

MARIJUANA
COCAINE
PRESCRIPTION DRUGS

**THE CONSUMPTION AND CONSEQUENCES
OF ALCOHOL, TOBACCO, AND DRUGS IN INDIANA:
A STATE EPIDEMIOLOGICAL PROFILE
2020**

INDIANA STATE EPIDEMIOLOGICAL OUTCOMES WORKGROUP



IUPUI

**RICHARD M. FAIRBANKS
SCHOOL OF PUBLIC HEALTH**

INDIANA UNIVERSITY
Indianapolis



TOBACCO

HEROIN

METHAMPHETAMINE

ALCOHOL

THE CONSUMPTION AND CONSEQUENCES OF ALCOHOL, TOBACCO, AND DRUGS IN INDIANA: A STATE EPIDEMIOLOGICAL PROFILE 2020

Developed by the Indiana State Epidemiological Outcomes
Workgroup, 2020

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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Improving Community Health Through Policy Research

About the Center for Health Policy

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 use prevention policy.

This report represents the 15th 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.

This report summarizes findings on alcohol, tobacco, marijuana, opioid (prescription-type and illegal), and stimulant use/misuse. In addition, we included data on mental health and suicide, since both substance use and mental distress are highly correlated and frequently co-occur. These data come from a variety of sources,

including national and Indiana-based surveys as well as de-identified administrative records.

As with our prior reports, the 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. The full report, as well as earlier versions and supplemental resources, are available on the Center for Health Policy website (<https://fsph.iupui.edu/research-centers/centers/health-policy>). The website also provides access to our Data Portal, which is an online tool that allows users to review and interact with data tables, graphs, and maps. Furthermore, there are links to a series of research briefs related to drug misuse and other behavioral health topics; these briefs are developed each year as part of the SEOW's work. Given the global impact of COVID-19 in 2020, this year's research report focuses on summarizing the effect of the pandemic on Hoosiers' behavioral health.

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

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EXECUTIVE SUMMARY

Substance use continues to be a major public health concern, negatively impacting a variety of health, legal, and social outcomes. Over one-fourth of Hoosiers ages 12 and older engaged in binge drinking in the past month and more than one-tenth used an illicit substance. Furthermore, 8.0% of Indiana residents met criteria for substance use disorder (SUD) in the past year and 7.5% needed but did not receive treatment for their SUD (Substance Abuse and Mental Health Services Administration [SAMHSA], 2021).

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 nearly three-fourths of Indiana treatment admissions (73%), the use of two or more substances was reported (Indiana Family and Social Services Administration [FSSA], 2021).

During state fiscal year 2020, there was a total of 7,502 child removals from their parents by the Department of Child Services in Indiana. Parental drug and/or alcohol use contributed to almost two thirds (63.6%) of these removals (Indiana Department of Child Services, 2021).

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, 2021). Indiana and U.S. rates of underage drinking among 12- to 17-year-olds were similar (IN: 9.2%; U.S.: 9.2%).

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 2019, one-fourth of Indiana residents ages 12 or older reported binge drinking, which was similar to the national rate (IN: 25.5%; U.S.: 24.2%). Nearly 6% of Hoosiers suffered from alcohol use disorder within the past year (U.S.: 5.3%). The highest rate was found among 18- to 25-year-olds (IN: 10.3%; U.S.: 9.7%) (SAMHSA, 2021).

Alcohol-related collisions decreased from 13,911 in 2003 to 7,025 in 2019. The number of fatal crashes also decreased during that time period from 242 to 153 (Indiana State Police, 2021). The age-adjusted mortality rates for alcohol-attributable deaths have climbed gradually from 2000 through 2019 in both Indiana and the United States. Indiana's age-adjusted rate was 10.4 per 100,000 in 2019 which was the same as the U.S. rate (Centers for Disease Control and Prevention [CDC], 1999-2019).

In addition to morbidity 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 2019, more than one in five adult Hoosiers (22.5%) reported smoking cigarettes in the past month (U.S.: 16.9%) (SAMHSA, 2021).

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 Department of Health, Tobacco Prevention and Cessation [IDOH/TPC], 2015). Approximately 25.8% of adults in Indiana reported trying an e-cigarette in 2019 (IDOH/TPC, 2020). E-cigarettes have appealed to younger people as well. About 24% of Indiana high school students and 25.5% of Indiana college students reported current use of e-cigarettes (CDC, 1991-2019; King & Jun, 2019).

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 2018–2019 averages from the National Survey on Drug Use and Health (NSDUH), almost 4% of Indiana residents ages 12 or older misused pain relievers (U.S.: 3.6%) and 0.3% reported using heroin in the past year (U.S.: 0.3%). Rates were generally higher among young adults ages 18 to 25 for misuse of prescription opioids (IN: 5.5%; U.S.: 5.3%) and heroin (IN: 0.5%; U.S.: 0.4%) (SAMHSA, 2021).

Opioid treatment programs (OTPs) provide medication-assisted treatment to individuals with opioid use disorder. In Indiana, a total of 11,985 unique patients were treated in OTPs in 2019 (FSSA, 2020). According to the Treatment Episode Data Set (TEDS), in nearly 20% of Indiana treatment admissions, misuse of prescription opioids was reported, and in over 23% of treatment admissions, heroin use was reported (SAMHDA, 2021).

Non-fatal emergency department visits due to an opioid overdose rose from 1,856 in 2011 to 5,064 in 2019 (from 45 to 75 visits per 100,000 population) (IDOH, 2020). Overdose deaths involving opioids rose from 347 in 2011 to 1,246 in 2019 (from 5.3 to 18.5 deaths per 100,000 population) (IDOH, 2021).

Other Illicit Drugs

Marijuana is the most commonly used illicit drug in the United States (Azofeifa et al., 2016). An estimated 11.6% of Indiana residents ages 12 and older reported current (past-month) marijuana use (U.S.: 10.8%); past-year use was estimated at 16.6% (U.S.: 16.7%). The highest prevalence was among individuals ages 18 to 25, with 25.6% of Hoosiers in this age group reporting current marijuana use (U.S.: 22.5%) and 35.1% reporting past-year use (U.S.: 35.1%) in 2019 (SAMHSA, 2021). In almost half of Indiana treatment admissions, marijuana use was reported (U.S.: 29.2%) (SAMHDA, 2021).

Stimulants encompass both legal prescription stimulants (such as Ritalin and Adderall) and illicit drugs

(such as cocaine and methamphetamine). An estimated 1.6% of Indiana residents ages 12 and older used cocaine in the past year, similar to the national rate of 2.0%. Cocaine use was highest among young adults ages 18 to 25, with 4.6% reporting past year use (U.S.: 5.5%) (SAMHSA, 2021).

Data from the 2018 TEDS indicate that methamphetamine was the most widely used stimulant among the Indiana's treatment population. In over one-third (34.1%) of substance use treatment admissions, methamphetamine use was reported; a significantly higher percentage than the nation's (U.S.: 16.2%). Cocaine was the second most frequently used stimulant in Indiana's treatment population, with 12.8% of admissions reporting use; this percentage was significantly lower than that noted for the rest of the nation (U.S.: 19.8%). A small percentage (IN: 0.6%; U.S.: 0.6%) of the treatment population reported the use of other stimulants at the time of admission (SAMHDA, 2021).

Mental Health

Good mental health is critical to an individual's well-being. In 2019, 22.3% of Hoosier adults reported experiencing any mental illness in the past year (U.S.: 19.9%), and 5.4% reported experiencing serious mental illness (U.S.: 4.9%). Furthermore, 16.8% of adult Hoosiers received mental health services in the past year (U.S.: 15.6%) (SAMHSA, 2021). Approximately one-in-five (21.0%) Indiana adults reported ever being told that they had depression (U.S.: 19.9%) (CDC, 2021).

Youth also experienced similar, or higher rates of poor mental health. The percentage of Hoosier high school students in 2015 who reported feeling sad or hopeless almost every day for two weeks was 29.4% (U.S.: 29.9%). Rates were higher for females (39.2%), and students who identified as gay, lesbian, or bisexual (57.8%) (CDC, 1991-2019).

In the past year, 5.6% of Indiana adults reported having serious thoughts of suicide (U.S.: 4.6%) (SAMHSA, 2021), and 9.9% of Hoosier high school students attempted suicide (U.S.: 8.6%) (CDC, 1991-2019).

Suicide is the 10th leading cause of death for all age groups combined, and 2nd for those between 10 and 34 years of age. Indiana's age-adjusted suicide mortality rate (14.2 per 100,000) was similar to the U.S. rate (13.9 per 100,000) (CDC, 1999-2019).

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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 2018, the National Institute on Alcohol Abuse and Alcoholism (NIAAA) estimated that Hoosiers 14 years and older consumed 11,786 gallons of ethanol (the intoxicating agent in alcoholic beverages). By volume, this equates to 117,031 gallons of beer, 12,481 gallons of wine, or 11,944 gallons of spirits. This level of use represents an annual per capita consumption rate of 2.2 gallons of ethanol for Hoosiers age 14 and older (NIAAA, 2020). In 2020, there were 14,085 alcohol beverage permits on file in Indiana, representing a rate of 21.3 licenses per 10,000 Hoosiers; thus, Indiana residents have many points of access to alcohol (Alcohol and Tobacco Commission, 2020).

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, 2021).

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

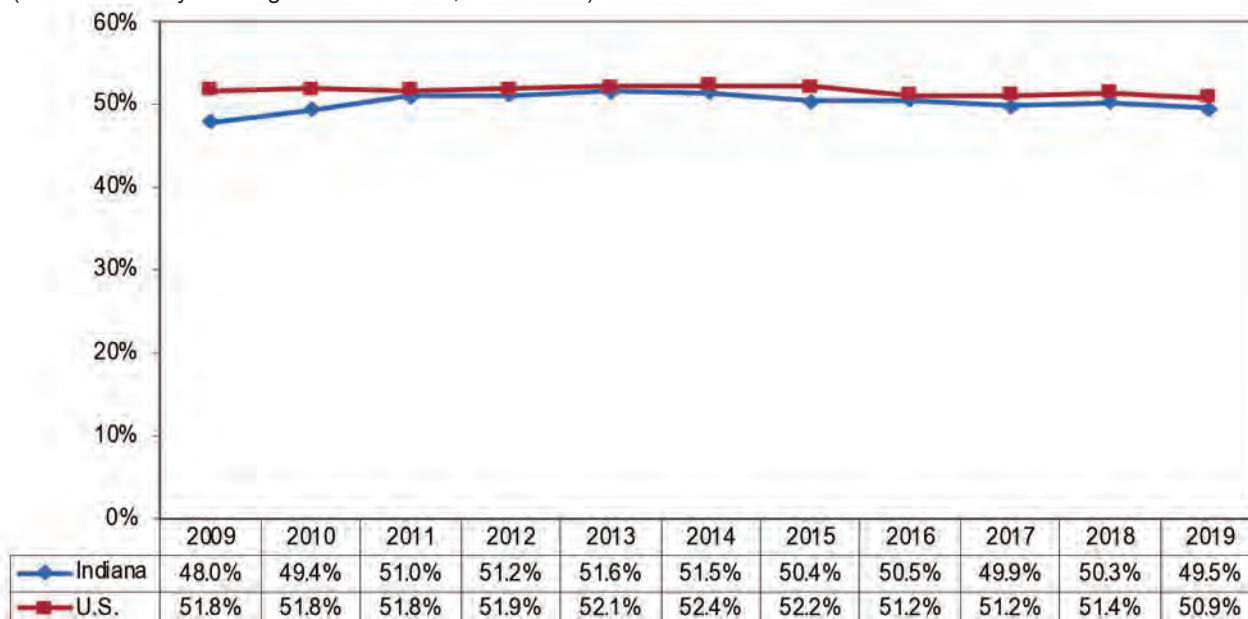
National Survey on Drug Use and Health

Based on 2018–2019 averages from the Substance Abuse and Mental Health Services Administration (SAMHSA)'s National Survey on Drug Use and Health (NSDUH), an estimated 49.5% (95% Confidence Interval [CI]: 46.8–52.3) of Indiana residents 12 years of age or older had used alcohol in the past month; Indiana's prevalence rate for current alcohol use¹ was similar to the U.S. rate of 50.9% (95% CI: 50.4–51.4) (see Figure 2.1). Young adults between the ages of 18 and 25 had the highest level of use, with 55.8% (95% CI: 51.7–59.8) of individuals in that age group reporting current alcohol use (U.S.: 54.7%, 95% CI: 53.9–55.5). Furthermore, 9.2% (95% CI: 7.5–11.1) 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 (9.2%; 95% CI: 8.8–9.6).

NSDUH also provides underage drinking estimates for 12- to 20-year-olds. In 2019, Indiana's rate for current alcohol use in underage Hoosiers (16.8%; 95% CI: 14.4–19.5) was similar to that of the U.S. (18.7%; 95% CI: 18.0–19.3) (SAMHSA, 2021).

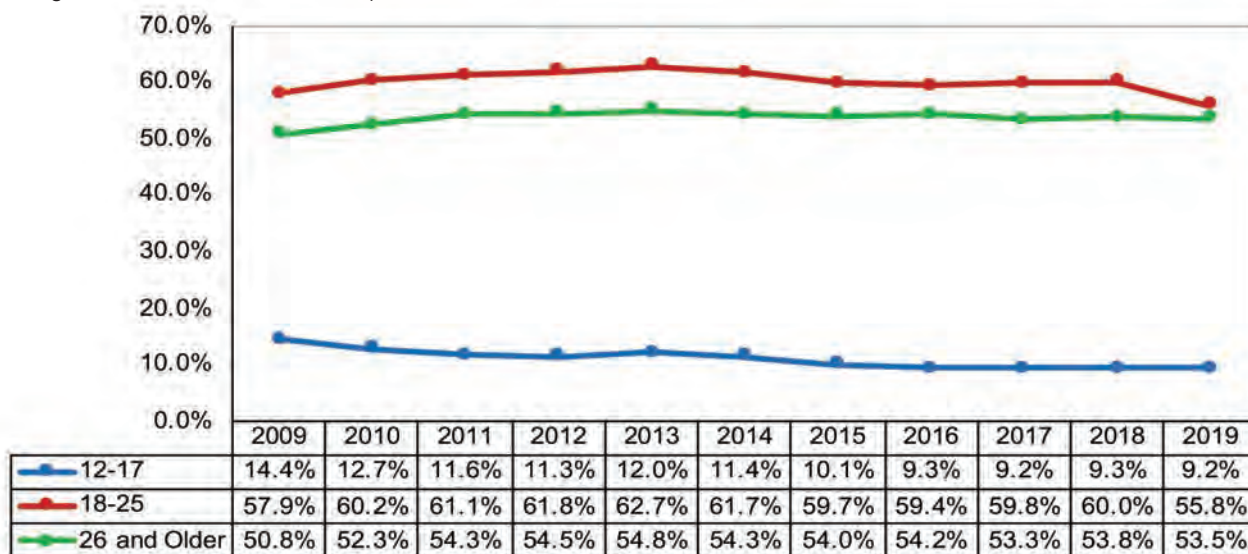
¹ Current alcohol use is defined as having used alcohol in the past 30 days or past month.

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, 2009–2019)



Source: SAMHSA, 2021

Figure 2.2 Percentage of Indiana Population Reporting Current Alcohol Use by Age Group (National Survey on Drug Use and Health, 2009–2019)

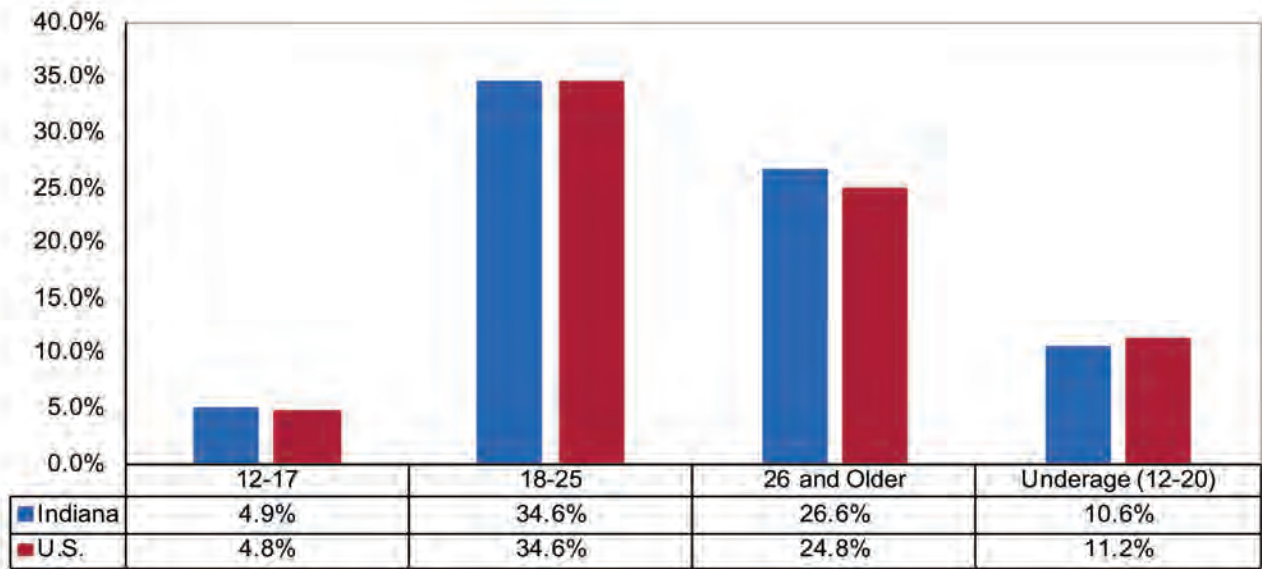


Source: SAMHSA, 2021

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 2019, 25.5% of Indiana’s population 12 years of age or older reported current binge drinking

Figure 2.3 Current Binge Drinking in Indiana and the U.S. by Age Group (National Survey on Drug Use and Health, 2019)



Source: SAMHSA, 2021

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, 2019)

		Indiana % (95% CI)
Gender	Male	56.4% (54.4–58.4)
	Female	41.9% (40.1–43.8)
Race/Ethnicity	White	49.3% (47.8–50.8)
	Black	52.4% (47.1–57.7)
	Asian	26.4% (36.4–64.1)
	Hispanic	47.6% (41.5–53.8)
Age Group	18-24	46.1% (40.9–51.2)
	25-34	59.8% (55.8–63.7)
	35-44	57.1% (53.5–60.7)
	45-54	53.7% (50.6–56.8)
	55-64	45.9% (43.3–48.6)
	65+	35.3% (33.3–37.2)
Total		48.9% (47.6–50.3)

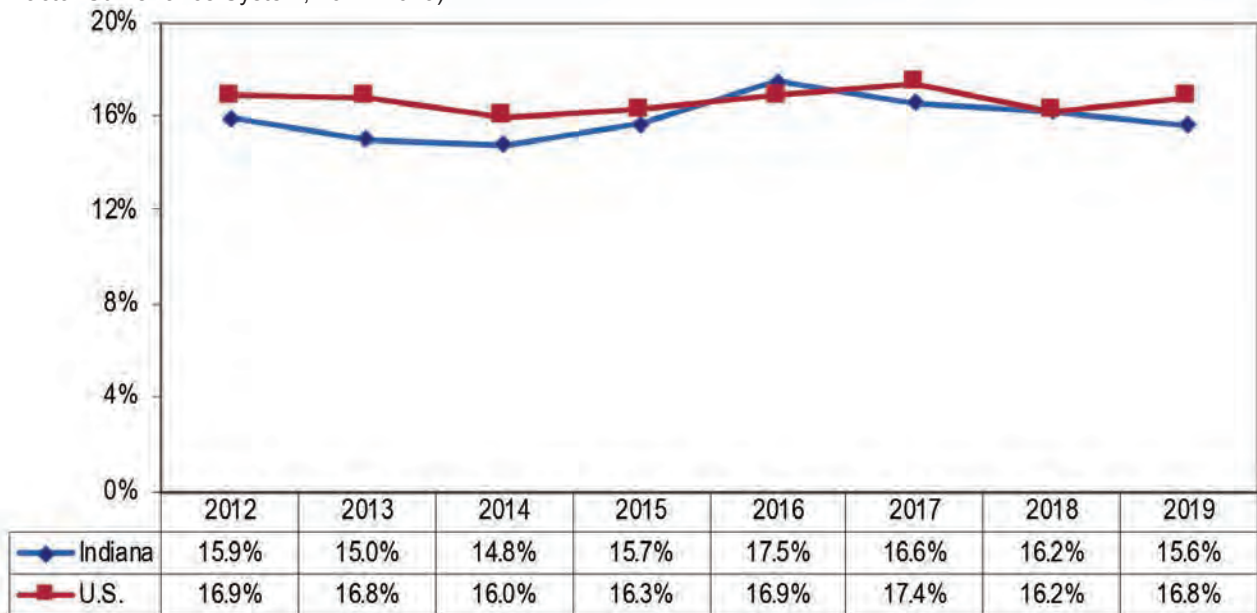
Source: CDC, 2021

(95% CI: 23.4–27.9); this represents a rate similar to the national average of 24.2% (95% CI: 23.9–24.6). Binge drinking was more prevalent among 18- to 25-year-olds than among any other age group (IN: 34.6%; 95% CI: 30.8–38.9; U.S.: 34.6%; 95% CI: 33.8–35.3). 2019 binge drinking rates in individuals ages 12 to 20 were similar in Indiana (10.5%; 95% CI: 8.8–12.6) and the U.S. (11.2%; 95% CI: 10.7–11.8) (SAMHSA, 2021) (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 2019 were 48.9% (95% CI: 47.6–50.3) for Indiana and 53.8% for the nation. In Indiana, rates tended to be higher among males and among younger age groups (see Table 2.1) (CDC, 2021).

Figure 2.4 Percentage of Indiana and U.S. Adults Reporting Binge Drinking in the Past 30 Days (Behavioral Risk Factor Surveillance System, 2012–2019)



Source: CDC, 2021

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, 2019)

		Indiana % (95% CI)
Gender	Male	20.5% (18.8–22.2)
	Female	11.0% (9.7–12.2)
Race/Ethnicity	White	15.2% (14.0–16.3)
	Black	16.8% (12.6–20.9)
	Hispanic	20.6% (15.2–25.9)
Age Group	18-24	21.2% (17.1–25.3)
	25-34	24.1% (20.7–27.6)
	35-44	20.0% (17.1–23.0)
	45-54	16.7% (14.3–19.1)
	55-64	11.7% (10.0–13.5)
	65+	4.5% (3.5–5.4)
Total		15.6% (14.5–16.6)

Source: CDC, 2021

The BRFSS defines binge drinking as “males having five or more drinks on one occasion and females having four or more drinks on one occasion.” The overall prevalence rate for adult binge drinking in Indiana (15.6%, 95% CI: 14.5–16.6) was similar to the U.S. median rate (16.8%) in 2019. 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, 2021).

Youth Risk Behavior Surveillance System

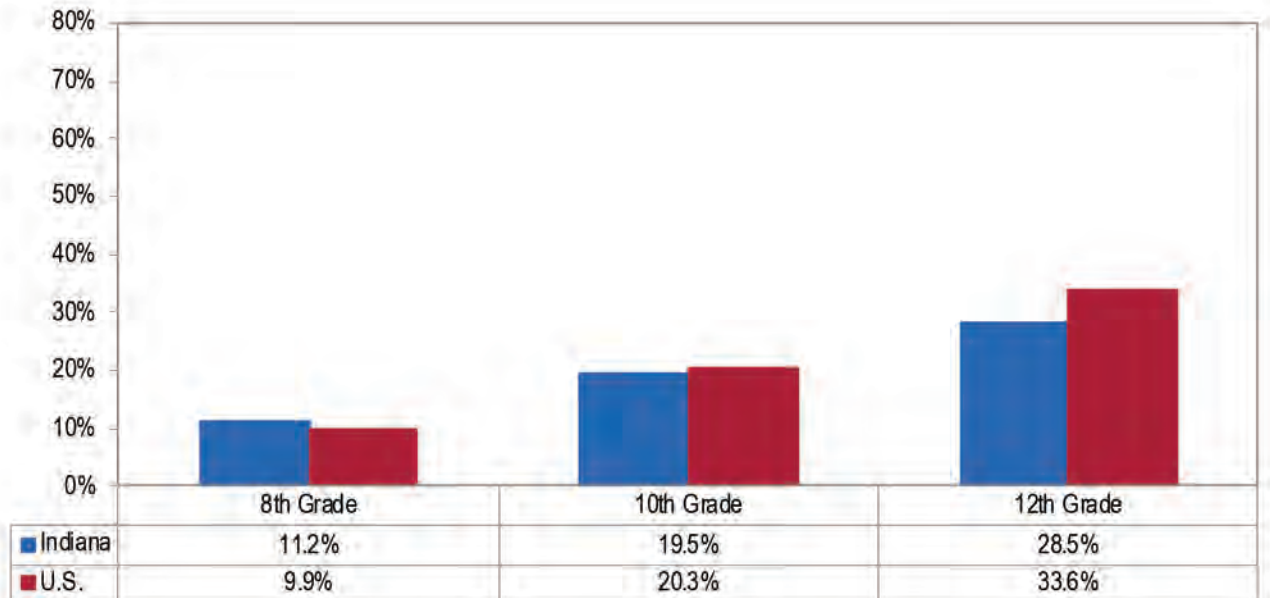
According to the CDC’s Youth Risk Behavior Surveillance System (YRBSS), in 2015, 30.5% (95% CI: 26.3–35.2) of Indiana high school students had consumed at least one alcoholic drink in the past 30 days. No significant differences in alcohol consumption were observed by gender or race/ethnicity; however, 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, 1991–2019).

Indiana Youth Survey

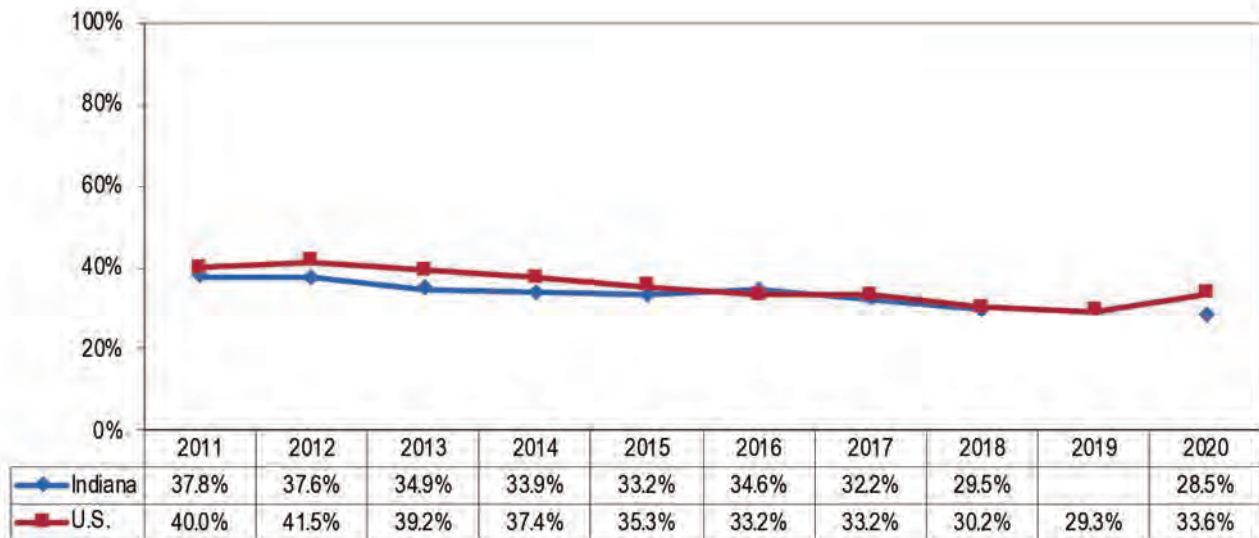
The Indiana Youth Survey (INYS) indicates that in 2018, 28.5% of Indiana 12th grade students reported using alcohol at least once during the past 30 days (Gassman et al., 2020). Overall, alcohol consumption patterns seemed to progress with age; i.e., 8th grade students showed lower prevalence rates than 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 2009 through 2020) on monthly alcohol use among high school seniors, see Figure 2.6. For monthly and binge use by Indiana region and grade for 2020, see Appendix 2A, page 42.

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, 2020)



Source: Gassman et al., 2020; Inter-university Consortium for Political and Social Research, University of Michigan, 2020

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, 2011–2020)



Note: The Indiana Youth Survey (INYS) switched to a biennial data collection after 2018; hence 2019 estimates are not available.

Source: Gassman et al., 2020; Inter-university Consortium for Political and Social Research, University of Michigan, 2020

Indiana College Substance Use Survey

The Indiana College Substance Use Survey (ICSUS) measures alcohol and other drug usage, attitudes, and perceptions among college students at two- and four-year institutions. According to 2019 results, 60.8% of respondents reported past-month alcohol use; past-month consumption rates were significantly lower for underage students (49.3%) than for those ages 21 and older (77.7%). Similarly, past-month binge drinking prevalence (overall 33.3%) was significantly lower for underage students (27.4%) than for those ages 21 and older (42.0%) (King & Jun, 2019).²

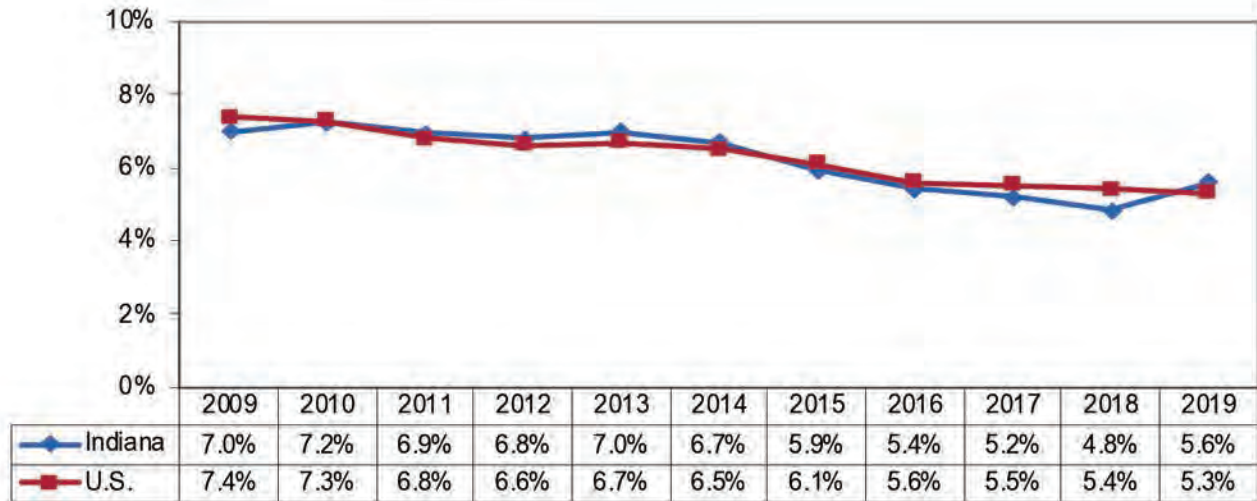
USE OF ALCOHOL IN THE TREATMENT POPULATION National Survey on Drug Use and Health

Based on 2019 NSDUH findings, the estimated prevalence for alcohol use disorder³ in the past year among those ages 12 and older was 5.6% (95% CI: 4.6–6.8) in Indiana, which was similar to the national estimate (5.3%; 95% CI: 5.2–5.5) (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 5.4% (95% CI: 4.5–6.5) of those ages 12 and older were in need of but did not receive treatment for alcohol use in Indiana (U.S.: 5.1%; 95% CI: 4.9–5.3) (SAMHSA, 2021).

²Twenty (20) Indiana colleges participated in the 2019 survey; results are based on nonrandom sampling and are not representative of all college students in Indiana.

³The 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)*.

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, 2009–2019)



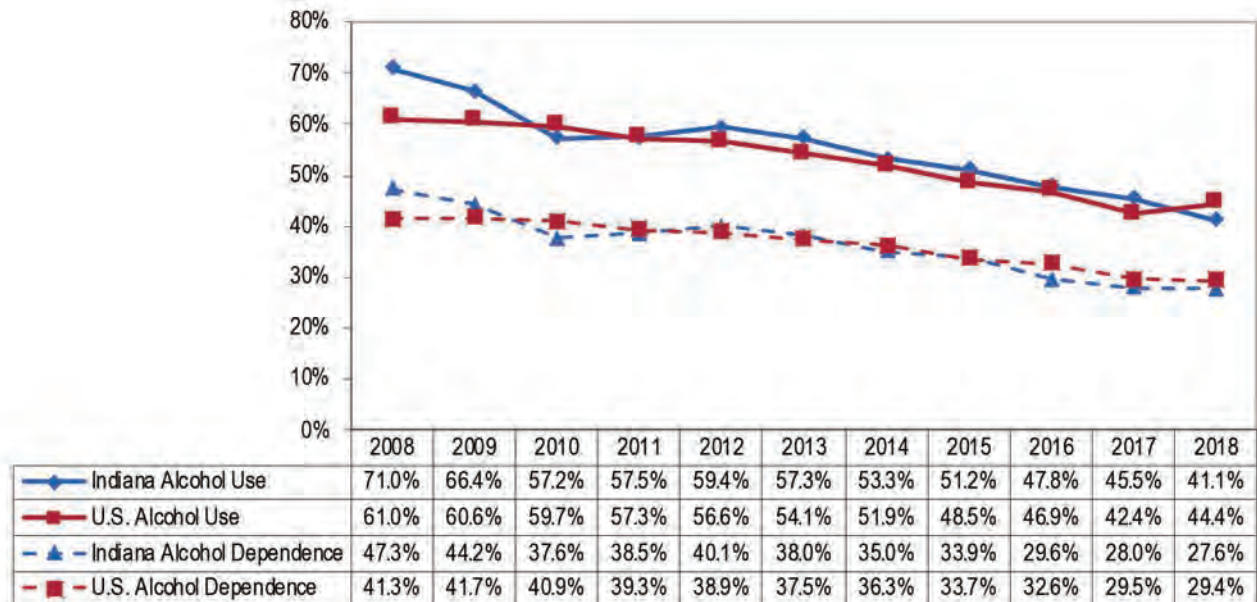
Source: SAMHSA, 2021

Treatment Episode Data Set

According to the Treatment Episode Data Set (TEDS), alcohol plays a major role in admissions to substance abuse treatment. In 2018, in 41.1% of Indiana treatment

episodes, alcohol use was reported (U.S.: 44.4%), and in 27.6%, alcohol dependence⁴ was indicated (U.S.: 29.4%) (see Figure 2.8) (SAMHDA, 2021).

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, 2008–2018)



Source: SAMHDA, 2021

⁴We 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 (50.5%) in substance use treatment reported alcohol use, compared to females (35.4%).

Race/ethnicity—Nearly 42% of whites in treatment reported using alcohol at the time of admission; this percentage was higher for blacks (59.3%) and other races (48.1%). With regard to ethnicity, a significantly higher percentage of Hispanics (44.4%) reported alcohol use than non-Hispanics (41.8%).

Age—The percentage of Hoosiers reporting alcohol use at treatment admission increased with age and was highest among those ages 55 and older (75.0%).

Similar patterns by gender, race, and age group were observed for alcohol dependence; except the percentage of non-Hispanic clients reporting alcohol dependence was higher compared to their Hispanic counterparts (SAMHDA, 2021) (see Table 2.3).

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

Table 2.3 Percentage of Treatment Episodes in Indiana with Alcohol Use and Alcohol Dependence Reported at Treatment Admission, by Gender, Race, Ethnicity, and Age Group (Treatment Episode Data Set, 2018)

		Alcohol Use	Alcohol Dependence
Gender	Male	50.5%	32.1%
	Female	35.4%	20.9%
Race	White	41.6%	25.5%
	Black	59.3%	38.3%
	Other	48.1%	30.7%
Ethnicity	Hispanic	44.4%	27.6%
	Non-Hispanic	41.8%	29.4%
Age Group	Under 18	36.7%	13.1%
	18-24	37.0%	18.8%
	25-34	39.9%	24.4%
	35-44	51.5%	35.4%
	45-54	69.5%	55.0%
	55+	75.0%	65.3%
Total		44.4%	27.6%

Source: SAMHDA, 2021

CONSEQUENCES OF ALCOHOL USE

Hospitalizations

Hospital discharge records show that in 2019, a total of 10,575 hospitalized patients were treated in Indiana for an alcohol-attributable primary diagnosis, representing 1.4% of all hospital discharges in the state (Indiana Department of Health [IDOH], 2019).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. It is currently not known how many people have FASD, and several different approaches have been used to estimate its prevalence. Based on some studies using physical examinations, experts estimate that the full range of FASD in the United States might be as high as 1 to 5 per 100 school children (National Center on Birth Defects and Developmental Disabilities). 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,

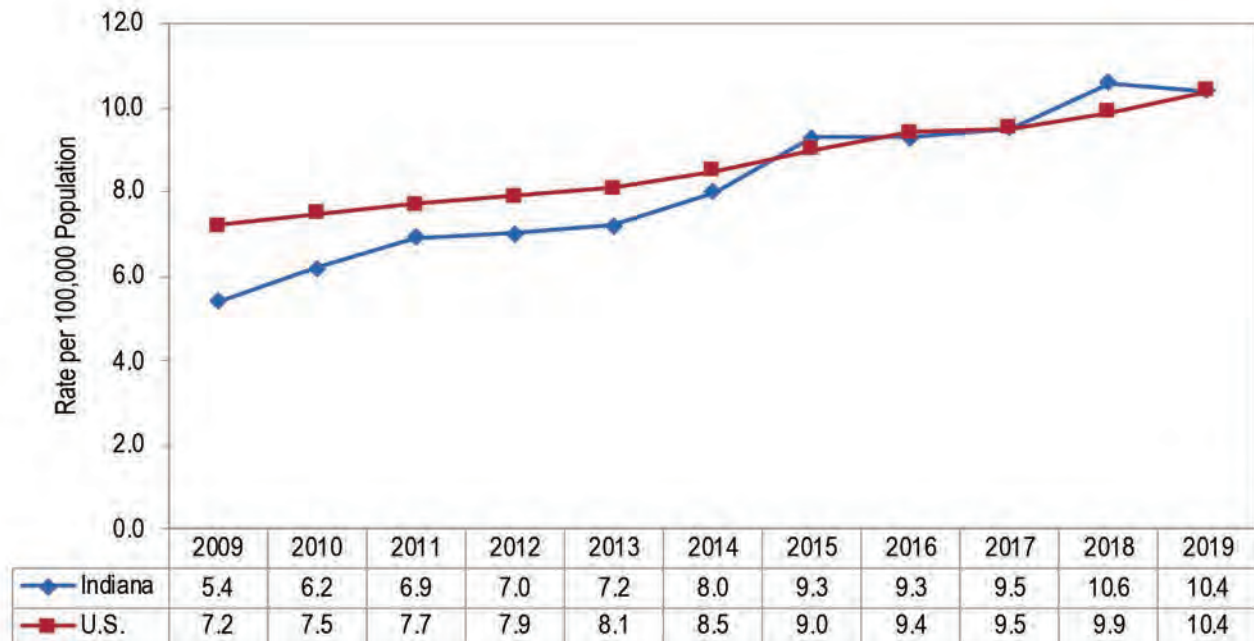
⁵For our analysis, we only included primary diagnoses that were 100% attributable to alcohol, as listed in CDC’s Alcohol-Related Disease Impact (ARDI) database. These included ICD-10 codes E24.4 (Alcohol-induced pseudo-Cushing’s syndrome), F10 (Mental and behavioral disorders due to use of alcohol),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

and other healthcare providers to submit a report to the registry at IDOH when a child is born with a birth defect. From 2015 through 2017, 61 children were born with fetal alcohol syndrome,⁶ the most severe form of FASD, in Indiana (IDOH, 2015–2017).

Alcohol-Related Mortality

From 2000 through 2019, a total of 9,618 Hoosiers died from alcohol-induced causes, and mortality rates attributable to alcohol have climbed gradually in both Indiana and the United States (CDC, 1999–2019).⁷ In 2019, Indiana’s age-adjusted alcohol-attributable death rate was 10.4 per 100,000 (95% CI: 9.7–11.2); same as the U.S. rate (10.4; 95% CI: 10.3–10.5) (see Figure 2.9) (CDC, 1999–2019).

Figure 2.9 Age-Adjusted Alcohol-attributable Mortality Rates per 100,000 Population in Indiana and the United States (CDC WONDER, 2009–2019)



Source: CDC, 1999–2019

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

⁷Alcohol-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 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, 2011-2015).

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 7,025 in 2019. This represents a 50% drop. The number of fatal crashes with alcohol involvement also decreased, from 242 to 153, representing a 37% drop. (For a detailed listing of alcohol-related collisions and fatalities in Indiana by county for 2019, see Appendix 2D). The overall rate for alcohol-related collisions in Indiana in 2019 was 1.2 per 1,000 population (Indiana State Police, 2021).

Child Removals due to Parental Substance Abuse

During SFY 2020, there were a total of 7,502 removals of children from their homes.⁸ In 733 cases (9.8%), parental alcohol use was indicated as a reason for removal (Indiana Department of Child Services, 2021). [See Appendix 2E for county-level information.]

Alcohol, Tobacco, and/or Drug-Related School Suspensions or Expulsions

In Indiana, students can be suspended or expelled from school for using alcohol, tobacco, and/or drugs on school property. Data from the Indiana Department of Education (IDOE) indicate that during the academic year 2018, a total of 1,006 suspensions/expulsions were recorded in Indiana schools related to alcohol (IDOE, 2019). [See Appendix 2F for county-level information.]

⁸These are counts of removals, not of unique children removed. It is possible for one child to have multiple removal episodes in one year. If multiple separate removal episodes occur in one year, each removal is counted in the data, as each may have different associated removal reasons.

APPENDIX 2A

Percentage of Indiana Students Reporting Monthly and Binge Alcohol Use, by Region and Grade (Indiana Youth Survey, 2020)

		Indiana	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	Region 10
6th Grade	Monthly	4.5%	4.2%	4.6%	6.0%	4.4%	4.1%	2.2%	4.5%	3.3%	3.9%	7.5%
	Binge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7th Grade	Monthly	7.8%	9.7%*	7.7%	9.9%*	7.8%	7.8%	3.7%*	6.5%	6.2%*	8.0%	11.1%*
	Binge	2.3%	2.5%	1.9%	3.1%	2.4%	2.9%	0.9%*	2.4%	1.4%*	2.8%	3.3%
8th Grade	Monthly	11.2%	15.3%*	9.9%*	15.5%*	9.1%*	9.9%	7.9%	7.8%*	10.0%	12.0%	17.4%*
	Binge	3.5%	4.6%*	3.1%	5.5%*	2.2%*	3.0%	2.3%*	1.9%*	3.2%	3.6%	7.0%*
9th Grade	Monthly	14.4%	14.2%	10.0%*	16.3%	11.9%	14.1%*	13.8%	11.4%*	18.6%*	15.0%	19.0%*
	Binge	5.2%	4.2%	2.7%*	7.2%*	4.0%	5.4%	5.2%	3.8%	7.9%*	5.4%	6.4%
10th Grade	Monthly	19.5%	23.5%*	15.9%*	19.3%	16.9%*	16.6%	20.7%	18.0%	20.8%	19.9%	25.8%*
	Binge	7.5%	7.5%	6.5%	7.3%	5.4%*	5.9%	7.8%	6.6%	9.3%*	8.1%	10.6%*
11th Grade	Monthly	20.8%	19.1%	15.5%*	19.8%	23.5%	15.7%*	23.9%	25.5%*	26.7%*	19.4%	23.6%
	Binge	8.8%	7.8%	5.6%*	9.2%	7.5%	6.4%	8.5%	11.4%	14.2%*	7.6%	10.7%
12th Grade	Monthly	28.5%	29.9%	18.5%*	28.7%	24.9%	18.7%	30.7%	35.9%*	36.0%*	28.1%	29.8%
	Binge	12.7%	10.9%	8.8%*	11.6%	9.2%*	7.1%*	13.2%	17.8%*	19.2%*	12.5%	11.8%

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

Source: Gassman et al., 2020

INYS data are provided at the state level and broken down by regions. There were eight regions until 2018. DMHA introduced the ten new planning regions in 2020. These include:

Region 1: Lake, LaPorte, Porter

Region 2: Cass, Elkhart, Fulton, Howard, Kosciusko, Marshall, Miami, Pulaski, St. Joseph, Starke, Wabash

Region 3: Adams, Allen, DeKalb, Huntington, Lagrange, Noble, Steuben, Wells, Whitley

Region 4: Benton, Boone, Carroll, Clinton, Fountain, Jasper, Montgomery, Newton, Tippecanoe, Warren, White

Region 5: Blackford, Delaware, Grant, Hamilton, Hancock, Henry, Jay, Madison, Randolph, Tipton, Wayne

Region 6: Clay, Hendricks, Monroe, Morgan, Owen, Parke, Putnam, Sullivan, Vermillion, Vigo

Region 7: Marion

Region 8: Daviess, Dubois, Gibson, Greene, Knox, Martin, Perry, Pike, Posey, Spencer, Vanderburgh, Warrick

Region 9: Bartholomew, Brown, Clark, Crawford, Floyd, Harrison, Jackson, Johnson, Lawrence, Orange, Scott, Washington

Region 10: Dearborn, Decatur, Fayette, Franklin, Jefferson, Jennings, Ohio, Ripley, Rush, Shelby, Switzerland, Union

APPENDIX 2B

Number of Treatment Episodes with Alcohol Use and Dependence Reported at Treatment Admission in Indiana, by County (Treatment Episode Data Set, SFY 2020)

County	Treatment Episodes	Alcohol Use		Alcohol Dependence	
	Total	Number	%	Number	%
Adams	77	27	35.1%	19	24.7%
Allen	1,191	628	52.7%	396	33.2%
Bartholomew	427	150	35.1%	87	20.4%
Benton	27	14	51.9%	8	29.6%
Blackford	72	15	20.8%	5	6.9%
Boone	244	114	46.7%	82	33.6%
Brown	84	24	28.6%	20	23.8%
Carroll	48	19	39.6%	15	31.3%
Cass	182	87	47.8%	49	26.9%
Clark	627	211	33.7%	168	26.8%
Clay	59	23	39.0%	9	15.3%
Clinton	137	62	45.3%	42	30.7%
Crawford	92	25	27.2%	15	16.3%
Daviess	208	94	45.2%	66	31.7%
Dearborn	192	88	45.8%	51	26.6%
Decatur	127	46	36.2%	27	21.3%
DeKalb	135	63	46.7%	39	28.9%
Delaware	602	232	38.5%	164	27.2%
Dubois	196	95	48.5%	56	28.6%
Elkhart	424	212	50.0%	126	29.7%
Fayette	244	75	30.7%	48	19.7%
Floyd	578	145	25.1%	106	18.3%
Fountain	55	17	30.9%	10	18.2%
Franklin	46	11	23.9%	5	10.9%
Fulton	144	60	41.7%	34	23.6%
Gibson	183	100	54.6%	59	32.2%
Grant	314	108	34.4%	58	18.5%
Greene	106	40	37.7%	26	24.5%
Hamilton	770	421	54.7%	287	37.3%
Hancock	297	120	40.4%	80	26.9%
Harrison	107	39	36.4%	35	32.7%
Hendricks	710	314	44.2%	178	25.1%
Henry	249	87	34.9%	57	22.9%
Howard	421	176	41.8%	95	22.6%
Huntington	176	71	40.3%	43	24.4%
Jackson	305	108	35.4%	64	21.0%
Jasper	69	26	37.7%	17	24.6%
Jay	107	22	20.6%	11	10.3%
Jefferson	422	135	32.0%	90	21.3%
Jennings	297	109	36.7%	78	26.3%
Johnson	251	77	30.7%	52	20.7%
Knox	436	169	38.8%	103	23.6%
Kosciusko	242	107	44.2%	53	21.9%
LaGrange	120	71	59.2%	44	36.7%
Lake	1,167	642	55.0%	486	41.6%
LaPorte	377	183	48.5%	144	38.2%
Lawrence	358	151	42.2%	80	22.3%

County	Treatment Episodes	Alcohol Use		Alcohol Dependence	
	Total	Number	%	Number	%
Madison	1,318	477	36.2%	281	21.3%
Marion	3,974	1,836	46.2%	1,196	30.1%
Marshall	91	38	41.8%	24	26.4%
Martin	63	41	65.1%	35	55.6%
Miami	154	48	31.2%	24	15.6%
Monroe	1,171	537	45.9%	355	30.3%
Montgomery	456	162	35.5%	70	15.4%
Morgan	487	185	38.0%	105	21.6%
Newton	20	8	40.0%	<5	N/A
Noble	139	73	52.5%	40	28.8%
Ohio	13	5	38.5%	<5	N/A
Orange	194	63	32.5%	39	20.1%
Owen	124	53	42.7%	40	32.3%
Parke	34	16	47.1%	12	35.3%
Perry	112	39	34.8%	34	30.4%
Pike	52	26	50.0%	22	42.3%
Porter	422	178	42.2%	136	32.2%
Posey	90	46	51.1%	30	33.3%
Pulaski	58	22	37.9%	15	25.9%
Putnam	214	71	33.2%	35	16.4%
Randolph	141	49	34.8%	26	18.4%
Ripley	76	28	36.8%	18	23.7%
Rush	142	62	43.7%	37	26.1%
Saint Joseph	913	380	41.6%	229	25.1%
Scott	391	78	19.9%	52	13.3%
Shelby	122	47	38.5%	30	24.6%
Spencer	68	20	29.4%	13	19.1%
Starke	913	380	41.6%	229	25.1%
Steuben	211	48	22.7%	32	15.2%
Sullivan	130	67	51.5%	46	35.4%
Switzerland	51	20	39.2%	13	25.5%
Tippecanoe	53	12	22.6%	7	13.2%
Tipton	348	151	43.4%	90	25.9%
Union	63	27	42.9%	17	27.0%
Vanderburgh	36	13	36.1%	10	27.8%
Vermillion	963	425	44.1%	236	24.5%
Vigo	35	14	40.0%	5	14.3%
Wabash	339	157	46.3%	107	31.6%
Warren	14	7	50.0%	<5	N/A
Warrick	212	107	50.5%	55	25.9%
Washington	97	45	46.4%	30	30.9%
Wayne	528	173	32.8%	117	22.2%
Wells	64	28	43.8%	17	26.6%
White	101	46	45.5%	33	32.7%
Whitley	76	46	60.5%	19	25.0%
Indiana	29,170	12,148	41.6%	7,713	26.4%

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

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

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

Source: Indiana Family and Social Services Administration, 2021

APPENDIX 2C

Conditions that are Directly Attributable to Alcohol in Indiana (Alcohol-Related Disease Impact, Based on Averages from 2011-2015)

Condition	Percentage Directly Attributable to Alcohol	Condition	Percentage Directly Attributable to Alcohol
Alcohol abuse/dependence	100%	Esophageal varices	66%
Alcohol cardiomyopathy	100%	Portal hypertension	66%
Alcohol polyneuropathy	100%	Gastroesophageal hemorrhage	47%
Alcohol-induced chronic pancreatitis	100%	Homicide	47%
Alcoholic gastritis	100%	Fire Injuries	41%
Alcoholic liver disease	100%	Hypothermia	41%
Alcoholic myopathy	100%	Liver cirrhosis, unspecified	40%
Alcoholic psychosis	100%	Drowning	34%
Degeneration of nervous system due to alcohol	100%	Fall injuries	32%
Fetal alcohol syndrome/Fetus and newborn affected by maternal alcohol use	100%	Poisoning (not alcohol)	29%
Alcohol poisoning	100%	Suicide	24%
Suicide by and exposure to alcohol	100%		

Source: Centers for Disease Control and Prevention, 2011-2015

APPENDIX 2D

Number and Rate (per 1,000) of All and Fatal Alcohol-Related Collisions in Indiana, by County (Automated Reporting Information Exchange System, 2019)

County	All Collisions			Fatal Collisions		
	Total Collisions	Alcohol-related Collisions	Alcohol-related Collision Rate	Total Fatal Collision	Alcohol-related Fatal Collisions	Alcohol-related Fatal Collision Rate
Adams	763	22	0.61	7	1	0.03
Allen	13,976	606	1.60	36	14	0.04
Bartholomew	2,085	71	0.85	9	1	0.01
Benton	153	6	0.69	5	0	0.00
Blackford	283	10	0.85	0	0	0.00
Boone	2,238	68	1.00	4	2	0.03
Brown	534	17	1.13	4	0	0.00
Carroll	551	19	0.94	4	1	0.05
Cass	1,301	31	0.82	3	0	0.00
Clark	4,218	95	0.80	9	1	0.01
Clay	668	16	0.69	6	0	0.00
Clinton	1,041	35	1.08	3	0	0.00
Crawford	279	9	0.85	2	0	0.00
Daviess	339	23	0.69	8	0	0.00
Dearborn	1,842	67	1.44	9	2	0.04
Decatur	902	22	0.83	3	0	0.00
DeKalb	1,360	44	1.01	2	0	0.00
Delaware	4,091	127	1.11	17	1	0.01
Dubois	1,505	39	0.91	1	0	0.00
Elkhart	6,979	200	0.97	27	4	0.02
Fayette	501	19	0.82	5	0	0.00
Floyd	2,800	61	0.78	5	2	0.03
Fountain	402	16	0.98	1	0	0.00
Franklin	607	22	0.97	2	0	0.00

(Continued on next page)

APPENDIX 2D (Continued from previous page)

County	All Collisions			Fatal Collisions		
	Total Collisions	Alcohol-related Collisions	Alcohol-related Collision Rate	Total Fatal Collision	Alcohol-related Fatal Collisions	Alcohol-related Fatal Collision Rate
Fulton	625	16	0.80	4	0	0.00
Gibson	1,114	22	0.65	3	0	0.00
Grant	2,355	65	0.99	10	2	0.03
Greene	861	20	0.63	6	0	0.00
Hamilton	8,538	232	0.69	12	5	0.01
Hancock	1,971	66	0.84	11	2	0.03
Harrison	1,186	44	1.09	9	0	0.00
Hendricks	4,503	114	0.67	16	2	0.00
Henry	1,070	41	0.85	6	1	0.02
Howard	2,380	92	1.11	12	5	0.06
Huntington	1,308	35	0.96	7	1	0.03
Jackson	1,824	62	1.40	14	1	0.02
Jasper	1,261	46	1.37	5	1	0.03
Jay	560	10	0.49	7	0	0.00
Jefferson	916	49	1.52	5	2	0.06
Jennings	674	23	0.83	7	1	0.04
Johnson	3,812	131	0.83	6	1	0.01
Knox	1,046	47	1.28	7	0	0.00
Kosciusko	2,795	80	1.01	9	3	0.04
LaGrange	1,001	29	0.73	5	0	0.00
Lake	17,821	654	1.35	43	18	0.04
LaPorte	3,766	171	1.56	11	3	0.03
Lawrence	1,375	39	0.86	9	2	0.04
Madison	4,271	151	1.17	11	1	0.01
Marion	37,726	1,000	1.04	101	36	0.04
Marshall	1,562	44	0.95	9	2	0.04
Martin	129	4	0.39	4	1	0.10
Miami	1,066	35	0.99	6	2	0.06
Monroe	3,852	143	0.96	5	1	0.01
Montgomery	1,052	29	0.76	5	1	0.03
Morgan	1,782	70	0.99	4	0	0.00
Newton	360	21	1.50	6	2	0.14
Noble	1,291	50	1.05	10	4	0.08
Ohio	186	9	1.53	0	0	0.00
Orange	520	17	0.87	4	2	0.10
Owen	503	15	0.72	1	0	0.00
Parke	459	15	0.89	5	0	0.00
Perry	410	16	0.83	3	1	0.05
Pike	186	16	1.29	0	0	0.00
Porter	5,243	224	1.31	7	1	0.01
Posey	565	22	0.87	1	0	0.00
Pulaski	439	13	1.05	7	0	0.00
Putnam	960	45	1.20	8	2	0.05
Randolph	489	15	0.61	5	2	0.08
Ripley	775	26	0.92	6	1	0.04
Rush	344	10	0.60	1	0	0.00
Saint Joseph	8,670	260	0.96	26	2	0.01
Scott	681	31	1.30	4	0	0.00
Shelby	1,215	50	1.12	10	0	0.00
Spencer	616	22	1.08	9	0	0.00

(Continued on next page)

APPENDIX 2D (Continued from previous page)

County	All Collisions			Fatal Collisions		
	Total Collisions	Alcohol-related Collisions	Alcohol-related Collision Rate	Total Fatal Collision	Alcohol-related Fatal Collisions	Alcohol-related Fatal Collision Rate
Starke	538	15	0.65	1	1	0.04
Steuben	1,640	46	1.33	14	2	0.06
Sullivan	442	25	1.21	2	1	0.05
Switzerland	220	10	0.93	7	1	0.09
Tippecanoe	7,022	210	1.07	14	2	0.01
Tipton	394	21	1.39	3	0	0.00
Union	111	7	0.99	1	0	0.00
Vanderburgh	7,144	191	1.05	9	1	0.01
Vermillion	377	15	0.97	2	0	0.00
Vigo	3,397	120	1.12	8	0	0.00
Wabash	933	30	0.97	7	2	0.07
Warren	233	8	0.97	0	0	0.00
Warrick	1,699	53	0.84	3	0	0.00
Washington	664	19	0.68	5	1	0.04
Wayne	2,337	59	0.90	5	2	0.04
Wells	797	26	0.92	1	0	0.00
White	924	36	1.49	1	0	0.00
Whitley	983	36	1.41	2	1	0.00
Indiana	217,387	7,025	1.07	739	153	0.02

Note: Rates based on numbers lower than 20 are unreliable.

Source: Indiana State Police, 2021

APPENDIX 2E

Child Removals, Total and Due to Parental Alcohol Abuse, SFY 2020

County	Removals Total	Parent Alcohol Abuse Indicated as Removal Reason		County	Removals Total	Parent Alcohol Abuse Indicated as Removal Reason	
		Count	Percentage			Count	Percentage
Adams	48	6	12.5%	Madison	292	23	34.5%
Allen	369	33	8.9%	Marion	1,275	116	9.1%
Bartholomew	141	4	2.8%	Marshall	32	0	0.0%
Benton	5	0	0.0%	Martin	19	2	10.5%
Blackford	20	1	5.0%	Miami	38	2	5.3%
Boone	56	4	7.1%	Monroe	143	21	14.7%
Brown	16	2	12.5%	Montgomery	76	3	3.9%
Carroll	12	3	25.0%	Morgan	94	12	12.8%
Cass	12	0	0.0%	Newton	21	3	14.3%
Clark	65	2	3.1%	Noble	36	0	0.0%
Clay	34	3	8.8%	Ohio	6	0	0.0%
Clinton	35	0	0.0%	Orange	30	1	3.3%
Crawford	25	4	16.0%	Owen	42	11	26.2%
Daviess	22	7	31.8%	Parke	8	0	0.0%
Dearborn	29	4	13.8%	Perry	58	5	8.6%
Decatur	43	3	7.0%	Pike	32	0	0.0%
Dekalb	17	0	0.0%	Porter	95	12	12.6%
Delaware	163	17	10.4%	Posey	48	1	2.1%
Dubois	76	4	5.3%	Pulaski	19	1	5.3%
Elkhart	75	1	1.3%	Putnam	73	19	26.0%
Fayette	33	3	9.1%	Randolph	36	1	2.8%
Floyd	155	15	9.7%	Ripley	70	10	14.3%
Fountain	36	4	11.1%	Rush	16	4	25.0%
Franklin	8	1	12.5%	St. Joseph	261	13	5.0%
Fulton	26	1	3.8%	Scott	107	10	9.3%
Gibson	47	3	6.4%	Shelby	34	2	5.9%
Grant	106	17	16.0%	Spencer	45	4	8.9%
Greene	54	11	20.4%	Starke	42	8	19.0%
Hamilton	68	15	22.1%	Steuben	20	0	0.0%
Hancock	76	16	21.1%	Sullivan	39	5	12.8%
Harrison	38	8	21.1%	Switzerland	16	0	0.0%
Hendricks	51	9	17.6%	Tippecanoe	97	5	5.2%
Henry	58	2	3.4%	Tipton	29	10	34.5%
Howard	122	19	15.6%	Union	4	0	0.0%
Huntington	33	3	9.1%	Vanderburgh	462	46	10.0%
Jackson	45	16	35.6%	Vermillion	35	2	5.7%
Jasper	18	0	0.0%	Vigo	288	21	10.8%
Jay	40	2	5.0%	Wabash	53	0	0.0%
Jefferson	37	2	5.4%	Warren	3	0	0.0%
Jennings	55	3	5.5%	Warrick	78	4	5.1%
Johnson	63	9	14.3%	Washington	23	1	4.3%
Knox	52	8	15.4%	Wayne	48	0	0.0%
Kosciusko	42	0	0.0%	Wells	27	1	3.7%
LaGrange	47	3	6.4%	White	24	6	25.0%
Lake	420	56	13.3%	Whitley	15	0	0.0%
Laporte	114	2	1.8%	Indiana	7,502	733	9.8%
Lawrence	82	12	14.6%				

Notes: These are counts of removals, not of unique children removed. It is possible for one child to have multiple removal episodes in one year. If multiple separate removal episodes occur in one year, each removal is counted in the data, as each may have different associated removal reasons.

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, 2021

APPENDIX 2F

School Suspensions or Expulsions Related to Alcohol, Tobacco, and/or Drug Use (2019)

County	Number of Incidents	Number of Unique Students Involved	County	Number of Incidents	Number of Unique Students Involved
Adams	57	56	Lawrence	201	185
Allen	784	734	Madison	290	261
Bartholomew	258	230	Marion	1,750	1,584
Benton	35	31	Marshall	106	96
Blackford	51	46	Martin	14	14
Boone	108	98	Miami	175	159
Brown	34	31	Monroe	228	208
Carroll	40	40	Montgomery	133	123
Cass	165	154	Morgan	210	197
Clark	312	291	Newton	62	57
Clay	36	34	Noble	190	173
Clinton	86	84	Ohio	1	1
Crawford	41	36	Orange	55	53
Daviess	40	35	Owen	66	61
Dearborn	250	227	Parke	33	33
Decatur	51	49	Perry	33	31
DeKalb	103	102	Pike	23	23
Delaware	139	136	Porter	426	398
DuBois	92	83	Posey	101	90
Elkhart	451	431	Pulaski	18	16
Fayette	55	50	Putnam	47	44
Floyd	322	303	Randolph	36	36
Fountain	12	11	Ripley	122	112
Franklin	61	55	Rush	43	39
Fulton	43	40	Saint Joseph	480	460
Gibson	89	86	Scott	54	53
Grant	98	94	Shelby	82	75
Greene	72	68	Spencer	15	14
Hamilton	556	533	Starke	67	60
Hancock	166	155	Steuben	63	62
Harrison	32	30	Sullivan	39	37
Hendricks	349	330	Switzerland	12	12
Henry	194	169	Tippecanoe	233	219
Howard	183	167	Tipton	44	37
Huntington	144	134	Union	38	35
Jackson	158	132	Vanderburgh	247	235
Jasper	140	122	Vermillion	42	40
Jay	80	77	Vigo	260	231
Jefferson	64	61	Wabash	76	73
Jennings	26	22	Warren	4	4
Johnson	367	353	Warrick	212	191
Knox	143	130	Washington	94	90
Kosciusko	282	264	Wayne	116	111
LaGrange	86	80	Wells	106	91
Lake	1,047	972	White	87	79
LaPorte	314	284	Whitley	32	31
Indiana	21,499	13,884			

Note: Incident numbers reflect each time a student was suspended/expelled due to alcohol use; unique count refers to the number of unique students involved (if the same student is suspended twice for alcohol, that reflects two incidents and one unique student).

Source: Indiana Department of Education, 2020

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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 die prematurely from a smoking-related illness (USDHHS, 2014). Additionally, at least 1,770 adults, children, and infants in Indiana died in 2018 from diseases tied to secondhand smoke (Lewis & Zollinger, 2018). 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, 2018b).

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

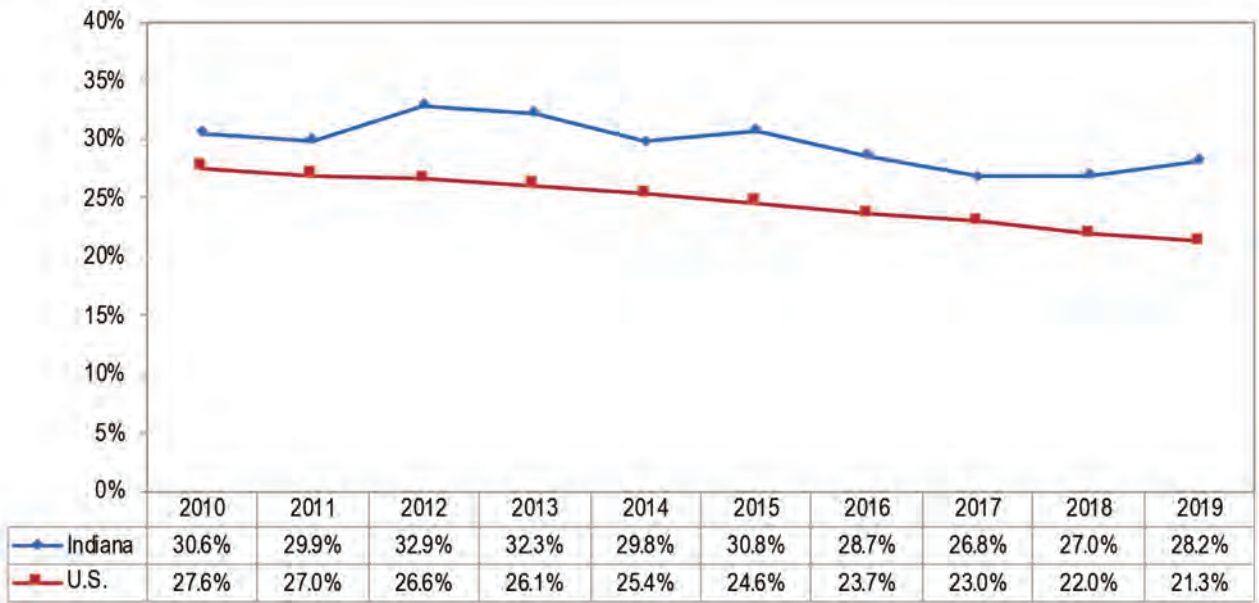
promoted as less dangerous than cigarettes, they have not been approved as safe by the U.S. Food and Drug Administration (FDA) and long-term health effects of exposure to aerosol from e-cigarettes are currently unknown (Indiana Department of Health, Tobacco Prevention and Cessation [IDOH/TPC], 2018a).

PREVALENCE OF TOBACCO CONSUMPTION IN THE GENERAL POPULATION

National Survey on Drug Use and Health

Estimates from the 2019 National Survey on Drug Use and Health (NSDUH) showed that 28.2% (95% Confidence Interval [CI]: 25.8-30.7) of Indiana residents 12 years and older used a tobacco product in the past month, a rate significantly higher than the U.S. rate (21.3%; 95% CI: 20.9–21.7). Tobacco products included cigarettes, smokeless tobacco, cigars, and pipe tobacco. Indiana’s rate has gradually decreased over the past decade (see Figure 3.1) (Substance Abuse and Mental Health Services Administration [SAMHSA], 2021).

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, 2010–2019)

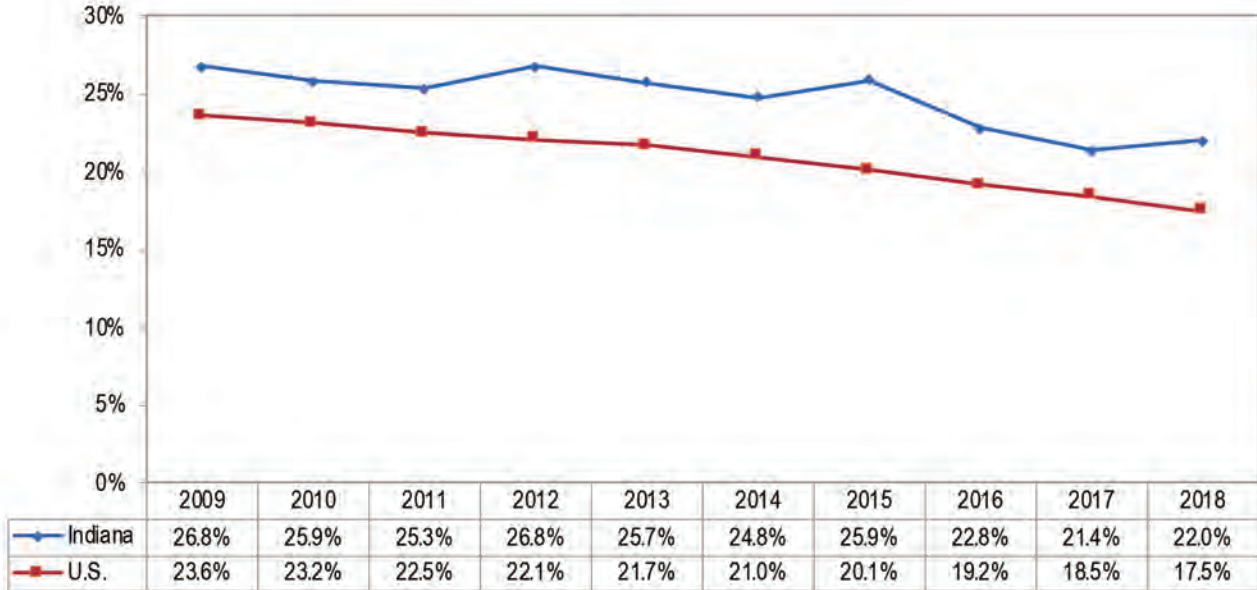


Source: SAMHSA, 2021

Among tobacco users, the most commonly used type of tobacco was cigarettes. In 2019, 22.5% (95% CI: 20.5-24.6) of Hoosiers ages 12 years and older reported past-month use of cigarettes, a rate significantly higher than the U.S. rate (16.9%; 95% CI: 16.6–17.3). Indiana’s smoking prevalence declined from 25.9% in 2009 (95% CI: 24.5-29.3) to 22.5% in 2019 (95% CI: 22.5-24.6) (see Figure 3.2).

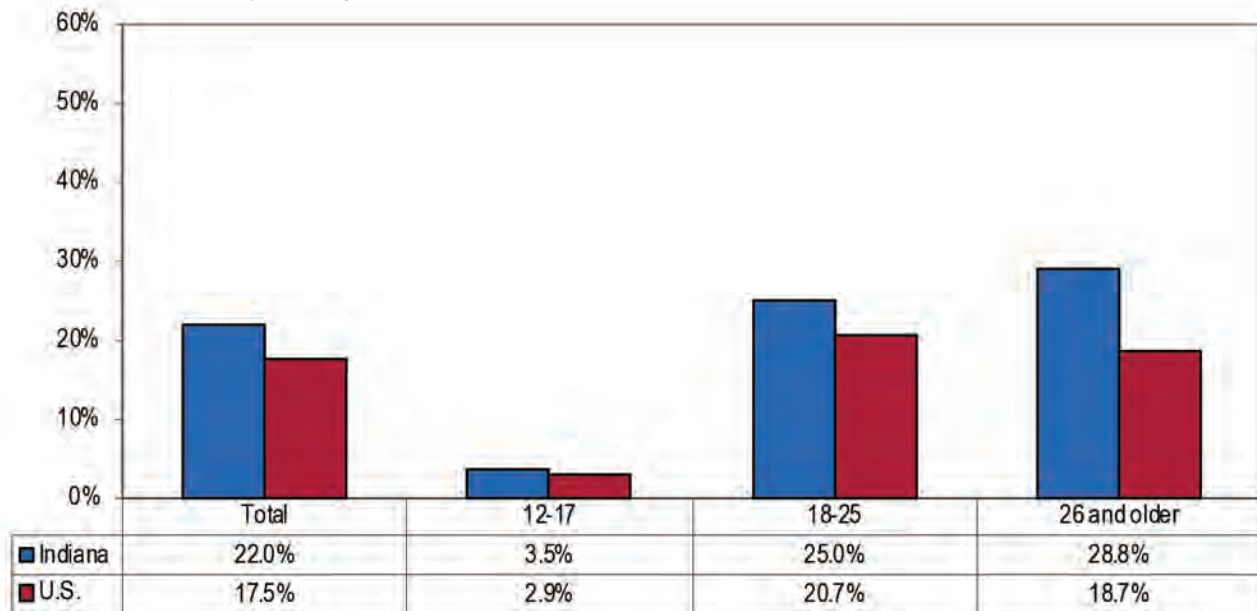
Smoking prevalence differed by age group and was most prevalent among young adults. One quarter of 18- to 25-year-olds in Indiana reported smoking cigarettes in the past month (95% CI: 21.6-29.0) compared to 18.3% of their national same-age counterparts (95% CI: 17.8-18.9) (see Figure 3.3) (SAMHSA, 2021).

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, 2010–2019)



Source: SAMHSA, 2021

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, 2019)



Source: SAMHSA, 2021

Behavior Risk Factor Surveillance System

The Behavioral Risk Factor Surveillance System (BRFSS) focuses on behaviors and conditions that are linked to the leading causes of death. According to 2019 findings, the prevalence rate for adult smoking in Indiana was 19.2% (95% CI: 18.0-20.3). Moreover, 14.1% (95% CI: 13.1-15.1) of Hoosiers reported using cigarettes every day. Indiana's smoking rates were higher than the national median rates; i.e., 16.0% of U.S. adults smoked in the past month and 11.1% reported smoking every day (Centers for Disease Control and Prevention [CDC], 2021). Statistically significant differences in smoking prevalence were observed for the following groups in Indiana (see Table 3.1):

- Smoking rates were higher among men than women.
- Smoking prevalence was lowest among older adults ages 65 and above.
- 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.

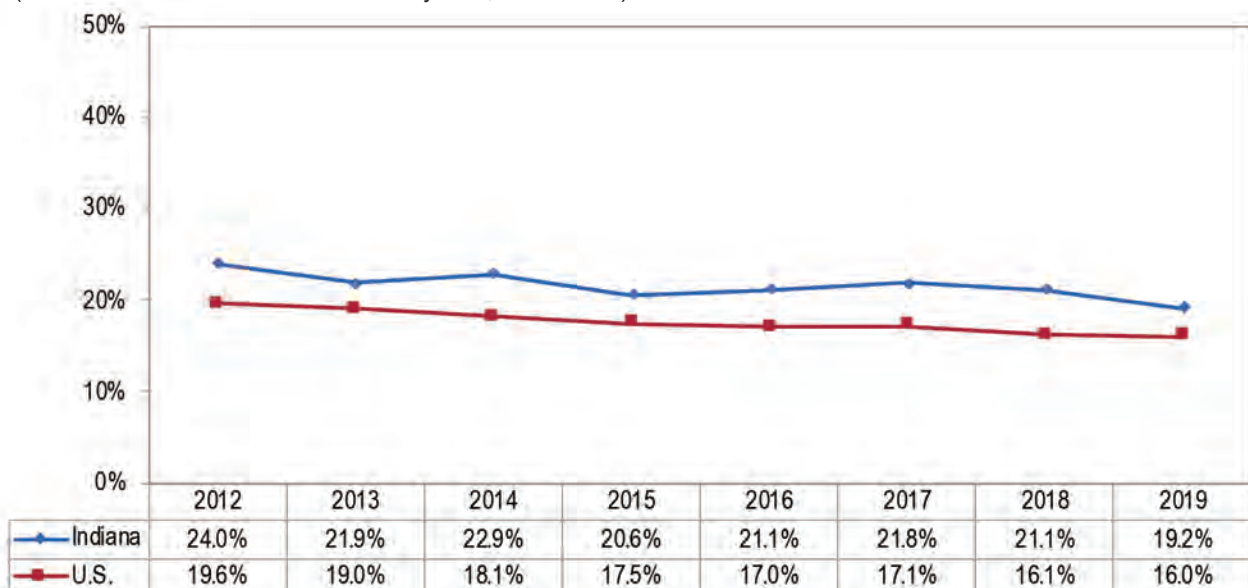
Adult smoking prevalence in Indiana continues to be above the U.S. level (see Figure 3.4).

Table 3.1 Adult Smoking Prevalence in Indiana, by Gender, Race/Ethnicity, Age Group, Educational Attainment, and Income Level (Behavioral Risk Factor Surveillance System, 2019)

		Indiana (95% CI)
Gender	Male	21.2% (19.4-22.9)
	Female	17.3% (15.8-18.7)
Race / Ethnicity	White	19.3% (18.1-20.5)
	Black	19.4% (15.3-23.6)
	Hispanic	13.8% (9.3-18.3)
Age Group	18-24	13.3% (9.8-16.9)
	25-34	23.8% (20.2-27.4)
	35-44	25.8% (22.6-29.0)
	45-54	21.9% (19.2-24.6)
	55-64	21.4% (19.2-23.7)
Education	65+	10.5% (9.2-11.8)
	Less than High School	38.4% (33.1-43.6)
	High School or GED	24.5% (22.3-26.7)
	Some post-High School	20.6% (18.2-23.0)
Income	College Graduate	8.2% (6.8-9.6)
	Less than \$15,000	40.1% (34.3-45.8)
	\$15,000–\$24,999	28.5% (24.7-32.3)
	\$25,000–\$34,999	27.5% (22.7-32.2)
	\$35,000–\$49,999	21.6% (17.8-25.5)
Total	\$50,000 and above	15.6% (13.8-17.4)
		19.2% (18.0-20.3)

Source: CDC, 2021

Figure 3.4 Percentage of Indiana and U.S. Population (18 Years and Older) Reporting Current Cigarette Use (Behavioral Risk Factor Surveillance System, 2012–2019)



Source: CDC, 2019

Indiana Adult Tobacco Survey

The 2019 Indiana Adult Tobacco Survey (IATS) estimated the overall smoking prevalence among Indiana adults at 19.9% (95% CI: 17.3–22.7). Smoking was most prevalent among persons:

- Without a high school degree (30.4%; 95% CI: 20.7–42.2)
- With annual household incomes less than \$20,000 (34.4%; 95% CI: 22.5–48.6)
- Ages 25 to 39 years (30.7%; 95% CI: 24.4–37.7)

- Whose ethnicity is “other” (28.3%; 95% CI: 19.3–39.4)

Approximately 25.8% (95% CI: 23.1–28.7) of adults in Indiana reported ever trying an e-cigarette.

Among current smokers, less than one fifth (18.7%; 95% CI: 13.5–25.3) reported intentions to quit within the next 30 days (Indiana Department of Health [IDOH], Tobacco Prevention & Cessation [TPC], 2020). For details on smokers’ intentions to quit, see Table 3.2

Table 3.2 Intentions to Quit Smoking among Current Smokers (Indiana Adult Tobacco Survey, 2019)

	Within next 30 days	Within 30 days to 6 months	Sometime after 6 months	No intention to quit
Gender				
Male	13.1% (7.9-21.1)	17.0% (10.4-26.4)	26.5% (17.3-38.2)	43.4% (32.4-55.1)
Female	27.2% (17.9-39.0)	20.8% (13.4-30.8)	20.5% (12.5-31.9)	31.4% (21.4-43.6)
Race/Ethnicity				
White	18.1% (12.3-25.8)	20.6% (14.4-28.5)	22.1% (14.9-31.4)	39.2% (30.3-48.9)
Black	21.4% (8.0-46.3)	5.5% (1.5-17.9)	34.9% (16.1-60.1)	38.1% (16.6-65.6)
Hispanic	23.6% (4.6-66.4)	--	60.5% (20.6-90.1)	15.9% (3.1-53.3)
Other	19.6% (8.3-39.4)	19.4% (8.4-38.6)	23.7% (9.6-47.7)	37.3% (18.5-60.9)
Age Group				
18-24	15.9% (3.8-47.4)	22.6% (8.1-49.1)	18.5% (5.5-46.6)	43.0% (20.1-69.4)
25-39	18.7% (10.5-31.0)	13.6% (6.7-25.7)	28.8% (17.8-43.0)	38.9% (25.6-54.1)
40-64	19.0% (12.0-28.7)	20.7% (13.5-30.5)	25.1% (15.7-37.7)	35.2% (24.8-47.1)
65+	19.2% (6.9-43.2)	27.6% (10.9-54.1)	2.5% (0.6-10.2)	50.7% (28.7-72.4)
Education				
Less than High School	15.5% (5.9-35.0)	6.9% (1.9-21.9)	19.8% (7.4-43.3)	57.9% (34.7-78.0)
High School Grad	17.3% (9.8-28.8)	23.0% (14.5-34.4)	27.0% (17.1-39.9)	32.7% (22.9-44.3)
Some College	20.9% (12.6-32.7)	18.3% (10.1-30.8)	27.0% (15.9-41.9)	33.8% (22.6-47.2)
College	22.5% (8.6-47.0)	22.2% (9.3-44.3)	13.5% (3.9-37.9)	41.8% (21.7-65.1)
Post-Graduate	37.6% (8.7-79.1)	22.8% (4.5-64.7)	--	39.6% (11.5-76.8)
Income				
Less than \$20,000	17.4% (5.9-41.5)	24.9% (10.7-47.9)	15.9% (5.7-37.3)	41.8% (22.4-64.1)
\$20,000 – \$39,999	24.5% (13.3-40.6)	15.5% (8.0-27.7)	20.3% (9.9-37.1)	39.8% (23.3-59.0)
\$40,000 – \$69,999	19.1% (11.0-31.1)	19.5% (10.6-33.1)	23.3% (13.0-38.1)	38.2% (26.3-51.6)
\$70,000 or more	9.7% (1.7-39.6)	10.6% (2.6-34.5)	45.8% (16.7-78.0)	33.9% (12.0-65.9)
Total	18.7% (13.5-25.3)	18.5% (13.3-25.1)	24.4% (17.8-32.6)	38.4% (30.5-46.9)

Source: IDOH/TPC, 2020

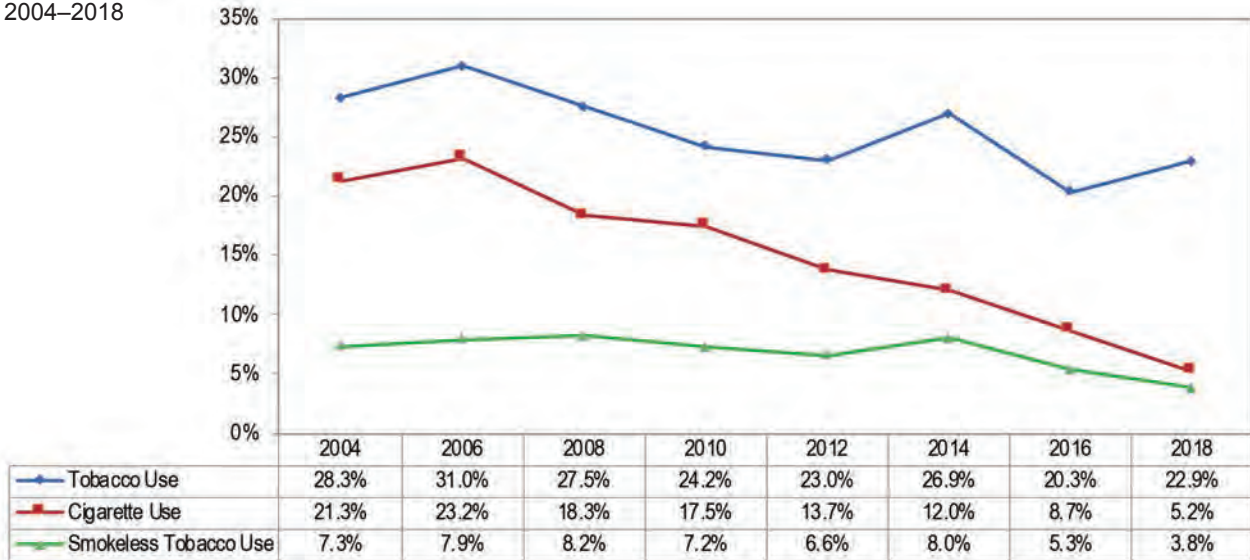
Indiana Youth Tobacco Survey

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 with a slight increase in tobacco use noted between 2016 and 2018 (see Figures 3.5 and 3.6) (IDOH/TPC, 2020).

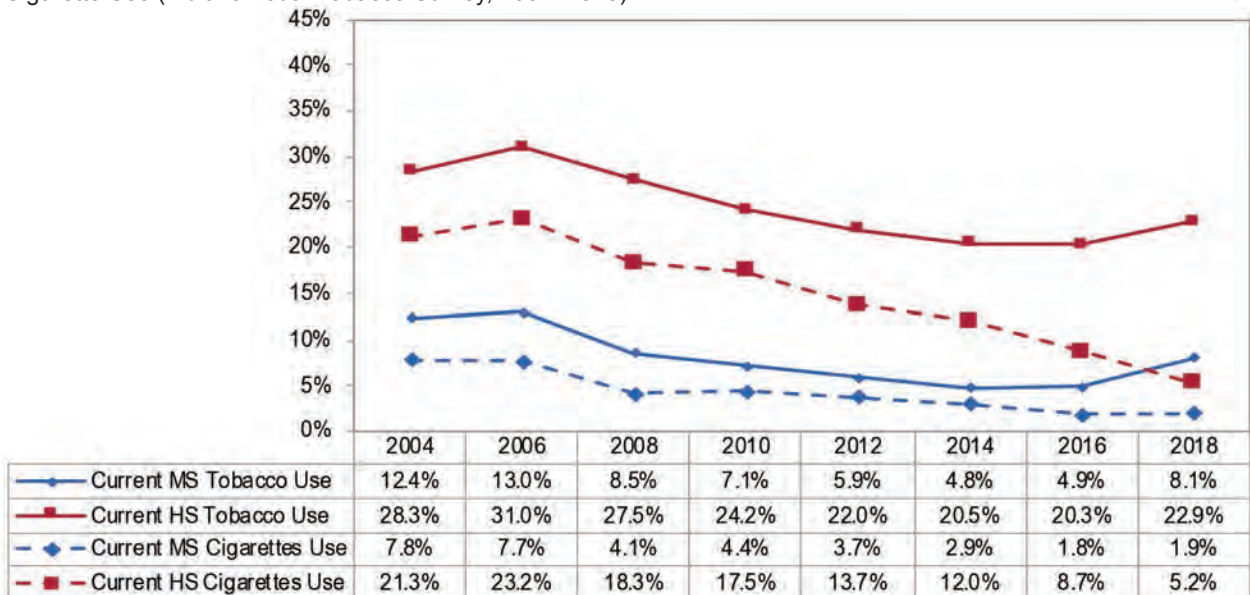
Based on 2018 IYTS results, a total of 8.1% of middle school students (95% CI: 6.3-10.0) and 22.9%

Figure 3.5 Tobacco Use among Indiana High School Students (9th–12th Grade) (Indiana Youth Tobacco Survey, 2004–2018)



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, e-cigarettes was added to “any tobacco use”. Starting in 2018, use of bidis is no longer collected, due to the overall small prevalence of bidis use among Hoosiers. Source: IDOH/TPC, 2020

Figure 3.6 Percentage of Indiana Middle School and High School Students Reporting Current Tobacco and Cigarette Use (Indiana Youth Tobacco Survey, 2004–2018)



Source: IDOH/TPC, 2020

of high school students (95% CI: 19.8-26.1) used any tobacco product in the past month. Among middle school students, 1.9% (95% CI: 1.3–2.5) and among high school students, 5.2% (95% CI: 3.9–6.5) reported smoking cigarettes in the past month. In 2018, 5.5% of middle school students and 18.5% 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 (IDOH/TPC, 2020).

As e-cigarettes continue to remain popular among youth, some middle school and high school students are reporting use of their e-cigarette with a substance other than nicotine. In 2018, 29.4% of middle school students and 38.6% of high school students reported using their e-cigarette with substances other than nicotine, such as marijuana, THC, hash oil, or THC wax (IDOH/TPC, 2020).

Appendix 3A 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 2018.

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).

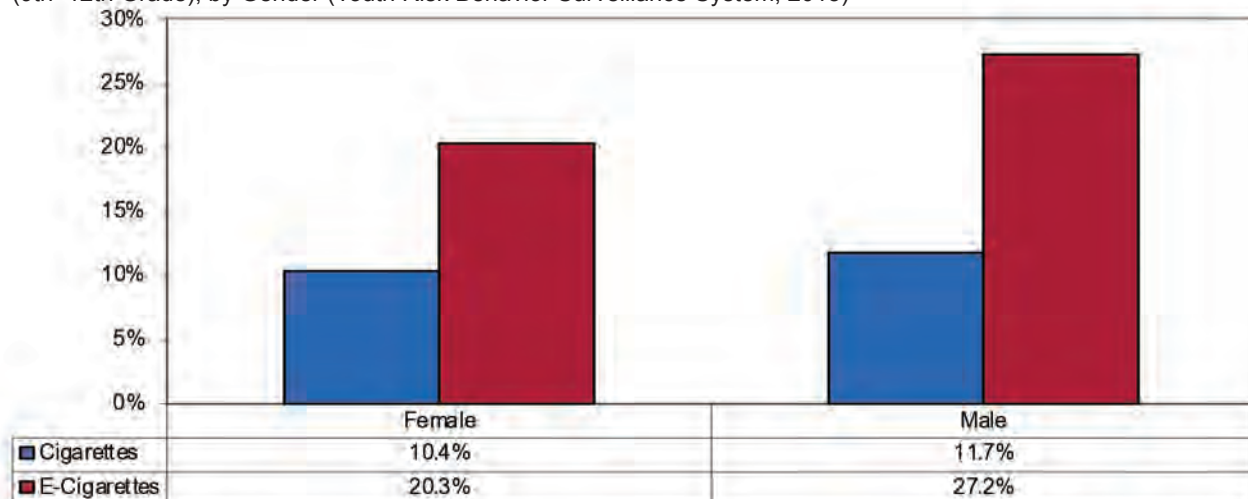
The Youth Risk Behavior Surveillance System (YRBSS) monitors health-risk behaviors such as tobacco, alcohol, and other drug use, which contribute to death and disability among youths in schools nationwide. According to 2015 YRBSS findings, almost one-third of high school students currently use a tobacco product, primarily electronic vapor products (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, electronic vapor products have gained popularity with nearly one-fourth of high school students (23.9%; 95% CI: 20.6–27.7) reporting current use (CDC, 1991-2019). 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 Vapor Products	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)

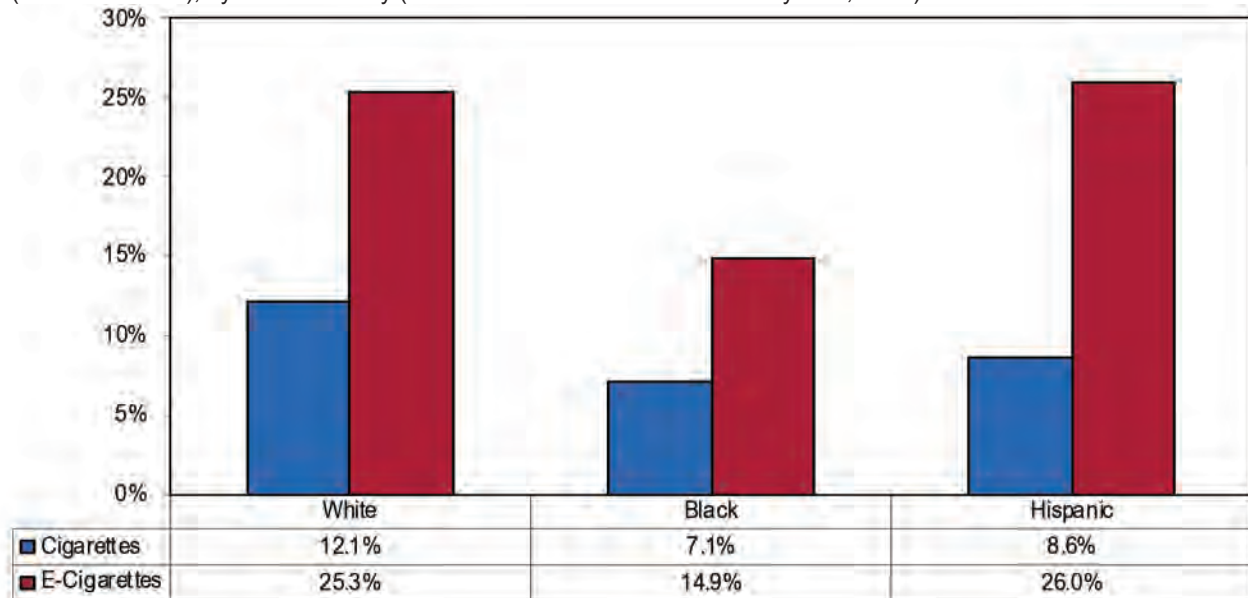
Source: CDC, 1991-2019

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



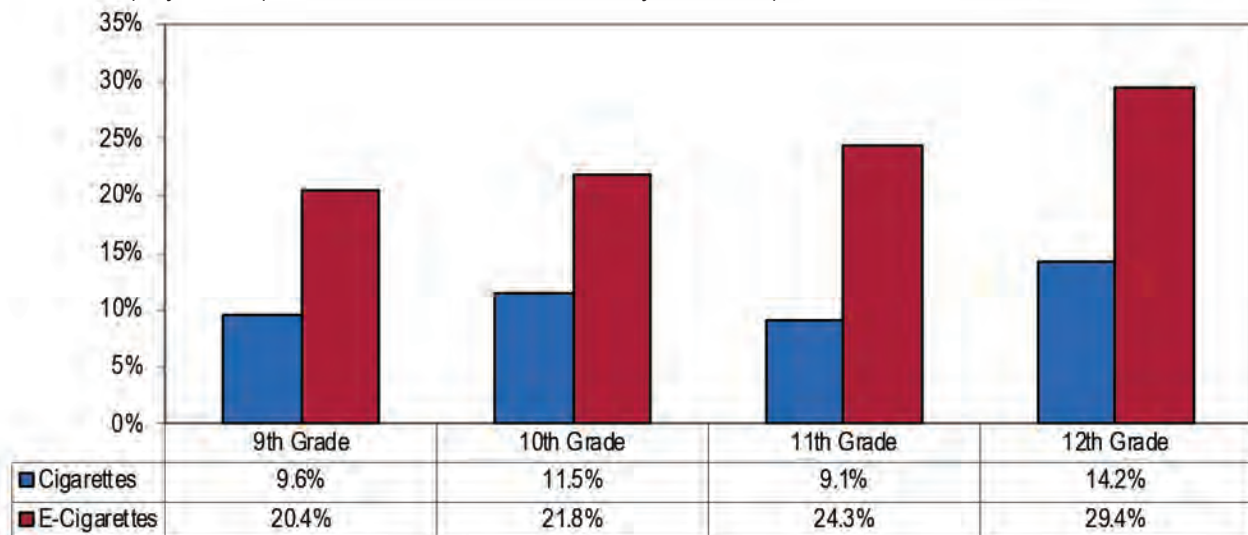
Source: CDC, 1991-2019

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



Source: CDC, 1991-2019

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



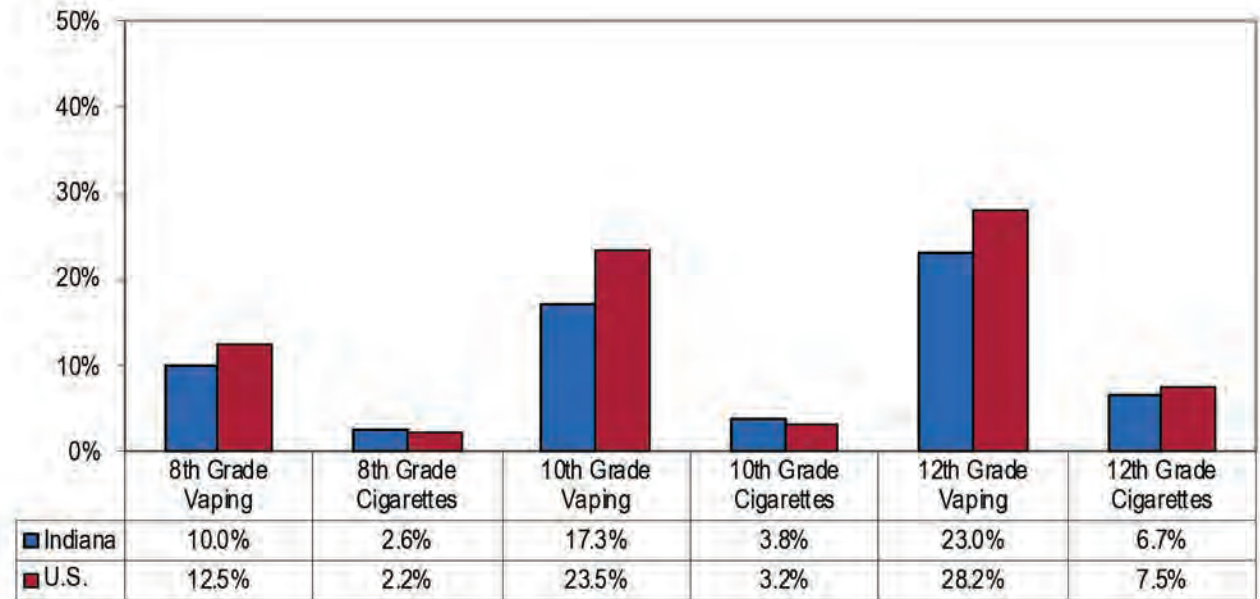
Source: CDC, 1991-2019

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 academic success. Findings from the 2020 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., 2020). See Appendix 3B for Indiana students' monthly use of cigarettes and vaping products, by region and grade.

Figure 3.10 Monthly Cigarette Use and Vaping among 8th, 10th, and 12th Grade Students, Indiana and the United States (Indiana Youth Survey and Monitoring the Future Survey, 2020)

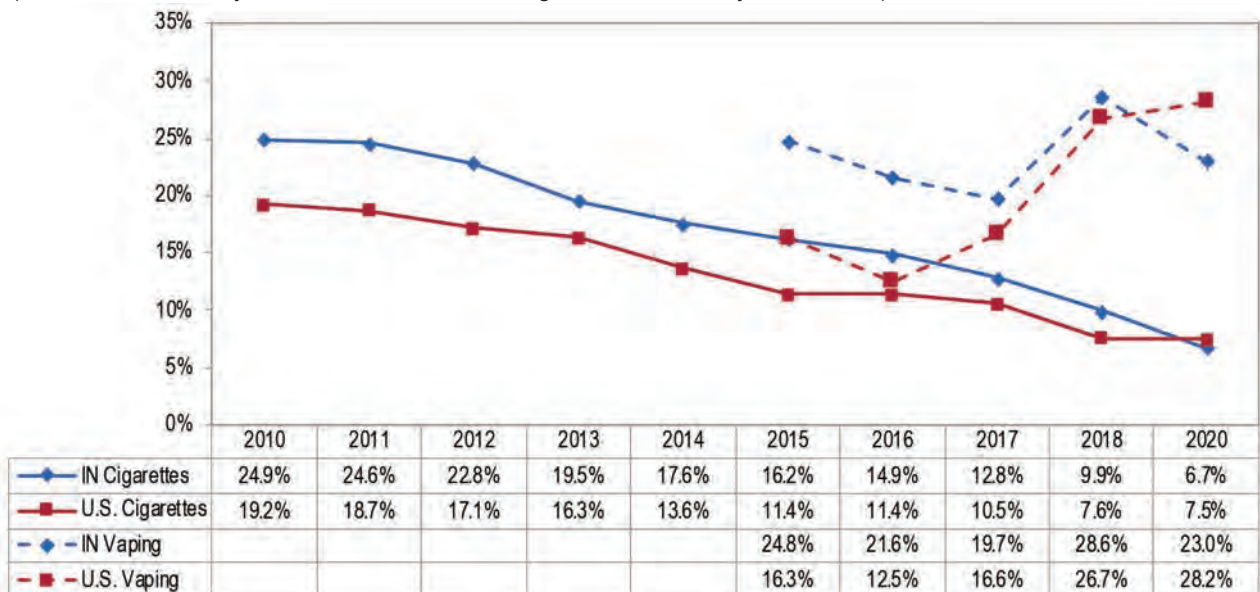


Source: Gassman et al., 2020; Inter-university Consortium for Political and Social Research, 2020

Comparisons between Indiana and the United States on 30-day prevalence of cigarette use and vaping among 12th grade students imply that (a) Hoosier students have had higher rates throughout the years, and (b) cigarette use has been declining, while vaping appeared to reach an all-time high in 2018. Data from 2020 indicate that

while vaping among high school students has increased nationally, vaping among Indiana’s high school students declined (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 sets.

Figure 3.11 Monthly Cigarette Use and Vaping among 12th Grade Students in Indiana and the United States (Indiana Youth Survey: 2010–2020; and Monitoring the Future Survey, 2010–2020)



Note: Vaping data only available since 2015.

Source: Gassman et al., 2020; Inter-university Consortium for Political and Social Research, 2020

Indiana College Substance Use Survey

The Indiana College Substance Use Survey (ICSUS) includes questions on the use of various tobacco products. The 2019 survey, which was based on 20 participating colleges and universities, showed that electronic vapor products were the most commonly used nicotine delivery system, with 25.5% of Indiana college students reporting current (past-month) use (U.S.: 21.3%); followed by cigarettes, the second most common form (Indiana: 10.1%; U.S.: 6.8%). Consumption rates for the different types of tobacco/nicotine products by demographic characteristics can be found in Table 3.4 (King & Jun, 2019).¹

CONSEQUENCES OF TOBACCO USE

The use of tobacco can lead to tobacco/nicotine dependence as well as tobacco-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 tobacco cessation including healthcare coverage/costs, socioeconomic characteristics, availability of tobacco cessation products and media campaigns.

Additionally, tobacco use in K-12 students on school property or during school activities can lead to disciplinary actions, including suspensions and expulsions. During academic year 2018, a total of 4,817 suspensions/expulsions were recorded in Indiana schools involving tobacco use (Indiana Department of Education, 2019). For the number of tobacco-related incidents by county, see Appendix 3C.

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

Table 3.4 Rates of Past-Month Use of Nicotine Products among Indiana College Students (Indiana College Substance Use Survey, 2019)

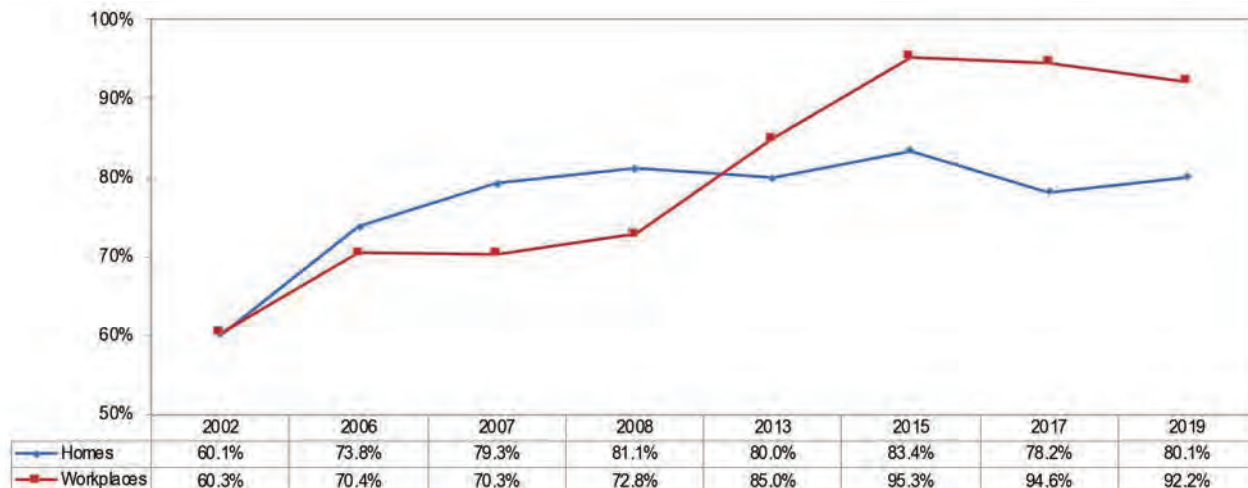
	Indiana (Total)	Male	Female	Under 21	21 or Over
Cigarettes	10.1%	12.4%	8.4%*	8.9%	11.7%*
Cigars	5.4%	10.0%	2.4%*	5.2%	5.8%
Chewing/smokeless tobacco	3.1%	6.9%	0.5%*	3.1%	3.2%
Smoking tobacco with hookah/ water pipe	4.7%	5.9%	3.8%*	4.4%	5.1%
Electronic vapor products	25.5%	29.1%	23.2%*	28.1%	21.6%*

Note: * $P < 0.05$

Source: King & Jun, 2019

¹Twenty Indiana colleges participated in the 2019 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, 2002–2019)



Source: ISDH/TPC, 2020

birth defects and miscarriage. Women who smoke have an increased risk for infertility and ectopic pregnancies. Smoking during pregnancy results in health problems for both mothers and babies. These include increased risk of spontaneous abortions, pregnancy complications (e.g., placenta previa, placental abruption, and premature rupture of membranes before labor begins), premature delivery, low birth-weight infants, stillbirth, and sudden infant death syndrome (SIDS). Mothers who smoke during pregnancy reduce their babies' lung function (CDC, 2016a). In Indiana, the percentage of births to mothers who smoked during pregnancy declined from 18.5% in 2007 to 11.5% in 2018; a higher percentage of white mothers (15.6%) smoked during pregnancy than black mothers (9.0%) in 2018 (IDOH/Epidemiology Resource Center, 2018). The Indiana Department of Health, Tobacco Prevention and Cessation provides county-level information on various smoking-related outcomes. For a detailed list, see Appendix 3D.

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 80.2% in 2019. The percentage of smoke-free workplaces² rose from 60.3% to 92.2% during that time period (see Figure 3.12). Although Indiana is making progress, it is lagging behind the rest of the nation terms of policies and laws that provide effective coverage from secondhand smoke exposure in public places. 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 November 2020, a total of 27 communities³ in Indiana have passed strong smoke-free air ordinances which cover, at minimum, non-hospitality workplaces, restaurants, and bars to ensure that workers are protected from secondhand smoke. These 27 ordinances cover approximately 31% of all residents in Indiana (IDOH/TPC, 2020).

²This measure refers to the prevalence of workers reporting a 100% smoke-free workplace (Adult Tobacco Survey).

³These are Delaware Co., Hancock Co., Howard Co., Monroe Co., Vanderburgh Co., Vigo Co., Austin, Bloomington, Columbus, Cumberland, Elkhart, Fort Wayne, Franklin, Greencastle, Greenfield, Hope, Indianapolis, Kokomo, Lawrence, Munster, North Manchester, Plainfield, South Bend, Terre Haute, West Lafayette, Winfield, and Zionsville.

E-cigarettes: Research shows that e-cigarette 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. In addition, nicotine from e-cigarettes may lead to increased heart rate and diastolic blood pressure. (IDOH/TPC, 2018a).

E-cigarettes are the most commonly used tobacco product among youth in Indiana and nationwide. There is substantial evidence that e-cigarette use increases the risk of using regular combustible cigarettes among youth and young adults. For example, more than 1 in 5 (22%) of Indiana high school students who used e-cigarettes in 2018 also smoked regular cigarettes, and the percentage of Hoosier adults reporting dual use was 48% (IDOH/TPC, 2020a).

In 2016, the U.S. Surgeon General issued a report highlighting concerns related to vaping 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 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.

A new group of e-cigarette products look like USB drives. The most popular brand, JUUL (pronounced “jewel”), has grown quickly in popularity since introduction to the market in 2015, fueled by a large following among youth and young adults. Because of its unsuspecting appearance and small size, JUUL devices may not be immediately identified as an e-cigarette,

and can be easily concealed. The increased use of these products has become a concern for educators and parents in Indiana. Many report that students are concealing JUUL and using it in schools. Due to the dramatic increase in rates of use of e-cigarettes in Indiana as well as across the United States, the FDA began taking action. In December of 2019, the FDA finalized an enforcement policy which prohibits manufacturers from producing, distributing, or selling unauthorized flavored nicotine cartridges; excluded were tobacco and menthol flavors. This policy largely impacts JUUL and other cartridge-based brands; however, it exempted a class of products that are single-use, such as Puff Bar, and others. Consistent with what we have seen in Indiana and across the United States in previous years, prefilled pods or cartridges were the most commonly used type of e-cigarette; however, during 2019-2020 disposable e-cigarette use increased by approximately 1,000% nationally (NYTS, 2020). Nicotine use can have adverse effects on adolescent brain development. Therefore, nicotine use by youth in any form is unsafe, and efforts are warranted to educate youth about the dangers of use of all forms of tobacco products, regardless of whether they are combustible, noncombustible, or electronic. The skyrocketing e-cigarette use rate among youth observed in 2018, nationally and in Indiana, and the continued use of these products has been partially attributed to the surge in JUUL’s popularity and the subsequent look-alike brands. The Surgeon General issued an advisory in December 2018 stressing the importance of protecting children from a lifetime of nicotine addiction and associated health risks by immediately addressing the epidemic of youth e-cigarette use.

As e-cigarettes continue to remain popular, especially among youth, the use of e-cigarettes with substances other than nicotine has become a concern. This frequently includes marijuana, THC, hash oil, or THC wax. In late 2019 this particular trend became a nationwide concern when an outbreak of e-cigarette or vaping, product use-associated lung injury (EVALI) occurred where more than 2,600 cases were documented between August 2019 and January 2020. These lung injuries impacted those of all ages who use e-cigarettes, with more than 82% reporting use of a THC-containing product (Krishnasamy, et al., 2020).

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 2017, the annual U.S. tobacco industry marketing expenditures were approximately \$9.1 billion, including Indiana's share of \$293 million. The state's total tobacco marketing expenditures declined after peaking at \$475.4 million in 2003 (Campaign for Tobacco-Free Kids, 2020b).

The federal excise tax is \$1.01 per pack of cigarettes. The average state cigarette excise tax is \$1.81 per pack, but varies from 17 cents in Missouri to \$4.50 in Washington DC; Indiana's tobacco excise tax rate is 99.5 cents per pack (Campaign for Tobacco-Free Kids, 2020a).

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 Students Who Currently Use Cigarettes, E-Cigarettes, or Smokeless Tobacco by Gender, Race/Ethnicity, and School Grade (Indiana Youth Tobacco Survey, 2020)

	Current Use of Cigarettes		Current Use of E-Cigarettes		Current Use of Smokeless Tobacco	
	%	(95% CI)	%	(95% CI)	%	(95% CI)
MIDDLE SCHOOL						
Gender						
Male	1.6	(1.0-2.3)	5.4	(3.9-6.9)	1.8	(1.0-2.6)
Female	2.1	(1.2-3.0)	5.4	(3.5-6.9)	1.1	(0.6-1.7)
Race/Ethnicity						
White	5.6	(4.2-7.0)	5.6	(4.1-7.0)	1.5	(0.9-2.1)
Black	12.5*	(7.4-17.7)	3.4*	(1.1-5.8)	1.5*	(-0.4-3.5)
Hispanic	7.3	(3.5-11.0)	6.7	(4.1-9.3)	1.4*	(0.5-2.2)
Other	7.3*	(4.0-10.7)	5.9*	(1.9-9.9)	1.0*	(-0.5-2.6)
Grade						
6	0.8*	(-0.2-1.9)	5.8	(3.6-8.0)	0.7*	(-0.2-1.5)
7	2.1	(0.8-3.4)	7.7	(5.4-10.1)	1.8	(0.8-2.9)
8	2.9	(1.8-3.9)	12.0	(9.0-15.0)	2.0	(1.1-2.9)
Total	1.9	(1.3-6.5)	5.5	(4.2-6.7)	1.5	(0.9-2.0)
HIGH SCHOOL						
Gender						
Male	5.6	(3.8-7.5)	20.0	(16.1-23.9)	5.7	(3.9-7.5)
Female	4.7	(3.4-6.0)	17.0	(13.8-20.2)	1.7	(1.1-2.4)
Race/Ethnicity						
White	17.5	(13.8-21.2)	20.9	(18.0-23.9)	4.1	(3.0-5.1)
Black	24.5*	(18.9-30.2)	9.4	(5.5-13.4)	2.0*	(0.3-3.6)
Hispanic	16.1	(11.4-20.8)	16.7	(11.5-21.9)	2.8*	(0.6-5.0)
Other	21.9*	(14.9-28.9)	12.2*	(4.3-20.0)	5.9*	(1.2-10.3)
Grade						
9	3.0	(2.0-4.0)	12.0	(9.0-15.0)	1.8	(1.2-2.4)
10	3.4	(2.0-4.9)	17.8	(13.4-22.3)	4.0	(2.3-5.8)
11	5.8	(3.7-8.0)	20.4	(15.9-24.9)	4.2	(1.7-6.7)
12	8.8	(5.5-12.1)	24.1	(17.0-31.2)	5.2	(3.1-7.2)
Total	5.2	(3.9-6.5)	18.5	(15.3-21.7)	3.8	(2.8-4.8)

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

Source: IDOH/TPC, 2020

APPENDIX 3B - Part 1

Percentage of Indiana Students Reporting Monthly Cigarette Use, by Region and Grade (Indiana Youth Survey, 2020)

	Indiana	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	Region 10
6th Grade	1.2%	0.6%*	1.5%	2.1%*	1.2%	0.6%	0.0%	1.1%	1.1%	1.2%	2.3%*
7th Grade	2.1%	1.9%	2.3%	2.8%	2.2%	1.6%	1.0%*	1.2%	1.3%*	2.8%	4.3%*
8th Grade	2.6%	1.9%	2.8%	2.8%	2.1%	2.5%	2.2%	1.1%*	2.6%	3.1%	5.3%*
9th Grade	3.4%	2.1%*	1.9%*	3.5%	5.4%*	3.3%	3.2%	1.8%*	4.1%	4.9%*	4.1%
10th Grade	3.8%	2.3%*	3.1%	3.8%	5.2%*	3.5%	4.5%	2.3%*	3.2%	4.6%	6.8%
11th Grade	4.7%	2.7%*	4.4%	6.7%*	6.1%	3.4%	4.0%	4.0%	5.8%	4.3%	6.1%
12th Grade	6.7%	4.6%*	5.6%	7.0%	7.6%	5.1%	7.4%	3.5%*	9.7%*	5.5%	10.8%*

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

Source: Gassman et al., 2020

APPENDIX 3B - Part 2

Percentage of Indiana Students Reporting Monthly E-Cigarette Use, by Region and Grade (Indiana Youth Survey, 2020)

	Indiana	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	Region 10
6th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7th Grade	6.5%	5.1%*	6.8%	7.3%	5.7%	5.1%	3.6%*	6.2%	5.8%	8.9%*	8.8%*
8th Grade	10.0%	11.7%*	9.5%	12.1%*	7.5%*	8.3%	8.5%	7.6%*	9.9%	11.3%*	14.6%*
9th Grade	13.0%	12.0%	10.3%*	11.3%	12.4%	12.6%	13.7%	12.3%	16.9%*	14.0%	14.1%
10th Grade	17.3%	20.2%*	15.6%	15.4%	14.7%*	13.5%*	18.6%	17.4%	18.5%	18.1%	20.2%
11th Grade	18.2%	15.0%*	14.6%*	18.4%	21.3%	15.6%	17.6%	18.1%	24.9%*	17.3%	18.3%
12th Grade	6.7%	4.6%*	5.6%	7.0%	7.6%	5.1%	7.4%	3.5%	9.7%	5.5%	10.8%*

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

Source: Gassman et al., 2020

INYS data are provided at the state level and broken down by regions. There were eight regions until 2018. DMHA introduced the ten new planning regions in 2020. These include:

Region 1: Lake, LaPorte, Porter

Region 2: Cass, Elkhart, Fulton, Howard, Kosciusko, Marshall, Miami, Pulaski, St. Joseph, Starke, Wabash

Region 3: Adams, Allen, DeKalb, Huntington, Lagrange, Noble, Steuben, Wells, Whitley

Region 4: Benton, Boone, Carroll, Clinton, Fountain, Jasper, Montgomery, Newton, Tippecanoe, Warren, White

Region 5: Blackford, Delaware, Grant, Hamilton, Hancock, Henry, Jay, Madison, Randolph, Tipton, Wayne

Region 6: Clay, Hendricks, Monroe, Morgan, Owen, Parke, Putnam, Sullivan, Vermillion, Vigo

Region 7: Marion

Region 8: Daviess, Dubois, Gibson, Greene, Knox, Martin, Perry, Pike, Posey, Spencer, Vanderburgh, Warrick

Region 9: Bartholomew, Brown, Clark, Crawford, Floyd, Harrison, Jackson, Johnson, Lawrence, Orange, Scott, Washington

Region 10: Dearborn, Decatur, Fayette, Franklin, Jefferson, Jennings, Ohio, Ripley, Rush, Shelby, Switzerland, Union

APPENDIX 3C

Number of Incidents and Unique Students Involved in Suspensions/Expulsions due to Tobacco Use in Indiana,
Academic Year 2018

County	Students Enrolled	Number of Incidents	Number of Unique Students Involved
Adams	4,347	<5	<5
Allen	57,046	171	163
Bartholomew	13,126	135	125
Benton	1,928	14	14
Blackford	1,764	20	18
Boone	12,342	55	55
Brown	2,154	12	9
Carroll	2,657	14	14
Cass	6,910	41	40
Clark	17,945	69	66
Clay	4,431	<5	<5
Clinton	6,565	16	16
Crawford	1,591	36	34
Daviess	4,901	7	7
Dearborn	8,682	104	92
Decatur	4,363	8	8
DeKalb	7,094	49	47
Delaware	16,237	49	49
DuBois	7,164	41	40
Elkhart	37,555	136	130
Fayette	3,687	24	23
Floyd	12,637	162	156
Fountain	2,702	<5	<5
Franklin	2,516	19	18
Fulton	2,553	16	16
Gibson	5,169	11	11
Grant	9,628	43	40
Greene	5,083	32	29
Hamilton	62,159	415	391
Hancock	14,443	67	62
Harrison	6,243	72	61
Hendricks	31,168	185	169
Henry	7,427	59	53
Howard	14,583	40	36
Huntington	5,340	59	53
Jackson	7,317	31	31
Jasper	5,228	20	18
Jay	3,408	37	35
Jefferson	4,507	59	53
Jennings	4,550	<5	<5
Johnson	28,191	127	118
Knox	5,568	53	45
Kosciusko	12,342	147	133
LaGrange	5,708	23	23
Lake	83,370	267	254
LaPorte	17,745	66	63

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APPENDIX 3C (Continued from previous page)

County	Students Enrolled	Number of Incidents	Number of Unique Students Involved
Lawrence	6,746	56	47
Madison	20,089	128	116
Marion	179,578	342	327
Marshall	7,759	16	15
Martin	1,443	<5	<5
Miami	7,480	38	36
Monroe	14,932	92	84
Montgomery	6,402	55	50
Morgan	11,334	37	36
Newton	2,330	18	14
Noble	7,542	58	51
Ohio	868	<5	<5
Orange	3,239	9	9
Owen	2,793	40	33
Parke	2,309	<5	<5
Perry	3,014	6	5
Pike	1,916	14	14
Porter	27,899	122	110
Posey	3,695	23	22
Pulaski	2,209	34	31
Putnam	5,876	17	16
Randolph	5,684	18	17
Ripley	5,613	66	60
Rush	2,367	10	10
Saint Joseph	40,862	67	65
Scott	3,862	15	13
Shelby	7,801	24	24
Spencer	3,272	<5	<5
Starke	3,732	25	23
Steuben	4,217	19	19
Sullivan	3,294	13	13
Switzerland	1,631	<5	<5
Tippecanoe	24,823	66	64
Tipton	2,449	14	13
Union	1,401	<5	<5
Vanderburgh	23,896	48	42
Vermillion	2,570	7	7
Vigo	15,184	6	6
Wabash	5,790	36	33
Warren	1,377	<5	<5
Warrick	10,610	59	56
Washington	4,379	59	55
Wayne	11,023	48	45
Wells	5,172	33	29
White	4,947	20	20
Whitley	6,375	48	47
Indiana	1,103,858	4,817	4,495

Note: Incident numbers reflect each time a student was suspended/expelled due to tobacco use; unique count refers to the number of unique students involved (if the same student is suspended twice for tobacco, that reflects two incidents and one unique student).

Source: Indiana Department of Education, 2019

APPENDIX 3D - Part 1

Adult Smoking Prevalence and Chronic Disease Outcomes, by County

County	Estimated adult smoking rate (Statewide: 2019 BRFSS; County-level: 2014-2018 BRFSS)	Age-adjusted rate of lung cancer deaths per 100,000 population (2013-2017)	Age-adjusted rate of major cardiovascular diseases deaths per 100,000 population (2015-2019)	Asthma ER Visits Age-Adjusted Rate per 10,000 population, 2019	Percentage of live births to mothers who smoked during pregnancy, 2019	Estimated cost of smoking-related births, 2019
Adams	24.8%	42.7	205.2	17.6	6.6	\$61,110
Allen	22.0%	43.5	235.1	36.1	8.5	\$615,174
Bartholomew	24.0%	47.5	221.1	24.5	15.2	\$213,206
Benton	33.8%	50.5	251.8	24.5	24.8	\$36,666
Blackford	27.9%	69.7	233.7	47.6	30.4	\$51,604
Boone	14.3%	48.6	251.2	22.9	7.6	\$88,270
Brown	20.4%	41.4	188.0	6.4	Suppressed	\$21,728
Carroll	14.3%	47.7	196.2	17.3	10.8	\$31,234
Cass	30.1%	54.6	214.9	37.4	14.1	\$88,270
Clark	22.9%	62.8	270.6	22.1	10.8	\$207,774
Clay	21.5%	67.7	295.0	28.7	20.1	\$86,912
Clinton	25.9%	50.1	245.3	37.6	15.1	\$93,702
Crawford	34.1%	73.6	272.4	15.9	23.6	\$39,382
Daviess	14.1%	47.7	254.7	30.7	7.9	\$61,110
Dearborn	23.1%	57.5	234.4	16.7	16.5	\$118,146
Decatur	15.4%	48.3	258.7	37.1	23.7	\$93,702
DeKalb	26.2%	50.7	244.2	23.7	17.9	\$133,084
Delaware	21.7%	53.3	260.6	38.0	19.7	\$281,106
Dubois	15.1%	31.9	236.2	14.1	10.7	\$77,406
Elkhart	19.2%	41.7	232.0	31.9	9.0	\$370,734
Fayette	33.0%	57.6	299.0	29.4	22.4	\$74,690
Floyd	21.5%	52.3	242.9	24.1	8.1	\$93,702
Fountain	26.6%	48.5	247.7	79.3	15.8	\$39,382
Franklin	19.7%	45.5	206.5	9.9	17.7	\$57,036
Fulton	16.4%	59.4	273.7	30.7	20.7	\$67,900
Gibson	18.0%	47.8	241.0	31.4	11.8	\$61,110
Grant	30.8%	59.9	262.4	52.8	32.7	\$336,784
Greene	28.4%	63.6	256.2	17.3	20.9	\$90,986
Hamilton	9.9%	29.7	173.6	17.1	2.0	\$99,134
Hancock	14.4%	52.7	201.7	24.4	7.9	\$90,986
Harrison	22.0%	61.4	221.4	15.3	14.0	\$77,406
Hendricks	13.4%	45.6	209.4	18.0	5.8	\$130,368
Henry	25.9%	54.7	250.0	32.3	22.2	\$138,516
Howard	30.3%	52.3	270.8	69.6	19.3	\$259,378
Huntington	25.1%	43.3	255.8	25.4	18.3	\$96,418
Jackson	21.9%	68.3	237.9	40.0	18.8	\$160,244
Jasper	19.0%	48.8	268.2	22.8	15.7	\$77,406
Jay	28.8%	61.3	220.5	43.3	17.5	\$70,616
Jefferson	33.5%	72.2	284.1	25.2	24.2	\$127,652
Jennings	30.8%	68.8	284.1	39.5	29.3	\$124,936
Johnson	22.6%	47.6	229.5	26.0	10.4	\$260,736
Knox	21.3%	54.5	247.8	28.9	20.7	\$116,788
Kosciusko	24.9%	47.7	231.1	24.7	14.3	\$184,688
LaGrange	21.5%	38.7	250.5	19.8	6.1	\$61,110
Lake	21.3%	47.9	255.4	57.3	6.3	\$486,164
LaPorte	29.0%	52.0	275.7	42.6	18.6	\$296,044

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APPENDIX 3D - Part 1 (Continued from previous page)

County	Estimated adult smoking rate (Statewide: 2019 BRFSS; County-level: 2014-2018 BRFSS)	Age-adjusted rate of lung cancer deaths per 100,000 population (2013-2017)	Age-adjusted rate of major cardiovascular diseases deaths per 100,000 population (2015-2019)	Asthma ER Visits Age-Adjusted Rate per 10,000 population, 2019	Percentage of live births to mothers who smoked during pregnancy, 2019	Estimated cost of smoking-related births, 2019
Lawrence	28.3%	61.6	245.6	31.5	25.9	\$177,898
Madison	27.9%	60.6	239.2	57.8	19.0	\$363,944
Marion	22.3%	55.7	241.0	78.1	8.4	\$1,607,872
Marshall	31.0%	46.9	232.5	27.8	12.7	\$89,628
Martin	20.8%	57.3	250.0	20.8	21.8	\$35,308
Miami	34.0%	49.1	288.9	31.7	21.4	\$118,146
Monroe	20.3%	41.0	193.8	19.1	12.9	\$190,120
Montgomery	19.8%	50.2	270.1	29.9	16.4	\$100,492
Morgan	22.5%	59.4	252.0	38.0	16.5	\$165,676
Newton	42.7%	67.9	239.3	14.8	16.1	\$31,234
Noble	22.6%	50.2	230.2	20.0	14.1	\$120,862
Ohio	29.1%	62.8	172.7	16.0	Suppressed	\$19,012
Orange	Suppressed	56.3	259.1	42.3	25.2	\$81,480
Owen	30.6%	68.0	258.8	14.8	19.0	\$55,678
Parke	26.0%	54.9	233.6	19.1	11.4	\$29,876
Perry	22.0%	49.7	272.5	22.5	23.3	\$57,036
Pike	Suppressed	56.6	246.2	17.3	18.8	\$33,950
Porter	21.1%	45.5	213.5	27.4	9.0	\$200,984
Posey	25.1%	53.1	205.1	9.0	13.2	\$46,172
Pulaski	Suppressed	53.6	288.2	22.8	22.0	\$39,382
Putnam	24.6%	65.0	231.8	18.7	18.8	\$93,702
Randolph	20.0%	50.7	251.7	31.6	22.6	\$78,764
Ripley	21.6%	52.8	241.4	36.6	16.8	\$86,912
Rush	Suppressed	63.0	254.7	44.3	15.9	\$43,456
Scott	30.0%	75.0	281.1	44.7	26.4	\$99,134
Shelby	20.1%	62.1	217.0	55.1	22.0	\$143,948
Spencer	13.5%	48.4	232.5	52.9	11.1	\$32,592
St. Joseph	21.1%	47.3	242.2	10.0	8.7	\$404,684
Starke	29.8%	76.2	306.7	34.7	19.6	\$70,616
Steuben	26.7%	50.8	207.0	24.2	19.5	\$99,134
Sullivan	13.1%	67.8	279.4	22.5	18.9	\$44,814
Switzerland	33.9%	47.9	220.2	9.8	Suppressed	\$27,160
Tippecanoe	18.5%	44.3	214.0	28.7	11.3	\$316,414
Tipton	15.6%	47.4	216.2	33.7	Suppressed	\$23,086
Union	Suppressed	Unreliable	217.9	12.6	Suppressed	\$27,160
Vanderburgh	19.7%	51.0	228.6	44.6	13.0	\$382,956
Vermillion	Suppressed	53.8	344.8	25.3	23.6	\$44,814
Vigo	23.9%	60.6	291.3	28.6	18.1	\$291,970
Wabash	22.0%	43.0	247.5	19.3	18.0	\$78,764
Warren	43.8%	42.4	240.3	30.7	Suppressed	\$9,506
Warrick	18.6%	42.6	218.3	21.4	9.1	\$76,048
Washington	25.5%	66.6	286.4	29.7	13.6	\$61,110
Wayne	22.0%	57.5	299.8	27.6	17.7	\$188,762
Wells	17.1%	44.8	221.2	23.6	19.1	\$86,912
White	16.3%	49.6	249.7	42.7	15.4	\$65,184
Whitley	18.4%	48.3	231.8	22.4	12.5	\$63,826
Indiana	19.2%	50.7	239.3	39.3	11.8	\$12,959,394

Source: IDOH/TPC, 2021

APPENDIX 3D - Part 2

County	Estimated number of people living with a tobacco-related illness	Estimated number of deaths due to tobacco	Estimated number of deaths due to secondhand smoke (SHS)	Estimated cost of SHS due to medical costs and premature death
Adams	1,617	54	9	\$11.6 Million
Allen	17,715	591	97	\$120.3 Million
Bartholomew	3,923	131	21	\$26 Million
Benton	449	15	2	\$3 Million
Blackford	673	22	3	\$4.3 Million
Boone	2,781	93	15	\$19.2 Million
Brown	824	27	4	\$5.2 Million
Carroll	1,038	35	6	\$6.8 Million
Cass	1,972	66	11	\$13.2 Million
Clark	5,746	192	30	\$37.3 Million
Clay	1,397	47	7	\$9.1 Million
Clinton	1,665	55	9	\$11.2 Million
Crawford	561	19	3	\$3.6 Million
Daviess	1,539	51	9	\$10.7 Million
Dearborn	2,563	85	14	\$16.9 Million
Decatur	1,310	44	7	\$8.7 Million
DeKalb	2,123	71	12	\$14.3 Million
Delaware	6,427	214	32	\$39.8 Million
Dubois	2,132	71	11	\$14.2 Million
Elkhart	9,657	322	54	\$66.9 Million
Fayette	1,261	42	7	\$8.2 Million
Floyd	3,869	129	20	\$25.2 Million
Fountain	892	30	5	\$5.8 Million
Franklin	1,165	39	6	\$7.8 Million
Fulton	1,070	36	6	\$7.1 Million
Gibson	1,732	58	9	\$11.3 Million
Grant	3,749	125	19	\$23.7 Million
Greene	1,727	58	9	\$11.2 Million
Hamilton	13,089	436	75	\$92.9 Million
Hancock	3,529	118	19	\$23.7 Million
Harrison	2,053	68	11	\$13.3 Million
Hendricks	7,208	240	40	\$49.2 Million
Henry	2,624	87	14	\$16.7 Million
Howard	4,314	144	23	\$28 Million
Huntington	1,935	64	10	\$12.6 Million
Jackson	2,183	73	12	\$14.3 Million
Jasper	1,700	57	9	\$11.3 Million
Jay	1,066	36	6	\$7.2 Million
Jefferson	1,714	57	9	\$11 Million
Jennings	1,434	48	8	\$9.7 Million
Johnson	7,018	234	38	\$47.3 Million
Knox	2,066	69	10	\$13 Million
Kosciusko	3,930	131	21	\$26.2 Million
LaGrange	1,661	55	10	\$12.6 Million
Lake	25,185	839	135	\$167.9 Million
LaPorte	5,880	196	30	\$37.7 Million
Lawrence	2,408	80	13	\$15.6 Million
Madison	6,915	231	36	\$44.6 Million
Marion	46,232	1,541	247	\$305.8 Million
Marshall	2,350	78	13	\$15.9 Million
Martin	536	18	3	\$3.5 Million

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APPENDIX 3D - Part 2

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County	Estimated number of people living with a tobacco-related illness	Estimated number of deaths due to tobacco	Estimated number of deaths due to secondhand smoke (SHS)	Estimated cost of SHS due to medical costs and premature death
Miami	1,947	65	10	\$12.5 Million
Monroe	7,889	263	38	\$46.7 Million
Montgomery	1,980	66	10	\$12.9 Million
Morgan	3,522	117	19	\$23.3 Million
Newton	749	25	4	\$4.8 Million
Noble	2,369	79	13	\$16.1 Million
Ohio	330	11	2	\$2.1 Million
Orange	1,021	34	5	\$6.7 Million
Owen	1,131	38	6	\$7.3 Million
Parke	931	31	5	\$5.9 Million
Perry	1,038	35	5	\$6.5 Million
Pike	681	23	4	\$4.3 Million
Porter	8,498	283	45	\$55.6 Million
Posey	1,350	45	7	\$8.8 Million
Pulaski	697	23	4	\$4.5 Million
Putnam	2,047	68	10	\$12.8 Million
Randolph	1,352	45	7	\$8.9 Million
Ripley	1,450	48	8	\$9.8 Million
Rush	894	30	5	\$5.9 Million
Scott	1,255	42	7	\$8.2 Million
Shelby	2,294	76	12	\$15 Million
Spencer	1,085	36	6	\$7.1 Million
St. Joseph	13,734	458	73	\$90.4 Million
Starke	1,207	40	6	\$7.9 Million
Steuben	1,800	60	9	\$11.6 Million
Sullivan	1,153	38	6	\$7.3 Million
Switzerland	539	18	3	\$3.6 Million
Tippecanoe	9,361	312	47	\$58.5 Million
Tipton	836	28	4	\$5.4 Million
Union	385	13	2	\$2.5 Million
Vanderburgh	9,549	318	49	\$60.8 Million
Vermillion	852	28	4	\$5.5 Million
Vigo	5,792	193	29	\$36.5 Million
Wabash	1,737	58	9	\$11.1 Million
Warren	445	15	2	\$2.9 Million
Warrick	3,023	101	16	\$20.2 Million
Washington	1,444	48	8	\$9.6 Million
Wayne	3,622	121	19	\$23.3 Million
Wells	1,416	47	8	\$9.4 Million
White	1,276	43	7	\$8.3 Million
Whitley	1,715	57	3	\$11.3 Million
Indiana	333,000	11,100	1,770	\$2.1 Billion

Source: IDOH/TPC, 2021

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4 MARIJUANA USE IN INDIANA: CONSUMPTION PATTERNS AND CONSEQUENCES

INTRODUCTION

Marijuana is found in the dried leaves, stems, seeds, and flowers of the hemp plant, known as *Cannabis sativa*. The primary psychoactive (mind-altering) chemical that produces intoxicating effects is delta-9-tetrahydrocannabinol (THC). The drug can be consumed by smoking “joints” or “blunts” (hand-rolled cigarettes or cigars filled only with cannabis, not tobacco) and hookahs (water pipes), mixing it into foods (edibles), or brewing it 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).

Also, popular now are the different forms of THC-rich resin, such as hash oil or honey oil, wax or budder, and shatter, which is a hard, amber-colored solid. These products can be smoked, vaporized and inhaled (e.g., e-cigarettes or vape pens), or consumed in edibles (National Institute on Drug Abuse, 2020). Marijuana concentrates have very high levels of THC. Solvent-based products tend to be especially potent, with THC levels averaging about 54-69% and some even exceeding 80%. Non-solvent based extraction methods produce average THC levels between 39-60%. In comparison, the THC content in marijuana plant material, which is often used in marijuana cigarettes, is considerably lower, averaging just over 15% (National Institute on Drug Abuse, 2020). Concentrates can deliver extremely large amounts of THC to the body quickly. The risks of physical dependence and addiction increase with exposure to high concentrations of THC, and higher doses of THC are more likely to produce anxiety, agitation, paranoia, and psychosis (National Institute on Drug Abuse, 2020). Data from Washington State’s cannabis traceability system showed an increase in THC extract sales in states that have legalized recreational marijuana use, though traditional cannabis flowers still account for about two-thirds of the spending (Smart, Caulkins, Kilmer, Davenport, & Midgette, 2017).

Age at 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).

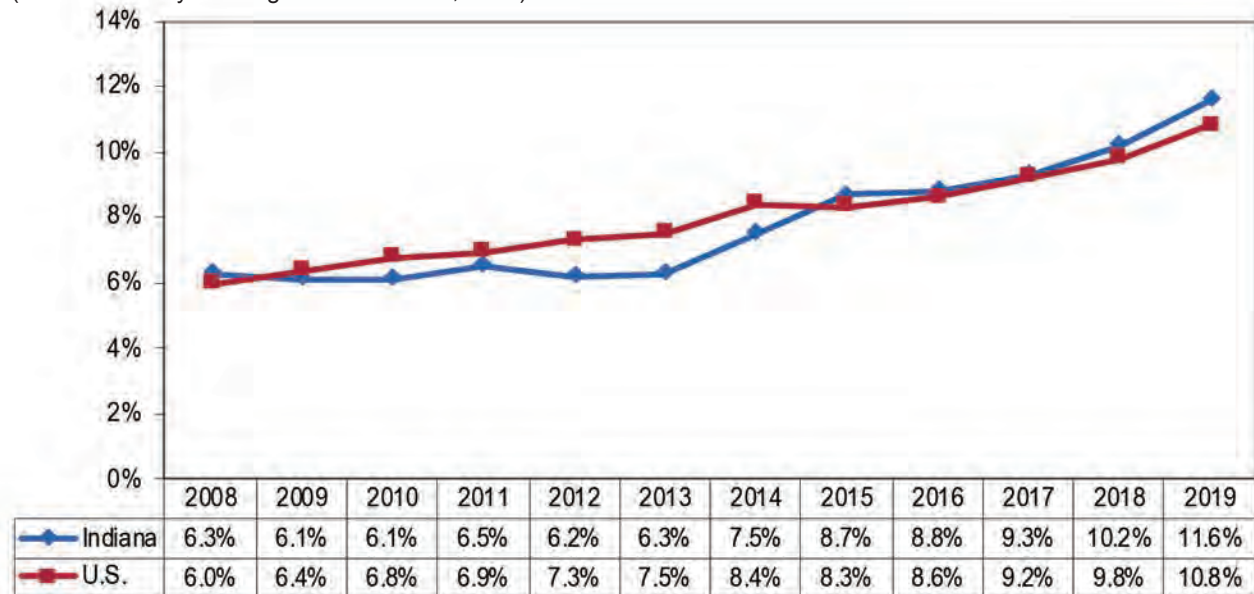
Marijuana is the most commonly used illicit drug in the United States (Azofeifa et al., 2016).

PREVALENCE OF MARIJUANA CONSUMPTION IN THE GENERAL POPULATION

National Survey on Drug Use and Health

According to the 2019 National Survey on Drug Use and Health (NSDUH), an estimated 11.6% (95% Confidence Interval [CI]: 10.0–13.4) of Indiana residents ages 12 and older reported current (past-month) marijuana use (U.S.: 10.8%; 95% CI: 10.5–11.1). Past-year use among Hoosiers was estimated at 16.6% (95% CI: 14.8–18.5), which is similar to the national rate at 16.7% (95% CI: 16.4–17.1) (Substance Abuse and Mental Health Services Administration [SAMHSA], 2021). See Figure 4.1 for trend data on past-month marijuana use.

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, 2019)

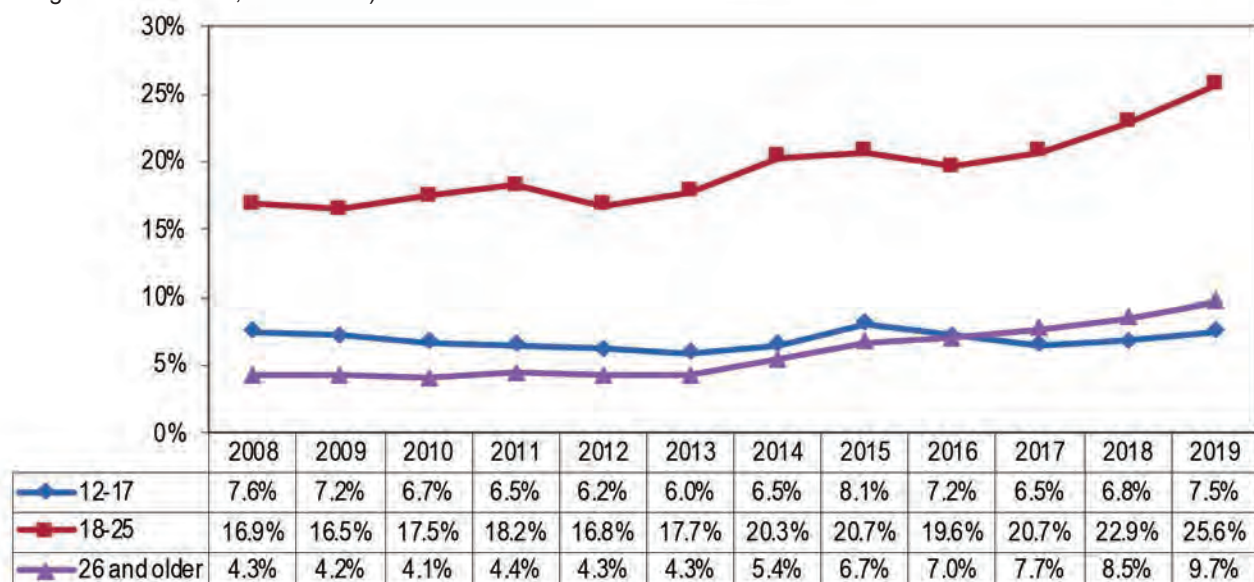


Source: SAMHSA, 2021

The highest prevalence was among individuals ages 18 to 25, with 25.6% (95% CI: 22.0–29.6) of Hoosiers in this age group reporting current marijuana use (U.S.: 22.5%; 95% CI: 21.9–23.2) and 35.4% (95% CI: 31.2–39.3) reporting past-year use (U.S.: 35.1%; 95% CI: 34.3–35.9) in 2019 (Figure 4.2). Prevalence rates were significantly lower in youth and adults ages 26 and older. Based on 2019 estimates, 12.4% (95% CI: 10.3–14.9) of 12- to 17-year-olds in Indiana reported using marijuana

in the past year (U.S.: 12.8%; 95% CI: 12.4–13.3) and 7.5% (95% CI: 6.0–9.5) used marijuana in the past month (U.S.: 7.0%; 95% CI: 6.7–7.4). Among Hoosiers ages 26 and older, 9.7% (95% CI: 7.9–11.7) reported past-month marijuana use (U.S.: 9.4%; 95% CI: 9.1–9.7) and 14.0% (95% CI: 12.0–16.2) reported use in the past year (U.S.: 14.3%; 95% CI: 13.9–14.7) (SAMHSA, 2021). 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, 2008–2019)



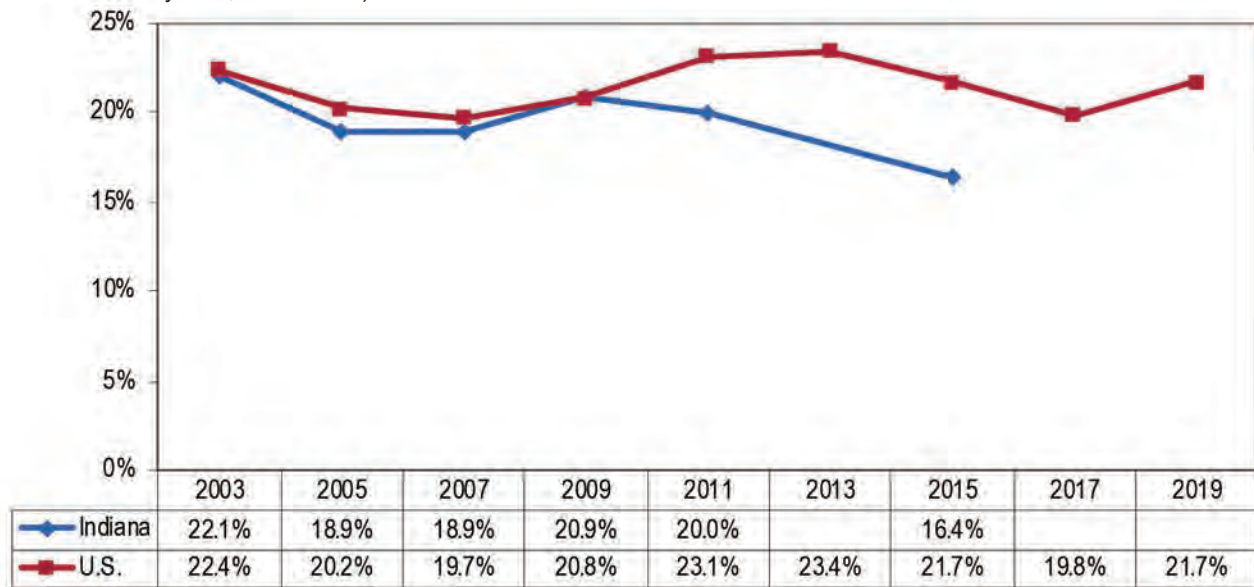
Source: SAMHSA, 2021

Marijuana initiation, or first-time use, was primarily reported in young adults and adolescents. An estimated 9.0% (95% CI: 7.2–11.1) of Hoosiers ages 18 to 25 initiated marijuana use in the past year (U.S.: 8.4%; 95% CI: 8.0–8.8), as did 5.3% (95% CI: 4.4–6.6) of Indiana youth ages 12 to 17 (U.S.: 5.7%; 95% CI: 5.5–6.0). Past-year initiation was significantly lower in adults ages 26 and older (IN: 0.7%; 95% CI: 0.5–1.0; U.S.: 0.7%; 95% CI: 0.6–0.8) (SAMHSA, 2021).

Youth Risk Behavior Surveillance System

The Youth Risk Behavior Surveillance System (YRBSS) estimated that in 2015, the most recent year for which Indiana estimates are available, 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], 1991-2019). 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, 2003–2019)



Note: 2013, 2017, and 2019 estimates are not available for Indiana due to low response rates.
Source: CDC, 1991-2019

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)

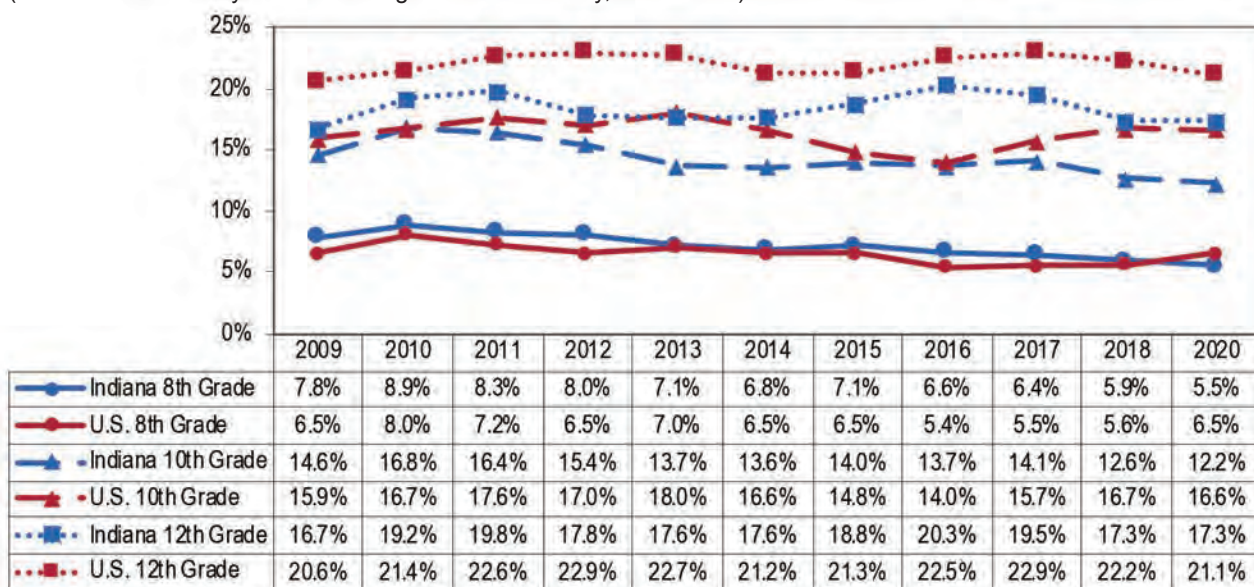
Source: CDC, 1991-2019

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, 1991-2019).

Indiana Youth Survey

Data from the Indiana Youth Survey (Gassman et al., 2020), and the Monitoring the Future (MTF) survey (Inter-university Consortium for Political and Social Research [ICPSR], 2020) 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 2009 through 2020, see Figure 4.4; for monthly marijuana use by Indiana region and grade level for 2020, see Appendix 4A.

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, 2009–2020)



Note: The Indiana Youth Survey (INYS) switched to a biennial data collection after 2018; hence 2019 estimates are not available.

Source: Gassman et al., 2020; ICPSR, 2020

Indiana College Substance Use Survey

Marijuana use was also prevalent among college students. Results from the 2019 Indiana College Substance Use Survey (ISCUS) showed that 20.7% of Indiana college students reported current marijuana use (U.S.: 24.7%). Differences in past-month marijuana use among Indiana college students are as follows:

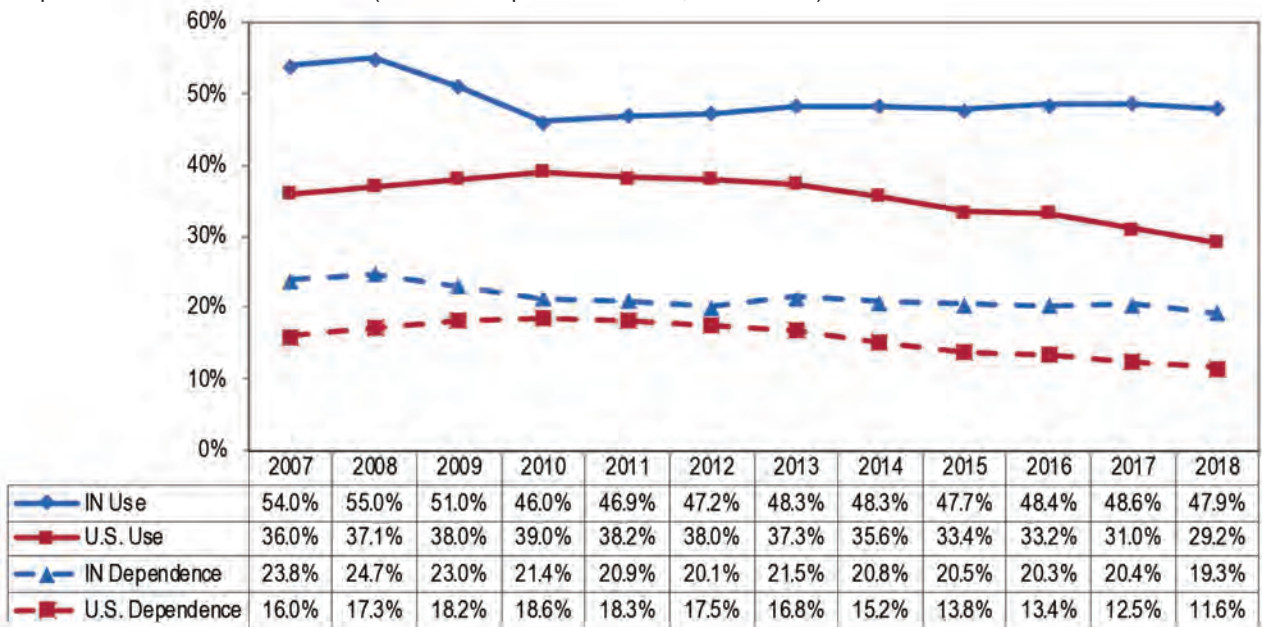
- Gender: Significantly more male (22.0%) than female (19.7%) college students reported past-month marijuana use ($p < 0.05$).
- Age group: Past-month marijuana use was statistically similar between college students under the age of 21 (21.2%) and those ages 21-25 (20.0%).¹ (King & Jun, 2019).

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 2007 through 2018, Indiana exhibited a significantly higher percentage of treatment episodes reporting marijuana use and dependence compared to the United States. From 2007 through 2018, roughly one-half of Indiana treatment admissions reported marijuana use and about one-fifth indicated marijuana dependence (see Figure 4.5) (Substance Abuse and Mental Health Data Archive [SAMHDA], 2020).

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, 2007–2018)



Source: SAMHDA, 2021

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

²We 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 and Dependence, by Gender, Race, and Age Group (Treatment Episode Data Set, 2018)

		Marijuana Use	Marijuana Dependence
Gender	Male	51.0%	22.5%
	Female	43.3%	16.1%
Race	White	46.1 %	16.5%
	Black	57.9%	33.9%
	Other	49.1%	23.2%
Ethnicity	Hispanic	47.9%	19.3%
	Non-Hispanic	49.7%	19.6%
Age Group	Under 18	83.8%	59.7%
	18-24	57.2%	25.6%
	25-34	44.5%	14.2%
	35-44	37.4%	11.1%
	45-54	29.3%	7.2%
	55+	20.4%	3.2%
Total		47.9%	19.3%

Source: SAMHDA, 2020

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 or 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 adults ages 55 and above (see Table 4.2) (SAMHDA, 2021).

See Appendix 4B for county-level information on marijuana use and dependence.

CONSEQUENCES OF MARIJUANA USE

The debate over the therapeutic benefits and drawbacks of medical marijuana use is gaining attention as numerous states have or are in the process of legalizing marijuana for medical and recreational purposes. As of April 2021, 36 states and the District of Columbia (D.C.) have legalized medical marijuana use, and 16 of these states, as well as D.C., have passed laws to allow adult recreational use (National Conference of State Legislatures, 2021). Existing research shows that marijuana use is associated with negative health outcomes. Short-term use is associated with impaired motor coordination and altered judgement, increasing the likelihood of other risky behaviors. Long-term use can increase the risk of mental illness, use of other substances and chronic bronchitis (Volkow et

al., 2014). Persistent cannabis use is associated with decreased functional connectivity in the brain, IQ decline, and increased memory and attention issues (Meier et al., 2012; Zalesky et al., 2012). Additionally, cannabis dependence can have undesirable economic and social implications. A longitudinal study found that regular users of cannabis were of lower socioeconomic status than their parents, have a greater frequency of relationship and workplace problems as well as experience more financial difficulties in early midlife (Cerdá et al., 2016). Conversely, medical marijuana use has been shown to relieve the clinical symptoms of glaucoma, nausea, chronic pain, inflammation, disease-induced decreased appetite, multiple sclerosis, and epilepsy (Volkow et al., 2014).

APPENDIX 4A

Percentage of Indiana Students Reporting Monthly Marijuana Use, by Region and Grade (Indiana Youth Survey, 2020)

	Indiana	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	Region 10
6th Grade	1.0%	0.9%	0.8%	2.4%*	1.2%	0.5%	0.0%	0.8%	0.5%*	1.0%	0.4%
7th Grade	2.8%	3.6%	3.7%*	4.3%*	1.7%*	2.9%	1.1%*	3.6%	1.2%*	3.1%	2.0%
8th Grade	5.5%*	8.3%*	5.7%	8.8%*	3.0%*	4.6%*	5.4%*	5.4%	3.4%*	5.9%	6.0%
9th Grade	8.2%	7.4%	6.9%	9.5%	7.1%	7.0%	11.0%*	10.1%	7.7%	9.3%	6.5%
10th Grade	12.2%	15.3%*	9.9%*	15.4%*	9.6%*	11.0%	16.5%*	14.6%*	8.8%*	12.7%	10.2%
11th Grade	12.9%	14.5%	10.6%*	16.4%*	14.3%	10.5%	16.3%*	13.8%	12.9%	11.8%	9.6%
12th Grade	17.3%	20.6%*	13.3%*	23.5%*	16.0%	10.0%*	22.5%*	20.8%	15.3%	18.5%	9.3%

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

Source: Gassman et al., 2020

INYS data are provided at the state level and broken down by regions. There were eight regions until 2018. DMHA introduced the ten new planning regions in 2020. These include:

Region 1: Lake, LaPorte, Porter

Region 2: Cass, Elkhart, Fulton, Howard, Kosciusko, Marshall, Miami, Pulaski, St. Joseph, Starke, Wabash

Region 3: Adams, Allen, DeKalb, Huntington, Lagrange, Noble, Steuben, Wells, Whitley

Region 4: Benton, Boone, Carroll, Clinton, Fountain, Jasper, Montgomery, Newton, Tippecanoe, Warren, White

Region 5: Blackford, Delaware, Grant, Hamilton, Hancock, Henry, Jay, Madison, Randolph, Tipton, Wayne

Region 6: Clay, Hendricks, Monroe, Morgan, Owen, Parke, Putnam, Sullivan, Vermillion, Vigo

Region 7: Marion

Region 8: Daviess, Dubois, Gibson, Greene, Knox, Martin, Perry, Pike, Posey, Spencer, Vanderburgh, Warrick

Region 9: Bartholomew, Brown, Clark, Crawford, Floyd, Harrison, Jackson, Johnson, Lawrence, Orange, Scott, Washington

Region 10: Dearborn, Decatur, Fayette, Franklin, Jefferson, Jennings, Ohio, Ripley, Rush, Shelby, Switzerland, Union

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, SFY 2020)

County	Treatment Episodes	Marijuana Use		Marijuana Dependence	
	Total	Number	%	Number	%
Adams	77	34	44.2%	14	18.2%
Allen	1,191	620	52.1%	265	22.3%
Bartholomew	427	187	43.8%	79	18.5%
Benton	27	12	44.4%	6	22.2%
Blackford	72	36	50.0%	5	6.9%
Boone	244	139	57.0%	67	27.5%
Brown	84	45	53.6%	14	16.7%
Carroll	48	22	45.8%	8	16.7%
Cass	182	94	51.6%	28	15.4%
Clark	627	189	30.1%	80	12.8%
Clay	59	39	66.1%	16	27.1%
Clinton	137	62	45.3%	24	17.5%
Crawford	92	32	34.8%	20	21.7%
Daviess	208	105	50.5%	40	19.2%
Dearborn	192	89	46.4%	22	11.5%
Decatur	127	44	34.6%	13	10.2%
DeKalb	135	89	65.9%	27	20.0%
Delaware	602	246	40.9%	67	11.1%
Dubois	196	93	47.4%	47	24.0%
Elkhart	424	185	43.6%	81	19.1%
Fayette	244	93	38.1%	25	10.2%
Floyd	578	186	32.2%	58	10.0%
Fountain	55	37	67.3%	15	27.3%
Franklin	46	23	50.0%	8	17.4%
Fulton	144	72	50.0%	22	15.3%
Gibson	183	110	60.1%	35	19.1%
Grant	314	162	51.6%	39	12.4%
Greene	106	55	51.9%	25	23.6%
Hamilton	770	391	50.8%	186	24.2%
Hancock	297	150	50.5%	62	20.9%
Harrison	107	32	29.9%	5	4.7%
Hendricks	710	395	55.6%	139	19.6%
Henry	249	95	38.2%	38	15.3%
Howard	421	198	47.0%	51	12.1%
Huntington	176	89	50.6%	28	15.9%
Jackson	305	136	44.6%	31	10.2%
Jasper	69	26	37.7%	9	13.0%
Jay	107	55	51.4%	18	16.8%
Jefferson	422	195	46.2%	52	12.3%
Jennings	297	135	45.5%	55	18.5%
Johnson	251	95	37.8%	39	15.5%
Knox	436	235	53.9%	110	25.2%
Kosciusko	242	150	62.0%	50	20.7%
LaGrange	120	68	56.7%	27	22.5%
Lake	1,167	424	36.3%	177	15.2%
LaPorte	377	113	30.0%	42	11.1%
Lawrence	358	171	47.8%	54	15.1%

County	Treatment Episodes	Marijuana Use		Marijuana Dependence	
	Total	Number	%	Number	%
Madison	1,318	716	54.3%	324	24.6%
Marion	3,974	1,970	49.6%	928	23.4%
Marshall	91	41	45.1%	14	15.4%
Martin	63	26	41.3%	11	17.5%
Miami	154	65	42.2%	24	15.6%
Monroe	1,171	500	42.7%	122	10.4%
Montgomery	456	278	61.0%	63	13.8%
Morgan	487	212	43.5%	86	17.7%
Newton	20	11	55.0%	<5	N/A
Noble	139	89	64.0%	39	28.1%
Ohio	13	8	61.5%	<5	N/A
Orange	194	67	34.5%	34	17.5%
Owen	124	56	45.2%	19	15.3%
Parke	34	19	55.9%	5	14.7%
Perry	112	27	24.1%	15	13.4%
Pike	52	18	34.6%	11	21.2%
Porter	422	132	31.3%	43	10.2%
Posey	90	51	56.7%	23	25.6%
Pulaski	58	27	46.6%	6	10.3%
Putnam	214	124	57.9%	54	25.2%
Randolph	141	61	43.3%	15	10.6%
Ripley	76	37	48.7%	7	9.2%
Rush	142	69	48.6%	22	15.5%
Saint Joseph	913	372	40.7%	141	15.4%
Scott	391	71	18.2%	15	3.8%
Shelby	122	64	52.5%	20	16.4%
Spencer	68	16	23.5%	5	7.4%
Starke	211	69	32.7%	18	8.5%
Steuben	130	74	56.9%	30	23.1%
Sullivan	51	25	49.0%	14	27.5%
Switzerland	53	31	58.5%	16	30.2%
Tippecanoe	348	139	39.9%	39	11.2%
Tipton	63	38	60.3%	10	15.9%
Union	36	19	52.8%	<5	N/A
Vanderburgh	963	594	61.7%	296	30.7%
Vermillion	35	19	54.3%	9	25.7%
Vigo	339	179	52.8%	80	23.6%
Wabash	207	89	43.0%	31	15.0%
Warren	14	6	42.9%	5	35.7%
Warrick	212	135	63.7%	63	29.7%
Washington	97	24	24.7%	<5	N/A
Wayne	528	212	40.2%	90	17.0%
Wells	64	33	51.6%	6	9.4%
White	101	45	44.6%	13	12.9%
Whitley	76	47	61.8%	19	25.0%
Indiana	29,170	16,686	46.9%	5,378	18.4%

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, 2021

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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 the 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. The number and rate of opioid dispensations have been gradually declining in the past few years. According to the most current estimate, 186.5 opioid prescriptions per 1,000 population were dispensed in Indiana during the third quarter of 2020 (see Figure 5.1) (Indiana Department of Health [IDOH], 2020a). For county-level information, see Appendix 5A.

Figure 5.1 Number and Rate (per 1,000 Population) of Opioids Dispensed in Indiana per Quarter (INSPECT, 2017-2020)



Note: Dispensation data includes three opioid prescription categories: (1) opioid analgesics, (2) opioid antidiarrheals/antitussives, and (3) opioid antagonists and treatment addiction medications.

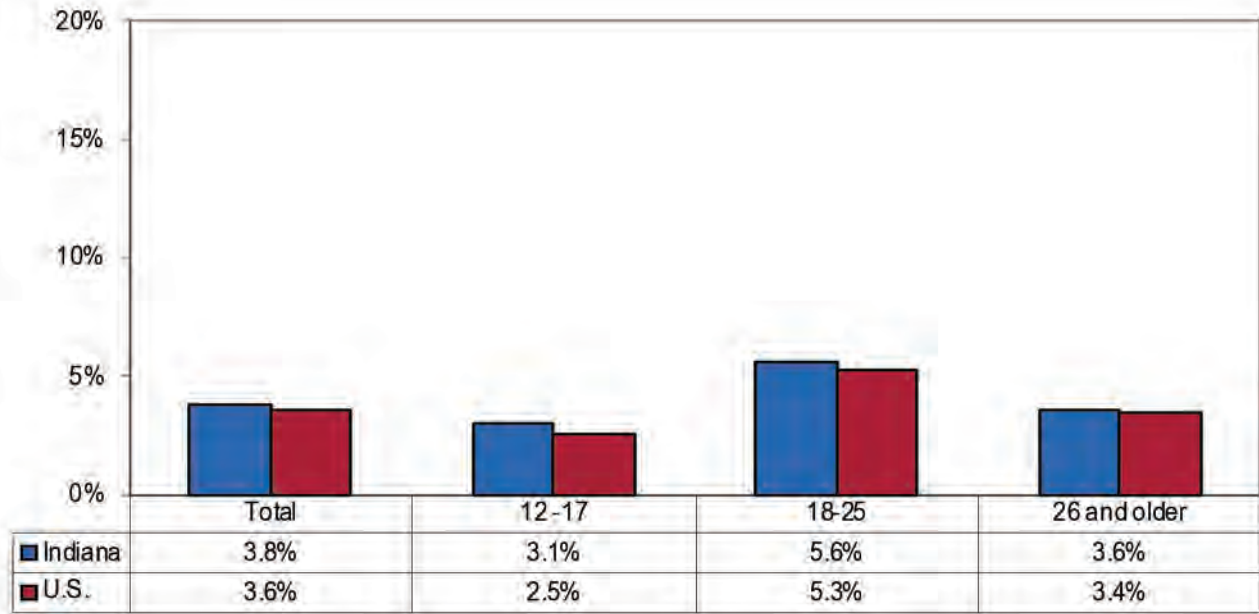
Source: IDOH, 2020a

**PREVALENCE OF OPIOID CONSUMPTION
IN THE GENERAL POPULATION**
National Survey on Drug Use and Health

Based on 2018–2019 averages from the Substance Abuse and Mental Health Services Administration (SAMHSA)’s National Survey on Drug Use and Health (NSDUH), an estimated 3.8% (95% Confidence Interval

[CI]: 3.1-4.6) of Indiana residents ages 12 and older misused pain relievers in the past year (U.S.: 3.6%; 95% CI: 3.4-3.7). The highest rate was found among young adults ages 18 to 25, at 5.6% (95% CI: 4.4-7.7); the same as the nation’s rate for that age group (5.6%; 95% CI: 5.0-5.7) (SAMHSA, 2021). For additional rates by age group, see Figure 5.2.

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, 2018-2019)

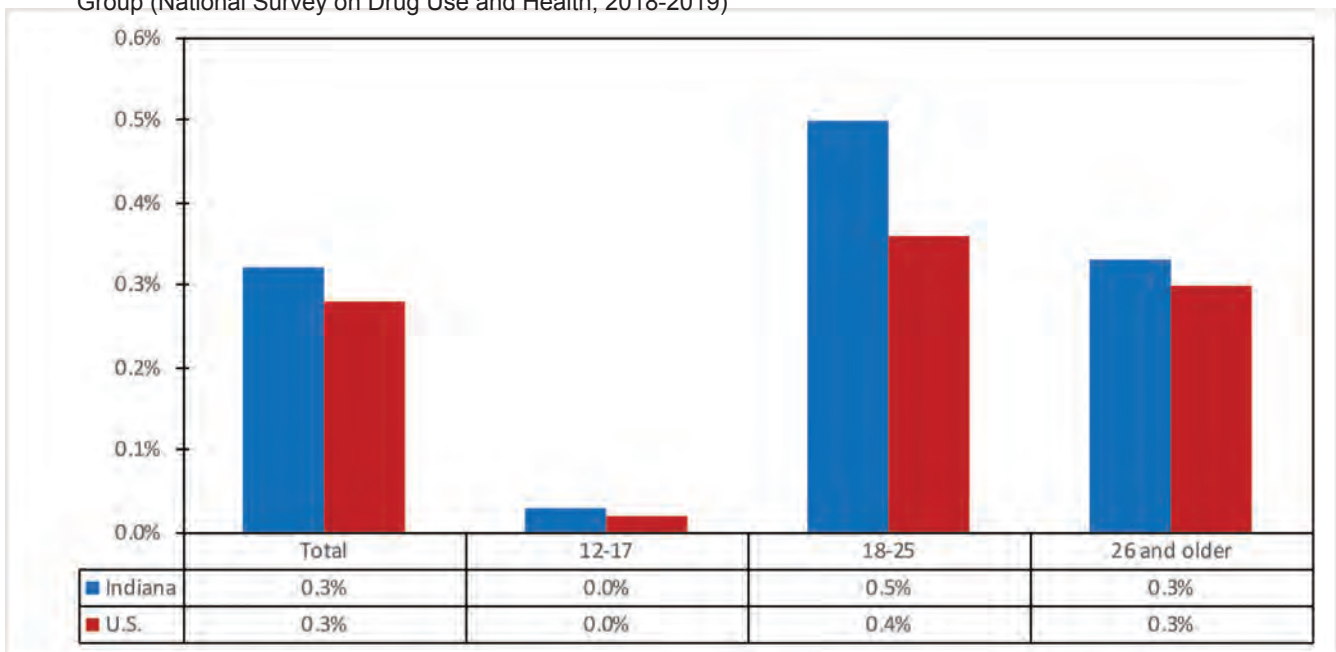


Source: SAMHSA, 2021

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 Department of Health [IDOH], 2020b).

According to findings from the 2018-2019 NSDUH, 0.3% (95% CI: 0.2-0.6) 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 0.5% (95% CI: 0.3-1.0) (SAMHSA, 2021). 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, 2018-2019)



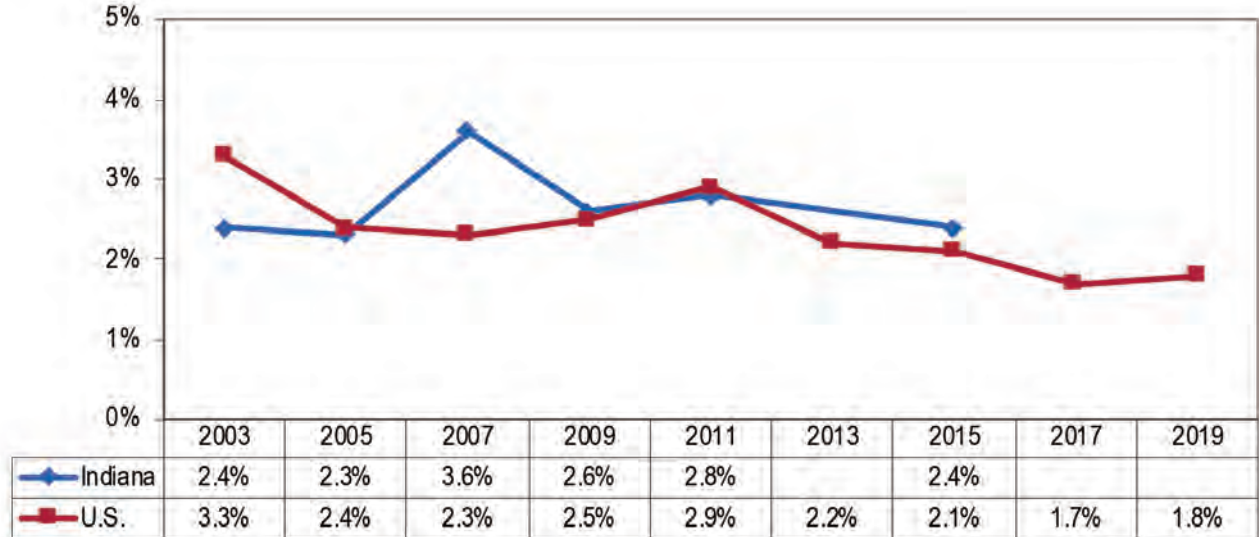
Source: SAMHSA, 2021

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 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], 1991–2019).

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, 2003–2019)



Note: 2013, 2017 and 2019 estimates are not available for Indiana due to low response rates.
Source: CDC, 1991–2019

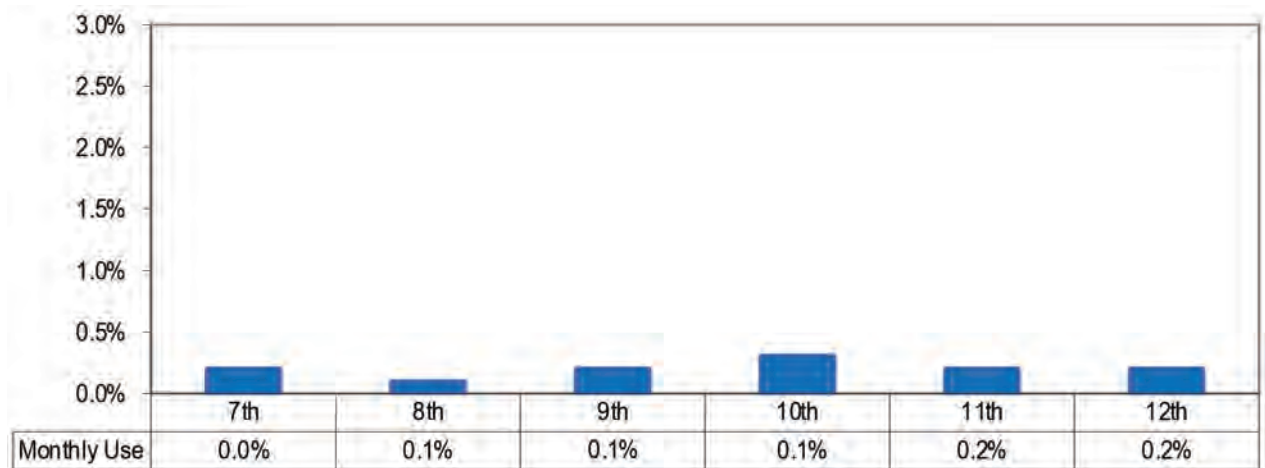
As noted previously, a common route of administration for heroin is by needle injection. According to the 2015 YRBSS, the percentage of high school students who used a needle to inject any illegal drug into their body one or more times during their lifetime was statistically similar in Indiana (2.2%; 95% CI: 1.1–4.3) and the nation (1.8%; 95% CI: 1.3–2.3) (CDC, 1991–2019).

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

Indiana Youth Survey

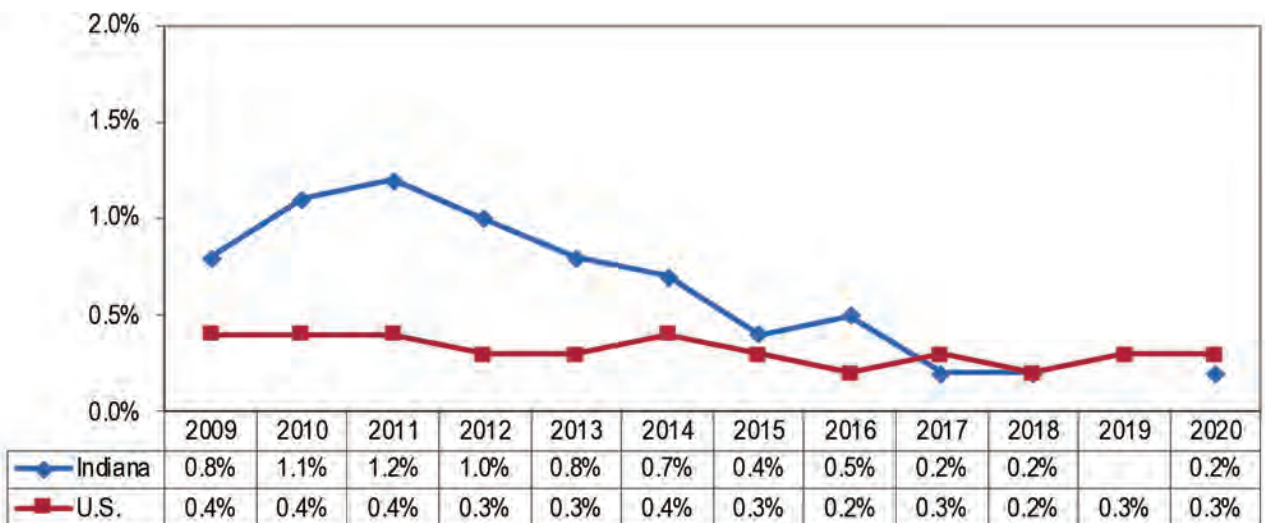
Based on results from the 2020 Indiana Youth Survey (INYS), past-month heroin use among 7th through 12th grade students was between 0.0% and 0.2% (see Figure 5.5). Heroin use among Indiana 12th graders peaked in 2011 at 1.2%, but is now at 0.2% (see Figure 5.6) (Gassman et al., 2020). For monthly heroin use rates in Indiana by region and grade level, see Appendix 5B.

Figure 5.5 Percentage of Indiana 7th through 12th Grade Students Reporting Monthly Heroin Use (Indiana Youth Survey, 2020)



Source: Gassman et al., 2020

Figure 5.6 Percentage of Indiana and U.S. 12th Grade Students Reporting Monthly Heroin Use (Indiana Youth Survey and Monitoring the Future Survey, 2009–2020)



Note: The Indiana Youth Survey (INYS) switched to a biennial collection of data after 2018.

Source: Gassman et al., 2020; Inter-university Consortium for Political and Social Research, University of Michigan, 2020

Indiana College Substance Use Survey

The Indiana College Substance Use Survey (ICSUS)¹ includes questions on the past-month use of opioids and prescription painkillers not prescribed to the student.

Findings from the 2019 survey were as follows:

- a) Misuse of prescription painkillers:
 - 1.2% of Indiana college students misused prescription painkillers in the past month.
 - Rates did not differ significantly by gender or by age group.
- b) Misuse of heroin:
 - 0.2% of Indiana college students reported using heroin within the past month.
 - Rates did not differ significantly by gender or age group.

(King & Jun, 2019).

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 relievers² or heroin at the time of substance use treatment admission.

In nearly 20% of Indiana treatment admissions, misuse of prescription opioids was reported (U.S.: 12.4%) and in over 8%, dependence³ was indicated in 2018 (SAMHDA, 2021). Generally, women, whites, non-Hispanics, and adults between the ages of 25 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 from 2008 to 2018, but peaked in Indiana in 2014 (see Figure 5.7). For county-level information, see Appendix 5C.

Table 5.1 Percentage of Indiana Treatment Episodes with Prescription Opioid Misuse and Dependence Reported at Treatment Admission, by Gender, Race, Ethnicity, and Age Group (Treatment Episode Data Set, 2018)

		Misuse	Dependence
Gender	Male	16.1%	7.1%
	Female	21.9%	10.5%
Race	White	20.7%	9.5%
	Black	5.8%	2.4%
	Other	16.4%	8.2%
Ethnicity	Hispanic	18.4%	6.5%
	Non-Hispanic	19.0%	8.4%
Age Group	Under 18	7.4%	2.5%
	18-24	18.4%	7.1%
	25-34	23.3%	11.3%
	35-44	17.5%	8.8%
	45-54	12.5%	6.8%
	55+	11.6%	8.3%
Total		18.4%	8.4%

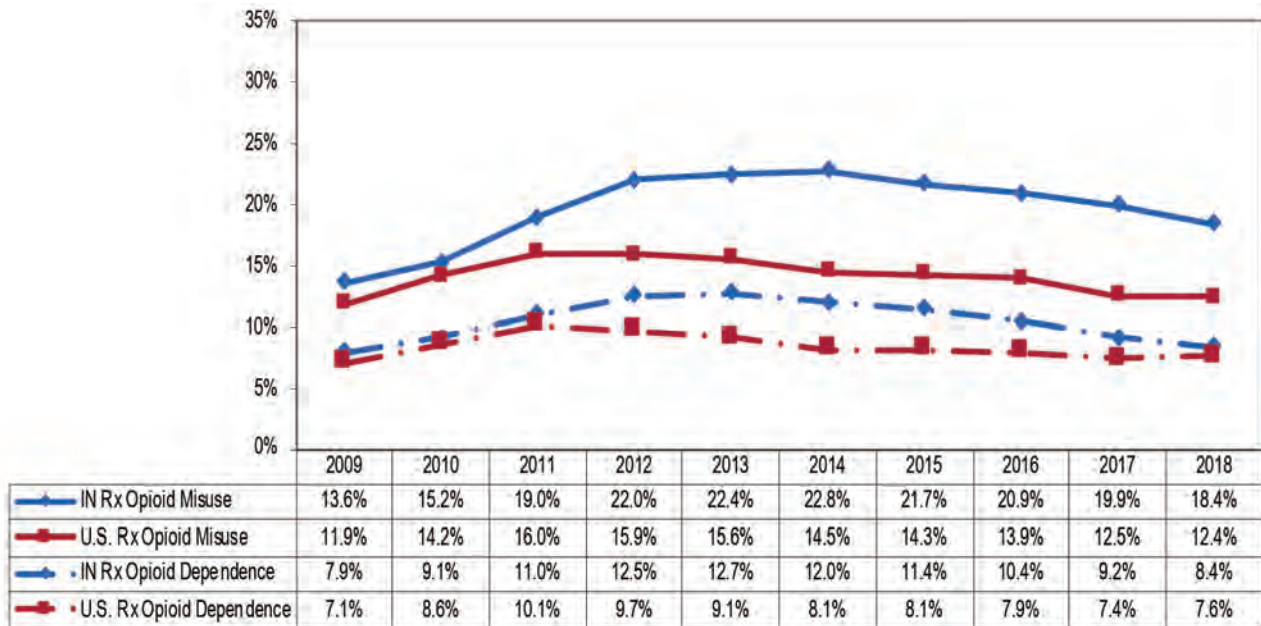
Source: SAMHDA, 2021

¹Twenty (20) colleges participated in the 2019 survey; results are based on nonrandom sampling and are not representative of all college students in Indiana.

²We used TEDS variables “nonprescription methadone” and “other opiates/synthetics” to define pain reliever use (excludes heroin).

³We 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, 2009–2018)

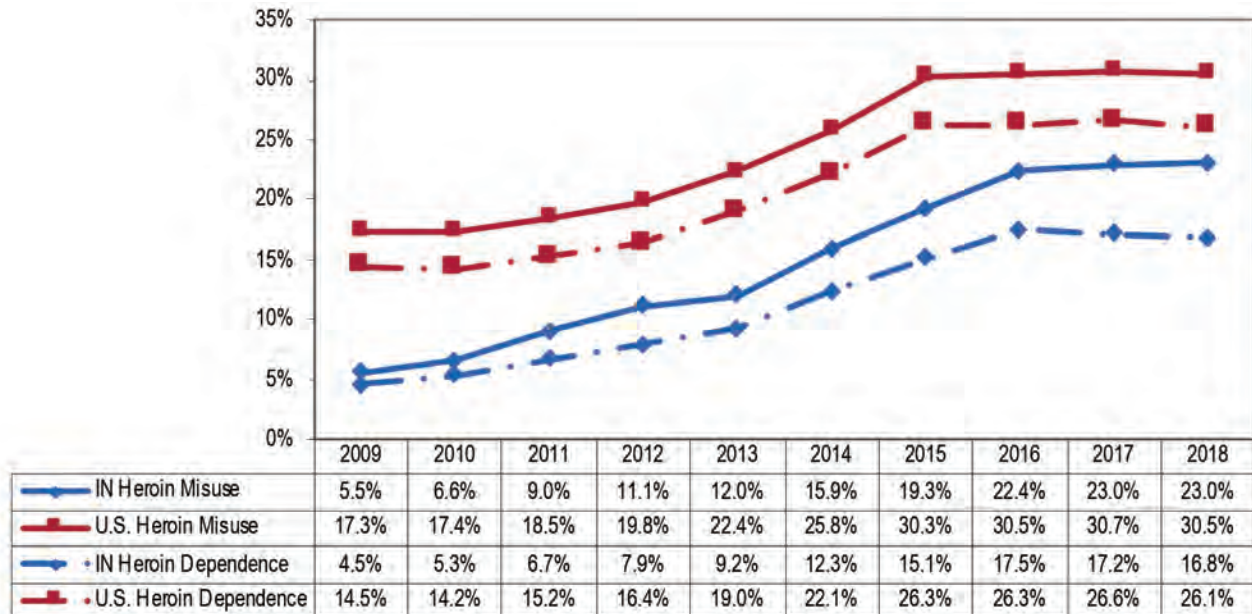


Source: SAMHDA, 2021

In over one-fifth of Indiana treatment admissions in 2018, heroin use was reported; heroin dependence⁴ was indicated in 16.8% of admissions (SAMHDA, 2021). Though the percentage of treatment admissions

attributable to heroin in Indiana increased significantly from 2009 through 2018, 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, 2009–2018)



Source: SAMHDA, 2021

⁴We defined heroin dependence as “individuals in substance abuse treatment listing heroin as their primary substance at admission.”

Findings from this dataset indicate differences by gender, race, and age group within Indiana’s treatment population.

- **Gender**—Reported heroin use and dependence is higher among females than males.
- **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.

For additional details, see Table 5.2; for county-level information, see Appendix 5C.

Table 5.2 Percentage of Indiana Treatment Episodes with Heroin Use and Dependence Reported at Treatment Admission, by Gender, Race, Ethnicity, and Age Group (Treatment Episode Data Set, 2018)

		Misuse	Dependence
Gender	Male	20.3%	14.7%
	Female	27.1%	19.9%
Race	White	25.8%	18.7%
	Black	7.9%	6.5%
	Other	20.4%	15.3%
Ethnicity	Hispanic	23.5%	22.2%
	Non-Hispanic	23.0%	16.8%
Age Group	Under 18	9.5%	5.9%
	18-24	29.0%	21.3%
	25-34	27.8%	20.2%
	35-44	17.1%	12.9%
	45-54	9.8%	7.1%
	55+	18.1%	14.4%
Total		23.0%	16.8%

Source: SAMHDA, 2021

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 2019, a total of 11,985 unique patients were treated in OTPs in Indiana (Indiana Family and Social Services Administration, 2020).

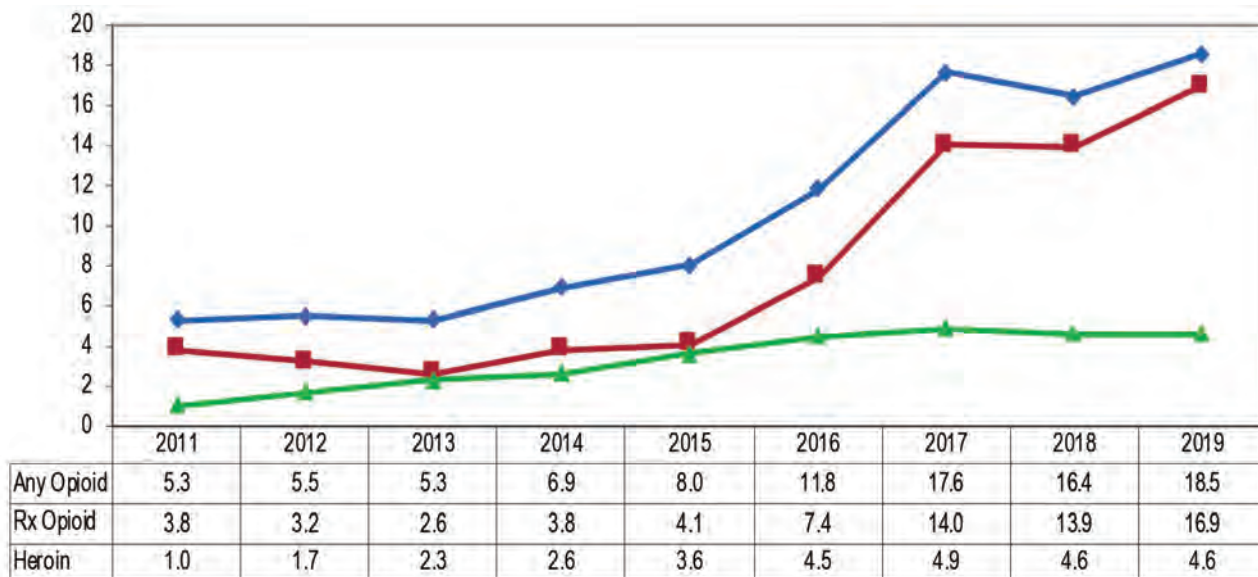
CONSEQUENCES OF OPIOID USE Fatal and Non-Fatal Drug Overdoses

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 9.8 per 100,000 population (U.S.: 10.1) in 2005 to 26.6 per 100,000 population (U.S.: 21.6) in 2019 (CDC, 1999–2019), peaking in 2017 at 29.4 per 100,000 population (U.S.: 21.7).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 1,246 in 2019 (IDOH, 2020b). See Figure 5.9 for overdose mortality rates involving opioids over time.

In addition, a total of 5,064 visits to Indiana emergency departments occurred due to a nonfatal opioid overdose in 2018 (IDOH, 2020b).

⁵Includes 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, 2011–2019)



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: IDOH, 2020b

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, 2018, a total of 12,708 individuals in Indiana were living with HIV or AIDS, representing an annual HIV/AIDS prevalence rate of 189.9 per 100,000 population. In 2018, there were 522 new cases of HIV/AIDS (IDOH, 2021). In nearly 9% of 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 (CDC, 2018).

Indiana’s age-adjusted HIV/AIDS mortality rate for 2019 was 0.9 per 100,000 population (95% CI: 0.7–1.2), which was slightly lower than the U.S. rate of 1.4 per 100,000 population (95% CI: 1.3–1.4) (CDC, 1999–2019).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 2018, there were 1,032 cases of hepatitis B (including 170 acute and 862 chronic cases) and 6,445 cases of hepatitis C (including 387 acute and 6,058 chronic cases) in Indiana (IDOH, 2020b).

The 2019 age-adjusted mortality rate attributable to HBV and HCV⁷ combined was 0.8 per 100,000 population (95% CI: 0.6–1.0) in Indiana, which was similar to the national rate of 0.9 per 100,000 population (95% CI: 0.9–1.0) (CDC, 1999–2019).

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

⁷Mortality rates for hepatitis B and C infections are based on the following ICD-10 codes: B16 (Acute hepatitis B), B17.0 (Acute delta-[super]infection of hepatitis B carrier), B17.1 (Acute hepatitis C), B18.0 (Chronic viral hepatitis B with delta-agent), B18.1 (Chronic viral hepatitis B without delta-agent), B18.2 (Chronic viral hepatitis C).

APPENDIX 5A

Number and Rate (per 1,000 Population) of Opioid Dispensations in Indiana, by County of Patient's Residence
(INSPECT, Quarter 3, 2020)

County	Rate of Opioid Dispensations per 1,000
Adams	123.4
Allen	153.1
Bartholomew	213.3
Benton	167.8
Blackford	308.5
Boone	157.4
Brown	244.9
Carroll	151.0
Cass	184.2
Clark	252.2
Clay	177.9
Clinton	190.0
Crawford	279.8
Daviess	190.0
Dearborn	239.8
Decatur	204.0
DeKalb	177.1
Delaware	245.8
Dubois	175.9
Elkhart	126.0
Fayette	394.4
Floyd	221.5
Fountain	192.2
Franklin	200.5
Fulton	226.0
Gibson	208.5
Grant	279.1
Greene	247.5
Hamilton	113.8
Hancock	191.1
Harrison	229.5
Hendricks	149.2
Henry	327.1
Howard	278.2
Huntington	211.2
Jackson	207.3
Jasper	229.8
Jay	196.9
Jefferson	272.9
Jennings	258.1
Johnson	191.5
Knox	306.1
Kosciusko	162.9
LaGrange	86.3
Lake	161.6
LaPorte	219.9
Lawrence	320.8

County	Rate of Opioid Dispensations per 1,000
Madison	276.5
Marion	158.5
Marshall	159.4
Martin	273.5
Miami	213.2
Monroe	147.7
Montgomery	197.2
Morgan	255.2
Newton	194.7
Noble	174.0
Ohio	265.2
Orange	259.5
Owen	281.5
Parke	163.5
Perry	197.7
Pike	281.7
Porter	193.6
Posey	251.1
Pulaski	241.6
Putnam	194.5
Randolph	224.7
Ripley	207.4
Rush	245.3
St. Joseph	301.4
Scott	205.1
Shelby	176.8
Spencer	139.5
Starke	296.1
Steuben	144.1
Sullivan	194.9
Switzerland	229.1
Tippecanoe	115.1
Tipton	246.4
Union	171.4
Vanderburgh	256.0
Vermillion	212.4
Vigo	172.7
Wabash	254.3
Warren	163.4
Warrick	220.8
Washington	272.0
Wayne	271.9
Wells	189.4
White	173.0
Whitley	184.5
INDIANA	186.5

Note: Dispensation data includes three opioid prescription categories: (1) opioid analgesics, (2) opioid antidiarrheals/antitussives, and (3) opioid antagonists and treatment addiction medications.

Source: IDOH, 2020b

APPENDIX 5B

Percentage of Indiana Students Reporting Monthly Heroin Use, by Region and Grade (Indiana Youth Survey, 2020)

	Indiana	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	Region 10
7th Grade	0.2%	0.1%	0.3%	0.3%	0.2%	0.1%	0.0%	0.1%	0.0%	0.1%	0.1%
8th Grade	0.1%	0.1%	0.3%*	0.1%	0.0%	0.2%	0.1%	0.0%	0.0%	0.1%	0.0%
9th Grade	0.2%	0.1%	0.1%	0.2%	0.0%	0.4%	0.0%	0.1%	0.3%	0.3%	0.2%
10th Grade	0.3%	0.0%	0.3%	0.2%	0.6%	0.7%	0.4%	0.2%	0.4%	0.2%	0.0%
11th Grade	0.2%	0.3%	0.2%	0.3%	0.3%	0.0%	0.0%	0.2%	0.1%	0.0%	0.2%
12th Grade	0.2%	0.3%	0.4%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.1%	0.3%

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

Source: Gassman et al., 2020

INYS data are provided at the state level and broken down by regions. There were eight regions until 2018. DMHA introduced the ten new planning regions in 2020. These include:

Region 1: Lake, LaPorte, Porter

Region 2: Cass, Elkhart, Fulton, Howard, Kosciusko, Marshall, Miami, Pulaski, St. Joseph, Starke, Wabash

Region 3: Adams, Allen, DeKalb, Huntington, Lagrange, Noble, Steuben, Wells, Whitley

Region 4: Benton, Boone, Carroll, Clinton, Fountain, Jasper, Montgomery, Newton, Tippecanoe, Warren, White

Region 5: Blackford, Delaware, Grant, Hamilton, Hancock, Henry, Jay, Madison, Randolph, Tipton, Wayne

Region 6: Clay, Hendricks, Monroe, Morgan, Owen, Parke, Putnam, Sullivan, Vermillion, Vigo

Region 7: Marion

Region 8: Daviess, Dubois, Gibson, Greene, Knox, Martin, Perry, Pike, Posey, Spencer, Vanderburgh, Warrick

Region 9: Bartholomew, Brown, Clark, Crawford, Floyd, Harrison, Jackson, Johnson, Lawrence, Orange, Scott, Washington

Region 10: Dearborn, Decatur, Fayette, Franklin, Jefferson, Jennings, Ohio, Ripley, Rush, Shelby, Switzerland, Union

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 (Treatment Episode Data Set, SFY 2020)

County	Treatment Episodes	Rx Opioid Misuse		Rx Opioid Dependence		Heroin Use		Heroin Dependence	
	Total	Number	%	Number	%	Number	%	Number	%
Adams	77	23	29.9%	9	11.7%	27	35.1%	20	26.0%
Allen	1,191	164	13.8%	80	6.7%	268	22.5%	203	17.0%
Bartholomew	427	31	7.3%	8	1.9%	99	23.2%	74	17.3%
Benton	27	<5	N/A	<5	N/A	6	22.2%	<5	N/A
Blackford	72	12	16.7%	9	11.7%	38	52.8%	25	34.7%
Boone	244	39	16.0%	80	6.7%	54	22.1%	33	13.5%
Brown	84	<5	N/A	<5	N/A	24	28.6%	22	26.2%
Carroll	48	<5	N/A	<5	N/A	9	18.8%	<5	N/A
Cass	182	26	14.3%	14	7.7%	26	14.3%	14	7.7%
Clark	627	159	25.4%	114	18.2%	138	22.0%	111	17.7%
Clay	59	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Clinton	137	25	18.2%	10	7.3%	27	19.7%	15	10.9%
Crawford	92	19	20.7%	15	16.3%	10	10.9%	6	6.5%
Daviess	208	36	17.3%	19	9.1%	14	6.7%	<5	N/A
Dearborn	192	67	34.9%	23	12.0%	70	36.5%	53	27.6%
Decatur	127	14	11.0%	5	3.9%	26	20.5%	16	12.6%
DeKalb	135	19	14.1%	8	5.9%	13	9.6%	8	5.9%
Delaware	602	109	18.1%	43	7.1%	163	27.1%	109	18.1%
Dubois	196	46	23.5%	26	13.3%	15	7.7%	7	3.6%
Elkhart	424	45	10.6%	23	5.4%	63	14.9%	45	10.6%
Fayette	244	54	22.1%	17	7.0%	82	33.6%	58	23.8%
Floyd	578	96	16.6%	57	9.9%	165	28.5%	123	21.3%
Fountain	55	<5	N/A	<5	N/A	10	18.2%	7	12.7%
Franklin	46	19	41.3%	9	19.6%	12	26.1%	7	15.2%
Fulton	144	15	10.4%	8	5.6%	31	21.5%	22	15.3%
Gibson	183	18	9.8%	7	3.8%	<5	N/A	<5	N/A
Grant	314	57	18.2%	15	4.8%	139	44.3%	92	29.3%
Greene	106	20	18.9%	7	6.6%	14	13.2%	9	8.5%
Hamilton	770	97	12.6%	37	4.8%	210	27.3%	147	19.1%
Hancock	297	45	15.2%	17	5.7%	83	27.9%	69	23.2%
Harrison	107	18	16.8%	13	12.1%	15	14.0%	10	9.3%
Hendricks	710	108	15.2%	29	4.1%	236	33.2%	184	25.9%
Henry	249	91	36.5%	38	15.3%	39	15.7%	20	8.0%
Howard	421	93	22.1%	35	8.3%	106	25.2%	62	14.7%
Huntington	176	35	19.9%	17	9.7%	60	34.1%	47	26.7%
Jackson	305	28	9.2%	<5	N/A	63	20.7%	35	11.5%
Jasper	69	12	17.4%	8	11.6%	20	29.0%	15	21.7%
Jay	107	18	16.8%	8	7.5%	42	39.3%	29	27.1%
Jefferson	422	106	25.1%	33	7.8%	62	14.7%	39	9.2%
Jennings	297	28	9.4%	9	3.0%	56	18.9%	34	11.4%
Johnson	251	31	12.4%	14	5.6%	87	34.7%	67	26.7%
Knox	436	97	22.2%	46	10.6%	25	5.7%	10	2.3%
Kosciusko	242	42	17.4%	18	7.4%	53	21.9%	37	15.3%

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APPENDIX 5C (Continued from previous page)

County	Treatment Episodes	Rx Opioid Misuse		Rx Opioid Dependence		Heroin Use		Heroin Dependence	
	Total	Number	%	Number	%	Number	%	Number	%
LaGrange	120	15	12.5%	<5	N/A	<5	N/A	<5	N/A
Lake	1,167	89	7.6%	43	3.7%	311	26.6%	266	22.8%
LaPorte	377	50	13.3%	24	6.4%	128	34.0%	102	27.1%
Lawrence	358	62	17.3%	14	3.9%	59	16.5%	25	7.0%
Madison	1,318	418	31.7%	151	11.5%	248	18.8%	137	10.4%
Marion	3,974	532	13.4%	243	6.1%	1,036	26.1%	791	19.9%
Marshall	91	16	17.6%	13	14.3%	23	25.3%	18	19.8%
Martin	63	7	11.1%	<5	N/A	<5	N/A	<5	N/A
Miami	154	38	24.7%	17	11.0%	46	29.9%	34	22.1%
Monroe	1,171	187	16.0%	40	3.4%	316	27.0%	191	16.3%
Montgomery	456	87	19.1%	28	6.1%	195	42.8%	138	30.3%
Morgan	487	52	10.7%	16	3.3%	124	25.5%	94	19.3%
Newton	20	<5	N/A	<5	N/A	9	45.0%	7	35.0%
Noble	139	8	5.8%	6	4.3%	11	7.9%	<5	N/A
Ohio	13	<5	N/A	<5	N/A	10	45.5%	<5	N/A
Orange	194	29	14.9%	14	7.2%	13	6.7%	6	3.1%
Owen	124	11	8.9%	5	4.0%	19	15.3%	13	10.5%
Parke	34	<5	N/A	<5	N/A	5	14.7%	<5	N/A
Perry	112	15	13.4%	8	7.1%	<5	N/A	<5	N/A
Pike	52	8	15.4%	6	11.5%	<5	N/A	<5	N/A
Porter	422	84	19.9%	55	13.0%	161	38.2%	138	32.7%
Posey	90	19	21.1%	7	7.8%	5	5.6%	<5	N/A
Pulaski	58	13	22.4%	<5	N/A	19	32.8%	17	29.3%
Putnam	214	50	23.4%	20	9.3%	39	18.2%	26	12.1%
Randolph	141	29	20.6%	8	5.7%	46	32.6%	28	19.9%
Ripley	76	16	21.1%	6	7.9%	20	26.3%	13	17.1%
Rush	142	34	23.9%	6	4.2%	27	19.0%	18	12.7%
Saint Joseph	913	75	8.2%	25	2.7%	300	32.9%	235	25.7%
Scott	391	179	45.8%	141	36.1%	106	27.1%	81	20.7%
Shelby	122	13	10.7%	5	4.1%	34	27.9%	18	14.8%
Spencer	68	11	16.2%	10	14.7%	<5	N/A	<5	N/A
Starke	211	70	33.2%	42	19.9%	87	41.2%	75	35.5%
Steuben	130	12	9.2%	5	3.8%	5	3.8%	<5	N/A
Sullivan	51	10	19.6%	<5	N/A	<5	N/A	<5	N/A
Switzerland	53	15	28.3%	7	13.2%	14	26.4%	6	11.3%
Tippecanoe	348	42	12.1%	12	3.4%	105	30.2%	75	21.6%
Tipton	63	16	25.4%	7	11.1%	11	17.5%	6	9.5%
Union	36	<5	N/A	<5	N/A	12	33.3%	6	16.7%
Vanderburgh	963	129	13.4%	58	6.0%	67	7.0%	43	4.5%
Vermillion	35	<5	N/A	<5	N/A	6	17.1%	<5	N/A
Vigo	339	26	7.7%	13	3.8%	17	5.0%	6	1.8%
Wabash	207	68	32.9%	38	18.4%	77	37.2%	56	27.1%
Warren	14	5	35.7%	<5	N/A	<5	N/A	<5	N/A

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APPENDIX 5C (Continued from previous page)

County	Treatment Episodes	Rx Opioid Misuse		Rx Opioid Dependence		Heroin Use		Heroin Dependence	
	Total	Number	%	Number	%	Number	%	Number	%
Warrick	212	32	15.1%	13	6.1%	7	3.3%	5	2.4%
Washington	97	29	29.9%	14	14.4%	25	25.8%	18	18.6%
Wayne	528	109	20.6%	52	9.8%	150	28.4%	103	19.5%
Wells	64	17	26.6%	<5	N/A	21	32.8%	14	21.9%
White	101	18	17.8%	8	7.9%	14	13.9%	7	6.9%
Whitley	76	11	14.5%	<5	N/A	11	14.5%	8	10.5%
Indiana	29,170	4,877	16.7%	2,116	7.3%	6,870	23.6%	4,919	16.9%

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

We defined heroin dependence as “individuals in substance use 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, 2020

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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 (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).

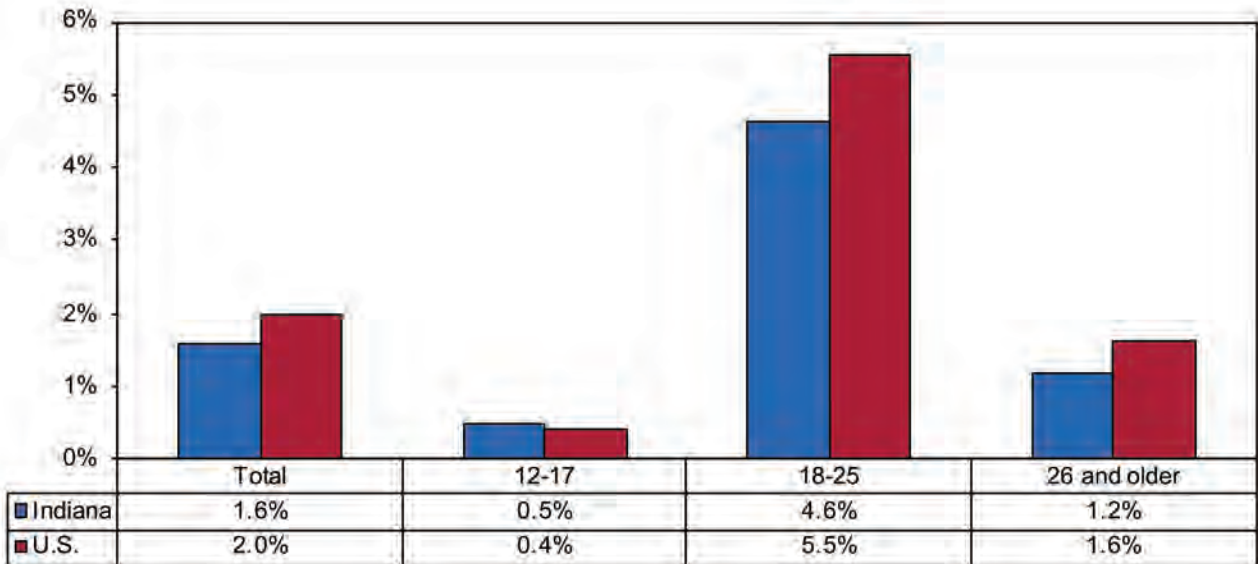
Prescription stimulants are legally produced stimulants such as dextroamphetamine (Dexedrine®), methylphenidate (Ritalin®), amphetamine sulfate (Adderall®), and lisdexamfetamine (Vyvanse®). These drugs increase alertness, attention, and energy and are used for the treatment of narcolepsy and attention-deficit 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

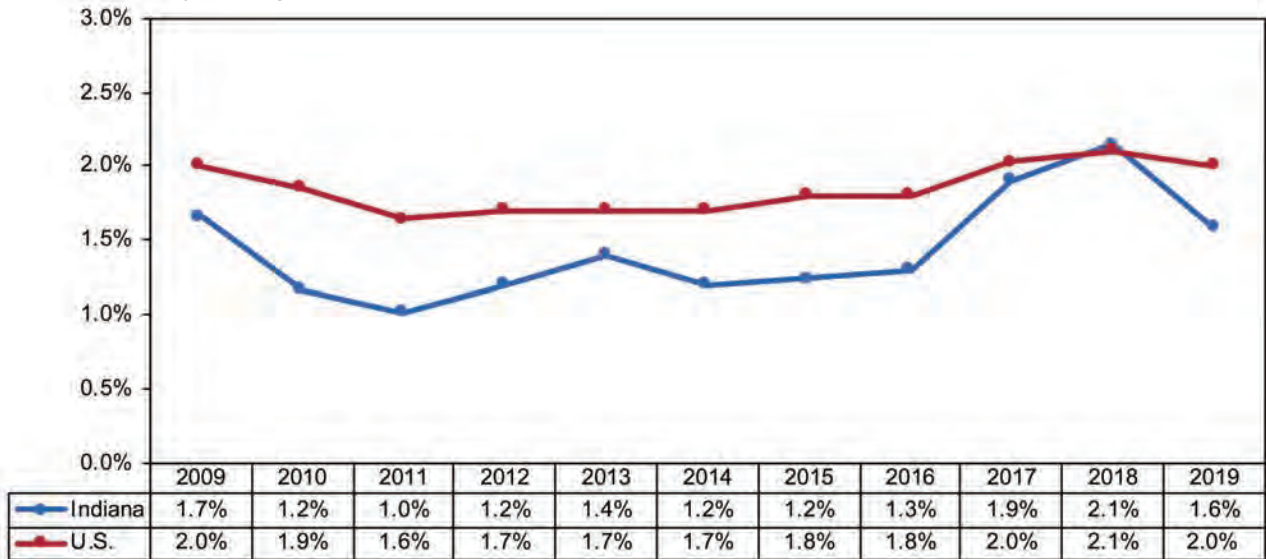
The National Survey on Drug Use and Health (NSDUH) estimated that in 2019, approximately 1.6% (95% Confidence Interval [CI]: 1.2-2.2) of Hoosiers 12 years of age or older used cocaine in the past year, a similar estimate to that of the nation (2.0%; 95% CI: 1.9-2.1). Across age groups, cocaine use was highest among persons between the ages of 18 and 25 in both Indiana (4.6%, 95% CI: 3.3-6.5) and the U.S. (5.5%, 95% CI: 5.2-5.9) (see Figure 6.1). Over the past decade, the rate of past-year cocaine use in both Indiana and the U.S. has remained fairly stable (see Figure 6.2) (Substance Abuse and Mental Health Services Administration [SAMHSA], 2021).

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, 2019)



Source: SAMHSA, 2021

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, 2009-2019)



Source: SAMHSA, 2021

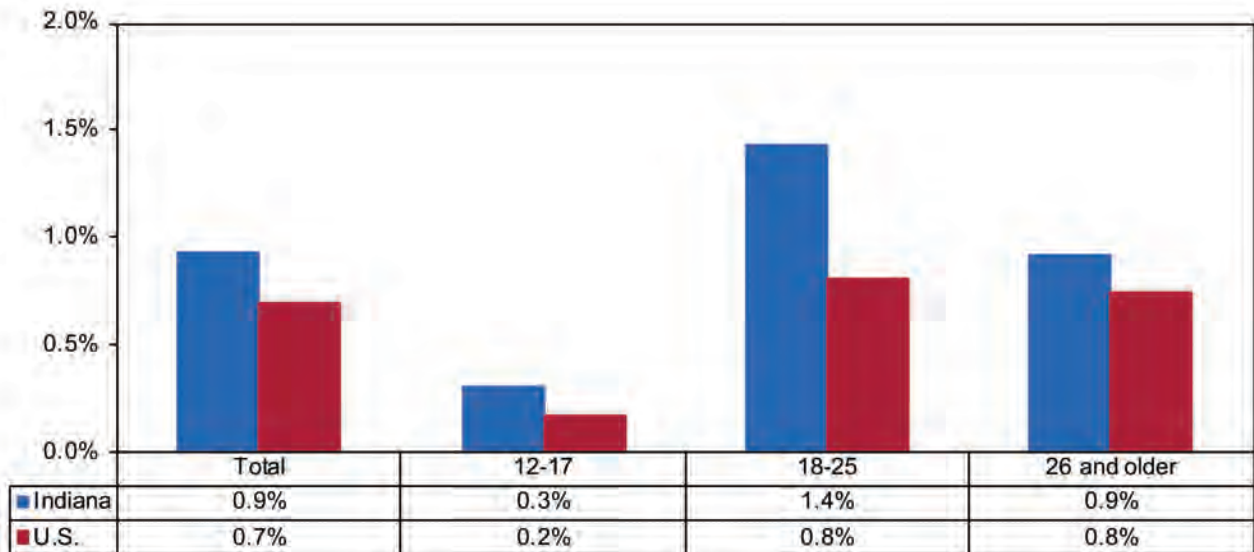
2019 was the third year in which state-level NSDUH estimates on methamphetamine use were available. In Indiana, 0.9% of Hoosiers (95% CI: 0.6-1.6) reported using meth in the past year; the U.S. rate was similar (0.7%; 95% CI: 0.6-0.8). For prevalence rates by age group, see Figure 6.3 (SAMHSA, 2021).

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, 1991-2019). 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 6.4). The YRBSS does not ask students to describe their use of prescription stimulants.

Figure 6.3 Percentage of Indiana and U.S. Population (12 Years and Older) Reporting Methamphetamine Use in the Past Year, by Age Group (National Survey on Drug Use and Health, 2019)



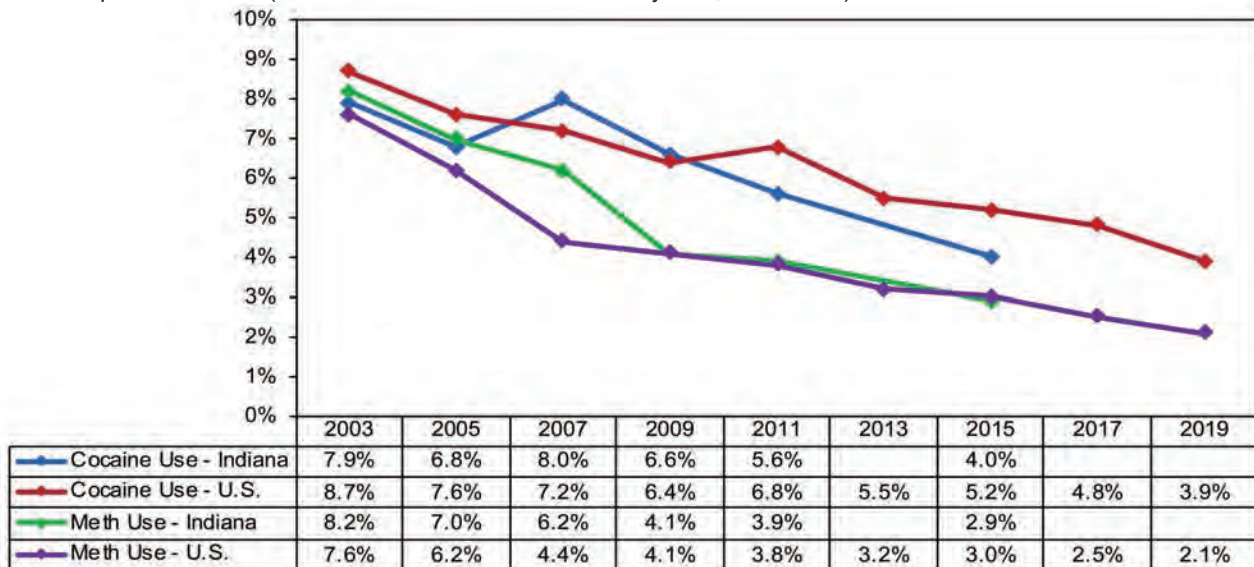
Source: SAMHSA, 2021

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% CI)	U.S. (95% CI)	Indiana (95% CI)	U.S. (95% CI)
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)

Note: 2015 is the most recent year for which Indiana YRBSS results are available.
Source: CDC, 1991-2019

Figure 6.4 Percentage of Indiana and U.S. High School Students (9th-12th Grade) Reporting Lifetime Methamphetamine Use (Youth Risk Behavior Surveillance System, 2003-2019)



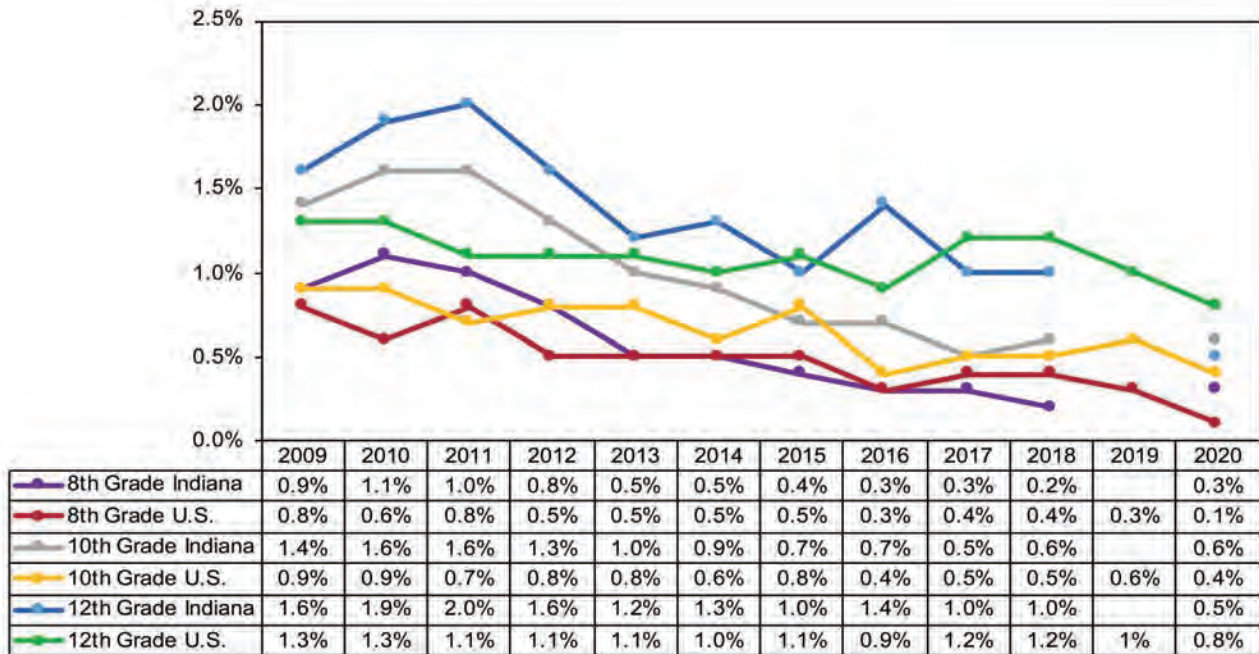
Note: Indiana estimates are not available for 2013, 2017, and 2019 due to low response rates.
Source: CDC, 1991-2019

Indiana Youth Survey and Monitoring the Future Survey

Both the Indiana Youth Survey (INYS) and the Monitoring the Future survey (MTF) provide state 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 2020 INYS, only a small percentage of

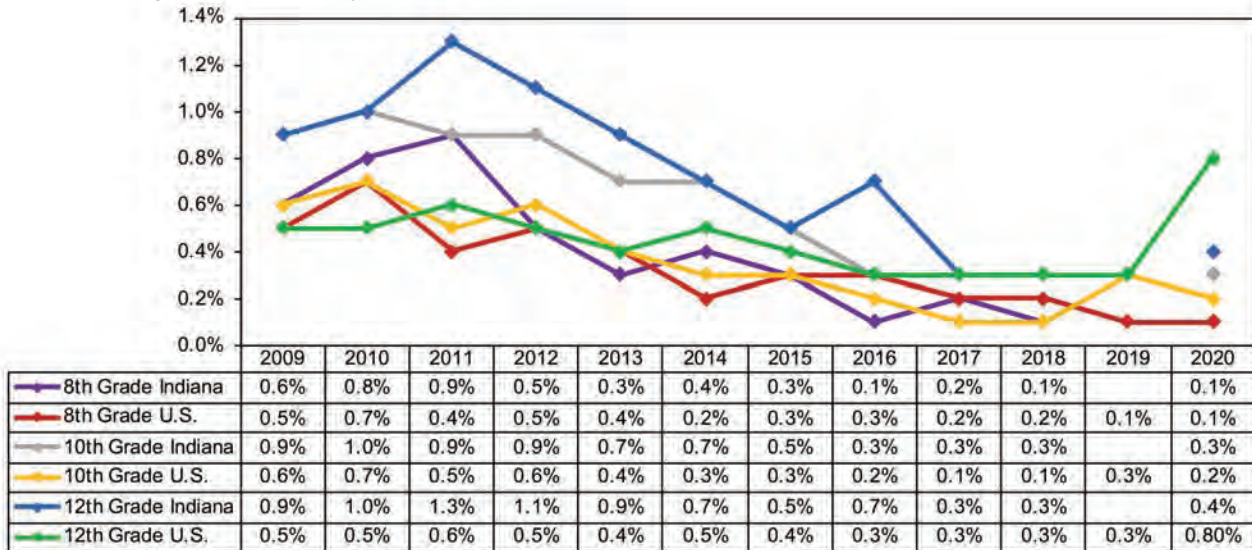
Indiana’s 8th, 10th, and 12th graders reported currently using either cocaine or meth. Current use of both substances has been decreasing in Indiana over the past 10 years and these decreases are consistent with national trends (see Figures 6.5 and 6.6) (Gassman et al., 2020; Inter-university Consortium for Political and Social Research [ICPSR], 2020). For 2020 data on current cocaine/crack use and meth use among students in grades 7 through 12 by Indiana region, see Appendix 6A.

Figure 6.5 Percentage of 8th, 10th, and 12th Grade Students Reporting Current Cocaine/Crack Use (Indiana Youth Survey and Monitoring the Future Survey, 2009-2020)



Note: Data collection for the INYS has shifted in 2018 from annual to biennial random sampling.
 Source: Gassman et al., 2020; ICPSR, 2020

Figure 6.6 Percentage of 8th, 10th, and 12th Grade Students Reporting Current Meth Use (Indiana Youth Survey and Monitoring the Future Survey, 2009-2020)



Note: Data collection for the INYS has shifted in 2018 from annual to biennial random sampling.
 Source: Gassman et al., 2020; ICPSR, 2020

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 2019 survey, which were based on 20 participating colleges and universities:

- 1.6% of Indiana college students reported having used cocaine in the past month,
- 0.3% reported having used meth, and
- 3.7% reported having used prescription stimulants not prescribed to them.

The majority of students who used cocaine and prescription stimulants reported initiating use after entering college (cocaine: 68.1%, prescription stimulants: 58.9%). Among students who reported methamphetamine use, 46.8% reported initiating use after entering college. Prescription stimulants were used more frequently by students who were 21-25 years of age compared to those under 21. Significant gender differences were reported among students who reported using cocaine (males: 2.4%, females: 1.1%) and prescription stimulants (males: 4.7%, females: 3.0%) (King & Jun, 2019)¹.

USE OF STIMULANTS IN THE TREATMENT POPULATION

Treatment Episode Data Set

Data from the Treatment Episode Data Set (TEDS) indicate that methamphetamine was the most widely

used stimulant in Indiana's substance use treatment population. In about one-third (34.1%) of treatment admissions in Indiana, methamphetamine use was reported in 2018 (U.S.:16.2%). Methamphetamine use was more commonly reported among women, white individuals, and adults ages 18 to 44 (see Table 6.2). The use of methamphetamine in Indiana's treatment population nearly tripled since 2008 (see Figure 6.7).

Cocaine was the second most frequently used stimulant in Indiana's treatment population and reported in 12.8% of treatment admissions in 2018 (U.S.: 19.8%). Cocaine use was reported more often by black individuals, and persons 45 to 54 years of age (see Table 6.2). The use of cocaine among those in treatment dropped by over 40% since 2008 (see Figure 6.8).

Misuse of prescription stimulants² was comparatively low. In 0.6% of Indiana treatment admissions, misuse of these drugs was reported in 2018. This was the same percentage for the rest of the country (0.6%). Aside from a spike in 2011-2012, the misuse of prescription stimulants by Indiana's treatment population has changed little over the past 11 years (see Figure 6.9). Adults under the age of 45 entering treatment were more likely to report misuse (see Table 6.2) (Substance Abuse and Mental Health Data Archive [SAMHDA], 2021).

¹Twenty (20) colleges participated in the 2018 survey; results are based on nonrandom sampling and are not representative of all college students in Indiana.

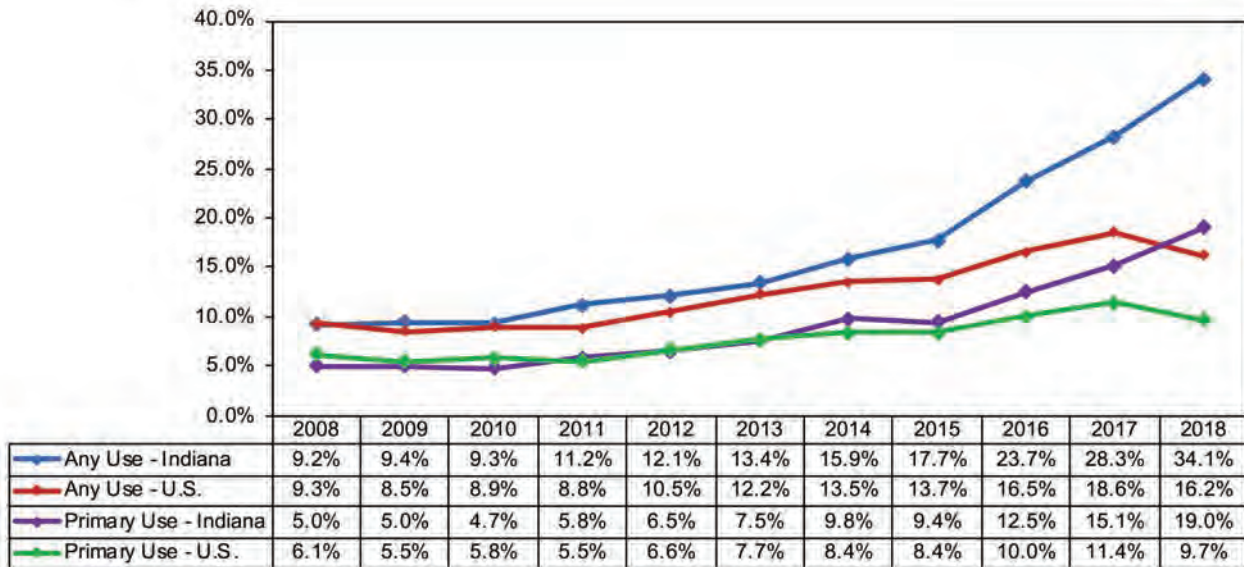
²We used TEDS variables "other stimulants" and "other amphetamines" to define prescription stimulant use.

Table 6.2 Stimulant Misuse and Dependence (Primary Use) Reported at Substance Use Treatment Admission in Indiana, by Gender, Race, Ethnicity, and Age Group (Treatment Episode Data Set, 2018)

		Methamphetamine		Cocaine		Prescription Stimulants	
		Any Use	Dependence	Any Use	Dependence	Any Use	Dependence
Gender	Male	29.7%	16.3%	12.6%	4.0%	0.5%	0.1%
	Female	40.5%	23.1%	13.1%	4.4%	0.7%	0.2%
Race	White	39.7%	22.3%	9.9%	2.5%	0.6%	0.2%
	Black	5.3%	2.5%	28.5%	13.4%	0.2%	0.0%
	Other	24.5%	13.3%	15.6%	4.8%	0.6%	0.1%
Ethnicity	Hispanic	34.1%	19.0%	12.8%	4.1%	0.6%	0.2%
	Non-Hispanic	29.4%	11.8%	14.4%	3.9%	0.0%	0.0%
Age	Under 18	20.0%	12.0%	5.8%	1.3%	0.6%	0.0%
	18 to 24	37.2%	20.0%	9.6%	2.3%	0.6%	0.2%
	25 to 34	39.9%	22.0%	11.8%	3.2%	0.7%	0.1%
	35 to 44	34.6%	20.3%	16.8%	6.7%	0.6%	0.1%
	45 to 54	17.9%	11.1%	22.2%	9.5%	0.2%	0.0%
	55 or Older	4.6%	3.7%	10.6%	4.2%	0.0%	0.0%
Total		34.1%	19.0%	12.8%	4.1%	0.6%	0.1%

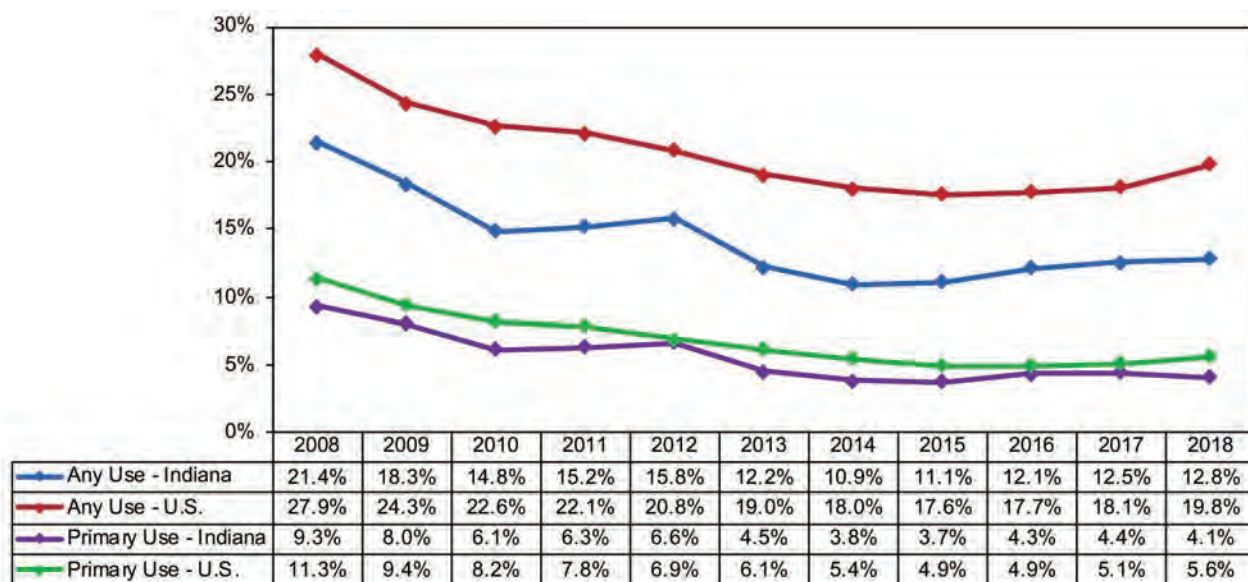
Source: SAMHSA, 2020

Figure 6.7 Percentage of Treatment Episodes with Reported Meth Use and Dependence, Indiana and the United States (Treatment Episode Data Set, 2008-2018)



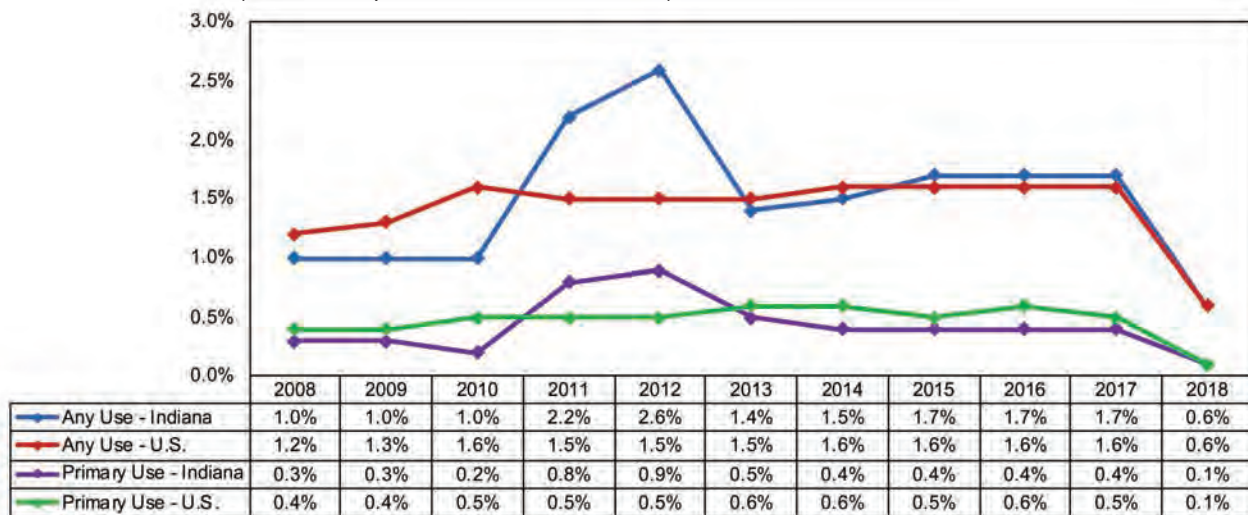
Source: SAMHDA, 2021

Figure 6.8 Percentage of Treatment Episodes with Reported Cocaine Use and Dependence, Indiana and the United States (Treatment Episode Data Set, 2008-2018)



Source: SAMHDA, 2021

Figure 6.9 Percentage of Treatment Episodes with Reported Prescription Stimulant Use and Dependence, Indiana and the United States (Treatment Episode Data Set, 2008-2018)



Source: SAMHDA, 2021

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).

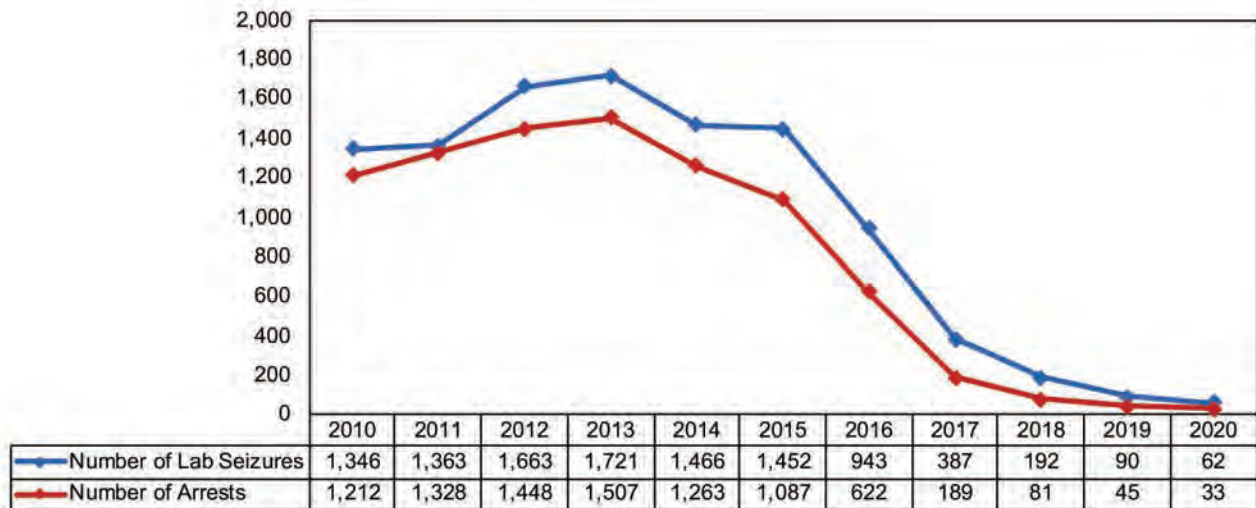
LEGAL CONSEQUENCES

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 2020, the Indiana State Police (ISP) and other law enforcement agencies seized 62 clandestine meth labs and made 33 meth lab arrests. In the majority of the meth labs seized (N=45 or 73%), the one-pot method was used. The number of meth labs seized in the state has seen a dramatic decline since its peak in 2013 with over 1,800 lab seizures (see Figure 6.10) (ISP, 2021).

Figure 6.10 Number of Clandestine Methamphetamine Labs Seized and Number of Arrests Made at Methamphetamine Labs by the Indiana Law Enforcement Agencies (Indiana Meth Lab Statistics, 2010-2020)



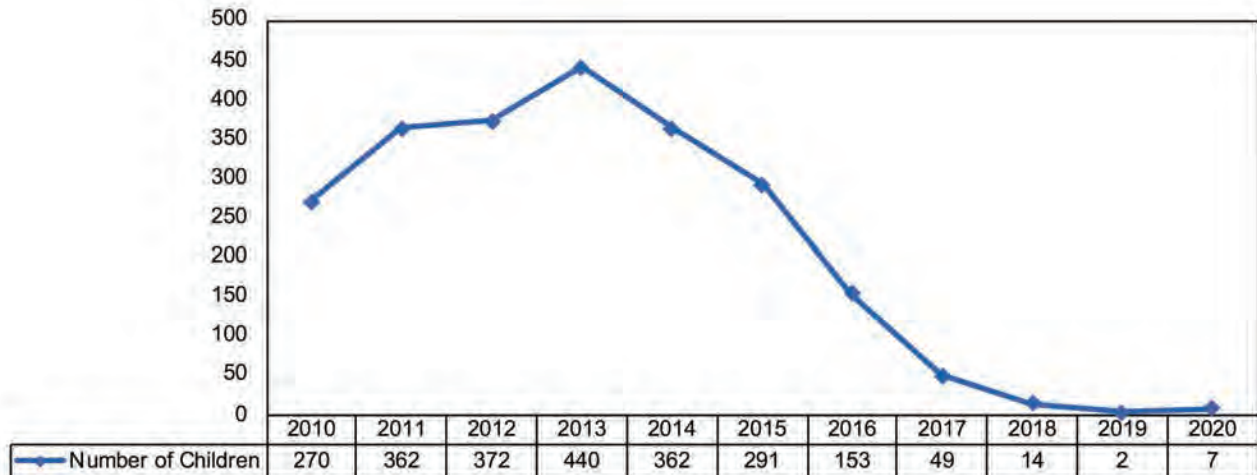
Source: ISP, 2021

Children Taken from Methamphetamine Lab Homes

In addition to the health-related and criminal consequences, meth use 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 (458 children), but dropped to 7 in 2020 (see Figure 6.11) (ISP, 2020).

Figure 6.11 Number of Indiana Children Taken by the Indiana State Police from Methamphetamine Lab Homes (Indiana Meth Lab Statistics, 2010-2020)



Source: ISP, 2021

APPENDIX 6A

Percentage of Indiana Students Reporting Monthly Cocaine and Methamphetamine Use, by Region and Grade
(Indiana Youth Survey, 2018)

Cocaine											
	Indiana	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	Region 10
7th Grade	0.4%	0.1%	0.7*%	0.7*%	0.1%	0.4%	0.0%	0.5%	0.1%	0.4%	0.1%
8th Grade	0.3%	0.3%	0.5%	0.5%	0.3%	0.0%	0.1%	0.1%	0.2%	0.3%	0.1%
9th Grade	0.4%	0.3%	0.3%	0.6%	0.3%	0.7%	0.3%	0.7%	0.3%	0.4%	0.2%
10th Grade	0.6%	0.6%	0.6%	0.6%	0.5%	1.5*%	0.0%	0.6%	0.4%	0.7%	0.6%
11th Grade	0.5%	0.4%	0.6%	0.9%	0.8%	0.6%	0.2%	1.0%	0.4%	0.3%	0.7%
12th Grade	0.9%	0.8%	1.5%	0.6%	1.7%	0.3%	0.3%	1.3%	0.9%	0.4%	1.6%
Methamphetamine											
	Indiana	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	Region 10
7th Grade	0.2%	0.0%	0.3%	0.5*%	0.2%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%
8th Grade	0.1%	0.0%	0.3%	0.3%	0.2%	0.2%	0.0%	0.1%	0.1%	0.1%	0.0%
9th Grade	0.3%	0.2%	0.3%	0.6%	0.3%	0.1%	0.0%	0.4%	0.2%	0.3%	0.3%
10th Grade	0.3%	0.2%	0.5%	0.2%	0.1%	0.7%	0.2%	0.2%	0.3%	0.2%	0.3%
11th Grade	0.2%	0.1%	0.2%	0.3%	0.7%	0.0%	0.2%	0.0%	0.3%	0.3%	0.5%
12th Grade	0.4%	0.8%	0.4%	0.5%	0.2%	0.0%	0.0%	0.3%	0.7%	0.3%	0.0%

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

Source: Gassman et al., 2020

INYS data are provided at the state level and broken down by regions. There were eight regions until 2018. DMHA introduced the ten new planning regions in 2020. These include:

Region 1: Lake, LaPorte, Porter

Region 2: Cass, Elkhart, Fulton, Howard, Kosciusko, Marshall, Miami, Pulaski, St. Joseph, Starke, Wabash

Region 3: Adams, Allen, DeKalb, Huntington, Lagrange, Noble, Steuben, Wells, Whitley

Region 4: Benton, Boone, Carroll, Clinton, Fountain, Jasper, Montgomery, Newton, Tippecanoe, Warren, White

Region 5: Blackford, Delaware, Grant, Hamilton, Hancock, Henry, Jay, Madison, Randolph, Tipton, Wayne

Region 6: Clay, Hendricks, Monroe, Morgan, Owen, Parke, Putnam, Sullivan, Vermillion, Vigo

Region 7: Marion

Region 8: Daviess, Dubois, Gibson, Greene, Knox, Martin, Perry, Pike, Posey, Spencer, Vanderburgh, Warrick

Region 9: Bartholomew, Brown, Clark, Crawford, Floyd, Harrison, Jackson, Johnson, Lawrence, Orange, Scott, Washington

Region 10: Dearborn, Decatur, Fayette, Franklin, Jefferson, Jennings, Ohio, Ripley, Rush, Shelby, Switzerland, Union

APPENDIX 6B

Number of Treatment Episodes with Cocaine, Meth, and Prescription Stimulant Use and Dependence Reported at Treatment Admission in Indiana, by County (Treatment Episode Data Set, SFY 2020)

County	Treatment Episodes	Cocaine Use		Cocaine Dependence		Meth Use		Meth Dependence		Rx Stimulant Use		Rx Stimulant Dependence	
	Total	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Adams	77	5	6.5%	<5	N/A	35	45.5%	14	18.2%	<5	N/A	<5	N/A
Allen	1,191	289	24.3%	94	7.9%	318	26.7%	134	11.3%	13	1.1%	<5	N/A
Bartholomew	427	13	3.0%	<5	N/A	238	55.7%	152	35.6%	6	1.4%	<5	N/A
Benton	27	<5	N/A	<5	N/A	14	51.9%	8	29.6%	<5	N/A	<5	N/A
Blackford	72	6	8.3%	<5	N/A	54	75.0%	27	37.5%	<5	N/A	<5	N/A
Boone	244	14	5.7%	<5	N/A	76	31.1%	39	16.0%	8	3.3%	<5	N/A
Brown	84	<5	N/A	<5	N/A	45	53.6%	23	27.4%	<5	N/A	<5	N/A
Carroll	48	<5	N/A	<5	N/A	25	52.1%	17	35.4%	<5	N/A	<5	N/A
Cass	182	15	8.2%	<5	N/A	101	55.5%	62	34.1%	<5	N/A	<5	N/A
Clark	627	29	4.6%	11	1.8%	209	33.3%	131	20.9%	7	1.1%	<5	N/A
Clay	59	<5	N/A	<5	N/A	39	66.1%	28	47.5%	<5	N/A	<5	N/A
Clinton	137	8	5.8%	<5	N/A	62	45.3%	39	28.5%	<5	N/A	<5	N/A
Crawford	92	<5	N/A	<5	N/A	52	56.5%	33	35.9%	<5	N/A	<5	N/A
Daviess	208	10	4.8%	<5	N/A	108	51.9%	73	35.1%	<5	N/A	<5	N/A
Dearborn	192	24	12.5%	5	2.6%	65	33.9%	28	14.6%	<5	N/A	<5	N/A
Decatur	127	<5	N/A	<5	N/A	75	59.1%	62	48.8%	<5	N/A	<5	N/A
DeKalb	135	11	8.1%	<5	N/A	72	53.3%	48	35.6%	<5	N/A	<5	N/A
Delaware	602	95	15.8%	39	6.5%	249	41.4%	155	25.7%	6	1.0%	<5	N/A
Dubois	196	7	3.6%	<5	N/A	94	48.0%	57	29.1%	<5	N/A	<5	N/A
Elkhart	424	42	9.9%	15	3.5%	191	45.0%	126	29.7%	16	3.8%	<5	N/A
Fayette	244	16	6.6%	<5	N/A	116	47.5%	64	26.2%	<5	N/A	<5	N/A
Floyd	578	23	4.0%	10	1.7%	288	49.8%	208	36.0%	8	1.4%	<5	N/A
Fountain	55	8	14.5%	<5	N/A	34	61.8%	18	32.7%	<5	N/A	<5	N/A
Franklin	46	<5	N/A	<5	N/A	19	41.3%	14	30.4%	<5	N/A	<5	N/A
Fulton	144	<5	N/A	<5	N/A	79	54.9%	50	34.7%	<5	N/A	<5	N/A
Gibson	183	<5	N/A	<5	N/A	110	60.1%	65	35.5%	<5	N/A	<5	N/A
Grant	314	41	13.1%	18	5.7%	174	55.4%	86	27.4%	10	3.2%	<5	N/A
Greene	106	9	8.5%	<5	N/A	63	59.4%	35	33.0%	<5	N/A	<5	N/A
Hamilton	770	113	14.7%	26	3.4%	207	26.9%	80	10.4%	8	1.0%	<5	N/A
Hancock	297	29	9.8%	10	3.4%	98	33.0%	55	18.5%	<5	N/A	<5	N/A
Harrison	107	<5	N/A	<5	N/A	54	50.5%	41	38.3%	<5	N/A	<5	N/A
Hendricks	710	107	15.1%	10	1.4%	307	43.2%	163	23.0%	10	1.4%	<5	N/A
Henry	249	19	7.6%	<5	N/A	136	54.6%	82	32.9%	<5	N/A	<5	N/A
Howard	421	51	12.1%	18	4.3%	248	58.9%	129	30.6%	<5	N/A	<5	N/A
Huntington	176	8	4.5%	<5	N/A	83	47.2%	39	22.2%	<5	N/A	<5	N/A
Jackson	305	13	4.3%	6	2.0%	201	65.9%	149	48.9%	<5	N/A	<5	N/A
Jasper	69	8	11.6%	<5	N/A	28	40.6%	17	24.6%	<5	N/A	<5	N/A
Jay	107	5	4.7%	<5	N/A	63	58.9%	37	34.6%	<5	N/A	<5	N/A
Jefferson	422	12	2.8%	5	1.2%	269	63.7%	186	44.1%	5	1.2%	<5	N/A
Jennings	297	<5	N/A	<5	N/A	166	55.9%	110	37.0%	5	1.7%	<5	N/A
Johnson	251	20	8.0%	<5	N/A	121	48.2%	69	27.5%	<5	N/A	<5	N/A
Knox	436	8	1.8%	<5	N/A	241	55.3%	150	34.4%	6	1.4%	<5	N/A
Kosciusko	242	20	8.3%	<5	N/A	136	56.2%	72	29.8%	<5	N/A	<5	N/A

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APPENDIX 6B (Continued from previous page)

County	Treatment Episodes	Cocaine Use		Cocaine Dependence		Meth Use		Meth Dependence		Rx Stimulant Use		Rx Stimulant Dependence	
	Total	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
LaGrange	120	<5	N/A	<5	N/A	61	50.8%	35	29.2%	<5	N/A	<5	N/A
Lake	1,167	289	24.8%	140	12.0%	46	3.9%	28	2.4%	9	0.8%	7	0.6%
LaPorte	377	59	15.6%	17	4.5%	90	23.9%	42	11.1%	5	1.3%	<5	N/A
Lawrence	358	11	3.1%	5	1.4%	221	61.7%	146	40.8%	<5	N/A	<5	N/A
Madison	1,318	198	15.0%	68	5.2%	637	48.3%	317	24.1%	21	1.6%	<5	N/A
Marion	3,974	796	20.0%	307	7.7%	908	22.8%	418	10.5%	40	1.0%	9	0.2%
Marshall	91	10	11.0%	<5	N/A	31	34.1%	18	19.8%	<5	N/A	<5	N/A
Martin	63	<5	N/A	<5	N/A	14	22.2%	9	14.3%	<5	N/A	<5	N/A
Miami	154	6	3.9%	<5	N/A	85	55.2%	46	29.9%	<5	N/A	<5	N/A
Monroe	1,171	77	6.6%	19	1.6%	583	49.8%	368	31.4%	30	2.6%	12	1.0%
Montgomery	456	30	6.6%	15	3.3%	252	55.3%	133	29.2%	10	2.2%	<5	N/A
Morgan	487	21	4.3%	<5	N/A	270	55.4%	166	34.1%	<5	N/A	<5	N/A
Newton	20	<5	N/A	<5	N/A	10	50.0%	<5	N/A	<5	N/A	<5	N/A
Noble	139	8	5.8%	<5	N/A	79	56.8%	46	33.1%	<5	N/A	<5	N/A
Ohio	13	<5	N/A	<5	N/A	<5	N/A	95	49.0%	<5	N/A	<5	N/A
Orange	194	<5	N/A	<5	N/A	106	54.6%	38	30.6%	<5	N/A	<5	N/A
Owen	124	<5	N/A	<5	N/A	69	55.6%	12	35.3%	<5	N/A	<5	N/A
Parke	34	<5	N/A	<5	N/A	20	58.8%	51	45.5%	<5	N/A	<5	N/A
Perry	112	<5	N/A	<5	N/A	58	51.8%	11	21.2%	<5	N/A	<5	N/A
Pike	52	<5	N/A	<5	N/A	18	34.6%	19	4.5%	<5	N/A	<5	N/A
Porter	422	84	19.9%	18	4.3%	43	10.2%	22	24.4%	9	2.1%	<5	N/A
Posey	90	<5	N/A	<5	N/A	46	51.1%	11	19.0%	<5	N/A	<5	N/A
Pulaski	58	5	8.6%	<5	N/A	26	44.8%	73	34.1%	<5	N/A	<5	N/A
Putnam	214	7	3.3%	<5	N/A	131	61.2%	54	38.3%	<5	N/A	<5	N/A
Randolph	141	7	5.0%	<5	N/A	82	58.2%	26	34.2%	<5	N/A	<5	N/A
Ripley	76	5	6.6%	<5	N/A	34	44.7%	51	35.9%	<5	N/A	<5	N/A
Rush	142	7	4.9%	<5	N/A	79	55.6%	95	49.0%	<5	N/A	<5	N/A
Saint Joseph	913	230	25.2%	89	9.7%	314	34.4%	174	19.1%	17	1.9%	<5	N/A
Scott	391	10	2.6%	<5	N/A	146	37.3%	94	24.0%	<5	N/A	<5	N/A
Shelby	122	6	4.9%	<5	N/A	67	54.9%	47	38.5%	<5	N/A	<5	N/A
Spencer	68	<5	N/A	<5	N/A	43	63.2%	37	54.4%	<5	N/A	<5	N/A
Starke	211	12	5.7%	<5	N/A	86	40.8%	37	17.5%	7	3.3%	<5	N/A
Steuben	130	6	4.6%	<5	N/A	56	43.1%	40	30.8%	<5	N/A	<5	N/A
Sullivan	51	<5	N/A	<5	N/A	30	58.8%	17	33.3%	<5	N/A	<5	N/A
Switzerland	53	<5	N/A	<5	N/A	23	43.4%	13	24.5%	<5	N/A	<5	N/A
Tippecanoe	348	29	8.3%	8	2.3%	171	49.1%	94	27.0%	8	2.3%	<5	N/A
Tipton	63	<5	N/A	<5	N/A	32	50.8%	17	27.0%	<5	N/A	<5	N/A
Union	36	<5	N/A	<5	N/A	20	55.6%	13	36.1%	<5	N/A	<5	N/A
Vanderburgh	963	52	5.4%	15	1.6%	463	48.1%	263	27.3%	11	1.1%	<5	N/A
Vermillion	35	<5	N/A	<5	N/A	25	71.4%	17	48.6%	<5	N/A	<5	N/A
Vigo	339	21	6.2%	8	2.4%	187	55.2%	118	34.8%	<5	N/A	<5	N/A
Wabash	207	5	2.4%	<5	N/A	101	48.8%	41	19.8%	<5	N/A	<5	N/A
Warren	14	<5	N/A	<5	N/A	7	50.0%	<5	N/A	<5	N/A	<5	N/A
Warrick	212	5	2.4%	<5	N/A	115	54.2%	72	34.0%	5	2.4%	<5	N/A
Washington	97	<5	N/A	<5	N/A	44	45.4%	29	29.9%	<5	N/A	<5	N/A

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APPENDIX 6B (Continued from previous page)

County	Treatment Episodes	Cocaine Use		Cocaine Dependence		Meth Use		Meth Dependence		Rx Stimulant Use		Rx Stimulant Dependence	
	Total	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Wayne	528	66	12.5%	21	4.0%	198	37.5%	112	21.2%	10	1.9%	5	0.9%
Wells	64	7	10.9%	<5	N/A	31	48.4%	18	28.1%	<5	N/A	<5	N/A
White	101	<5	N/A	<5	N/A	46	45.5%	32	31.7%	<5	N/A	<5	N/A
Whitley	76	13	17.1%	<5	N/A	35	46.1%	22	28.9%	<5	N/A	<5	N/A
Indiana	29,170	3,306	11.3%	1,108	3.8%	12,008	41.2%	6,930	23.8%	393	1.3%	118	0.4%

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. We used TEDS variables “other stimulants” and “other amphetamines” to define prescription stimulant use.

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

Source: Indiana Family and Social Services Administration, 2021

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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, 2020)

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 2019 National Survey on Drug Use and Health (NSDUH) reported that of the 51.5 million U.S. adults who experienced a mental illness in the past year, 9.7 million (or 3.8%) also had a substance use disorder (SAMHSA, 2021). 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.

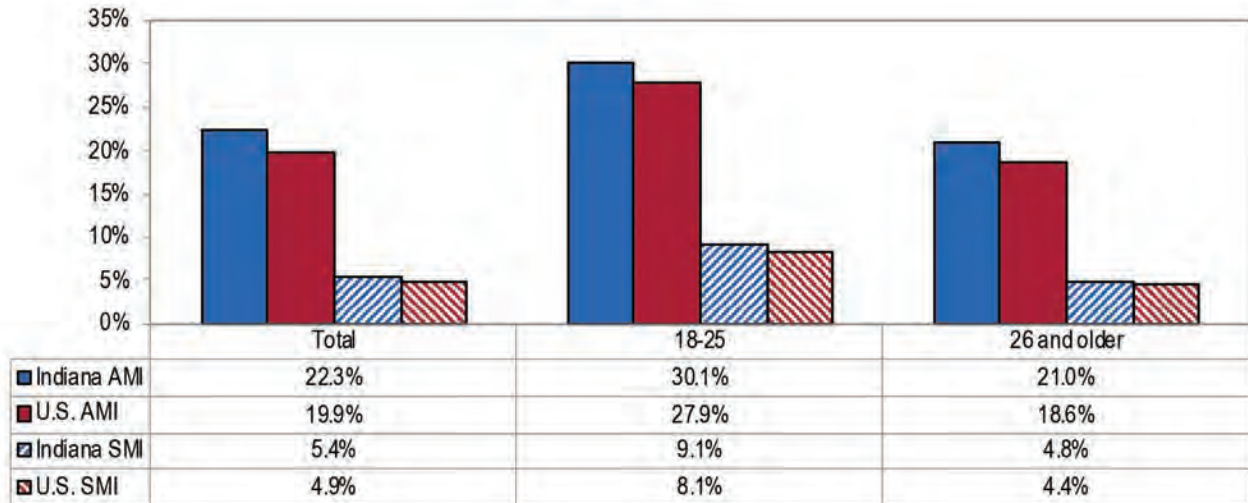
PREVALENCE OF PSYCHOLOGICAL DISTRESS IN INDIANA

National Survey on Drug Use and Health

The National Survey on Drug Use and Health (NSDUH) measures the prevalence of mental illness in the U.S. population. It defines 'any mental illness' (AMI) as having a diagnosable mental, behavioral, or emotional disorder, other than a developmental or substance use disorder; 'serious mental illness' (SMI) then refers to having a mental illness that results in serious functional impairment (2019a).

According to estimates from the 2019 NSDUH, more than one in five Indiana adults (22.3%) reported having any mental illness in the past year (95% CI [Confidence Interval]: 20.1 - 24.6), compared to 19.9% (95% CI: 19.5 - 20.2) of U.S. adults. Past-year prevalence rates for serious mental illness were similar in Indiana (5.4%; 95% CI: 4.5-6.5) and the nation (4.9%; 95% CI: 4.7-5.1). For AMI and SMI prevalence rates by age group, see Figure 7.1 (SAMHSA, 2021).

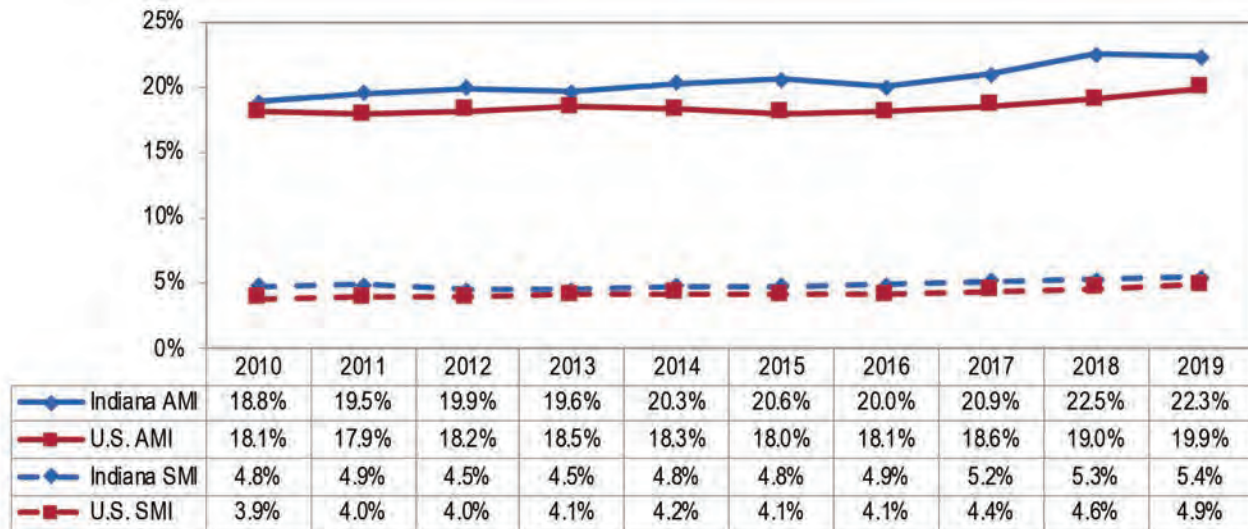
Figure 7.1 Percentage of Indiana and U.S. Population (18 Years and Older) Reporting Any Mental Illness (AMI) or Serious Mental Illness (SMI) in the Past Year, by Age Group (National Survey on Drug Use and Health, 2019)



Source: SAMHSA, 2021

Among adults ages 18 and older, past-year prevalence rates of AMI and SMI remained fairly stable between 2010 and 2019 (see Figure 7.2) (SAMHSA, 2021).

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, 2010–2019)

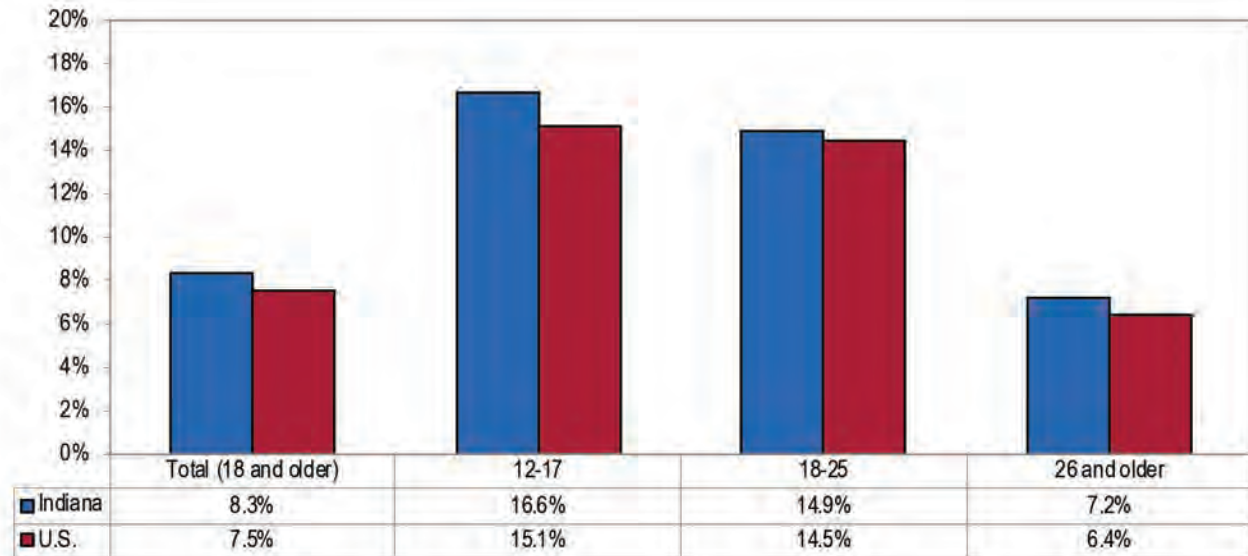


Source: SAMHSA, 2021

In 2019, 8.3% of Indiana adults (95% CI: 7.2-9.6) reported having had at least one major depressive episode (MDE) in the past year (U.S.: 7.5%; 95% CI: 7.3-7.7). For rates by age group, see Figure 7.3 (SAMHSA, 2021).

The percentage of adults with a major depressive episode remained stable between 2009 and 2019 (see Figure 7.4) (SAMHSA, 2021).

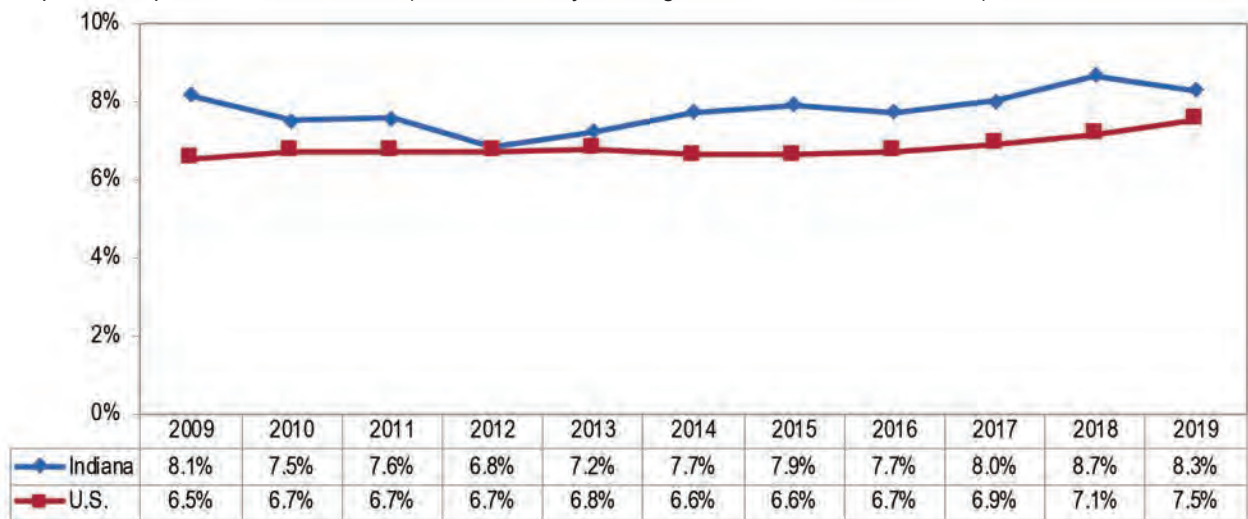
Figure 7.3 Percentage of Indiana and U.S. Population Reporting at Least One Major Depressive Episode in the Past Year, by Age Group (National Survey on Drug Use and Health, 2019)



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, 2021

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, 2009–2019)



Source: SAMHSA, 2021

In 2019, 9.5 million U.S. adults (or 3.8%) had a co-occurring mental illness and substance use disorder; the prevalence rate was particularly high in young adults ages 18 to 25 (7.6%) (SAMHSA, 2020). State-level estimates for co-occurring disorders are currently not available from the NSDUH.

Behavioral Risk Factor Surveillance System

According to the 2019 Behavioral Risk Factor Surveillance System (BRFSS), 21.0% of adults in Indiana reported ever being told that they had depression (U.S.: 19.9%). Among Hoosiers, having a history of depression was greatest among females, individuals who identified as multiracial or as an American Indian or Alaskan Native, and individuals under the age of 65 (see Table 7.1) (CDC, 2021).

The County Health Rankings, a collaboration between the University of Wisconsin Population Health Institute and the Robert Wood Johnson Foundation, measures the health of nearly every county in the nation, using multiple national and state data sources. BRFSS data indicate that Hoosiers experienced 4.7 (range: 3.5-5.2) poor mental health days in the past 30 days (U.S.: 4.0). Additionally, 13.3% (CI: 12.3%-14.4%) of Hoosiers reported frequent mental distress, defined as experiencing 14 or more days of poor mental health per month. For county-level estimates of these measures, see Appendix 7B (County Health Rankings & Roadmaps, 2020).

Table 7.1 Percentage of Indiana Population (18 Years and Older) Reporting a History of Depression (Behavioral Risk Factor Surveillance System, 2019)

		Indiana (95% CI)
Gender	Male	14.9% (13.5 - 16.3)
	Female	26.8% (25.1 - 28.4)
Race/Ethnicity	White	22.6% (21.4 - 23.9)
	Black	14.5% (10.9 - 18.1)
	American Indian or Alaskan Native	32.9% (18.5 - 47.2)
	Multiracial	19.2% (11.4 - 27.0)
	Hispanic	11.1% (7.4 - 14.8)
Age Group	18-24	23.6% (19.2 - 27.9)
	25-34	24.8% (21.4 - 28.1)
	35-44	19.9% (17.1 - 22.7)
	45-54	22.1% (19.6 - 24.6)
	55-64	22.1% (19.9 - 24.3)
	65+	15.4% (14.0 - 16.9)
Total		21.0% (19.8 - 22.1)

Source: CDC, 2021

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, 1991-2019).

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, 1991-2019

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:

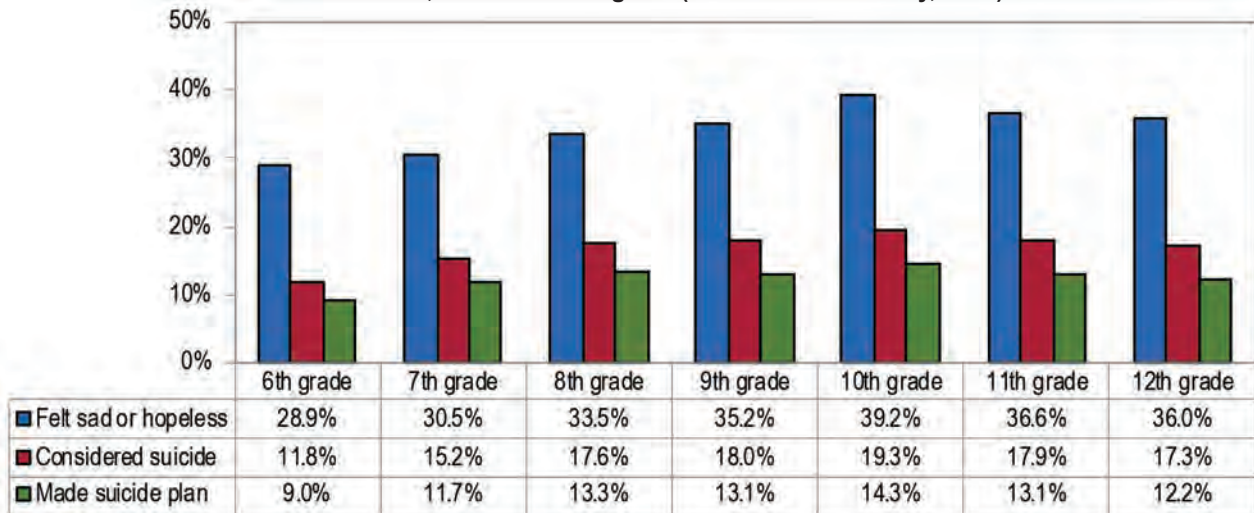
- 6.6% of Indiana high school students (95% CI: 4.8–9.0) reported being threatened or injured on school property at least once with a weapon (U.S.: 6.0%, 95% CI: 5.2–6.8);
- 18.1% of Indiana high school students (95% CI: 15.0–21.6) reported being in a physical fight at least once (U.S.: 22.6%, 95% CI: 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, 1991-2019).

Indiana Youth Survey

Results from the 2020 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., 2020).

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, 2020)



Source: Gassman et al., 2020

Indiana College Substance Use Survey

The Indiana College Substance Use Survey (ICSUS) includes three questions regarding mental health among college students. Findings from the 2019 survey, based on responses from 20 colleges and universities, indicate that:

- During the past month, students experienced an average of 7.9 days (Female: 9.0, Male: 6.1) in which they deemed their mental health as ‘not good’ (including experiencing stress, depression, or emotional problems).

- More female students (29.8%) reported experiencing poor mental health on more than 10 days within the past month when compared to male students (17.4%).
- 30.7% of students (Female: 34.8%, Male: 23.4%) responded that they had experienced a period of significant sadness or hopelessness that lasted two or more weeks.
- Within the past year, 12.1% (Female: 12.5%, Male: 10.5%) of students seriously considered attempting suicide.

(King and Jun, 2019).

TREATMENT UTILIZATION

National Survey on Drug Use and Health

According to estimates from the 2019 NSDUH, 22.3% (95% CI: 20.1 - 24.6) of adult Hoosiers experienced a mental illness in the past year (Figure 7.1); this was similar to the national rate of 19.9% (95% CI: 19.5 - 20.2). Within the past year, 16.8% (95% CI: 14.9 - 18.8) of adult Hoosiers received mental health services, similar to the national rate of 15.6% (95% CI: 15.2 - 15.9) (SAMHSA, 2021).

Uniform Reporting System

In 2019, a total of 139,127 clients were served by the Indiana Division of Mental Health and Addiction (DMHA)—the state’s mental health authority. Of those, nearly all (138,399) were treated in community settings rather than state hospitals (1,111). The client population was predominately non-Hispanic (91.1%), white (77.0%), and slightly more than half were female (52.7%) (SAMHSA/CMHS, 2020).

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). One-fourth (25.0%) of adults served by DMHA received services for co-occurring mental illness and substance use disorders, as did 2.0% of the children (SAMHSA/CMHS, 2020). For more detailed client information, see Table 7.3.

SUICIDE

Suicide is a public health issue that is often associated with mental illness and substance use (CDC, 2019; 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, 2018b).

National Survey on Drug Use and Health

According to 2019 NSDUH findings, 5.6% of Indiana adults (95% CI: 4.6–6.8) reported having serious

thoughts of suicide in the past year; an estimate similar to the U.S. rate of 4.6% (95% CI: 4.4–4.8). This was particularly prevalent among young adults ages 18 to 25 (IN: 13.3%; 95% CI: 11.0–16.1; U.S.: 11.4%, 95% CI: 11.0–11.8) (SAMHSA, 2021)

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, 1991-2019).

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 2019 estimates, Indiana’s age-adjusted suicide mortality rate of 14.2 per 100,000 population (95% CI: 13.3–15.1) was similar to the U.S. rate of 13.9 (95% CI: 13.8–14.0). 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, 1999-2019).

Table 7.3 Demographic Characteristics of Adults with SMI and Children with SED Served by the Indiana Division of Mental Health and Addiction, FY 2019

	Indiana (95% CI)	U.S. (95% CI)
Gender	Male	47.3%
	Female	52.7%
Race/Ethnicity	White	77.0%
	Black	14.4%
	Other/Unknown	6.8%
	Hispanic	8.6%
Age Group	Children 0-17	41.6%
	Adults 18+	58.4%
Medicaid Status	Medicaid only	62.5%
	Both Medicaid and other funds	9.6%
	Non-Medicaid	27.8%
Total (N=139,127)		

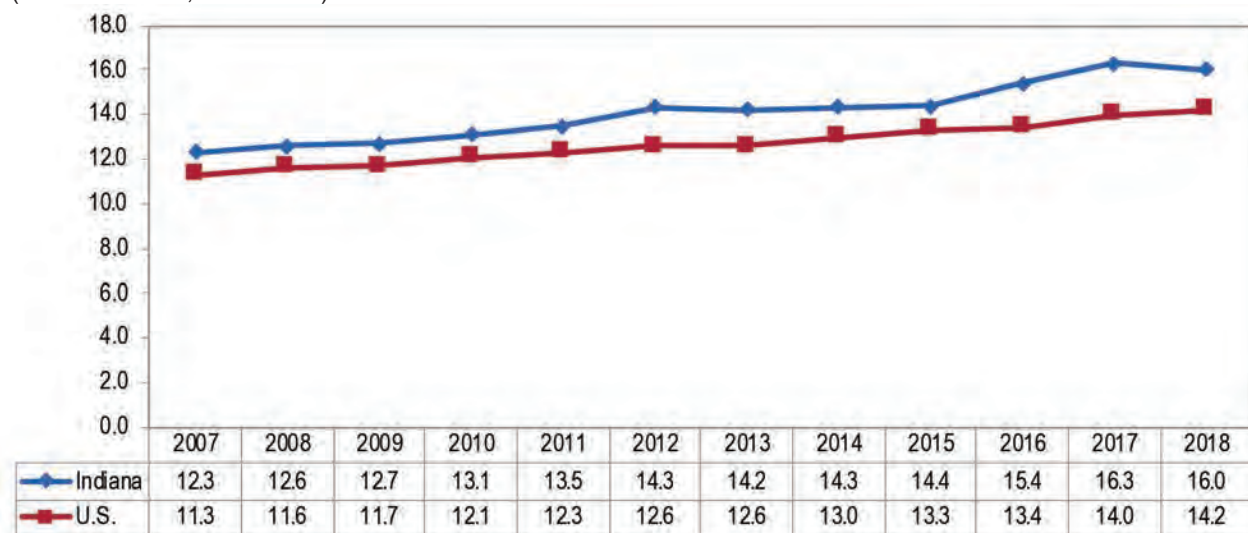
Source: SAMHSA/CMHS, 2020

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, 1991-2019

Figure 7.6 Age-Adjusted Suicide Mortality Rate per 100,000 Population in Indiana and the United States (CDC WONDER, 2009–2018)



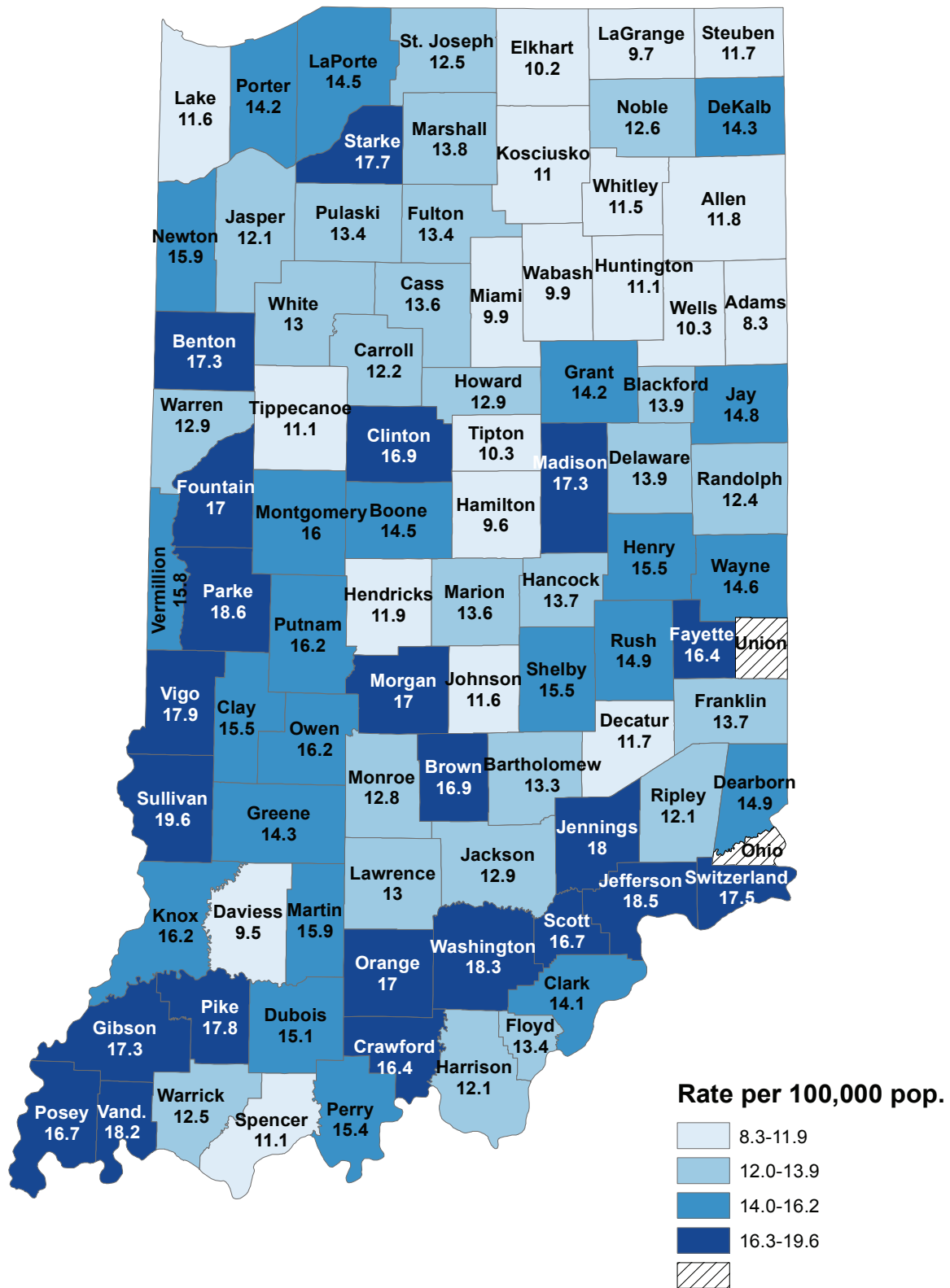
Source: CDC, 1999-2019

Table 7.5 Age-Adjusted Suicide Mortality Rate per 100,000 Population in Indiana and the United States (CDC WONDER, combined data from 1999-2019)

		Indiana (95% CI)	U.S. (95% CI)
Gender	Male	22.0 (21.7 - 22.4)	19.7 (19.7 - 19.8)
	Female	5.1 (4.9 - 5.3)	5.0 (5.0 - 5.1)
Race	White	14.0 (13.8 - 14.3)	13.5 (13.4 - 13.5)
	Black	6.8 (6.3 - 7.2)	5.6 (5.5 - 5.7)
	Asian or Pacific Islander	5.8 (4.7 - 6.9)	6.0 (5.9 - 6.1)
	American Indian or Alaska Native	N/A	11.3 (11.1 - 11.6)
	Hispanic	6.1 (5.4 - 6.8)	6.1 (6.0 - 6.1)
Ethnicity	Not Hispanic	13.6 (13.4 - 13.8)	13.0 (13.0 - 13.0)
Total		13.2 (13.1 - 13.4)	12.1 (12.0 - 12.1)

Source: CDC, 1999-2019

Map 7.1 Age-Adjusted Annual Suicide Mortality Rates per 100,000 Population in Indiana, by County (CDC Wonder, pooled data from 1999–2019)



Source: CDC, 1999-2019

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, 2021).

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, 2021).

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, 2021).

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, 2019a).

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, 1991-2019).
- 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., 2020).

Suicide Attempts: “Attempted suicide one or more times during the 12 months before the survey” (CDC, 2019b).

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).

APPENDIX 7B

Mental Health Indicators in Indiana, by County (Behavioral Risk Factor Surveillance System, 2017)

County	Number of Poor Mental Health Days	% of Adults reporting Frequent Mental Distress
Adams	4.5	14%
Allen	4.5	14%
Bartholomew	4.1	13%
Benton	4.7	14%
Blackford	4.7	14%
Boone	3.9	12%
Brown	4.5	13%
Carroll	4.4	13%
Cass	4.6	14%
Clark	4.8	14%
Clay	4.6	14%
Clinton	4.4	14%
Crawford	4.9	15%
Daviess	4.6	14%
Dearborn	4.3	13%
Decatur	4.4	13%
DeKalb	4.6	14%
Delaware	4.9	15%
Dubois	4.2	13%
Elkhart	4.2	13%
Fayette	4.8	15%
Floyd	4.5	13%
Fountain	4.6	14%
Franklin	4.4	13%
Fulton	4.5	14%
Gibson	4.3	13%
Grant	5.0	15%
Greene	4.7	14%
Hamilton	3.5	11%
Hancock	4.1	12%
Harrison	4.4	13%
Hendricks	4.0	12%
Henry	4.6	14%
Howard	4.6	14%
Huntington	4.4	13%
Jackson	4.7	14%
Jasper	4.5	13%
Jay	5.0	15%
Jefferson	4.7	14%
Jennings	4.8	14%
Johnson	4.4	13%
Knox	4.7	14%
Kosciusko	4.2	13%
LaGrange	4.6	14%
Lake	4.5	14%
LaPorte	4.5	14%
Lawrence	4.5	14%

County	Number of Poor Mental Health Days	% of Adults reporting Frequent Mental Distress
Madison	5.0	15%
Marion	4.2	14%
Marshall	4.6	14%
Martin	4.5	14%
Miami	4.7	15%
Monroe	4.8	15%
Montgomery	4.2	13%
Morgan	4.4	13%
Newton	4.6	14%
Noble	4.1	13%
Ohio	4.0	12%
Orange	4.6	14%
Owen	4.5	14%
Parke	4.8	15%
Perry	4.6	14%
Pike	4.5	14%
Porter	4.6	14%
Posey	4.4	13%
Pulaski	4.5	14%
Putnam	4.2	13%
Randolph	4.7	14%
Ripley	4.8	14%
Rush	4.7	14%
St. Joseph	4.7	14%
Scott	4.3	13%
Shelby	4.3	13%
Spencer	4.6	14%
Starke	4.8	15%
Steuben	4.3	13%
Sullivan	4.5	14%
Switzerland	5.0	16%
Tippecanoe	5.2	15%
Tipton	4.5	13%
Union	4.6	14%
Vanderburgh	5.1	15%
Vermillion	4.5	14%
Vigo	5.1	16%
Wabash	4.5	14%
Warren	4.4	13%
Warrick	4.2	12%
Washington	4.5	14%
Wayne	5.0	15%
Wells	4.4	13%
White	4.2	13%
Whitley	4.4	13%

Number of poor mental health days= Average number of mentally unhealthy days reported in past 30 days (age-adjusted).

% of Adults reporting Frequent Mental Distress = Percentage of adults reporting 14 or more days of poor mental health per month.

Source: County Health Rankings & Roadmaps, 2020

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8

METHODS

This annual report describes the consumption and consequences of alcohol, tobacco, and other drugs in Indiana. We analyzed patterns within Indiana's general 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.¹

Prevalence rates and other statistics may be presented somewhat differently across 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 a specific gender, race/ethnicity, or age group.

DATA SOURCES

The data for these analyses were gathered from various publicly available federal, state, and local-level surveys and administrative 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.

¹Throughout the chapters, we use the terms “significant,” “significantly different,” or “statistically different” to report 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: Pooled data averages from 2011-2015.

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 2019.

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 2019.

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 Department of Health (IDOH) 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: IDOH.

Geographic Level: Indiana.

Availability: Annual data are available at <http://www.in.gov/isdh/20624.htm>.

Trend: Annual; most recent data from 2019.

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 IDOH Tobacco Prevention and Cessation (TPC), 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: IDOH/TPC.

Geographic Level: Indiana.

Availability: Datasets can be requested from IDOH/TPC; reports are available at <http://www.in.gov/isdh/tpc/2343.htm>.

Trend: Biennial; most recent data from 2019.

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 (ICSUS)

Funded by the Indiana Division of Mental Health and Addiction (DMHA), 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 (SEOW). 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: Institute for Research on Addictive Behavior, Indiana University School of Public Health, Bloomington.

Geographic Level: Indiana.

Availability: Annual data are available at <https://iprc.iu.edu/indiana-college-survey/substance-use-survey>.

Trend: Annual; most recent data from 2019.

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.

Trend: Annual; most recent data from 2020.

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 Department of Health (IDOH).

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 IDOH.

Sponsoring Organization/Source: CDC’s National Center for Health Statistics; IDOH.

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 <https://wonder.cdc.gov/ucd-icd10.html>; state data are available on request from IDOH.

Trend: Annual; most recent data from 2019.

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.

Availability: Number and rate of opioid dispensations aggregated at the county and Indiana-level is available from IDOH at <https://www.in.gov/isdh/27393.htm>.

Trend: Quarterly; most recent 2020, Quarter 3.

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 school-based assessment conducted by the Institute for Research on Addictive Behavior and funded in part by the Indiana Division of Mental Health and Addiction (DMHA). 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.

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 survey assesses patterns of alcohol, tobacco, and other drug use; gambling behaviors; and risk and protective factors among Indiana middle and high school students in grades 6 through 12.

Sponsoring Organization/Source: Institute for Research on Addictive Behavior, Indiana University School of Public Health, Bloomington.

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 2020.

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 Department of Health's Tobacco Prevention and Cessation (IDOH/TPC) 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; IDOH/TPC.

Geographic Level: Indiana.

Availability: Data are available on request from TPC, 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: Biennial; most recent data from 2018.

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 misuse 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 2019.

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 misuse 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, state, and county-level.

Availability: National and state TEDS data were acquired from SAMHSA's Drug & Alcohol Services Information System at <http://www.dasis.samhsa.gov/dasis2/teds.htm>; county-level data available from FSSA upon request.

Trend: Annual; most recent data from 2018 (from SAMHSA) and 2020 (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.

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 biennially 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 biennial 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: Biennial; most recent data from 2019 (U.S.) and 2015 (Indiana).

Strengths/Weaknesses: Availability of state-level results is dependent upon sufficient participation; Indiana's response rates in 2013, 2017, and 2019 were too low and, therefore, did not yield any estimates.

APPENDIX I: Data Sources

Data Set	Source	Years	How to Access	Coverage	Target
Alcohol Outlet Density	Prevention Insights	2020	https://iprc.iu.edu/epidemiological-data/	Indiana	Statewide alcohol outlet density
Alcohol-Related Disease Impact (ARDI) Database	CDC	Based on averages 2011-2015	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 2019	On request from ISP	Indiana and counties	Vehicle collisions in general in population
Behavioral Risk Factor Surveillance System (BRFSS)	CDC	Annual Most recent 2019	http://www.cdc.gov/brfss/brfssprevalence/index.html	U.S. and states	Adults 18 and older
Hospital Discharge Database	IDOH	Annual Most recent 2019	http://www.in.gov/isdh/20624.htm	Indiana and counties	General population
Indiana Adult Tobacco Survey (IATS)	IDOH/TPC	Biennial Most recent 2019	On request from IDOH	Indiana	Adults 18 and older
Indiana Clandestine Meth Lab Seizures	ISP	Annual Most recent 2020	On request from ISP	Indiana and counties	General population
Indiana College Substance Use Survey (ICSUS)	Prevention Insights	Biennial Most recent 2019	https://iprc.iu.edu/indiana-college-survey/substance-use-survey	Indiana	College students
Indiana Youth Survey (INYS)	Prevention Insights	Biennial Most recent 2020	http://inys.indiana.edu/survey-results	Indiana and regions	6th – 12th grade students in Indiana
Indiana Youth Tobacco Survey (YTS)	IDOH/TPC	Biennial Most recent 2018	On request from ISDH	Indiana	6th – 12th grade students in Indiana
Monitoring the Future (MTF) Survey	NIDA	Annual Annual Most recent 2020	http://www.monitoringthefuture.org/data/data.html	U.S.	8th, 10th, and 12th grade students

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APPENDIX I (continued)

Data Set	Source	Years	How to Access	Coverage	Target
Mortality data	CDC	Annual Most recent 2019	https://wonder.cdc.gov/	U.S., states, and countries	General population
National Survey on Drug Use and Health (NSDUH)	SAMHSA	Annual Most recent 2019	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 countries	General population
Treatment Episode Data Set (TEDS)	SAMHSA	Annual Most recent 2018	http://www.dasis.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 2020			
Uniform Reporting System (URS) – Mental Health National Outcomes Measures	SAMHSA	Annual Most recent 2019	https://www.samhsa.gov/data/data-we-collect/urs-uniform-reporting-system	U.S. and states	Treatment population eligible for public services (200% FPL)
Youth Risk Behavior Surveillance System (YRBSS)	CDC	Biennial Most recent 2019 (Indiana 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; IDOH = Indiana Department of Health; ISP = Indiana State Police; NIDA = National Institute on Drug Abuse; SAMHSA = Substance Abuse and Mental Health Services Administration; TPC = Tobacco Prevention & Cessation.

APPENDIX II: SUBSTANCE USE INDICATORS AT-A-GLANCE

SUBSTANCE	USE OR CONSEQUENCE	TARGET POPULATION	DATASET
Alcohol	Past-month use	General population ages 12+	NSDUH
	Past-month binge drinking		
	Alcohol use disorder in the past year	Adults ages 18+	BRFSS
	Needing but not receiving treatment for alcohol use		
	Past-month alcohol use	Grades 9-12	YRBSS
	Past-month binge drinking		
	Past-month heavy drinking		
	Past-month chronic drinking		
	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		
	Past-month alcohol use	Grades 6-12	INYS
	Past-month binge drinking		
	Mean age of first use	Grades 8, 10, and 12	MTF
	Past-month alcohol use		
	Use reported at treatment admission	Treatment population at or below 200% FPL, in state-sponsored programs	TEDS
	Primary use (dependence) reported at treatment admission		
Alcohol-related crashes	General population	ARIES	
Alcohol-related fatal crashes			
Alcohol-attributable deaths	General population	ARDI	
Alcohol-attributable fractions			
Years of potential life lost due to excessive alcohol use	General population	IDOH, CDC	
Alcohol-induced deaths			
Past-month use of tobacco product	General population ages 12+	NSDUH	
Past-month use of Cigarettes			
Past-month smoking	Adults ages 18+	BRFSS	
Past-month smokeless tobacco			
Four-level smoking status	Middle and high school students	IYTS	
Past-month and lifetime use of various tobacco products			
Past-month use of tobacco products	Grades 8, 10, and 12	MTF	
Ever tried cigarette smoking			
Smoked a whole cigarette before age 13 years	Grades 9-12	YRBSS	
Past-month use of various tobacco products			
Past-month use of various tobacco products	Grades 6-12	INYS	
Mean age of first use			
Use of various tobacco products	General population	IATS	
Cessation intentions and attempts			
Percentage of smoke-free homes and work places			

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APPENDIX II (continued)

SUBSTANCE	USE OR CONSEQUENCE	TARGET POPULATION	DATASET
Marijuana	Past-month use	General population ages 12+	NSDUH
	Past-year use		
	First use		
	Ever used marijuana	Grades 9-12	YRBSS
	Tried marijuana before age 13 years		
	Currently used marijuana		
	Ever used synthetic marijuana		
	Usually used marijuana by smoking it	Grades 6-12	INYS
	Past-month use of marijuana and synthetic marijuana		
	Mean age of first use	Grades 8, 10, and 12	MTF
Past-month use of marijuana			
Use reported at treatment admission	Treatment population at or below 200% FPL, in state-sponsored programs	TEDS	
Primary use (dependence) reported at treatment admission			
Cocaine	Past-year use	General population ages 12+	NSDUH
	Lifetime use		
	Past-month use of cocaine/crack	Grades 9-12	YRBSS
	Mean age of first use		
	Past-month use of cocaine/crack		
Use reported at treatment admission	Grades 8, 10, and 12	MTF	
Primary use (dependence) reported at treatment admission			
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		
	Past-month use of heroin	Grades 6-12	INYS
	Use reported at treatment admission		
	Primary use (dependence) reported at treatment admission	Grades 8, 10, and 12	MTF
	Primary use (dependence) reported at treatment admission		
	Methamphetamine	Past-year use	General population ages 12+
Lifetime use			
Past-month use		Grades 9-12	YRBSS
Mean age of first use			
Past-month use of methamphetamine			
Use reported at treatment admission		Grades 8, 10, and 12	MTF
Primary use (dependence) reported at treatment admission			
Clandestine meth lab seizures		Treatment population at or below 200% FPL, in state-sponsored programs	TEDS
Children identified/rescued in lab homes			
Arrests made during lab seizures		General population	ISP Meth Lab Seizures

Continued on Next Page

APPENDIX II (continued)

SUBSTANCE	USE OR CONSEQUENCE	TARGET POPULATION	DATASET
Prescription Drugs	Past-year misuse of pain relievers	General population ages 12+	NSDUH
	Past-month use of prescription drugs	Grades 6-12	INYS
	Mean age of first use		
	Past-year dispensation of opioids	General population	INSPECT
	Use reported at treatment admission	Treatment population at or below 200% FPL, in state-sponsored programs	TEDS
	Primary use (dependence) reported at treatment admission	General population	IDOH, CDC

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; IDOH = Indiana Department of Health; ISP = Indiana State Police; IYTS = Indiana Youth Tobacco Survey; MTF = Monitoring the Future Survey; NSDUH = National Survey on Drug Use and Health; SAMMEC = Smoking-Attributable Mortality, Morbidity, and Economic Costs; TEDS = Treatment Episode Data Set; 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 2020 state fiscal year (SFY) Treatment Episode Data Set (TEDS), which we received from the Indiana Family and Social Services Administration (FSSA, 2021).

Drugs were grouped into nine (9) categories:

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

The analysis indicated that 73% of Hoosiers who received substance use treatment in SFY 2020 reported misusing two or more drugs. Polysubstance users primarily fell into one of 10 drug clusters (see Table III.1). The most commonly used combination of drugs included alcohol and marijuana. Heroin combined with methamphetamine was the second most frequent grouping. Overall, marijuana was the drug most commonly combined with another substance and showed up in 6 out of the 10 drug clusters; opioids were represented in 3 clusters, with both methamphetamine and alcohol each represented in 5 clusters (see Table III.1).

The demographic composition of polysubstance users differed depending on which combination of drugs they used. Males made up a greater percentage of persons in 9 of the 10 drug clusters while females were more strongly represented in the group of individuals who used a combination of benzodiazepines and methamphetamine.

Whites composed the majority of polysubstance users in all 10 drug use groupings. Though blacks were generally less represented among polysubstance users, this group made up nearly one-third of persons who reported using alcohol, cocaine, and marijuana. Hispanics made up less than 10% of polysubstance users across all drug combination categories.

At least half of polysubstance users in all 10 polysubstance groups were between the ages of 25 and 44. Polysubstance users were somewhat younger if they reported using a combination of alcohol and marijuana or a combination of alcohol, marijuana and a drug in the unknown category. Polysubstance users were somewhat older if they used a combination of alcohol, cocaine, and marijuana (see Table III.2)

Table III.1 Drug Combinations Used by Indiana Polysubstance Users (Treatment Episode Data Set, SFY 2020)

Drug Combinations	Number of Admissions	% of Admissions
Alcohol and Marijuana	3,498	16.5%
Heroin and Methamphetamine	2,533	11.9%
Alcohol, Opiates/Synthetics, Methamphetamine	2,313	10.9%
Alcohol and Other Drug	2,222	10.5%
Marijuana and Methamphetamine	2,190	10.3%
Marijuana, Heroin, Opiates/Synthetics	1,963	9.2%
Alcohol, Cocaine, Marijuana	1,950	9.2%
Marijuana, Methamphetamine, Other Drug	1,869	8.8%
Alcohol, Marijuana, Unknown Drug	1,390	6.5%
Benzodiazepines and Methamphetamine	1,323	6.2%

Source: FSSA, 2021

Table III.2 Demographic Characteristics of Individuals within Polysubstance Groups (Treatment Episode Data Set, 2020)

		Alcohol & Marijuana		Heroin & Meth		Alcohol, Opiates/ Synthetics & Meth		Alcohol & Other Drug		Marijuana & Meth	
		N	%	N	%	N	%	N	%	N	%
Gender	Male	2,340	66.9	1,354	53.5	1,226	53.0	1,441	64.9	1,182	54.0
	Female	1,158	33.1	1,179	46.5	1,087	47.0	781	35.1	1,008	46.0
Race	White	2,746	78.5	2,345	92.6	2,167	93.7	1,756	79.0	1,996	91.1
	Black	491	14.0	53	2.1	34	1.5	302	13.6	78	3.6
	Other	261	7.5	135	5.3	112	4.8	164	7.4	116	5.3
Ethnicity	Hispanic	250	7.1	114	4.5	111	4.8	146	6.6	87	4.0
	Non-Hispanic	3,248	92.9	2,419	95.5	2,202	95.2	2,076	93.4	2,103	96.0
	Unknown										
Age	Under 18	127	3.6	0	0.0	1	0.0	45	2.0	22	1.0
	18-24	556	15.9	248	9.8	135	5.8	237	10.7	301	13.7
	25-34	1,241	35.5	1,374	54.2	927	40.1	665	29.9	837	38.2
	35-44	911	26.0	710	28.0	835	36.1	590	26.6	710	32.4
	45-54	435	12.4	177	7.0	302	13.1	379	17.1	252	11.5
	55 and Over	228	6.5	24	0.9	113	4.9	306	13.8	68	3.1

		Marijuana, Heroin & Opiates/Synthetics		Alcohol, Cocaine & Marijuana		Marijuana, Meth & Other Drug		Alcohol, Marijuana & Unknown Drug	
		N	%	N	%	N	%	N	%
Gender	Male	1,061	54.0	1,187	60.9	980	52.4	793	57.1
	Female	902	46.0	763	39.1	889	47.6	597	42.9
Race	White	1,644	83.7	1,181	60.6	1,610	86.1	1,055	75.9
	Black	141	7.2	628	32.2	166	8.9	238	17.1
	Other	178	9.1	141	7.2	93	5.0	97	7.0
Ethnicity	Hispanic	134	6.8	139	7.1	82	4.4	84	6.0
	Non-Hispanic	1,829	93.2	1,811	92.9	1,787	95.6	1,306	94.0
Age	Under 18	5	0.3	8	0.4	46	2.5	54	3.9
	18-24	198	10.1	155	7.9	352	18.8	206	14.8
	25-34	900	45.8	545	27.9	715	38.3	456	32.8
	35-44	532	27.1	496	25.4	443	23.7	313	22.5
	45-54	198	10.1	487	25.0	227	12.1	217	15.6
	55 and Over	130	6.6	259	13.3	86	4.6	144	10.4

		Benzodiazepines & Meth	
		N	%
Gender	Male	634	47.9
	Female	689	52.1
Race	White	1,184	89.5
	Black	45	3.4
	Other	94	7.1
Ethnicity	Hispanic	80	6.0
	Non-Hispanic	1,243	94.0
Age	Under 18	8	0.6
	18-24	191	14.4
	25-34	567	42.9
	35-44	384	29.0
	45-54	129	9.8
	55 and Over	44	3.3

Source: FSSA, 2021

REFERENCES, Appendices

Indiana Family and Social Services Administration. (2021). *Treatment Episode Data System (TEDS), SFY 2020*. Indianapolis, IN: Indiana Family and Social Services Administration.

MARIJUANA COCAINE PRESCRIPTION DRUGS

THE CONSUMPTION AND CONSEQUENCES OF ALCOHOL, TOBACCO, AND DRUGS IN INDIANA: A STATE EPIDEMIOLOGICAL PROFILE 2020

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 misuse 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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SCHOOL OF PUBLIC HEALTH

INDIANA UNIVERSITY
Indianapolis



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."*