)
	Female	12.1% (10.7–13.6)
Race/Ethnicity	White	17.8% (16.6–19.1)
	Black	16.9% (12.4–21.4)
	Hispanic	18.5% (12.7–24.3)
Age Group	18-24	26.5% (21.8–31.2)
	25-34	26.7% (22.9–30.5)
	35-44	23.0% (19.8–26.3)
	45-54	17.3% (14.9–19.7)
	55-64	12.3% (10.5–14.1)
	65+	4.2% (3.4–5.0)
Total		**17.5% (16.3–18.7)**

Source: CDC, 2017

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 (17.5%, 95% CI: 16.3–18.7) was similar to the U.S. median rate (16.9%) in 2016.

Statewide, binge alcohol use was significantly higher in males and more prevalent in younger individuals (see Table 2.2). Trends in binge drinking are shown in Figure 2.4 (CDC, 2017).

Youth Risk Behavior Surveillance System

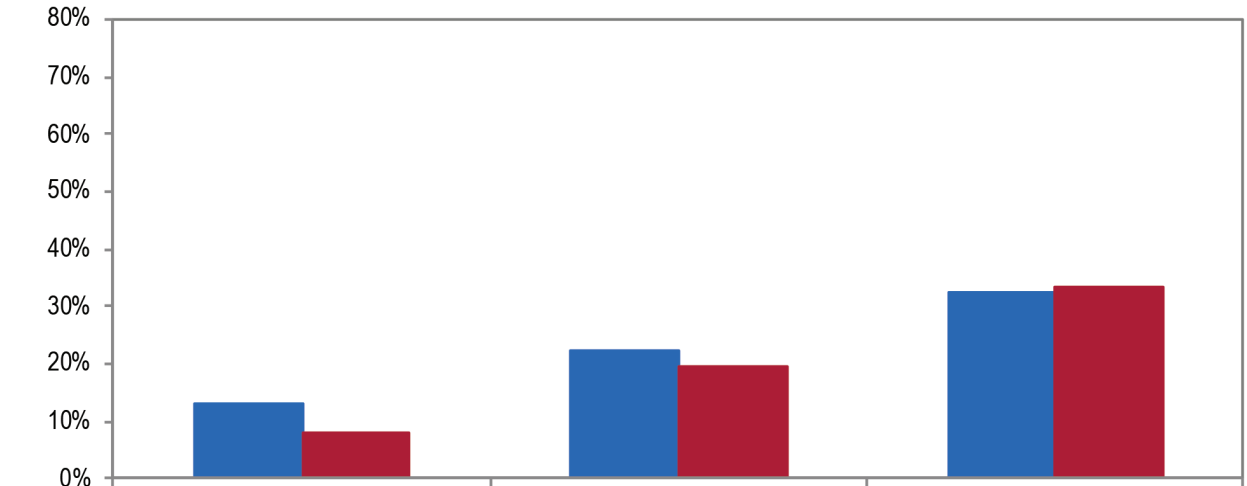
According to the CDC's Youth Risk Behavior Surveillance System (YRBSS), in 2015, 30.5% (95% CI: 26.3–35.2) of Indiana high school students had consumed at least one alcoholic drink in the past 30 days. No significant differences in alcohol consumption were observed by gender or race/ethnicity; however, 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). Furthermore, 17.4% (95% CI: 14.0–21.5) of Indiana high school students reported having had

five or more alcoholic drinks within a couple of hours at least once in the past month; the U.S. rate was similar at 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, 1991–2015).

Indiana Youth Survey

The Indiana Youth Survey (INYS) indicates that in 2017, nearly one-third (32.2%) of Indiana 12th grade students reported using alcohol at least once during the past 30 days (Gassman et al., 2017). 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 2.5; for trend information (from 2008 through 2017) on monthly alcohol use among high school seniors, see Figure 2.6. For monthly and binge use by Indiana region and grade for 2017, see Appendix 2A, page 18.

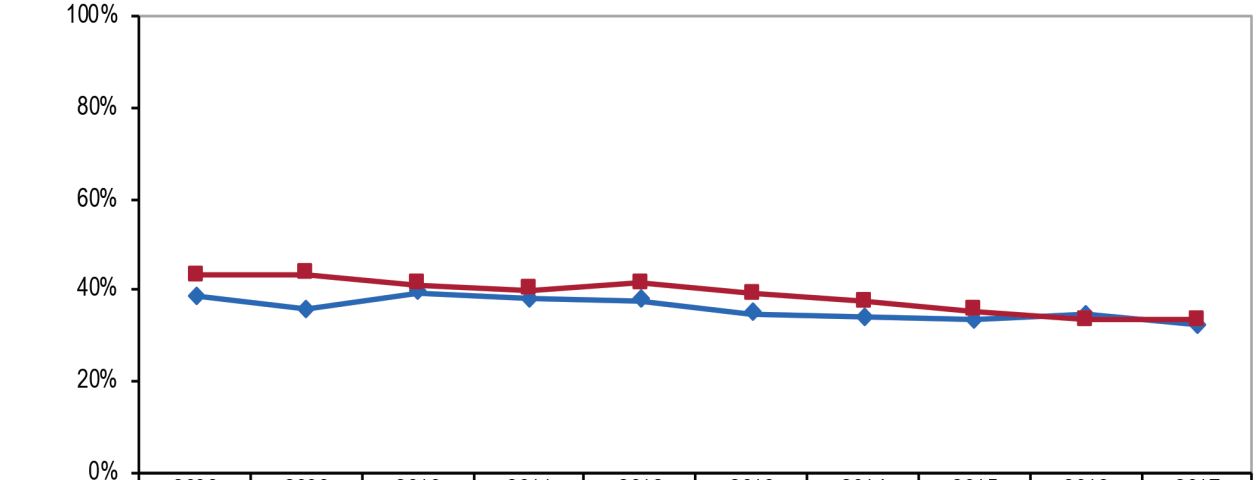
Figure 2.5 Percentage of Indiana and U.S. 8th, 10th, and 12th Grade Students Reporting Monthly Alcohol Use (Indiana Youth Survey and Monitoring the Future Survey, 2017)



	8th Grade	10th Grade	12th Grade
Indiana	13.0%	22.1%	32.2%
U.S.	8.0%	19.7%	33.2%

Source: Gassman et al., 2017; Inter-university Consortium for Political and Social Research, University of Michigan, 2017

Figure 2.6 Percentage of Indiana and U.S. High School Seniors (12th Grade) Reporting Monthly Alcohol Use (Indiana Youth Survey and Monitoring the Future Survey, 2008–2017)



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Indiana	38.4%	35.7%	39.4%	37.8%	37.6%	34.9%	33.9%	33.2%	34.6%	32.2%
U.S.	43.1%	43.5%	41.2%	40.0%	41.5%	39.2%	37.4%	35.3%	33.2%	33.2%

Source: Gassman et al., 2017; Inter-university Consortium for Political and Social Research, University of Michigan, 2017

Indiana College Substance Use Survey

The Indiana Prevention Resource Center (IPRC) developed the Indiana College Substance Use Survey (ICSUS) to measure alcohol and other drug usage, attitudes, and perceptions among college students at two- and four-year institutions. According to 2017 results, 60.8% of respondents reported past-month alcohol use; past-month consumption rates were significantly lower for underage students (51.0%) than for those ages 21 and older (74.0%). Similarly, past-month binge drinking prevalence (overall 33.6%) was significantly lower for underage students (28.5%) than for those ages 21 and older (40.6%) (King & Jun, 2017).[2]

USE OF ALCOHOL IN THE TREATMENT POPULATION

National Survey on Drug Use and Health

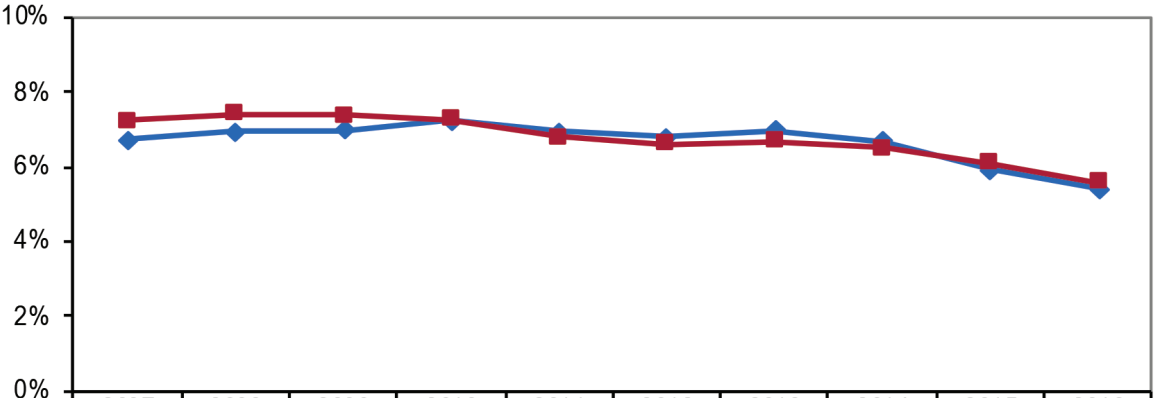
Based on 2015–2016 NSDUH averages, the estimated prevalence for alcohol use disorder[3] in the past year among those ages 12 and older was 5.3% (95% CI: 4.4–6.5) in Indiana, which was similar to the national estimate (5.7%; 95% CI: 5.55–5.92) (see Figure 2.7). Of all age groups, adults ages 18 to 25 reported the highest prevalence rates both in Indiana and nationally across all years reviewed. Additionally, an estimated 5.0% (95% CI: 4.2–5.9) of those ages 12 and older were in need of but did not receive treatment for alcohol use in Indiana (U.S.: 5.5%; 95% CI: 5.3–5.7) (SAMHSA, 2016).

[2]Thirty-one Indiana colleges participated in the 2017 survey; results are based on nonrandom sampling and are not representative of all college students in Indiana.
[3]The NSDUH defines alcohol use disorder as meeting the criteria for "dependence" or "abuse" based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*.

Treatment Episode Data Set

According to the Treatment Episode Data Set (TEDS), alcohol plays a major role in admissions to substance abuse treatment. In over half (51.2%) of Indiana treatment episodes in 2015, alcohol use was reported (U.S.: 48.5%), and in more than one-third (33.9%), alcohol dependence[4] was indicated (U.S.: 33.7%) (see Figure 2.8) (SAMHSA, 2015).

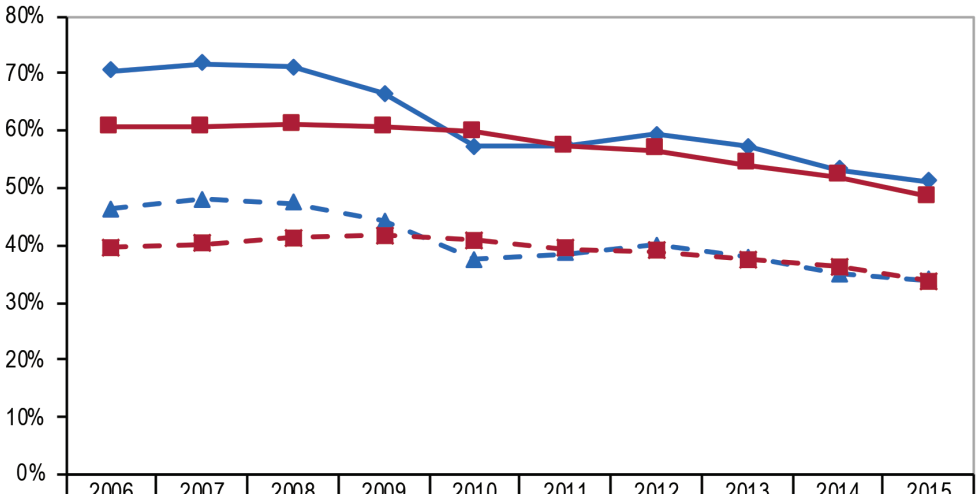
Figure 2.7 Percentage of Indiana and U.S. Population Ages 12 and Older with Alcohol Use Disorder (National Survey on Drug Use and Health, 2007–2016)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Indiana	6.7%	6.9%	7.0%	7.2%	6.9%	6.8%	7.0%	6.7%	5.9%	5.4%
U.S.	7.2%	7.4%	7.4%	7.3%	6.8%	6.6%	6.7%	6.5%	6.1%	5.6%

Source: SAMHSA, 2016

Figure 2.8 Percentage of Treatment Episodes in Indiana and the United States with Alcohol Use and Alcohol Dependence Reported at Treatment Admission (Treatment Episode Data Set, 2006–2015)



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Indiana Alcohol Use	70.4%	71.7%	71.0%	66.4%	57.2%	57.5%	59.4%	57.3%	53.3%	51.2%
U.S. Alcohol Use	60.5%	60.5%	61.0%	60.6%	59.7%	57.3%	56.6%	54.1%	51.9%	48.5%
Indiana Alcohol Dependence	46.4%	48.1%	47.3%	44.2%	37.6%	38.5%	40.1%	38.0%	35.0%	33.9%
U.S. Alcohol Dependence	39.5%	40.2%	41.3%	41.7%	40.9%	39.3%	38.9%	37.5%	36.3%	33.7%

SAMHSA, 2015

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

Factors significantly associated with alcohol use in Indiana's treatment population included gender, race/ethnicity, and age:

Gender—A higher percentage of males (57.6%) in substance abuse treatment listed alcohol as their primary substance, compared to 41.4% of females.

Race/ethnicity—Nearly half (49.5%) of whites in treatment reported using alcohol at the time of admission; this percentage was below that for blacks (57.5%) and other races (57.5%). With regard to ethnicity, a significantly higher percentage of Hispanics (58.1%) reported alcohol use than non-Hispanics (50.7%).

Age—The percentage of Hoosiers reporting alcohol use at treatment admission increased with age and was highest among those ages 55 and older (75.9%).

Table 2.3 depicts the percentage of Indiana residents, categorized by gender, race, ethnicity, and age group, in treatment for alcohol use. See Appendix 2B, page 19, for county-level treatment data.

Table 2.3 Percentage of Treatment Episodes in Indiana Reporting Alcohol Use at Treatment Admission, by Gender, Race, Ethnicity, and Age Group (Treatment Episode Data Set, 2015)

		Alcohol Dependence
Gender	Male	57.6%
	Female	41.4%
Race	White	49.5%
	Black	57.5%
	Other	57.5%
Ethnicity	Hispanic	58.1%
	Non-Hispanic	50.7%
Age Group	Under 18	45.3%
	18-24	43.7%
	25-34	43.1%
	35-44	54.3%
	45-54	70.1%
	55+	75.9%
Total		**51.2%**

Source: SAMHSA, 2015

CONSEQUENCES OF ALCOHOL USE

Hospitalizations

Hospital discharge records show that in 2016, a total of 1,526 hospitalized patients were treated in Indiana for an alcohol-attributable primary diagnosis, representing one percent (0.8%) of all hospital discharges in the state (Indiana State Department of Health [ISDH], 2016).[5]

Fetal Alcohol Spectrum Disorders

Alcohol consumption during pregnancy is another major health 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,[6] the most severe form of FASD, in Indiana (ISDH, 2008–2012).

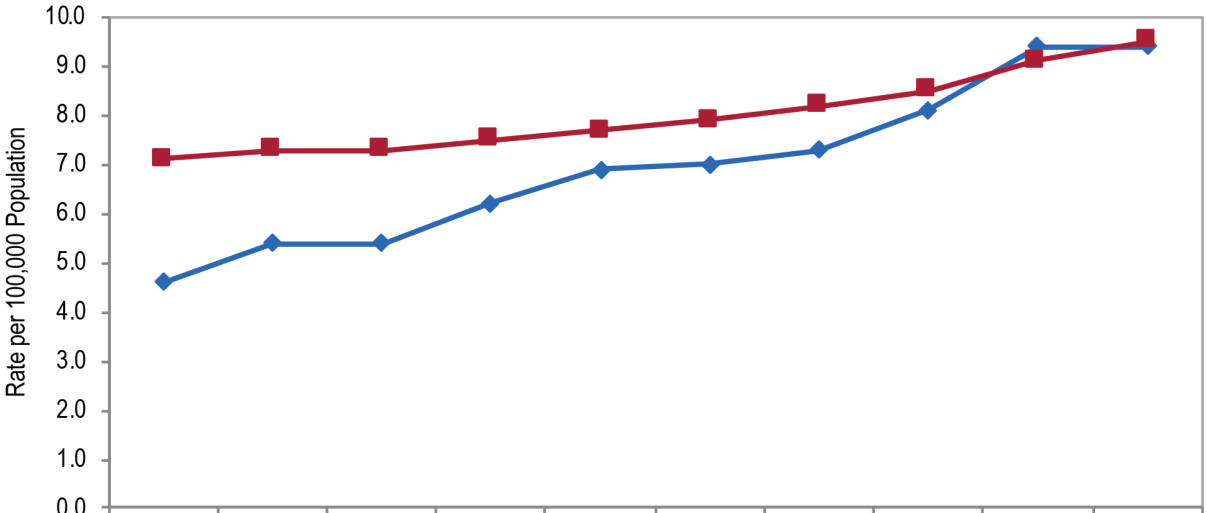
[5]For our analysis, we only included primary diagnoses that were 100% attributable to alcohol, as listed in CDC's Alcohol-Related Disease Impact (ARDI) database. These included ICD-10 codes E24.4 (Alcohol-induced pseudo-Cushing's syndrome), F10 (Mental and behavioral disorders due to use of alcohol), 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) (CDC, 2006-2010).

[6]The ICD-9 code for fetal alcohol syndrome is 760.71.

Alcohol-Related Mortality

From 2000 through 2016, a total of 7,312 Hoosiers died from alcohol-induced causes (CDC, 1999–2016).[7] 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 2016, which was similar to the U.S. rate of 9.5 per 100,000 population (95% CI: 9.4–9.6) (see Figure 2.9) (CDC, 1999–2016).

Figure 2.9 Age-Adjusted Alcohol-attributable Mortality Rates per 100,000 Population in Indiana and the United States (CDC WONDER, 2007–2016)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Indiana	4.6	5.4	5.4	6.2	6.9	7.0	7.3	8.1	9.4	9.4
U.S.	7.1	7.3	7.3	7.5	7.7	7.9	8.2	8.5	9.1	9.5

Source: CDC, 1999–2016

[7]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.

Appendix 2C, page 20, lists conditions that can be attributed to alcohol, along with their alcohol-attributable percentages. The list was developed through CDC's Alcohol-Related Disease Impact (ARDI) database (CDC, 2006–2010).

Alcohol-Related Motor Vehicle Accidents

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 8,608 in 2016. This represents a 38% drop. The number of fatal crashes with alcohol involvement also decreased, from 242 to 149, representing a 38% drop. (For a detailed listing of alcohol-related collisions and fatalities in Indiana by county for 2016, see Appendix 2D, pages 20-22). The overall rate for alcohol-related collisions in Indiana in 2016 was 1.3 per 1,000 population (Indiana State Police, 2016).

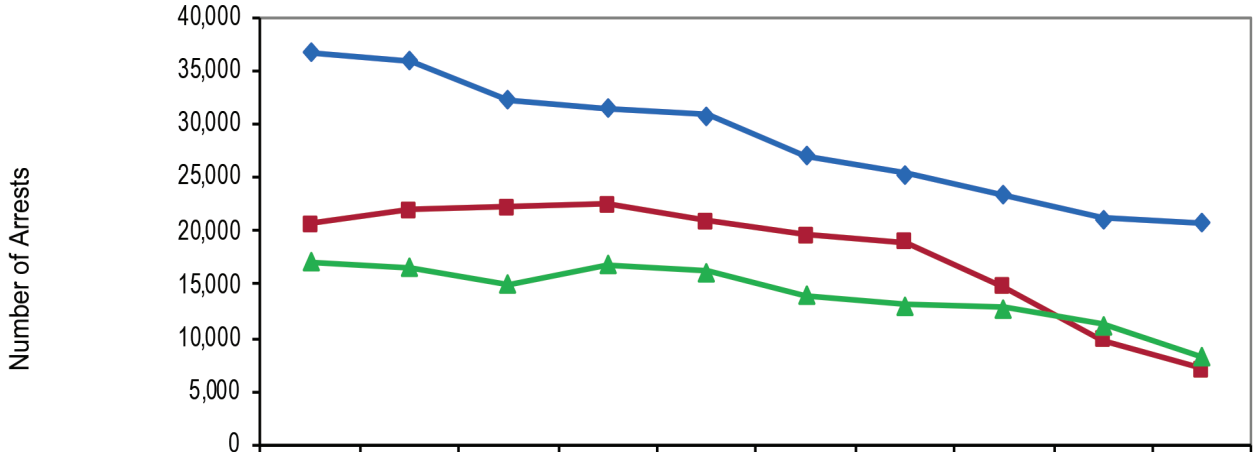
Child Removals due to Parental Substance Abuse

During SFY 2017, a total of 12,786 children were removed from their homes. In 1,034 cases (8.1%), parental alcohol abuse was indicated as the reason for removal (Indiana Department of Child Services, 2017).[8] [See Appendix 2E for county-level information.]

Arrests - Uniform Crime Reporting Program

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. In 2014, a total of 20,810 DUI arrests were made in Indiana; 7,107 Hoosiers

Figure 2.10 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

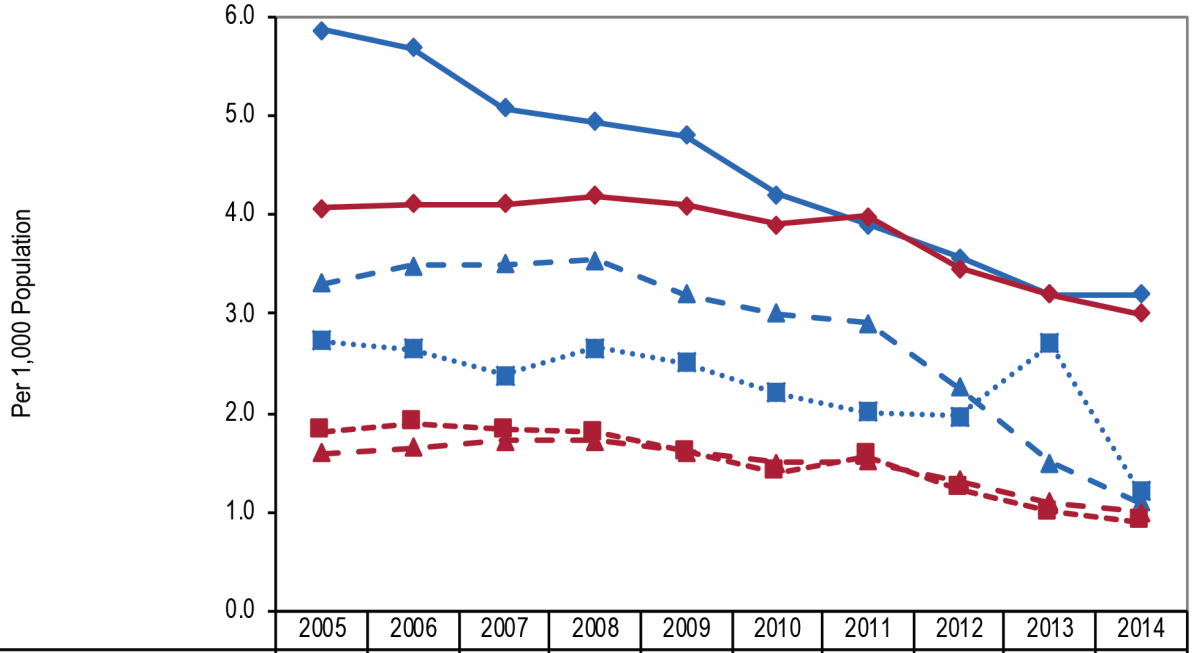
Source: FBI, 2014

[8]Counts and percentages may underrepresent removals that involve parental alcohol and/or drug abuse as data relies on parent alcohol and/or drug abuse being selected as a removal reason. There may be instances where alcohol and/or drug abuse is present but not selected as the removal reason.

were arrested for public intoxication; and 8,245 arrests occurred for liquor law violations (see Figure 2.10). The corresponding arrest rates have decreased significantly over the past ten years (see Figure 2.11) (Federal Bureau of Investigation [FBI], 2014).

Arrests for alcohol-related crimes varied among Indiana counties. These county differences are presented in Maps 2.1 through 2.3 (pages 26-28) and Appendix 2F (pages 24-25).

Figure 2.11 Arrest Rates, per 1,000 Population, for Driving Under the Influence (DUI), Public Intoxication, and Liquor Law Violations in Indiana and the United States (Uniform Crime Reporting Program, 2005–2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
IN DUI	5.9	5.7	5.1	4.9	4.8	4.2	3.9	3.6	3.2	3.2
U.S. DUI	4.1	4.1	4.1	4.2	4.1	3.9	4.0	3.5	3.2	3.0
IN Public Intox	3.3	3.5	3.5	3.5	3.2	3.0	2.9	2.3	1.5	1.1
U.S. Public Intox	1.6	1.6	1.7	1.7	1.6	1.5	1.5	1.3	1.1	1.0
IN Liquor Law Violations	2.7	2.6	2.4	2.7	2.5	2.2	2.0	2.0	2.7	1.2
U.S. Liquor Law Violations	1.8	1.9	1.8	1.8	1.6	1.4	1.6	1.2	1.0	0.9

Source: FBI, 2014

APPENDIX 2A

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	4.2	4.1	2.9*	7.8*	3.2	3.5*	5.5*	3.3*	4.1
	Binge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7th Grade	Monthly	8.0	6.7*	9.0	13.5*	7.8	5.7*	8.3	6.7*	8.2
	Binge	2.6	1.9*	4.0*	4.4*	1.4*	1.7*	3.0	2.1	2.6
8th Grade	Monthly	13.0	14.1	12.8	15.2*	12.0	11.1*	14.0	11.8*	13.4
	Binge	4.9	5.6	4.5	5.9	4.8	3.9*	5.7	4.3	5.0
9th Grade	Monthly	17.8	16.9	15.1*	22.9*	11.9*	16.0*	18.6	18.2	18.3
	Binge	7.1	7.2	5.5*	8.9*	5.2	6.3	6.8	7.9	7.3
10th Grade	Monthly	22.4	23.4	18.2*	26.9*	14.7*	20.4*	21.6	24.5*	22.8
	Binge	9.5	9.6	7.3*	11.4*	6.1*	8.5	8.5	12.9*	9.1
11th Grade	Monthly	25.4	25.7	20.4*	31.0*	21.2*	24.4	23.9	27.1	24.6
	Binge	10.8	12.3*	7.5*	13.1*	7.9	8.8*	10.0	12.9*	10.2
12th Grade	Monthly	32.2	31.5	26.7*	35.8*	28.7	32.7	29.3*	33.9	33.6
	Binge	14.8	14.7	10.8*	15.1	12.5	13.8	13.6	18.2*	15.8

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., 2017

APPENDIX 2B

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, 2017)

	Treatment Episodes	Alcohol Use		Alcohol Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**
Adams	369	190	51.5%	111	30.1%
Allen	1,847	1,145	62.0%	677	36.7%
Bartholomew	856	273	31.9%	176	20.6%
Benton	51	32	62.7%	14	27.5%
Blackford	117	39	33.3%	19	16.2%
Boone	183	69	37.7%	48	26.2%
Brown	110	51	46.4%	32	29.1%
Carroll	80	33	41.3%	21	26.3%
Cass	338	197	58.3%	120	35.5%
Clark	133	38	28.6%	30	22.6%
Clay	227	104	45.8%	65	28.6%
Clinton	203	85	41.9%	48	23.6%
Crawford	43	17	39.5%	9	20.9%
Daviess	179	89	49.7%	62	34.6%
Dearborn	565	263	46.5%	156	27.6%
Decatur	317	138	43.5%	91	28.7%
DeKalb	315	203	64.4%	115	36.5%
Delaware	1,104	356	32.2%	260	23.6%
Dubois	226	152	67.3%	97	42.9%
Elkhart	749	403	53.8%	284	37.9%
Fayette	344	93	27.0%	45	13.1%
Floyd	69	16	23.2%	14	20.3%
Fountain	63	24	38.1%	6	9.5%
Franklin	182	66	36.3%	38	20.9%
Fulton	189	121	64.0%	60	31.7%
Gibson	298	184	61.7%	119	39.9%
Grant	532	238	44.7%	141	26.5%
Greene	222	84	37.8%	45	20.3%
Hamilton	919	554	60.3%	368	40.0%
Hancock	358	140	39.1%	102	28.5%
Harrison	19	6	31.6%	5	26.3%
Hendricks	404	169	41.8%	121	30.0%
Henry	334	100	29.9%	70	21.0%
Howard	658	270	41.0%	146	22.2%
Huntington	212	86	40.6%	45	21.2%
Jackson	451	177	39.2%	101	22.4%
Jasper	114	49	43.0%	35	30.7%
Jay	162	66	40.7%	43	26.5%
Jefferson	427	174	40.7%	107	25.1%
Jennings	311	124	39.9%	81	26.0%
Johnson	490	187	38.2%	135	27.6%
Knox	347	177	51.0%	120	34.6%
Kosciusko	490	314	64.1%	156	31.8%
LaGrange	169	107	63.3%	57	33.7%
Lake	2,360	1324	56.1%	980	41.5%
LaPorte	281	148	52.7%	104	37.0%
Lawrence	664	259	39.0%	153	23.0%

	Treatment Episodes	Alcohol Use		Alcohol Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**
Madison	1,329	575	43.3%	325	24.5%
Marion	4,220	1767	41.9%	1,180	28.0%
Marshall	179	92	51.4%	57	31.8%
Martin	71	36	50.7%	26	36.6%
Miami	289	161	55.7%	99	34.3%
Monroe	1,609	840	52.2%	556	34.6%
Montgomery	397	164	41.3%	104	26.2%
Morgan	584	204	34.9%	134	22.9%
Newton	35	18	51.4%	8	22.9%
Noble	336	185	55.1%	111	33.0%
Ohio	38	24	63.2%	16	42.1%
Orange	192	87	45.3%	56	29.2%
Owen	243	111	45.7%	75	30.9%
Parke	73	30	41.1%	21	28.8%
Perry	131	73	55.7%	38	29.0%
Pike	40	23	57.5%	20	50.0%
Porter	256	113	44.1%	89	34.8%
Posey	180	119	66.1%	74	41.1%
Pulaski	75	44	58.7%	27	36.0%
Putnam	259	86	33.2%	37	14.3%
Randolph	240	104	43.3%	64	26.7%
Ripley	195	107	54.9%	62	31.8%
Rush	197	82	41.6%	41	20.8%
Saint Joseph	1,408	729	51.8%	471	33.5%
Scott	201	50	24.9%	32	15.9%
Shelby	199	82	41.2%	53	26.6%
Spencer	142	70	49.3%	38	26.8%
Starke	87	14	16.1%	5	5.7%
Steuben	251	158	62.9%	91	36.3%
Sullivan	78	37	47.4%	22	28.2%
Switzerland	88	41	46.6%	28	31.8%
Tippecanoe	400	187	46.8%	101	25.3%
Tipton	62	21	33.9%	13	21.0%
Union	52	19	36.5%	15	28.8%
Vanderburgh	1,454	693	47.7%	386	26.5%
Vermillion	114	48	42.1%	30	26.3%
Vigo	935	443	47.4%	266	28.4%
Wabash	311	158	50.8%	76	24.4%
Warren	26	15	57.7%	7	26.9%
Warrick	294	164	55.8%	91	31.0%
Washington	34	12	35.3%	5	14.7%
Wayne	574	210	36.6%	125	21.8%
Wells	159	82	51.6%	32	20.1%
White	152	78	51.3%	35	23.0%
Whitley	151	98	64.9%	54	35.8%
Indiana	**37,421**	**17,588**	**47.0%**	**11,028**	**29.5%**

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, 2017

APPENDIX 2C

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 2D

Number and Rate (per 1,000) of All and Fatal Alcohol-Related Collisions in Indiana, by County (Automated Reporting Information Exchange System, 2016)

	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	702	22	0.62	2	1	0.03
Allen	14,372	588	1.59	30	11	0.03
Bartholomew	2,248	109	1.34	14	0	0.00
Benton	153	8	0.92	2	0	0.00
Blackford	269	8	0.66	3	1	0.08
Boone	2,032	69	1.07	5	1	0.02
Brown	554	31	2.08	1	0	0.00
Carroll	482	24	1.20	4	0	0.00
Cass	1,154	43	1.13	8	1	0.03
Clark	5,327	159	1.37	10	2	0.02
Clay	792	40	1.52	5	1	0.04
Clinton	1,148	71	2.19	4	1	0.03
Crawford	346	15	1.42	2	0	0.00
Daviess	402	53	1.61	5	2	0.06
Dearborn	1,860	86	1.74	5	1	0.02
Decatur	1,010	31	1.17	16	0	0.00
DeKalb	1,338	51	1.19	5	1	0.02
Delaware	4,301	159	1.38	9	0	0.00
Dubois	1,563	70	1.65	3	1	0.02
Elkhart	7,726	192	0.94	16	3	0.01
Fayette	545	21	0.90	3	1	0.04
Floyd	3,082	113	1.47	8	2	0.03
Fountain	452	27	1.64	2	1	0.06

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APPENDIX 2D *(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	555	26	1.14	3	0	0.00
Fulton	624	24	1.19	2	1	0.05
Gibson	1,131	55	1.63	10	1	0.03
Grant	2,396	85	1.27	9	4	0.06
Greene	958	45	1.40	5	1	0.03
Hamilton	8,500	285	0.90	15	3	0.01
Hancock	1,913	76	1.03	7	2	0.03
Harrison	1,280	40	1.00	11	2	0.05
Hendricks	4,558	142	0.88	16	3	0.02
Henry	1,026	54	1.11	10	2	0.04
Howard	2,741	122	1.48	14	4	0.05
Huntington	1,200	46	1.26	5	1	0.03
Jackson	1,731	73	1.66	4	1	0.02
Jasper	1,402	54	1.62	7	0	0.00
Jay	707	18	0.86	3	0	0.00
Jefferson	1,073	29	0.89	5	0	0.00
Jennings	836	31	1.12	7	2	0.07
Johnson	3,830	158	1.04	6	1	0.01
Knox	906	45	1.19	3	1	0.03
Kosciusko	2,728	93	1.18	14	4	0.05
LaGrange	1,018	33	0.84	6	0	0.00
Lake	17,364	725	1.49	48	6	0.01
LaPorte	4,033	179	1.63	19	5	0.05
Lawrence	1,525	53	1.16	6	1	0.02
Madison	4,179	187	1.45	12	3	0.02
Marion	37,447	1,339	1.42	93	21	0.02
Marshall	1,597	76	1.63	8	1	0.02
Martin	156	14	1.38	2	1	0.10
Miami	1,051	53	1.48	4	1	0.03
Monroe	4,376	192	1.32	16	3	0.02
Montgomery	987	41	1.08	5	0	0.00
Morgan	1,907	77	1.10	14	4	0.06
Newton	369	24	1.72	3	0	0.00
Noble	1,480	73	1.53	4	1	0.02
Ohio	159	13	2.19	2	0	0.00
Orange	526	25	1.29	2	1	0.05
Owen	579	29	1.39	4	1	0.05
Parke	503	21	1.25	7	1	0.06
Perry	470	25	1.32	1	0	0.00
Pike	199	16	1.29	4	0	0.00
Porter	5,160	217	1.29	17	2	0.01
Posey	586	33	1.30	2	0	0.00
Pulaski	443	12	0.95	2	2	0.16
Putnam	1,059	42	1.12	1	0	0.00
Randolph	493	31	1.24	8	2	0.08
Ripley	791	36	1.25	7	1	0.03
Rush	324	14	0.84	3	1	0.06
Saint Joseph	9,451	346	16.76	22	6	0.29
Scott	634	23	0.09	6	0	0.00
Shelby	1,452	65	2.74	11	0	0.00

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APPENDIX 2D *(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	545	25	0.56	2	0	0.00
Starke	598	25	1.09	5	2	0.09
Steuben	1,496	47	1.38	11	1	0.03
Sullivan	476	26	1.25	4	0	0.00
Switzerland	163	12	1.14	2	0	0.00
Tippecanoe	7,578	248	1.32	7	1	0.01
Tipton	392	8	0.53	3	1	0.07
Union	99	4	0.55	0	0	0.00
Vanderburgh	7,246	205	1.13	15	2	0.01
Vermillion	322	19	1.21	3	0	0.00
Vigo	3,959	144	1.33	13	3	0.03
Wabash	944	34	1.07	8	3	0.09
Warren	248	10	1.22	2	1	0.12
Warrick	1,530	65	1.04	8	2	0.03
Washington	682	35	1.26	3	1	0.04
Wayne	2,522	92	1.38	10	2	0.03
Wells	732	22	0.79	7	0	0.00
White	936	36	1.50	3	1	0.04
Whitley	994	46	1.38	5	1	0.03
Indiana	223,733	8,608	1.30	768	149	0.02

Note: Rates based on numbers lower than 20 are unreliable.
Source: Indiana State Police, 2016

APPENDIX 2E

Child Removals, Total and Due to Parental Alcohol Abuse, SFY 2017

	Removals Total	Parent Alcohol Abuse Indicated as Removal Reason	
County	**Total**	**Count**	**Percentage**
Adams	87	9	10.3%
Allen	593	41	6.9%
Bartholomew	136	15	11.0%
Benton	17	-	0.0%
Blackford	45	-	0.0%
Boone	84	5	6.0%
Brown	36	5	13.9%
Carroll	23	3	13.0%
Cass	60	10	16.7%
Clark	188	11	5.9%
Clay	58	3	5.2%
Clinton	85	6	7.1%
Crawford	47	1	2.1%
Daviess	49	4	8.2%
Dearborn	98	7	7.1%
Decatur	101	7	6.9%
Dekalb	45	-	0.0%
Delaware	357	20	5.6%
Dubois	101	16	15.8%
Elkhart	170	3	1.8%
Fayette	82	7	8.5%
Floyd	199	19	9.5%
Fountain	59	5	8.5%
Franklin	30	1	3.3%
Fulton	51	2	3.9%
Gibson	87	9	10.3%
Grant	116	11	9.5%
Greene	55	-	0.0%
Hamilton	85	4	4.7%
Hancock	107	13	12.1%
Harrison	38	-	0.0%
Hendricks	118	7	5.9%
Henry	111	7	6.3%
Howard	134	13	9.7%
Huntington	36	5	13.9%
Jackson	133	10	7.5%
Jasper	52	3	5.8%
Jay	33	3	9.1%
Jefferson	81	2	2.5%
Jennings	121	13	10.7%
Johnson	163	11	6.7%
Knox	123	12	9.8%
Kosciusko	69	5	7.2%
LaGrange	33	3	9.1%
Lake	799	53	6.6%
Laporte	188	12	6.4%
Lawrence	120	14	11.7%

	Removals Total	Parent Alcohol Abuse Indicated as Removal Reason	
County	**Total**	**Count**	**Percentage**
Madison	401	32	8.0%
Marion	2,745	208	7.6%
Marshall	41	4	9.8%
Martin	28	5	17.9%
Miami	49	7	14.3%
Monroe	260	27	10.4%
Montgomery	88	12	13.6%
Morgan	138	14	10.1%
Newton	20	-	0.0%
Noble	85	8	9.4%
Ohio	6	-	0.0%
Orange	87	2	2.3%
Owen	47	1	2.1%
Parke	28	8	28.6%
Perry	98	13	13.3%
Pike	61	11	18.0%
Porter	115	12	10.4%
Posey	64	4	6.3%
Pulaski	23	1	4.3%
Putnam	100	40	40.0%
Randolph	77	4	5.2%
Ripley	91	7	7.7%
Rush	23	2	8.7%
St. Joseph	369	35	9.5%
Scott	116	11	9.5%
Shelby	69	10	14.5%
Spencer	82	7	8.5%
Starke	52	1	1.9%
Steuben	55	1	1.8%
Sullivan	54	6	11.1%
Switzerland	20	-	0.0%
Tippecanoe	233	12	5.2%
Tipton	65	10	15.4%
Union	24	-	0.0%
Vanderburgh	562	56	10.0%
Vermillion	42	4	9.5%
Vigo	242	19	7.9%
Wabash	94	2	2.1%
Warren	20	1	5.0%
Warrick	58	4	6.9%
Washington	22	-	0.0%
Wayne	168	9	5.4%
Wells	64	11	17.2%
White	55	1	1.8%
Whitley	42	2	4.8%
Indiana	**12,786**	**1,034**	**8.1%**

Note: Counts and percentages may underrepresent removals that involve parental alcohol and/or drug abuse as data relies on parent alcohol and/or drug abuse being selected as a removal reason. There may be instances where alcohol and/or drug abuse is present but not selected as the removal reason.
Source: Indiana Department of Child Services, 2017

APPENDIX 2F

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

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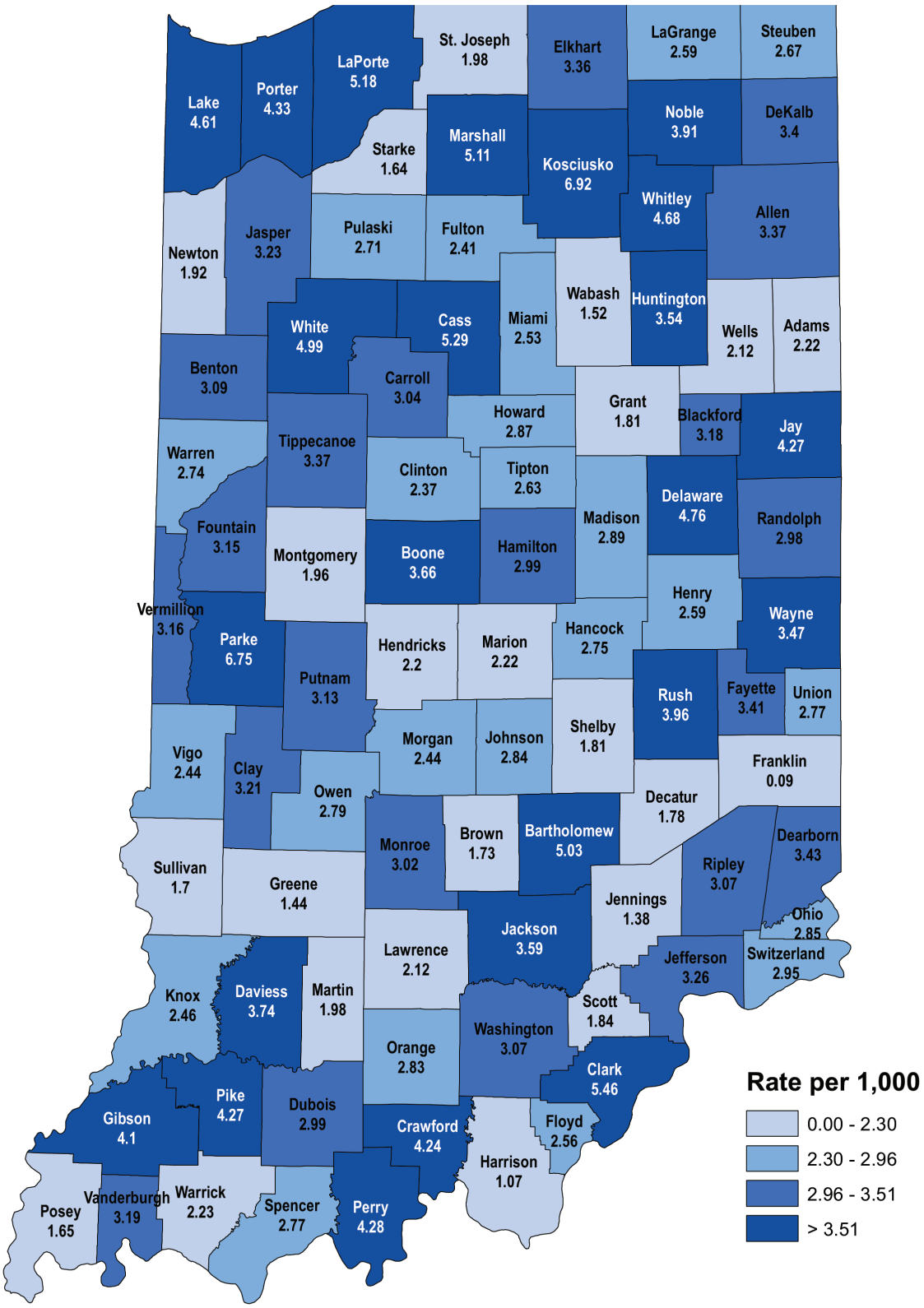
APPENDIX 2F *(Continued from previous page)*

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**

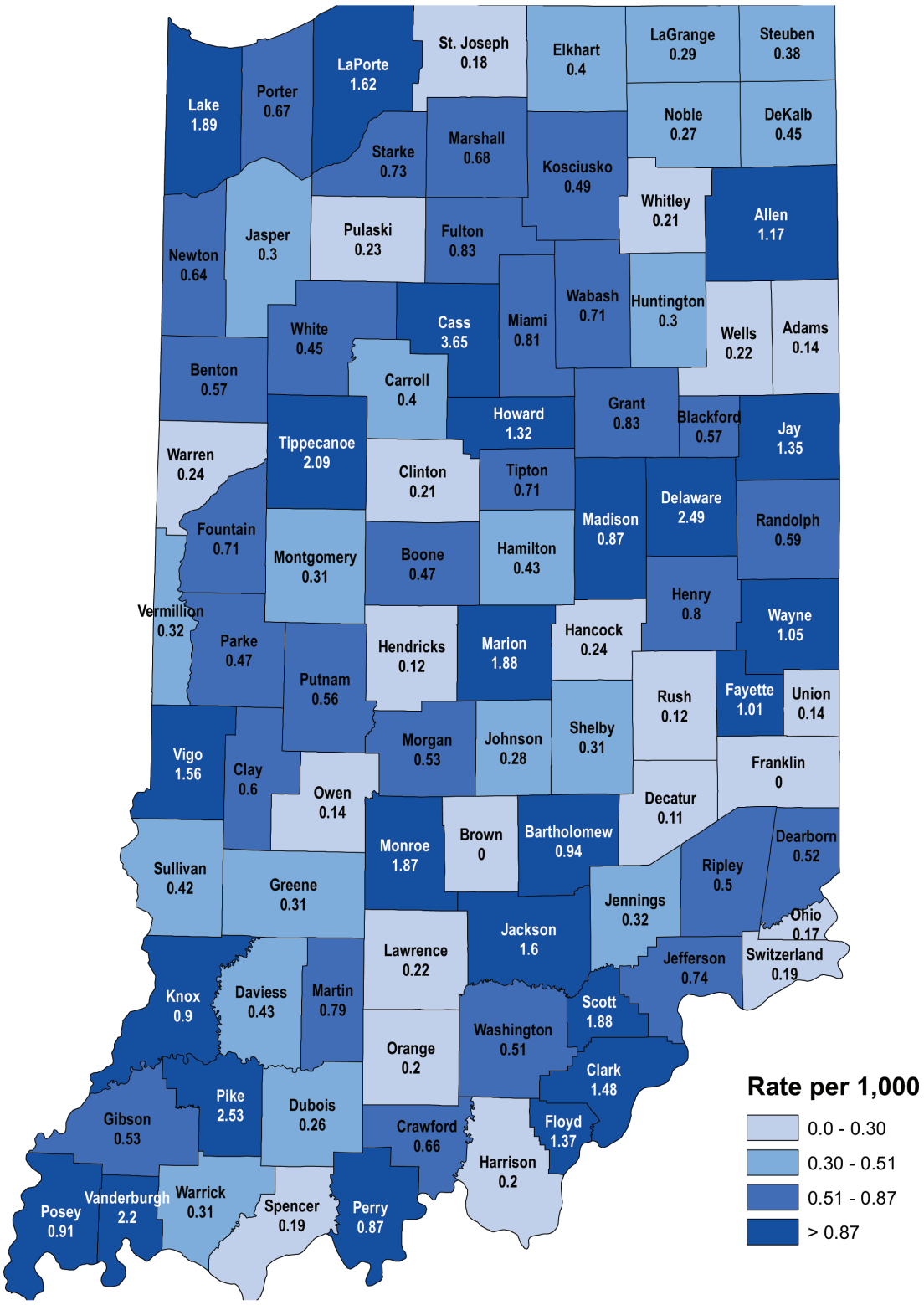
Note: Rates based on numbers lower than 20 are unreliable.
Source: FBI, 2014

Map 2.1 DUI Arrest Rates in Indiana, by County (Uniform Crime Reporting Program, 2014)



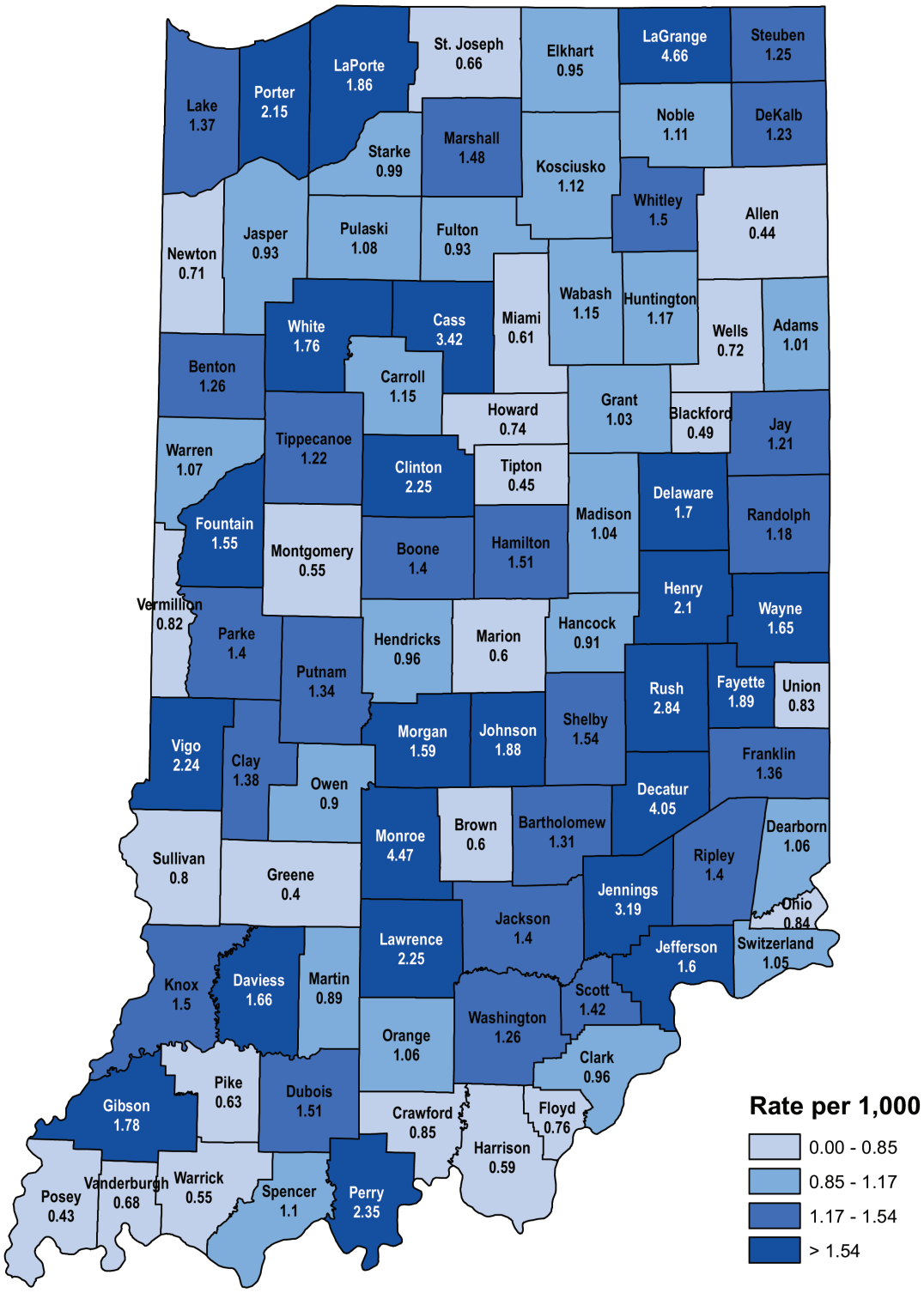
Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 2F (pages 24-25) for additional information.
Source: FBI, 2014

Map 2.2 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 2F (pages 24-25) for additional information.
Source: FBI, 2014

Map 2.3 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 2F (pages 24-25) for additional information.
Source: FBI, 2014

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3 Tobacco Use in Indiana: Consumption Patterns and Consequences

INTRODUCTION

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 healthcare costs directly caused by smoking, including nearly $590 million that is absorbed by Medicaid (Campaign for Tobacco-Free Kids, 2017b).

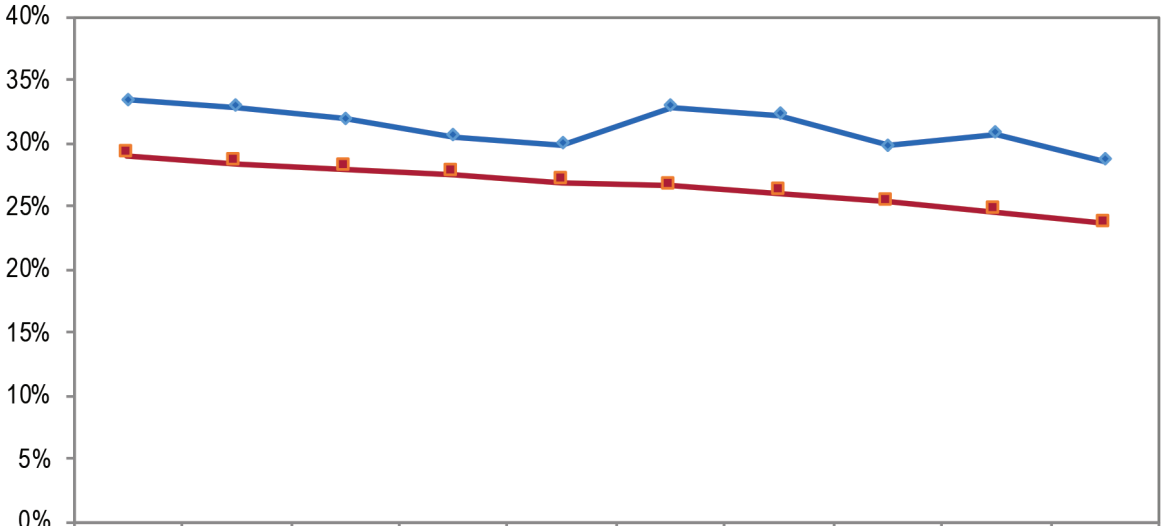
Though self-reported cigarette smoking has been on the decline, electronic nicotine delivery systems, including e-cigarettes, have surged in popularity in recent years (Marynak et al., 2017). While e-cigarettes have been promoted as less dangerous than cigarettes, they have not been approved as safe 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], 2015).

PREVALENCE OF TOBACCO CONSUMPTION IN THE GENERAL POPULATION

National Survey on Drug Use and Health

Estimates from the 2016 National Survey on Drug Use and Health (NSDUH) showed that 28.7% (95% Confidence Interval [CI]: 26.4–31.2) of Indiana residents 12 years and older used a tobacco product in the past month, a rate significantly higher than the U.S. rate (23.7%; 95% CI: 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 2007 through 2016 (see Figure 3.1) (Substance Abuse and Mental Health Services Administration [SAMHSA], 2016).

Figure 3.1 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, 2007–2016)

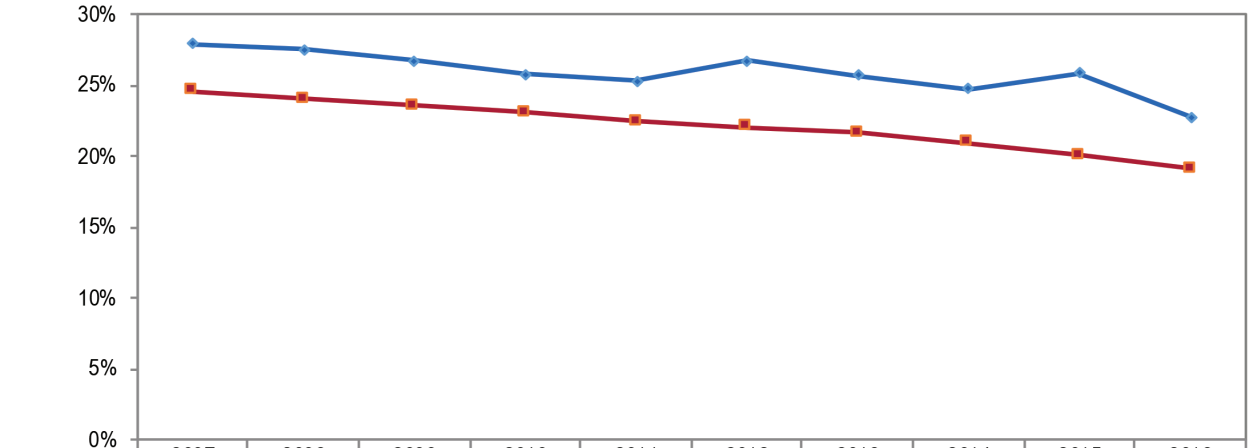


	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Indiana	33.5%	32.9%	31.9%	30.6%	29.9%	32.9%	32.3%	29.8%	30.8%	28.7%
U.S.	29.1%	28.5%	28.0%	27.6%	27.0%	26.6%	26.1%	25.4%	24.6%	23.7%

Source: SAMHSA, 2016

The majority of tobacco consumers smoked cigarettes. In 2016, 22.8% (95% CI: 20.8–25.0) of Hoosiers ages 12 years and older reported past-month use of cigarettes, a rate significantly higher than the U.S. rate (19.2%; 95% CI: 18.9– 9.6). Indiana's smoking prevalence declined from 2007 (28.0%; 95% CI: 25.6–30.4) to 2016 (22.8%; 95% CI: 20.8–25.0) (see Figure 3.2).

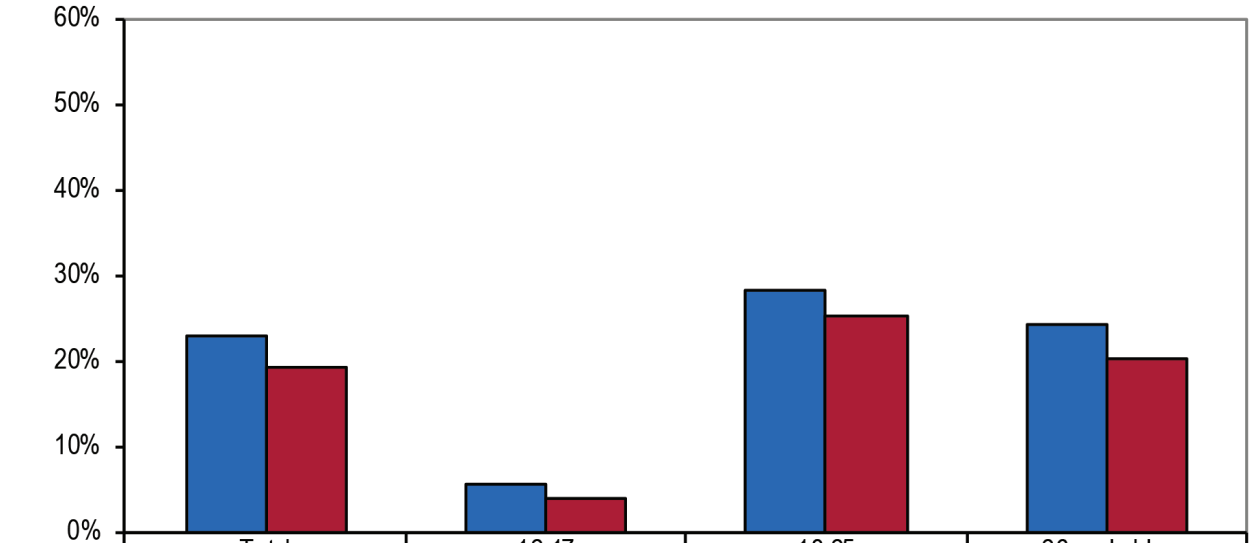
Figure 3.2 Percentage of Indiana and U.S. Population (12 Years and Older) Reporting Cigarette Use in the Past Month (National Survey on Drug Use and Health, 2007–2016)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Indiana	28.0%	27.6%	26.8%	25.9%	25.3%	26.8%	25.7%	24.8%	25.9%	22.8%
U.S.	24.6%	24.1%	23.6%	23.2%	22.5%	22.1%	21.7%	21.0%	20.1%	19.2%

Source: SAMHSA, 2016

Figure 3.3 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, 2016)



	Total	12-17	18-25	26 and older
Indiana	22.8%	5.6%	28.3%	24.1%
U.S.	19.2%	3.8%	25.1%	20.1%

Source: SAMHSA, 2016

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 62.6 packs sold per capita in SFY 2017 (ISDH/TPCC, 2017a).

The highest rate of tobacco use occurred among 18- to 25-year-olds. An estimated 37.4% of Hoosiers in this age group (95% CI: 33.7–41.2) reported currently (i.e., within the past 30 days) using a tobacco product, a rate significantly higher than the national rate (31.5; 95% CI: 30.8–32.2). The 30-day prevalence rate for cigarette smoking among 18- to 25-year-olds was 28.3% (95% CI: 25.1–31.9) in Indiana (U.S.: 25.1%; 95% CI: 24.4–25.8) (see Figure 3.3).

Also, 29.9% (95% CI: 27.1–32.9) of Hoosiers ages 26 and older used a tobacco product, and 24.1% (95% CI: 21.5–26.8) smoked cigarettes in the past month. U.S. rates were significantly lower for both tobacco use (24.6%; 95% CI: 24.1–25.0) and cigarette smoking (20.1%; 95% CI: 19.7–20.5) (SAMHSA, 2016).

Behavior Risk Factor Surveillance System

The Behavioral Risk Factor Surveillance System (BRFSS) focuses on behaviors and conditions that are linked with leading causes of death. According to 2016 findings, the prevalence rate for adult smoking in Indiana was 21.1% (95% CI: 20.0–22.3). Moreover, 15.5% (95% CI: 14.4–16.5) of Hoosiers used cigarettes every day. Indiana's smoking prevalence rates were higher than the national median rate: 17.0% of U.S. residents smoked in the past month and 12.3% 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, as follows (see Table 3.1):

- 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 3.1 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	23.6% (21.8–25.4)
	Female	18.8% (17.3–20.3)
Race / Ethnicity	White	20.9% (19.0–22.7)
	Black	21.6% (15.7–27.5)
	Hispanic	11.3% (5.5– 7.1)
Age Group	18-24	16.8% (12.8–20.9)
	25-34	24.8% (21.2–28.3)
	35-44	25.4% (22.1–28.7)
	45-54	25.7% (22.9–28.4)
	55-64	23.8% (21.5–26.1)
	65+	11.6% (10.2–13.0)
Education	Less than High School	38.2% (33.6–42.7)
	High School or GED	26.3% (24.2–28.5)
	Some post-High School	18.1% (16.1–20.1)
	College Graduate	7.3% (6.1–8.5)
Income	Less than $15,000	38.5% (33.9–43.2)
	$15,000–$24,999	30.0% (26.8–33.3)
	$25,000–$34,999	27.7% (23.4–32.0)
	$35,000–$49,999	23.6% (20.3–26.9)
	$50,000 and above	12.5% (11.0–14.0)
Total		**21.1% (20.0–22.3)**

Source: CDC, 2017a

Adult smoking prevalence in Indiana has been above the U.S. level for at least the past six years (see Figure 3.4). Adult smoking prevalence, as shown in Figure 3.4, has been trending downward since 2011.

Indiana Adult Tobacco Survey

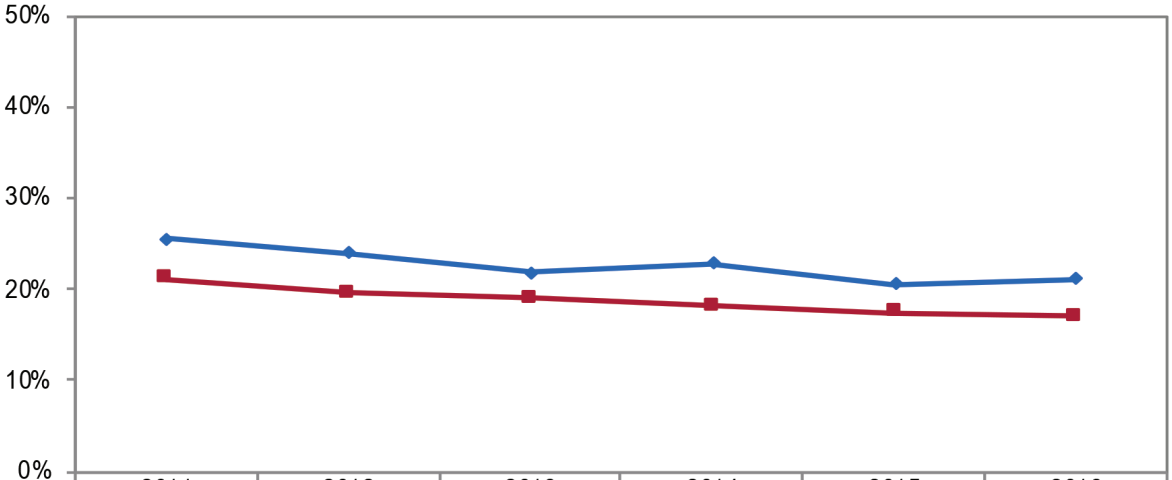
The 2017 Indiana Adult Tobacco Survey (IATS) estimated the overall smoking prevalence among Indiana adults at 23.6% (95% CI: 21.1–26.2). Smoking was most prevalent among persons:

- Without a high school degree (49.0%; 95% CI: 39.6–58.5)
- With annual household incomes less than $20,000 (42.4%; 95% CI: 32.7–52.7)
- Ages 25 to 39 years (32.9%; 95% CI: 27.0–39.4)
- Who are non-Hispanic black (30.9%; 95% CI: 22.5-40.8)

Approximately 23.7% (95% CI: 21.2-26.3) of adults in Indiana reported ever trying an e-cigarette.

Among current smokers, nearly one-third (31.5%; 95% CI: 25.7–38.0) reported intentions to quit within the next 30 days (Indiana State Department of Health [ISDH], Tobacco Prevention & Cessation Commission [TPCC], 2018). For details on smokers' intentions to quit, see Table 3.2.

Figure 3.4 Percentage of Indiana and U.S. Population (18 Years and Older) Reporting Current Cigarette Use (Behavioral Risk Factor Surveillance System, 2011–2016)



	2011	2012	2013	2014	2015	2016
Indiana	25.6%	24.0%	21.9%	22.9%	20.6%	21.1%
U.S.	21.2%	19.6%	19.0%	18.1%	17.5%	17.0%

Source: CDC, 2017a

Table 3.2 Intentions to Quit Smoking Among Current Smokers (Indiana Adult Tobacco Survey, 2017)

	Within next 30 days	Within 30 days to 6 months	Sometime after 6 months	No intention to quit
Gender				
Male	28.2% (20.4–37.6)	15.3% (9.7–23.4)	14.6% (9.1–22.7)	41.9% (32.9–51.4)
Female	35.7% (27.3–45.0)	16.4% (10.8–24.0)	20.3% (14.0–28.5)	27.7% (20.3–36.4)
Race/Ethnicity				
White	28.4% (22.1–35.7)	15.3% (10.7–21.5)	17.7% (12.7–24.1)	38.6% (31.6–46.1)
Black	48.8% (31.8–66.1)	19.3% (8.9–36.8)	22.2% (10.7–40.4)	9.8% (4.0–21.8)
Hispanic	28.5% (7.2–67.2)	12.1% (1.6–53.3)	10.6% (1.4–49.6)	48.7% (17.9–80.6)
Other	43.0% (17.7–72.5)	10.8% (2.4–37.1)	20.6% (5.4–54.2)	25.7% (8.2–57.1)
Age Group				
18-24	23.0% (12.5–38.4)	14.3% (6.4–28.8)	17.7% (8.1–34.4)	45.0% (30.0–61.0)
25-39	34.2% (23.5–46.8)	17.8% (10.3–29.1)	18.4% (10.8–29.4)	29.6% (19.9–41.5)
40-64	33.6% (24.9–43.5)	14.4% (9.1–22.1)	18.8% (12.4–27.4)	33,2% (24.6–43.2)
65+	29.7% (15.8–48.7)	17.8% (7.1–37.9)	12.7% (3.7–35.3)	39.9% (23.2–59.4)
Education				
Less than High School	35.9% (22.3–52.1)	18.7% (9.2–34.5)	11.2% (5.0–23.3)	34.2% (21.2–50.1)
High School Grad	26.1% (18.3–35.8)	14.9% (9.1–23.4)	23.9% (15.9–34.4)	35.0% (25.8–45.5)
Some College	34.8% (24.6–46.6)	12.7% (7.2–21.3)	18.4% (11.1–28.9)	34.1% (24.5–45.3)
College	32.4% (16.6–53.5)	25.2% (12.0–45.4)	10.5% (2.6–33.6)	31.9% (15.9–53.7)
Post-Graduate	27.7% (8.3–61.9)	10.0% (1.9–39.0)	2.5% (0.5–10.7)	59.8% (28.8–84.6)
Income				
Less than $20,000	39.0% (23.6–57.0)	13.3% (5.6–28.1)	18.6% (8.0–37.4)	29.2% (16.9–45.6)
$20,000 – $39,999	33.0% (22.1–46.0)	17.4% (9.4–30.0)	25.8% (16.6–37.8)	23.8% (15.3–35.1)
$40,000 – $69,999	32.5% (22.0–45.0)	18.8% (11.2–29.9)	14.6% (7.8–25.7)	34.2% (23.3–46.9)
$70,000 or more	26.1% (17.1–37.8)	12.5% (6.9–21.5)	13.1% (6.9–23.4)	48.3% (36.6–60.2)
Total	**31.5% (25.7–38.0)**	**15.7% (11.5–21.0)**	**17.9% (13.4–23.5)**	**34.9% (28.9–41.4)**

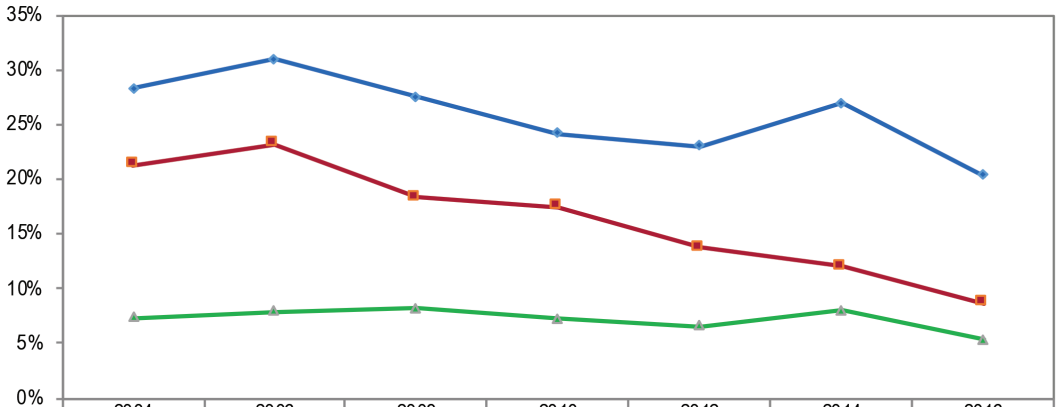
Source: ISDH/TPCC, 2018

Indiana Youth Tobacco Survey

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, smokeless tobacco products, and overall tobacco use declined significantly in Indiana from 2004 to 2016 (see Figures 3.5 and 3.6) (ISDH/TPCC, 2018).

Based on 2016 IYTS results, a total of 4.9% of middle school students (95% CI: 3.5–6.0) and 20.3% of high school students (95% CI: 15.4–25.6) used any tobacco product in the past month. Among middle school students, 1.8% (95% CI: 1.9–3.8) and among high school students, 8.7% (95% CI: 8.6–15.4) reported smoking cigarettes in

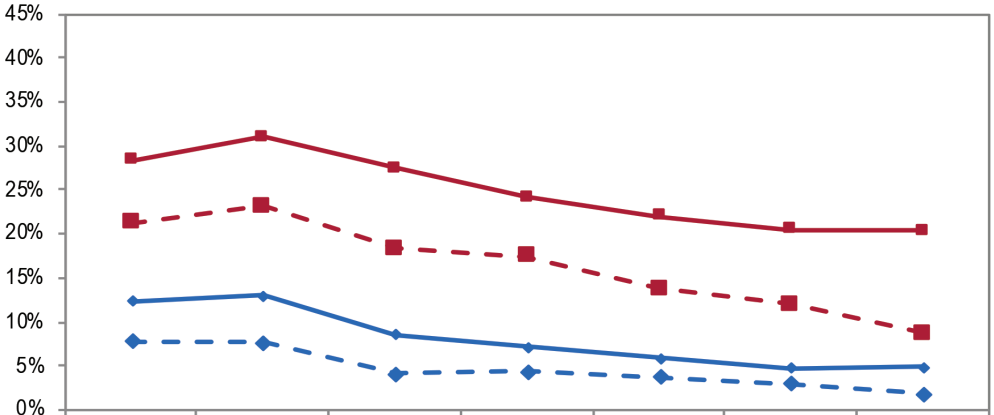
Figure 3.5 Tobacco Use Among Indiana High School Students (9th–12th Grade) (Indiana Youth Tobacco Survey, 2004–2016



	2004	2006	2008	2010	2012	2014	2016
Tobacco Use	28.3%	31.0%	27.5%	24.2%	23.0%	26.9%	20.3%
Cigarette Use	21.3%	23.2%	18.3%	17.5%	13.7%	12.0%	8.7%
Smokeless Tobacco Use	7.3%	7.9%	8.2%	7.2%	6.6%	8.0%	5.3%

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, 2014, and 2016 "any tobacco use" included cigarettes, cigars, smokeless tobacco, bidis, pipe, hookah, snus, dissolvable tobacco, and e-cigarettes.
Source: ISDH/TPCC, 2018

Figure 3.6 Percentage of Indiana Middle School and High School Students Reporting Current Tobacco and Cigarette Use (Indiana Youth Tobacco Survey, 2004–2016)



	2004	2006	2008	2010	2012	2014	2016
Current MS Tobacco Use	12.4%	13.0%	8.5%	7.1%	5.9%	4.8%	4.9%
Current HS Tobacco Use	28.3%	31.0%	27.5%	24.2%	22.0%	20.5%	20.3%
Current MS Cigarettes Use	7.8%	7.7%	4.1%	4.4%	3.7%	2.9%	1.8%
Current HS Cigarettes Use	21.3%	23.2%	18.3%	17.5%	13.7%	12.0%	8.7%

Source: ISDH/TPCC, 2018

the past month. In 2016, 2.8% of middle school students and 10.5% of high school students in Indiana reported current use of e-cigarettes. Among Indiana youth who currently smoke cigarettes, 33.6% of middle school students and 45.8% of high school students also reported currently using e-cigarettes (ISDH/TPCC, 2018).

Appendix 3A (page 43) 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, in 2016.

Youth Risk Behavior Surveillance System

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).

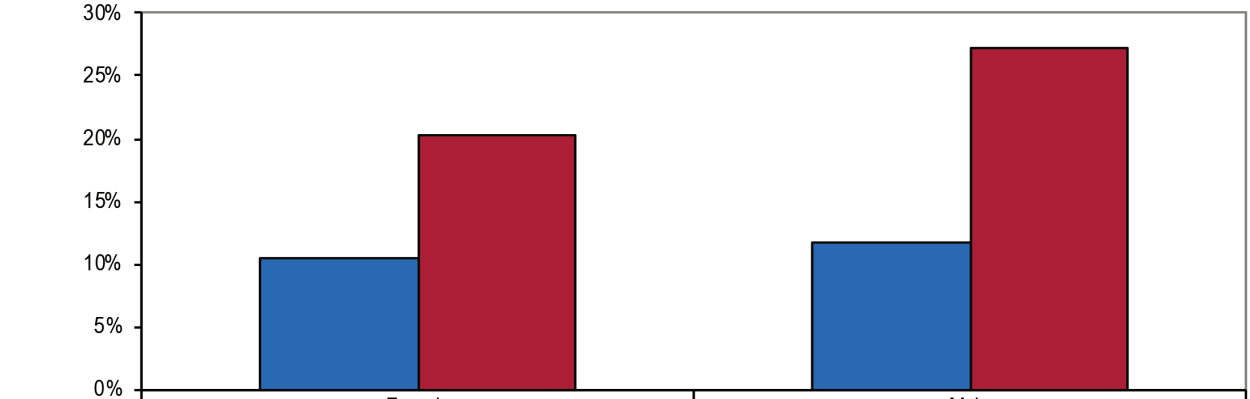
The Youth Risk Behavior Surveillance System (YRBSS) monitors health-risk behaviors such as tobacco, alcohol, and other drug use, which contribute to death and disability among youths in schools nationwide. According to 2015 YRBSS findings, almost one-third of high school students currently use a tobacco product, primarily electronic cigarettes (e-cigarettes) (see Table 3.3). 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, e-cigarettes have gained popularity with nearly one-fourth of high school students (23.9%; 95% CI: 20.6–27.7) reporting current use (CDC, 1991-2015). For more information, see Figures 3.7 through 3.9.

Table 3.3 Current Use of Tobacco Products in Indiana and U.S. High School Students (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 Cigarettes	23.9% (20.6–27.7)	24.1% (22.1–26.2)
Cigarettes	11.2% (8.3–14.8)	10.8% (9.4–12.4)
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)

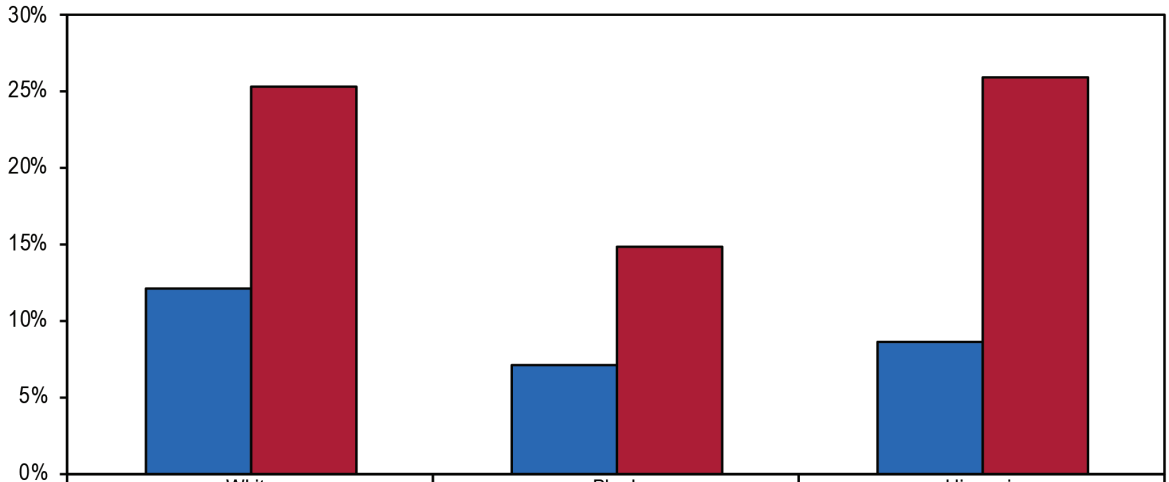
Source: CDC, 1991-2015

Figure 3.7 Rates of Current Use of Cigarettes and Electronic Cigarettes in Indiana High School Students (9th–12th Grade), by Gender (Youth Risk Behavior Surveillance System, 2015)



Source: CDC, 1991-2015

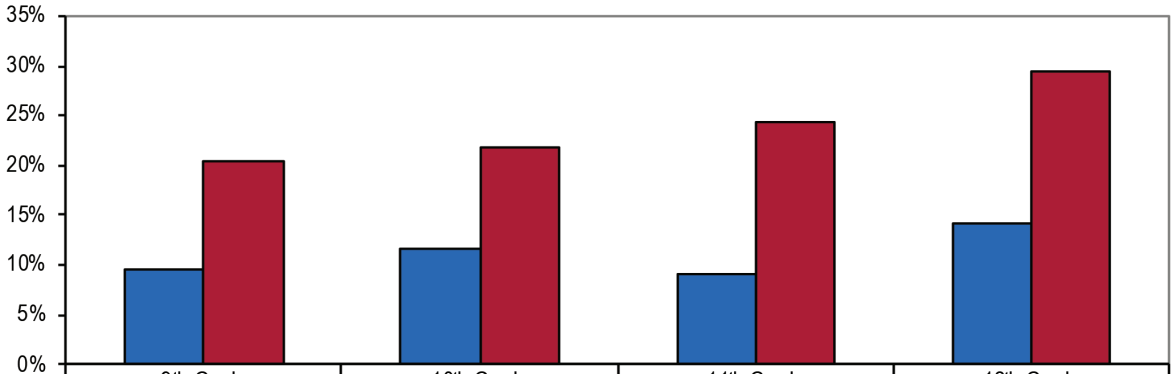
Figure 3.8 Rates of Current Use of Cigarettes and Electronic Cigarettes in Indiana High School Students (9th–12th Grade), by Race/Ethnicity (Youth Risk Behavior Surveillance System, 2015)



	White	Black	Hispanic
Cigarettes	12.1%	7.1%	8.6%
E-Cigarettes	25.3%	14.9%	26.0%

Source: CDC, 1991-2015

Figure 3.9 Rates of Current Use of Cigarettes and Electronic cigarettes in Indiana High School Students (9th–12th Grade), by Grade (Youth Risk Behavior Surveillance System, 2015)



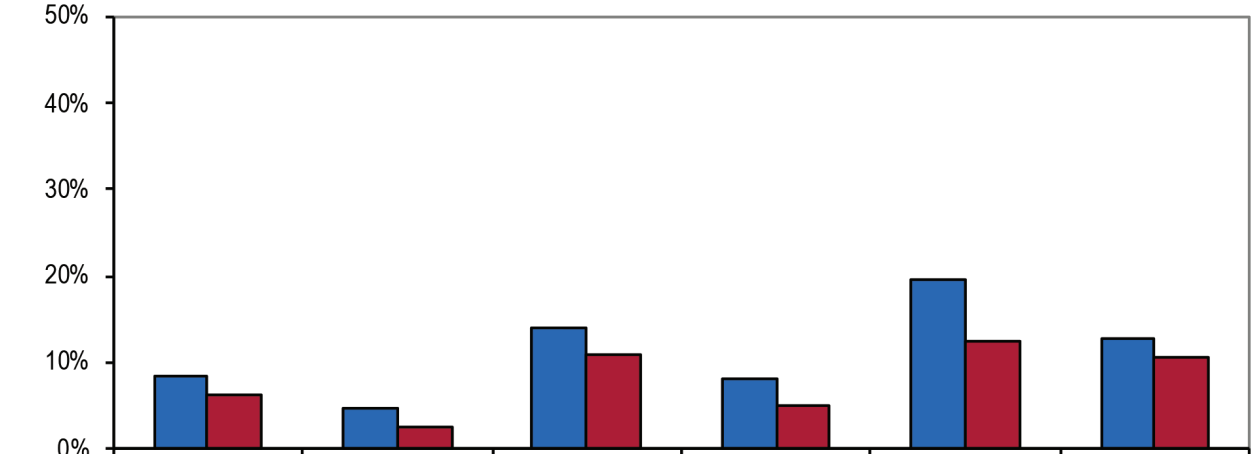
	9th Grade	10th Grade	11th Grade	12th Grade
Cigarettes	9.6%	11.5%	9.1%	14.2%
E-Cigarettes	20.4%	21.8%	24.3%	29.4%

Source: CDC, 1991-2015

Indiana Youth Survey

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 2017 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 3.10) (Gassman et al., 2017). See Appendix 3B (page 44) for Indiana students' 2017 monthly cigarette and e-cigarette use by region and grade.

Figure 3.10 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, 2017)

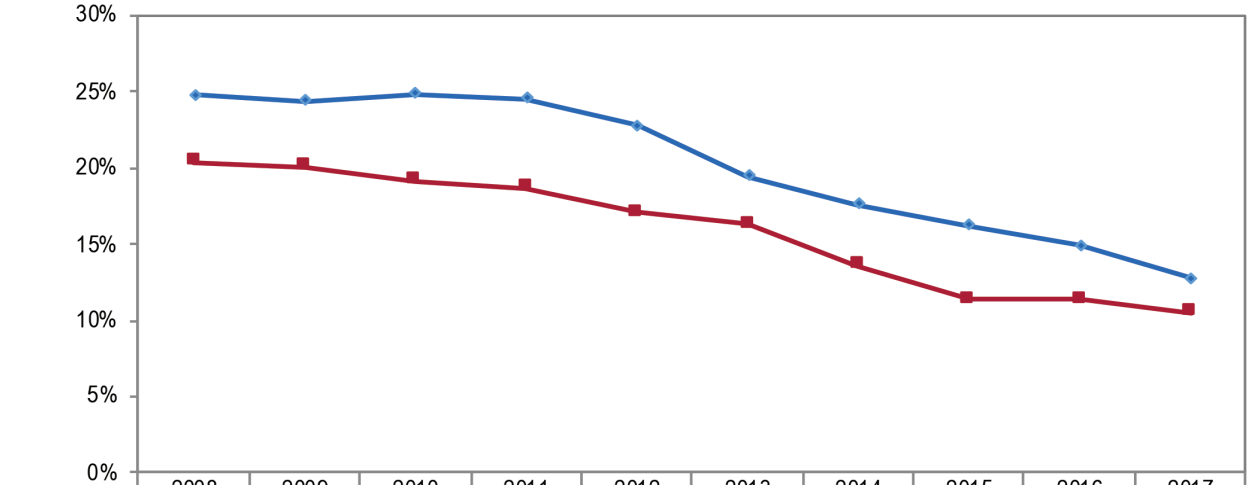


	8th Grade E-Cigs	8th Grade Cigarettes	10th Grade E-Cigs	10th Grade Cigarettes	12th Grade E-Cigs	12th Grade Cigarettes
Indiana	8.6%	4.8%	14.0%	8.0%	19.7%	12.8%
U.S.	6.2%	2.6%	11.0%	4.9%	12.5%	10.5%

Source: Gassman et al., 2017; Inter-university Consortium for Political and Social Research, 2017

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 3.11). 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.

Figure 3.11 Past-Month Smoking Prevalence for 12th Grade Students in Indiana and the United States (Indiana Youth Survey: 2008–2017; and Monitoring the Future Survey, 2008–2017)



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Indiana	24.8%	24.4%	24.9%	24.6%	22.8%	19.5%	17.6%	16.2%	14.9%	12.8%
U.S.	20.4%	20.1%	19.2%	18.7%	17.1%	16.3%	13.6%	11.4%	11.4%	10.5%

Source: Gassman et al., 2017; Inter-university Consortium for Political and Social Research, 2017

Indiana College Substance Use Survey

The Indiana College Substance Use Survey includes questions on the use of various tobacco products. The 2017 survey, which was based on 31 participating colleges and universities, showed that cigarettes were still the most commonly used tobacco product, with 16.4% of Indiana college students reporting current (past-month) use (U.S.: 8.9%). Results for the different types of tobacco by demographic characteristics can be found in Table 3.4 (King & Jun, 2017).[1]

CONSEQUENCES OF TOBACCO USE

The use of tobacco can lead to tobacco/nicotine dependence as well as smoking-related diseases (CDC, 2017b). The risk of developing serious health problems associated with tobacco significantly decreases as people quit using tobacco products. Several factors influence smoking cessation including healthcare coverage/costs, socioeconomic characteristics, availability of smoking cessation products and media campaigns.

Tobacco-Related Morbidity

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

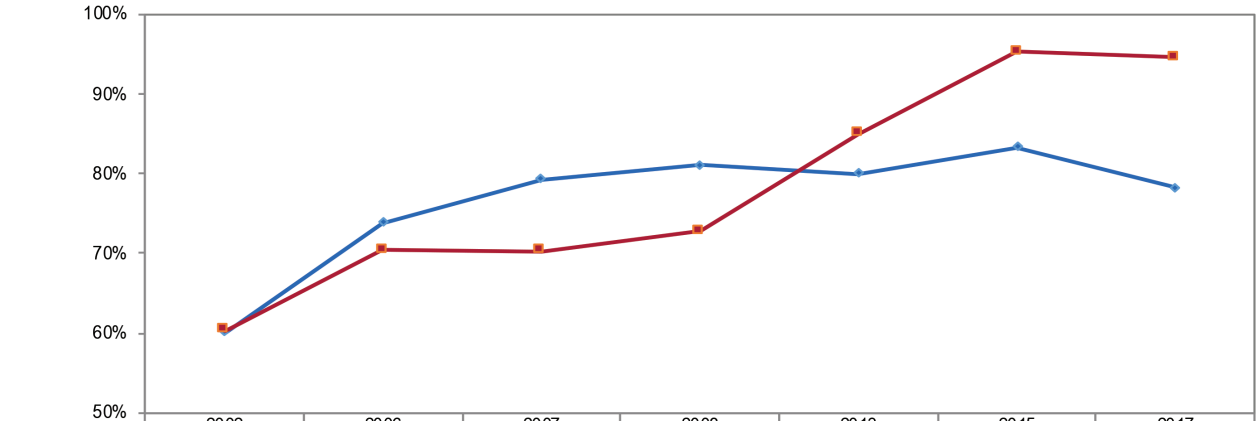
Table 3.4 Rates of Past-Month (Current) Tobacco Use by Indiana College Students, by Type of Product and by Overall Use, Gender, Age Group, and Type of Institution (Indiana College Substance Use Survey, 2017)

	Indiana (Total)	Male	Female	Under 21	21 or Over
Cigarettes	16.4	18.0	15.4*	14.0	19.7*
Cigars	8.1	13.2	4.9*	8.2	7.9
Chewing/smokeless tobacco	4.2	9.1	1.3*	3.5	5.2*
Smoking tobacco with hookah/ water pipe	7.5	7.6	7.2	6.9	8.3
Electronic vapor products	12.1	15.2	10.2*	13.6	10.0*

Note: * $P < 0.05$
Source: King & Jun, 2017

[1]Twenty Indiana colleges participated in the 2017 survey; results are based on nonrandom sampling and are not representative of all college students in Indiana.

Figure 3.12 Percentage of Smoke-free Homes and Workplaces in Indiana (Adult Tobacco Survey, 2002–2015)



	2002	2006	2007	2008	2013	2015	2017
Homes	60.1%	73.8%	79.3%	81.1%	80.0%	83.4%	78.2%
Workplaces	60.3%	70.4%	70.3%	72.8%	85.0%	95.3%	94.6%

Source: Brown et al., 2015

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 13.5% in 2016; a higher percentage of white mothers (14.6%) smoked during pregnancy than black mothers (10.8%) (ISDH/Epidemiology Resource Center, 2017). 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 3C, pages 45-48.

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 78.2% in 2017. The percentage of smoke-free workplaces[2] rose from 60.3% to 94.6% during that time period (see Figure 3.12). 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 the law exempts bars, clubs, and gaming facilities. As of March 2017, a total of 21 communities[3] 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, 2017b).

[3]This measure refers to the prevalence of workers reporting a 100% smoke-free workplace (Adult Tobacco Survey).
[3]These are Delaware Co., Hancock Co., Howard Co., Monroe Co., Vanderburgh Co., Vigo Co., Bloomington, Columbus, Cumberland, Elkhart, Fort Wayne, Franklin, Greencastle, Indianapolis, Kokomo, 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.

Tobacco-Related Mortality

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 secondhand 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).

Economic Impact

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 3A

Percentage of Indiana Middle School and High School Respondents Who Currently Use Cigarettes, E-Cigarettes, or Smokeless Tobacco by Gender, Race/Ethnicity, and School Grade (Indiana Youth Tobacco Survey, 2016)

	Current Use of Cigarettes		Current Use of E-Cigarettes		Current Use of Smokeless Tobacco	
	%	(95% CI)	%	(95% CI)	%	(95% CI)
MIDDLE SCHOOL						
Gender						
Male	1.4	(0.8–2.1)	2.3	(1.4–3.2)	1.7	(0.7–2.7)
Female	2.1	(0.8–3.4)	3.3	(2.2–4.3)	0.8*	(0.1–1.6)
Race/Ethnicity						
White	1.8	(0.6–3.0)	2.9	(1.7–4.0)	1.5	(0.8–2.2)
Black	1.2*	(0.0–2.4)	2.4*	(0.0–5.0)	0.7*	(0.0–2.0)
Hispanic	2.8	(1.4–4.1)	4.2	(2.1–6.4)	1.2*	(0.0–2.3)
Grade						
6	0	(0.0–0.0)	1.5*	(0.2–2.9)	1.5*	(0.3–2.7)
7	1.3	(0.5–2.1)	1.7*	(0.6–2.9)	0.9*	(0.2–1.7)
8	3.2	(1.2–5.3)	4.5	(2.3–6.7)	1.4	(0.1–2.7)
Total	**1.8**	**(1.0–2.5)**	**2.8**	**(1.9–3.7)**	**1.3**	**(0.7–1.9)**
HIGH SCHOOL						
Gender						
Male	9.3	(6.8–11.9)	12.0	(8.6–15.3)	8.1	(5.0–11.1)
Female	8.2	(5.7–10.8)	9.1	(7.3–10.9)	2.3	(0.9–3.7)
Race/Ethnicity						
White	10.0	(7.7–12.3)	11.6	(9.2–14.0)	6.1	(3.8–8.4)
Black	3.1*	(0.4–5.8)	3.9	(1.9–5.9)	1.2*	(0.0–3.0)
Hispanic	8.0	(4.9–11.1)	11.7	(7.4–15.9)	2.8*	(0.8–4.7)
Grade						
9	4.4	(2.3–6.4)	6.2	(3.0–9.4)	3.3	(1.5–5.1)
10	8.1	(5.5–10.7)	10.8	(7.9–13.7)	4.8	(2.4–7.3)
11	9.7	(5.9–13.5)	9.5	(6.4–12.6)	6.6*	(2.5–10.7)
12	13.0	(8.3–17.6)	15.8	(11.2–20.3)	6.2	(3.2–9.2)
Total	**8.7**	**(6.7–10.8)**	**10.5**	**(8.4–12.5)**	**5.3**	**(3.3–7.2)**

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, 2018

APPENDIX 3B - Part 1

Percentage of Indiana Students Reporting Monthly Cigarette Use, by Region and Grade (Indiana Youth Survey, 2017)

	Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	1.3	1.0*	1.2	2.5*	0.4*	1.2	2.0*	1.1	1.3
7th Grade	2.6	1.3*	3.7*	4.2*	1.6	2.0*	3.7*	1.8*	2.7
8th Grade	4.8	3.9*	5.2	6.0*	6.2	3.1*	6.8*	4.0*	5.1
9th Grade	6.6	4.4*	6.0	7.9*	6.7	5.6	8.1*	5.9	8.5*
10th Grade	8.0	6.2*	6.0*	8.2	7.2	6.3*	9.2*	9.5*	9.9*
11th Grade	10.0	7.4*	7.7*	11.7*	9.1	8.4*	10.6	10.7	12.7*
12th Grade	12.8	10.1*	10.7*	12.8	15.0	11.1*	13.9	14.5*	14.7*

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

Source: Gassman et al., 2017

APPENDIX 3B - Part 2

Percentage of Indiana Students Reporting Monthly E-Cigarette Use, by Region and Grade (Indiana Youth Survey, 2017)

	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	5.0	4.8	6.4*	5.6	4.0	4.2	5.3	4.2	5.2
8th Grade	8.6	9.9*	8.8	8.5	9.3	6.4*	9.3	9.0	8.7
9th Grade	11.7	10.3*	9.7*	10.9	6.6*	11.9	11.2	15.0*	13.5*
10th Grade	14.0	12.2*	10.2*	12.0*	9.5*	13.8	13.3	19.3*	16.4*
11th Grade	15.8	14.0*	12.5*	13.8*	11.5*	17.7*	14.1	20.6*	18.1*
12th Grade	19.7	16.6*	15.9*	13.9*	13.8*	22.6*	18.0	25.7*	22.4*

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., 2017

APPENDIX 3C - Part 1

Adult Smoking Prevalence and Chronic Disease Outcomes, by County

County	Estimated Adult Smoking Rate (BRFSS 2012-2016)	Estimated Number of Adult Smokers (BRFSS 2012-2016)	Asthma ER Visits Age-Adjusted Rate per 10,000 (2015)	Lung Cancer Age-Adjusted Mortality Rate per 100,000 (2011-2015)	Chronic Lower Respiratory Disease Age-adjusted Mortality Rate per 100,000 (2012–2016)	Major Cardiovascular Disease Age-adjusted Mortality Rate per 100,000 (2012–2016)
Adams	22%	5,171	21.9	55.8	39.0	225.4
Allen	22%	56,172	45.0	61.7	52.8	225.3
Bartholomew	23%	13,330	40.5	70.3	61.6	241.9
Benton	Suppressed	Suppressed	26.8	83.1	42.7	263.5
Blackford	25%	2,487	43.3	78.5	63.0	245.3
Boone	14%	5,608	24.4	57.8	60.2	261.0
Brown	19%	2,254	Unstable Rate	75.3	44.1	207.7
Carroll	21%	3,203	24.2	61.4	44.3	201.1
Cass	Suppressed	Suppressed	43.6	84.2	61.1	235.8
Clark	24%	19,779	25.6	86.0	62.6	267.8
Clay	17%	3,522	35.9	90.3	60.9	285.6
Clinton	23%	5,535	40.8	71.8	60.5	265.5
Crawford	Suppressed	Suppressed	24.6	102.1	53.0	256.6
Daviess	17%	3,736	47.2	65.4	54.5	261.8
Dearborn	21%	8,042	25.5	73.4	52.4	233.0
Decatur	17%	3,327	49.2	60.8	51.7	263.1
DeKalb	27%	8,435	26.0	68.5	53.0	257.4
Delaware	21%	19,642	45.0	77.3	73.5	252.9
Dubois	15%	4,575	5.6	51.4	36.0	246.3
Elkhart	20%	27,956	44.5	62.4	50.9	240.7
Fayette	30%	5,565	27.5	71.7	64.1	276.7
Floyd	16%	8,789	27.1	75.1	53.0	265.5
Fountain	26%	3,432	60.9	71.4	75.6	255.3
Franklin	20%	3,423	12.4	69.6	49.8	231.1
Fulton	14%	2,148	35.0	77.6	68.5	281.8
Gibson	15%	3,681	47.4	69.2	54.6	240.7
Grant	31%	17,087	59.1	81.9	69.9	257.0
Greene	29%	7,376	24.8	75.5	63.8	260.2
Hamilton	11%	20,854	19.5	45.8	36.3	171.4
Hancock	19%	9,741	29.0	74.9	45.8	209.5
Harrison	19%	5,731	23.0	90.7	49.6	235.6
Hendricks	13%	13,548	15.3	66.0	48.5	202.6
Henry	26%	10,027	46.1	80.0	57.3	250.7
Howard	30%	18,951	57.3	73.3	63.1	278.7
Huntington	26%	7,255	40.0	58.0	59.7	266.2
Jackson	19%	6,125	67.9	83.1	71.4	239.2
Jasper	21%	5,287	34.1	77.1	50.0	276.8
Jay	22%	3,372	54.2	76.8	63.5	261.2
Jefferson	31%	7,896	31.0	90.8	65.6	306.8
Jennings	30%	6,343	55.6	84.5	81.5	289.8
Johnson	21%	21,165	39.0	69.1	62.5	237.0
Knox	21%	6,260	43.6	81.0	71.5	283.0
Kosciusko	27%	15,707	28.7	70.0	59.0	230.6
LaGrange	20%	4,915	27.4	56.7	47.0	246.0
Lake	24%	87,363	69.9	69.1	43.9	246.9
LaPorte	30%	25,433	52.5	75.1	57.4	277.6

(Continued on next page)

APPENDIX 3C - Part 1 *(Continued from previous page)*

County	Estimated Adult Smoking Rate (BRFSS 2012-2016)	Estimated Number of Adult Smokers (BRFSS 2012-2016)	Asthma ER Visits Age-Adjusted Rate per 10,000 (2015)	Lung Cancer Age-Adjusted Mortality Rate per 100,000 (2011-2015)	Chronic Lower Respiratory Disease Age-adjusted Mortality Rate per 100,000 (2012–2016)	Major Cardiovascular Disease Age-adjusted Mortality Rate per 100,000 (2012–2016)
Lawrence	29%	10,052	50.5	77.4	60.8	283.4
Madison	28%	28,737	87.0	77.3	66.7	249.0
Marion	24%	159,354	83.4	76.6	63.0	244.7
Marshall	23%	8,051	25.9	66.5	55.8	219.4
Martin	23%	1,836	Unstable Rate	76.9	47.0	260.7
Miami	33%	9,525	45.0	70.2	44.7	332.2
Monroe	19%	21,635	22.9	60.3	43.1	184.2
Montgomery	18%	5,273	51.3	61.5	62.1	266.8
Morgan	23%	11,761	41.6	77.7	71.6	260.5
Newton	Suppressed	Suppressed	31.1	65.0	71.8	235.3
Noble	23%	7,964	32.8	64.2	74.8	227.0
Ohio	Suppressed	Suppressed	Unstable Rate	81.5	62.0	218.2
Orange	Suppressed	Suppressed	52.8	68.8	67.3	274.5
Owen	Suppressed	Suppressed	32.8	74.4	65.4	279.1
Parke	29%	3,965	32.3	67.8	52.0	270.7
Perry	Suppressed	Suppressed	73.8	74.0	41.5	256.6
Pike	Suppressed	Suppressed	Unstable Rate	71.8	50.5	255.7
Porter	19%	23,496	44.0	67.3	41.4	205.8
Posey	Suppressed	Suppressed	20.7	64.0	48.3	218.6
Pulaski	Suppressed	Suppressed	29.4	63.8	63.8	310.2
Putnam	32%	9,523	25.1	96.7	47.6	249.7
Randolph	16%	3,135	47.7	72.9	49.2	238.3
Ripley	25%	5,356	39.0	62.1	50.1	250.8
Rush	Suppressed	Suppressed	83.1	81.5	84.3	261.1
Scott	30%	5,434	51.9	83.4	70.2	279.7
Shelby	22%	7,379	51.6	80.1	51.2	238.2
Spencer	16%	2,595	22.5	78.7	47.4	213.1
St. Joseph	23%	45,876	50.6	65.1	50.6	235.6
Starke	26%	4,537	51.8	97.6	64.9	324.8
Steuben	25%	6,633	40.7	68.6	44.9	223.4
Sullivan	24%	3,995	46.8	88.1	57.5	286.3
Switzerland	Suppressed	Suppressed	Unstable Rate	66.0	72.2	269.6
Tippecanoe	20%	27,772	38.0	56.5	45.4	224.0
Tipton	Suppressed	Suppressed	40.4	70.6	42.7	241.2
Union	Suppressed	Suppressed	Suppressed	44.3	58.6	264.5
Vanderburgh	21%	29,221	54.9	79.2	60.6	234.4
Vermillion	Suppressed	Suppressed	48.7	95.1	61.6	374.3
Vigo	25%	20,786	44.9	78.7	67.0	279.4
Wabash	19%	4,752	27.4	64.6	58.0	237.5
Warren	Suppressed	Suppressed	47.3	53.0	66.5	202.9
Warrick	14%	6,057	30.1	66.5	48.6	193.4
Washington	25%	5,352	44.3	91.1	77.1	296.6
Wayne	27%	14,380	41.9	77.2	59.0	270.1
Wells	18%	3,652	28.0	60.0	54.0	218.8
White	16%	2,914	53.8	69.7	70.4	228.6
Whitley	22%	5,483	35.1	64.7	49.8	221.2
Indiana	**22%**	**5,171**	**47.4**	**53.3**	**55.5**	**241.8**

Source: ISDH/TPCC, 2018

APPENDIX 3C - Part 2

County	Percentage of Live Births to Mothers who Smoked during Pregnancy (2016)	Estimated cost of smoking-affected births, (2016)	Estimated number of people living with tobacco-related illnesses	Estimated number of deaths due to tobacco	Estimated number of deaths due to secondhand smoke	Estimated cost of secondhand smoke
Adams	8.9	$81,480	1,617	54	7	$11.5 Million
Allen	9.6	$673,568	17,715	591	73	$118.7 Million
Bartholomew	12.6	$186,046	3,923	131	16	$25.7 Million
Benton	23.7	$36,666	449	15	2	$3 Million
Blackford	27.1	$48,888	673	22	3	$4.3 Million
Boone	8.1	$90,986	2,781	93	12	$18.9 Million
Brown	17.5	$27,160	824	27	3	$5.1 Million
Carroll	21.6	$63,826	1,038	35	4	$6.7 Million
Cass	17.5	$114,072	1,972	66	8	$13 Million
Clark	13.0	$255,304	5,746	192	23	$36.8 Million
Clay	16.7	$70,616	1,397	47	6	$9 Million
Clinton	19.1	$115,430	1,665	55	7	$11.1 Million
Crawford	29.8	$42,098	561	19	2	$3.6 Million
Daviess	12.7	$92,344	1,539	51	7	$10.6 Million
Dearborn	22.8	$154,812	2,563	85	10	$16.7 Million
Decatur	19.6	$101,850	1,310	44	5	$8.6 Million
DeKalb	17.9	$130,368	2,123	71	9	$14.1 Million
Delaware	22.3	$355,796	6,427	214	24	$39.3 Million
Dubois	9.9	$76,048	2,132	71	9	$14 Million
Elkhart	11.1	$471,226	9,657	322	41	$66 Million
Fayette	26.4	$77,406	1,261	42	5	$8.1 Million
Floyd	12.1	$150,738	3,869	129	15	$24.9 Million
Fountain	20.2	$46,172	892	30	4	$5.8 Million
Franklin	16.5	$58,394	1,165	39	5	$7.7 Million
Fulton	20.2	$65,184	1,070	36	4	$7 Million
Gibson	19.3	$109,998	1,732	58	7	$11.2 Million
Grant	31.4	$293,328	3,749	125	14	$23.4 Million
Greene	21.8	$96,418	1,727	58	7	$11.1 Million
Hamilton	2.4	$123,578	13,089	436	57	$91.7 Million
Hancock	8.2	$88,270	3,529	118	14	$23.4 Million
Harrison	14.3	$90,986	2,053	68	8	$13.1 Million
Hendricks	7.2	$171,108	7,208	240	30	$48.6 Million
Henry	22.9	$146,664	2,624	87	10	$16.5 Million
Howard	22.0	$296,044	4,314	144	17	$27.6 Million
Huntington	19.9	$112,714	1,935	64	8	$12.4 Million
Jackson	19.1	$164,318	2,183	73	9	$14.2 Million
Jasper	18.5	$99,134	1,700	57	7	$11.2 Million
Jay	21.0	$82,838	1,066	36	4	$7.1 Million
Jefferson	30.4	$160,244	1,714	57	7	$10.8 Million
Jennings	25.6	$109,998	1,434	48	6	$9.5 Million
Johnson	12.9	$329,994	7,018	234	29	$46.6 Million
Knox	25.0	$153,454	2,066	69	8	$12.8 Million
Kosciusko	14.3	$196,910	3,930	131	16	$25.8 Million
LaGrange	7.9	$78,764	1,661	55	8	$12.4 Million
Lake	9.2	$708,876	25,185	839	102	$165.7 Million
LaPorte	21.1	$374,808	5,880	196	23	$37.2 Million
Lawrence	29.2	$196,910	2,408	80	10	$15.4 Million
Madison	18.3	$374,808	6,915	231	27	$44 Million
Marion	9.9	$1,910,706	46,232	1,541	186	$301.8 Million
Marshall	18.3	$146,664	2,350	78	10	$15.7 Million
Martin	24.2	$39,382	536	18	2	$3.5 Million

(Continued on next page)

APPENDIX 3C - Part 2

(Continued from previous page)

County	Percentage of Live Births to Mothers who Smoked during Pregnancy (2016)	Estimated cost of smoking-affected births, (2016)	Estimated number of people living with tobacco-related illnesses	Estimated number of deaths due to tobacco	Estimated number of deaths due to secondhand smoke	Estimated cost of secondhand smoke
Miami	25.1	$116,788	1,947	65	8	$12.3 Million
Monroe	13.4	$237,650	7,889	263	28	$46.1 Million
Montgomery	20.2	$124,936	1,980	66	8	$12.7 Million
Morgan	21.7	$240,366	3,522	117	14	$23 Million
Newton	19.6	$39,382	749	25	3	$4.8 Million
Noble	15.3	$122,220	2,369	79	10	$15.9 Million
Ohio	21.2	$14,938	330	11	1	$2 Million
Orange	30.5	$97,776	1,021	34	4	$6.6 Million
Owen	27.4	$78,764	1,131	38	4	$7.2 Million
Parke	13.0	$36,666	931	31	4	$5.8 Million
Perry	22.7	$63,826	1,038	35	4	$6.5 Million
Pike	18.6	$36,666	681	23	3	$4.3 Million
Porter	11.3	$270,242	8,498	283	34	$54.9 Million
Posey	15.6	$55,678	1,350	45	5	$8.7 Million
Pulaski	25.2	$44,814	697	23	3	$4.5 Million
Putnam	20.3	$107,282	2,047	68	8	$12.7 Million
Randolph	24.7	$99,134	1,352	45	5	$8.7 Million
Ripley	23.3	$109,998	1,450	48	6	$9.6 Million
Rush	24.1	$66,542	894	30	4	$5.8 Million
Scott	29.2	$114,072	1,255	42	5	$8.1 Million
Shelby	19.3	$129,010	2,294	76	9	$14.8 Million
Spencer	14.7	$39,382	1,085	36	4	$7 Million
St. Joseph	11.1	$539,126	13,734	458	55	$89.2 Million
Starke	25.4	$96,418	1,207	40	5	$7.8 Million
Steuben	21.9	$123,578	1,800	60	7	$11.4 Million
Sullivan	16.1	$43,456	1,153	38	4	$7.2 Million
Switzerland	24.8	$42,098	539	18	2	$3.5 Million
Tippecanoe	11.7	$376,166	9,361	312	36	$57.7 Million
Tipton	10.0	$21,728	836	28	3	$5.3 Million
Union	21.4	$20,370	385	13	2	$2.5 Million
Vanderburgh	16.0	$490,238	9,549	318	37	$60 Million
Vermillion	18.7	$39,382	852	28	3	$5.4 Million
Vigo	16.3	$283,822	5,792	193	22	$36 Million
Wabash	24.6	$118,146	1,737	58	7	$11 Million
Warren	17.5	$19,012	445	15	2	$2.8 Million
Warrick	11.8	$101,850	3,023	101	12	$19.9 Million
Washington	13.3	$58,394	1,444	48	6	$9.4 Million
Wayne	11.3	$115,430	3,622	121	14	$23 Million
Wells	16.3	$81,480	1,416	47	6	$9.2 Million
White	20.3	$81,480	1,276	43	5	$8.2 Million
Whitley	15.1	$82,838	1,715	57	7	$11.1 Million
Indiana	**13.5**	**$15,224,538**	**333,000**	**11,100**	**1,337**	**$2.1 Billion**

Source: ISDH/TPCC, 2018

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4 Marijuana Use in Indiana: Consumption Patterns and Consequences

INTRODUCTION

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 hookahs (water pipes), mixing into foods, or brewing as tea (Hall & Solowij, 1998). Recent studies show an increase in edible consumption of marijuana, especially in states that allow medical use of marijuana (National Institute on Drug Abuse [NIDA], 2016a). Marijuana is the most commonly used illicit drug in the United States (Azofeifa et al., 2016).

Age of first use is an important risk factor in the subsequent progression to substance misuse 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). 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).

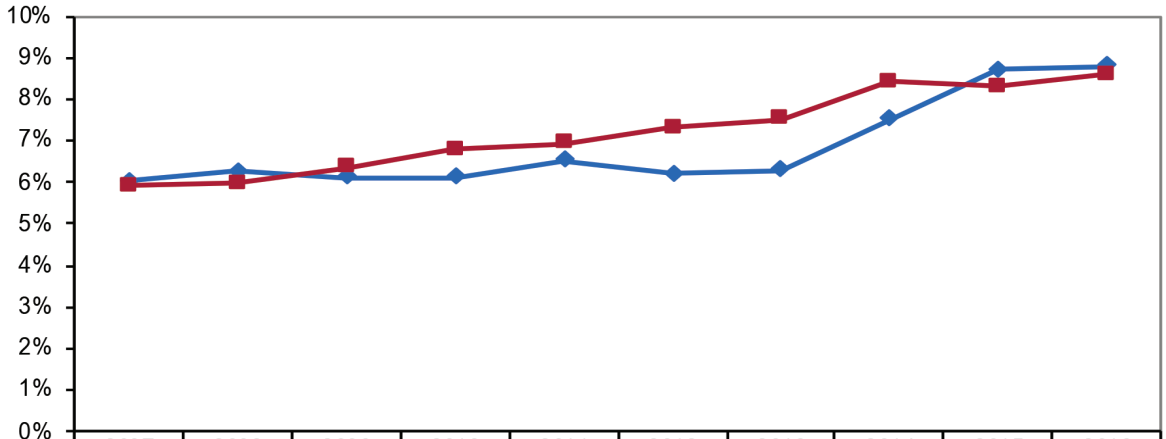
Babies born to women who used marijuana during their pregnancy may be at an increased risk for neurobehavioral problems, potentially exhibiting difficulties with attention, memory, and problem solving (NIDA, 2016a).

PREVALENCE OF MARIJUANA CONSUMPTION IN THE GENERAL POPULATION

National Survey on Drug Use and Health

According to the 2016 National Survey on Drug Use and Health (NSDUH), an estimated 8.8% (95% Confidence Interval [CI]: 7.5–10.2) of Indiana residents ages 12 and older reported current (past-month) marijuana use (U.S.: 8.6%; 95% CI: 8.4–8.8); past-year use was estimated at 13.4% (95% CI: 11.9–15.0; U.S.: 13.7%; 95% CI: 13.4–14.0) (Substance Abuse and Mental Health Services Administration [SAMHSA], 2016). For 10-year trend data on past-month marijuana use, see Figure 4.1.

Figure 4.1 Percentage of Indiana and U.S. Population (Ages 12 and Older) Reporting Current Marijuana Use (National Survey on Drug Use and Health, 2007–2016)

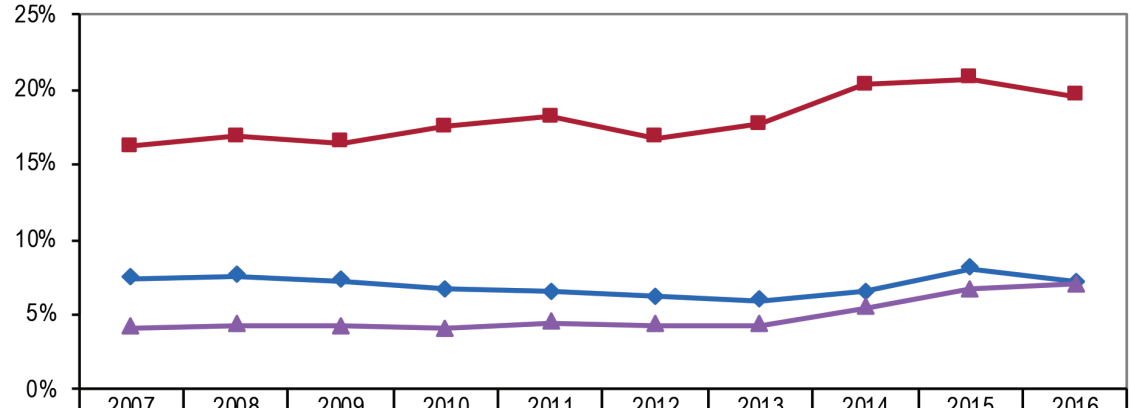


	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Indiana	6.0%	6.3%	6.1%	6.1%	6.5%	6.2%	6.3%	7.5%	8.7%	8.8%
U.S.	5.9%	6.0%	6.4%	6.8%	6.9%	7.3%	7.5%	8.4%	8.3%	8.6%

Source: SAMHSA, 2016

The highest prevalence was among individuals ages 18 to 25, with 19.6% (95% CI: 16.6–23.0) of Hoosiers in this age group reporting current marijuana use (U.S.: 20.3%; 95% CI: 19.7–20.9) and 33.6% (95% CI: 30.1–37.2) reporting past-year use (U.S.: 32.6%; 95% CI: 31.9–33.3) in 2016 (Figure 4.2). Prevalence rates were significantly lower in youth and adults ages 26 and older. Based on 2016 estimates, 13.5% (95% CI: 11.3–16.1) of 12- to 17-year-olds in Indiana reported using marijuana in the past year (U.S.: 12.3%; 95% CI: 11.9–12.7) and 7.2% (95% CI: 5.8–9.0) in the past month (U.S.: 6.8%; 95% CI: 6.4–7.1). Among Hoosiers ages 26 and older, 7.0% (95% CI: 5.7–8.7) reported past-month marijuana use (U.S.: 6.9%; 95% CI: 6.6–7.1) and 10.3% (95% CI: 8.7–12.2) reported use in the past year (U.S.: 10.7%; 95% CI: 10.4–11.1) (SAMSHA, 2016). See Figure 4.2 for current marijuana use rates by age group in Indiana.

Figure 4.2 Percentage of Indiana Residents Reporting Current Marijuana Use, by Age Group (National Survey on Drug Use and Health, 2007–2016)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
12-17	7.4%	7.6%	7.2%	6.7%	6.5%	6.2%	6.0%	6.5%	8.1%	7.2%
18-25	16.2%	16.9%	16.5%	17.5%	18.2%	16.8%	17.7%	20.3%	20.7%	19.6%
26 and older	4.1%	4.3%	4.2%	4.1%	4.4%	4.3%	4.3%	5.4%	6.7%	7.0%

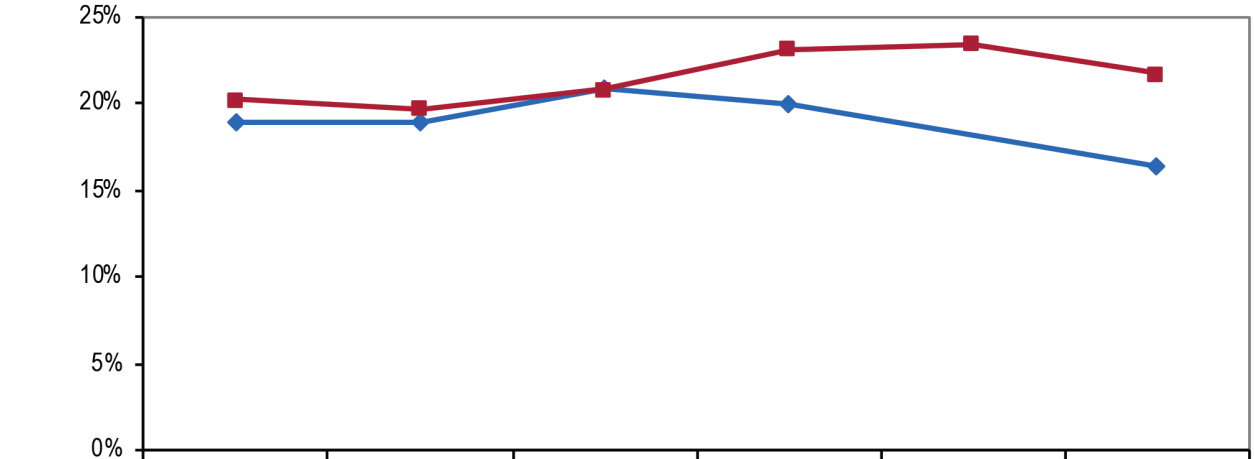
Source: SAMHSA, 2016

Marijuana initiation, or first-time use, was primarily reported in young adults and adolescents. An estimated 7.9% (95% CI: 6.4–9.7) of Hoosiers ages 18 to 25 initiated marijuana use in the past year (U.S.: 7.7%; 95% CI: 7.3–8.2), as did 5.6% (95% CI: 4.7–6.6) of Indiana youth ages 12 to 17 (U.S.: 5.3%; 95% CI: 5.0–5.5). Past-year initiation was significantly lower in adults ages 26 and older (IN: 0.4%; 95% CI: 0.3–0.6; U.S.: 0.4%; 95% CI: 0.3–0.4) (SAMHSA, 2016).

Youth Risk Behavior Surveillance System

The Youth Risk Behavior Surveillance System (YRBSS) estimated that in 2015, 16.4% (95% CI: 14.1–18.9) of Indiana high school students used marijuana in the past month; this percentage is 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], 1999-2015). For more detailed information, see Table 4.1 and Figure 4.3.

Figure 4.3 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 are not available for Indiana.
Source: CDC, 1999-2015

Table 4.1 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 (95% CI)	U.S. (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)**

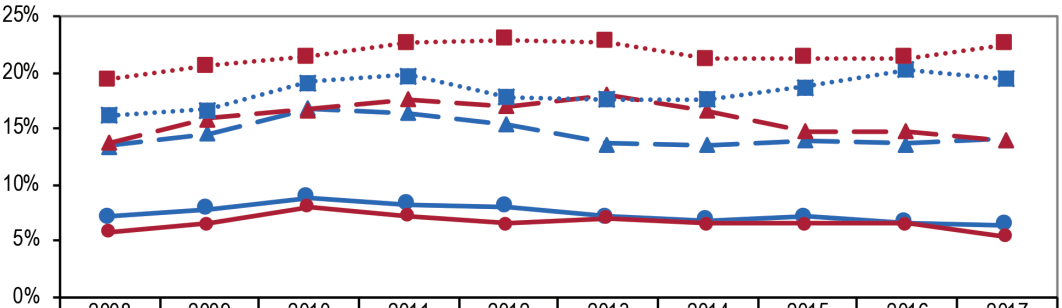
Source: CDC, 2017

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, 1999-2015).

Indiana Youth Survey

Data from the Indiana Youth Survey (Gassman et al., 2017), and the Monitoring the Future (MTF) survey (Inter-university Consortium for Political and Social Research [ICPSR], 2017) 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 2008 through 2017, see Figure 4.4; for monthly marijuana use by Indiana region and grade level for 2017, see Appendix 4A, page 58.

Figure 4.4 Percentage of Indiana and U.S. 8th, 10th, and 12th Grade Students Reporting Current Marijuana Use (Indiana Youth Survey and Monitoring the Future Survey, 2008–2017)



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Indiana 8th Grade	7.1%	7.8%	8.9%	8.3%	8.0%	7.1%	6.8%	7.1%	6.6%	6.4%
U.S. 8th Grade	5.8%	6.5%	8.0%	7.2%	6.5%	7.0%	6.5%	6.5%	6.5%	5.4%
Indiana 10th Grade	13.5%	14.6%	16.8%	16.4%	15.4%	13.7%	13.6%	14.0%	13.7%	14.1%
U.S. 10th Grade	13.8%	15.9%	16.7%	17.6%	17.0%	18.0%	16.6%	14.8%	14.8%	14.0%
Indiana 12th Grade	16.2%	16.7%	19.2%	19.8%	17.8%	17.6%	17.6%	18.8%	20.3%	19.5%
U.S. 12th Grade	19.4%	20.6%	21.4%	22.6%	22.9%	22.7%	21.2%	21.3%	21.3%	22.5%

Source: Gassman et al., 2017; ICPSR, 2017

Indiana College Substance Use Survey

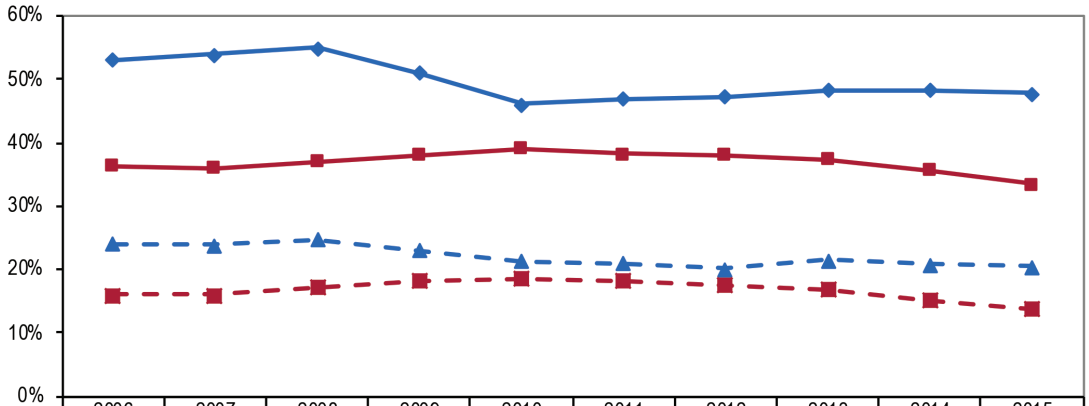
Marijuana use was also prevalent among college students. Results from the 2017 Indiana College Substance Use Survey showed that 21.6% of Indiana college students reported current marijuana use (U.S.: 22.2%). Users were more likely to be male and under the age of 21 (King & Jun, 2017).[1]

USE OF MARIJUANA IN THE TREATMENT POPULATION

Treatment Episode Data Set

The Treatment Episode Data Set (TEDS) collects information from clients being admitted to substance abuse treatment. The data show that from 2006 through 2015, Indiana exhibited a significantly higher percentage of treatment episodes reporting marijuana use and dependence[2] compared to the rest of the United States. From 2006 through 2015, roughly one-half of Indiana treatment admissions reported marijuana use and about one-fifth indicated marijuana dependence (see Figure 4.5) (SAMHSA, 2015).

Figure 4.5 Percentage of Indiana and U.S. Treatment Episodes with Marijuana Use and Marijuana Dependence Reported at Treatment Admission (Treatment Episode Data Set, 2006–2015)



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
IN Use	53.1%	54.0%	55.0%	51.0%	46.0%	46.9%	47.2%	48.3%	48.3%	47.7%
U.S. Use	36.4%	36.0%	37.1%	38.0%	39.0%	38.2%	38.0%	37.3%	35.6%	33.4%
IN Dependence	24.1%	23.8%	24.7%	23.0%	21.4%	20.9%	20.1%	21.5%	20.8%	20.5%
U.S. Dependence	16.0%	16.0%	17.3%	18.2%	18.6%	18.3%	17.5%	16.8%	15.2%	13.8%

Source: SAMHSA, 2015

[1]Thirty-one Indiana colleges participated in the survey; results are based on nonrandom sampling and are not representative of all college students in Indiana.
[2]We defined marijuana dependence as "individuals in substance abuse treatment listing marijuana as their primary substance at admission."

Table 4.2 Percentage of Indiana Treatment Admissions with Reported Marijuana Use, by Gender, Race, and Age Group (Treatment Episode Data Set, 2015)

		Marijuana Use
Gender	Male	51.5%
	Female	41.7%
Race	White	46.1%
	Black	57.1%
	Other	48.3%
Age Group	Under 18	87.4%
	18-24	65.6%
	25-34	47.8%
	35-44	40.5%
	45-54	32.4%
	55+	22.6%
Total		**47.7%**

Source: SAMHSA, 2015

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

- The percentage of males reporting marijuana use was higher than the percentage of females.
- The percentage of Blacks who reported marijuana use was higher compared to Whites and other races.
- Marijuana use 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 Table 4.2).

For county-level information on marijuana use and dependence, see Appendix 4B, page 59 (Indiana Family and Social Services Administration, 2017).

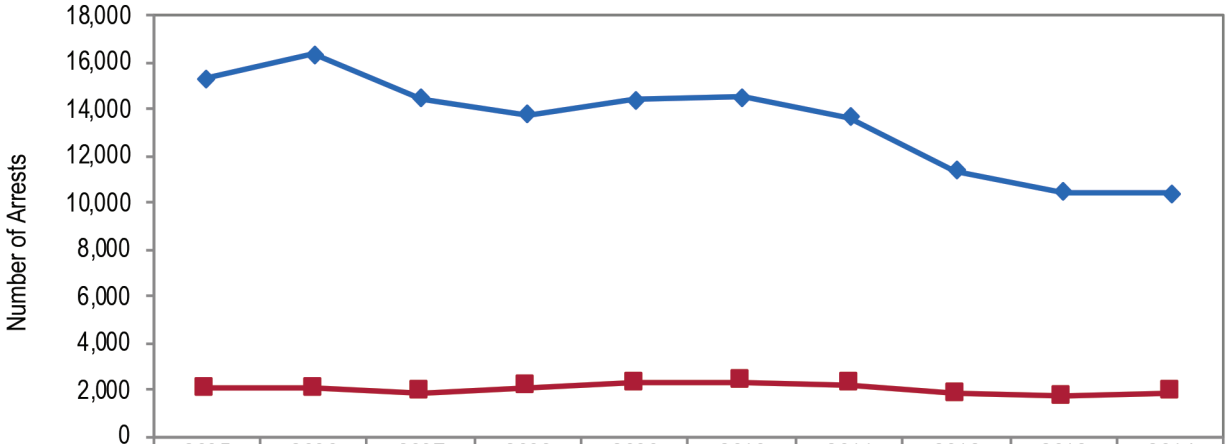
CONSEQUENCES OF MARIJUANA USE

Arrests - Uniform Crime Reporting Program

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 4.6 and 4.7) (Federal Bureau of Investigation [FBI], 2014).

Maps 4.1 and 4.2 (pages 62-63) and Appendix 4C (pages 60-61) depict the distribution of arrests for possession and sale/manufacture of marijuana by county.

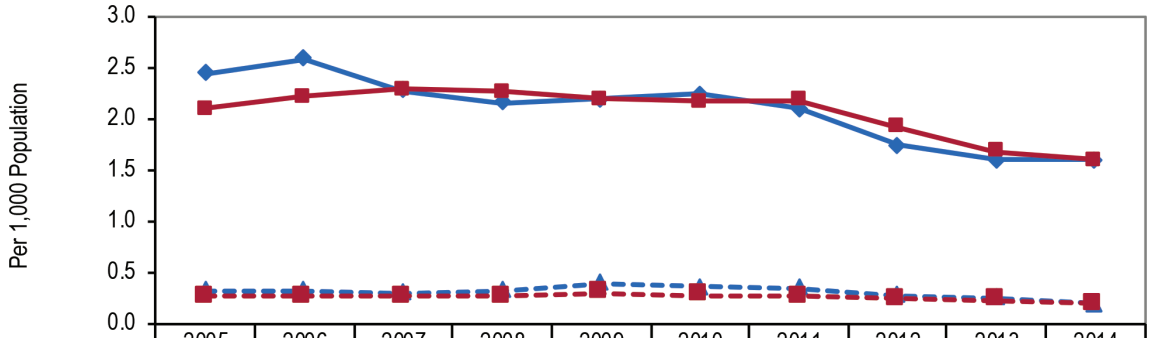
Figure 4.6 Number of Indiana Arrests for Marijuana Possession and Sale/Manufacture (Uniform Crime Reporting Program, 2005–2014)



	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 4.7 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 4A

Percentage of Indiana Students Reporting Monthly Marijuana Use, by Region and Grade (Indiana Youth Survey, 2017)

	Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	1.3	0.9*	0.9	3.3*	0.3*	1.4	2.7*	0.5*	0.6*
7th Grade	2.9	2.3	3.8*	5.1*	1.4*	1.7*	4.3*	2.1*	2.5
8th Grade	6.4	7.9*	6.5	10.4*	4.1*	5.1*	9.4*	3.7*	5.2*
9th Grade	10.6	10.9	9.7	16.5*	4.8*	9.0*	12.2*	7.9*	9.3*
10th Grade	14.1	16.4*	10.5*	21.4*	5.3*	13.2	16.0*	11.5*	12.7*
11th Grade	16.4	18.3*	12.4*	27.5*	9.1*	13.4*	17.1	12.9*	14.0*
12th Grade	**19.5**	**22.9***	**16.0***	**28.7***	**12.3***	**19.8**	**18.9**	**16.3***	**17.1***

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

Source: Gassman et al., 2017

APPENDIX 4B

Number of Treatment Admissions with Marijuana Use and Dependence Reported at Treatment Admission in Indiana, by County (Substance Abuse Population by County/Treatment Episode Data Set, 2017)

	Treatment Episodes	Marijuana Use		Marijuana Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**
Adams	369	219	59.3%	119	32.2%
Allen	1,847	1,076	58.3%	492	26.6%
Bartholomew	856	420	49.1%	108	12.6%
Benton	51	31	60.8%	17	33.3%
Blackford	117	64	54.7%	18	15.4%
Boone	183	79	43.2%	41	22.4%
Brown	110	50	45.5%	13	11.8%
Carroll	80	39	48.8%	10	12.5%
Cass	338	184	54.4%	61	18.0%
Clark	133	34	25.6%	15	11.3%
Clay	227	107	47.1%	42	18.5%
Clinton	203	101	49.8%	44	21.7%
Crawford	43	24	55.8%	7	16.3%
Daviess	179	72	40.2%	28	15.6%
Dearborn	565	273	48.3%	95	16.8%
Decatur	317	146	46.1%	64	20.2%
DeKalb	315	177	56.2%	56	17.8%
Delaware	1,104	411	37.2%	157	14.2%
Dubois	226	132	58.4%	56	24.8%
Elkhart	749	382	51.0%	173	23.1%
Fayette	344	139	40.4%	63	18.3%
Floyd	69	13	18.8%	<5	N/A
Fountain	63	35	55.6%	15	23.8%
Franklin	182	77	42.3%	28	15.4%
Fulton	189	105	55.6%	29	15.3%
Gibson	298	156	52.3%	73	24.5%
Grant	532	288	54.1%	102	19.2%
Greene	222	98	44.1%	38	17.1%
Hamilton	919	483	52.6%	239	26.0%
Hancock	358	169	47.2%	94	26.3%
Harrison	19	<5	N/A	<5	N/A
Hendricks	404	168	41.6%	67	16.6%
Henry	334	107	32.0%	48	14.4%
Howard	658	284	43.2%	63	9.6%
Huntington	212	127	59.9%	66	31.1%
Jackson	451	247	54.8%	86	19.1%
Jasper	114	47	41.2%	9	7.9%
Jay	162	87	53.7%	19	11.7%
Jefferson	427	219	51.3%	76	17.8%
Jennings	311	169	54.3%	64	20.6%
Johnson	490	199	40.6%	61	12.4%
Knox	347	168	48.4%	79	22.8%
Kosciusko	490	304	62.0%	121	24.7%
LaGrange	169	101	59.8%	44	26.0%
Lake	2,360	910	38.6%	446	18.9%
LaPorte	281	102	36.3%	25	8.9%
Lawrence	664	342	51.5%	114	17.2%
Madison	1,329	736	55.4%	369	27.8%
Marion	4,220	1,819	43.1%	943	22.3%
Marshall	179	94	52.5%	46	25.7%
Martin	71	34	47.9%	11	15.5%
Miami	289	138	47.8%	44	15.2%
Monroe	1,609	816	50.7%	279	17.3%
Montgomery	397	231	58.2%	110	27.7%
Morgan	584	295	50.5%	118	20.2%
Newton	35	19	54.3%	<5	N/A
Noble	336	182	54.2%	81	24.1%
Ohio	38	11	28.9%	<5	N/A
Orange	192	82	42.7%	35	18.2%
Owen	243	114	46.9%	54	22.2%
Parke	73	33	45.2%	14	19.2%
Perry	131	76	58.0%	37	28.2%
Pike	40	17	42.5%	8	20.0%
Porter	256	97	37.9%	27	10.5%
Posey	180	94	52.2%	36	20.0%
Pulaski	75	37	49.3%	7	9.3%
Putnam	259	124	47.9%	60	23.2%
Randolph	240	106	44.2%	37	15.4%
Ripley	195	92	47.2%	37	19.0%
Rush	197	101	51.3%	50	25.4%
Saint Joseph	1,408	599	42.5%	287	20.4%
Scott	201	61	30.3%	19	9.5%
Shelby	199	90	45.2%	30	15.1%
Spencer	142	78	54.9%	27	19.0%
Starke	87	31	35.6%	6	6.9%
Steuben	251	134	53.4%	53	21.1%
Sullivan	78	36	46.2%	15	19.2%
Switzerland	88	42	47.7%	12	13.6%
Tippecanoe	400	223	55.8%	92	23.0%
Tipton	62	31	50.0%	14	22.6%
Union	52	15	28.8%	6	11.5%
Vanderburgh	1,454	809	55.6%	380	26.1%
Vermillion	114	55	48.2%	33	28.9%
Vigo	935	525	56.1%	276	29.5%
Wabash	311	193	62.1%	73	23.5%
Warren	26	14	53.8%	8	30.8%
Warrick	294	172	58.5%	66	22.4%
Washington	34	13	38.2%	<5	N/A
Wayne	574	239	41.6%	91	15.9%
Wells	159	105	66.0%	51	32.1%
White	152	77	50.7%	20	13.2%
Whitley	151	84	55.6%	34	22.5%
Indiana	**37,459**	**18,156**	**48.5%**	**7,700**	**20.6%**

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, 2017

APPENDIX 4C

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	1025	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

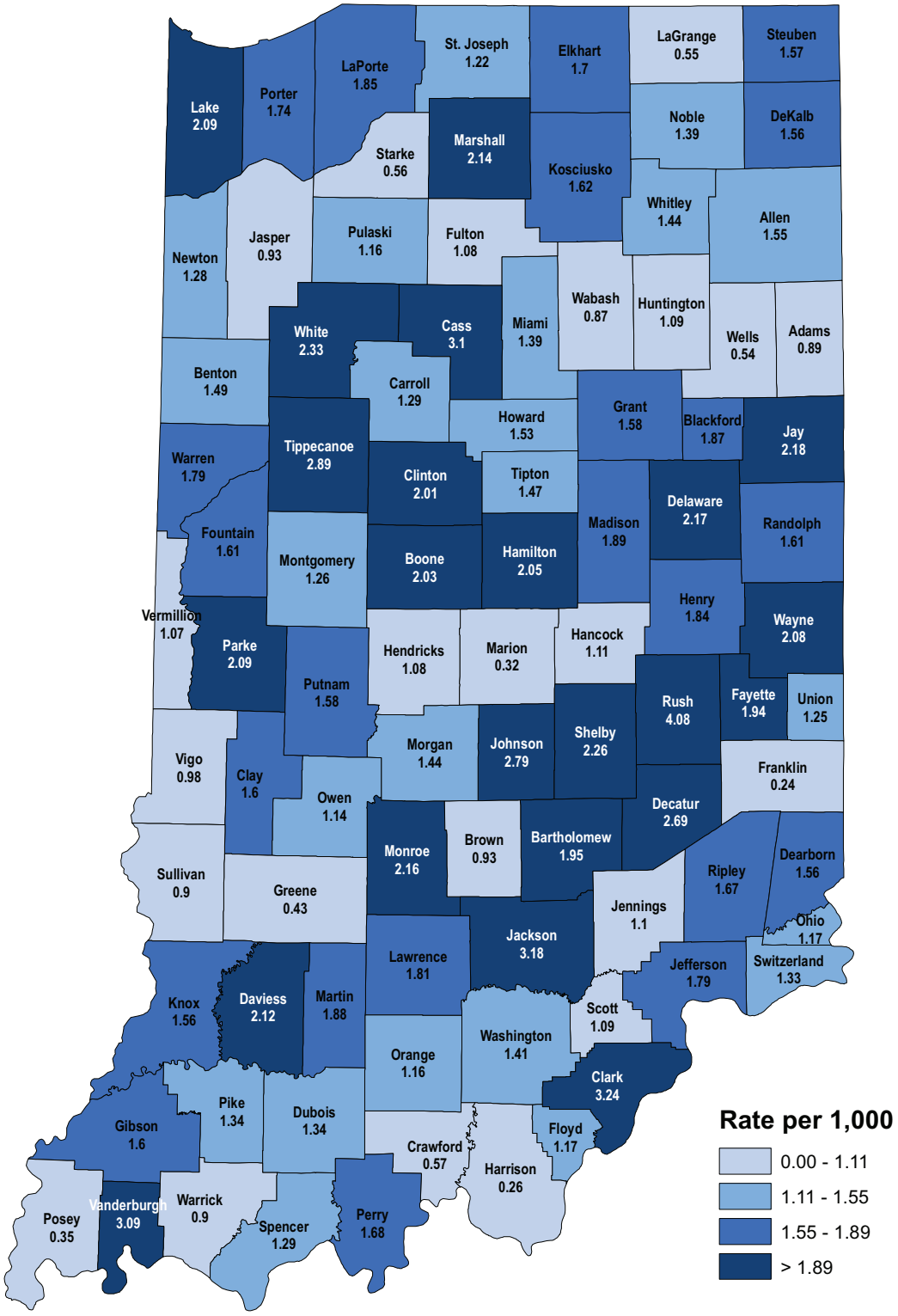
(continued on next page)

APPENDIX 4C *(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

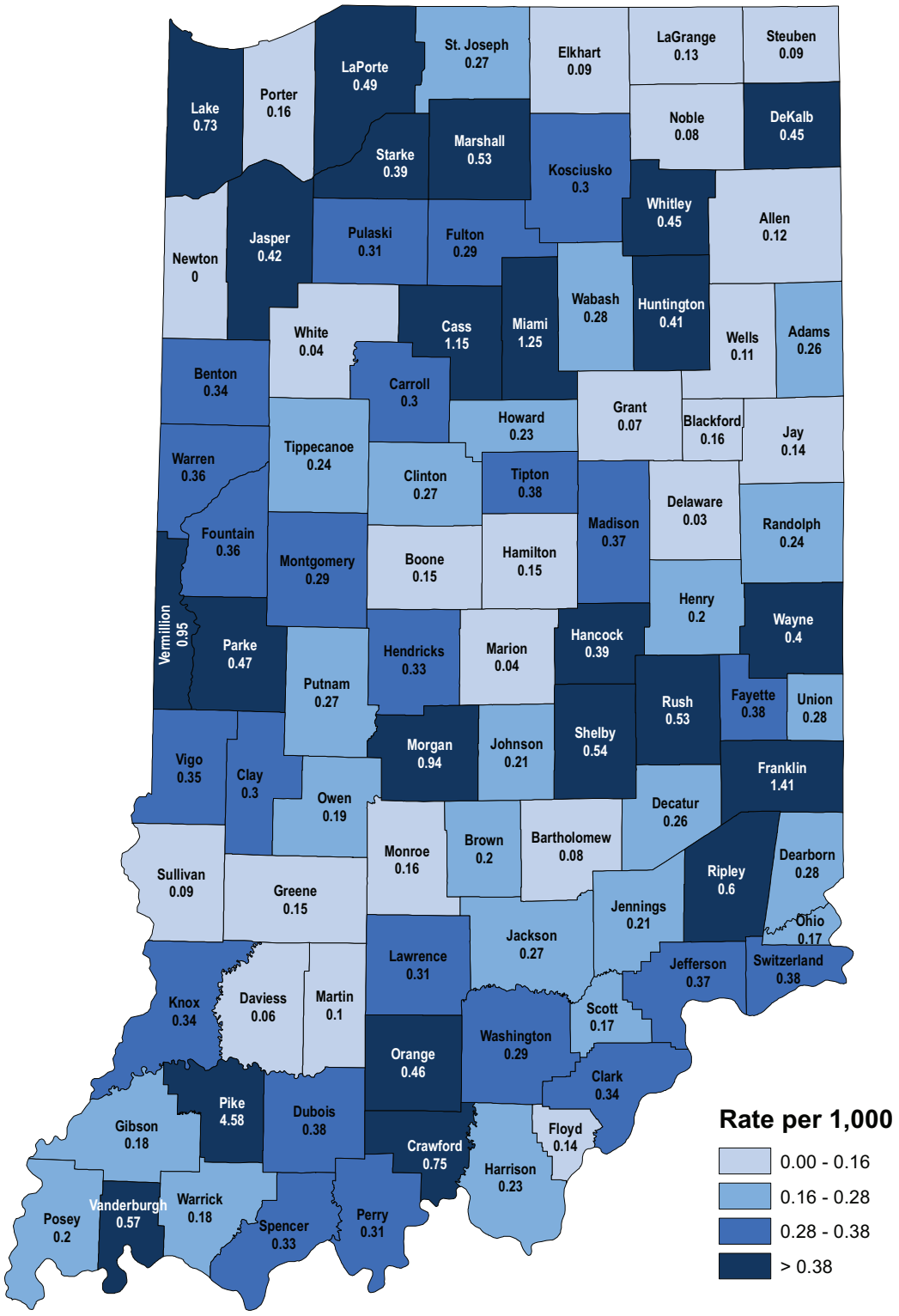
* Rates based on arrest numbers lower than 20 are unreliable.
Source: FBI, 2014

Map 4.1 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 4C (pages 60-61) for additional information.
Source: FBI, 2014

Map 4.2 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 4C (pages 60-61) for additional information.
Source: FBI, 2014

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5 Opioid Use in Indiana: Consumption Patterns and Consequences

INTRODUCTION

Opioids are a class of drugs that are used to reduce pain. They include legal substances such as prescription pain relievers received from a physician and illegal substances such as heroin or illicitly manufactured fentanyl. All opioids are chemically similar and the brain does not distinguish between legal and illegal opioids. By binding to special opioid receptors on nerve cells in the brain and body, opioids block pain signals and are responsible for the release of large amounts of dopamine. The release of dopamine has a strong reinforcing effect and is often experienced as "euphoria" and a "sense of wellbeing" in users (National Institute on Drug Abuse [NIDA], 2016, 2018a, 2018b).

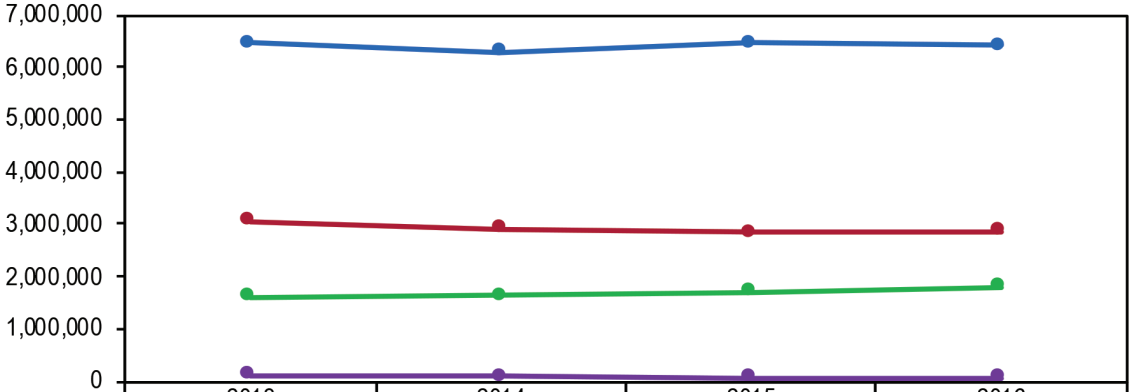
Common prescription opioids include oxycodone (e.g., OxyContin®, Percocet®), hydrocodone (e.g., Vicodin®), oxymorphone (e.g., Opana ®), codeine, morphine, and fentanyl (NIDA, 2018b). Fentanyl is a powerful synthetic opioid similar to morphine but 50 to 100 times stronger. The high potency of the drug significantly increases its risk for overdose. Fentanyl is typically used to treat severe pain or to manage pain after surgery. However, non-pharmaceutical fentanyl is sold on the streets in form of a powder, spiked on blotter paper, and mixed with heroin or other drugs (NIDA, 2016). Prescription opioids are generally safe when taken for a short time and as prescribed by a healthcare provider. However, regular use, even as prescribed, can lead to dependence and addiction, and may result in overdose (NIDA, 2018b).

Heroin is a semi-synthetic illegal drug derived from morphine, a naturally occurring substance extracted from the opium poppy. Heroin is available in the form of a white or brown powder, or a black sticky substance commonly known as black tar heroin (NIDA, 2018a).

INSPECT

INSPECT is Indiana's prescription drug monitoring program; it collects information on all controlled substances (DEA Schedules II through V) dispensed 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 5.1) (Indiana Professional Licensing Agency [IPLA], 2017). These results describe the legal dispensation of prescription pharmaceuticals; they infer use of the drugs but do not estimate misuse. See Appendix 5A for the number of opioid dispensations by county (page 75).

Figure 5.1 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, 2017

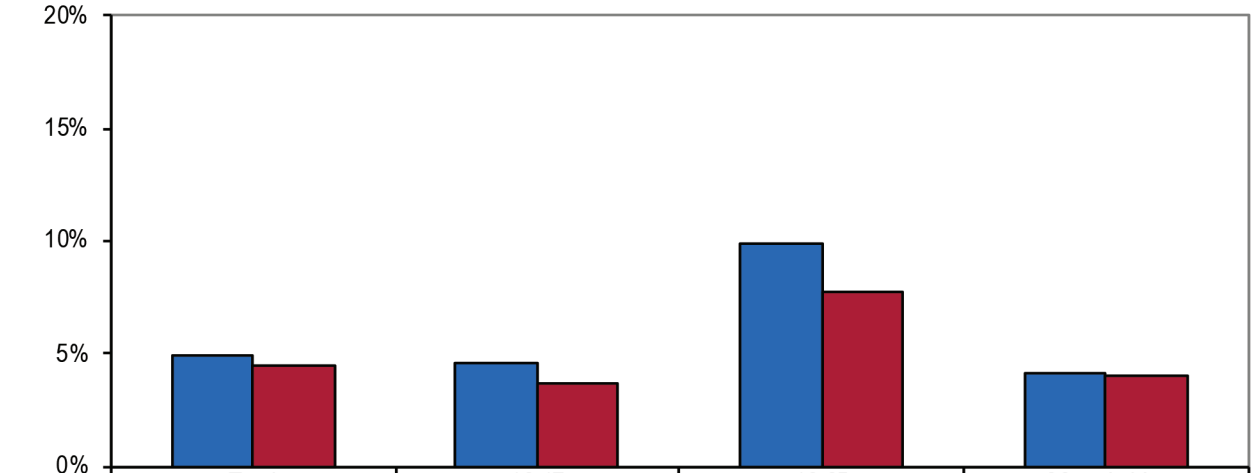
PREVALENCE OF OPIOID CONSUMPTION IN THE GENERAL POPULATION

National Survey on Drug Use and Health

Based on 2015–2016 averages from the Substance Abuse and Mental Health Services Administration (SAMHSA)'s National Survey on Drug Use and Health (NSDUH), an estimated 4.9% (95% Confidence Interval [CI]: 4.2–5.7) of Indiana residents ages 12 and older misused pain relievers in the past year (U.S.: 4.5%; 95% CI: 4.3–4.6). The highest rate was found among young adults ages 18 to 25, at 9.9% (95% CI: 8.0–12.1); this represents a rate statistically similar to the nation's rate (7.8%; 95% CI: 7.5–8.2) (SAMHSA, 2016). For additional rates by age group, see Figure 5.2.

(In 2015, SAMHSA redesigned the questions in the NSDUH pertaining to the use and misuse of prescription drugs. Due to these changes, new estimates cannot be compared to previous years of the NSDUH.)

Figure 5.2 Prevalence of Past-Year Pain Reliever Use in Indiana and the United States, by Age Group (National Survey on Drug Use and Health, 2016)



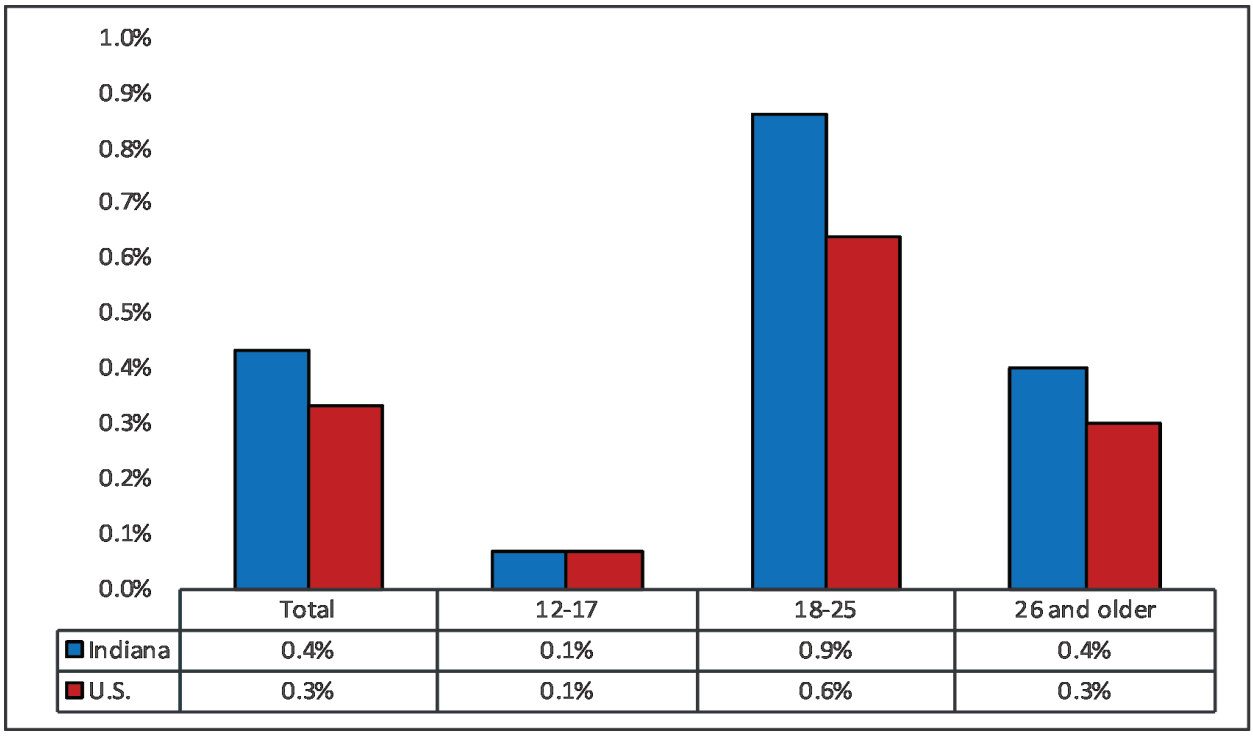
	Total	12-17	18-25	26 and older
Indiana	4.9%	4.6%	9.9%	4.1%
U.S.	4.5%	3.7%	7.8%	4.0%

Source: SAMHSA, 2016

Although heroin use in the general U.S. population is relatively low (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 2015–2016 NSDUH, 0.4% (95% CI: 0.2–0.8) of Hoosiers ages 12 and older reported using heroin in the past year; the U.S. rate was similar. Past-year heroin use was most prevalent among young adults ages 18 to 25, at 0.9% (95% CI: 0.0.5–1.5) (SAMHSA, 2016). For additional rates by age group, see Figure 5.3.

Figure 5.3 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, 2016)



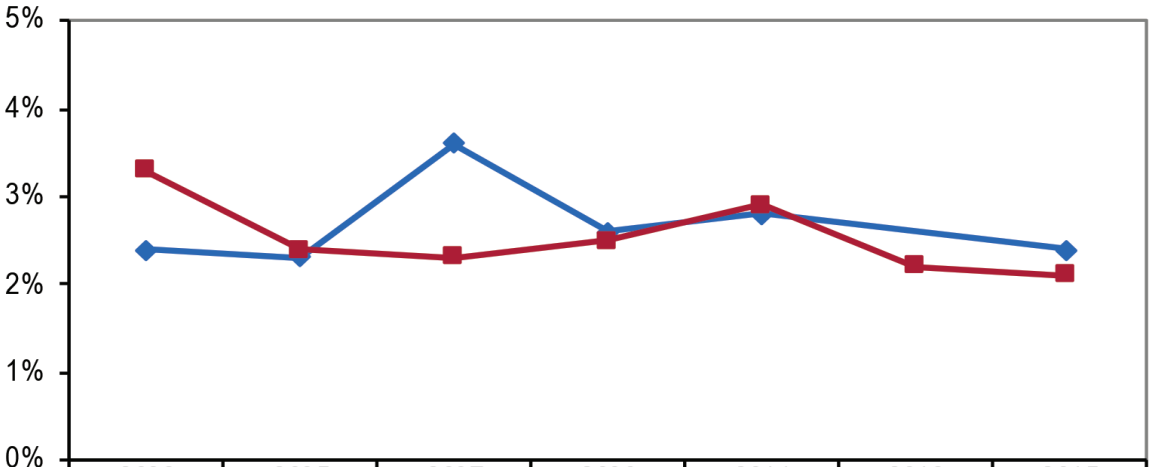
	Total	12-17	18-25	26 and older
Indiana	0.4%	0.1%	0.9%	0.4%
U.S.	0.3%	0.1%	0.6%	0.3%

Source: SAMHSA, 2016

Youth Risk Behavior Surveillance System

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 5.4). 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], 1991–2015).

Figure 5.4 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, 2003–2015)



	2003	2005	2007	2009	2011	2013	2015
Indiana	2.4%	2.3%	3.6%	2.6%	2.8%		2.4%
U.S.	3.3%	2.4%	2.3%	2.5%	2.9%	2.2%	2.1%

Note: 2013 estimates for Indiana are not available.
Source: CDC, 1991–2015

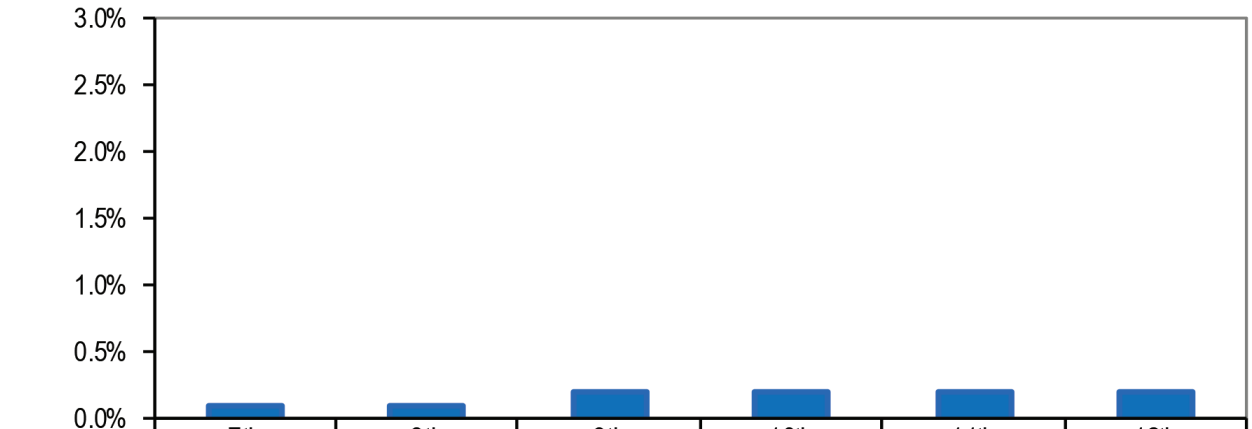
As noted previously, a common route of administration for heroin is by needle injection. According to the 2015 YRBSS, the percentage of high school students who used a needle to inject any illegal drug into their body one or more times during their lifetime was statistically similar in Indiana (2.2%; 95% CI: 1.1–4.3) and the nation (1.8%; 95% CI: 1.3–2.3) (CDC, 1991–2015).

(While the YRBSS offers information on overall prescription drug misuse, it does not provide estimates for prescription pain reliever misuse specifically.)

Indiana Youth Survey

Based on results from the 2017 Indiana Youth Survey (INYS), past-month heroin use among 7th through 12th grade students was between 0.1% and 0.2% (see Figure 5.5). Heroin use among Indiana 12th graders peaked in 2011 at 1.2%, but is now at 0.2% (see Figure 5.6) (Gassman et al., 2017). For monthly heroin use rates in Indiana by region and grade level, see Appendix 5B, page 76.

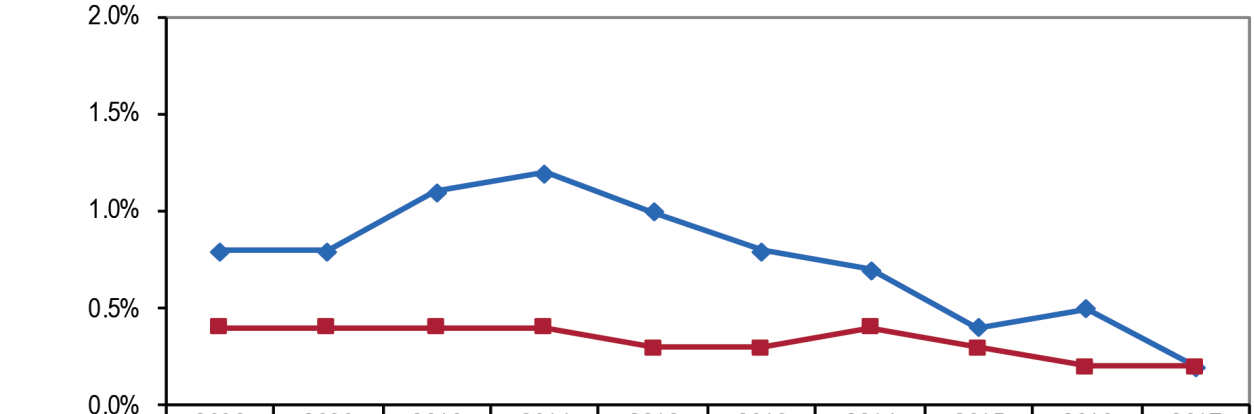
Figure 5.5 Percentage of Indiana 7th through 12th Grade Students Reporting Monthly Heroin Use (Indiana Youth Survey, 2017)



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

Source: Gassman et al., 2017

Figure 5.6 Percentage of Indiana and U.S. 12th Grade Students Reporting Monthly Heroin Use (Indiana Youth Survey and Monitoring the Future Survey, 2008–2017)



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Indiana	0.8%	0.8%	1.1%	1.2%	1.0%	0.8%	0.7%	0.4%	0.5%	0.2%
U.S.	0.4%	0.4%	0.4%	0.4%	0.3%	0.3%	0.4%	0.3%	0.2%	0.2%

Source: Gassman et al., 2017; Inter-university Consortium for Political and Social Research, University of Michigan, 2017

Indiana College Substance Use Survey

The Indiana College Substance Use Survey[1] includes questions on the past-month use of opioids and prescription painkillers not prescribed to the student. Findings from the 2017 survey were as follows:

a) Misuse of prescription painkillers:
   - 2.2% of Indiana college students misused prescription painkillers in the past month.
   - Rates did not differ by gender (males: 2.2%; females: 2.1%).
   - Rates were not significantly different by age group (under the age of 21: 2.6%; between the ages of 21 and 25: 1.9%).

b) Misuse of heroin:
   - 1.9% of Indiana college students reported ever having used heroin.
   - Of students who reported using heroin at least once in their lifetime, 54.3% first used prior to starting college.
   - 0.2% had used within the past month.

(King & Jun, 2017).

USE OF OPIOIDS IN THE TREATMENT POPULATION

Treatment Episode Data Set

Another method of tracking opioid misuse is to examine the Treatment Episode Data Set (TEDS) for individuals who report misuse of prescription pain relievers[2] or heroin at the time of substance use treatment admission.

In nearly 22% of Indiana treatment admissions, misuse of prescription opioids was reported (U.S.: 14.3%) and in over 11%, dependence[3] was indicated in 2015 (SAMHSA, 2015). Significant differences in self-reported prescription opioid misuse were seen by gender, race, and age group. Generally speaking, women, whites, and adults between the ages of 18 and 44 had the highest percentages of misuse and dependence (see Table 5.1). Furthermore, the percentage of treatment admissions attributable to prescription opioids has increased considerably from 2006 to 2015 (see Figure 5.7). For county-level information, see Appendix 5C, pages 77-79.

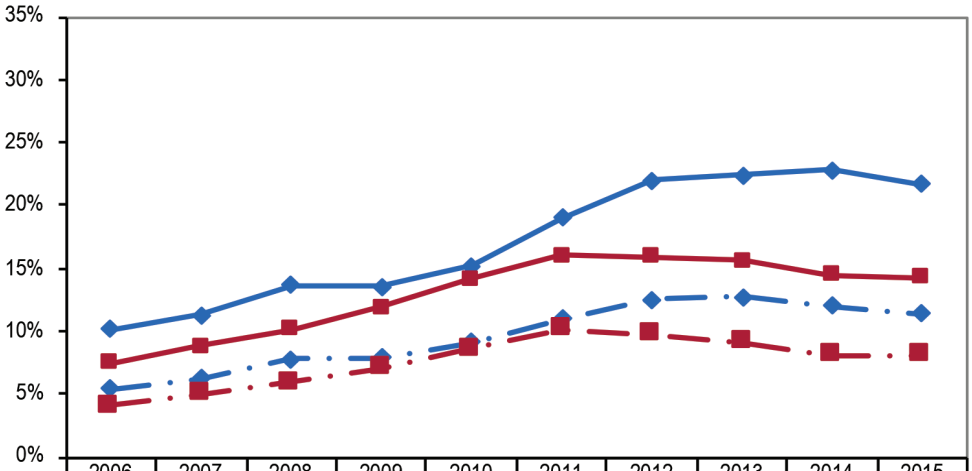
Table 5.1 Percentage of Indiana and U.S. Treatment Episodes with Prescription Opioid Misuse and Dependence Reported at Treatment Admission, by Gender, Race, and Age Group (Treatment Episode Data Set, 2015)

		Misuse		Dependence	
		Indiana	U.S.	Indiana	U.S.
Gender	Male	18.0%	12.0%	6.4%	6.4%
	Female	27.3%	18.5%	11.3%	11.3%
Race	White	24.1%	18.1%	12.6%	10.4%
	Black	5.7%	5.5%	2.7%	3.0%
	Other	21.8%	8.5%	12.1%	4.5%
Age Group	Under 18	7.3%	5.5%	1.4%	1.3%
	18-24	19.1%	15.4%	8.3%	8.0%
	25-34	28.4%	19.3%	15.2%	11.2%
	35-44	22.8%	14.4%	12.9%	8.5%
	45-54	13.6%	8.9%	7.9%	5.0%
	55+	11.8%	8.3%	7.1%	4.9%
Total		**21.7%**	**14.3%**	**11.4%**	**8.1%**

Source: SAMHSA, 2015

[1]Thirty-one (31) colleges participated in the 2017 survey; results are based on nonrandom sampling and are not representative of all college students in Indiana.
[2]We used TEDS variables "nonprescription methadone" and "other opiates/synthetics" to define pain reliever use (excludes heroin).
[3]We defined prescription pain reliever dependence as "individuals in substance abuse treatment listing prescription pain relievers as their primary substance at admission."

Figure 5.7 Percentage of Indiana and U.S. Treatment Episodes with Prescription Opioid Misuse and Dependence Reported at Treatment Admission (Treatment Episode Data Set, 2006–2015)

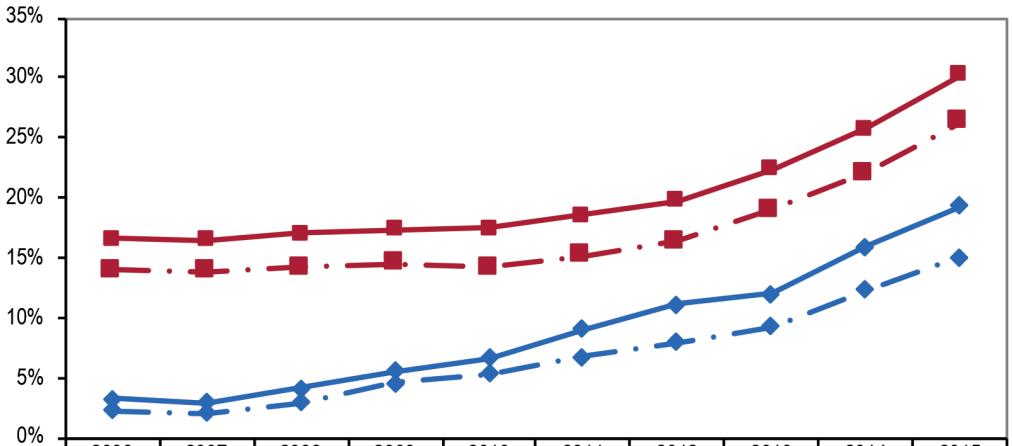


	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
IN Rx Opioid Misuse	10.2%	11.3%	13.7%	13.6%	15.2%	19.0%	22.0%	22.4%	22.8%	21.7%
U.S. Rx Opioid Misuse	7.5%	8.8%	10.2%	11.9%	14.2%	16.0%	15.9%	15.6%	14.5%	14.3%
IN Rx Opioid Dependence	5.4%	6.2%	7.8%	7.9%	9.1%	11.0%	12.5%	12.7%	12.0%	11.4%
U.S. Rx Opioid Dependence	4.1%	5.0%	5.9%	7.1%	8.6%	10.1%	9.7%	9.1%	8.1%	8.1%

Source: SAMHSA, 2015

In approximately one-fifth of Indiana treatment admissions in 2015, heroin use was reported; heroin dependence[4] was indicated in 15% of admissions (SAMHSA, 2015). Though the percentage of treatment admissions attributable to heroin has increased significantly from 2006 through 2015, Indiana's percentage remained below the U.S. percentage. For additional trend information, see Figure 5.8.

Figure 5.8 Percentage of Indiana and U.S. Treatment Episodes with Heroin Use and Dependence Reported at Treatment Admission (Treatment Episode Data Set, 2006–2015)



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
IN Heroin Misuse	3.2%	2.9%	4.1%	5.5%	6.6%	9.0%	11.1%	12.0%	15.9%	19.3%
U.S. Heroin Misuse	16.6%	16.5%	17.0%	17.3%	17.4%	18.5%	19.8%	22.4%	25.8%	30.3%
IN Heroin Dependence	2.3%	2.0%	2.9%	4.5%	5.3%	6.7%	7.9%	9.2%	12.3%	15.1%
U.S. Heroin Dependence	13.9%	13.8%	14.2%	14.5%	14.2%	15.2%	16.4%	19.0%	22.1%	26.3%

Source: SAMHSA, 2015

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

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.
- **Race**—Whites had the highest percentage of heroin use and dependence compared to all other races.
- **Age**—Heroin use and dependence within Indiana's treatment population was highest among adults ages 18 to 34. Use among minors under the age of 18 peaked in 2012 at 11.5%, but has dropped since then to 2.5%

For additional details, see Table 5.2 (SAMHSA, 2015); for county-level information, see Appendix 5C, pages 77-79.

Table 5.2 Percentage of Indiana and U.S. Treatment Episodes with Heroin Use and Dependence Reported at Treatment Admission, by Gender, Race, and Age Group (Treatment Episode Data Set, 2015)

		Misuse		Dependence	
		Indiana	**U.S.**	**Indiana**	**U.S.**
Gender	Male	16.6%	29.6%	13.1%	25.7%
	Female	23.4%	31.5%	18.2%	27.5%
Race	White	21.5%	32.90%	16.9%	28.7%
	Black	7.8%	23.9%	6.1%	20.7%
	Other	15.2%	28.1%	11.4%	24.0%
Age Group	Under 18	2.5%	3.0%	1.5%	2.1%
	18-24	21.9%	33.4%	17.5%	29.5%
	25-34	27.4%	36.9%	21.8%	32.4%
	35-44	15.5%	28.9%	11.7%	24.7%
	45-54	8.1%	25.9%	5.6%	22.0%
	55+	8.9%	25.3%	6.8%	22.1%
Total		**19.3%**	**30.3%**	**15.1%**	**26.3%**

Source: SAMHSA, 2015

Opioid Treatment Programs

Opioid treatment programs (OTPs) provide medication-assisted treatment to individuals with an opioid use disorder. OTPs are certified by SAMHSA, accredited by an independent SAMHSA-approved accrediting body, and licensed by the state in which they operate. Federal law requires OTPs to provide medical, counseling, vocational, educational, and other assessment and treatment services, in addition to prescribed medication. In 2017, a total of 13,697 unique patients were treated in OTPs in Indiana (Indiana Family and Social Services Administration, 2018).

CONSEQUENCES OF OPIOID USE

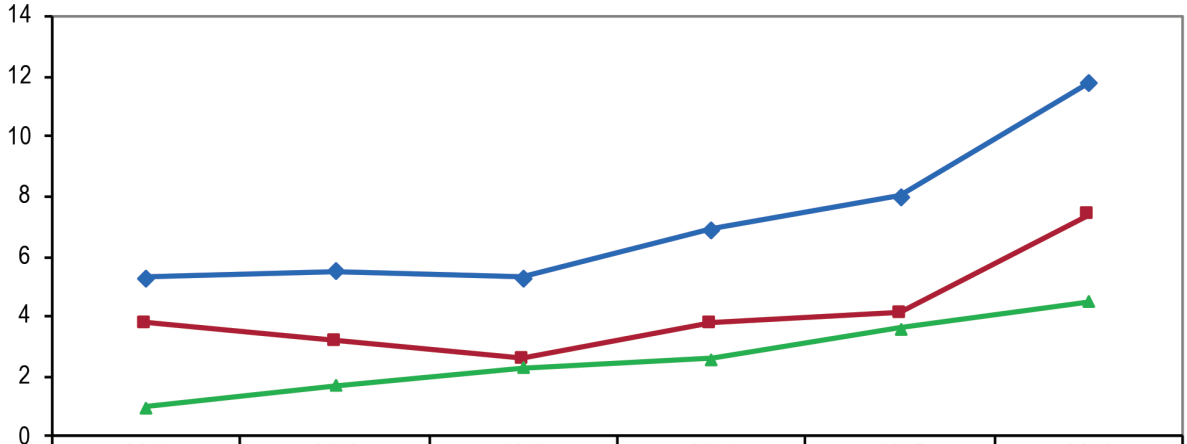
Fatal and Non-Fatal Drug Overdoses

In high doses and/or combined with alcohol and certain other drugs, opioids can cause respiratory depression and lead to death (NIDA, 2018a). Drug overdose deaths (from all drugs) increased in Indiana from 9.7 per 100,000 population (U.S.: 10.1) in 2005 to 23.0 per 100,000 population (U.S.: 19.7) in 2016 (CDC, 1999–2016).[5] A large percentage of overall drug overdoses involve opioids. In Indiana, the number of overdose deaths involving an opioid rose from 347 in 2011 to 785 in 2016 (ISDH, 2017). For 2011 through 2016 overdose mortality rates involving opioids, see Figure 5.9.

In addition, a total of 6,428 visits to Indiana emergency departments occurred due to a nonfatal opioid overdose in 2016 (personal communication with Raven Helmick, ISDH, on May 7, 2018).

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

Figure 5.9 Drug Overdose Deaths Involving Opioids, Rate per 100,000 Population (Indiana, 2011–2016)



	2011	2012	2013	2014	2015	2016
Any Opioid	5.3	5.5	5.3	6.9	8.0	11.8
Rx Opioid	3.8	3.2	2.6	3.8	4.1	7.4
Heroin	1.0	1.7	2.3	2.6	3.6	4.5

Note: "Rx (prescription) Opioid" and "Heroin" are subcategories of "Any Opioid". Overdose deaths involving prescription opioids or heroin are not mutually exclusive as multiple drugs are frequently involved in overdose deaths.
Source: ISDH, 2017

HIV/AIDS and Hepatitis B & C

Opioids, especially when injected, are a significant risk factor for contracting human immunodeficiency virus infection (HIV) and hepatitis B and C, due to the common practice of needle-sharing among injection drug users (NIDA, 2018c). However, drug use in any form is associated with risk behaviors related to infectious disease transmission (NIDA, 2018c).

As of December 31, 2017, a total of 12,635 individuals in Indiana were living with HIV or AIDS, representing an annual HIV/AIDS prevalence rate of 190.5 per 100,000 population. In 2017, there were 547 new cases of HIV/AIDS. In nearly 9% of these new cases, injection drug use (IDU) was reported, either as the sole risk factor for contracting HIV/AIDS or in combination with other risk factors (ISDH, 2017).

Indiana's age-adjusted HIV/AIDS mortality rate for 2016 was 1.4 per 100,000 population (95% CI: 1.1–1.7), which was similar to the U.S. rate of 1.8 per 100,000 population (95% CI: 1.7–1.8) (CDC, 1999–2016).[6]

Hepatitis is a liver disease that is caused by viral infection. 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. Injection drug use (IDU) is a major risk factor for both acquiring and transmitting HBV and HCV. 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, 2018d).

In 2016, there were 957 cases of hepatitis B (including 168 acute and 789 chronic cases) and 8,352 cases of hepatitis C (including 181 acute and 8,171 chronic cases) in Indiana (ISDH, 2017).

The 2016 age-adjusted mortality rate attributable to HBV and HCV[7] combined was 1.1 per 100,000 population (95% CI: 0.9–1.3) in Indiana, which was below the national rate of 1.5 per 100,000 population (95% CI: 1.5–1.6) (CDC, 1999–2016).

[6]Mortality rates for HIV/AIDS are based on ICD-10 codes B20-B24 (Human immunodeficiency virus [HIV] disease).
[7]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).

Pharmacy Robberies

The number of pharmacy robberies in Indiana peaked in 2015 with 175 robberies, but decreased to 22 robberies in 2017. These 22 robberies were responsible for nearly 37,000 doses of stolen controlled substances, reflecting a purchase value of $76,439 (see Table 5.3) (IPLA, 2018).

Arrests - Uniform Crime Reporting Program

The Uniform Crime Reporting Program (UCR) collects information on arrests for possession and for sale/ manufacture of drugs. Arrests for possession and sale of opiates are combined with those for possession and sale of cocaine.

In 2014, there were over 1,600 arrests for the possession of opiates and cocaine and nearly as many arrests for the sale/manufacturing of these drugs, representing an arrest rate of 0.2 per 1,000 for both possession and sale/manufacturing. Compared to Indiana, the arrest rate for opiate/ cocaine possession in 2014 was significantly higher in the U.S., at 0.7 per 1,000, while the arrest rate for cocaine/opiate sale/ manufacture was the same, at 0.2 per 1,000 population (Federal Bureau of Investigation [FBI], 2014). [For additional, detailed information on arrests for opiate/ cocaine possession and sale, refer to Chapter 6 “Stimulants.”]

Table 5.3 Pharmacy Robberies in Indiana (Summary Report 2016)

	2013	2014	2015	2016	2017
Number of Robberies	71	80	175	75	22
Purchase Value of Stolen Drugs	$202,133	$293,079	$479,785	$246,138	$76,439
Number of Doses Stolen					
Oxycodone	6,457	50,525	113,807	46,325	30,911
Hydrocodone	4,159	14,702	40,452	25,737	-
Others	1,735	10,502	29,442	34,859	6,028
Total	**12,351**	**75,729**	**183,701**	**106,921**	**36,939**

Source: IPLA, 2018

APPENDIX 5A

Number of Opioid Prescriptions Dispensed in Indiana, by County of Residence (INSPECT, 2017)

County	Opioids
Adams	22,368
Allen	280,911
Bartholomew	80,752
Benton	7,542
Blackford	17,637
Boone	51,747
Brown	17,559
Carroll	17,279
Cass	34,326
Clark	133,698
Clay	26,770
Clinton	35,049
Crawford	13,447
Daviess	30,726
Dearborn	50,411
Decatur	26,236
DeKalb	37,053
Delaware	129,050
Dubois	37,699
Elkhart	145,836
Fayette	35,110
Floyd	81,536
Fountain	17,834
Franklin	22,363
Fulton	21,071
Gibson	39,414
Grant	81,349
Greene	39,075
Hamilton	181,373
Hancock	69,076
Harrison	43,259

County	Opioids
Hendricks	118,078
Henry	68,239
Howard	106,143
Huntington	35,842
Jackson	45,647
Jasper	37,694
Jay	20,694
Jefferson	41,853
Jennings	35,890
Johnson	141,241
Knox	55,031
Kosciusko	65,057
LaGrange	19,193
Lake	419,091
LaPorte	126,390
Lawrence	66,204
Madison	172,100
Marion	762,569
Marshall	41,771
Martin	14,401
Miami	35,478
Monroe	101,979
Montgomery	42,400
Morgan	88,848
Newton	14,860
Noble	43,583
Ohio	7,094
Orange	23,477
Owen	28,407
Parke	13,938
Perry	18,269

County	Opioids
Pike	18,701
Porter	173,296
Posey	31,333
Pulaski	16,411
Putnam	35,651
Randolph	27,885
Ripley	26,360
Rush	19,187
Saint Joseph	226,244
Scott	34,643
Shelby	46,379
Spencer	18,610
Starke	37,384
Steuben	26,866
Sullivan	23,433
Switzerland	10,775
Tippecanoe	123,086
Tipton	17,199
Union	4,949
Vanderburgh	217,178
Vermillion	16,591
Vigo	102,397
Wabash	38,577
Warren	6,459
Warrick	61,734
Washington	33,869
Wayne	78,643
Wells	23,693
White	23,436
Whitley	31,190
Indiana	**6,191,590**

Source: ISDH, 2018

APPENDIX 5B

Percentage of Indiana Students Reporting Monthly Heroin Use, by Region and Grade (Indiana Youth Survey, 2017)

	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., 2017

APPENDIX 5C

Number of Treatment Episodes with Prescription (Rx) Opioid Misuse and Dependence and Heroin Use and Dependence Reported at Treatment Admission in Indiana, by County (Substance Abuse Population by County/ Treatment Episode Data Set, 2017)

	Treatment Episodes	Rx Opioid Misuse		Rx Opioid Dependence		Heroin Use		Heroin Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Adams	369	78	21.1%	26	7.0%	71	19.2%	55	14.9%
Allen	1,847	325	17.6%	165	8.9%	274	14.8%	202	10.9%
Bartholomew	856	211	24.6%	111	13.0%	225	26.3%	152	17.8%
Benton	51	14	27.5%	6	11.8%	6	11.8%	<5	N/A
Blackford	117	24	20.5%	14	12.0%	57	48.7%	50	42.7%
Boone	183	40	21.9%	16	8.7%	51	27.9%	43	23.5%
Brown	110	11	10.0%	5	4.5%	32	29.1%	26	23.6%
Carroll	80	10	12.5%	5	6.3%	16	20.0%	13	16.3%
Cass	338	55	16.3%	25	7.4%	40	11.8%	26	7.7%
Clark	133	51	38.3%	41	30.8%	27	20.3%	18	13.5%
Clay	227	27	11.9%	14	6.2%	7	3.1%	5	2.2%
Clinton	203	39	19.2%	19	9.4%	39	19.2%	26	12.8%
Crawford	43	15	34.9%	6	14.0%	7	16.3%	7	16.3%
Daviess	179	37	20.7%	19	10.6%	8	4.5%	6	3.4%
Dearborn	565	219	38.8%	99	17.5%	200	35.4%	148	26.2%
Decatur	317	71	22.4%	33	10.4%	48	15.1%	29	9.1%
DeKalb	315	46	14.6%	23	7.3%	21	6.7%	15	4.8%
Delaware	1,104	370	33.5%	230	20.8%	336	30.4%	276	25.0%
Dubois	226	52	23.0%	22	9.7%	16	7.1%	<5	N/A
Elkhart	749	100	13.4%	54	7.2%	66	8.8%	45	6.0%
Fayette	344	132	38.4%	72	20.9%	146	42.4%	105	30.5%
Floyd	69	31	44.9%	23	33.3%	16	23.2%	14	20.3%
Fountain	63	19	30.2%	7	11.1%	11	17.5%	8	12.7%
Franklin	182	58	31.9%	31	17.0%	47	25.8%	33	18.1%
Fulton	189	30	15.9%	13	6.9%	27	14.3%	16	8.5%
Gibson	298	44	14.8%	15	5.0%	<5	N/A	<5	N/A
Grant	532	142	26.7%	72	13.5%	164	30.8%	131	24.6%
Greene	222	59	26.6%	35	15.8%	36	16.2%	21	9.5%
Hamilton	919	151	16.4%	78	8.5%	209	22.7%	162	17.6%
Hancock	358	68	19.0%	38	10.6%	82	22.9%	68	19.0%
Harrison	19	<5	N/A	<5	N/A	10	52.6%	8	42.1%
Hendricks	404	66	16.3%	43	10.6%	105	26.0%	84	20.8%
Henry	334	157	47.0%	112	33.5%	48	14.4%	35	10.5%
Howard	658	159	24.2%	56	8.5%	231	35.1%	167	25.4%
Huntington	212	70	33.0%	21	9.9%	49	23.1%	37	17.5%
Jackson	451	127	28.2%	53	11.8%	90	20.0%	41	9.1%
Jasper	114	28	24.6%	7	6.1%	40	35.1%	27	23.7%
Jay	162	33	20.4%	9	5.6%	81	50.0%	68	42.0%
Jefferson	427	174	40.7%	87	20.4%	58	13.6%	26	6.1%
Jennings	311	80	25.7%	31	10.0%	62	19.9%	39	12.5%
Johnson	490	102	20.8%	58	11.8%	142	29.0%	119	24.3%
Knox	347	83	23.9%	51	14.7%	12	3.5%	6	1.7%

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APPENDIX 5C *(Continued from previous page)*

	Treatment Episodes	Rx Opioid Misuse		Rx Opioid Dependence		Heroin Use		Heroin Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Kosciusko	490	82	16.7%	28	5.7%	76	15.5%	50	10.2%
LaGrange	169	17	10.1%	9	5.3%	<5	N/A	<5	N/A
Lake	2,360	230	9.7%	139	5.9%	588	24.9%	512	21.7%
LaPorte	281	57	20.3%	31	11.0%	124	44.1%	96	34.2%
Lawrence	664	258	38.9%	128	19.3%	123	18.5%	82	12.3%
Madison	1,329	494	37.2%	253	19.0%	211	15.9%	132	9.9%
Marion	4,220	730	17.3%	466	11.0%	1,083	25.7%	970	23.0%
Marshall	179	36	20.1%	17	9.5%	31	17.3%	25	14.0%
Martin	71	20	28.2%	6	8.5%	<5	N/A	<5	N/A
Miami	289	66	22.8%	30	10.4%	56	19.4%	35	12.1%
Monroe	1,609	402	25.0%	198	12.3%	372	23.1%	252	15.7%
Montgomery	397	74	18.6%	25	6.3%	86	21.7%	54	13.6%
Morgan	584	133	22.8%	65	11.1%	150	25.7%	101	17.3%
Newton	35	<5	N/A	<5	N/A	15	42.9%	14	40.0%
Noble	336	34	10.1%	20	6.0%	14	4.2%	5	1.5%
Ohio	38	17	44.7%	7	18.4%	10	26.3%	6	15.8%
Orange	192	53	27.6%	28	14.6%	20	10.4%	17	8.9%
Owen	243	45	18.5%	21	8.6%	31	12.8%	16	6.6%
Parke	73	12	16.4%	6	8.2%	6	8.2%	<5	N/A
Perry	131	23	17.6%	8	6.1%	<5	N/A	<5	N/A
Pike	40	7	17.5%	<5	N/A	<5	N/A	<5	N/A
Porter	256	73	28.5%	41	16.0%	93	36.3%	78	30.5%
Posey	180	34	18.9%	16	8.9%	<5	N/A	<5	N/A
Pulaski	75	22	29.3%	9	12.0%	10	13.3%	5	6.7%
Putnam	259	51	19.7%	22	8.5%	22	8.5%	14	5.4%
Randolph	240	54	22.5%	29	12.1%	89	37.1%	81	33.8%
Ripley	195	46	23.6%	20	10.3%	44	22.6%	38	19.5%
Rush	197	54	27.4%	24	12.2%	28	14.2%	14	7.1%
Saint Joseph	1,408	169	12.0%	68	4.8%	317	22.5%	266	18.9%
Scott	201	88	43.8%	63	31.3%	37	18.4%	25	12.4%
Shelby	199	40	20.1%	15	7.5%	55	27.6%	42	21.1%
Spencer	142	35	24.6%	15	10.6%	7	4.9%	<5	N/A
Starke	87	43	49.4%	26	29.9%	41	47.1%	27	31.0%
Steuben	251	35	13.9%	11	4.4%	17	6.8%	9	3.6%
Sullivan	78	20	25.6%	14	17.9%	<5	N/A	<5	N/A
Switzerland	88	35	39.8%	20	22.7%	14	15.9%	11	12.5%
Tippecanoe	400	79	19.8%	33	8.3%	92	23.0%	69	17.3%
Tipton	62	21	33.9%	15	24.2%	14	22.6%	6	9.7%
Union	52	13	25.0%	7	13.5%	23	44.2%	20	38.5%
Vanderburgh	1,454	333	22.9%	167	11.5%	96	6.6%	57	3.9%
Vermillion	114	17	14.9%	10	8.8%	7	6.1%	5	4.4%
Vigo	935	98	10.5%	43	4.6%	38	4.1%	22	2.4%
Wabash	311	87	28.0%	33	10.6%	83	26.7%	45	14.5%
Warren	26	6	23.1%	<5	N/A	<5	N/A	<5	N/A

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APPENDIX 5C *(Continued from previous page)*

	Treatment Episodes	Rx Opioid Misuse		Rx Opioid Dependence		Heroin Use		Heroin Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Warrick	294	61	20.7%	30	10.2%	12	4.1%	9	3.1%
Washington	34	10	29.4%	7	20.6%	15	44.1%	10	29.4%
Wayne	574	123	21.4%	52	9.1%	280	48.8%	226	39.4%
Wells	159	55	34.6%	22	13.8%	44	27.7%	31	19.5%
White	152	22	14.5%	<5	N/A	19	12.5%	9	5.9%
County Info Missing	38	6	15.8%	<5	N/A	16	42.1%	14	36.8%
Indiana	**37,459**	**8,171**	**21.8%**	**4,170**	**11.1%**	**7,761**	**20.7%**	**5,895**	**15.7%**

Notes: We defined prescription opioid dependence as “individuals in substance abuse treatment listing prescription opioids as their primary substance at admission.”
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 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, 2017

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6 Stimulant Use in Indiana: Consumption Patterns and Consequences

INTRODUCTION

Stimulants encompass a group of both legal and illicit drugs that share similar physiological mechanisms of action. When ingested, stimulants lead to an increase in alertness, attention, and energy while also elevating blood pressure, heart rate, and respiration. In the brain, stimulants raise dopamine levels which can lead to feelings ranging from pleasure to intense euphoria. Stimulant use is also often associated with feelings of increased wakefulness, motivation, mental focus, and libido (National Institute on Drug Abuse [NIDA], 2018). While a number of stimulant drugs exist, the three associated with the greatest level of problematic use are cocaine, methamphetamine, and prescription stimulants.

Cocaine is a highly addictive stimulant produced from the leaves of the coca plant. The two most common forms of cocaine are powder cocaine and crack cocaine. Powder cocaine is a fine white powder and, while it can be injected, is most often snorted or inhaled. Crack cocaine is cocaine that has been processed into a rock crystal. Crack is typically used by placing the crystals into a glass pipe, heating them, and then inhaling the vapors. The name "crack" refers to the crackling sound made when the rock is heated (NIDA, 2016a, 2016b). Both forms of cocaine increase levels of dopamine in the brain resulting in a short-lived, intense high that can range from 15 to 30 minutes for powder cocaine or 5 to 10 minutes for crack cocaine.

Methamphetamine (meth), also known as "crystal" or "ice", is a highly addictive stimulant derived from amphetamine. Although meth can be taken in a variety of ways, most users in Indiana report either smoking it or injecting it intravenously (Indiana Family and Social Services Administration [FSSA], 2017; NIDA, 2017). Upon initial administration, meth users experience a short, intense euphoria or "rush" followed by an extended high that can last up to 12 hours due to the drug's long half-life (Halkitis, Parsons, & Stirrat, 2001; Centers for Disease Control and Prevention [CDC], 2007). The intensity of meth stimulation depends on the mode of administration. Oral ingestion or snorting produces a longer-lasting, but less intense effect, while smoking or injecting results in a briefer but more intense rush (Homer et al., 2008).

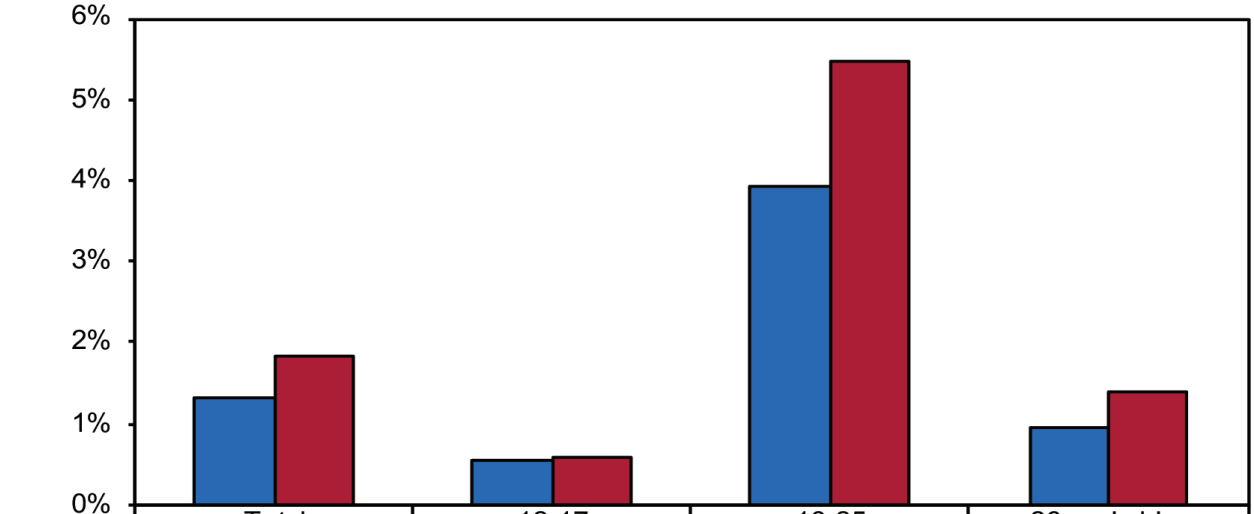
Prescription stimulants are legally produced stimulants such as dextroamphetamine (Dexedrine), methylphenidate (Ritalin), amphetamine sulfate (Adderall), and lisdexamfetamine (Vyvanse). These drugs increase alertness, attention, and energy and are used for the treatment of narcolepsy and attention-deficit hyperactivity disorder. Although some people may choose to use prescription stimulants as a way to get high, many individuals who use these drugs inappropriately may do so in an attempt to enhance academic/work performance or improve memory (NIDA, 2018).

PREVALENCE OF STIMULANT CONSUMPTION IN THE GENERAL POPULATION

National Survey on Drug Use and Health

The National Survey on Drug Use and Health (NSDUH) estimated that in 2016, approximately 1.3% (95% Confidence Interval [CI]: 0.96–1.82) of Hoosiers 12 years of age or older used cocaine in the past year, an estimate similar to that for the nation (1.8%; 95% CI: 1.75–1.94). Across age groups, cocaine use is greatest among persons between the ages of 18 and 25 in both Indiana (3.9%, 95% CI: 2.8–5.6) and the U.S. (5.5%, 95% CI: 5.1–5.9) (see Figure 6.1). Over the last 10 years, the rate of past-year cocaine use in both Indiana and the U.S. has been low and stable (see Figure 6.2) (Substance Abuse and Mental Health Services Administration [SAMHSA], 2016.

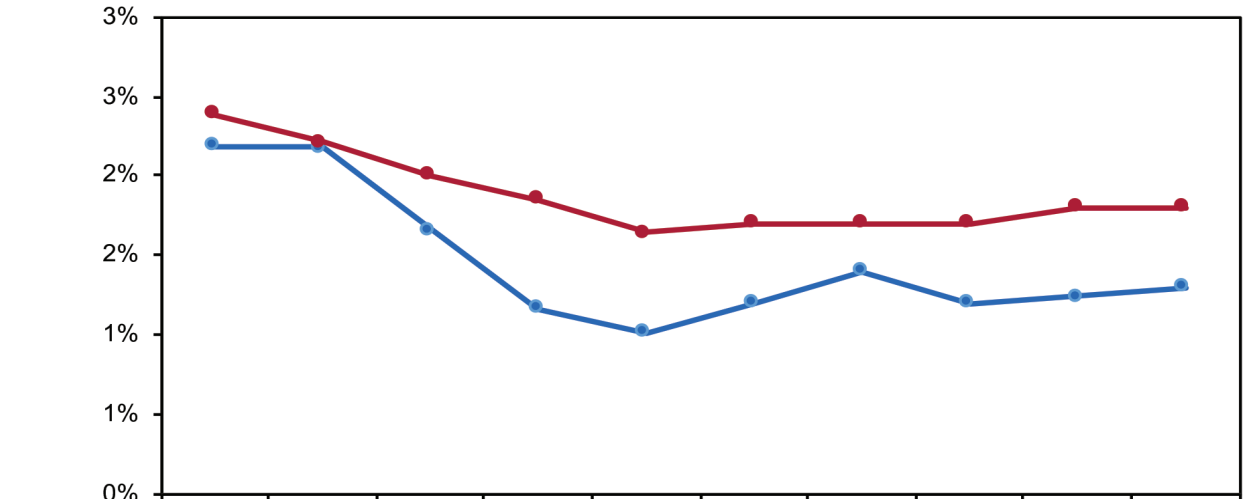
Figure 6.1 Percentage of Indiana and U.S. Population (12 Years and Older) Reporting Cocaine Use in the Past Year, by Age Group (National Survey on Drug Use and Health, 2016)



	Total	12-17	18-25	26 and older
Indiana	1.3%	0.5%	3.9%	1.0%
U.S.	1.8%	0.6%	5.5%	1.4%

Source: SAMHSA, 2016

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, 2007-2016).



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Indiana	2.2%	2.2%	1.7%	1.2%	1.0%	1.2%	1.4%	1.2%	1.2%	1.30%
U.S.	2.4%	2.2%	2.0%	1.9%	1.6%	1.7%	1.7%	1.7%	1.8%	1.80%

Source: SAMHSA, 2016

Out of the stimulants studied, the NSDUH currently only provides state-level estimates on cocaine use. However, on the national level, approximately 667,000 Americans ages 12 or older (or 0.2%) used meth in the past month and 1.7 million (or 0.6%) used other stimulants (excluding cocaine or meth) (SAMHSA, 2016).

Youth Risk Behavior Surveillance Survey

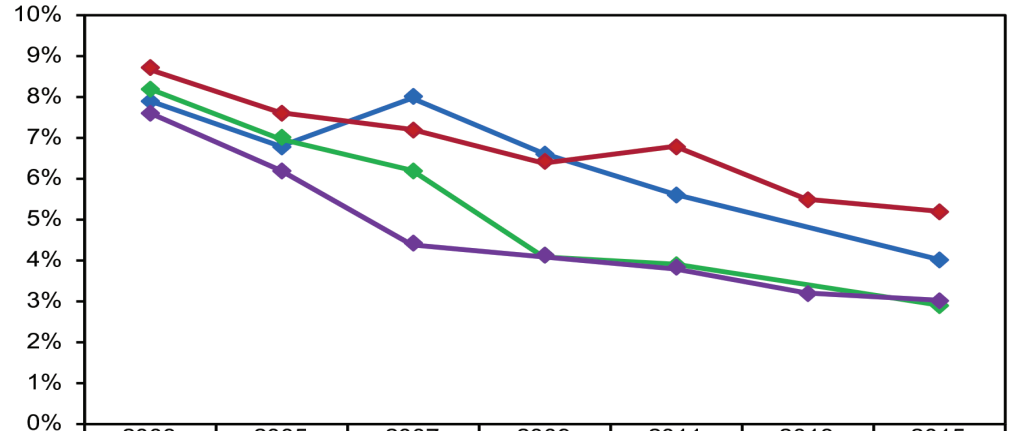
According to the 2015 Youth Risk Behavior Surveillance System (YRBSS), 4.0% (95% CI: 2.9–5.7) of Indiana high school students (grades 9-12) reported that they had used a form of cocaine at least once in their lifetime. National rates for lifetime use were similar, at 5.2% (95% CI: 4.3–6.2). The difference in Indiana prevalence rates by gender, race/ethnicity, or grade level was not statically significant (see Table 6.1) (CDC, 1991-2015). The YRBSS estimated that in 2015, 2.9% (95% CI: 1.5–5.4) of Indiana high school students and a similar percentage of U.S. high school students (3.0%; 95% CI: 2.4–3.8) had ever used meth. Since 2003, the percentage of Indiana's high school students estimated to have used either cocaine or meth has gradually declined (see Figure 6.3). The YRBSS does not ask students to describe their use of prescription stimulants.

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

		Cocaine		Methamphetamine	
		Indiana (95%)	U.S. (95%)	Indiana	U.S.
Gender	Male	5.2% (3.4–7.9)	6.3% (5.1–7.9)	4.1% (2.0–8.2)	3.6% (2.6–4.9)
	Female	2.7% (1.7–4.2)	3.8% (3.1–4.6)	1.4% (0.8–2.6)	2.3% (1.7–3.0)
Race/Ethnicity	White	3.6% (2.3–5.6)	4.1% (3.3–5.2)	2.4% (1.1–5.3)	2.1% (1.5–2.8)
	Black	3.7% (1.2–10.7)	3.8% (2.5–6.0)	3.7% (1.2–10.7)	(2.8% (1.5–5.1)
	Hispanic	7.9% (4.2–14.1)	8.0% (6.6–9.7)	3.2% (1.4–7.0)	4.4% (3.3–5.9)
Grade	9	3.5% (1.6–7.2)	3.4% (2.6–4.5)	3.5% (1.6–7.8)	2.0% (1.5–2.7)
	10	4.7% (3.4–6.5)	5.1% (3.8–6.8)	2.3% (1.4–3.8)	3.3% (2.3–4.9)
	11	4.7% (2.6–8.6)	5.0% (3.9–6.5)	3.7% (1.5–8.9)	2.8% (1.9–4.0)
	12	3.4% (1.8–6.3)	7.2% (5.6–9.1)	1.6% (0.4–6.6)	3.8% (2.7–5.3)
Total		**4.0% (2.9–5.7)**	**5.2% (4.3–6.2)**	**2.9% (1.5–5.4)**	**3.0% (2.4–3.8)**

Source: SAMHSA, 2014

Figure 6.3 Percentage of Indiana and U.S. High School Students (9th-12th Grade) Reporting Lifetime Methamphetamine Use (Youth Risk Behavior Surveillance System, 2003-2015)



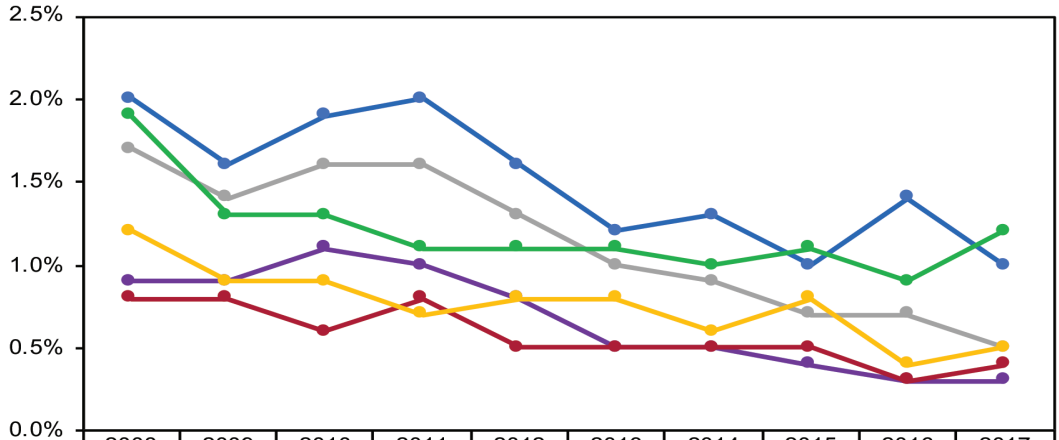
	2003	2005	2007	2009	2011	2013	2015
Cocaine Use - Indiana	7.9%	6.8%	8.0%	6.6%	5.6%		4.0%
Cocaine Use - U.S.	8.7%	7.6%	7.2%	6.4%	6.8%	5.5%	5.2%
Meth Use - Indiana	8.2%	7.0%	6.2%	4.1%	3.9%		2.9%
Meth Use - U.S.	7.6%	6.2%	4.4%	4.1%	3.8%	3.2%	3.0%

Note: 2013 YRBSS data are not available for Indiana due to insufficient response rate.
Source: CDC, 1991-2015

Indiana Youth Survey and Monitoring the Future Survey

Both the Indiana Youth Survey (INYS) and the Monitoring the Future survey (MTF) provide local and national estimates, respectively, of current cocaine and methamphetamine use among 8th, 10th, and 12th grade students. Neither survey asks students to report on their current inappropriate use of prescription stimulants. According to the 2017 INYS, only a small percentage of Indiana's 8th, 10th, and 12th graders reported currently using either cocaine or meth. Current use of both substances has been decreasing in Indiana over the past 10 years and these decreases are consistent with national trends (see Figures 6.4 and 6.5) (Gassman et al., 2017; Inter-university Consortium for Political and Social Research [ICPSR], 2017). For 2017 data on current cocaine/crack use and meth use among students in grades 7 through 12 by Indiana region, see Appendix 6A, page 92.

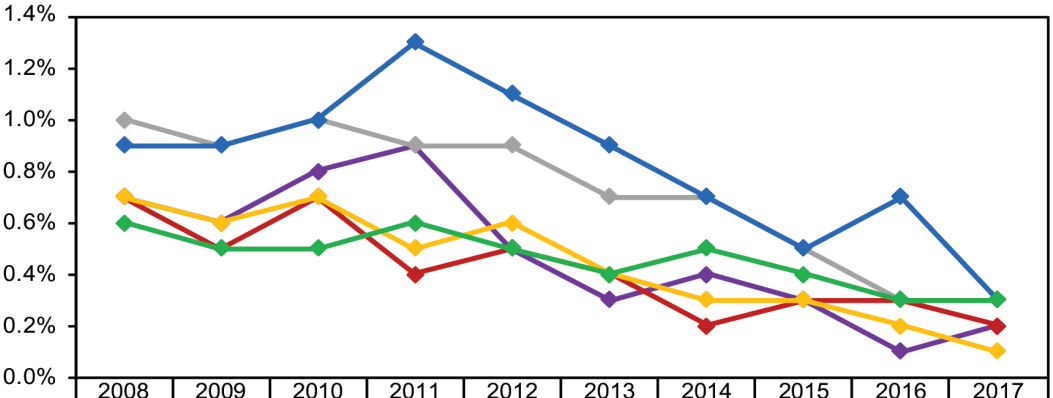
Figure 6.4 Percentage of 8th, 10th, and 12th Grade Students Reporting Current Cocaine/Crack Use (Indiana Youth Survey and Monitoring the Future Survey, 2008-2017)



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
8th Grade Indiana	0.9%	0.9%	1.1%	1.0%	0.8%	0.5%	0.5%	0.4%	0.3%	0.3%
8th Grade U.S.	0.8%	0.8%	0.6%	0.8%	0.5%	0.5%	0.5%	0.5%	0.3%	0.4%
10th Grade Indiana	1.7%	1.4%	1.6%	1.6%	1.3%	1.0%	0.9%	0.7%	0.7%	0.5%
10th Grade U.S.	1.2%	0.9%	0.9%	0.7%	0.8%	0.8%	0.6%	0.8%	0.4%	0.5%
12th Grade Indiana	2.0%	1.6%	1.9%	2.0%	1.6%	1.2%	1.3%	1.0%	1.4%	1.0%
12th Grade U.S.	1.9%	1.3%	1.3%	1.1%	1.1%	1.1%	1.0%	1.1%	0.9%	1.2%

Source: Gassman et al., 2017; ICPSR, 2017

Figure 6.5 Percentage of 8th, 10th, and 12th Grade Students Reporting Current Meth Use (Indiana Youth Survey and Monitoring the Future Survey, 2008-2017)



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
8th Grade Indiana	0.7%	0.6%	0.8%	0.9%	0.5%	0.3%	0.4%	0.3%	0.1%	0.2%
8th Grade U.S.	0.7%	0.5%	0.7%	0.4%	0.5%	0.4%	0.2%	0.3%	0.3%	0.2%
10th Grade Indiana	1.0%	0.9%	1.0%	0.9%	0.9%	0.7%	0.7%	0.5%	0.3%	0.3%
10th Grade U.S.	0.7%	0.6%	0.7%	0.5%	0.6%	0.4%	0.3%	0.3%	0.2%	0.1%
12th Grade Indiana	0.9%	0.9%	1.0%	1.3%	1.1%	0.9%	0.7%	0.5%	0.7%	0.3%
12th Grade U.S.	0.6%	0.5%	0.5%	0.6%	0.5%	0.4%	0.5%	0.4%	0.3%	0.3%

Source: Gassman et al., 2017; ICPSR, 2017

The Indiana College Substance Use Survey

The Indiana College Substance Use Survey (ICSUS) provides estimates of alcohol, tobacco, and other drug use among Indiana college students. According to findings from the 2017 survey, which were based on 31 participating colleges and universities, 2.4% of Indiana college students reported having used cocaine in the past month, 0.4% having used meth, and 4.8% having used prescription stimulants not prescribed to them. Most students who used these drugs reported not starting to do so until they had entered college (64.1%, cocaine; 35.7%, methamphetamine; 57.7% prescription stimulants). Cocaine and meth were used approximately equally by students who were under 21 and those 21 years of age or older; however, a greater percentage of students 21 or older reported using prescription stimulants compared to students under 21 (4.2%, under 21; 5.7%, 21 and over) (King & Jun, 2017)[1].

USE OF STIMULANTS IN THE TREATMENT POPULATION

Treatment Episode Data Set

Data from the Treatment Episode Data Set (TEDS) indicate that methamphetamine is the most widely used stimulant among the treatment population. In 2015, 17.7% of admissions to substance abuse treatment in Indiana reported current methamphetamine use, a significantly higher percentage than did so in the rest of the country (13.7%, P < .001). Methamphetamine use is significantly more common among women, whites, and persons between the ages of 25 and 44 (see Table 6.2). The use of methamphetamine in Indiana's treatment population has increased by 92.0% since 2008 (see Figure 6.6).

Cocaine is the second most frequently used stimulant in Indiana's treatment population, with 11.1% of admissions reporting current use in 2015; this percentage is significantly lower than that noted for the rest of the nation (17.6%, P < .001). Cocaine is used significantly more by women, by Blacks, by those who are Hispanic, and by those 35 years of age and older (see Table 6.2). The use of cocaine among the treatment population has dropped by 39.0% since 2006 (see Figure 6.7).

Stimulants other than meth and cocaine are used very little by Indiana's treatment population. In 2015, a similar percentage of treatment admissions in Indiana (1.7%) and the nation (1.6%) reported that they were currently using a stimulant other than meth or cocaine. The use of other stimulants by Indiana's treatment population has changed little over the past 10 years (see Figure 6.8). Women and whites entering treatment are significantly more likely to use other stimulants than are men or persons of other races (see Table 6.2).

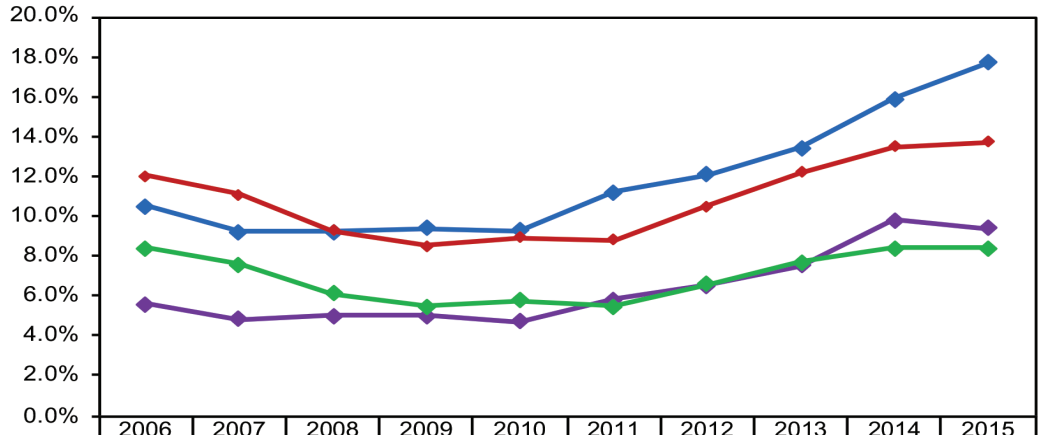
Table 6.2 Stimulant Use at Admission to Treatment among Indiana's Treatment Population (Treatment Episode Data Set, 2015)

		Cocaine		Methamphetamine		Prescription Stimulants	
		N	%	N	%	N	%
Gender	Male	1,354	10.5%	1,899	14.7%*	188	1.5%
	Female	1,018	12.1%	1,876	22.3%	167	2.0%
Race	White	1,534	9.2%	3,412*	20.4%	317	1.9%
	Black	662	25.9%	66	2.6%	12	0.5%
	Other	176	8.4%	297	14.2%	26	1.2%
Ethnicity	Hispanic	210	14.4%	186	12.7%*	27	1.8%
	Non-Hispanic	2,162	10.9%	3,589	18.0%	328	1.6%
Age	Under 18	16	2.2%	21	2.9%*	7	1.0%
	18 to 24	259	6.0%	709	16.5%	97	2.3%
	25 to 34	722	9.4%	1,640	21.4%	138	1.8%
	35 to 44	633	13.8%	954	20.8%	85	1.9%
	45 to 54	537	18.9%	397	14.0%	22	0.8%
	55 or Older	205	16.5%	54	4.3%	6	0.5%
Total		**2,372**	**11.1%**	**3,775**	**17.7%**	**355**	**1.7%**

Source: SAMHSA, 2015

[1]Thirty-one colleges participated in the 2017 survey; results are based on nonrandom sampling and are not representative of all college students in Indiana.

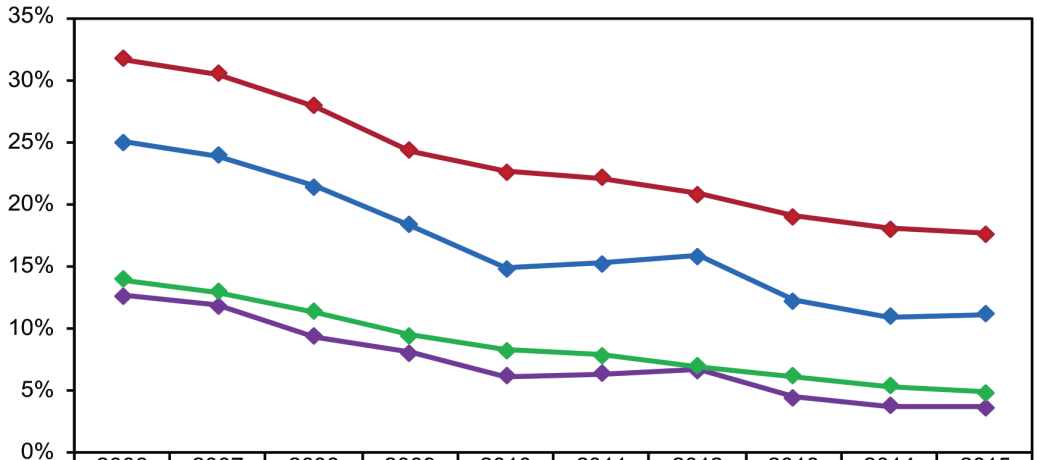
Figure 6.6 Percentage of Treatment Episodes Reporting Meth Use and Reporting Meth as their Primary Drug of Abuse in Indiana and the United States (Treatment Episode Data Set, 2006-2015)



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Any Use - Indiana	10.5%	9.2%	9.2%	9.4%	9.3%	11.2%	12.1%	13.4%	15.9%	17.7%
Any Use - U.S.	12.0%	11.1%	9.3%	8.5%	8.9%	8.8%	10.5%	12.2%	13.5%	13.7%
Primary Use - Indiana	5.6%	4.8%	5.0%	5.0%	4.7%	5.8%	6.5%	7.5%	9.8%	9.4%
Primary Use - U.S.	8.4%	7.6%	6.1%	5.5%	5.8%	5.5%	6.6%	7.7%	8.4%	8.4%

Source: SAMHSA, 2015

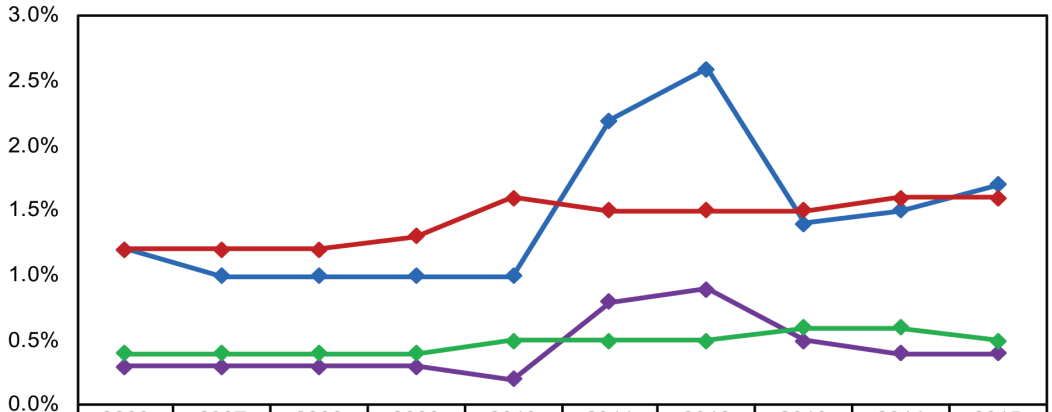
Figure 6.7 Percentage of Treatment Episodes Reporting Cocaine Use and Reporting Cocaine as their Primary Drug of Abuse in Indiana and the United States (Treatment Episode Data Set, 2006-2015)



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Any Use - Indiana	25.0%	23.9%	21.4%	18.3%	14.8%	15.2%	15.8%	12.2%	10.9%	11.1%
Any Use - U.S.	31.7%	30.5%	27.9%	24.3%	22.6%	22.1%	20.8%	19.0%	18.0%	17.6%
Primary Use - Indiana	12.6%	11.8%	9.3%	8.0%	6.1%	6.3%	6.6%	4.5%	3.8%	3.7%
Primary Use - U.S.	13.9%	12.9%	11.3%	9.4%	8.2%	7.8%	6.9%	6.1%	5.4%	4.9%

Source: SAMHSA, 2015

Figure 6.8 Percentage of Treatment Episodes Reporting Prescription Stimulant Use and Reporting Prescription Stimulants as their Primary Drug of Abuse in Indiana and the United States (Treatment Episode Data Set, 2006-2015)



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Any Use - Indiana	1.2%	1.0%	1.0%	1.0%	1.0%	2.2%	2.6%	1.4%	1.5%	1.7%
Any Use - U.S.	1.2%	1.2%	1.2%	1.3%	1.6%	1.5%	1.5%	1.5%	1.6%	1.6%
Primary Use - Indiana	0.3%	0.3%	0.3%	0.3%	0.2%	0.8%	0.9%	0.5%	0.4%	0.4%
Primary Use - U.S.	0.4%	0.4%	0.4%	0.4%	0.5%	0.5%	0.5%	0.6%	0.6%	0.5%

Source: SAMHSA, 2015

HEALTH CONSEQUENCES

The use of cocaine, meth, and prescription stimulants can all result in serious health consequences if used at high doses, especially over long periods of time. Ingesting large amounts of any of these drugs can result in serious cardiovascular, nervous system, or gastrointestinal complications, overdose, and in severe cases, death. Consuming stimulants can also lead to psychotic-like symptoms and paranoia, which, depending on the drug used, can be permanent. Meth use is particularly damaging to the body with long-term use associated with brain, liver, and kidney damage and serious dental problems (i.e., meth mouth). Although stimulant users who inject place themselves at particularly high risk for contracting blood-borne illnesses such as HIV and hepatitis, all stimulant users are at heightened risk for these illnesses as these drugs can severely impair judgment and lead to risky sexual behaviors with infected partners (NIDA, 2016a, 2017, 2018).

LEGAL CONSEQUENCES

Arrests Uniform Crime Reporting Program

The Uniform Crime Reporting Program (UCR) collects information on arrests for possession and for sale/manufacture of drugs. Arrests for possession and sale of cocaine are combined with those for possession and sale of opiates; arrests for possession and sale of methamphetamine are combined with those for possession and sale of synthetic narcotics; and arrests for possession and sale of prescription stimulants are combined with those for possession and sale of anxiolytics, club drugs, other amphetamines, and steroids, among others.

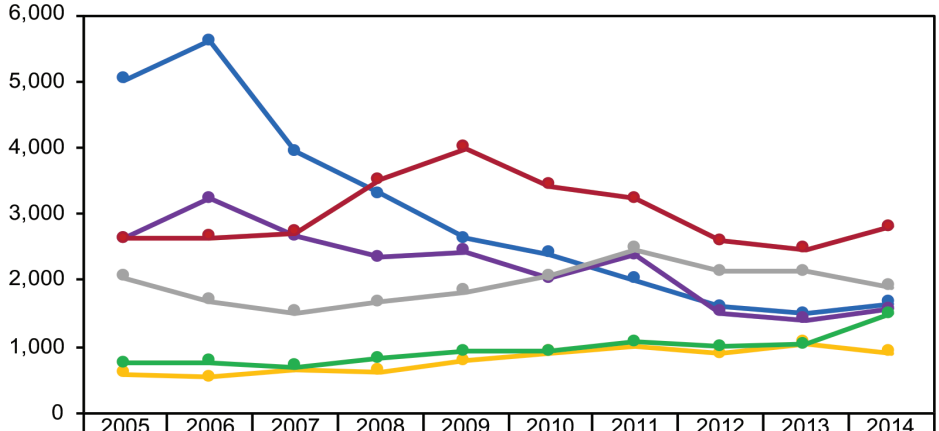
In 2014, there were over 1,600 arrests for the possession of cocaine and opiates and nearly as many arrests for the sale/manufacturing of these drugs, representing an arrest rate of 0.2 per 1,000 for both possession and sale/manufacturing (see Figures 6.9 and 6.10). Compared to Indiana, the arrest rate for cocaine/opiate possession in 2014 was significantly higher in the U.S., at 0.7 per 1,000, while the arrest rate for cocaine/opiate sale/manufacture was the same, at 0.2 per 1,000 population.

The 2014 UCR noted a total of 1,895 arrests for possession and 909 arrests for sale/manufacture of synthetic drugs in Indiana. These numbers translate to an arrest rate for possession and sale/manufacture of synthetic drugs of 0.3 and 0.1 per 1,000 population, respectively (see Figures 6.9 and 6.10). The arrest rates for possession and sale/manufacture of synthetic drugs in Indiana were similar to those of the nation.

During 2014, the UCR reported that Indiana law enforcement made 2,805 arrests for possession and 1,495 arrests for sale/manufacture of other drugs;

this represents an arrest rate of 0.4 and 0.2 per 1,000 population, respectively (see Figures 6.9 and 6.10). Compared to Indiana, the U.S. arrest rate in 2014 for possession of other drugs is significantly higher, at 0.9 per 1,000 population, while the arrest rate for sale/manufacture of other drugs is the same.

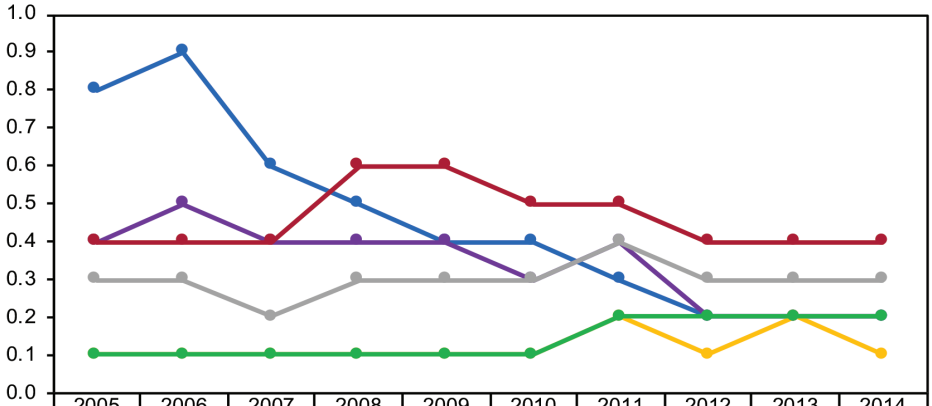
Figure 6.9 Number of Arrests for Cocaine/Opiate, Synthetic Drug, and Other Drug Possession and Sales/Manufacture in Indiana (Uniform Crime Reporting Program, 2005-2014)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Cocaine/Opiate Possession	5,020	5,608	3,937	3,301	2,617	2,397	2,004	1,599	1,488	1,649
Cocaine/Opiate Sale/Manufacture	2,617	3,227	2,668	2,336	2,425	2,028	2,368	1,510	1,406	1,556
Synthetic Drug Possession	2,034	1,683	1,511	1,671	1,824	2,058	2,458	2,122	2,131	1,895
Synthetic Drug Sale/Manufacture	581	529	649	628	777	908	1,008	896	1,047	909
Other Drug Possession	2,620	2,643	2,720	3,511	3,994	3,426	3,227	2,590	2,464	2,805
Other Drug Sale/Manufacture	746	767	690	815	930	931	1,074	1,000	1,026	1,495

Source: FBI, 2014

Figure 6.10 Indiana Arrest Rates, per 1,000 Population, for Cocaine/Opiates, Synthetic Drugs, and Other Drugs Possession and Sales/Manufacture (Uniform Crime Reporting Program, 2005-2014)



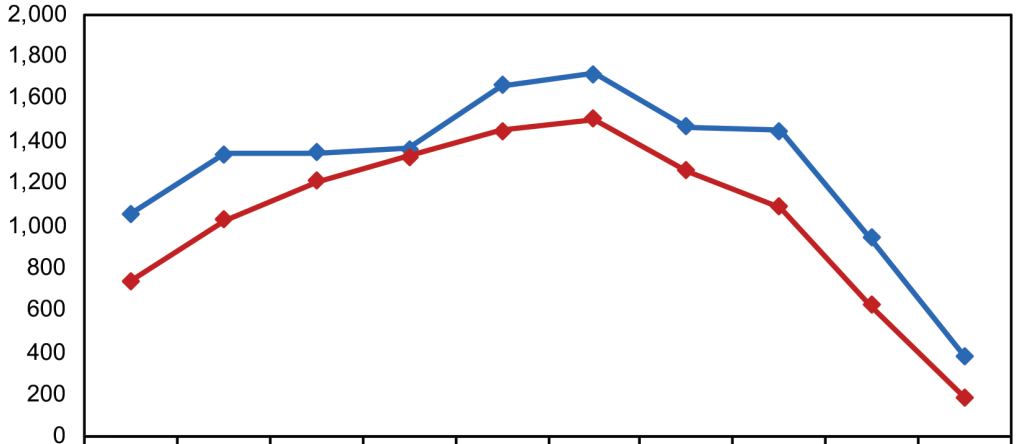
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Cocaine/Opiate Possession	0.8	0.9	0.6	0.5	0.4	0.4	0.3	0.2	0.2	0.2
Cocaine/Opiate Sale/Manufacture	0.4	0.5	0.4	0.4	0.4	0.3	0.4	0.2	0.2	0.2
Synthetic Drug Possession	0.3	0.3	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.3
Synthetic Drug Sale/Manufacture	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1
Other Drug Possession	0.4	0.4	0.4	0.6	0.6	0.5	0.5	0.4	0.4	0.4
Other Drug Sale/Manufacture	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2

Source: FBI, 2014

Indiana State Police Meth Lab Seizures

Much of the meth currently consumed in the U.S. is produced in "superlabs," most of which are located in Mexico (NIDA, 2017). However, because meth can be produced using easily accessible ingredients such as pseudoephedrine, lithium batteries, and fertilizer, among others, a certain amount of the drug is produced locally in small, clandestine laboratories or through the use of a one-pot or "shake and bake" method where all ingredients are combined into one container (often a 2-liter or 20-ounce plastic soda bottle) and shaken (Blostein et al., 2009; Greene, Williams, & Wright, 2010). Clandestine labs create significant risks for persons who live in and around them due to the toxic fumes, chemical contamination, and risk of fires and explosions that are associated with this form of meth production, while the toxic residue from shake-and-bake production remaining in soda bottles is often dumped along roadways (Blostein et al., 2009; Greene, Williams, & Wright, 2010; Messina, Marinelli-Casey, West, & Rawson, 2007; Petit & Curtis, 1999). In 2017, the Indiana State Police (ISP) seized 387 clandestine meth labs and made 189 meth lab arrests between January 1 and December 31, 2017. The majority of the meth labs seized (322, 83%) were using the one-pot method. The number of meth labs seized in the state has seen a dramatic decline, particularly in the past two years with the number of labs seized in 2017 representing a 78% decrease from the peak number of seizures in 2013 (see Figure 6.11) (ISP, 2018).

Figure 6.11 Number of Clandestine Methamphetamine Labs Seized and Number of Arrests Made at Methamphetamine Labs by the Indiana State Police (Indiana Meth Lab Statistics, 2008-2017)



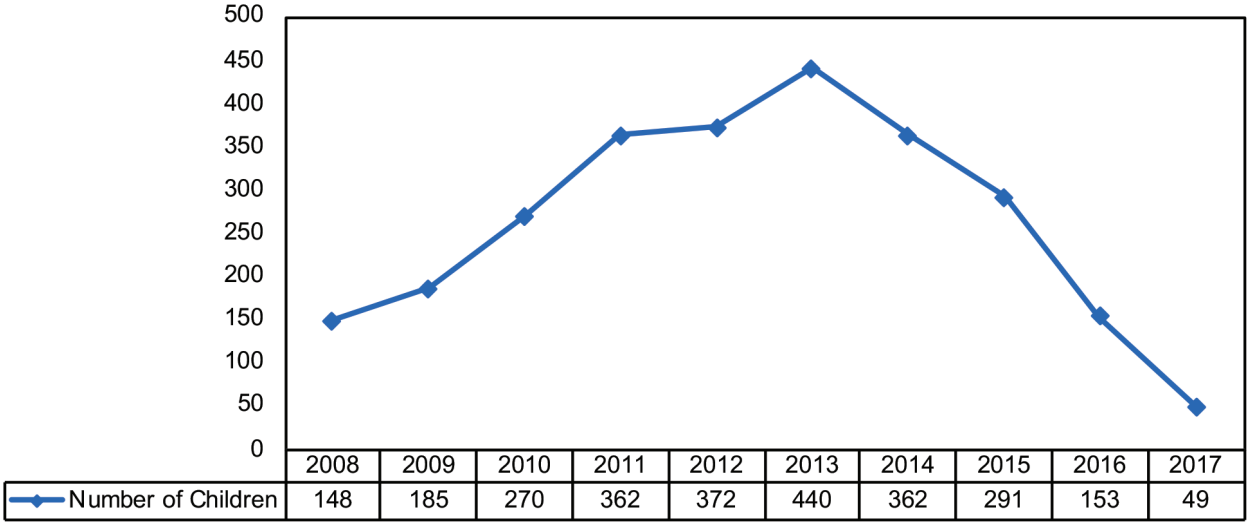
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Number of Lab Seizures	1,059	1,343	1,346	1,363	1,663	1,721	1,466	1,452	943	387
Number of Arrests	739	1,031	1,212	1,328	1,448	1,507	1,263	1,087	622	189

Source: ISP, 2018

Indiana State Police Children Taken from Methamphetamine Lab Homes

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 49 in 2017 (see Figure 6.12) (ISP, 2018).

Figure 6.12 Number of Indiana Children Taken by the Indiana State Police from Methamphetamine Lab Homes (Indiana Meth Lab Statistics, 2008-2017)



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Number of Children	148	185	270	362	372	440	362	291	153	49

Source: ISP, 2018

APPENDIX 6A

Percentage of Indiana Students Reporting Monthly Cocaine and Methamphetamine Use, by Region and Grade (Indiana Youth Survey, 2017)

Cocaine									
	Indiana	**North-west**	**North Central**	**North-east**	**West**	**Central**	**East**	**South-west**	**South-east**
7th Grade	0.2	0.1	0.1	0.4	0.0	0.3	0.4*	0.1	0.2
8th Grade	0.3	0.3	0.3	0.6*	0.5	0.3	0.3	0.4	0.3
9th Grade	0.4	0.3	0.3	0.9*	0.6	0.6	0.4	0.4	0.2
10th Grade	0.5	0.6	0.2	0.8*	0.7	0.4	0.4	0.3	0.4
11th Grade	0.7	0.9	0.3	1.4*	0.2	0.8	0.7	0.5	0.4
12th Grade	1.0	1.5*	0.3*	1.7*	1.1	0.9	1.0	0.6	0.8
Methamphetamine									
	Indiana	**North-west**	**North Central**	**North-east**	**West**	**Central**	**East**	**South-west**	**South-east**
7th Grade	0.1	0.1	0.2	0.2	0.0	0.0	0.2	0.1	0.2
8th Grade	0.2	0.3	0.3	0.4*	0.0	0.2	0.0	0.1	0.1
9th Grade	0.2	0.2	0.2	0.2	0.4	0.3	0.2	0.2	0.3
10th Grade	0.3	0.2	0.2	0.2	0.0	0.3	0.3	0.2	0.4
11th Grade	0.3	0.3	0.2	0.1	0.0	0.5	0.5	0.5	0.2
12th Grade	0.3	0.3	0.2	0.3	0.9	0.5	0.3	0.1	0.5

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 cocaine and methamphetamine use.
Source: Gassman et al., 2017

APPENDIX 6B

Number of Treatment Episodes with Cocaine, Meth, and Prescription Stimulant Use and Dependence Reported at Treatment Admission in Indiana, by County (Substance Abuse Population by County/Treatment Episode Data Set, 2017)

	Treatment Episodes	Cocaine Use		Cocaine Dependence		Meth Use		Meth Dependence		Rx Stimulant Use		Rx Stimulant Dependence	
County	Total	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Adams	369	41	11.1%	7	1.9%	60	16.3%	34	9.2%	6	1.6%	<5	N/A
Allen	1847	467	25.3%	165	8.9%	140	7.6%	62	3.4%	27	1.5%	9	0.5%
Bartholomew	856	52	6.1%	10	1.2%	450	52.6%	270	31.5%	6	0.7%	<5	N/A
Benton	51	5	9.8%	<5	N/A	8	15.7%	5	9.8%	<5	N/A	<5	N/A
Blackford	117	6	5.1%	<5	N/A	25	21.4%	11	9.4%	<5	N/A	<5	N/A
Boone	183	10	5.5%	<5	N/A	45	24.6%	23	12.6%	5	2.7%	<5	N/A
Brown	110	10	9.1%	<5	N/A	45	40.9%	25	22.7%	<5	N/A	<5	N/A
Carroll	80	<5	N/A	<5	N/A	25	31.3%	14	17.5%	5	6.3%	<5	N/A
Cass	338	26	7.7%	7	2.1%	94	27.8%	58	17.2%	9	2.7%	<5	N/A
Clark	133	12	9.0%	9	6.8%	22	16.5%	13	9.8%	<5	N/A	<5	N/A
Clay	227	<5	N/A	<5	N/A	91	40.1%	69	30.4%	6	2.6%	<5	N/A
Clinton	203	11	5.4%	<5	N/A	48	23.6%	30	14.8%	<5	N/A	<5	N/A
Crawford	43	<5	N/A	<5	N/A	23	53.5%	12	27.9%	<5	N/A	<5	N/A
Daviess	179	<5	N/A	<5	N/A	76	42.5%	48	26.8%	<5	N/A	<5	N/A
Dearborn	565	60	10.6%	12	2.1%	46	8.1%	20	3.5%	8	1.4%	<5	N/A
Decatur	317	11	3.5%	<5	N/A	137	43.2%	85	26.8%	<5	N/A	<5	N/A
DeKalb	315	13	4.1%	<5	N/A	121	38.4%	68	21.6%	6	1.9%	<5	N/A
Delaware	1104	132	12.0%	43	3.9%	216	19.6%	108	9.8%	14	1.3%	6	0.5%
Dubois	226	7	3.1%	<5	N/A	73	32.3%	30	13.3%	5	2.2%	<5	N/A
Elkhart	749	112	15.0%	48	6.4%	202	27.0%	123	16.4%	17	2.3%	5	0.7%
Fayette	344	14	4.1%	<5	N/A	100	29.1%	46	13.4%	10	2.9%	<5	N/A
Floyd	69	<5	N/A	<5	N/A	17	24.6%	10	14.5%	<5	N/A	<5	N/A
Fountain	63	6	9.5%	<5	N/A	27	42.9%	16	25.4%	<5	N/A	<5	N/A
Franklin	182	<5	N/A	<5	N/A	39	21.4%	24	13.2%	<5	N/A	<5	N/A
Fulton	189	17	9.0%	<5	N/A	52	27.5%	18	9.5%	<5	N/A	<5	N/A
Gibson	298	<5	N/A	<5	N/A	120	40.3%	71	23.8%	<5	N/A	<5	N/A
Grant	532	73	13.7%	18	3.4%	60	11.3%	16	3.0%	13	2.4%	<5	N/A
Greene	222	9	4.1%	<5	N/A	80	36.0%	29	13.1%	<5	N/A	<5	N/A
Hamilton	919	81	8.8%	22	2.4%	80	8.7%	32	3.5%	16	1.7%	<5	N/A
Hancock	358	26	7.3%	13	3.6%	54	15.1%	31	8.7%	5	1.4%	<5	N/A
Harrison	19	<5	N/A	<5	N/A	8	42.1%	<5	N/A	<5	N/A	<5	N/A
Hendricks	404	24	5.9%	8	2.0%	92	22.8%	56	13.9%	6	1.5%	<5	N/A
Henry	334	19	5.7%	6	1.8%	75	22.5%	36	10.8%	<5	N/A	<5	N/A
Howard	658	64	9.7%	13	2.0%	190	28.9%	70	10.6%	10	1.5%	<5	N/A
Huntington	212	10	4.7%	<5	N/A	46	21.7%	17	8.0%	6	2.8%	0	N/A
Jackson	451	7	1.6%	<5	N/A	238	52.8%	156	34.6%	5	1.1%	<5	N/A
Jasper	114	16	14.0%	<5	3.5%	36	31.6%	20	17.5%	<5	N/A	<5	N/A
Jay	162	18	11.1%	<5	1.2%	37	22.8%	13	8.0%	<5	N/A	<5	N/A
Jefferson	427	26	6.1%	<5	0.9%	184	43.1%	112	26.2%	9	2.1%	<5	N/A
Jennings	311	14	4.5%	<5	N/A	147	47.3%	88	28.3%	<5	N/A	<5	N/A
Johnson	490	34	6.9%	5	1.0%	128	26.1%	79	16.1%	<5	N/A	<5	N/A
Knox	347	<5	N/A	<5	N/A	127	36.6%	76	21.9%	11	3.2%	<5	N/A
Kosciusko	490	37	7.6%	<5	0.8%	171	34.9%	89	18.2%	15	3.1%	<5	N/A

(continued on next page)

APPENDIX 6B *(Continued from previous page)*

	Treatment Episodes	Cocaine Use		Cocaine Dependence		Meth Use		Meth Dependence		Rx Stimulant Use		Rx Stimulant Dependence	
County	Total	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
LaGrange	169	10	5.9%	<5	N/A	77	45.6%	42	24.9%	5	3.0%	<5	N/A
Lake	2360	463	19.6%	193	8.2%	33	1.4%	14	0.6%	12	0.5%	<5	N/A
LaPorte	281	44	15.7%	13	4.6%	18	6.4%	6	2.1%	6	2.1%	<5	N/A
Lawrence	664	23	3.5%	5	0.8%	279	42.0%	149	22.4%	11	1.7%	<5	N/A
Madison	1329	159	12.0%	50	3.8%	304	22.9%	144	10.8%	28	2.1%	5	0.4%
Marion	4220	675	16.0%	267	6.3%	474	11.2%	215	5.1%	53	1.3%	19	0.5%
Marshall	179	10	5.6%	<5	N/A	45	25.1%	23	12.8%	5	2.8%	<5	N/A
Martin	71	<5	N/A	<5	N/A	23	32.4%	12	16.9%	<5	N/A	<5	N/A
Miami	289	11	3.8%	<5	N/A	95	32.9%	39	13.5%	7	2.4%	<5	N/A
Monroe	1609	146	9.1%	37	2.3%	473	29.4%	228	14.2%	32	2.0%	7	0.4%
Montgomery	397	31	7.8%	<5	N/A	125	31.5%	66	16.6%	11	2.8%	<5	N/A
Morgan	584	28	4.8%	5	0.9%	244	41.8%	142	24.3%	8	1.4%	<5	N/A
Newton	35	<5	N/A	<5	N/A	7	20.0%	<5	N/A	<5	N/A	<5	N/A
Noble	336	18	5.4%	7	2.1%	147	43.8%	95	28.3%	5	1.5%	<5	N/A
Ohio	38	<5	N/A	0	N/A	6	15.8%	<5	N/A	<5	N/A	<5	N/A
Orange	192	<5	N/A	<5	N/A	78	40.6%	41	21.4%	5	2.6%	<5	N/A
Owen	243	5	2.1%	<5	N/A	93	38.3%	49	20.2%	<5	N/A	<5	N/A
Parke	73	<5	N/A	<5	N/A	27	37.0%	16	21.9%	<5	N/A	<5	N/A
Perry	131	7	5.3%	<5	N/A	57	43.5%	34	26.0%	<5	N/A	<5	N/A
Pike	40	<5	N/A	<5	N/A	9	22.5%	8	20.0%	<5	N/A	<5	N/A
Porter	256	35	13.7%	11	4.3%	9	3.5%	<5	N/A	<5	N/A	<5	N/A
Posey	180	7	3.9%	<5	N/A	80	44.4%	44	24.4%	11	6.1%	<5	N/A
Pulaski	75	<5	N/A	<5	N/A	24	32.0%	9	12.0%	<5	N/A	<5	N/A
Putnam	259	11	4.2%	<5	N/A	128	49.4%	48	18.5%	6	2.3%	<5	N/A
Randolph	240	34	14.2%	6	2.5%	47	19.6%	19	7.9%	<5	N/A	<5	N/A
Ripley	195	12	6.2%	<5	N/A	35	17.9%	18	9.2%	<5	N/A	<5	N/A
Rush	197	14	7.1%	<5	N/A	80	40.6%	49	24.9%	5	2.5%	<5	N/A
Saint Joseph	1408	414	29.4%	205	14.6%	147	10.4%	78	5.5%	17	1.2%	<5	N/A
Scott	201	7	3.5%	<5	N/A	86	42.8%	57	28.4%	6	3.0%	<5	N/A
Shelby	199	21	10.6%	<5	N/A	74	37.2%	32	16.1%	<5	N/A	<5	N/A
Spencer	142	<5	N/A	<5	N/A	73	51.4%	55	38.7%	<5	N/A	<5	N/A
Starke	87	<5	N/A	<5	N/A	33	37.9%	18	20.7%	<5	N/A	<5	N/A
Steuben	251	9	3.6%	<5	N/A	88	35.1%	55	21.9%	8	3.2%	<5	N/A
Sullivan	78	<5	N/A	<5	N/A	37	47.4%	15	19.2%	<5	N/A	<5	N/A
Switzerland	88	7	8.0%	<5	N/A	17	19.3%	10	11.4%	<5	N/A	<5	N/A
Tippecanoe	400	28	7.0%	<5	N/A	100	25.0%	54	13.5%	13	3.3%	<5	N/A
Tipton	62	<5	N/A	<5	N/A	12	19.4%	7	11.3%	<5	N/A	<5	N/A
Union	52	6	11.5%	<5	N/A	11	21.2%	<5	N/A	<5	N/A	<5	N/A
Vanderburgh	1454	73	5.0%	26	1.8%	624	42.9%	359	24.7%	37	2.5%	8	0.6%
Vermillion	114	7	6.1%	<5	N/A	55	48.2%	25	21.9%	<5	N/A	<5	N/A
Vigo	935	27	2.9%	7	0.7%	427	45.7%	266	28.4%	17	1.8%	9	1.0%
Wabash	311	12	3.9%	<5	N/A	93	29.9%	50	16.1%	<5	N/A	<5	N/A
Warren	26	<5	N/A	<5	N/A	7	26.9%	<5	N/A	<5	N/A	<5	N/A
Warrick	294	6	2.0%	<5	N/A	140	47.6%	92	31.3%	8	2.7%	<5	N/A
Washington	34	<5	N/A	<5	N/A	13	38.2%	7	20.6%	<5	N/A	<5	N/A

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APPENDIX 6B *(Continued from previous page)*

	Treatment Episodes	Cocaine Use		Cocaine Dependence		Meth Use		Meth Dependence		Rx Stimulant Use		Rx Stimulant Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Wayne	574	119	20.7%	30	5.2%	64	11.1%	25	4.4%	<5	N/A	<5	N/A
Wells	159	13	8.2%	<5	N/A	32	20.1%	7	4.4%	7	4.4%	<5	N/A
White	152	9	5.9%	<5	N/A	47	30.9%	17	11.2%	<5	N/A	<5	N/A
Whitley	151	17	11.3%	<5	N/A	50	33.1%	25	16.6%	8	5.3%	<5	N/A
County Info Missing	38	6	15.8%	<5	N/A	8	21.1%	<5	N/A	<5	N/A	<5	N/A
Indiana	37,459	4,040	10.8%	9,310	24.9%	643	1.7%	1,343	3.6%	4,996	13.3%	173	0.5%

Notes: We defined dependence as “individuals in substance abuse treatment listing cocaine/meth/prescription stimulants as their primary substance at admission.”
We calculated the percentages by dividing the number of reported cocaine/meth/prescription stimulant 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, 2017

APPENDIX 6C

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

	Cocaine/Opiates				Synthetics				Other Drugs			
County	Possession		Sale		Possession		Sale		Possession		Sale	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Adams	4	0.1	4	0.1	8	0.2	5	0.1	17	0.5	11	0.3
Allen	97	0.3	48	0.1	106	0.3	14	0.0	145	0.4	76	0.2
Bartholomew	16	0.2	7	0.1	52	0.7	31	0.4	40	0.5	1	0.0
Benton	2	0.2	2	0.2	2	0.2	1	0.1	4	0.5	2	0.2
Blackford	2	0.2	4	0.3	33	2.7	10	0.8	4	0.3	1	0.1
Boone	14	0.2	9	0.1	10	0.2	5	0.1	16	0.3	8	0.1
Brown	4	0.3	0	0.0	6	0.4	2	0.1	9	0.6	0	.0
Carroll	4	0.2	5	0.2	4	0.2	3	0.1	9	0.4	6	0.3
Cass	9	0.2	57	1.5	1	0.0	14	0.4	96	2.5	125	3.3
Clark	196	1.7	78	0.7	111	1.0	30	0.3	130	1.1	23	0.2
Clay	6	0.2	7	0.3	8	0.3	4	0.1	15	0.6	7	0.3
Clinton	16	0.5	6	0.2	9	0.3	2	0.1	10	0.3	9	0.3
Crawford	0	0.0	0	0.0	4	0.4	0	0.0	5	0.5	0	0.0
Daviess	16	0.5	29	0.9	15	0.5	14	0.4	28	0.9	10	0.3
Dearborn	12	0.2	13	0.3	10	0.2	6	0.1	19	0.4	13	0.3
Decatur	8	0.3	3	0.1	7	0.3	8	0.3	75	2.8	32	1.2
DeKalb	11	0.3	6	0.1	26	0.6	40	0.9	18	0.4	20	.5
Delaware	35	0.3	113	1.0	91	0.8	9	0.1	3	0.0	32	0.3
Dubois	8	0.2	4	0.1	13	0.3	6	0.1	18	0.4	9	0.2
Elkhart	23	0.1	25	0.1	29	0.1	26	0.1	18	0.1	5	0.0
Fayette	8	0.3	8	0.3	9	0.4	4	0.2	13	0.5	13	0.5
Floyd	8	0.1	18	0.2	9	0.1	13	0.2	60	0.8	70	0.9
Fountain	4	0.2	4	0.2	6	0.4	3	0.2	12	0.7	6	0.4
Franklin	3	0.1	0	0.0	1	0.0	0	0.0	11	0.5	6	0.3
Fulton	5	0.2	4	0.2	3	0.1	2	0.1	9	0.4	26	1.3
Gibson	5	0.1	6	0.2	10	0.3	17	0.5	24	0.7	5	0.1
Grant	47	0.7	1	0.0	1	0.0	1	0.0	4	0.1	0	0.0
Greene	1	0.0	5	0.2	5	0.2	0	0.0	12	0.4	9	0.3
Hamilton	67	0.2	94	0.3	88	0.3	18	0.1	52	0.2	24	0.1
Hancock	23	0.3	1	0.0	8	0.1	16	0.2	2	0.0	3	0.0
Harrison	1	0.0	1	0.0	6	0.2	10	0.3	11	0.3	5	0.1
Hendricks	47	0.3	14	0.1	16	0.1	10	0.1	23	0.1	12	0.1
Henry	16	0.3	7	0.1	20	0.4	14	0.3	13	0.3	15	0.3
Howard	80	1.0	55	0.7	11	0.1	5	0.1	83	1.0	21	0.3
Huntington	6	0.2	4	0.1	7	0.2	14	0.4	16	0.4	9	0.2
Jackson	17	0.4	33	0.8	21	0.5	4	0.1	73	1.7	15	0.3
Jasper	6	0.2	8	0.2	5	0.1	6	0.2	11	0.3	14	0.4
Jay	10	0.5	15	0.7	32	1.5	14	0.7	6	0.3	4	0.2
Jefferson	9	0.3	9	0.3	12	0.4	6	0.2	20	0.6	11	0.3
Jennings	16	0.6	12	0.4	0	0.0	7	0.2	8	0.3	8	0.3
Johnson	48	0.3	42	0.3	18	0.1	11	0.1	65	0.4	29	0.2
Knox	9	0.2	7	0.2	10	0.3	7	0.2	21	0.6	13	0.3
Kosciusko	29	0.4	21	0.3	42	0.5	47	0.6	131	1.7	20	0.3

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APPENDIX 6C *(Continued from previous page)*

	Cocaine/Opiates				Synthetic				Other Drugs			
County	Possession		Sale		Possession		Sale		Possession		Sale	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
LaGrange	5	0.1	16	0.4	14	0.4	0	0.0	2	0.1	0	0.0
Lake	126	0.3	181	0.4	62	0.1	19	0.0	330	0.7	108	0.2
LaPorte	31	0.3	93	0.8	25	0.2	3	0.0	12	0.1	6	0.1
Lawrence	12	0.3	3	0.1	40	0.9	3	0.1	36	0.8	18	0.4
Madison	29	0.2	36	0.3	71	0.5	16	0.1	39	0.3	42	0.3
Marion	44	0.0	28	0.0	56	0.1	10	0.0	36	0.0	17	0.0
Marshall	10	0.2	12	0.3	29	0.6	13	0.3	39	0.8	43	0.9
Martin	3	0.3	1	0.1	3	0.3	0	0.0	4	0.4	3	0.3
Miami	11	0.3	36	1.0	6	0.2	2	0.1	26	0.7	39	1.1
Monroe	26	0.2	23	0.2	30	0.2	1	0.0	76	0.5	60	0.4
Montgomery	20	0.5	2	0.1	2	0.1	0	0.0	34	0.9	13	0.3
Morgan	45	0.6	39	0.6	15	0.2	6	0.1	57	0.8	18	0.3
Newton	3	0.2	2	0.1	9	0.6	3	0.2	10	0.7	3	0.2
Noble	5	0.1	19	0.4	21	0.4	25	0.5	6	0.1	2	0.0
Ohio	1	0.2	1	0.2	1	0.2	1	0.2	2	0.3	2	0.3
Orange	4	0.2	4	0.2	7	0.4	4	0.2	11	0.6	14	0.7
Owen	4	0.2	4	0.2	4	0.2	3	0.1	9	0.4	12	0.6
Parke	8	0.5	0	0.0	32	1.9	12	0.7	5	0.3	0	0.0
Perry	3	0.2	4	0.2	17	0.9	7	0.4	13	0.7	7	0.4
Pike	3	0.2	1	0.1	1	0.1	0	0.0	3	0.2	2	0.2
Porter	24	0.1	10	0.1	3	0.0	1	0.0	117	0.7	16	0.1
Posey	0	0.0	0	0.0	3	0.1	10	0.4	3	0.1	3	0.1
Pulaski	3	0.2	3	0.2	4	0.3	3	0.2	6	0.5	5	0.4
Putnam	9	0.2	9	0.2	10	0.3	5	0.1	24	0.6	13	0.3
Randolph	10	0.4	7	0.3	13	0.5	6	0.2	10	0.4	11	0.4
Ripley	9	0.3	9	0.3	10	0.3	7	0.2	18	0.6	17	0.6
Rush	18	1.1	4	0.2	4	0.2	6	0.4	39	2.3	13	0.8
Saint Joseph	55	0.2	30	0.1	53	0.2	4	0.0	52	0.2	27	0.1
Scott	2	0.1	2	0.1	30	1.3	11	0.5	16	0.7	8	0.3
Shelby	18	0.4	5	0.1	25	0.6	5	0.1	48	1.1	24	0.5
Spencer	4	0.2	4	0.2	7	0.3	4	0.2	12	0.6	8	0.4
Starke	5	0.2	3	0.1	4	0.2	2	0.1	7	0.3	9	0.4
Steuben	17	0.5	1	0.0	2	0.1	21	0.6	16	0.5	15	0.4
Sullivan	3	0.1	2	0.1	2	0.1	1	0.0	7	0.3	4	0.2
Switzerland	2	0.2	2	0.2	4	0.4	2	0.2	5	0.5	4	0.4
Tippecanoe	45	0.2	90	0.5	82	0.5	15	0.1	70	0.4	24	0.1
Tipton	8	0.5	1	0.1	12	0.8	19	1.2	3	0.2	0	0.0
Union	1	0.1	1	0.1	1	0.1	1	0.1	3	0.4	3	0.4
Vanderburgh	21	0.1	29	0.2	127	0.7	97	0.5	124	0.7	47	0.3
Vermillion	2	0.1	2	0.1	4	0.3	1	0.1	6	0.4	6	0.4
Vigo	5	0.0	6	0.1	22	0.2	37	0.3	20	0.2	31	0.3
Wabash	4	0.1	4	0.1	4	0.1	3	0.1	7	0.2	2	0.1
Warren	2	0.2	2	0.2	3	0.4	2	0.2	5	0.6	3	0.4
Warrick	2	0.0	1	0.0	45	0.7	44	0.7	11	0.2	29	0.5
Washington	6	0.2	7	0.3	8	0.3	4	0.1	16	0.6	10	0.4

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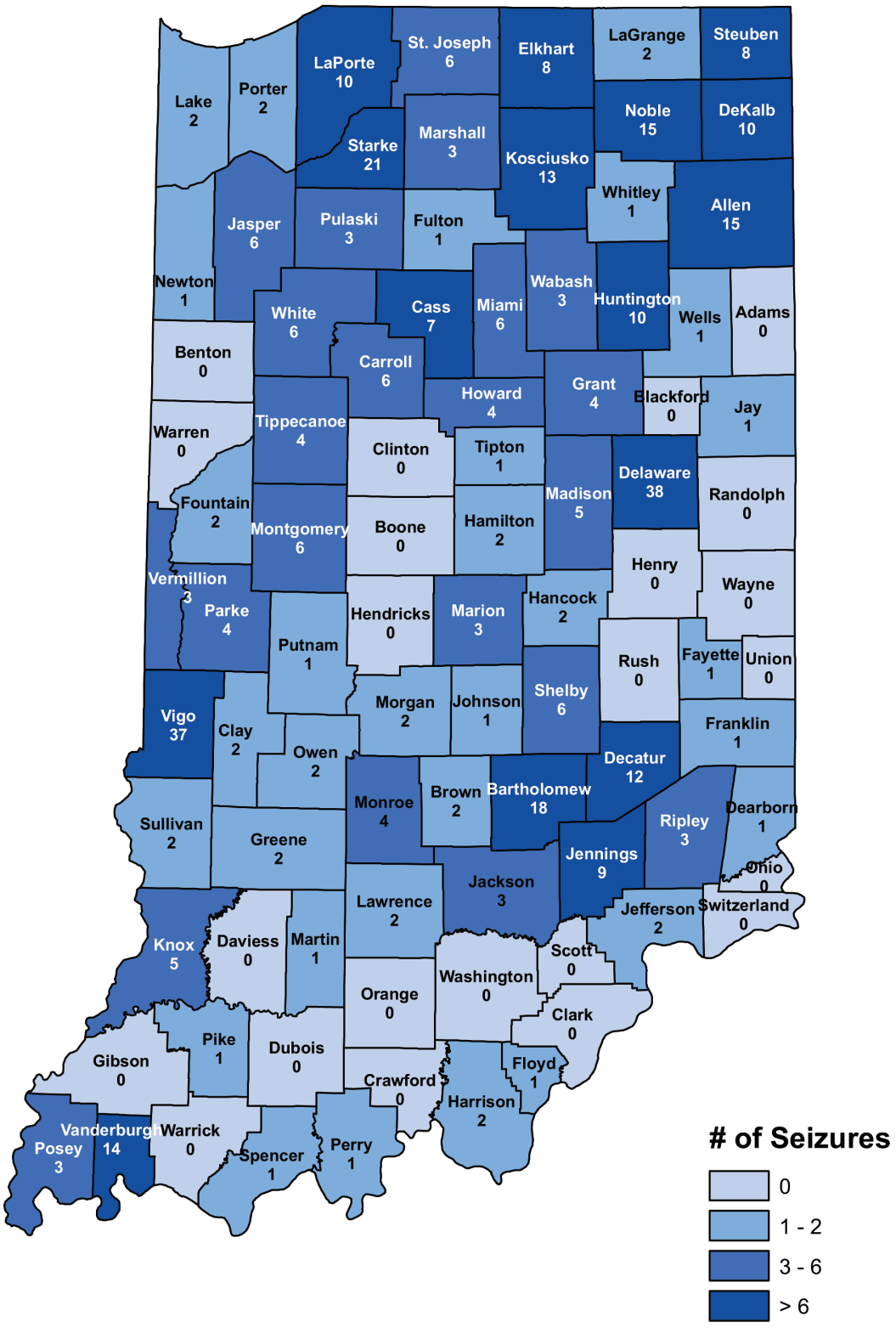
APPENDIX 6C *(Continued from previous page)*

	Cocaine/Opiates				Synthetic				Other Drugs			
County	Possession		Sale		Possession		Sale		Possession		Sale	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Wayne	24	0.4	20	0.3	17	0.3	6	0.1	27	0.4	9	0.1
Wells	1	0.0	2	0.1	0	0.0	0	0.0	8	0.3	3	0.1
White	4	0.2	0	0.0	53	2.2	2	0.1	4	0.2	6	0.2
Whitley	4	0.1	6	0.2	13	0.4	3	0.1	12	0.4	8	0.2
Indiana	1,649	0.2	1,556	0.2	1,895	0.3	909	0.1	2,805	0.4	1,495	0.2

Source: FBI, 2014

Map 6.1 Number of Clandestine Methamphetamine Labs Seized by the Indiana State Police (ISP), by County (Indiana Meth Lab Statistics, 2017)



Source: ISP, 2018

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7 Mental Health and Suicide in Indiana

INTRODUCTION

Good mental health is essential to a person's wellbeing. It affects our ability to adapt to change, cope with challenges, live productively, and have healthy relationships. Mental disorders are conditions characterized by alterations in thinking, mood, perception, and/or behavior (Office of Disease Prevention and Health Promotion, 2018). Mental illness collectively refers to all diagnosable mental disorders, including, but not limited to:

- Anxiety disorders (e.g., generalized anxiety disorder, phobias)
- Mood disorders (e.g., major depression, bipolar disorder)
- Psychotic disorders (e.g., schizophrenic spectrum and other psychotic disorders)
- Behavior disorders (e.g., ADHD, conduct disorder)
- Personality disorders (e.g., borderline or antisocial personality disorders)
- Substance-related and addictive disorders (e.g., alcohol and other substance use disorders) (Substance Abuse and Mental Health Services Administration, SAMHSA, 2015)

According to the Centers for Disease Control and Prevention (CDC, 2018b), more than 50% of Americans are diagnosed with a mental illness at some point during their lifetime, and 20% experience a mental disorder in a given year. Mental illness is associated with a number of other chronic diseases, as well as substance use (alcohol, tobacco, and drugs) and suicide (CDC, 2013; Kessler, 2004; SAMHSA, 2002, 2013).

The 2016 National Survey on Drug Use and Health (NSDUH) reported that of the 44.7 million U.S. adults who experienced a mental illness in the past year, 8.2 million (or 18.3%) also had a substance use disorder (SAMHSA, 2016a). Individuals diagnosed with co-occurring 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).

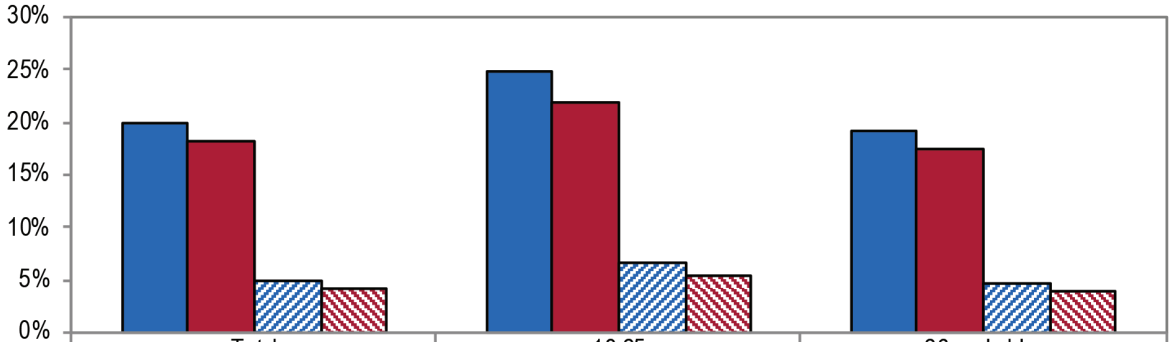
For this chapter, we compiled available state-level data on indicators related to mental health. Definitions of specific terms used in this chapter can be found in Appendix 7A, page 109.

PREVALENCE OF PSYCHOLOGICAL DISTRESS IN INDIANA

National Survey on Drug Use and Health

According to estimates from the 2016 National Survey on Drug Use and Health (NSDUH), one in five Indiana adults (20.0%) reported having any mental illness (AMI) in the past year (95% CI [Confidence Interval]: 18.0–22.1); this rate was similar to the U.S. rate of 18.1% (95% CI: 17.7–18.4). Indiana's past-year prevalence rate for serious mental illness (SMI) was also similar to the nation's (IN: 4.9%, 95% CI: 4.1–6.0; U.S.:4.1%, 95% CI: 4.0–4.3). For AMI and SMI prevalence rates by age group, see Figure 7.1 (SAMHSA, 2016a).

Figure 7.1 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, 2016)

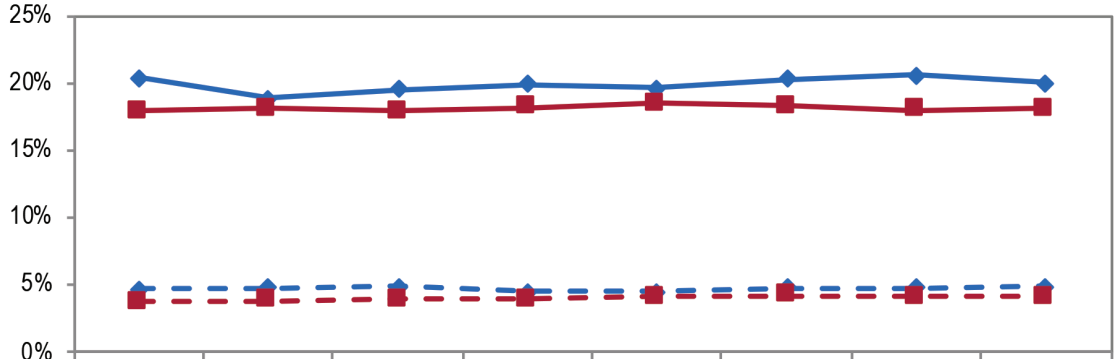


	Total	18-25	26 and older
Indiana AMI	20.0%	24.9%	19.1%
U.S. AMI	18.1%	21.9%	17.4%
Indiana SMI	4.9%	6.5%	4.7%
U.S. SMI	4.1%	5.5%	3.9%

Source: SAMHSA, 2016a

Among adults ages 18 and older, past-year prevalence rates of AMI and SMI remained fairly stable between 2009 and 2016 (see Figure 7.2) (SAMHSA, 2016a).

Figure 7.2 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, 2009–2016)



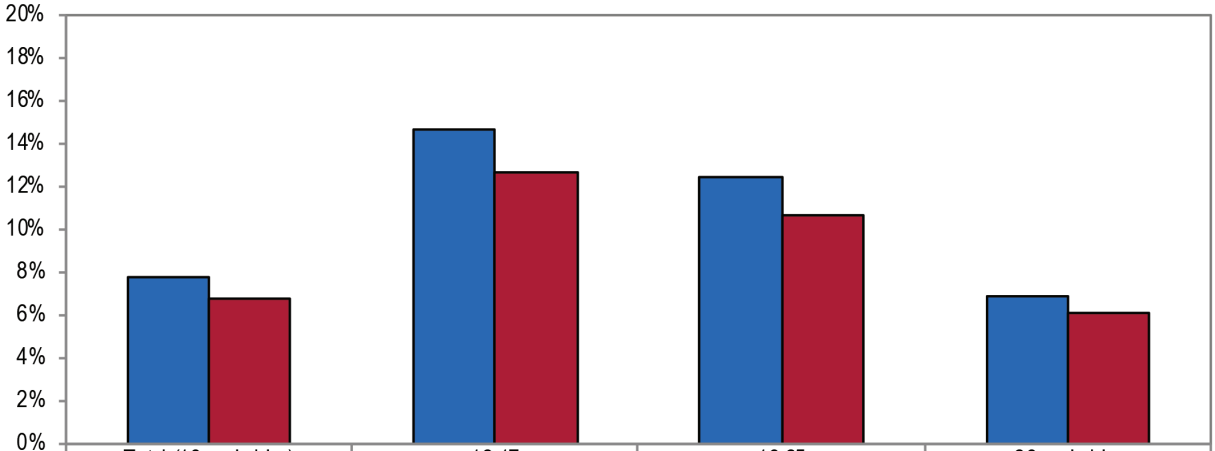
	2009	2010	2011	2012	2013	2014	2015	2016
Indiana AMI	20.4%	18.8%	19.5%	19.9%	19.6%	20.3%	20.6%	20.0%
U.S. AMI	17.9%	18.1%	17.9%	18.2%	18.5%	18.3%	18.0%	18.1%
Indiana SMI	4.7%	4.8%	4.9%	4.5%	4.5%	4.8%	4.8%	4.9%
U.S. SMI	3.7%	3.9%	4.0%	4.0%	4.1%	4.2%	4.1%	4.1%

Source: SAMHSA, 2016a

In 2016, 7.7% of Indiana adults (95% CI: 6.5–9.0) reported having had at least one major depressive episode (MDE) in the past year (U.S.: 6.7%, 95% CI: 6.5–6.9). For rates by age group, see Figure 7.3 (SAMHSA, 2016a).

The percentage of adults with a major depressive episode remained stable between 2007 and 2016 (see Figure 7.4) (SAMHSA, 2016a).

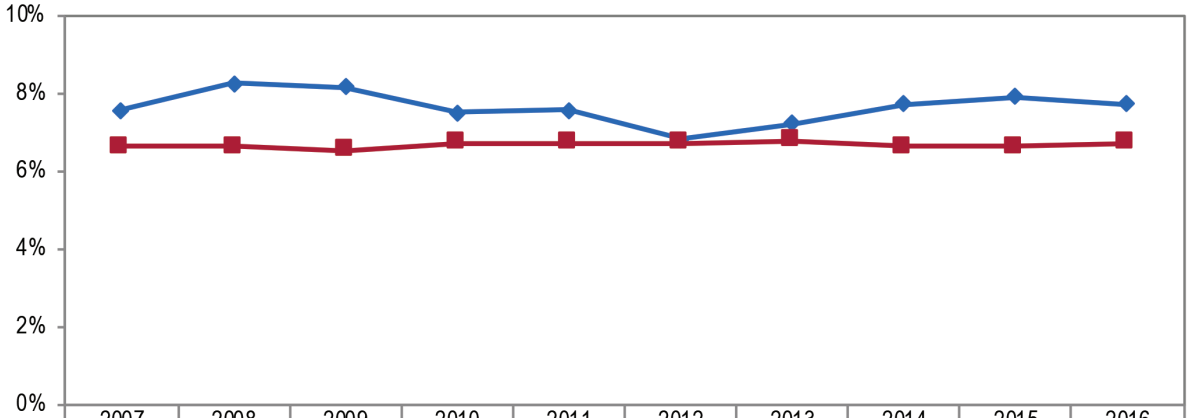
Figure 7.3 Percentage of Indiana and U.S. Population Reporting at Least One Major Depressive Episode in the Past Year, by Age Group (National Survey on Drug Use and Health, 2016)



	Total (18 and older)	12-17	18-25	26 and older
Indiana	7.7%	14.7%	12.4%	6.9%
U.S.	6.7%	12.6%	10.6%	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, 2016a

Figure 7.4 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, 2007–2016)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Indiana	7.6%	8.2%	8.1%	7.5%	7.6%	6.8%	7.2%	7.7%	7.9%	7.7%
U.S.	6.6%	6.6%	6.5%	6.7%	6.7%	6.7%	6.8%	6.6%	6.6%	6.7%

Source: SAMHSA, 2016a

In 2016, more than 8.2 million U.S. adults (or 3.4%) had a co-occurring mental illness and substance use disorder; the prevalence rate was particularly high in young adults ages 18 to 25 (6.1%) (SAMHSA, 2016a). State-level estimates for co-occurring disorders are currently not available from the NSDUH.

Behavioral Risk Factor Surveillance System

According to the 2016 Behavioral Risk Factor Surveillance System (BRFSS), 15.9% of adults in Indiana reported ever being told that they had depression (U.S.: 17.4%). Within Indiana, history of depression was greatest among females, individuals who identified as multiracial, and individuals under the age of 65 (see Table 7.1) (CDC, 2017a).

Youth Risk Behavior Surveillance System

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%). Rates were higher for females (39.2%) and students who self-identified as gay, lesbian, or bisexual (57.8%). For rates by student characteristics, see Table 7.2 (CDC, 1991-2015).

Table 7.1 Percentage of Indiana and U.S. Population (18 Years and Older) Reporting a History of Depression (Behavioral Risk Factor Surveillance System, 2016)

		Indiana (95% CI)
Gender	Male	11.0% (9.7–12.3)
	Female	20.5% (19.0–22.0)
Race/Ethnicity	White	16.2% (15.1–17.3)
	Black	15.6% (11.3–19.9)
	American Indian or Alaskan Native	28.8% (14.0–43.6)
	Multiracial	31.0% (19.4–42.5)
	Hispanic	10.1% (6.4–13.9)
Age Group	18-24	17.6% (13.6–21.7)
	25-34	14.8% (12.0–17.6)
	35-44	18.0% (15.2–20.8)
	45-54	18.5% (16.2–20.8)
	55-64	18.4% (16.5–20.3)
	65+	9.5% (8.5–10.6)
Total		**15.9% (14.9–16.9)**

Source: CDC, 2017a

Table 7.2 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
Sexual Identity	Heterosexual	25.2 (22.5–28.0)	26.4 (24.6–28.4)
	Gay, Lesbian, or Bisexual	57.8 (44.8–69.8)	60.4 (55.1–65.4)
	Not Sure	44.6 (28.6–61.9)	46.5 (41.2–51.8)
Total		**29.4 (27.0–31.9)**	**29.9 (27.0–31.9)**

Source: CDC, 1991-2015

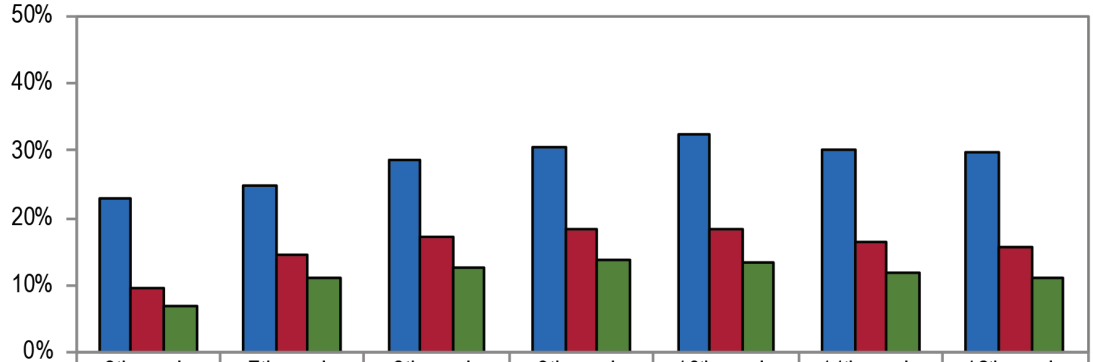
Physically and verbally threatening behaviors, most often in the form of bullying, have been linked to a number of mental health problems in youth, primarily depression and anxiety (CDC, 2018a). The YRBSS collects information on some of these indicators. According to 2015 findings:

- 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, 1991-2015).

Indiana Youth Survey

Results from the 2017 Indiana Youth Survey show that more than one-fifth of students in grades 6 through 12 reported feeling sad or hopeless. A substantial percentage of students also reported having considered suicide and even making a suicide plan in the past 12 months. For additional information, see Figure 7.5 (Gassman et al., 2017).

Figure 7.5 Percentage of Students who Experienced Feeling Sad or Hopeless, Considered Suicide, or Made a Suicide Plan in the Past 12 Months, Grades 6 through 12 (Indiana Youth Survey, 2017)



	6th grade	7th grade	8th grade	9th grade	10th grade	11th grade	12th grade
Felt sad or hopeless	22.8%	24.8%	28.4%	30.3%	32.3%	30.1%	29.7%
Considered suicide	9.6%	14.5%	17.0%	18.2%	18.1%	16.3%	15.5%
Made suicide plan	6.9%	10.9%	12.7%	13.9%	13.4%	11.9%	10.9%

Source: Gassman et al., 2017

TREATMENT UTILIZATION

National Survey on Drug Use and Health

According to estimates from the 2016 NSDUH, 20.0% of adult Hoosiers experienced a mental illness in the past year (Figure 7.1), and 15.4% received mental health services (SAMHSA, 2016a).

Uniform Reporting System

In 2016, a total of 135,123 clients were served by the Indiana Division of Mental Health and Addiction (DMHA)—the state's mental health authority. Of those, nearly all (134,441) were treated in community settings rather than state hospitals (1,098), with 416 individuals receiving treatment in both settings. The client population was predominately non-Hispanic (90.5%), white (77.2%), and slightly more than half were female (52.8%) (SAMHSA, 2016b).

Clients included children who met the federal definition for severe emotional disturbance (SED) and adults who met the federal definition for serious mental illness (SMI). Over one-fourth (26.0%) of adults served by DMHA received services for co-occurring mental illness and substance use disorders, as did 3.0% of the children (SAMHSA, 2016b). For more detailed client information, see Table 7.3.

Table 7.3 Demographic Characteristics of Adults with SMI and Children with SED Served by the Indiana Division of Mental Health and Addiction, FY 2016

Gender	Male	47.2%
	Female	52.8%
Race	White	77.2%
	Black	14.4%
	Other/Unknown	8.4%
Ethnicity	Hispanic	6.2%
Age Group	Children 0-17	39.9%
	Adults 18+	60.1%
Medicaid Status	Medicaid only	70.0%
	Both Medicaid and other funds	18.0%
	Non-Medicaid	12.0%
Total		**135,123 (100%)**

Source: SAMHSA, 2016b

SUICIDE

Suicide is a public health issue that is often associated with mental illness and substance use (CDC, 2017b; 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 die by suicide.

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).

National Survey on Drug Use and Health

According to 2016 NSDUH findings, 4.6% of Indiana adults (95% CI: 3.8–5.6) reported having serious thoughts of suicide in the past year; an estimate similar to the U.S. rate of 4.0% (95% CI: 3.9–4.2). This was particularly prevalent among young adults ages 18 to 25 (IN: 9.1%, 95% CI: 7.4–11.2; U.S.: 8.6%, 95% CI: 8.2–8.9) (SAMHSA, 2016a).

Youth Risk Behavior Surveillance System

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%). Rates were particularly high for students who self-identified as gay, lesbian, or bisexual (34.2%). For prevalence rates by gender, race/ethnicity, sexual identity, and grade level, see Table 7.4 (CDC, 1991-2015).

Suicide Mortality

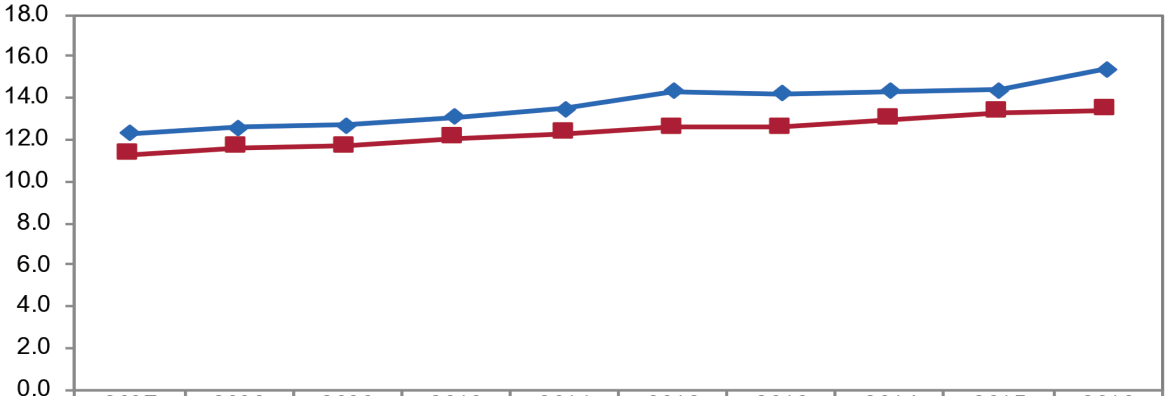
Suicide deaths both nationally and in Indiana have increased significantly since 1999 (IN: 10.4; U.S.: 10.5, per 100,000 population). According to 2016 estimates, Indiana's age-adjusted suicide mortality rate of 15.4 per 100,000 population (95% CI: 14.4–16.3) was significantly higher than the U.S. rate of 13.4 (95% CI: 13.3–13.6). For 10-year trends, see Figure 7.6. Most suicide deaths occurred in males, whites, and non-Hispanics (see Table 7.5). For county-level age-adjusted annual suicide mortality rates, refer to Map 7.1 (CDC, 1999-2016).

Table 7.4 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)
Sexual Identity	Heterosexual	6.8 (5.0–9.2)	6.4 (5.6–7.3)
	Gay, Lesbian, or Bisexual	34.2 (27.5–41.5)	29.4 (25.7–33.3)
	Not Sure	17.6 (7.5–35.9)	13.7 (10.0–18.5)
Total		**9.9 (7.7–12.7)**	**8.6 (7.6–9.6)**

Source: CDC, 1991-2015

Figure 7.6 Age-Adjusted Suicide Mortality Rate per 100,000 Population in Indiana and the United States (CDC WONDER, 2007–2016)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Indiana	12.3	12.6	12.7	13.1	13.5	14.3	14.2	14.3	14.4	15.4
U.S.	11.3	11.6	11.7	12.1	12.3	12.6	12.6	13.0	13.3	13.4

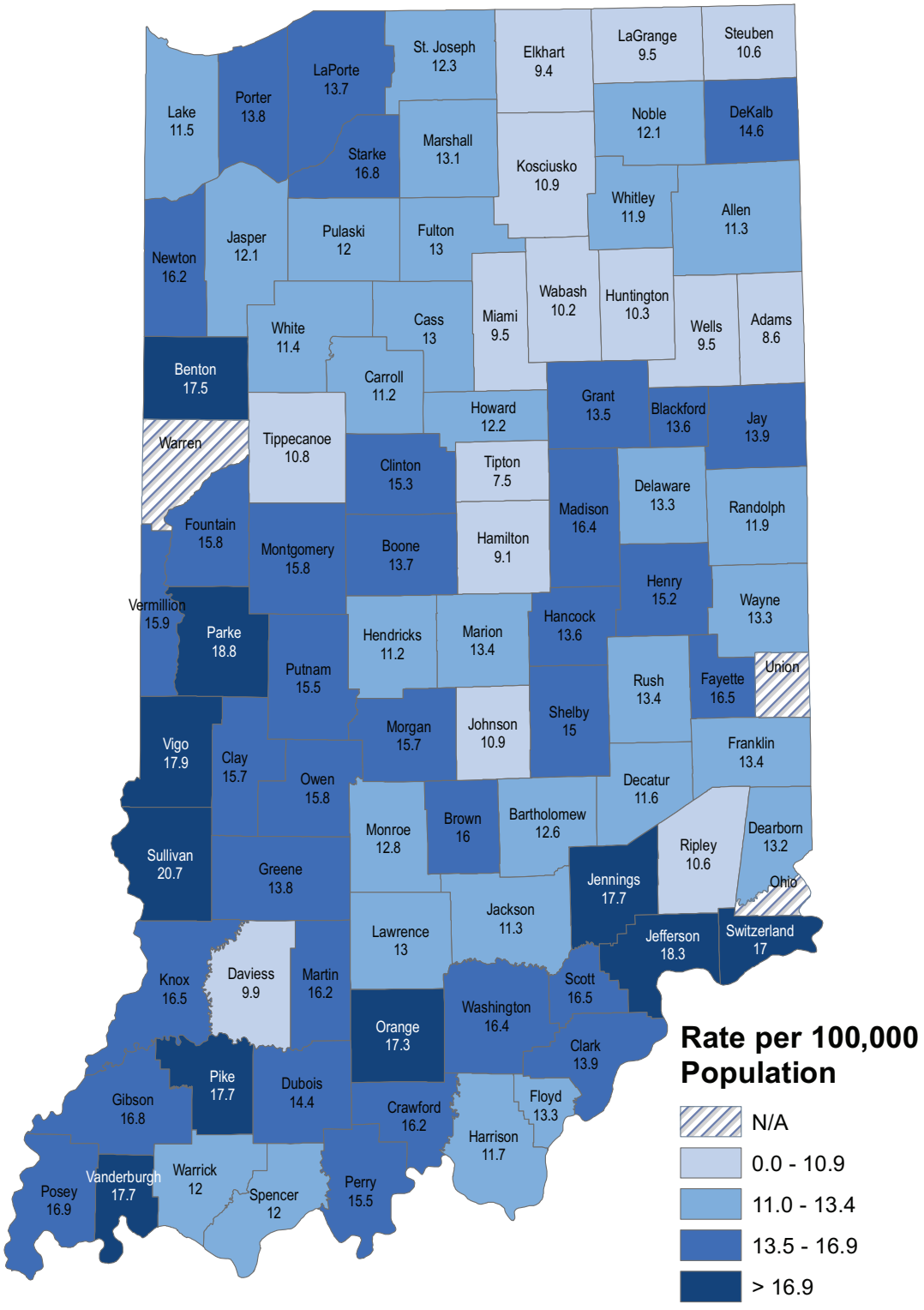
Source: CDC, 1999-2016

Table 7.5 Age-Adjusted Suicide Mortality Rate per 100,000 Population in Indiana and the United States (CDC WONDER, combined data from 1999-2016)

		Indiana (95% CI)	U.S. (95% CI)
Gender	Male	21.4 (21.1–21.8)	19.2 (19.2–19.3)
	Female	4.9 (4.7–5.1)	4.9 (4.9–4.9)
Race	White	13.6 (13.4–13.8)	13.0 (13.0-13.1)
	Black	6.4 (5.9–6.9)	5.4 (5.3–5.4)
	Asian or Pacific Islander	5.7 (4.5–6.9)	5.8 (5.7–5.9)
	American Indian or Alaska Native	N/A	10.8 (10.6–11.1)
Ethnicity	Hispanic	5.9 (5.1–6.7)	5.9 (5.8–5.9)
	Not Hispanic	13.1 (12.9–13.4)	12.6 (12.6–12.6)
Total		12.8 (12.6–13.0)	11.7 (11.7–11.7)

Source: CDC, 1999-2016

Map 7.1 Age-Adjusted Annual Suicide Mortality Rates per 100,000 Population in Indiana, by County (CDC Wonder, 1999–2016)



Source: CDC, 1999-2016

Appendix 7A
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, 2016a).

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, 2016a).

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, 2016a).

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, 1991-2015).
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., 2017).

Suicide Attempts: "Attempted suicide one or more times during the 12 months before the survey" (CDC, 2017b).

Suicide Deaths: Suicide (intentional self-harm) deaths include ICD-10 codes U03.0 (Terrorism involving explosions and fragments), U03.9 (Terrorism by other and unspecified means), X60-X84 (Intentional self-harm).

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8 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 Epidemiological Outcomes Workgroup (SEOW), we have reviewed consumption and consequences data for the following drugs: alcohol, tobacco, marijuana, opioids, and stimulants. Additionally, we examined indicators of mental health and suicide in Indiana.

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.

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.

CONSIDERATIONS

This report relies primarily on the data sources listed below. 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.

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

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.

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.

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: 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)

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 the national Fatality Analysis Reporting System.

Description: ARIES contains data on vehicle crashes with and without alcohol involvement.

Sponsoring Organization/Source: Indiana State Police (ISP).

Geographic Level: State and county levels.

Availability: Upon request from the ISP.

Trend: Annual; most recent data from 2016.

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)

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. 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.

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: CDC.

Geographic Level: National and state levels; selected metropolitan/micropolitan areas.

Availability: National and state data are available from the CDC at https://www.cdc.gov/brfss/brfssprevalence.

Trend: Annual; most recent data from 2016.

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.

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.

Description: Hospital discharge data are publicly available in aggregate format. Dataset can be queried by primary diagnosis (ICD-10-CM codes), e.g., for alcohol- and drug-induced diseases.
Sponsoring Organization/Source: ISDH.
Geographic Level: Indiana.
Availability: Annual data are available at http://www.in.gov/isdh/20624.htm.
Trend: Annual; most recent data from 2016.
Strengths/Weaknesses: The data are in aggregate format; comparisons by demographic variables such as age, gender, and race/ethnicity are not possible. Comparisons to years prior to 2016 are not possible due to the ICD-9-CM to ICD-10-CM switch that occurred on October 1, 2015.

Indiana Adult Tobacco Survey (IATS)

The Indiana Adult Tobacco Survey (IATS), a survey by the ISDH Tobacco Prevention and Cessation Committee (TPCC), collects information on tobacco use, cessation attempts, and other related issues 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.

Description: This survey measures tobacco use among Indiana adults, and includes items on tobacco use, cessation, secondhand smoke, and awareness.
Sponsoring Organization/Source: ISDH/TPCC.
Geographic Level: Indiana.
Availability: Datasets can be requested from ISDH/TPCC; reports are available at http://www.in.gov/isdh/tpc/2343.htm.
Trend: Biannual; most recent data from 2017.
Strengths/Weaknesses: IATS 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

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 Epidemiological 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.

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: Annual; most recent data from 2017.
Strengths/Weaknesses: The survey utilizes a nonrandom sampling design; results, therefore, are not representative of all college students in Indiana.

Indiana Meth Lab Statistics

The Indiana State Police (ISP) 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 National Clandestine Laboratory Seizure System, 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 ISP.

Description: ISP collects meth lab incidence data including: 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: ISP.
Geographic Level: State and county level.
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: Annual; most recent data from 2017.
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)

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 (ISDH).
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 requested directly from ISDH.
Sponsoring Organization/Source: CDC's National Center for Health Statistics; ISDH.
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 ISDH.
Trend: Annual; most recent data from 2016.
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 is 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)

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.
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: Upon request from IPLA.
Trend: Annual; most recent 2017.
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. Dispensations aggregated at the county-level are approximate as some dispensations do not have a designated county FIPS code.

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; and risk and protective factors among Indiana middle and high school students, grades 6 through 12.

Caution is needed when comparing findings to previous years due to changes made to the survey in 2015. These changes, in addition to a revised cleaning methodology, make it difficult to draw accurate comparisons to the prevalence data from previous years.

The Indiana Youth Survey uses a convenience sampling design; i.e., the survey is open to all Indiana schools or school corporations, resulting in a large number of usable responses. However, the rate of participation varies widely across regions. In 2016, INYS also incorporated a random sampling process. The advantage of simultaneously collecting both random and convenience samples is that state-level estimates can be interpreted with greater confidence, even in areas with low participation rates.

INYS results are often compared to findings from the Monitoring the Future (MTF) survey conducted by the National Institute on Drug Abuse (http://www.monitoringthefuture.org/data/data.html). MTF is an ongoing study of youth behaviors, attitudes, and values about substance use; students in 8th, 10th, and 12th grades are surveyed annually.

Description: The 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: IPRC; Indiana Family and Social Services Administration (FSSA)/Indiana Division of Mental Health and Addiction (DMHA).

Geographic Level: Indiana state and regions.

Availability: Reports with data tables are available at http://inys.indiana.edu/survey-results.

Trend: Annual; most recent data from 2017.

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)

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 (ISDH/TPCC) 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.

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: CDC; ISDH/TPCC.

Geographic Level: Indiana.

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: Biannual; most recent data from 2016.

Strengths/Weaknesses: The IYTS provides detailed statewide information regarding youth knowledge, attitudes, and behaviors. However, county-level data are not available.

National Survey on Drug Use and Health (NSDUH)

NSDUH is a national survey funded by the Substance Abuse and Mental Health Services Administration (SAMHSA) and designed to monitor patterns and track changes in substance use among U.S. residents 12 years of age and older. The survey asks respondents to report on use and misuse of substances including alcohol, tobacco, marijuana, cocaine, heroin, and prescription medications. 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. Due to these revisions, 2015 and later estimates cannot be compared to earlier years.

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: 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: Annual; most recent data from 2016.

Strengths/Weaknesses: State-level data do not allow for comparisons by gender or race/ethnicity.

Treatment Episode Data Set (TEDS)

TEDS is a national database maintained by Substance Abuse and Mental Health Services Administration (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 group.

County-level TEDS data for Indiana are available from the Indiana Family and Social Services Administration (FSSA), Division of Mental Health and Addiction (DMHA). 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.

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: SAMHSA; FSSA/DMHA.

Geographic Level: National and state; county-level data available from FSSA upon 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: Annual; most recent data from 2016 (from SAMHSA) and 2017 (from DMHA).

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 Reports (UCR): County-Level Detailed Arrest and Offense Data

UCR is a national database maintained by the U.S. Department of Justice, Federal Bureau of Investigation (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, and 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 8.1, page 120, for coverage indicator by county).

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: FBI.

Geographic Level: National, state, and county level.

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: Annual; most recent data from 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 8.1 on page 120 for coverage indicator by Indiana 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.

Description: This biannual national survey monitors health risks and behaviors among youth in grades 9 through 12.

Sponsoring Organization/Source: CDC.

Geographic Level: National and state level.

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: Biannual; most recent data from 2015.

Strengths/Weaknesses: At the state level, data by ethnicity (Hispanic) might not be available for some variables.

Table 8.1 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

APPENDIX I: Data Sources Recommended by the State Epidemiological 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 2016	On request from ISP	Indiana and counties	Vehicle collisions in general population
Behavioral Risk Factor Surveillance System (BRFSS)	CDC	Annual Most recent 2016	http://www.cdc.gov/brfss/brfssprevalence/index.html	U.S. and states	Adults 18 and older
Hospital Discharge Database	ISDH	Annual Most recent 2016	http://www.in.gov/isdh/20624.htm	Indiana and counties	General population
Indiana Adult Tobacco Survey (IATS)	ISDH/TPCC	Bi-annual Most recent 2017	On request from ISDH	Indiana	Adults
Indiana College Substance Use Survey	ICAN/IPRC	Annual Most recent 2017	http://www.drugs.indiana.edu/indiana-college-survey/substance-use-survey	Indiana	College students
Indiana Clandestine Meth Lab Seizures	ISP	Annual Most recent 2017	On request from ISP	Indiana and counties	General population
Indiana Youth Survey	IPRC	Annual Most recent 2017	http://inys.indiana.edu/survey-results	Indiana and regions	6th – 12th grade students in Indiana
Indiana Youth Tobacco Survey (IYTS)	ISDH/TPCC	Bi-annual Most recent 2016	On request from ISDH	Indiana	6th – 12th grade students in Indiana
Monitoring the Future (MTF) Survey	NIDA	Annual Most recent 2017	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	On request from ISDH	Indiana and counties	General population
	CDC	Annual Most recent 2016	http://wonder.cdc.gov/mortSQL.html	U.S., states, and counties	General population

Continued on Next Page

APPENDIX I (continued)

Data Set	Source	Years	How to Access	Coverage	Target
National Survey on Drug Use and Health (NSDUH)	SAMHSA	Annual Most recent 2016	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 Most recent 2015	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 Most recent 2017			
Uniform Crime Reporting Program (UCR) – County-Level Arrest Data	FBI/NACJD	Most recent 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 2016	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 Most recent 2015	http://nccd.cdc.gov/YouthOnline/App/Default.aspx	U.S. and states	High school students

Abbreviations used: 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; 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 Alcohol use disorder in the past year Needing but not receiving treatment for alcohol use	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
	Ever drank alcohol Drank alcohol before age 13 years Currently drank alcohol Usually obtained the alcohol they drank by someone giving it to them Drank five or more drinks of alcohol in a row Reported that the largest number of drinks they had in a row was 10 or more	Grades 9-12	YRBSS
	Past-month alcohol use Past-month binge drinking 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 DUI, Public intoxication, and 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, CDC
Tobacco	Past-month use of tobacco product Past-month use of Cigarettes	General population ages 12+	NSDUH
	Past-month smoking Past-month smokeless tobacco Four-level smoking status	Adults ages 18+	BRFSS
	Past-month and lifetime use of various tobacco products	Middle and high school students	IYTS
	Ever tried cigarette smoking Smoked a whole cigarette before age 13 years Currently smoked cigarettes	Grades 9-12	YRBSS

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APPENDIX II (continued)

SUBSTANCE	USE OR CONSEQUENCE	TARGET POPULATION	DATASET
Tobacco (cont.)	Currently smoked cigarettes frequently Smoked more than 10 cigarettes per day Currently smoked cigarettes daily Usually obtained their own cigarettes by buying them in a store or gas station Usually obtained their own cigarettes by buying on the internet Did not try to quit smoking cigarettes Currently used smokeless tobacco Currently smoked cigars Ever used electronic vapor products Currently used electronic vapor products Currently smoked cigarettes or cigars Currently used cigarettes, cigars, or smokeless tobacco Currently used tobacco		
	Past-month use of various tobacco products Mean age of first use	Grades 6-12	INYS
	Use of various tobacco products Cessation intentions and attempts Percentage of smoke-free homes and work places	General population	IATS
Marijuana	Past-month use Past-year use First use	General population ages 12+	NSDUH
	Ever used marijuana Tried marijuana before age 13 years Currently used marijuana Ever used synthetic marijuana Usually used marijuana by smoking it	Grades 9-12	YRBSS
	Past-month use of marijuana and 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 and sale of marijuana	General population	UCR
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 and sale of marijuana	General population	UCR

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APPENDIX II (continued)

SUBSTANCE	USE OR CONSEQUENCE	TARGET POPULATION	DATASET
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 and 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 and sale of synthetic drugss	General population	UCR
	Clandestine meth lab seizures Children identified/rescued in lab homes Arrests made during lab seizures	General population	ISP Meth Lab Seizures
Prescription Drugs	Past-year misuse of pain relievers	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	
	Arrests for possession and sale of 'other drugs'	General population	UCR
	Poisoning/overdose deaths (Rx-related mortality)	General population	ISDH, CDC
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; CDC = Centers for Disease Control and Prevention; 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 Appendix I.

APPENDIX III: CLUSTER ANALYSIS

We completed a statewide cluster analysis to determine the drug combinations that are most frequently used by polysubstance users who are in treatment. Results were based on the 2017 Treatment Episode Data Set, which we received from the Indiana Family and Social Services Administration (FSSA, 2017).

Drugs were grouped into seven (7) categories:

- Alcohol
- Marijuana
- Opioids (including nonprescription methadone, heroin, and other opiates/synthetics)
- Cocaine
- Methamphetamine
- Sedatives (including benzodiazepines, barbiturates, and sedatives/hypnotics)
- Other drugs (including hallucinogens, PCP, inhalants, over-the-counter medications, other drugs, and unknown substances)

The analysis indicated that Hoosier polysubstance users primarily used one of nine drug combinations (see Table III.1). The most commonly used combination of drugs included alcohol and a drug that fell into the "other" drug category; however, a nearly equal percentage of polydrug users reported using combinations of marijuana and methamphetamine or marijuana and an opioid. Marijuana was the drug most commonly combined with a secondary or tertiary substance, while opioids were the second most common group of drugs combined with a second or third substance (see Table III.1).

Table III.1 Drug Combinations Used by Indiana Polysubstance Users (TEDS, 2017)

Drug Combinations	Number of Admissions	% of Admissions
Alcohol & Other Drug	3,766	14.7
Marijuana & Methamphetamine	3,604	14.1
Marijuana & Opioid	3,554	13.9
Marijuana & Alcohol	3,247	12.7
Opioid & Methamphetamine	2,956	11.6
Marijuana, Alcohol, & Cocaine	2,662	10.4
Opioid & Other Drug	2,509	9.8
Opioid & Sedative	1,689	6.6
Marijuana & Other Drug	1,557	6.1

Note: TEDS drug categories were combined in the following manner: opioids (nonprescription methadone, heroin, opiates/synthetics), stimulants (amphetamines, other stimulants), sedatives (benzodiazepines, barbiturates, sedatives/hypnotics), and other drugs (hallucinogens, PCP, inhalants, OTC, other, unknown)
Source: FSSA, 2017

The demographic composition of polysubstance users differed depending on which combination of drugs they used. Males made up a greater percentage of persons in seven of the nine drug use categories; however, women were more strongly represented in the group of individuals who used (1) an opioid and methamphetamine and (2) an opioid and a sedative.

Whites made up the majority of polysubstance users in eight of the nine drug groups and were most strongly represented in categories associated with opioid use. Blacks composed the majority of users within the group of individuals who combined marijuana, alcohol, and cocaine. Hispanics made up less than 10% of polysubstance users across all drug combination categories.

At least half of polysubstance users in seven of the nine polysubstance groups were between the ages of 25 and 44. Polysubstance users were somewhat younger if they reported using a combination of marijuana and an "other" drug or marijuana and alcohol (see Table III.2)

Table III.2 Demographic Characteristics of Individuals within Polysubstance Groups (Treatment Episode Data Set, 2017)

	Alcohol & Other Drug		Marijuana & Opioid		Opioid & Other Drug		Marijuana, Alcohol, & Cocaine	
	N	%	N	%	N	%	N	%
Gender								
Male	2,599	69.0	2,143	60.3	1,093	43.6	1,624	61.0
Female	1,167	31.0	1,411	39.7	1,416	56.4	1,038	39.0
Race								
White	3,106	82.5	3,215	90.5	2,271	90.5	763	28.7
Black	411	10.9	175	4.9	96	3.8	1,705	64.0
Other	249	6.6	164	4.6	142	5.7	194	7.3
Ethnicity								
Hispanic	272	7.2	182	5.1	6.2	156	241	9.1
Non-Hispanic	3,494	92.8	3,372	94.9	2,353	93.8	2,421	90.9
Age								
Under 18	112	3.0	48	1.4	11	0.4	12	0.5
18-24	653	17.3	621	17.5	340	13.6	233	8.8
25-34	1,073	28.5	1,733	48.8	1,129	45.0	848	31.9
35-44	857	22.8	761	21.4	658	26.2	735	27.6
45-54	693	18.4	264	7.4	269	10.7	567	21.3
55 and Over	378	10.0	127	3.6	102	4.1	267	10.0

	Opioid & Meth		Marijuana & Other Drug		Marijuana & Meth		Marijuana & Alcohol	
	N	%	N	%	N	%	N	%
Gender								
Male	1,414	47.8	961	61.7	2,116	58.7	2,392	73.7
Female	1,542	52.2	596	38.3	1,488	41.3	855	26.3
Race								
White	2,773	93.8	1,284	82.5	3,383	93.9	2,321	71.5
Black	45	1.5	165	10.6	68	1.9	696	21.4
Other	138	4.7	108	6.9	153	4.2	230	7.1
Ethnicity								
Hispanic	139	4.7	93	6.0	177	4.9	272	8.4
Non-Hispanic	2,817	95.3	1,464	94.0	3,427	95.1	2,975	91.6
Age								
Under 18	18	0.6	82	5.3	50	1.4	235	7.2
18-24	584	19.8	459	29.5	617	17.1	803	24.7
25-34	1,526	51.6	640	41.1	1,467	40.7	1,113	34.3
35-44	653	22.1	244	15.7	969	26.9	602	18.5
45-54	153	5.2	94	6.0	419	11.6	334	10.3
55 and Over	22	0.7	38	2.4	82	2.3	160	4.9

	Opioid & Sedative	
	N	%
Gender		
Male	809	47.9
Female	880	52.1
Race		
White	1,549	91.7
Black	57	3.4
Other	83	4.9
Ethnicity		
Hispanic	80	4.7
Non-Hispanic	1,609	95.3
Age		
Under 18	21	1.2
18-24	297	17.6
25-34	813	48.1
35-44	374	22.1
45-54	120	7.1
55 and Over	64	3.8

Source: FSSA, 2017

The Consumption and Consequences of Alcohol, Tobacco, and Drugs in Indiana: A State Epidemiological Profile 2017

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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INDIANA FAMILY & SOCIAL SERVICES ADMINISTRATION
FSSA

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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