MARIJUANA COCAINE PRESCRIPTION DRUGS

The Consumption and Consequences of Alcohol, Tobacco, and Drugs in Indiana: A State Epidemiological Profile 2019

Indiana State Epidemiological Outcomes Workgroup

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

TOBACCO HEROIN METHAMPHETAMINE ALCOHOL

THE CONSUMPTION AND CONSEQUENCES OF ALCOHOL, TOBACCO, AND DRUGS IN INDIANA: A STATE EPIDEMIOLOGICAL PROFILE 2019

Developed by the Indiana State Epidemiological Outcomes Workgroup, 2019

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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For additional copies of this document, contact:

Center for Health Policy
IU Richard M. Fairbanks School of Public Health
Indiana University-Purdue University Indianapolis (IUPUI)
1050 Wishard Blvd.
Indianapolis, IN 46202
Phone: 317-274-2000
IUCHP@iupui.edu

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BOOK TEAM
Marion S. Greene, PhD, MPH
Jyotsna Gutta, MPH
Harold E. Kooreman, MA, MSW
Elhaam Bandali, MS
Furhan Siddiki, BSPH

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INDIANA STATE EPIDEMIOLOGY AND OUTCOMES WORKGROUP (SEOW)

Marion Greene, Chair
Assistant Professor, Health Policy & Management
IU Richard M. Fairbanks School of Public Health

Eleanor Berry
Research Analyst
Indiana Department of Child Services

Sirrilla Blackmon
Deputy Director
Indiana Division of Mental Health & Addiction

Cathy Blume
Synar & Alcohol Program Director
Indiana Division of Mental Health & Addiction

Terry Cook
Deputy Director
Indiana Division of Mental Health & Addiction

Bethany Ecklor
Bureau Chief
Indiana Division of Mental Health & Addiction

Lauren Harding
Drug Overdose Prevention Epidemiologist
Indiana State Department of Health

Davetta Henderson
Assistant Deputy Director
Indiana Division of Mental Health & Addiction

David Lauck
Major and Internist
Indiana Air National Guard

Vera Mangrum
Program Director
Indiana Division of Mental Health & Addiction

Don McCay
First Sergeant, North Operations Commander
Drug Enforcement Section
Indiana State Police

Hope McMickle
Evaluation Specialist, Prevention Insights
IU School of Public Health, Bloomington

Dane Minnick
Assistant Professor, Social Work
Ball State University

Jason Murrey
Prevention Specialist
Indiana Department of Education

Brandy Paul
Epidemiologist, Tobacco Prevention & Cessation
Indiana State Department of Health

Michael Ross
Division Director of Substance Abuse Services
Indiana Criminal Justice Institute

Katelin Rupp
Director of Program Evaluation, Tobacco Prevention & Cessation
Indiana State Department of Health

Mike Toles
Sergeant, Methamphetamine Suppression Section
Indiana State Police

Elisabeth Wilson
Senior Research Analyst
Indiana Department of Child Services

SEOW SUPPORT TEAM

Elhaam Bandali
Program Coordinator, Center for Health Policy
IU Richard M. Fairbanks School of Public Health

Samantha Childress
Program Coordinator, Social & Behavioral Sciences
IU Richard M. Fairbanks School of Public Health

Jyotsna Gutta
Research Specialist, Center for Health Policy
IU Richard M. Fairbanks School of Public Health

Harold Kooreman
Policy Analyst, Center for Health Policy
IU Richard M. Fairbanks School of Public Health

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 14th 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, our primary aim in preparing this annual document is to provide a useful reference tool for policymakers, communities, and professionals involved in substance use prevention and mental health promotion. We realize not everyone has the time or energy to review the contents in detail. For this reason, we again are offering drug fact sheets with summaries on each of the major substances. 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 has links to a series of issue briefs related to drug misuse and other behavioral health topics; these briefs are developed each year as part of the SEOW's work. Furthermore, in 2018 we added a *Data Portal*; i.e., an online tool that allows users to review and interact with data tables, graphs, and maps.

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.

Marion S. Greene, PhD, MPH
Chair, Indiana State Epidemiological Outcomes Workgroup (SEOW)
Assistant Professor, Health Policy & Management
Center for Health Policy
IU Richard M. Fairbanks School of Public Health at IUPUI
Phone: (317) 278-3247
E-mail: msgreene@iu.edu

Executive Summary

Substance use continues to be a major public health concern, negatively impacting a variety of health, legal, and social outcomes. Nearly one-fourth of Hoosiers ages 12 and older engaged in binge drinking in the past month and one-tenth used an illicit substance. Furthermore, 7% of Indiana residents met criteria for substance use disorder (SUD) in the past year and 6.4% needed but did not receive treatment for their SUD (Substance Abuse and Mental Health Services Administration [SAMHSA], 2020).

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 two-thirds of Indiana treatment admissions (63%), the use of two or more substances was reported (Indiana Family and Social Services Administration [FSSA], 2020).

During state fiscal year 2019, there was a total of 8,738 child removals from their parents by the Department of Child Services in Indiana. Parental drug and/or alcohol use contributed to almost two thirds (61.2%) of these removals (Indiana Department of Child Services, 2019).

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, 2020). Indiana and U.S. rates of underage drinking among 12- to 17-year-olds were similar (IN: 9.3%; U.S.: 9.4%).

Excessive alcohol consumption contributes to a number of health and economic consequences. Prolonged and compulsive use of alcohol can lead to alcohol use disorder. In 2018, almost one-fourth of Indiana residents ages 12 or older reported binge drinking, which was similar to the national rate (IN: 24.4%; U.S.: 24.5%). About 5% of Hoosiers suffered from alcohol use disorder within the past year (U.S.: 5.4%). The highest rate was found among 18- to 25-year-olds (IN: 10.1%; U.S.: 10.1%) (SAMHSA, 2020).

Alcohol-related collisions decreased from 13,911 in 2003 to 7,213 in 2018. The number of fatal crashes also decreased from 242 to 128 (Indiana State Police, 2018). The age-adjusted mortality rates for alcohol-attributable deaths have climbed gradually from 2000 through 2018 in both Indiana and the United States. Indiana's age-adjusted rate was 10.6 per 100,000 in 2018, which was similar to the U.S. rate of 9.9 per 100,000 (Centers for Disease Control and Prevention [CDC], 1999-2018).

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

Tobacco / Nicotine

Even though cigarette smoking has declined in recent years, tobacco use is still a public health issue. Cigarette smoking and tobacco-related diseases cost the United States more than $300 billion per year. In 2018, more than one in five adult Hoosiers (22%) reported smoking cigarettes in the past month (U.S.: 17.5%) (SAMHSA, 2020).

The decline of cigarette smoking has given rise to other tobacco products. E-cigarettes, hookahs, and other tobacco products gained more popularity and market themselves as safer than cigarettes (Indiana State Department of Health, Tobacco Prevention and Cessation Commission [ISDH/TPC], 2015). Approximately 25.8% of adults in Indiana reported trying an e-cigarette in 2019 (ISDH/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, 1991-2017; 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 2017–2018 averages from the National Survey on Drug Use and Health (NSDUH), almost 5% of Indiana residents ages 12 or older misused pain relievers (U.S.: 3.9%) and 0.4% 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: 6.9%; U.S.: 6.3%) and heroin (IN: 0.9%; U.S.: 0.5%) (SAMHSA, 2020).

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 23% of treatment admissions, heroin use was reported (SAMHDA, 2020).

Non-fatal emergency department visits due to an opioid overdose rose from 1,856 in 2011 to 5,825 in 2018 (45 to 87 visits per 100,000 population) (ISDH, 2020). Overdose deaths involving opioids rose from 347 in 2011 to 1,098 in 2018 (5.3 to 16.4 deaths per 100,000 population) (ISDH, 2020).

Other Illicit Drugs

Marijuana is the most commonly used illicit drug in the United States (Azofeifa et al., 2016). An estimated 10.2% of Indiana residents ages 12 and older reported current (past-month) marijuana use (U.S.: 9.8%); past-year use was estimated at 15.6% (U.S.: 15.5%). The highest prevalence was among individuals ages 18 to 25, with 19.6% of Hoosiers in this age group reporting current marijuana use (U.S.: 20.3%) and 35.8% reporting past-year use (U.S.: 34.8%) in 2018 (SAMHSA, 2020). In about half of Indiana treatment admissions, marijuana use was reported (U.S.: 33.4%) (SAMHDA, 2020).

Stimulants encompass both legal (prescription stimulants such as Ritalin and Adderall) and illicit drugs (such as cocaine and methamphetamine). An estimated 2.1% of Indiana residents ages 12 and older used cocaine in the past year, similar to the national rate of 2.1%. Cocaine use was highest among young adults ages 18 to 25, with 6.5% reporting past year use (U.S.: 6.0%) (SAMHSA, 2020).

Data from the TEDS indicate that methamphetamine was the most widely used stimulant among the treatment population. In 2017, 28.3% of admissions to substance use treatment in Indiana reported current methamphetamine use, a significantly higher percentage than the nation's (U.S.: 18.6%). Cocaine was the second most frequently used stimulant in Indiana's treatment population, with 12.5% of admissions reporting use in 2017; this percentage was significantly lower than that noted for the rest of the nation (U.S.: 18.1%). A small percentage (IN: 1.7%; U.S.: 1.6%) of the treatment population reported the use of other stimulants at the time of admission (SAMHDA, 2020).

Mental Health

Good mental health is critical to an individual's well-being. In 2018, 22.5% of Hoosier adults reported experiencing any mental illness in the past year (U.S.: 19.0%), and 5.3% reported experiencing serious mental illness (U.S.: 4.6%). Furthermore, 17.0% of adult Hoosiers received mental health services in the past year (U.S.: 14.9%) (SAMHSA, 2020). Approximately one-fifth (19.7%) of Indiana adults reported ever being told that they had depression (U.S.: 19.6%) (CDC, 2019).

Youth also experienced similar, or higher rates of poor mental health. The percentage of Hoosier high school students 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, 1991-2017).

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 (16.0 per 100,000) is significantly higher than the U.S. rate (14.2 per 100,000) (CDC, 1999-2018).

In the past year, 5.2% of Indiana adults reported having serious thoughts of suicide (U.S.: 4.3%) (SAMHSA, 2020), and 9.9% of Hoosier high school students attempted suicide (U.S.: 8.6%) (CDC, 1991-2017).

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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 2017, the National Institute on Alcohol Abuse and Alcoholism (NIAAA) estimated that Hoosiers 14 years and older consumed 11,523 gallons of ethanol (the intoxicating agent in alcoholic beverages). By volume, this equates to 117,420 gallons of beer, 12,318 gallons of wine, or 11,314 gallons of spirits. This level of use represents an annual per capita consumption rate of 2.1 gallons of ethanol for Hoosiers age 14 and older (NIAAA, 2019). In 2019, there were 16,795 alcohol beverage permits on file in Indiana, representing a rate of 2.6 licenses per 1,000 Hoosiers; thus, Indiana residents have many points of access to alcohol (Alcohol and Tobacco Commission, 2019).

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

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

PREVALENCE OF ALCOHOL CONSUMPTION IN THE GENERAL POPULATION

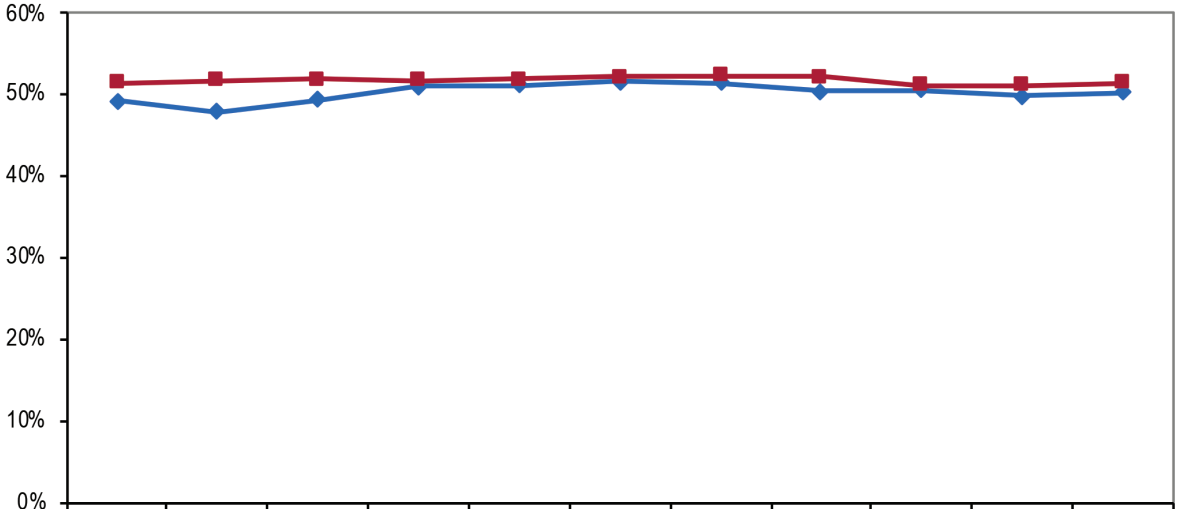
National Survey on Drug Use and Health

Based on 2017–2018 averages from the Substance Abuse and Mental Health Services Administration (SAMHSA)'s National Survey on Drug Use and Health (NSDUH), an estimated 50.3% (95% Confidence Interval [CI]: 47.7–52.9) of Indiana residents 12 years of age or older had used alcohol in the past month; Indiana's prevalence rate for current alcohol use[1] was similar to the U.S. rate of 51.4% (95% CI: 50.8–51.9) (see Figure 2.1). Young adults between the ages of 18 and 25 had the highest level of use, with 60.0% (95% CI: 55.7–64.1) of individuals in that age group reporting current alcohol use (U.S.: 55.7%, 95% CI: 54.8–56.6). Furthermore, 9.3% (95% CI: 7.5–11.4) of young people ages 12 to 17 consumed alcohol in the past 30 days in Indiana (see Figure 2.2); the rate was similar on the national level (9.4%; 95% CI: 9.0–9.9).

NSDUH also provides underage drinking estimates for 12- to 20-year-olds. In 2018, Indiana's rate for current alcohol use in underage Hoosiers (18.9%; 95% CI: 16.6–21.5) was similar to that of the U.S. (19.3%; 95% CI: 18.6–19.9) (SAMHSA, 2020).

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

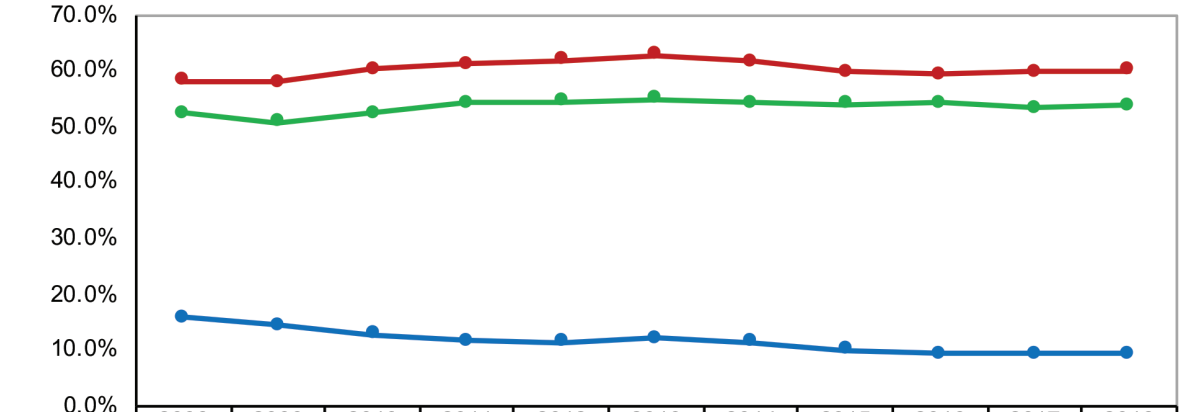
Figure 2.1 Percentage of Indiana and U.S. Population (12 Years and Older) Reporting Current Alcohol Use (National Survey on Drug Use and Health, 2008–2018)



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Indiana	49.3%	48.0%	49.4%	51.0%	51.2%	51.6%	51.5%	50.4%	50.5%	49.9%	50.3%
U.S.	51.4%	51.8%	51.8%	51.8%	51.9%	52.1%	52.4%	52.2%	51.2%	51.2%	51.4%

Source: SAMHSA, 2020

Figure 2.2 Percentage of Indiana Population Reporting Current Alcohol Use by Age Group (National Survey on Drug Use and Health, 2008–2018)

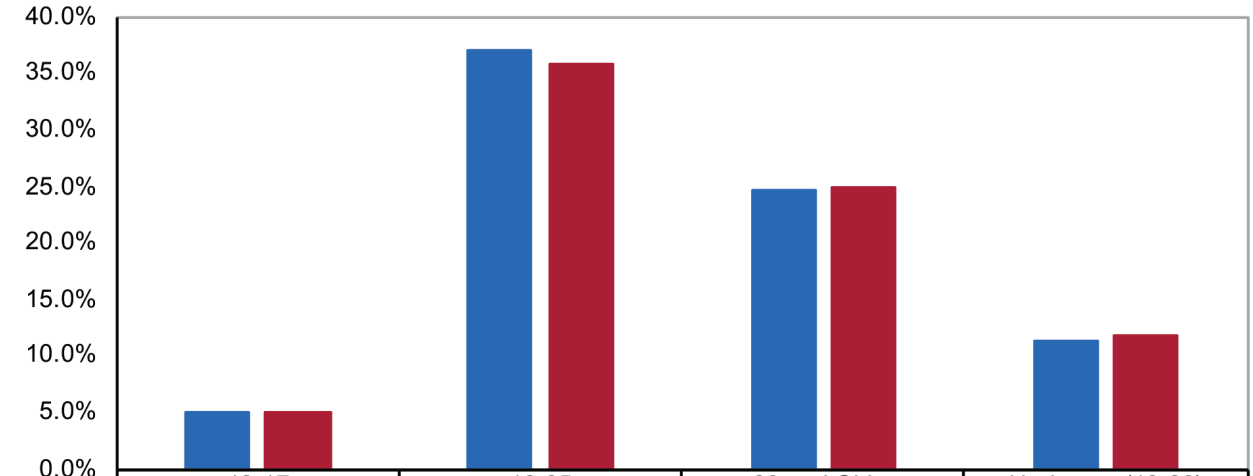


	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
12-17	15.7%	14.4%	12.7%	11.6%	11.3%	12.0%	11.4%	10.1%	9.3%	9.2%	9.3%
18-25	58.2%	57.9%	60.2%	61.1%	61.8%	62.7%	61.7%	59.7%	59.4%	59.8%	60.0%
26 and Older	52.3%	50.8%	52.3%	54.3%	54.5%	54.8%	54.3%	54.0%	54.2%	53.3%	53.8%

Source: SAMHSA, 2020

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 2018, 24.4% 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, 2018)



	12-17	18-25	26 and Older	Underage (12-20)
Indiana	5.1%	37.0%	24.7%	11.4%
U.S.	5.0%	35.9%	25.0%	11.7%

Source: SAMHSA, 2020

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, 2018)

		Indiana % (95% CI)
Gender	Male	56.7% (54.4–58.9)
	Female	45.8% (43.7–47.8)
Race/Ethnicity	White	51.6% (50.0-53.3)
	Black	48.8% (43.4–54.2)
	Asian	50.2% (36.4-64.1)
	Hispanic	49.5% (41.7–57.3)
Age Group	18-24	54.1% (48.2–59.9)
	25-34	61.1% (56.7–65.5)
	35-44	59.0% (54.9–63.2)
	45-54	58.2% (54.9–61.5)
	55-64	45.9% (42.9–48.8)
	65+	33.8% (31.7–35.9)
Total		**51.1% (49.5–52.6)**

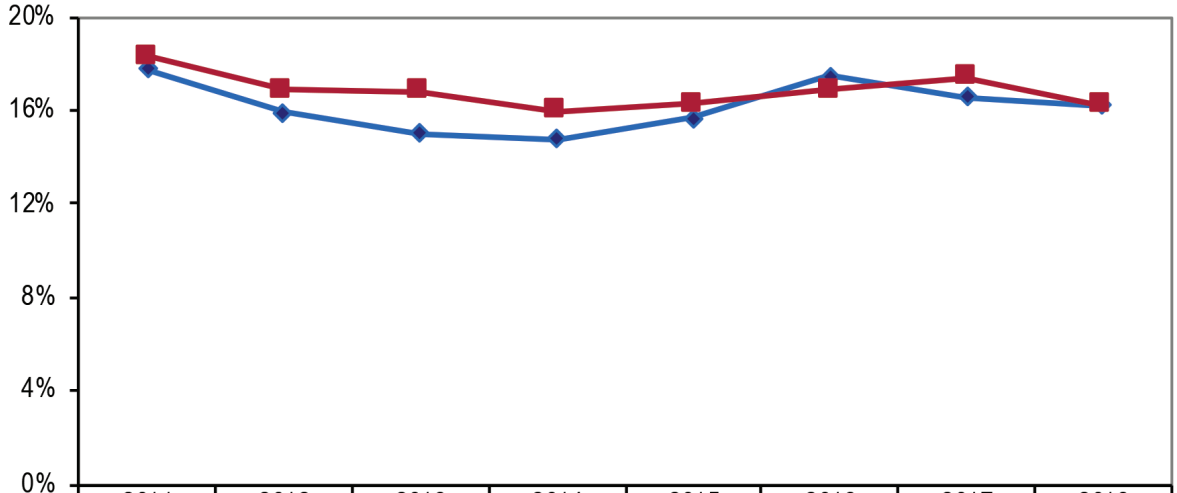
Source: CDC, 2019

(95% CI: 22.3–26.8); this represents a rate similar to the national average of 24.5% (95% CI: 24.1–24.9). Binge drinking was more prevalent among 18- to 25-year-olds than among any other age group (IN: 37.0%; 95% CI: 33.0–41.3; U.S.: 35.9%; 95% CI: 35.1–36.7). 2018 binge drinking rates in individuals ages 12 to 20 were similar in Indiana (11.4%; 95% CI: 9.6–13.5) and the U.S. (11.7%; 95% CI: 11.2–12.2) (SAMHSA, 2020) (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 2018 were 51.1% (95% CI: 49.5–52.6) for Indiana and 53.5% for the nation. In Indiana, rates tended to be higher among males and among younger age groups (see Table 2.1) (CDC, 2019).

Figure 2.4 Percentage of Indiana and U.S. Adults Reporting Binge Drinking in the Past 30 Days (Behavioral Risk Factor Surveillance System, 2011–2018)



	2011	2012	2013	2014	2015	2016	2017	2018
Indiana	17.8%	15.9%	15.0%	14.8%	15.7%	17.5%	16.6%	16.2%
U.S.	18.3%	16.9%	16.8%	16.0%	16.3%	16.9%	17.4%	16.2%

Source: CDC, 2019

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, 2018)

		Indiana % (95% CI)
Gender	Male	21.2% (19.2–23.2)
	Female	11.4% (10.0–12.9)
Race/Ethnicity	White	16.6% (15.2–18.0)
	Black	14.0% (10.1–17.9)
	Hispanic	17.2% (11.8–22.6)
Age Group	18-24	22.8% (17.8–27.8)
	25-34	26.7% (22.8–30.6)
	35-44	19.5% (16.2–22.8)
	45-54	17.6% (15.0–20.3)
	55-64	10.8% (8.9–12.6)
	65+	4.4% (3.4–5.4)
Total		**16.2% (15.0–17.4)**

Source: CDC, 2019

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 (16.2%, 95% CI: 15.0–17.4) was similar to the U.S. median rate (16.2%) in 2018. 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, 2019).

Youth Risk Behavior Surveillance System

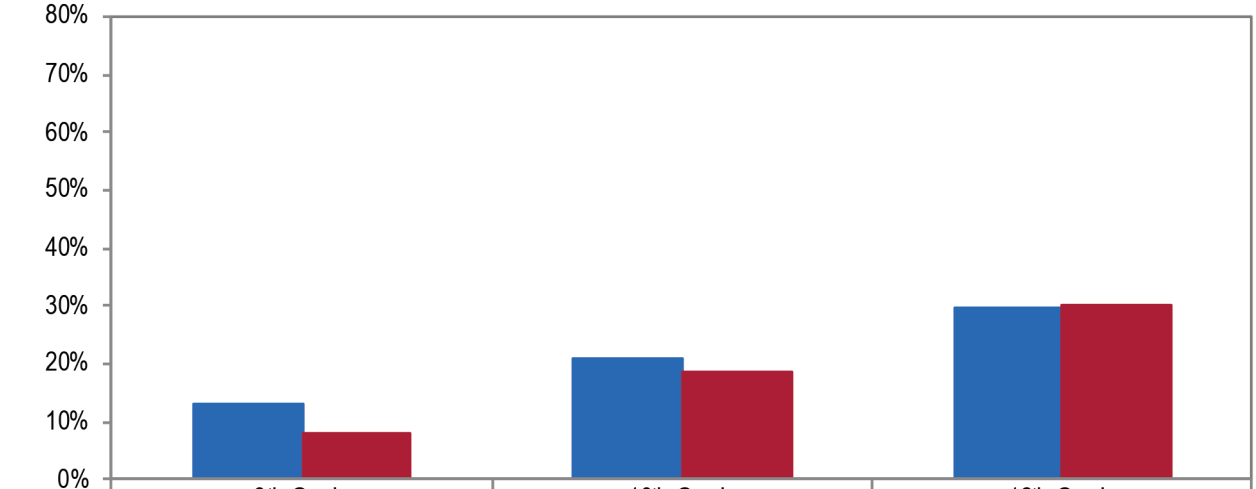
According to the CDC's Youth Risk Behavior Surveillance System (YRBSS), in 2015, 30.5% (95% CI: 26.3–35.2) of Indiana high school students had consumed at least one alcoholic drink in the past 30 days. No significant differences in alcohol consumption were observed by gender or race/ethnicity; however, 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, 1991–2017).

Indiana Youth Survey

The Indiana Youth Survey (INYS) indicates that in 2018, 29.5% of Indiana 12th grade students reported using alcohol at least once during the past 30 days (Gassman et al., 2018). 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 2018) on monthly alcohol use among high school seniors, see Figure 2.6. For monthly and binge use by Indiana region and grade for 2018, see Appendix 2A, page 17.

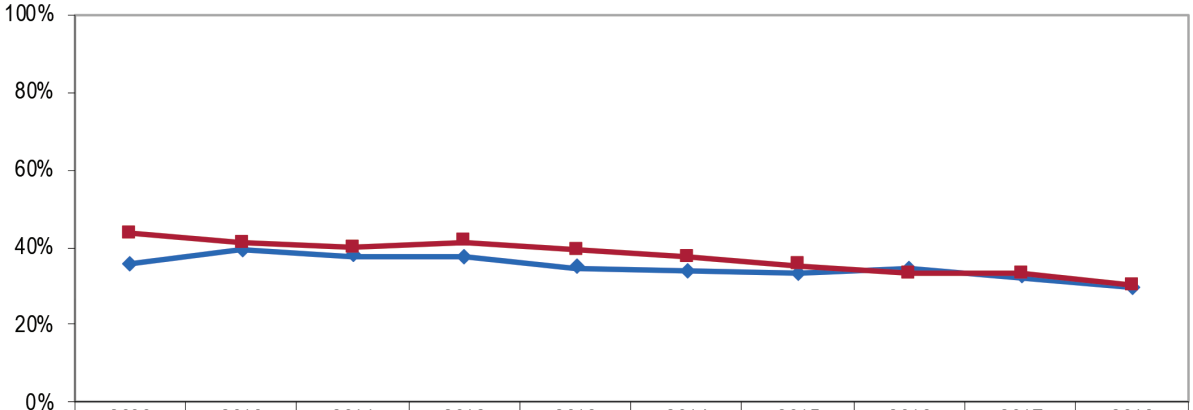
Figure 2.5 Percentage of Indiana and U.S. 8th, 10th, and 12th Grade Students Reporting Monthly Alcohol Use (Indiana Youth Survey and Monitoring the Future Survey, 2018)



	8th Grade	10th Grade	12th Grade
Indiana	13.0%	21.0%	29.5%
U.S.	8.2%	18.6%	30.2%

Source: Gassman et al., 2018; Inter-university Consortium for Political and Social Research, University of Michigan, 2018

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, 2009–2018)



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Indiana	35.7%	39.4%	37.8%	37.6%	34.9%	33.9%	33.2%	34.6%	32.2%	29.5%
U.S.	43.5%	41.2%	40.0%	41.5%	39.2%	37.4%	35.3%	33.2%	33.2%	30.2%

Source: Gassman et al., 2018; Inter-university Consortium for Political and Social Research, University of Michigan, 2018

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

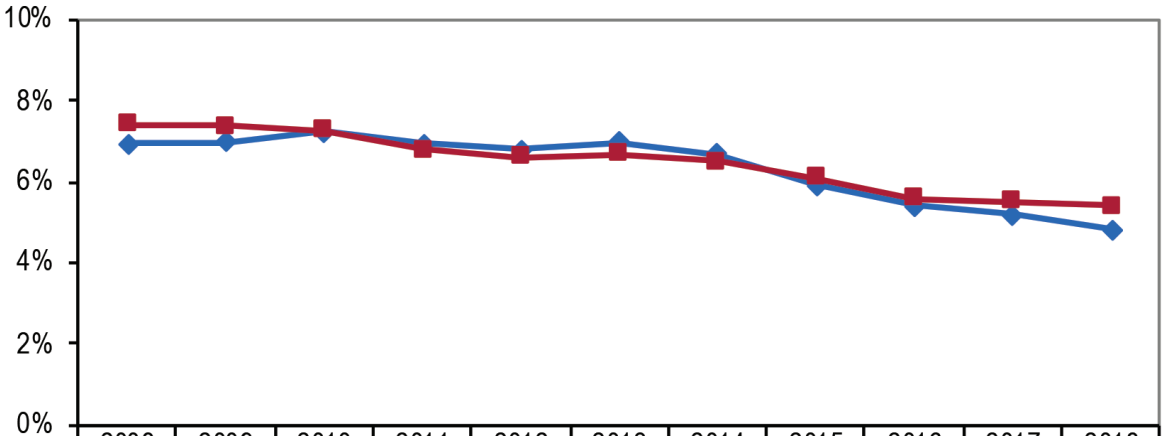
Based on 2018 NSDUH findings, the estimated prevalence for alcohol use disorder[3] in the past year among those ages 12 and older was 4.8% (95% CI: 3.9–5.9) in Indiana, which was similar to the national estimate (5.4%; 95% CI: 5.2–5.6) (see Figure 2.7). Of all age groups, adults ages 18 to 25 reported the highest prevalence rates both in Indiana and nationally across all years reviewed. Additionally, an estimated 4.6% (95% CI: 3.8–5.6) 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: 5.0–5.3) (SAMHSA, 2020).

[2]Twenty (20) Indiana colleges participated in the 2019 survey; results are based on nonrandom sampling and are not representative of all college students in Indiana.
[3]The NSDUH defines alcohol use disorder as meeting the criteria for "dependence" or "abuse" based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*.

Treatment Episode Data Set

According to the Treatment Episode Data Set (TEDS), alcohol plays a major role in admissions to substance abuse treatment. In 2017, in nearly half (45.5%) of Indiana treatment episodes, alcohol use was reported (U.S.: 42.4%), and in 28.0%, alcohol dependence[4] was indicated (U.S.: 29.5%) (see Figure 2.8) (SAMHDA, 2020).

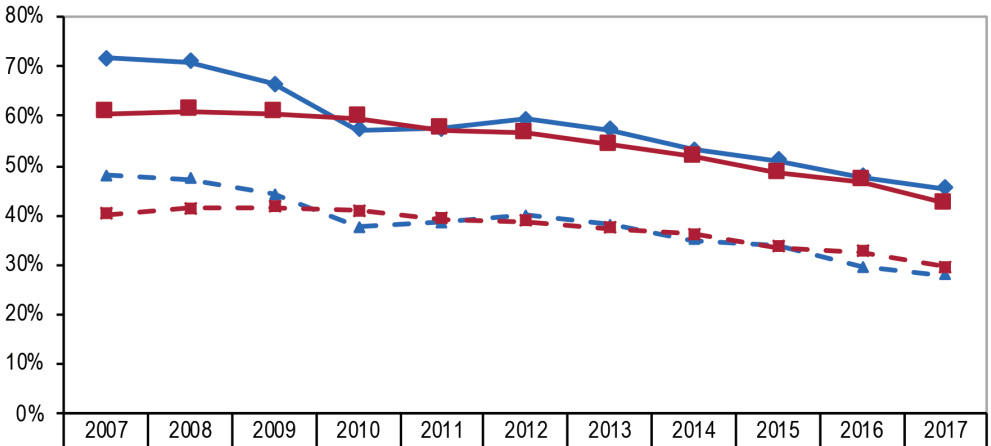
Figure 2.7 Percentage of Indiana and U.S. Population Ages 12 and Older with Alcohol Use Disorder (National Survey on Drug Use and Health, 2008–2018)



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Indiana	6.9%	7.0%	7.2%	6.9%	6.8%	7.0%	6.7%	5.9%	5.4%	5.2%	4.8%
U.S.	7.4%	7.4%	7.3%	6.8%	6.6%	6.7%	6.5%	6.1%	5.6%	5.5%	5.4%

Source: SAMHSA, 2020

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, 2007–2017)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Indiana Alcohol Use	71.7%	71.0%	66.4%	57.2%	57.5%	59.4%	57.3%	53.3%	51.2%	47.8%	45.5%
U.S. Alcohol Use	60.5%	61.0%	60.6%	59.7%	57.3%	56.6%	54.1%	51.9%	48.5%	46.9%	42.4%
Indiana Alcohol Dependence	48.1%	47.3%	44.2%	37.6%	38.5%	40.1%	38.0%	35.0%	33.9%	29.6%	28.0%
U.S. Alcohol Dependence	40.2%	41.3%	41.7%	40.9%	39.3%	38.9%	37.5%	36.3%	33.7%	32.6%	29.5%

Source: SAMHDA, 2020

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

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

Gender—A higher percentage of males (51.7%) in substance abuse treatment reported alcohol use, compared to 36.5% of females.

Race/ethnicity—Nearly half (43.4%) of whites in treatment reported using alcohol at the time of admission; this percentage was higher for blacks (56.9%) and other races (49.5%). With regard to ethnicity, a significantly higher percentage of Hispanics (52.9%) reported alcohol use than non-Hispanics (45.0%).

Age—The percentage of Hoosiers reporting alcohol use at treatment admission increased with age and was highest among those ages 55 and older (72.6%).

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

Table 2.3 Percentage of Treatment Episodes in Indiana Reporting Alcohol Use at Treatment Admission, by Gender, Race, Ethnicity, and Age Group (Treatment Episode Data Set, 2017)

		Alcohol Use
Gender	Male	51.7%
	Female	36.5%
Race	White	43.4%
	Black	56.9%
	Other	49.5%
Ethnicity	Hispanic	52.9%
	Non-Hispanic	45.0%
Age Group	Under 18	39.3%
	18-24	38.4%
	25-34	37.8%
	35-44	46.6%
	45-54	64.3%
	55+	72.6%
Total		**45.5%**

Source: SAMHDA, 2020

CONSEQUENCES OF ALCOHOL USE

Hospitalizations

Hospital discharge records show that in 2018, a total of 2,498 hospitalized patients were treated in Indiana for an alcohol-attributable primary diagnosis, representing 1.4% of all hospital discharges in the state (Indiana State Department of Health [ISDH], 2018).[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, and other healthcare providers to submit a report to the registry at ISDH 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 (ISDH, 2015–2017).

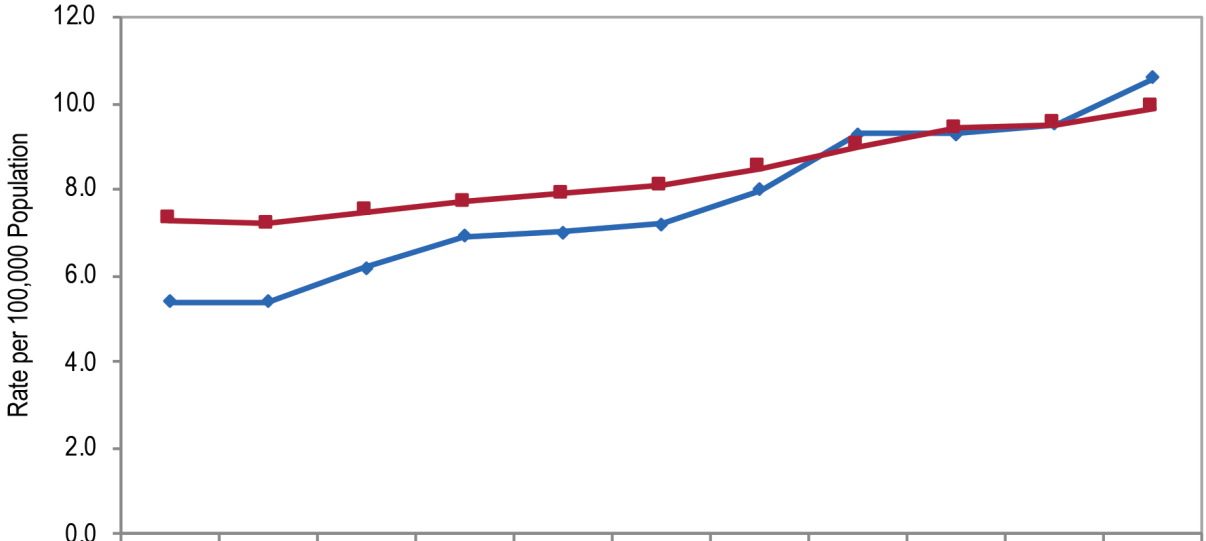
[5]For our analysis, we only included primary diagnoses that were 100% attributable to alcohol, as listed in CDC's Alcohol-Related Disease Impact (ARDI) database. These included ICD-10 codes E24.4 (Alcohol-induced pseudo-Cushing's syndrome), F10 (Mental and behavioral disorders due to use of alcohol),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

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

Alcohol-Related Mortality

From 2000 through 2018, a total of 8,760 Hoosiers died from alcohol-induced causes, and mortality rates attributable to alcohol have climbed gradually in both Indiana and the United States (CDC, 1999–2018).[7] In 2018, Indiana's age-adjusted alcohol-attributable death rate was 10.6 per 100,000 (95% CI: 9.8–11.4); similar to the U.S. rate of 9.9 (95% CI: 9.7–10.0) (see Figure 2.9) (CDC, 1999–2018).

Figure 2.9 Age-Adjusted Alcohol-attributable Mortality Rates per 100,000 Population in Indiana and the United States (CDC WONDER, 2008–2018)



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Indiana	5.4	5.4	6.2	6.9	7.0	7.2	8.0	9.3	9.3	9.5	10.6
U.S.	7.3	7.2	7.5	7.7	7.9	8.1	8.5	9.0	9.4	9.5	9.9

Source: CDC, 1999–2018

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

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

Alcohol-Related Motor Vehicle Accidents

Data from the Automated Reporting Information Exchange System (ARIES), part of the Indiana State Police's Vehicle Crash Records System, showed a decrease in alcohol-related collisions from 13,911 in 2003 to 7,213 in 2018. This represents a 48% drop. The number of fatal crashes with alcohol involvement also decreased, from 242 to 128, representing a 47% drop. (For a detailed listing of alcohol-related collisions and fatalities in Indiana by county for 2018, see Appendix 2D). The overall rate for alcohol-related collisions in Indiana in 2018 was 1.1 per 1,000 population (Indiana State Police, 2020).

Child Removals due to Parental Substance Abuse

During SFY 2019, there were a total of 8,738 removals of children from their homes.[8] In 831 cases (9.5%), parental alcohol use was indicated as a reason for removal (Indiana Department of Child Services, 2020).[9] [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.]

[8]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.

[9]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.

APPENDIX 2A

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

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Monthly	4.0%	4.6%	3.7%	2.8%	3.6%	3.9%	4.1%	3.2%	4.6%
	Binge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7th Grade	Monthly	7.6%	7.6%	6.6%	6.1%	5.8%*	9.3%*	7.7%	6.3%*	9.1%*
	Binge	2.5%	2.4%	1.9%	2.1%	1.9%	3.5%*	2.0%	2.1%	3.5%*
8th Grade	Monthly	13.0%	15.1%*	12.3%	15.7%	10.0%*	13.1%	12.4%	12.0%	13.9%
	Binge	4.7%	4.8%	4.4%	6.4%	3.5%*	5.2%	4.7%	4.5%	5.1%
9th Grade	Monthly	16.3%	19.1%*	17.0%	16.4%	16.2%	12.0%*	16.0%	16.9%	15.5%
	Binge	6.2%	7.0%	6.6%	5.9%	4.6%*	4.7%*	5.6%	7.6%*	6.4%
10th Grade	Monthly	21.0%	24.2%*	17.2%*	18.2%*	20.4%	18.4%*	20.7%	23.9%*	21.8%
	Binge	8.5%	9.7%*	6.7%*	7.2%	8.3%	8.1%	8.0%	10.9%*	8.3%
11th Grade	Monthly	24.1%	24.7%	21.5%*	21.3%	24.0%	22.0%	23.5%	28.3%*	24.5%
	Binge	10.8%	10.5%	8.6%*	9.1%	9.9%	9.4%	9.2%	15.5%*	11.6%
12th Grade	Monthly	29.5%	30.2%	24.8%*	22.6%*	29.0%	29.6%	25.5%*	33.0%*	33.2%*
	Binge	13.8%	13.8%	10.9%*	8.4%*	14.6%	15.1%	10.2%*	16.8%*	15.9%*

Notes: * Indicates a local rate that is significantly different from the overall state rate ($P < 0.05$).
Beginning in 2015, the Indiana Youth Survey stopped asking 6th grade students about binge drinking.
Source: Gassman et al., 2018

APPENDIX 2B

Number of Treatment Episodes with Alcohol Use and Dependence Reported at Treatment Admission in Indiana, by County (Treatment Episode Data Set, SFY 2019)

	Treatment Episodes	Alcohol Use		Alcohol Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**
Adams	106	55	51.9%	32	30.2%
Allen	1,740	1,006	57.8%	660	37.9%
Bartholomew	431	129	29.9%	72	16.7%
Benton	29	15	51.7%	7	24.1%
Blackford	54	15	27.8%	8	14.8%
Boone	136	65	47.8%	46	33.8%
Brown	61	20	32.8%	14	23.0%
Carroll	58	34	58.6%	17	29.3%
Cass	227	94	41.4%	45	19.8%
Clark	517	170	32.9%	134	25.9%
Clay	68	29	42.6%	16	23.5%
Clinton	180	74	41.1%	42	23.3%
Crawford	23	8	34.8%	5	21.7%
Daviess	170	60	35.3%	36	21.2%
Dearborn	340	154	45.3%	69	20.3%
Decatur	122	51	41.8%	30	24.6%
DeKalb	149	64	43.0%	40	26.8%
Delaware	513	183	35.7%	103	20.1%
Dubois	80	44	55.0%	30	37.5%
Elkhart	706	341	48.3%	210	29.7%
Fayette	218	60	27.5%	28	12.8%
Floyd	408	114	27.9%	67	16.4%
Fountain	44	18	40.9%	6	13.6%
Franklin	95	31	32.6%	19	20.0%
Fulton	106	58	54.7%	28	26.4%
Gibson	242	130	53.7%	68	28.1%
Grant	117	45	38.5%	32	27.4%
Greene	161	50	31.1%	30	18.6%
Hamilton	660	375	56.8%	237	35.9%
Hancock	447	207	46.3%	141	31.5%
Harrison	47	15	31.9%	14	29.8%
Hendricks	556	258	46.4%	175	31.5%
Henry	306	91	29.7%	68	22.2%
Howard	615	279	45.4%	110	17.9%
Huntington	179	51	28.5%	29	16.2%
Jackson	231	95	41.1%	43	18.6%
Jasper	90	36	40.0%	22	24.4%
Jay	89	15	16.9%	9	10.1%
Jefferson	255	59	23.1%	26	10.2%
Jennings	131	39	29.8%	24	18.3%
Johnson	351	143	40.7%	104	29.6%
Knox	392	174	44.4%	103	26.3%
Kosciusko	234	106	45.3%	50	21.4%
LaGrange	122	56	45.9%	34	27.9%
Lake	1,725	1,016	58.9%	800	46.4%
LaPorte	394	200	50.8%	156	39.6%
Lawrence	361	129	35.7%	67	18.6%
Madison	928	316	34.1%	159	17.1%
Marion	4,824	2,098	43.5%	1,426	29.6%
Marshall	125	51	40.8%	26	20.8%
Martin	29	11	37.9%	7	24.1%
Miami	153	54	35.3%	32	20.9%
Monroe	820	346	42.2%	212	25.9%
Montgomery	276	92	33.3%	42	15.2%
Morgan	429	135	31.5%	89	20.7%
Newton	25	6	24.0%	<5	N/A
Noble	225	96	42.7%	61	27.1%
Ohio	22	8	36.4%	<5	N/A
Orange	97	42	43.3%	28	28.9%
Owen	88	38	43.2%	22	25.0%
Parke	35	19	54.3%	11	31.4%
Perry	71	34	47.9%	23	32.4%
Pike	47	23	48.9%	16	34.0%
Porter	466	187	40.1%	147	31.5%
Posey	140	73	52.1%	35	25.0%
Pulaski	64	35	54.7%	24	37.5%
Putnam	206	55	26.7%	26	12.6%
Randolph	120	39	32.5%	17	14.2%
Ripley	130	49	37.7%	26	20.0%
Rush	146	62	42.5%	48	32.9%
Saint Joseph	1,563	718	45.9%	441	28.2%
Scott	309	71	23.0%	43	13.9%
Shelby	211	80	37.9%	48	22.7%
Spencer	62	26	41.9%	13	21.0%
Starke	248	57	23.0%	31	12.5%
Steuben	128	63	49.2%	37	28.9%
Sullivan	73	28	38.4%	14	19.2%
Switzerland	94	21	22.3%	17	18.1%
Tippecanoe	306	134	43.8%	74	24.2%
Tipton	25	11	44.0%	8	32.0%
Union	35	14	40.0%	8	22.9%
Vanderburgh	937	409	43.6%	242	25.8%
Vermillion	81	40	49.4%	25	30.9%
Vigo	504	203	40.3%	128	25.4%
Wabash	250	74	29.6%	38	15.2%
Warren	18	8	44.4%	<5	N/A
Warrick	225	136	60.4%	58	25.8%
Washington	76	36	47.4%	19	25.0%
Wayne	377	113	30.0%	66	17.5%
Wells	120	59	49.2%	30	25.0%
White	107	64	59.8%	30	28.0%
Whitley	93	46	49.5%	28	30.1%
Indiana	**29,633**	**12,753**	**43.0%**	**7,996**	**27.0%**

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, 2020

APPENDIX 2C

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

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

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

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

APPENDIX 2D

Number and Rate (per 1,000) of All and Fatal Alcohol-Related Collisions in Indiana, by County (Automated Reporting Information Exchange System, 2018)

	All Collisions			Fatal Collisions		
County	Total Collisions	Alcohol-related Collisions	Alcohol-related Collision Rate	Total Fatal Collision	Alcohol-related Fatal Collisions	Alcohol-related Fatal Collision Rate
Adams	725	33	0.93	4	2	0.06
Allen	13,861	569	1.52	29	12	0.03
Bartholomew	2,213	78	0.94	19	4	0.05
Benton	160	8	0.92	3	0	0.00
Blackford	266	14	1.17	1	0	0.00
Boone	2.095	63	0.94	8	0	0.00
Brown	551	29	1.90	2	0	0.00
Carroll	533	19	0.94	3	0	0.00
Cass	1,210	39	1.03	6	0	0.00
Clark	4,351	96	0.82	12	0	0.00
Clay	726	32	1.22	3	0	0.00
Clinton	1,092	52	1.61	4	0	0.00
Crawford	361	14	1.33	1	0	0.00
Daviess	299	27	0.81	2	0	0.00
Dearborn	1,652	60	1.21	8	2	0.04
Decatur	907	35	1.31	4	1	0.04
DeKalb	1,474	53	1.23	6	1	0.02
Delaware	4,044	117	1.02	14	0	0.00
Dubois	1,517	43	1.01	3	0	0.00
Elkhart	7,445	214	1.04	18	6	0.03
Fayette	603	13	0.56	5	0	0.00
Floyd	3,028	89	1.14	9	1	0.01
Fountain	442	19	1.16	1	0	0.00
Franklin	534	12	0.53	5	0	0.00

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APPENDIX 2D *(Continued from previous page)*

	All Collisions			Fatal Collisions		
County	Total Collisions	Alcohol-related Collisions	Alcohol-related Collision Rate	Total Fatal Collision	Alcohol-related Fatal Collisions	Alcohol-related Fatal Collision Rate
Fulton	611	25	1.24	5	0	0.00
Gibson	1,198	23	0.69	7	3	0.09
Grant	2,196	60	1.29	9	0	0.00
Greene	830	31	0.91	3	1	0.02
Hamilton	8.810	256	0.78	17	3	0.01
Hancock	1,973	47	0.62	6	2	0.03
Harrison	1,277	33	0.82	8	0	0.00
Hendricks	4,501	107	0.64	11	2	0.01
Henry	963	33	0.68	8	0	0.00
Howard	2,458	90	1.09	15	4	0.05
Huntington	1,248	36	0.99	8	1	0.03
Jackson	1,791	69	1.56	9	2	0.05
Jasper	1,273	49	1.47	10	2	0.06
Jay	630	26	1.25	3	0	0.00
Jefferson	976	38	1.18	4	0	0.00
Jennings	769	27	0.98	9	2	0.07
Johnson	3,668	121	0.77	13	0	0.00
Knox	919	33	0.89	4	1	0.03
Kosciusko	2,671	81	1.02	13	2	0.03
LaGrange	992	33	0.84	4	1	0.03
Lake	17,244	694	1.43	46	10	0.02
LaPorte	3,774	172	1.56	20	4	0.04
Lawrence	1,455	58	1.27	8	0	0.00
Madison	4,110	129	1.00	21	4	0.03
Marion	36,932	1,038	1.09	102	17	0.02
Marshall	1,559	58	1.25	9	2	0.04
Martin	121	4	0.39	0	0	0.00
Miami	1,035	45	1.27	11	1	0.03
Monroe	4,191	128	0.87	7	1	0.01
Montgomery	1,093	20	0.52	9	1	0.03
Morgan	1,724	48	0.68	7	0	0.00
Newton	415	19	1.36	9	1	0.07
Noble	1,328	39	0.82	6	2	0.04
Ohio	214	13	2.22	2	1	0.17
Orange	602	13	0.67	1	0	0.00
Owen	589	22	1.06	1	0	0.00
Parke	442	16	0.95	0	0	0.00
Perry	435	20	1.05	2	0	0.00
Pike	157	11	0.89	0	0	0.00
Porter	5,081	225	1.33	17	2	0.01
Posey	625	18	0.70	5	1	0.04
Pulaski	410	10	0.80	0	0	0.00
Putnam	1,069	48	1.27	5	0	0.00
Randolph	496	18	0.72	4	0	0.00
Ripley	784	34	1.19	5	0	0.00
Rush	358	12	0.72	2	1	0.06
Saint Joseph	9,091	293	1.08	22	7	0.03
Scott	581	26	1.09	5	1	0.04
Shelby	1,352	65	1.46	9	0	0.00
Spencer	572	14	0.69	5	0	0.00

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APPENDIX 2D *(Continued from previous page)*

	All Collisions			Fatal Collisions		
County	**Total Collisions**	**Alcohol-related Collisions**	**Alcohol-related Collision Rate**	**Total Fatal Collision**	**Alcohol-related Fatal Collisions**	**Alcohol-related Fatal Collision Rate**
Starke	551	16	0.70	3	1	0.04
Steuben	1,667	46	1.33	4	1	0.03
Sullivan	475	31	1.50	4	1	0.05
Switzerland	182	10	0.93	3	1	0.09
Tippecanoe	6,978	204	1.06	13	2	0.01
Tipton	411	31	2.05	6	0	0.00
Union	116	5	0.71	1	0	0.00
Vanderburgh	6,879	196	1.08	16	1	0.01
Vermillion	357	12	0.78	2	0	0.00
Vigo	3,548	112	1.04	10	1	0.01
Wabash	939	46	1.47	6	1	0.03
Warren	278	13	1.57	3	1	0.12
Warrick	1,568	55	0.88	11	4	0.06
Washington	717	23	0.82	6	0	0.00
Wayne	2,267	71	1.08	4	0	0.00
Wells	722	23	0.82	6	0	0.00
White	853	28	1.16	4	0	0.00
Whitley	887	35	1.03	4	1	0.03
Indiana	**217,077**	**7,213**	**1.07**	**789**	**128**	**0.02**

Note: Rates based on numbers lower than 20 are unreliable.
Source: Indiana State Police, 2020

APPENDIX 2E

Child Removals, Total and Due to Parental Alcohol Abuse, SFY 2019

	Removals Total	Parent Alcohol Abuse Indicated as Removal Reason	
County	**Total**	**Count**	**Percentage**
Adams	60	1	1.7%
Allen	474	48	10.1%
Bartholomew	87	3	3.4%
Benton	1	0	0.0%
Blackford	21	2	9.5%
Boone	63	3	4.8%
Brown	26	3	11.5%
Carroll	23	5	21.7%
Cass	36	2	5.6%
Clark	103	20	19.4%
Clay	80	6	7.5%
Clinton	60	3	5.0%
Crawford	44	8	18.2%
Daviess	48	8	16.7%
Dearborn	37	2	5.4%
Decatur	68	4	5.9%
Dekalb	29	0	0.0%
Delaware	188	15	8.0%
Dubois	49	5	10.2%
Elkhart	85	17	20.0%
Fayette	28	0	0.0%
Floyd	120	10	8.3%
Fountain	42	3	7.1%
Franklin	6	0	0.0%
Fulton	58	3	5.2%
Gibson	88	14	15.9%
Grant	104	12	11.5%
Greene	62	1	1.6%
Hamilton	113	21	18.6%
Hancock	93	16	17.2%
Harrison	37	13	35.1%
Hendricks	48	4	8.3%
Henry	58	2	3.4%
Howard	131	22	16.8%
Huntington	34	5	14.7%
Jackson	37	6	16.2%
Jasper	22	3	13.6%
Jay	46	4	8.7%
Jefferson	61	0	0.0%
Jennings	38	2	5.3%
Johnson	88	13	14.8%
Knox	120	10	8.3%
Kosciusko	60	3	5.0%
LaGrange	39	3	7.7%
Lake	536	63	11.8%
Laporte	97	13	13.4%
Lawrence	59	0	0.0%
Madison	367	10	2.7%
Marion	1,574	106	6.7%
Marshall	82	1	1.2%
Martin	26	11	42.3%
Miami	18	4	22.2%
Monroe	139	22	15.8%
Montgomery	80	3	3.8%
Morgan	108	4	3.7%
Newton	34	0	0.0%
Noble	61	1	1.6%
Ohio	1	0	0.0%
Orange	40	3	7.5%
Owen	51	11	21.6%
Parke	27	2	7.4%
Perry	61	5	8.2%
Pike	20	4	20.0%
Porter	112	16	14.3%
Posey	72	9	12.5%
Pulaski	13	5	38.5%
Putnam	74	7	9.5%
Randolph	40	3	7.5%
Ripley	49	4	8.2%
Rush	27	3	11.1%
St. Joseph	363	34	9.4%
Scott	84	2	2.4%
Shelby	47	2	4.3%
Spencer	58	6	10.3%
Starke	39	7	17.9%
Steuben	29	2	6.9%
Sullivan	72	7	9.7%
Switzerland	16	2	12.5%
Tippecanoe	133	14	10.5%
Tipton	21	2	9.5%
Union	7	3	42.9%
Vanderburgh	455	60	13.2%
Vermillion	44	2	4.5%
Vigo	193	29	15.0%
Wabash	49	0	0.0%
Warren	8	4	50.0%
Warrick	68	12	17.6%
Washington	11	0	0.0%
Wayne	56	0	0.0%
Wells	46	1	2.2%
White	18	3	16.7%
Whitley	38	4	10.5%
Indiana	**8,738**	**831**	**9.5%**

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, 2020

APPENDIX 2F

School Suspensions or Expulsions Related to Alcohol, Tobacco, and/or Drug Use (2018)

County	Students Enrolled	Number of Incidents	Number of Unique Students Involved
Adams	4,347	<5	<5
Allen	57,046	68	68
Bartholomew	13,126	16	16
Benton	1,928	<5	<5
Blackford	1,764	<5	<5
Boone	12,342	6	6
Brown	2,154	7	7
Carroll	2,657	<5	<5
Cass	6,910	5	5
Clark	17,945	8	8
Clay	4,431	<5	<5
Clinton	6,565	<5	<5
Crawford	1,591	<5	<5
Daviess	4,901	7	7
Dearborn	8,682	25	25
Decatur	4,363	<5	<5
DeKalb	7,094	11	11
Delaware	16,237	10	10
DuBois	7,164	<5	<5
Elkhart	37,555	49	49
Fayette	3,687	<5	<5
Floyd	12,637	17	17
Fountain	2,702	<5	<5
Franklin	2,516	<5	<5
Fulton	2,553	<5	<5
Gibson	5,169	<5	<5
Grant	9,628	10	10
Greene	5,083	6	6
Hamilton	62,159	53	52
Hancock	14,443	16	16
Harrison	6,243	<5	<5
Hendricks	31,168	24	24
Henry	7,427	<5	<5
Howard	14,583	15	15
Huntington	5,340	5	5
Jackson	7,317	11	11
Jasper	5,228	7	6
Jay	3,408	<5	<5
Jefferson	4,507	9	9
Jennings	4,550	7	7
Johnson	28,191	14	13
Knox	5,568	5	5
Kosciusko	12,342	18	18
LaGrange	5,708	10	10
Lake	83,370	66	64
LaPorte	17,745	13	12
Lawrence	6,746	<5	<5
Madison	20,089	16	15
Marion	179,578	119	112
Marshall	7,759	19	16
Martin	1,443	<5	<5
Miami	7,480	10	10
Monroe	14,932	21	20
Montgomery	6,402	<5	<5
Morgan	11,334	26	23
Newton	2,330	<5	<5
Noble	7,542	19	19
Ohio	868	<5	<5
Orange	3,239	<5	<5
Owen	2,793	<5	<5
Parke	2,309	<5	<5
Perry	3,014	<5	<5
Pike	1,916	<5	<5
Porter	27,899	53	51
Posey	3,695	<5	<5
Pulaski	2,209	9	9
Putnam	5,876	<5	<5
Randolph	5,684	<5	<5
Ripley	5,613	5	5
Rush	2,367	<5	<5
Saint Joseph	40,862	29	27
Scott	3,862	5	5
Shelby	7,801	7	7
Spencer	3,272	7	7
Starke	3,732	11	11
Steuben	4,217	<5	<5
Sullivan	3,294	<5	<5
Switzerland	1,631	<5	<5
Tippecanoe	24,823	14	14
Tipton	2,449	<5	<5
Union	1,401	<5	<5
Vanderburgh	23,896	15	15
Vermillion	2,570	7	7
Vigo	15,184	11	11
Wabash	5,790	<5	<5
Warren	1,377	<5	<5
Warrick	10,610	<5	<5
Washington	4,379	<5	<5
Wayne	11,023	5	5
Wells	5,172	<5	<5
White	4,947	<5	<5
Whitley	6,375	8	8
Indiana	**1,103,858**	**1,006**	**981**

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, 2019

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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, over 1,300 adults, children, and infants died in 2014 as a result of exposure to secondhand smoke (Lewis & Zollinger, 2014). Indiana incurs close to $3 billion annually in healthcare costs directly caused by smoking, including nearly $590 million that is absorbed by Medicaid (Campaign for Tobacco-Free Kids, 2018b).

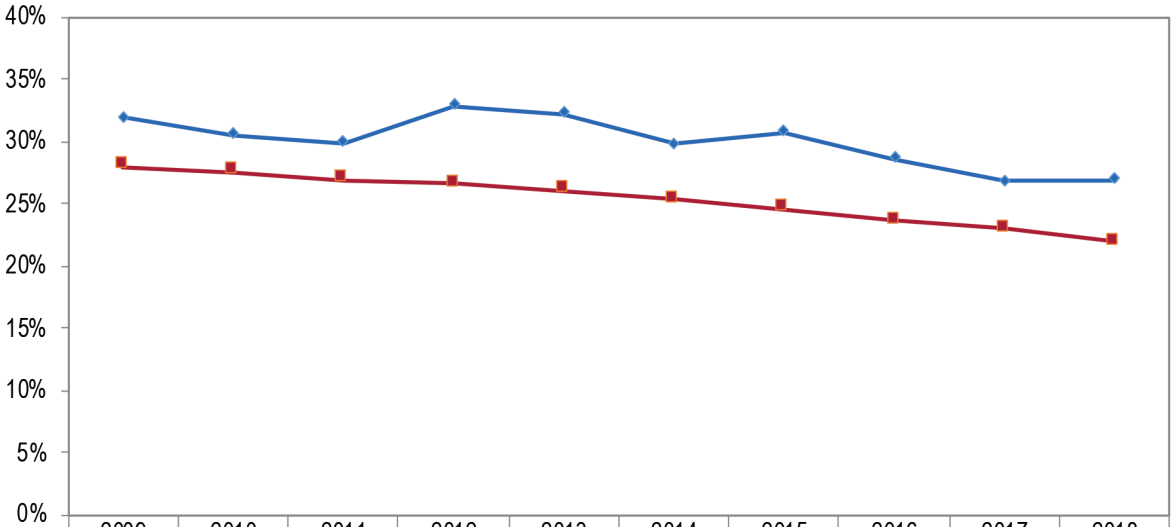
Though self-reported cigarette smoking has been on the decline, electronic nicotine delivery systems, including e-cigarettes, have surged in popularity in recent years (Marynak et al., 2017). While e-cigarettes have been promoted as less dangerous than cigarettes, they have not been approved as safe 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 State Department of Health, Tobacco Prevention and Cessation Commission [ISDH/TPC], 2018a).

PREVALENCE OF TOBACCO CONSUMPTION IN THE GENERAL POPULATION

National Survey on Drug Use and Health

Estimates from the 2018 National Survey on Drug Use and Health (NSDUH) showed that 27.0% (95% Confidence Interval [CI]: 24.8-29.4) of Indiana residents 12 years and older used a tobacco product in the past month, a rate significantly higher than the U.S. rate (22.0%; 95% CI: 21.6–22.3). Tobacco products include 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], 2020).

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, 2009–2018)



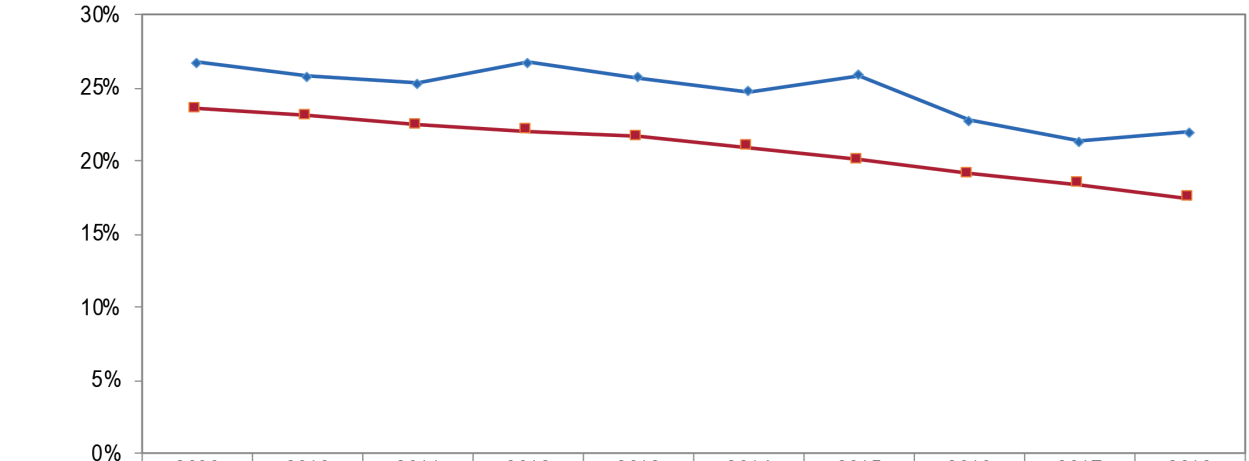
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Indiana	31.9%	30.6%	29.9%	32.9%	32.3%	29.8%	30.8%	28.7%	26.8%	27.0%
U.S.	28.0%	27.6%	27.0%	26.6%	26.1%	25.4%	24.6%	23.7%	23.0%	22.0%

Source: SAMHSA, 2020

Among tobacco users, the most commonly used type of tobacco was cigarettes. In 2018, 22.0% (95% CI: 20.0-24.2) of Hoosiers ages 12 years and older reported past-month use of cigarettes, a rate significantly higher than the U.S. rate (17.5%; 95% CI: 17.2–17.9). Indiana's smoking prevalence declined from 26.8% in 2009 (95% CI: 24.5-29.3) to 22.0% in 2018 (95% CI: 20.0-24.2) (see Figure 3.2).

Tobacco use differed by age group and was most prevalent among young adults. One fourth of 18- to 25-year-olds in Indiana reported smoking cigarettes in the past month (95% CI: 21.5-28.8) compared to 20.7% of their national same-age counterparts (95% CI: 20.2-21.3) (see Figure 3.3) (SAMHSA, 2020).

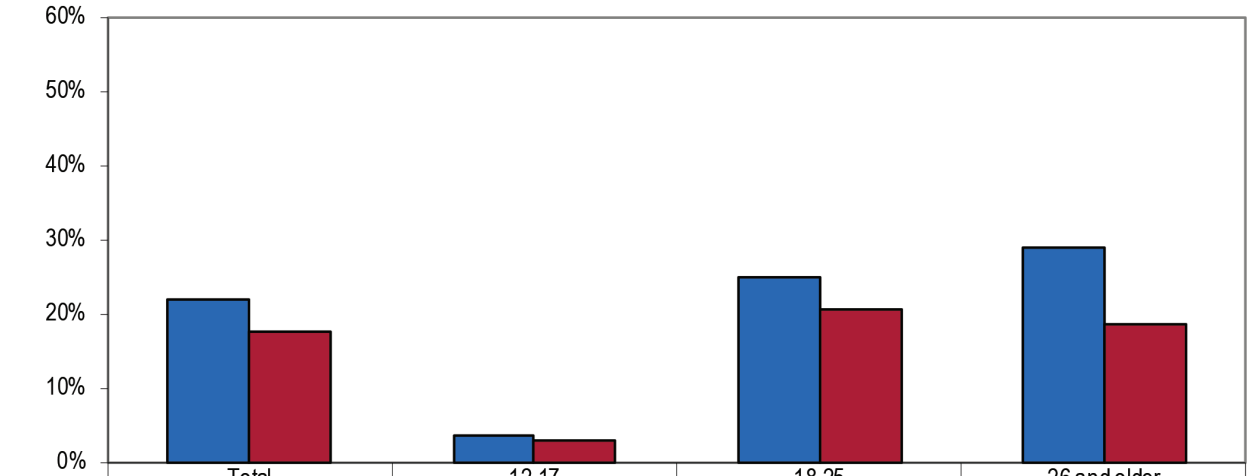
Figure 3.2 Percentage of Indiana and U.S. Population (12 Years and Older) Reporting Cigarette Use in the Past Month (National Survey on Drug Use and Health, 2009–2018)



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Indiana	26.8%	25.9%	25.3%	26.8%	25.7%	24.8%	25.9%	22.8%	21.4%	22.0%
U.S.	23.6%	23.2%	22.5%	22.1%	21.7%	21.0%	20.1%	19.2%	18.5%	17.5%

Source: SAMHSA, 2020

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, 2018)



	Total	12-17	18-25	26 and older
Indiana	22.0%	3.5%	25.0%	28.8%
U.S.	17.5%	2.9%	20.7%	18.7%

Source: SAMHSA, 2020

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 2018 findings, the prevalence rate for adult smoking in Indiana was 21.1% (95% CI: 19.8-22.4). Moreover, 16.0% (95% CI: 14.8-17.1) of Hoosiers reported using cigarettes every day. Indiana's smoking rates were higher than the national median rates; i.e., 16.1% of U.S. adults smoked in the past month and 11.7% reported smoking every day (Centers for Disease Control and Prevention [CDC], 2019). 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 was less prevalent in Hispanic Hoosiers compared to those who identified as white or black.
- 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, 2018)

		Indiana (95% CI)
Gender	Male	23.4% (21.4-25.4)
	Female	19.0% (17.3-20.6)
Race / Ethnicity	White	21.8% (20.3-23.2)
	Black	20.7% (16.1-25.4)
	Hispanic	12.9% (7.9-18.0)
Age Group	18-24	18.4% (13.6-23.1)
	25-34	25.0% (21.2-28.9)
	35-44	24.8% (21.2-28.5)
	45-54	27.5% (24.4-30.5)
	55-64	22.7% (20.2-25.2)
	65+	10.6% (9.2-12.0)
Education	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)
	College Graduate	8.2% (6.8-9.6)
Income	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)
	$50,000 and above	15.6% (13.8-17.4)
Total		**21.1% (19.8-22.4)**

Source: CDC, 2019

Indiana Adult Tobacco Survey

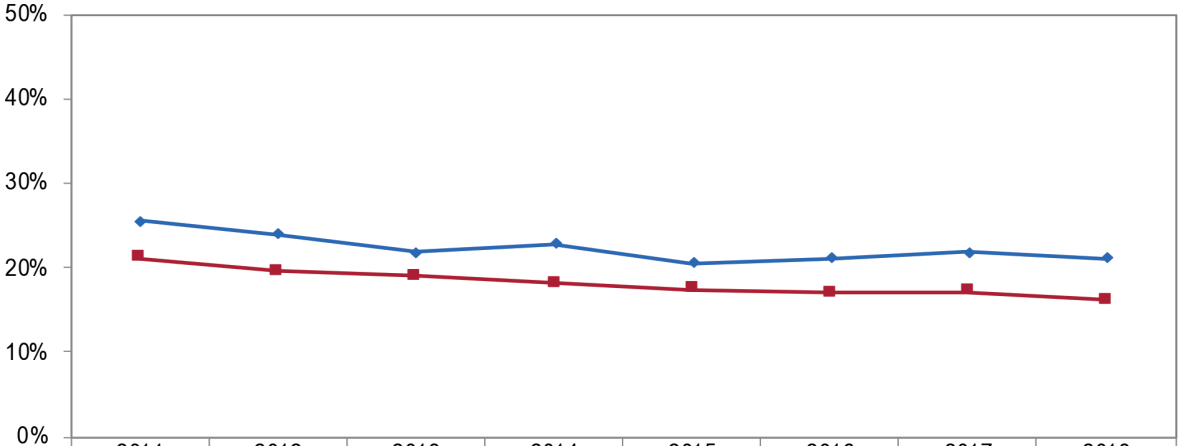
The 2019 Indiana Adult Tobacco Survey (IATS) estimated the overall smoking prevalence among Indiana adults at 19.9% (95% CI: 17.3–22.7). Smoking was most prevalent among persons:

- 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 State Department of Health [ISDH], Tobacco Prevention & Cessation Commission [TPC], 2020). For details on smokers' intentions to quit, see Table 3.2.

Figure 3.4 Percentage of Indiana and U.S. Population (18 Years and Older) Reporting Current Cigarette Use (Behavioral Risk Factor Surveillance System, 2011–2018)



	2011	2012	2013	2014	2015	2016	2017	2018
Indiana	25.6%	24.0%	21.9%	22.9%	20.6%	21.1%	21.8%	21.1%
U.S.	21.2%	19.6%	19.0%	18.1%	17.5%	17.0%	17.1%	16.1%

Source: CDC, 2019

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)**

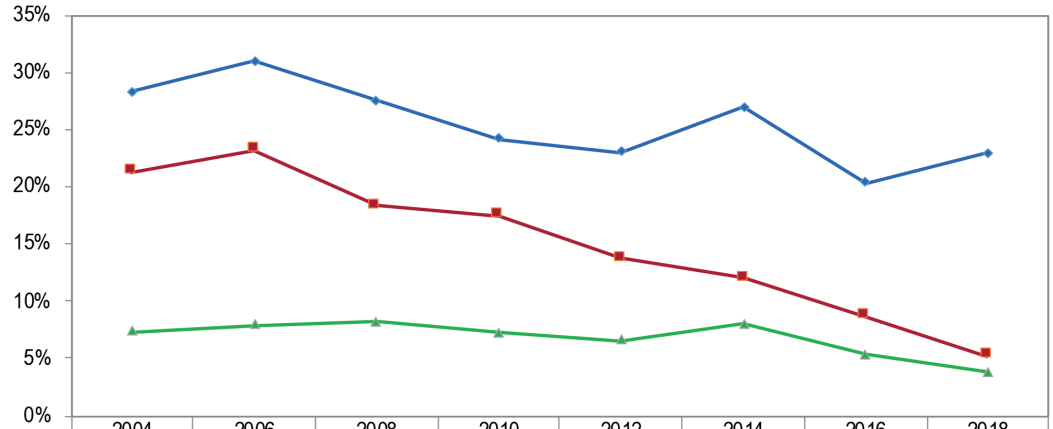
Source: ISDH/TPC, 2020

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) (ISDH/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%

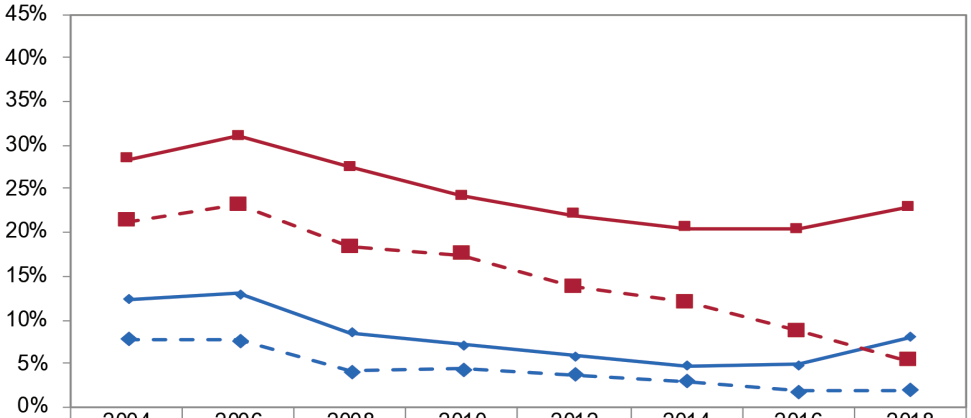
Figure 3.5 Tobacco Use among Indiana High School Students (9th–12th Grade) (Indiana Youth Tobacco Survey, 2004–2018



	2004	2006	2008	2010	2012	2014	2016	2018
Tobacco Use	28.3%	31.0%	27.5%	24.2%	23.0%	26.9%	20.3%	22.9%
Cigarette Use	21.3%	23.2%	18.3%	17.5%	13.7%	12.0%	8.7%	5.2%
Smokeless Tobacco Use	7.3%	7.9%	8.2%	7.2%	6.6%	8.0%	5.3%	3.8%

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: ISDH/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)



	2004	2006	2008	2010	2012	2014	2016	2018
Current MS Tobacco Use	12.4%	13.0%	8.5%	7.1%	5.9%	4.8%	4.9%	8.1%
Current HS Tobacco Use	28.3%	31.0%	27.5%	24.2%	22.0%	20.5%	20.3%	22.9%
Current MS Cigarettes Use	7.8%	7.7%	4.1%	4.4%	3.7%	2.9%	1.8%	1.9%
Current HS Cigarettes Use	21.3%	23.2%	18.3%	17.5%	13.7%	12.0%	8.7%	5.2%

Source: ISDH/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 (ISDH/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).

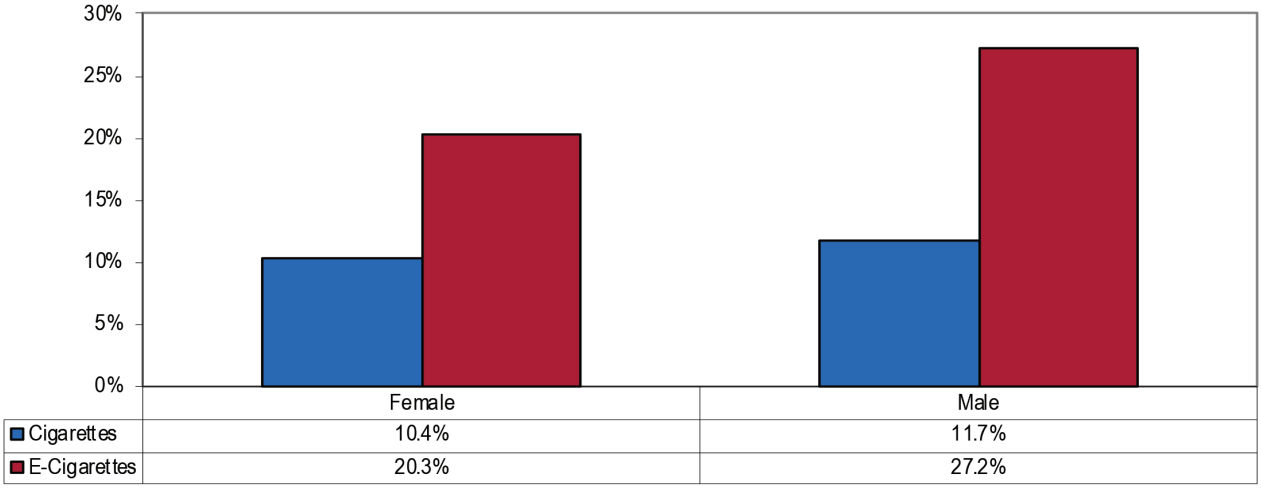
The Youth Risk Behavior Surveillance System (YRBSS) monitors health-risk behaviors such as tobacco, alcohol, and other drug use, which contribute to death and disability among youths in schools nationwide. According to 2015 YRBSS findings, almost one-third of high school students currently use a tobacco 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, 1991-2017). 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)

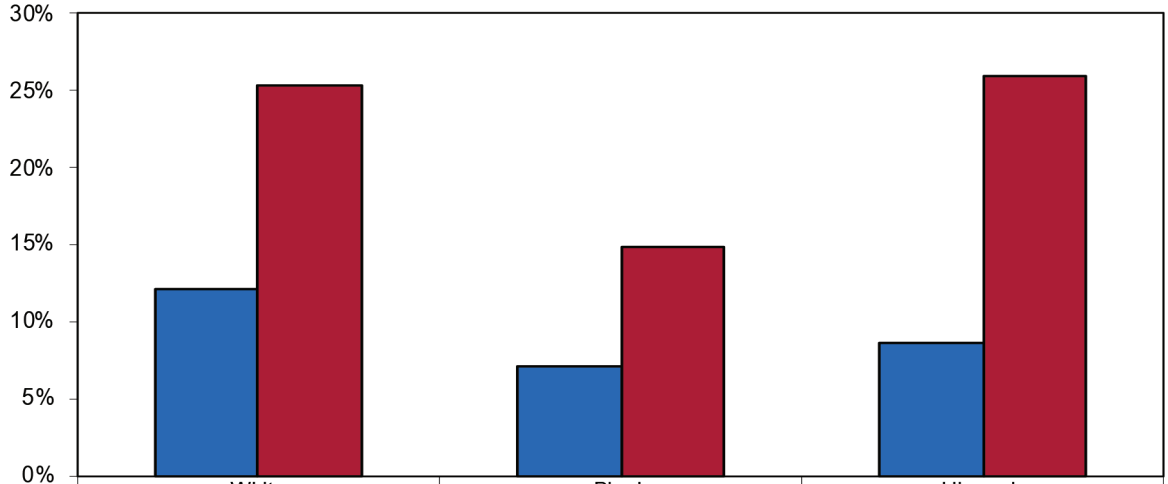
Source: CDC, 1991-2017

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, 1991-2017

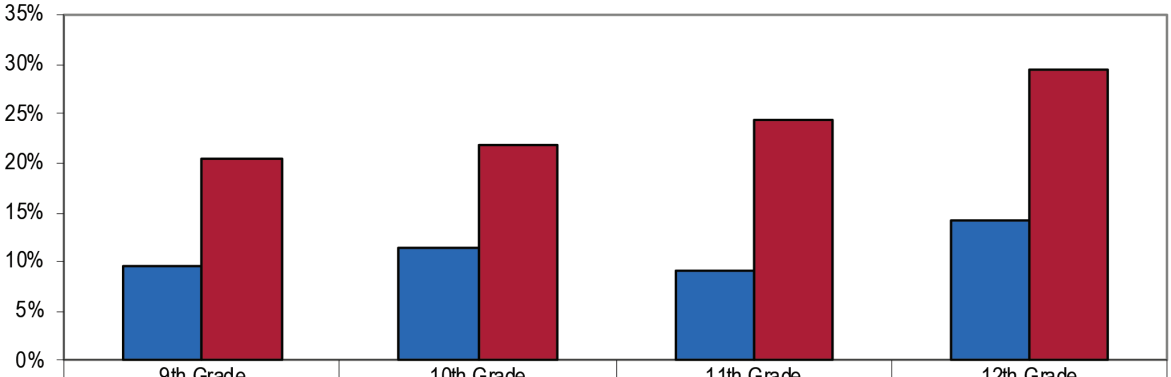
Figure 3.8 Rates of Current Use of Cigarettes and Electronic Vapor Products in Indiana High School Students (9th–12th Grade), by Race/Ethnicity (Youth Risk Behavior Surveillance System, 2015)



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

Source: CDC, 1991-2017

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



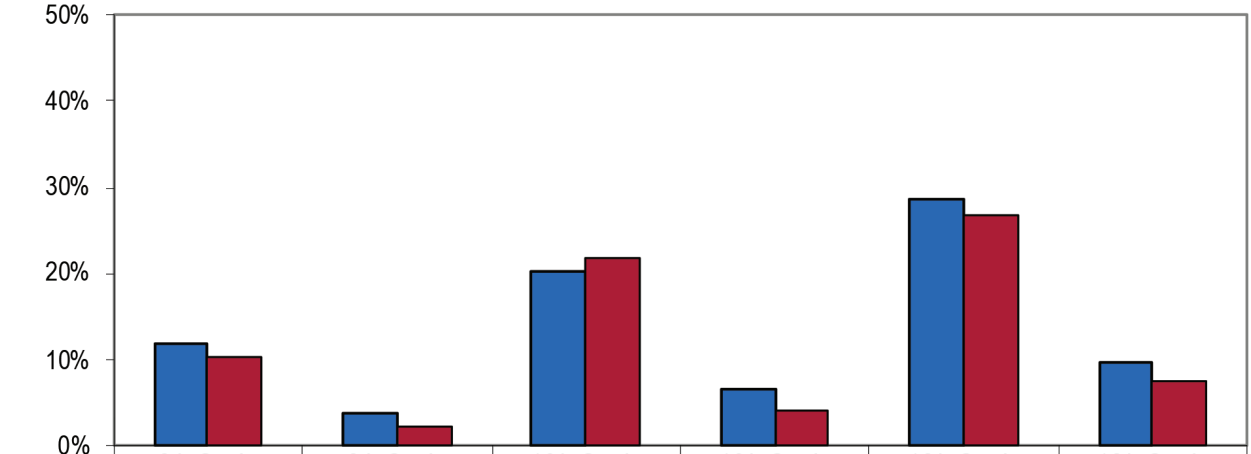
	9th Grade	10th Grade	11th Grade	12th Grade
Cigarettes	9.6%	11.5%	9.1%	14.2%
E-Cigarettes	20.4%	21.8%	24.3%	29.4%

Source: CDC, 1991-2017

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 2018 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., 2018). See Appendix 3B (page 41) for Indiana students' 2018 monthly cigarette and vaping products use 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, 2018)

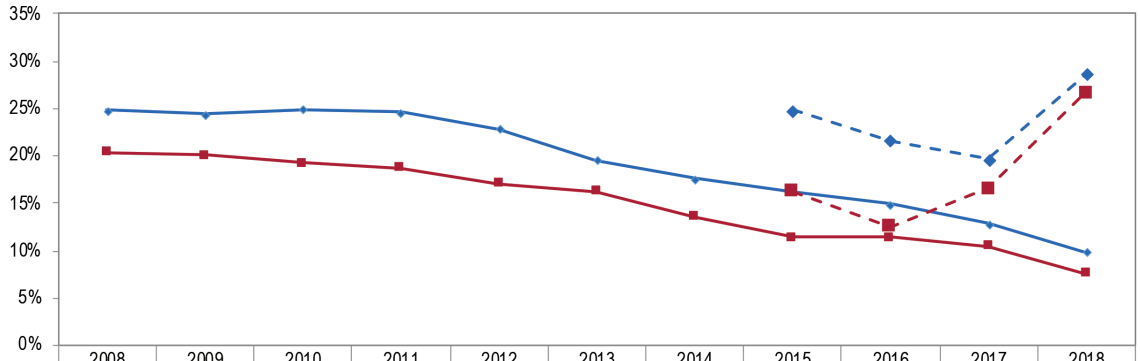


	8th Grade Vaping	8th Grade Cigarettes	10th Grade Vaping	10th Grade Cigarettes	12th Grade Vaping	12th Grade Cigarettes
Indiana	11.9%	4.0%	20.4%	6.8%	28.6%	9.9%
U.S.	10.4%	2.2%	21.7%	4.2%	26.7%	7.6%

Source: Gassman et al., 2018; Inter-university Consortium for Political and Social Research, 2018

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 rates are at an all-time high (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: 2008–2018; and Monitoring the Future Survey, 2008–2018)



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
IN Cigarettes	24.8%	24.4%	24.9%	24.6%	22.8%	19.5%	17.6%	16.2%	14.9%	12.8%	9.9%
U.S. Cigarettes	20.4%	20.1%	19.2%	18.7%	17.1%	16.3%	13.6%	11.4%	11.4%	10.5%	7.6%
IN Vaping								24.8%	21.6%	19.7%	28.6%
U.S. Vaping								16.3%	12.5%	16.6%	26.7%

Note: Vaping data only available since 2015.
Source: Gassman et al., 2018; Inter-university Consortium for Political and Social Research, 2018

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

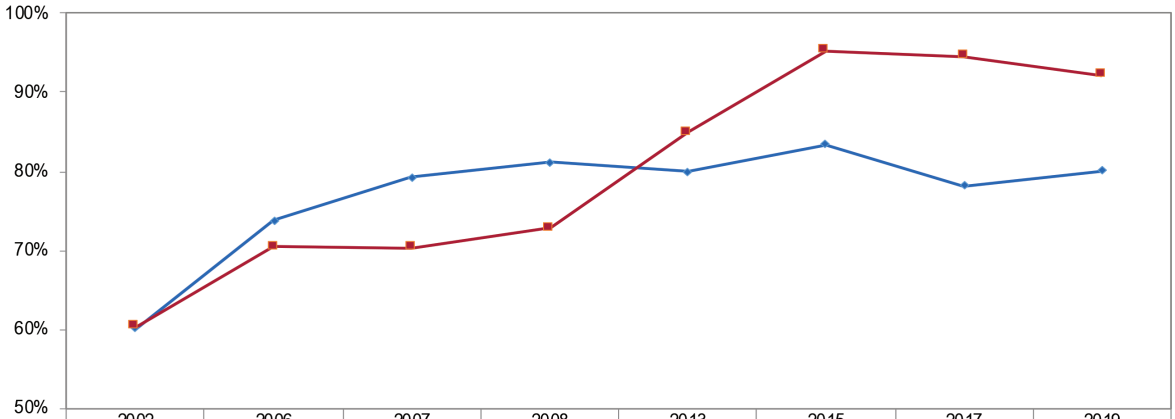
Table 3.4 Rates of Past-Month Use of Nicotine Products among Indiana College Students (Indiana College Substance Use Survey, 2019)

	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

[1]Twenty 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)



	2002	2006	2007	2008	2013	2015	2017	2019
Homes	60.1%	73.8%	79.3%	81.1%	80.0%	83.4%	78.2%	80.1%
Workplaces	60.3%	70.4%	70.3%	72.8%	85.0%	95.3%	94.6%	92.2%

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 (ISDH/Epidemiology Resource Center, 2018). The Indiana State Department of Health, Tobacco Prevention and Cessation provides county-level information on various smoking-related outcomes. For a detailed list, see Appendix 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 workplaces[2] 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 March 2020, a total of 27 communities[3] 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 (ISDH/TPC, 2020).

[2]This measure refers to the prevalence of workers reporting a 100% smoke-free workplace (Adult Tobacco Survey).
[3]These are Delaware Co., Hancock Co., Howard Co., Monroe Co., Vanderburgh Co., Vigo Co., 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. (ISDH/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% (ISDH/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 in Indiana. Many report that students are concealing JUUL and using it in schools. 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 the past year has been partially attributed to the surge in JUUL popularity. 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.

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	(5.5-13.40	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: ISDH/TPC, 2020

APPENDIX 3B - Part 1

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

	Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	1.2	0.7*	1.2	1.1	1.7	1.2	1.3	1.1	1.5
7th Grade	2.4	1.5*	2.5	1.9	2.6	2.3	2.6	1.9	3.3*
8th Grade	4.0	2.7*	4.0	5.3	3.5	3.5	5.3*	3.4	5.2*
9th Grade	5.1	4.4	4.4	4.8	4.9	3.6*	5.7	5.8	6.3*
10th Grade	6.8	5.7*	5.6*	7.2	5.9	7.7	7.5	8.5*	7.5
11th Grade	8.6	6.8*	5.7*	6.7	8.3	8.0	10.4*	11.1*	10.1*
12th Grade	9.9	8.8	7.9*	8.6	9.7	8.8	9.0	11.7*	12.1*

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

Source: Gassman et al., 2018

APPENDIX 3B - Part 2

Percentage of Indiana Students Reporting Monthly E-Cigarette Use, by Region and Grade (Indiana Youth Survey, 2018)

	Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7th Grade	7.0	6.9	7.6	3.7*	6.4	7.7	5.4*	7.0	8.1*
8th Grade	11.9	14.1*	11.3	10.5	9.9*	12.6	10.3*	12.0	12.1
9th Grade	16.7	19.2*	15.3	12.6*	14.3*	14.2*	15.4	19.9*	18.1
10th Grade	20.4	22.4*	16.8*	15.1*	19.8	21.1	17.3*	25.9*	20.5
11th Grade	23.7	22.1	20.2*	18.1*	21.5	24.3	21.6	31.7*	24.9
12th Grade	28.6	28.7	23.6*	16.6*	24.0*	27.6	26.5	36.4*	32.4*

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

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

Source: Gassman et al., 2018

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
St. 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: 2017 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 (2013-2017)	Asthma ER Visits Age-Adjusted Rate per 10,000 population, 2015	Percentage of live births to mothers who smoked during pregnancy, 2018	Estimated cost of smoking-related births, 2018
Adams	25%	42.7	219.3	21.9	5.7%	$50,246
Allen	22%	43.5	225.1	45.0	7.3%	$517,398
Bartholomew	24%	47.5	242.7	40.5	13.4%	$187,404
Benton	34%	50.5	260.1	26.8	23.1%	$33,950
Blackford	28%	69.7	244.6	43.3	24.1%	$47,530
Boone	14%	48.6	257.3	24.4	6.4%	$67,900
Brown	20%	41.4	196.0	Unstable Rate	17.1%	$32,592
Carroll	14%	47.7	207.1	24.2	13.8%	$40,740
Cass	30%	54.6	232.0	43.6	16.6%	$93,702
Clark	23%	62.8	270.7	25.6	11.4%	$214,564
Clay	22%	67.7	299.8	35.9	21.0%	$92,344
Clinton	26%	50.1	259.4	40.8	15.3%	$88,270
Crawford	34%	73.6	251.8	24.6	18.3%	$28,518
Daviess	14%	47.7	257.1	47.2	9.8%	$76,048
Dearborn	23%	57.5	226.8	25.5	18.0%	$131,726
Decatur	15%	48.3	255.9	49.2	17.7%	$80,122
DeKalb	26%	50.7	260.7	26.0	15.8%	$118,146
Delaware	22%	53.3	257.1	45.0	19.7%	$286,538
Dubois	15%	31.9	246.1	5.6	10.3%	$71,974
Elkhart	19%	41.7	235.8	44.5	9.4%	$396,536
Fayette	33%	57.6	282.2	27.5	22.8%	$84,196
Floyd	21%	52.3	263.6	27.1	9.0%	$104,566
Fountain	27%	48.5	232.8	60.9	19.3%	$51,604
Franklin	20%	45.5	224.0	12.4	19.9%	$74,690
Fulton	16%	59.4	268.7	35.0	18.4%	$61,110
Gibson	18%	47.8	243.8	47.4	11.6%	$66,542
Grant	31%	59.9	269.6	59.1	30.4%	$323,204
Greene	28%	63.6	270.1	24.8	22.9%	$115,430
Hamilton	10%	29.7	174.1	19.5	1.9%	$96,418
Hancock	14%	52.7	205.4	29.0	7.1%	$76,048
Harrison	22%	61.4	241.1	23.0	11.8%	$66,542
Hendricks	13%	45.6	203.6	15.3	6.1%	$141,232
Henry	26%	54.7	250.4	46.1	13.5%	$90,986
Howard	30%	52.3	273.3	57.3	21.0%	$286,538
Huntington	25%	43.3	271.7	40.0	16.0%	$92,344
Jackson	22%	68.3	230.7	67.9	18.7%	$153,454
Jasper	19%	48.8	267.1	34.1	12.2%	$58,394
Jay	29%	61.3	260.8	54.2	13.4%	$55,678
Jefferson	34%	72.2	312.0	31.0	26.1%	$127,652
Jennings	31%	68.8	283.8	55.6	24.0%	$104,566
Johnson	23%	47.6	226.6	39.0	10.9%	$277,032
Knox	21%	54.5	273.1	43.6	18.9%	$104,566
Kosciusko	25%	47.7	232.8	28.7	11.2%	$156,170
LaGrange	22%	38.7	239.1	27.4	5.6%	$59,752
Lake	21%	47.9	253.1	69.9	6.5%	$511,966
LaPorte	29%	52.0	279.4	52.5	19.9%	$342,216

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

County	Estimated adult smoking rate (Statewide: 2017 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 (2013-2017)	Asthma ER Visits Age-Adjusted Rate per 10,000 population, 2015	Percentage of live births to mothers who smoked during pregnancy, 2018	Estimated cost of smoking-related births, 2018
Lawrence	28%	61.6	269.0	50.5	25.0%	$179,256
Madison	28%	60.6	245.4	87.0	16.7%	$319,130
Marion	22%	55.7	244.7	83.4	9.2%	$1,739,598
Marshall	31%	46.9	224.6	25.9	9.9%	$71,974
Martin	21%	57.3	244.8	Unstable Rate	18.2%	$27,160
Miami	34%	49.1	324.0	45.0	20.4%	$101,850
Monroe	20%	41.0	187.0	22.9	13.0%	$219,996
Montgomery	20%	50.2	267.9	51.3	17.6%	$104,566
Morgan	22%	59.4	255.1	41.6	18.2%	$183,330
Newton	43%	67.9	231.1	31.1	15.5%	$33,950
Noble	23%	50.2	226.2	32.8	9.1%	$78,764
Ohio	29%	62.8	202.5	Unstable Rate	Suppressed	$13,580
Orange	Suppressed	56.3	264.8	52.8	24.5%	$86,912
Owen	31%	68.0	276.2	32.8	22.4%	$74,690
Parke	26%	54.9	257.7	32.3	13.3%	$35,308
Perry	22%	49.7	268.1	73.8	15.6%	$44,814
Pike	Suppressed	56.6	250.1	Unstable Rate	17.8%	$36,666
Porter	21%	45.5	209.3	44.0	8.5%	$196,910
Posey	25%	53.1	214.3	20.7	14.2%	$55,678
Pulaski	Suppressed	53.6	292.5	29.4	20.2%	$35,308
Putnam	25%	65.0	241.4	25.1	15.7%	$80,122
Randolph	20%	50.7	238.2	47.7	17.8%	$65,184
Ripley	22%	52.8	255.9	39.0	16.2%	$85,554
Rush	Suppressed	63.0	255.6	83.1	19.4%	$51,604
Scott	30%	75.0	288.0	51.9	21.8%	$76,048
Shelby	20%	62.1	236.4	51.6	17.3%	$116,788
Spencer	14%	48.4	233.3	22.5	14.8%	$36,666
St. Joseph	21%	47.3	239.1	50.6	8.8%	$419,622
Starke	30%	76.2	314.2	51.8	17.1%	$63,826
Steuben	27%	50.8	219.4	40.7	16.3%	$86,912
Sullivan	13%	67.8	282.5	46.8	18.9%	$57,036
Switzerland	34%	47.9	251.9	Unstable Rate	27.3%	$47,530
Tippecanoe	18%	44.3	228.2	38.0	8.1%	$236,292
Tipton	16%	47.4	222.7	40.4	Suppressed	$24,444
Union	Suppressed	Unreliable	257.2	Suppressed	Suppressed	$13,580
Vanderburgh	20%	51.0	224.6	54.9	13.8%	$393,820
Vermillion	Suppressed	53.8	366.9	48.7	24.7%	$59,752
Vigo	24%	60.6	287.6	44.9	17.8%	$275,674
Wabash	22%	43.0	241.2	27.4	17.0%	$73,332
Warren	44%	42.4	219.8	47.3	Suppressed	$13,580
Warrick	19%	42.6	201.8	30.1	9.1%	$74,690
Washington	26%	66.6	289.5	44.3	12.9%	$55,678
Wayne	22%	57.5	290.5	41.9	12.9%	$137,158
Wells	17%	44.8	220.8	28.0	13.1%	$59,752
White	16%	49.6	235.5	53.8	16.0%	$59,752
Whitley	18%	48.3	221.7	35.1	13.3%	$63,826
Indiana	**16.1%**	**50.7**	**243.9**	**47.4**	**11.5%**	**$12,706,806**

Source: ISDH/TPC, 2019

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	7	$11.5 Million
Allen	17,715	591	73	$118.7 Million
Bartholomew	3,923	131	16	$25.7 Million
Benton	449	15	2	$3 Million
Blackford	673	22	3	$4.3 Million
Boone	2,781	93	12	$18.9 Million
Brown	824	27	3	$5.1 Million
Carroll	1,038	35	4	$6.7 Million
Cass	1,972	66	8	$13 Million
Clark	5,746	192	23	$36.8 Million
Clay	1,397	47	6	$9 Million
Clinton	1,665	55	7	$11.1 Million
Crawford	561	19	2	$3.6 Million
Daviess	1,539	51	7	$10.6 Million
Dearborn	2,563	85	10	$16.7 Million
Decatur	1,310	44	5	$8.6 Million
DeKalb	2,123	71	9	$14.1 Million
Delaware	6,427	214	24	$39.3 Million
Dubois	2,132	71	9	$14 Million
Elkhart	9,657	322	41	$66 Million
Fayette	1,261	42	5	$8.1 Million
Floyd	3,869	129	15	$24.9 Million
Fountain	892	30	4	$5.8 Million
Franklin	1,165	39	5	$7.7 Million
Fulton	1,070	36	4	$7 Million
Gibson	1,732	58	7	$11.2 Million
Grant	3,749	125	14	$23.4 Million
Greene	1,727	58	7	$11.1 Million
Hamilton	13,089	436	57	$91.7 Million
Hancock	3,529	118	14	$23.4 Million
Harrison	2,053	68	8	$13.1 Million
Hendricks	7,208	240	30	$48.6 Million
Henry	2,624	87	10	$16.5 Million
Howard	4,314	144	17	$27.6 Million
Huntington	1,935	64	8	$12.4 Million
Jackson	2,183	73	9	$14.2 Million
Jasper	1,700	57	7	$11.2 Million
Jay	1,066	36	4	$7.1 Million
Jefferson	1,714	57	7	$10.8 Million
Jennings	1,434	48	6	$9.5 Million
Johnson	7,018	234	29	$46.6 Million
Knox	2,066	69	8	$12.8 Million
Kosciusko	3,930	131	16	$25.8 Million
LaGrange	1,661	55	8	$12.4 Million
Lake	25,185	839	102	$165.7 Million
LaPorte	5,880	196	23	$37.2 Million
Lawrence	2,408	80	10	$15.4 Million
Madison	6,915	231	27	$44 Million
Marion	46,232	1,541	186	$301.8 Million
Marshall	2,350	78	10	$15.7 Million
Martin	536	18	2	$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	8	$12.3 Million
Monroe	7,889	263	28	$46.1 Million
Montgomery	1,980	66	8	$12.7 Million
Morgan	3,522	117	14	$23 Million
Newton	749	25	3	$4.8 Million
Noble	2,369	79	10	$15.9 Million
Ohio	330	11	1	$2 Million
Orange	1,021	34	4	$6.6 Million
Owen	1,131	38	4	$7.2 Million
Parke	931	31	4	$5.8 Million
Perry	1,038	35	4	$6.5 Million
Pike	681	23	3	$4.3 Million
Porter	8,498	283	34	$54.9 Million
Posey	1,350	45	5	$8.7 Million
Pulaski	697	23	3	$4.5 Million
Putnam	2,047	68	8	$12.7 Million
Randolph	1,352	45	5	$8.7 Million
Ripley	1,450	48	6	$9.6 Million
Rush	894	30	4	$5.8 Million
Scott	1,255	42	5	$8.1 Million
Shelby	2,294	76	9	$14.8 Million
Spencer	1,085	36	4	$7 Million
St. Joseph	13,734	458	55	$89.2 Million
Starke	1,207	40	5	$7.8 Million
Steuben	1,800	60	7	$11.4 Million
Sullivan	1,153	38	4	$7.2 Million
Switzerland	539	18	2	$3.5 Million
Tippecanoe	9,361	312	36	$57.7 Million
Tipton	836	28	3	$5.3 Million
Union	385	13	2	$2.5 Million
Vanderburgh	9,549	318	37	$60 Million
Vermillion	852	28	3	$5.4 Million
Vigo	5,792	193	22	$36 Million
Wabash	1,737	58	7	$11 Million
Warren	445	15	2	$2.8 Million
Warrick	3,023	101	12	$19.9 Million
Washington	1,444	48	6	$9.4 Million
Wayne	3,622	121	14	$23 Million
Wells	1,416	47	6	$9.2 Million
White	1,276	43	5	$8.2 Million
Whitley	1,715	57	7	$11.1 Million
Indiana	**333,000**	**11,100**	**1,337**	**$2.1 Billion**

Source:ISDH/TPC, 2019

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

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).

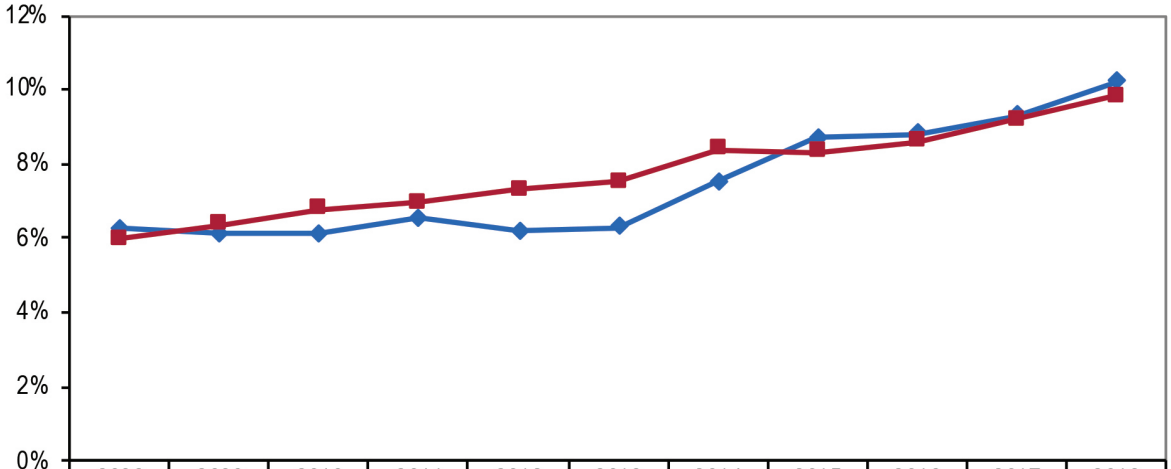
Babies born to women who used marijuana during their pregnancy may be at an increased risk for neurobehavioral problems, potentially exhibiting difficulties with attention, memory, and problem solving (NIDA, 2016a).

PREVALENCE OF MARIJUANA CONSUMPTION IN THE GENERAL POPULATION

National Survey on Drug Use and Health

According to the 2018 National Survey on Drug Use and Health (NSDUH), an estimated 10.2% (95% Confidence Interval [CI]: 8.8–11.9) of Indiana residents ages 12 and older reported current (past-month) marijuana use (U.S.: 9.8%; 95% CI: 9.6–10.1). Past-year use among Hoosiers was estimated at 15.6% (95% CI: 13.9–17.6), which is similar to the national rate at 15.5% (95% CI: 15.1–15.8) (Substance Abuse and Mental Health Services Administration [SAMHSA], 2020). 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, 2008–2018)

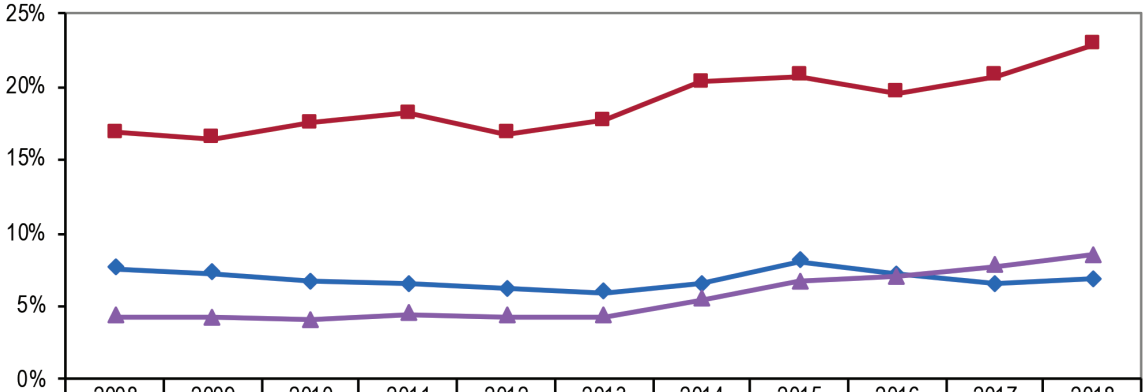


	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Indiana	6.3%	6.1%	6.1%	6.5%	6.2%	6.3%	7.5%	8.7%	8.8%	9.3%	10.2%
U.S.	6.0%	6.4%	6.8%	6.9%	7.3%	7.5%	8.4%	8.3%	8.6%	9.2%	9.8%

Source: SAMHSA, 2020

The highest prevalence was among individuals ages 18 to 25, with 22.9% (95% CI: 19.6–26.5) of Hoosiers in this age group reporting current marijuana use (U.S.: 22.1%; 95% CI: 21.5–22.8) and 35.8% (95% CI: 31.8–40.0) reporting past-year use (U.S.: 34.8%; 95% CI: 34.0–35.6) in 2018 (Figure 4.2). Prevalence rates were significantly lower in youth and adults ages 26 and older. Based on 2018 estimates, 13.0% (95% CI: 10.8–15.7) of 12- to 17-year-olds in Indiana reported using marijuana in the past year (U.S.: 12.5%; 95% CI: 12.0–12.9) and 6.8% (95% CI: 5.4–8.5) used marijuana in the past month (U.S.: 6.6%; 95% CI: 6.2–6.9). Among Hoosiers ages 26 and older, 8.5% (95% CI: 6.9–10.4) reported past-month marijuana use (U.S.: 8.3%; 95% CI: 8.0–8.6) and 12.5% (95% CI: 10.6–14.7) reported use in the past year (U.S.: 12.7%; 95% CI: 12.4–13.1) (SAMHSA, 2020). 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, 2008–2018)



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
12-17	7.6%	7.2%	6.7%	6.5%	6.2%	6.0%	6.5%	8.1%	7.2%	6.5%	6.8%
18-25	16.9%	16.5%	17.5%	18.2%	16.8%	17.7%	20.3%	20.7%	19.6%	20.7%	22.9%
26 and older	4.3%	4.2%	4.1%	4.4%	4.3%	4.3%	5.4%	6.7%	7.0%	7.7%	8.5%

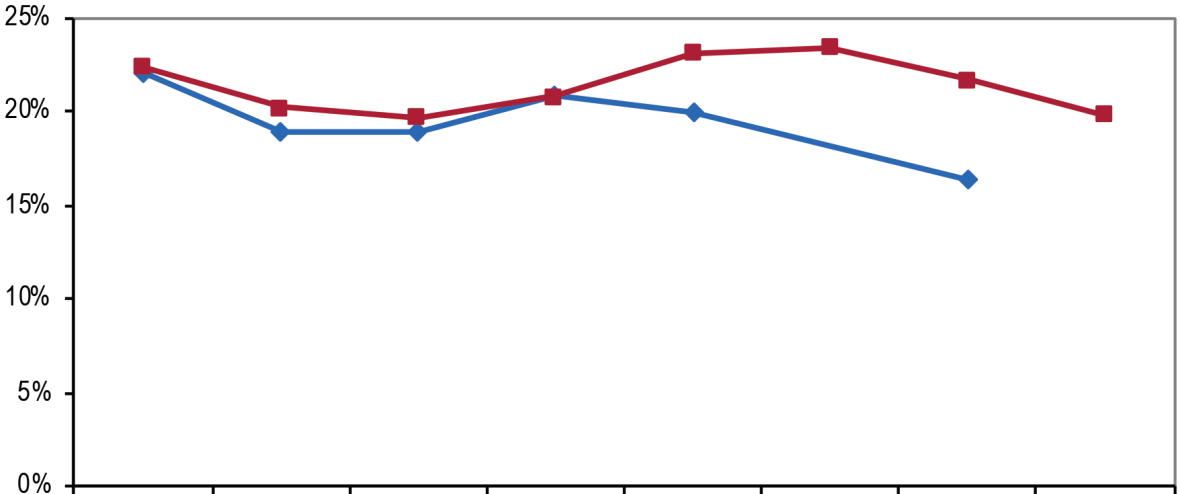
Source: SAMHSA, 2020

Marijuana initiation, or first-time use, was primarily reported in young adults and adolescents. An estimated 9.7% (95% CI: 7.7–12.1) of Hoosiers ages 18 to 25 initiated marijuana use in the past year (U.S.: 8.3%; 95% CI: 7.9–8.8), as did 6.0% (95% CI: 4.9–7.3) of Indiana youth ages 12 to 17 (U.S.: 5.5%; 95% CI: 5.3–5.8). Past-year initiation was significantly lower in adults ages 26 and older (IN: 0.5%; 95% CI: 0.3–0.8; U.S.: 0.5%; 95% CI: 0.5–0.6) (SAMHSA, 2020).

Youth Risk Behavior Surveillance System

The Youth Risk Behavior Surveillance System (YRBSS) estimated that in 2015, 16.4% (95% CI: 14.1–18.9) of Indiana high school students used marijuana in the past month; this percentage is significantly lower than the national rate of 21.7% (95% CI: 19.3–24.2). Use was more likely to occur in higher grade levels and in black or Hispanic students (Centers for Disease Control and Prevention [CDC], 1991-2017). 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, 2003–2017)



	2003	2005	2007	2009	2011	2013	2015	2017
Indiana	22.1%	18.9%	18.9%	20.9%	20.0%		16.4%	
U.S.	22.4%	20.2%	19.7%	20.8%	23.1%	23.4%	21.7%	19.8%

Note: 2013 and 2015 estimates are not available for Indiana due to low response rates.
Source: CDC, 1991-2017

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)**

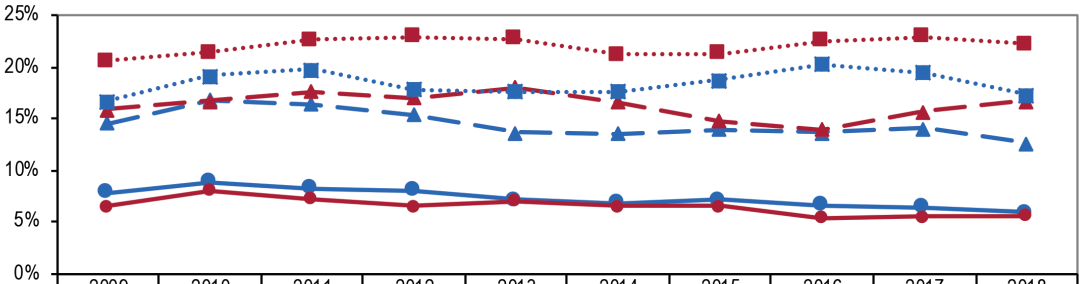
Source: CDC, 1991-2017

In 2015, 6.2% (95% CI: 5.3–7.4) of Indiana students reported having tried marijuana before the age of 13; that figure was comparable to the national rate (7.5%; 95% CI: 6.5–8.7) (CDC, 1991-2017).

Indiana Youth Survey

Data from the Indiana Youth Survey (Gassman et al., 2018), and the Monitoring the Future (MTF) survey (Inter-university Consortium for Political and Social Research [ICPSR], 2018) 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 2018, see Figure 4.4; for monthly marijuana use by Indiana region and grade level for 2018, 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, 2009–2018)



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Indiana 8th Grade	7.8%	8.9%	8.3%	8.0%	7.1%	6.8%	7.1%	6.6%	6.4%	5.9%
U.S. 8th Grade	6.5%	8.0%	7.2%	6.5%	7.0%	6.5%	6.5%	5.4%	5.5%	5.6%
Indiana 10th Grade	14.6%	16.8%	16.4%	15.4%	13.7%	13.6%	14.0%	13.7%	14.1%	12.6%
U.S. 10th Grade	15.9%	16.7%	17.6%	17.0%	18.0%	16.6%	14.8%	14.0%	15.7%	16.7%
Indiana 12th Grade	16.7%	19.2%	19.8%	17.8%	17.6%	17.6%	18.8%	20.3%	19.5%	17.3%
U.S. 12th Grade	20.6%	21.4%	22.6%	22.9%	22.7%	21.2%	21.3%	22.5%	22.9%	22.2%

Source: Gassman et al., 2018; ICPSR, 2018

Indiana College Substance Use Survey

Marijuana use was also prevalent among college students. Results from the 2019 Indiana College Substance Use Survey (ICSUS) 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:

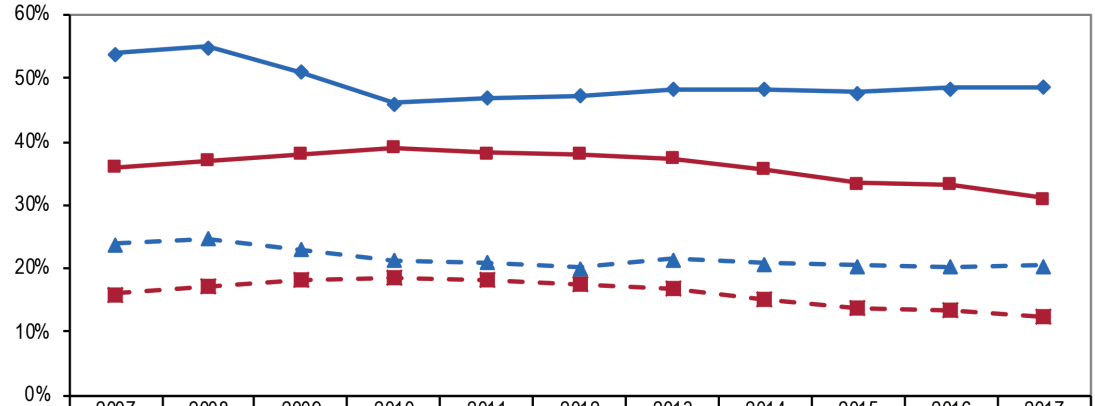
- Gender: Significantly more male (22.0%) than female (19.7%) college students reported past-month marijuana use ($p < 0.05$).
- Age group: Past-month marijuana use was statistically similar between college students under the age of 21 (21.2%) and those ages 21-25 (20.0%). (King & Jun, 2019).[1]

USE OF MARIJUANA IN THE TREATMENT POPULATION

Treatment Episode Data Set

The Treatment Episode Data Set (TEDS) collects information from clients being admitted to substance abuse treatment. The data show that from 2007 through 2017, Indiana exhibited a significantly higher percentage of treatment episodes reporting marijuana use and dependence[2] compared to the United States. From 2007 through 2017, 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, 2007–2017)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
IN Use	54.0%	55.0%	51.0%	46.0%	46.9%	47.2%	48.3%	48.3%	47.7%	48.4%	48.6%
U.S. Use	36.0%	37.1%	38.0%	39.0%	38.2%	38.0%	37.3%	35.6%	33.4%	33.2%	31.0%
IN Dependence	23.8%	24.7%	23.0%	21.4%	20.9%	20.1%	21.5%	20.8%	20.5%	20.3%	20.4%
U.S. Dependence	16.0%	17.3%	18.2%	18.6%	18.3%	17.5%	16.8%	15.2%	13.8%	13.4%	12.5%

Source: SAMHDA, 2020

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

Table 4.2 Percentage of Indiana Treatment Admissions with Reported Marijuana Use and Dependence, by Gender, Race, and Age Group (Treatment Episode Data Set, 2017)

		Marijuana Use	Marijuana Dependence
Gender	Male	51.9%	22.5%
	Female	43.8%	17.4%
Race	White	47.0%	17.6%
	Black	57.5%	35.4%
	Other	51.5%	25.1%
Ethnicity	Hispanic	49.0%	22.4%
	Non-Hispanic	48.6%	20.3%
Age Group	Under 18	90.4%	75.8%
	18-24	68.2%	38.2%
	25-34	50.1%	18.4%
	35-44	41.7%	14.0%
	45-54	33.8%	9.9%
	55+	25.1%	6.5%
Total		**48.6%**	**20.4%**

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, 2020).

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 October 2019, 33 states and the District of Columbia (D.C.) have legalized medical marijuana use, and 11 of these states, as well as D.C., have passed laws to allow adult recreational use (National Conference of State Legislatures, 2019). 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, 2018)

	Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	0.9%	0.7%	0.8%	1.4%	1.3%	1.2%	1.1%	0.6%	0.7%
7th Grade	2.9%	2.9%	2.7%	1.9%	1.9%*	4.7%*	3.1%	1.6%*	3.0%
8th Grade	5.9%	6.9%*	5.8%	8.2%*	4.6%*	7.8%*	7.2%*	3.9%*	5.2%
9th Grade	8.9%	11.9%*	9.1%	7.0%*	8.1%	7.8%	9.9%	7.8%	7.6%*
10th Grade	12.6%	14.6%*	11.7%	9.1%*	12.7%	13.7%	14.4%*	11.6%	11.8%
11th Grade	15.1%	18.9%*	13.4%	11.0%*	16.4%	16.0%	16.0%	14.7%	13.1%*
12th Grade	17.3%	20.5%*	15.1%*	11.2%	18.0%	16.3%	18.9%	13.9%*	18.7%

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

Source: Gassman et al., 2018

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 2019)

	Treatment Episodes	Marijuana Use		Marijuana Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**
Adams	106	53	50.0%	25	23.6%
Allen	1,740	890	51.1%	412	23.7%
Bartholomew	431	190	44.1%	42	9.7%
Benton	29	15	51.7%	9	31.0%
Blackford	54	26	48.1%	5	9.3%
Boone	136	76	55.9%	21	15.4%
Brown	61	36	59.0%	<5	N/A
Carroll	58	29	50.0%	17	29.3%
Cass	227	127	55.9%	46	20.3%
Clark	517	186	36.0%	76	14.7%
Clay	68	30	44.1%	11	16.2%
Clinton	180	96	53.3%	46	25.6%
Crawford	23	9	39.1%	<5	N/A
Daviess	170	77	45.3%	30	17.6%
Dearborn	340	171	50.3%	41	12.1%
Decatur	122	73	59.8%	26	21.3%
DeKalb	149	64	43.0%	26	17.4%
Delaware	513	218	42.5%	33	6.4%
Dubois	80	45	56.3%	22	27.5%
Elkhart	706	365	51.7%	136	19.3%
Fayette	218	109	50.0%	41	18.8%
Floyd	408	124	30.4%	45	11.0%
Fountain	44	28	63.6%	21	27.3%
Franklin	95	36	37.9%	15	15.8%
Fulton	106	55	51.9%	16	15.1%
Gibson	242	164	67.8%	60	24.8%
Grant	117	48	41.0%	8	6.8%
Greene	161	94	58.4%	35	21.7%
Hamilton	660	353	53.5%	166	25.2%
Hancock	447	230	51.5%	122	27.3%
Harrison	47	16	34.0%	<5	N/A
Hendricks	556	247	44.4%	121	21.8%
Henry	306	103	33.7%	48	15.7%
Howard	615	281	45.7%	72	11.7%
Huntington	179	97	54.2%	37	20.7%
Jackson	231	148	64.1%	29	12.6%
Jasper	90	36	40.0%	17	18.9%
Jay	89	29	32.6%	<5	N/A
Jefferson	255	133	52.2%	23	9.0%
Jennings	131	64	48.9%	24	18.3%
Johnson	351	121	34.5%	45	12.8%
Knox	392	229	58.4%	87	22.2%
Kosciusko	234	140	59.8%	43	18.4%
LaGrange	122	82	67.2%	34	27.9%
Lake	1,725	761	44.1%	305	17.7%
LaPorte	394	140	35.5%	46	11.7%
Lawrence	361	206	57.1%	39	10.8%

	Treatment Episodes	Marijuana Use		Marijuana Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**
Madison	928	528	56.9%	235	25.3%
Marion	4,824	2,039	42.3%	936	19.4%
Marshall	125	74	59.2%	32	25.6%
Martin	29	5	17.2%	<5	N/A
Miami	153	76	49.7%	17	11.1%
Monroe	820	412	50.2%	83	10.1%
Montgomery	276	160	58.0%	52	18.8%
Morgan	429	218	50.8%	89	20.7%
Newton	25	8	32.0%	<5	N/A
Noble	225	117	52.0%	52	23.1%
Ohio	22	8	36.4%	<5	N/A
Orange	97	36	37.1%	11	11.3%
Owen	88	42	47.7%	9	10.2%
Parke	35	21	60.0%	11	31.4%
Perry	71	30	42.3%	16	22.5%
Pike	47	27	57.4%	15	31.9%
Porter	466	163	35.0%	53	11.4%
Posey	140	74	52.9%	34	24.3%
Pulaski	64	28	43.8%	9	14.1%
Putnam	206	115	55.8%	45	21.8%
Randolph	120	53	44.2%	7	5.8%
Ripley	130	64	49.2%	17	13.1%
Rush	146	78	53.4%	25	17.1%
Saint Joseph	1,563	683	43.7%	266	17.0%
Scott	309	131	42.4%	14	4.5%
Shelby	211	118	55.9%	41	19.4%
Spencer	62	26	41.9%	5	8.1%
Starke	248	72	29.0%	12	4.8%
Steuben	128	77	60.2%	37	28.9%
Sullivan	73	29	39.7%	12	16.4%
Switzerland	94	47	50.0%	10	10.6%
Tippecanoe	306	168	54.9%	57	18.6%
Tipton	25	15	60.0%	11	44.0%
Union	35	18	51.4%	8	22.9%
Vanderburgh	937	497	53.0%	204	21.8%
Vermillion	81	39	48.1%	7	8.6%
Vigo	504	219	43.5%	87	17.3%
Wabash	250	127	50.8%	57	22.8%
Warren	18	12	66.7%	<5	N/A
Warrick	225	131	58.2%	57	25.3%
Washington	76	22	28.9%	<5	N/A
Wayne	377	162	43.0%	45	11.9%
Wells	120	74	61.7%	42	35.0%
White	107	68	63.6%	20	18.7%
Whitley	93	47	50.5%	22	23.7%
Indiana	**29,633**	**14,017**	**47.3%**	**5,292**	**17.9%**

Note: We defined marijuana dependence as “individuals in substance abuse treatment listing marijuana as their primary substance at admission.”
We calculated the percentages by dividing the number of reported marijuana use/dependence by the number of treatment episodes.
Information on treatment episodes <5 was suppressed due to confidentiality constraints.
Source: Indiana Family and Social Services Administration, 2020

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5 Opioid Use in Indiana: Consumption Patterns and Consequences

INTRODUCTION

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

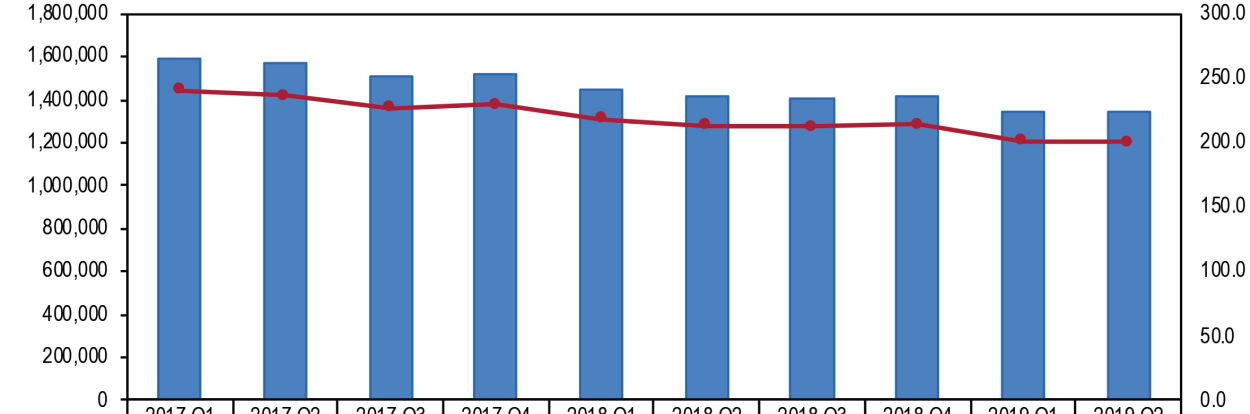
Common prescription opioids include oxycodone (e.g., OxyContin®, Percocet®), hydrocodone (e.g., Vicodin®), oxymorphone (e.g., Opana ®), codeine, morphine, and fentanyl (NIDA, 2018b). Fentanyl is a powerful synthetic opioid similar to morphine but 50 to 100 times stronger. The high potency of the drug significantly increases 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. In 2018, nearly 5.7 million prescriptions for opioids were filled in Indiana, reflecting a dispensation rate of 214.3 per 1,000 residents. The number and rate of opioid dispensations have been gradually declining for the past two years (see Figure 5.1) (Indiana State Department of Health [ISDH], 2019). For county-level information, see Map 5.1 and Appendix 5A.

Figure 5.1 Number and Rate (per 1,000 Population) of Opioids Dispensed in Indiana per Quarter (INSPECT, 2017-2019)



	2017 Q1	2017 Q2	2017 Q3	2017 Q4	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1	2019 Q2
Number	1,596,090	1,565,760	1,507,827	1,521,913	1,448,813	1,413,153	1,406,839	1,418,259	1,348,373	1,340,911
Rate	240.6	236.1	227.3	229.4	218.4	213.1	212.1	213.8	201.5	200.4

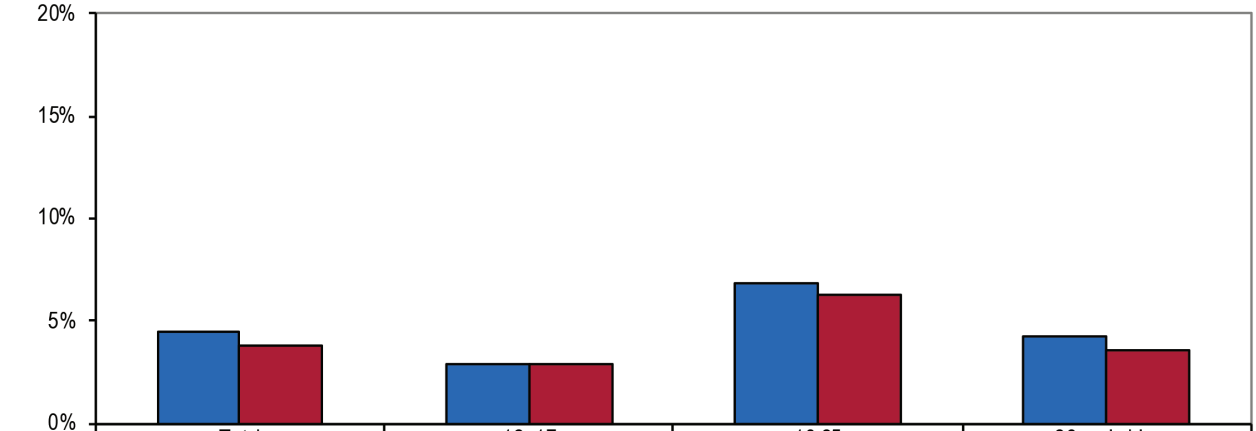
Note: Dispensation data includes three opioid prescription categories: (1) opioid analgesics, (2) opioid antidiarrheals/ antitussives, and (3) opioid antagonists and treatment addiction medications.
Source: ISDH, 2020

PREVALENCE OF OPIOID CONSUMPTION IN THE GENERAL POPULATION

National Survey on Drug Use and Health

Based on 2017–2018 averages from the Substance Abuse and Mental Health Services Administration (SAMHSA)'s National Survey on Drug Use and Health (NSDUH), an estimated 4.5% (95% Confidence Interval [CI]: 3.7-5.4) of Indiana residents ages 12 and older misused pain relievers in the past year (U.S.: 3.9%; 95% CI: 3.7-4.0). The highest rate was found among young adults ages 18 to 25, at 6.9% (95% CI: 5.4-8.7); this represents a rate statistically similar to the nation's rate of 6.3% (95% CI: 6.0-6.7) (SAMHSA, 2020). 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, 2017-2018)



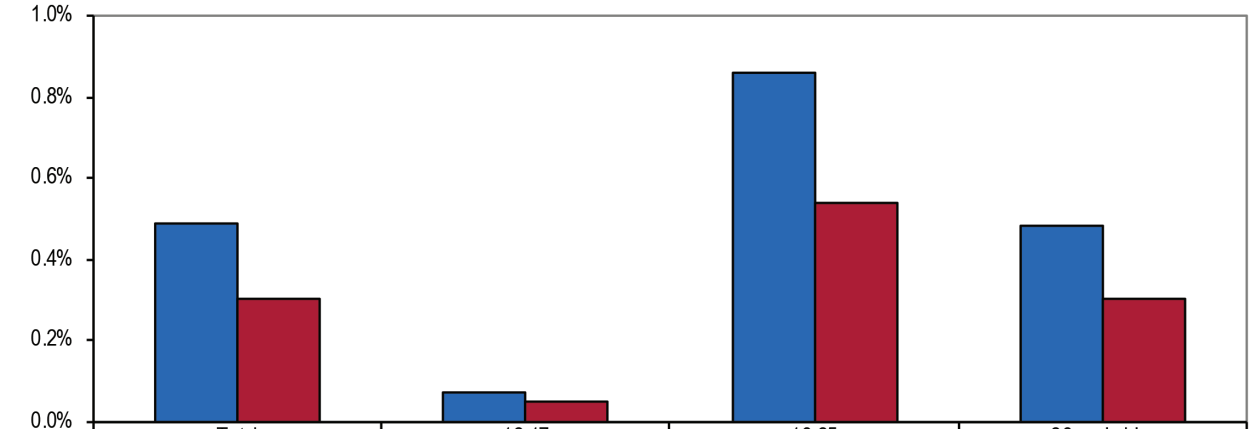
	Total	12-17	18-25	26 and older
Indiana	4.5%	2.9%	6.9%	4.3%
U.S.	3.9%	2.9%	6.3%	3.6%

Source: SAMHSA, 2020

Although heroin use in the general U.S. population is relatively low (an estimated 0.3%), the percentage of Americans using the drug is higher than it was 10 years ago (Lipari and Hughes, 2015). Heroin has also become a major concern in Indiana. Its rise in use, as evidenced by the increase in heroin overdose fatalities, has led to several efforts by state agencies and organizations to identify and develop sources of Indiana-specific data and surveillance (Indiana State Department of Health [ISDH], 2019).

According to findings from the 2017-2018 NSDUH, 0.5% (95% CI: 0.3-0.9) of Hoosiers ages 12 and older reported using heroin in the past year; the U.S. rate was similar. Past-year heroin use was most prevalent among young adults ages 18 to 25, at 0.9% (95% CI: 0.5-1.6) (SAMHSA, 2020). 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, 2017-2018)



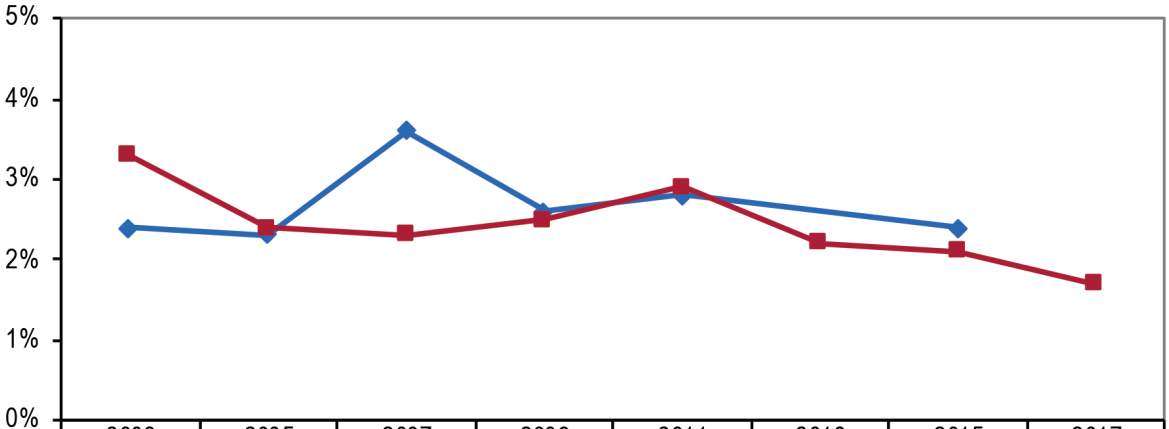
	Total	12-17	18-25	26 and older
Indiana	0.5%	0.1%	0.9%	0.5%
U.S.	0.3%	0.1%	0.5%	0.3%

Source: SAMHSA, 2020

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], 1991–2017).

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, 2003–2017)



	2003	2005	2007	2009	2011	2013	2015	2017
Indiana	2.4%	2.3%	3.6%	2.6%	2.8%		2.4%	
U.S.	3.3%	2.4%	2.3%	2.5%	2.9%	2.2%	2.1%	1.7%

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

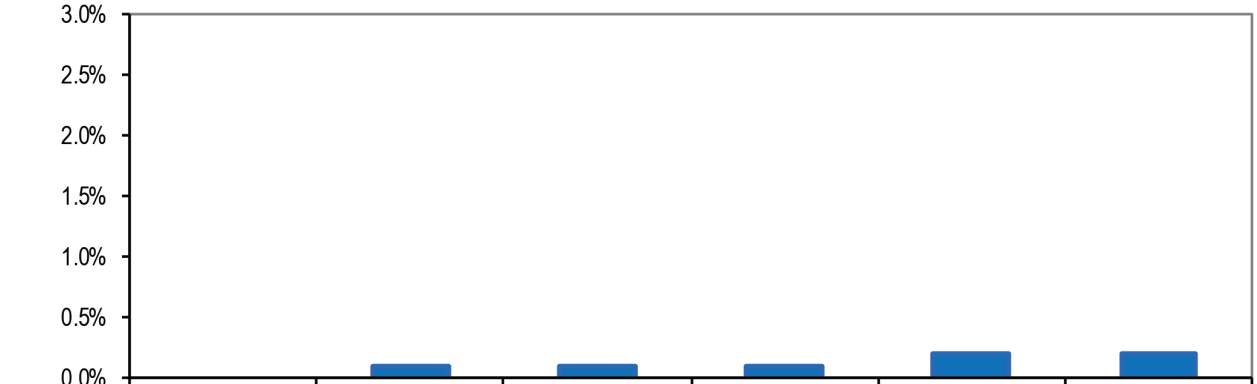
As noted previously, a common route of administration for heroin is by needle injection. According to the 2015 YRBSS, the percentage of high school students who used a needle to inject any illegal drug into their body one or more times during their lifetime was statistically similar in Indiana (2.2%; 95% CI: 1.1–4.3) and the nation (1.8%; 95% CI: 1.3–2.3) (CDC, 1991–2017).

(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 2018 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., 2018). For monthly heroin use rates in Indiana by region and grade level, see Appendix 5B.

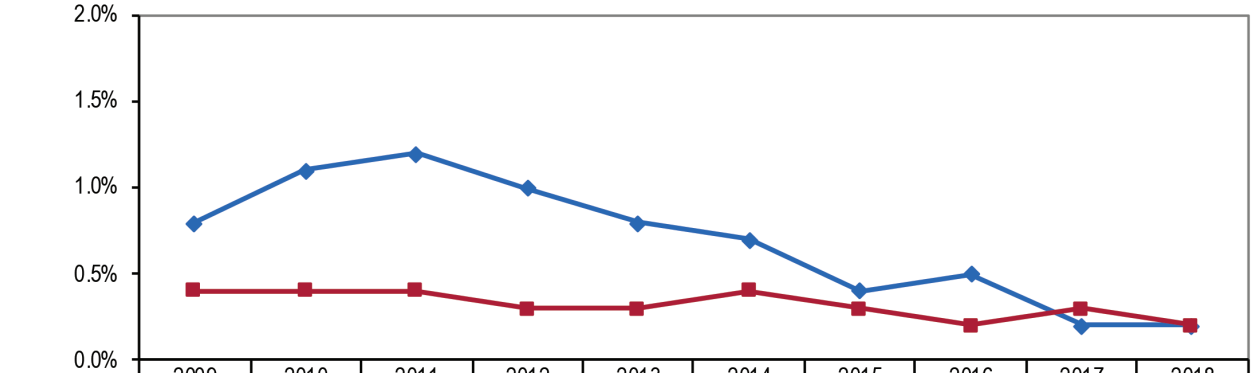
Figure 5.5 Percentage of Indiana 7th through 12th Grade Students Reporting Monthly Heroin Use (Indiana Youth Survey, 2018)



	7th	8th	9th	10th	11th	12th
Monthly Use	0.0%	0.1%	0.1%	0.1%	0.2%	0.2%

Source: Gassman et al., 2018

Figure 5.6 Percentage of Indiana and U.S. 12th Grade Students Reporting Monthly Heroin Use (Indiana Youth Survey and Monitoring the Future Survey, 2009–2018)



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Indiana	0.8%	1.1%	1.2%	1.0%	0.8%	0.7%	0.4%	0.5%	0.2%	0.2%
U.S.	0.4%	0.4%	0.4%	0.3%	0.3%	0.4%	0.3%	0.2%	0.3%	0.2%

Source: Gassman et al., 2018; Inter-university Consortium for Political and Social Research, University of Michigan, 2018

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 relievers[2] 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.: 12.5%) and in over 9%, dependence[3] was indicated in 2017 (SAMHDA, 2020). 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 2017, but peaked in Indiana in 2014 (see Figure 5.7). For county-level information, see Appendix 5C.

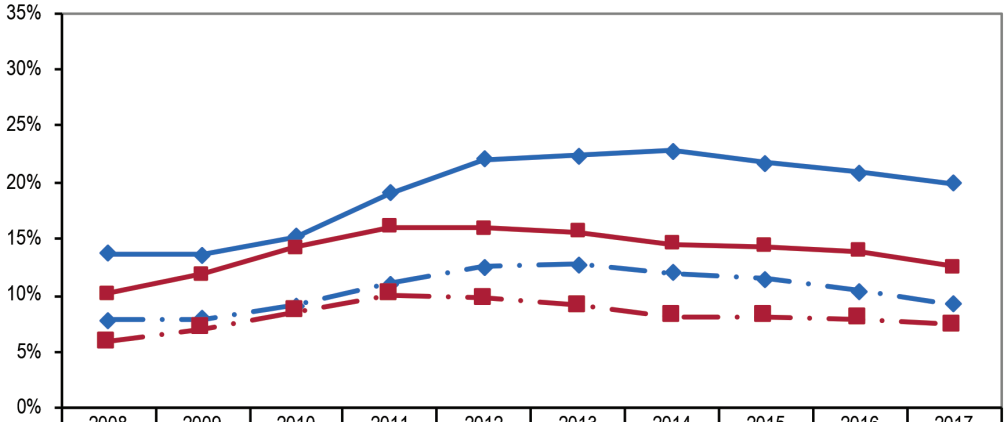
Table 5.1 Percentage of Indiana Treatment Episodes with Prescription Opioid Misuse and Dependence Reported at Treatment Admission, by Gender, Race, Ethnicity, and Age Group (Treatment Episode Data Set, 2017)

		Misuse	Dependence
Gender	Male	17.2%	7.4%
	Female	23.8%	11.7%
Race	White	22.6%	10.4%
	Black	6.0%	2.8%
	Other	14.0%	6.7%
Ethnicity	Hispanic	13.0%	6.3%
	Non-Hispanic	20.3%	9.4%
Age Group	Under 18	7.1%	2.0%
	18-24	14.9%	6.2%
	25-34	25.1%	11.3%
	35-44	22.6%	10.9%
	45-54	13.2%	6.2%
	55+	11.1%	6.9%
Total		**19.9%**	**9.2%**

Source: SAMHDA, 2020

[1]Twenty (20) colleges participated in the 2019 survey; results are based on nonrandom sampling and are not representative of all college students in Indiana.
[2]We used TEDS variables "nonprescription methadone" and "other opiates/synthetics" to define pain reliever use (excludes heroin).
[3]We defined prescription pain reliever dependence as "individuals in substance abuse treatment listing prescription pain relievers as their primary substance at admission."

Figure 5.7 Percentage of Indiana and U.S. Treatment Episodes with Prescription Opioid Misuse and Dependence Reported at Treatment Admission (Treatment Episode Data Set, 2008–2017)

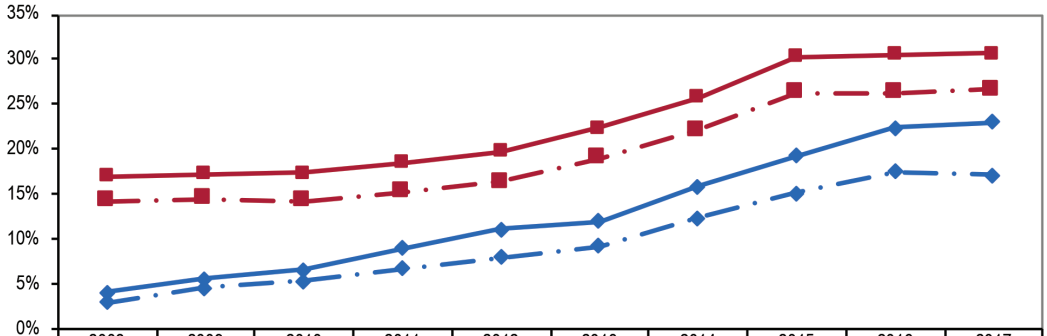


	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
IN Rx Opioid Misuse	13.7%	13.6%	15.2%	19.0%	22.0%	22.4%	22.8%	21.7%	20.9%	19.9%
U.S. Rx Opioid Misuse	10.2%	11.9%	14.2%	16.0%	15.9%	15.6%	14.5%	14.3%	13.9%	12.5%
IN Rx Opioid Dependence	7.8%	7.9%	9.1%	11.0%	12.5%	12.7%	12.0%	11.4%	10.4%	9.2%
U.S. Rx Opioid Dependence	5.9%	7.1%	8.6%	10.1%	9.7%	9.1%	8.1%	8.1%	7.9%	7.4%

Source: SAMHDA, 2020

In over one-fifth of Indiana treatment admissions in 2017, heroin use was reported; heroin dependence[4] was indicated in 17.2% of admissions (SAMHDA, 2020). Though the percentage of treatment admissions attributable to heroin in Indiana increased significantly from 2008 through 2017, 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, 2008–2017)



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
IN Heroin Misuse	4.1%	5.5%	6.6%	9.0%	11.1%	12.0%	15.9%	19.3%	22.4%	23.0%
U.S. Heroin Misuse	17.0%	17.3%	17.4%	18.5%	19.8%	22.4%	25.8%	30.3%	30.5%	30.7%
IN Heroin Dependence	2.9%	4.5%	5.3%	6.7%	7.9%	9.2%	12.3%	15.1%	17.5%	17.2%
U.S. Heroin Dependence	14.2%	14.5%	14.2%	15.2%	16.4%	19.0%	22.1%	26.3%	26.3%	26.6%

Source: SAMHDA, 2020

[4]We 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 25 to 34.

For additional details, see Table 5.2 (SAMHDA, 2020); 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, 2017)

		Misuse	Dependence
Gender	Male	20.4%	15.0%
	Female	26.7%	20.3%
Race	White	25.7%	19.1%
	Black	8.4%	6.7%
	Other	19.0%	14.6%
Ethnicity	Hispanic	20.0%	16.0%
	Non-Hispanic	23.2%	17.3%
Age Group	Under 18	1.5%	0.7%
	18-24	21.8%	15.7%
	25-34	31.7%	24.3%
	35-44	21.2%	15.5%
	45-54	12.2%	8.7%
	55+	9.9%	7.7%
Total		**23.0%**	**17.2%**

Source: SAMHDA, 2020

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

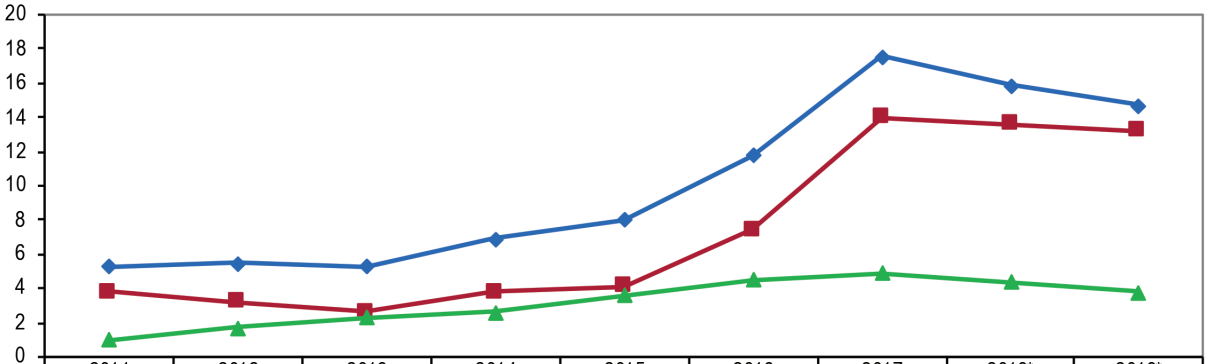
Fatal and Non-Fatal Drug Overdoses

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 25.6 per 100,000 population (U.S.: 20.7) in 2018 (CDC, 1999–2018).[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 1,176 in 2017 (ISDH, 2019). For 2011 through 2017 overdose mortality rates involving opioids, see Figure 5.9.

In addition, a total of 5,825 visits to Indiana emergency departments occurred due to a nonfatal opioid overdose in 2018 (ISDH, 2020).

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

Figure 5.9 Drug Overdose Deaths Involving Opioids, Rate per 100,000 Population (Indiana, 2011–2019)



	2011	2012	2013	2014	2015	2016	2017	2018*	2019*
Any Opioid	5.3	5.5	5.3	6.9	8.0	11.8	17.6	15.9	14.7
Rx Opioid	3.8	3.2	2.6	3.8	4.1	7.4	14.0	13.6	13.2
Heroin	1.0	1.7	2.3	2.6	3.6	4.5	4.9	4.4	3.8

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. Years marked with an asterisk (*) indicate that the data are provisional.
Source: ISDH, 2020

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 (ISDH, 2020). 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 2018 was 1.1 per 100,000 population (95% CI: 0.9–1.4), which was slightly lower than the U.S. rate of 1.5 per 100,000 population (95% CI: 1.5–1.6) (CDC, 1999–2018).[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 1,118 cases of hepatitis B (including 169 acute and 949 chronic cases) and 8,140 cases of hepatitis C (including 359 acute and 7,781 chronic cases) in Indiana (ISDH, 2020).

The 2018 age-adjusted mortality rate attributable to HBV and HCV[7] combined was 0.9 per 100,000 population (95% CI: 0.7–1.1) in Indiana, which was similar to the national rate of 1.1 per 100,000 population (95% CI: 1.1–1.1) (CDC, 1999–2018).

[6]Mortality rates for HIV/AIDS are based on ICD-10 codes B20-B24 (Human immunodeficiency virus [HIV] disease).
[7]Mortality rates for hepatitis B and C infections are based on the following ICD-10 codes: B16 (Acute hepatitis B), B17.0 (Acute delta-[super]infection of hepatitis B carrier), B17.1 (Acute hepatitis C), B18.0 (Chronic viral hepatitis B with delta-agent), B18.1 (Chronic viral hepatitis B without delta-agent), B18.2 (Chronic viral hepatitis C).

Pharmacy Robberies

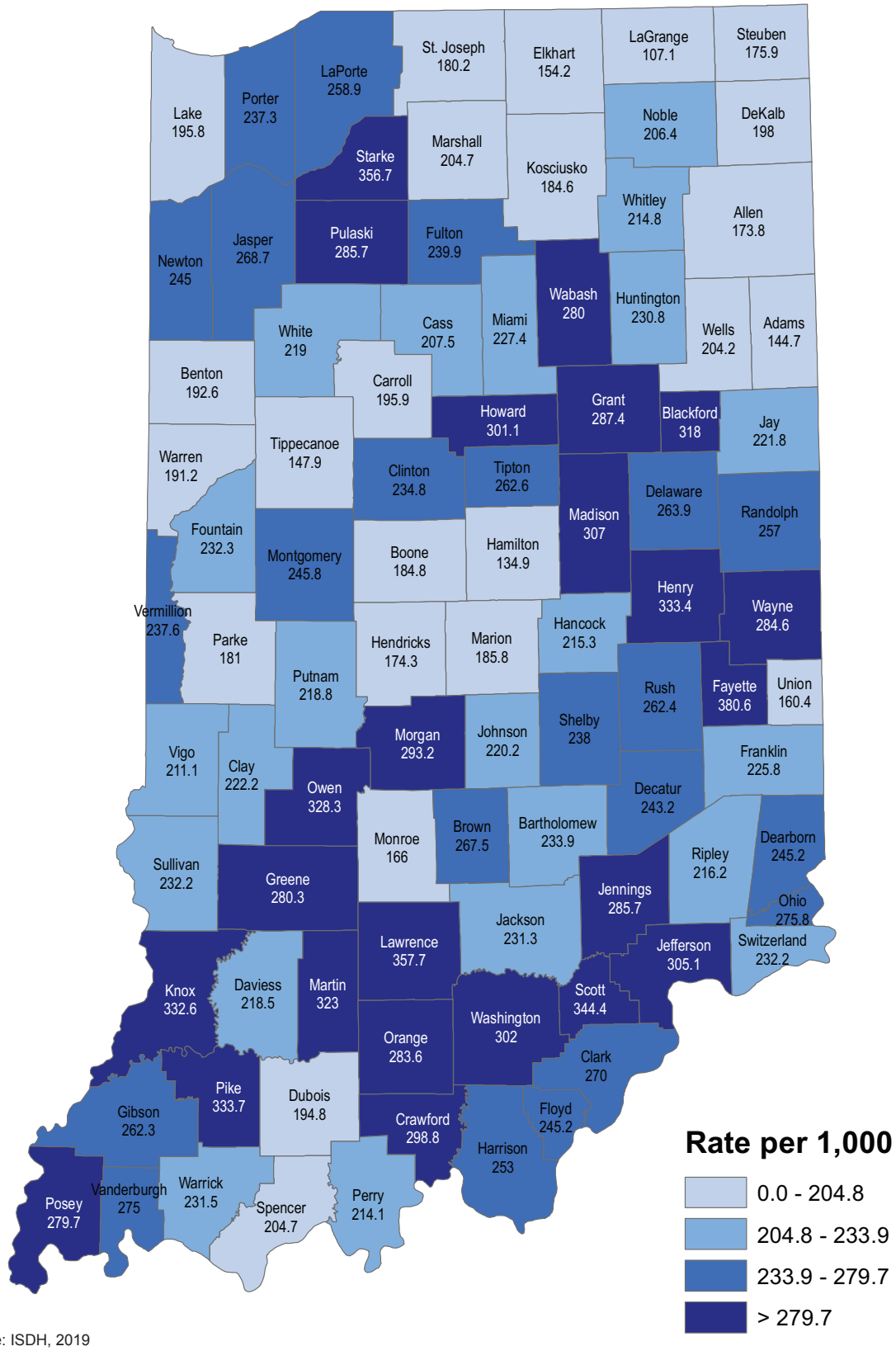
The number of pharmacy robberies in Indiana peaked in 2015 with 175 robberies but has trended downwards since. In 2018, a total of 22 pharmacy robberies occurred in the state, reflecting a purchase value of $137,621 (see Table 5.3) (IPLA, 2019).

Table 5.3 Pharmacy Robberies in Indiana (Summary Report)

	2013	2014	2015	2016	2017	2018
Number of Robberies	71	80	175	75	22	22
Purchase Value of Stolen Drugs	$202,133	$293,079	$479,785	$246,138	$76,439	$137,621

Source: IPLA, 2019

Map 5.1 Rate of Opioid Dispensation per 1,000 Population in Indiana, by County (INSPECT 2018)



Source: ISDH, 2019

APPENDIX 5A

Number and Rate (per 1,000 Population) of Opioid Dispensations in Indiana, by County of Patient's Residence (INSPECT, 2018)

County	Number of Dispensations	Rate of Dispensations per 1,000
Adams	20,392	144.7
Allen	257,490	173.8
Bartholomew	76,147	233.9
Benton	6,665	192.6
Blackford	15,452	318.0
Boone	47,782	184.8
Brown	15,957	267.5
Carroll	15,651	195.9
Cass	31,498	207.5
Clark	125,301	270.0
Clay	23,381	222.2
Clinton	30,481	234.8
Crawford	12,596	298.8
Daviess	28,819	218.5
Dearborn	48,381	245.2
Decatur	25,875	243.2
DeKalb	33,856	198.0
Delaware	122,018	263.9
Dubois	33,159	194.8
Elkhart	125,697	154.2
Fayette	35,520	380.6
Floyd	75,511	245.2
Fountain	15,321	232.3
Franklin	20,518	225.8
Fulton	19,324	239.9
Gibson	35,365	262.3
Grant	76,943	287.4
Greene	36,111	280.3
Hamilton	170,673	134.9
Hancock	63,497	215.3
Harrison	40,301	253.0
Hendricks	111,973	174.3
Henry	64,698	333.4
Howard	99,454	301.1
Huntington	33,601	230.8
Jackson	40,716	231.3
Jasper	35,934	268.7
Jay	18,675	221.8
Jefferson	39,569	305.1
Jennings	31,724	285.7
Johnson	133,866	220.2
Knox	50,221	332.6
Kosciusko	58,397	184.6
LaGrange	16,762	107.1
Lake	380,600	195.8
LaPorte	113,924	258.9
Lawrence	65,122	357.7
Madison	158,760	307.0
Marion	699,407	185.8
Marshall	38,125	204.7
Martin	13,142	323.0
Miami	32,633	227.4
Monroe	96,602	166.0
Montgomery	37,440	245.8
Morgan	81,748	293.2
Newton	13,643	245.0
Noble	39,328	206.4
Ohio	6,545	275.8
Orange	21,934	283.6
Owen	27,367	328.3
Parke	12,164	181.0
Perry	16,239	214.1
Pike	16,594	333.7
Porter	159,255	237.3
Posey	28,503	279.7
Pulaski	14,466	285.7
Putnam	32,763	218.8
Randolph	25,785	257.0
Ripley	24,949	216.2
Rush	17,477	262.4
St. Joseph	193,999	180.2
Scott	32,693	344.4
Shelby	42,201	238.0
Spencer	16,910	204.7
Starke	32,829	356.7
Steuben	24,001	175.9
Sullivan	19,322	232.2
Switzerland	9,776	232.2
Tippecanoe	111,230	147.9
Tipton	15,945	262.6
Union	4,627	160.4
Vanderburgh	199,927	275.0
Vermillion	14,869	237.6
Vigo	91,132	211.1
Wabash	35,578	280.0
Warren	6,245	191.2
Warrick	57,868	231.5
Washington	33,426	302.0
Wayne	75,770	284.6
Wells	22,827	204.2
White	21,026	219.0
Whitley	28,745	214.8
Indiana	5,687,064	214.3

Note: Dispensation data includes three opioid prescription categories: (1) opioid analgesics, (2) opioid antidiarrheals/ antitussives, and (3) opioid antagonists and treatment addiction medications.
Source: ISDH, 2019

APPENDIX 5B

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

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

Notes: * Indicates a local rate that is significantly different from the overall state rate ($P < 0.05$).
Beginning in 2015, the Indiana Youth Survey stopped asking 6th grade students about heroin use.
Source: Gassman et al., 2018

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 2019)

	Treatment Episodes	Rx Opioid Misuse		Rx Opioid Dependence		Heroin Use		Heroin Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Adams	106	20	18.9%	11	10.4%	23	21.7%	11	10.4%
Allen	1,740	240	13.8%	82	4.7%	335	19.3%	223	12.8%
Bartholomew	431	79	18.3%	49	11.4%	136	31.6%	106	24.6%
Benton	29	<5	N/A	<5	N/A	7	24.1%	<5	N/A
Blackford	54	7	13.0%	<5	N/A	31	57.4%	20	37.0%
Boone	136	22	16.2%	6	4.4%	38	27.9%	22	16.2%
Brown	61	<5	N/A	<5	N/A	27	44.3%	22	36.1%
Carroll	58	6	10.3%	<5	N/A	9	15.5%	<5	N/A
Cass	227	22	9.7%	7	3.1%	32	14.1%	16	7.0%
Clark	517	106	20.5%	78	15.1%	101	19.5%	83	16.1%
Clay	68	5	7.4%	<5	N/A	<5	N/A	<5	N/A
Clinton	180	34	18.9%	13	7.2%	56	31.1%	33	18.3%
Crawford	23	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Daviess	170	50	29.4%	21	12.4%	12	7.1%	<5	N/A
Dearborn	340	147	43.2%	54	15.9%	132	38.8%	87	25.6%
Decatur	122	35	28.7%	6	4.9%	23	18.9%	10	8.2%
DeKalb	149	22	14.8%	17	11.4%	22	14.8%	10	6.7%
Delaware	513	105	20.5%	44	8.6%	184	35.9%	136	26.5%
Dubois	80	13	16.3%	10	12.5%	<5	N/A	<5	N/A
Elkhart	706	92	13.0%	42	5.9%	80	11.3%	56	7.9%
Fayette	218	79	36.2%	40	18.3%	75	34.4%	45	20.6%
Floyd	408	66	16.2%	39	9.6%	134	32.8%	102	25.0%
Fountain	44	9	20.5%	<5	N/A	<5	N/A	<5	N/A
Franklin	95	33	34.7%	21	22.1%	27	28.4%	18	18.9%
Fulton	106	17	16.0%	6	5.7%	15	14.2%	9	8.5%
Gibson	242	25	10.3%	10	4.1%	6	2.5%	<5	N/A
Grant	117	26	22.2%	7	6.0%	47	40.2%	26	22.2%
Greene	161	42	26.1%	16	9.9%	15	9.3%	7	4.3%
Hamilton	660	87	13.2%	20	3.0%	184	27.9%	141	21.4%
Hancock	447	71	15.9%	33	7.4%	88	19.7%	65	14.5%
Harrison	47	12	25.5%	7	14.9%	14	29.8%	13	27.7%
Hendricks	556	101	18.2%	37	6.7%	159	28.6%	126	22.7%
Henry	306	134	43.8%	78	25.5%	50	16.3%	25	8.2%
Howard	615	101	16.4%	23	3.7%	200	32.5%	107	17.4%
Huntington	179	46	25.7%	21	11.7%	53	29.6%	34	19.0%
Jackson	231	64	27.7%	13	5.6%	53	22.9%	32	13.9%
Jasper	90	14	15.6%	5	5.6%	29	32.2%	22	24.4%
Jay	89	20	22.5%	6	6.7%	39	43.8%	26	29.2%
Jefferson	255	110	43.1%	59	23.1%	42	16.5%	24	9.4%
Jennings	131	18	13.7%	9	6.9%	28	21.4%	19	14.5%
Johnson	351	63	17.9%	39	11.1%	114	32.5%	91	25.9%
Knox	392	84	21.4%	48	12.2%	16	4.1%	6	1.5%

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APPENDIX 5C *(Continued from previous page)*

	Treatment Episodes	Rx Opioid Misuse		Rx Opioid Dependence		Heroin Use		Heroin Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Kosciusko	234	50	21.4%	19	8.1%	51	21.8%	39	16.7%
LaGrange	122	9	7.4%	<5	N/A	<5	N/A	<5	N/A
Lake	1,725	153	8.9%	62	3.6%	405	23.5%	337	19.5%
LaPorte	394	53	13.5%	29	7.4%	151	38.3%	115	29.2%
Lawrence	361	123	34.1%	53	14.7%	80	22.2%	41	11.4%
Madison	928	340	36.6%	161	17.3%	176	19.0%	107	11.5%
Marion	4,824	732	15.2%	457	9.5%	1,381	28.6%	1,163	24.1%
Marshall	125	22	17.6%	7	5.6%	19	15.2%	16	12.8%
Martin	29	10	34.5%	<5	N/A	<5	N/A	<5	N/A
Miami	153	28	18.3%	12	7.8%	49	32.0%	35	22.9%
Monroe	820	251	30.6%	111	13.5%	259	31.6%	151	18.4%
Montgomery	276	56	20.3%	14	5.1%	104	37.7%	75	27.2%
Morgan	429	57	13.3%	19	4.4%	110	25.6%	86	20.0%
Newton	25	5	20.0%	<5	N/A	11	44.0%	9	36.0%
Noble	225	37	16.4%	20	8.9%	19	8.4%	6	2.7%
Ohio	22	14	63.6%	5	22.7%	10	45.5%	8	36.4%
Orange	97	24	24.7%	13	13.4%	5	5.2%	<5	N/A
Owen	88	22	25.0%	16	18.2%	17	19.3%	12	13.6%
Parke	35	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Perry	71	9	12.7%	<5	N/A	<5	N/A	<5	N/A
Pike	47	6	12.8%	<5	N/A	<5	N/A	<5	N/A
Porter	466	105	22.5%	57	12.2%	186	39.9%	157	33.7%
Posey	140	44	31.4%	13	9.3%	<5	N/A	<5	N/A
Pulaski	64	9	14.1%	5	7.8%	13	20.3%	11	17.2%
Putnam	206	46	22.3%	19	9.2%	30	14.6%	17	8.3%
Randolph	120	27	22.5%	19	15.8%	50	41.7%	30	25.0%
Ripley	130	42	32.3%	16	12.3%	38	29.2%	20	15.4%
Rush	146	39	26.7%	13	8.9%	15	10.3%	11	7.5%
Saint Joseph	1,563	160	10.2%	78	5.0%	444	28.4%	337	21.6%
Scott	309	136	44.0%	79	25.6%	105	34.0%	77	24.9%
Shelby	211	38	18.0%	18	8.5%	56	26.5%	29	13.7%
Spencer	62	9	14.5%	<5	N/A	<5	N/A	<5	N/A
Starke	248	83	33.5%	41	16.5%	108	43.5%	86	34.7%
Steuben	128	19	14.8%	7	5.5%	12	9.4%	<5	N/A
Sullivan	73	16	21.9%	10	13.7%	<5	N/A	<5	N/A
Switzerland	94	47	50.0%	15	16.0%	20	21.3%	12	12.8%
Tippecanoe	306	52	17.0%	10	3.3%	91	29.7%	73	23.9%
Tipton	25	6	24.0%	<5	N/A	<5	N/A	<5	N/A
Union	35	5	14.3%	<5	N/A	9	25.7%	7	20.0%
Vanderburgh	937	161	17.2%	66	7.0%	72	7.7%	49	5.2%
Vermillion	81	10	12.3%	<5	N/A	14	17.3%	10	12.3%
Vigo	504	65	12.9%	37	7.3%	43	8.5%	31	6.2%
Wabash	250	63	25.1%	32	12.8%	75	30.0%	50	20.0%
Warren	18	<5	N/A	<5	N/A	<5	N/A	<5	N/A

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APPENDIX 5C *(Continued from previous page)*

	Treatment Episodes	Rx Opioid Misuse		Rx Opioid Dependence		Heroin Use		Heroin Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Warrick	225	30	13.3%	7	3.1%	7	3.1%	5	2.2%
Washington	76	26	34.2%	9	11.8%	16	21.1%	14	18.4%
Wayne	377	93	24.7%	53	14.1%	160	42.4%	118	31.3%
Wells	120	26	21.7%	11	9.2%	20	16.7%	11	9.2%
White	107	11	10.3%	<5	N/A	5	4.7%	<5	N/A
Whitley	93	15	16.1%	6	6.5%	17	18.3%	9	9.7%
Indiana	**29,633**	**5,621**	**19.0%**	**2,641**	**8.9%**	**7,142**	**24.1%**	**5,190**	**17.5%**

Notes: We defined prescription opioid dependence as “individuals in substance abuse treatment listing prescription opioids as their primary substance at admission.”
We defined heroin dependence as “individuals in substance abuse treatment listing heroin as their primary substance at admission.”
We calculated the percentages by dividing the number of reported prescription drug use/dependence by the number of treatment episodes.
Information on treatment episodes <5 was suppressed due to confidentiality constraints.
Source: Indiana Family and Social Services Administration, 2020

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6

Stimulant Use in Indiana: Consumption Patterns and Consequences

INTRODUCTION

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

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

Methamphetamine (meth), also known as "crystal" or "ice", is a highly addictive stimulant derived from amphetamine. Although meth can be taken in a variety of ways, most users in Indiana report either smoking it or injecting it intravenously (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).

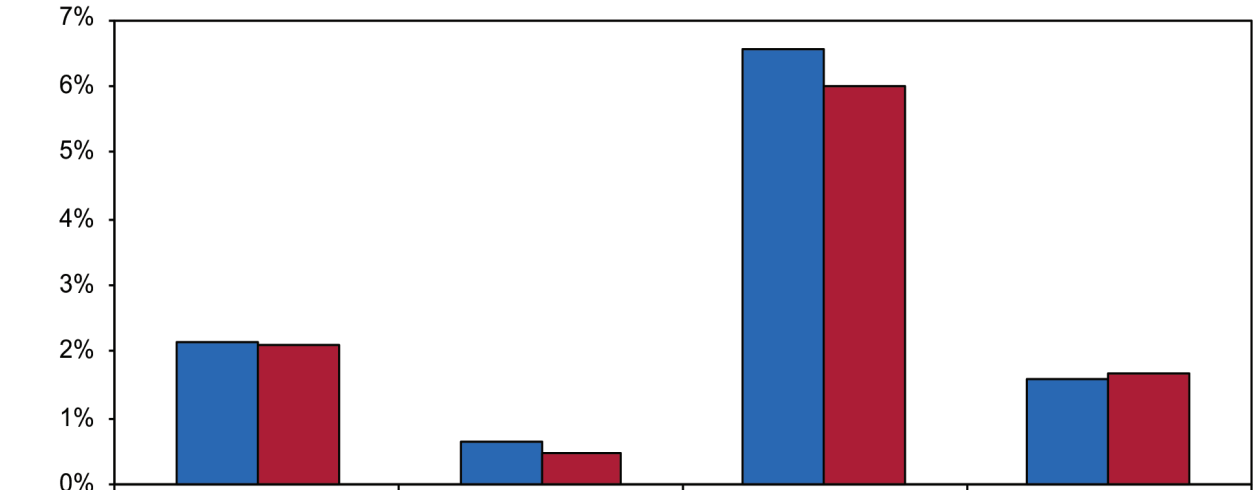
Prescription stimulants are legally produced stimulants such as dextroamphetamine (Dexedrine®), methylphenidate (Ritalin®), amphetamine sulfate (Adderall®), and lisdexamfetamine (Vyvanse®). These drugs increase alertness, attention, and energy and are used for the treatment of narcolepsy and attention-deficit 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 2018, approximately 2.1% (95% Confidence Interval [CI]: 1.6-2.8) of Hoosiers 12 years of age or older used cocaine in the past year, the same estimate as that of the nation (2.1%; 95% CI: 2.0-2.2). Across age groups, cocaine use was highest among persons between the ages of 18 and 25 in both Indiana (6.5%, 95% CI: 4.8-8.8) and the U.S. (6.0%, 95% CI: 5.6-6.4) (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], 2020).

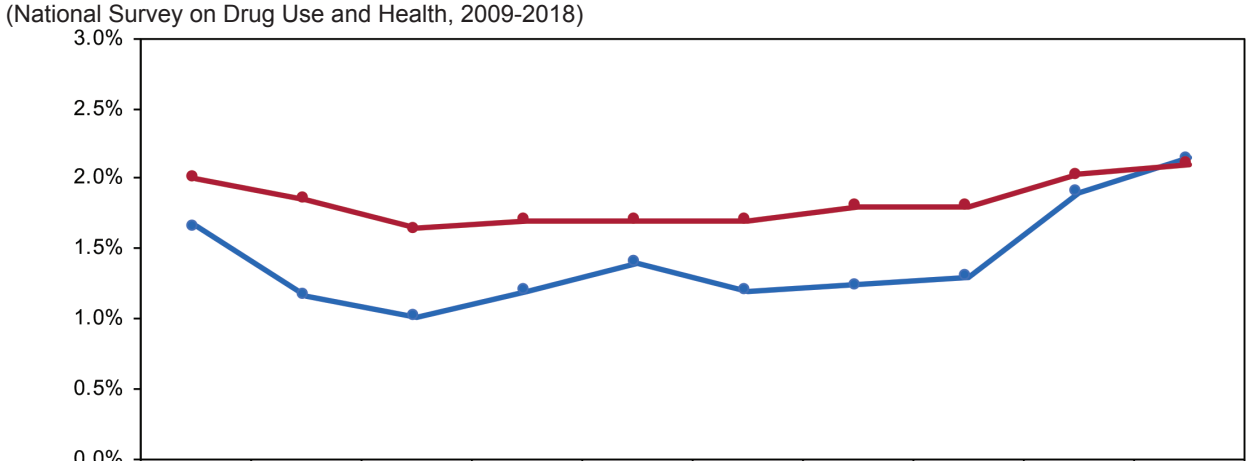
Figure 6.1 Percentage of Indiana and U.S. Population (12 Years and Older) Reporting Cocaine Use in the Past Year, by Age Group (National Survey on Drug Use and Health, 2018)



	Total	12-17	18-25	26 and older
Indiana	2.1%	0.6%	6.5%	1.6%
U.S.	2.1%	0.5%	6.0%	1.7%

Source: SAMHSA, 2020

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, 2009-2018)



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Indiana	1.7%	1.2%	1.0%	1.2%	1.4%	1.2%	1.2%	1.3%	1.9%	2.1%
U.S.	2.0%	1.9%	1.6%	1.7%	1.7%	1.7%	1.8%	1.8%	2.0%	2.1%

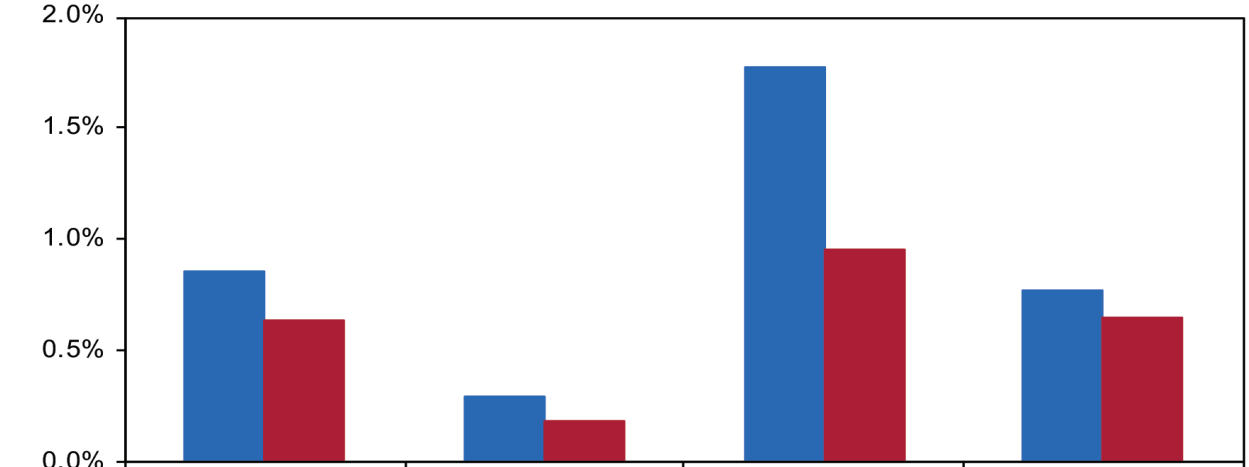
Source: SAMHSA, 2020

2018 was the second year in which state-level NSDUH estimates on methamphetamine use were available. In Indiana, 0.9% of Hoosiers (95% CI: 0.5-1.4) reported using meth in the past year; the U.S. rate was similar (0.6%; 95% CI: 0.6-0.7). For prevalence rates by age group, see Figure 6.3 (SAMHSA, 2020).

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, 1991-2017). 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, 2018)



	Total	12-17	18-25	26 and older
Indiana	0.9%	0.3%	1.8%	0.8%
U.S.	0.6%	0.2%	1.0%	0.7%

Source: SAMHSA, 2020

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)

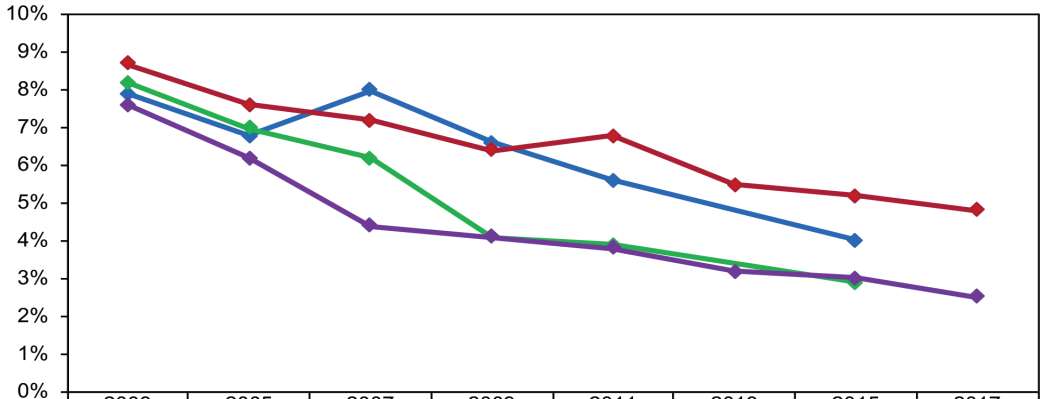
		Cocaine		Methamphetamine	
		Indiana (95% CI)	U.S. (95% CI)	Indiana (95% CI)	U.S. (95% CI)
Gender	Male	5.2% (3.4–7.9)	6.3% (5.1–7.9)	4.1% (2.0–8.2)	3.6% (2.6–4.9)
	Female	2.7% (1.7–4.2)	3.8% (3.1–4.6)	1.4% (0.8–2.6)	2.3% (1.7–3.0)
Race/Ethnicity	White	3.6% (2.3–5.6)	4.1% (3.3–5.2)	2.4% (1.1–5.3)	2.1% (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)**

Source: CDC, 1991-2017

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 2018 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., 2018; Inter-university Consortium for Political and Social Research [ICPSR], 2018). For 2018 data on current cocaine/crack use and meth use among students in grades 7 through 12 by Indiana region, see Appendix 6A.

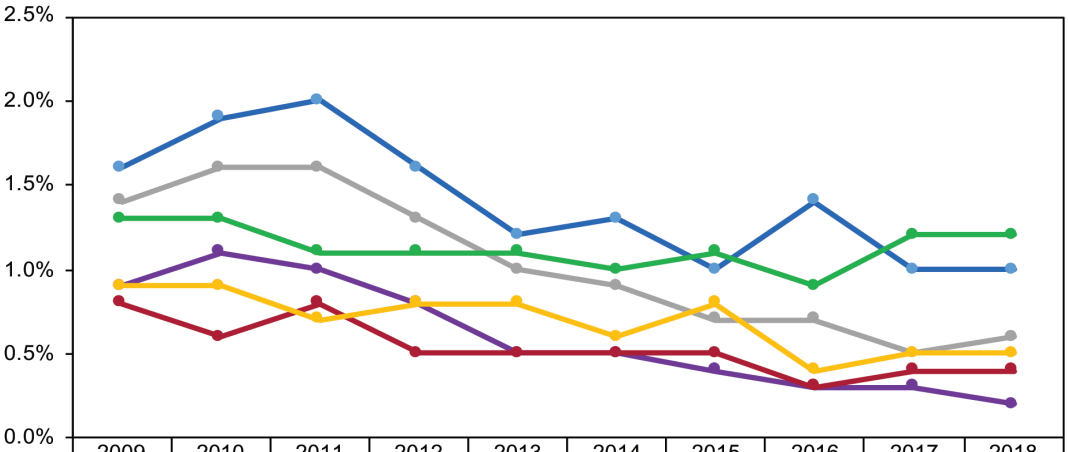
Figure 6.4 Percentage of Indiana and U.S. High School Students (9th-12th Grade) Reporting Lifetime Methamphetamine Use (Youth Risk Behavior Surveillance System, 2003-2017)



	2003	2005	2007	2009	2011	2013	2015	2017
Cocaine Use - Indiana	7.9%	6.8%	8.0%	6.6%	5.6%		4.0%	
Cocaine Use - U.S.	8.7%	7.6%	7.2%	6.4%	6.8%	5.5%	5.2%	4.8%
Meth Use - Indiana	8.2%	7.0%	6.2%	4.1%	3.9%		2.9%	
Meth Use - U.S.	7.6%	6.2%	4.4%	4.1%	3.8%	3.2%	3.0%	2.5%

Note: 2013 and 2015 estimates are not available for Indiana due to low response rates.
Source: CDC, 1991-2017

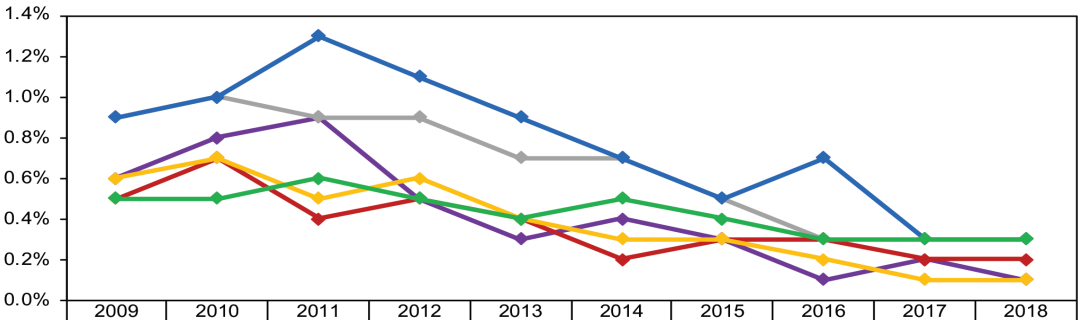
Figure 6.5 Percentage of 8th, 10th, and 12th Grade Students Reporting Current Cocaine/Crack Use (Indiana Youth Survey and Monitoring the Future Survey, 2009-2018)



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
8th Grade Indiana	0.9%	1.1%	1.0%	0.8%	0.5%	0.5%	0.4%	0.3%	0.3%	0.2%
8th Grade U.S.	0.8%	0.6%	0.8%	0.5%	0.5%	0.5%	0.5%	0.3%	0.4%	0.4%
10th Grade Indiana	1.4%	1.6%	1.6%	1.3%	1.0%	0.9%	0.7%	0.7%	0.5%	0.6%
10th Grade U.S.	0.9%	0.9%	0.7%	0.8%	0.8%	0.6%	0.8%	0.4%	0.5%	0.5%
12th Grade Indiana	1.6%	1.9%	2.0%	1.6%	1.2%	1.3%	1.0%	1.4%	1.0%	1.0%
12th Grade U.S.	1.3%	1.3%	1.1%	1.1%	1.1%	1.0%	1.1%	0.9%	1.2%	1.2%

Source: Gassman et al., 2018; ICPSR, 2018

Figure 6.6 Percentage of 8th, 10th, and 12th Grade Students Reporting Current Meth Use (Indiana Youth Survey and Monitoring the Future Survey, 2009-2018)



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
8th Grade Indiana	0.6%	0.8%	0.9%	0.5%	0.3%	0.4%	0.3%	0.1%	0.2%	0.1%
8th Grade U.S.	0.5%	0.7%	0.4%	0.5%	0.4%	0.2%	0.3%	0.3%	0.2%	0.2%
10th Grade Indiana	0.9%	1.0%	0.9%	0.9%	0.7%	0.7%	0.5%	0.3%	0.3%	0.3%
10th Grade U.S.	0.6%	0.7%	0.5%	0.6%	0.4%	0.3%	0.3%	0.2%	0.1%	0.1%
12th Grade Indiana	0.9%	1.0%	1.3%	1.1%	0.9%	0.7%	0.5%	0.7%	0.3%	0.3%
12th Grade U.S.	0.5%	0.5%	0.6%	0.5%	0.4%	0.5%	0.4%	0.3%	0.3%	0.3%

Source: Gassman et al., 2018; ICPSR, 2018

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 over one-fourth (28.3%) of treatment admissions in Indiana methamphetamine use was reported in 2017 (U.S.:18.6%). Methamphetamine use was more commonly reported among women, white individuals, and adults ages 25 to 44 (see Table 6.2). The use of methamphetamine in Indiana's treatment population increased by more than 188% since 2008 (see Figure 6.7).

Cocaine was the second most frequently used stimulant in Indiana's treatment population and reported in 12.5% of treatment admissions in 2017 (U.S.: 18.1%). Cocaine use was reported more often by black individuals, and persons 45 years of age and older (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 stimulants was comparatively low. In 1.7% of Indiana treatment admissions, misuse of these drugs was reported in 2017. This was similar to the percentage for the rest of the country (1.6%). Aside from a spike in 2011-2012, the misuse of prescription stimulants by Indiana's treatment population has changed little over the past 10 years (see Figure 6.9). Women, white individuals, and those under 55 years of age entering treatment were more likely to report misuse (see Table 6.2).

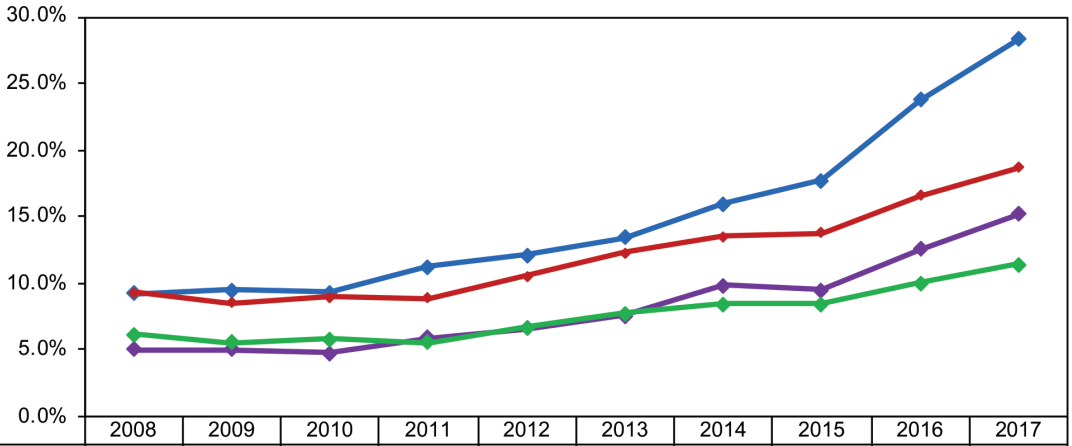
[1]Twenty (20) colleges participated in the 2018 survey; results are based on nonrandom sampling and are not representative of all college students in Indiana.

Table 6.2 Stimulant Misuse Reported at Substance Use Treatment Admission in Indiana, by Gender, Race, Ethnicity, and Age Group (Treatment Episode Data Set, 2017)

		Methamphetamine	Cocaine	Prescription Stimulants
Gender	Male	24.2%	12.3%	1.4%
	Female	34.4%	12.7%	2.0%
Race	White	32.8%	9.7%	1.9%
	Black	4.8%	27.9%	0.4%
	Other	20.3%	15.7%	1.3%
Ethnicity	Hispanic	20.4%	16.6%	0.8%
	Non-Hispanic	28.9%	12.2%	1.7%
Age	Under 18	6.7%	2.4%	1.7%
	18 to 24	26.4%	7.0%	1.8%
	25 to 34	33.7%	10.0%	1.9%
	35 to 44	31.8%	14.3%	1.5%
	45 to 54	22.2%	22.3%	1.2%
	55 or Older	9.3%	20.2%	0.8%
Total		**28.3%**	**12.5%**	**1.7%**

Source: SAMHSA, 2020

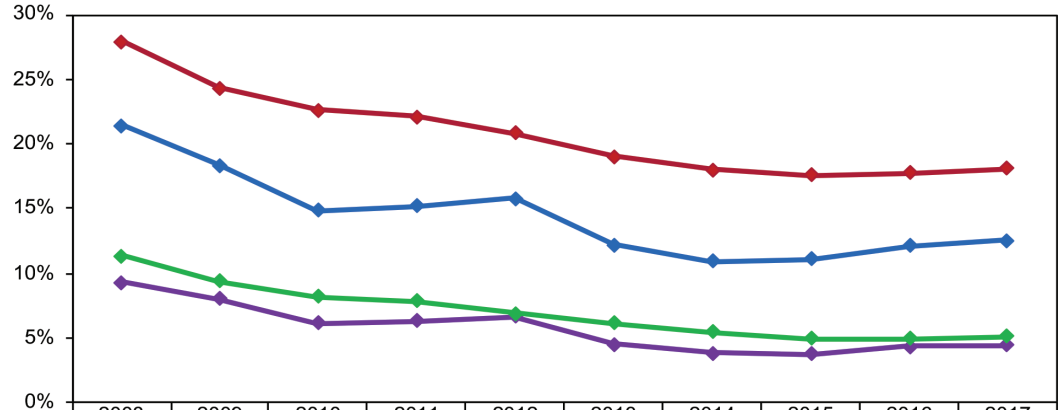
Figure 6.7 Percentage of Treatment Episodes with Reported Meth Use and Dependence, Indiana and the United States (Treatment Episode Data Set, 2008-2017)



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Any Use - Indiana	9.2%	9.4%	9.3%	11.2%	12.1%	13.4%	15.9%	17.7%	23.7%	28.3%
Any Use - U.S.	9.3%	8.5%	8.9%	8.8%	10.5%	12.2%	13.5%	13.7%	16.5%	18.6%
Primary Use - Indiana	5.0%	5.0%	4.7%	5.8%	6.5%	7.5%	9.8%	9.4%	12.5%	15.1%
Primary Use - U.S.	6.1%	5.5%	5.8%	5.5%	6.6%	7.7%	8.4%	8.4%	10.0%	11.4%

Source: SAMHDA, 2020

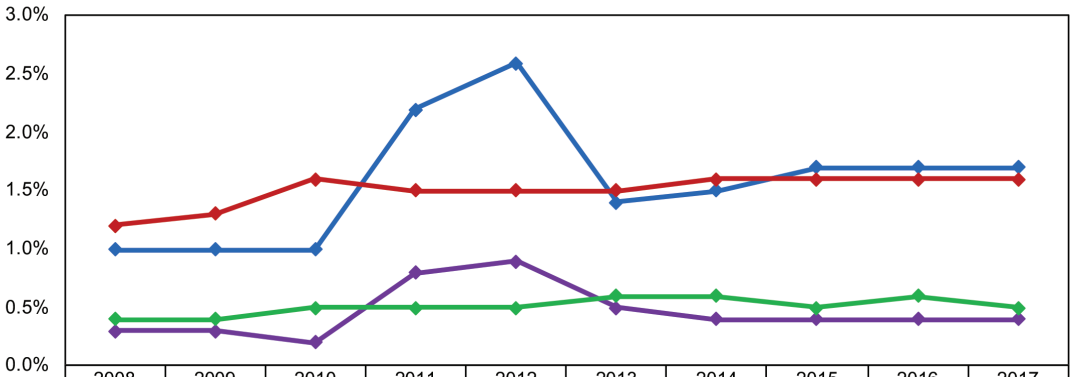
Figure 6.8 Percentage of Treatment Episodes with Reported Cocaine Use and Dependence, Indiana and the United States (Treatment Episode Data Set, 2008-2017)



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Any Use - Indiana	21.4%	18.3%	14.8%	15.2%	15.8%	12.2%	10.9%	11.1%	12.1%	12.5%
Any Use - U.S.	27.9%	24.3%	22.6%	22.1%	20.8%	19.0%	18.0%	17.6%	17.7%	18.1%
Primary Use - Indiana	9.3%	8.0%	6.1%	6.3%	6.6%	4.5%	3.8%	3.7%	4.3%	4.4%
Primary Use - U.S.	11.3%	9.4%	8.2%	7.8%	6.9%	6.1%	5.4%	4.9%	4.9%	5.1%

Source: SAMHDA, 2020

Figure 6.9 Percentage of Treatment Episodes with Reported Prescription Stimulant Use and Dependence, Indiana and the United States (Treatment Episode Data Set, 2008-2017)



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Any Use - Indiana	1.0%	1.0%	1.0%	2.2%	2.6%	1.4%	1.5%	1.7%	1.7%	1.7%
Any Use - U.S.	1.2%	1.3%	1.6%	1.5%	1.5%	1.5%	1.6%	1.6%	1.6%	1.6%
Primary Use - Indiana	0.3%	0.3%	0.2%	0.8%	0.9%	0.5%	0.4%	0.4%	0.4%	0.4%
Primary Use - U.S.	0.4%	0.4%	0.5%	0.5%	0.5%	0.6%	0.6%	0.5%	0.6%	0.5%

Source: SAMHDA, 2020

HEALTH CONSEQUENCES

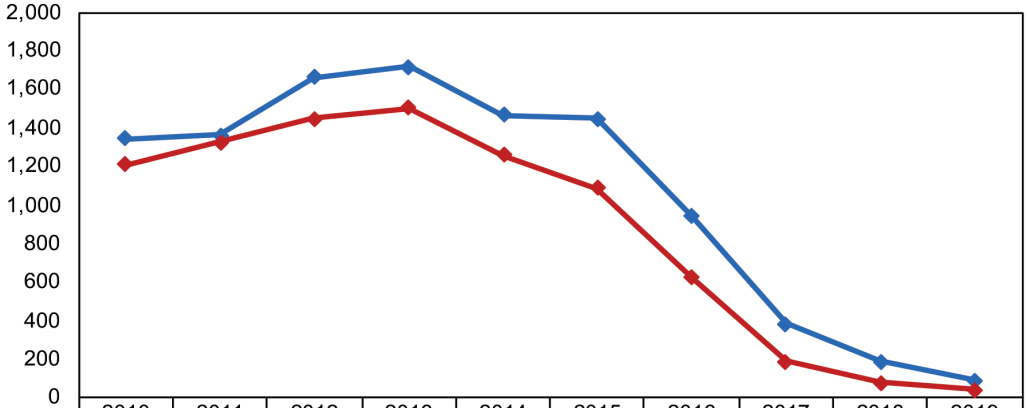
The use of cocaine, meth, and prescription stimulants can all result in serious health consequences if used at high doses, especially over long periods of time. Ingesting large amounts of any of these drugs can result in serious cardiovascular, nervous system, or gastrointestinal complications, overdose, 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 2019, the Indiana State Police (ISP) and other law enforcement agencies seized 90 clandestine meth labs and made 45 meth lab arrests. In the majority of the meth labs seized (n=70, 80%), the one-pot method was used. The number of meth labs seized in the state has seen a dramatic decline, particularly in the past two years with the number of labs seized in 2019 representing a 95% decrease from the peak number of seizures in 2013 (see Figure 6.10) (ISP, 2020).

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, 2010-2019)



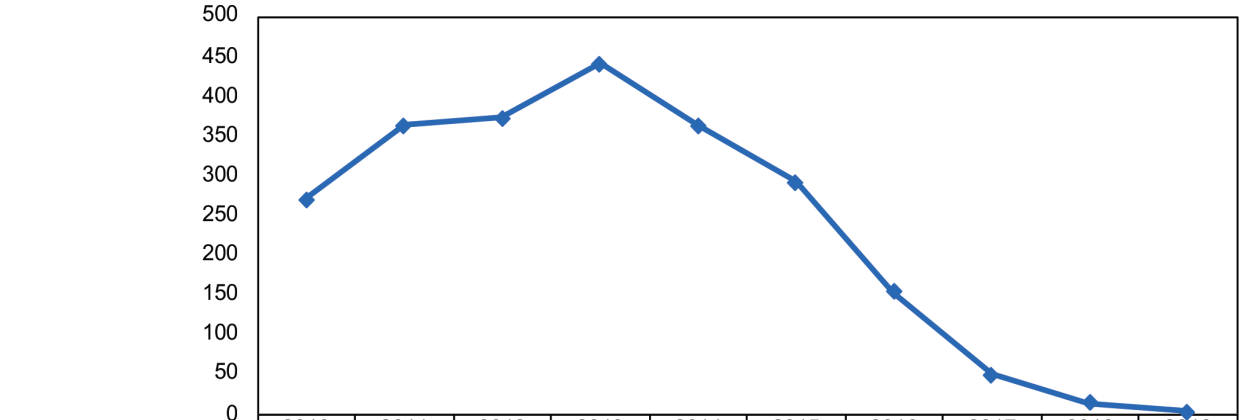
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Number of Lab Seizures	1,346	1,363	1,663	1,721	1,466	1,452	943	387	192	90
Number of Arrests	1,212	1,328	1,448	1,507	1,263	1,087	622	189	81	45

Source: ISP, 2020

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 (440 children), but dropped to 2 in 2019 (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, 2010-2019)



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Number of Children	270	362	372	440	362	291	153	49	14	2

Source: ISP, 2020

APPENDIX 6A

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

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

* Indicates a local rate that is significantly different from the overall state rate ($P < 0.05$).
Beginning in 2015, the Indiana Youth Survey stopped asking 6th grade students about cocaine and methamphetamine use.
Source: Gassman et al., 2018

APPENDIX 6B

Number of Treatment Episodes with Cocaine, Meth, and Prescription Stimulant Use and Dependence Reported at Treatment Admission in Indiana, by County (Substance Abuse Population by County/Treatment Episode Data Set, 2019)

	Treatment Episodes	Cocaine Use		Cocaine Dependence		Meth Use		Meth Dependence		Rx Stimulant Use		Rx Stimulant Dependence	
County	Total	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Adams	106	14	13.2%	<5	N/A	34	32.1%	19	17.9%	<5	N/A	<5	N/A
Allen	1,740	426	24.5%	127	7.3%	322	18.5%	160	9.2%	21	1.2%	7	0.4%
Bartholomew	431	11	2.6%	<5	N/A	255	59.2%	151	35.0%	<5	N/A	<5	N/A
Benton	29	<5	N/A	<5	N/A	7	24.1%	6	20.7%	<5	N/A	<5	N/A
Blackford	54	<5	N/A	<5	N/A	35	64.8%	15	27.8%	<5	N/A	<5	N/A
Boone	136	15	11.0%	7	5.1%	55	40.4%	28	20.6%	<5	N/A	<5	N/A
Brown	61	<5	N/A	<5	N/A	35	57.4%	20	32.8%	<5	N/A	<5	N/A
Carroll	58	<5	N/A	<5	N/A	19	32.8%	7	12.1%	<5	N/A	<5	N/A
Cass	227	<5	N/A	<5	N/A	124	54.6%	91	40.1%	5	2.2%	<5	N/A
Clark	517	32	6.2%	12	2.3%	167	32.3%	114	22.1%	16	3.1%	<5	N/A
Clay	68	<5	N/A	<5	N/A	40	58.8%	24	35.3%	<5	N/A	<5	N/A
Clinton	180	6	3.3%	<5	N/A	80	44.4%	40	22.2%	<5	N/A	<5	N/A
Crawford	23	<5	N/A	<5	N/A	12	52.2%	10	43.5%	<5	N/A	<5	N/A
Daviess	170	<5	N/A	<5	N/A	94	55.3%	66	38.8%	5	2.9%	<5	N/A
Dearborn	340	53	15.6%	20	5.9%	104	30.6%	46	13.5%	<5	N/A	<5	N/A
Decatur	122	<5	N/A	<5	N/A	71	58.2%	49	40.2%	<5	N/A	<5	N/A
DeKalb	149	8	5.4%	<5	N/A	81	54.4%	52	34.9%	<5	N/A	<5	N/A
Delaware	513	66	12.9%	19	3.7%	313	61.0%	162	31.6%	8	1.6%	<5	N/A
Dubois	80	<5	N/A	<5	N/A	26	32.5%	15	18.8%	<5	N/A	<5	N/A
Elkhart	706	88	12.5%	33	4.7%	294	41.6%	216	30.6%	14	2.0%	<5	N/A
Fayette	218	9	4.1%	<5	N/A	117	53.7%	61	28.0%	<5	N/A	<5	N/A
Floyd	408	14	3.4%	<5	N/A	224	54.9%	152	37.3%	<5	N/A	<5	N/A
Fountain	44	<5	N/A	<5	N/A	19	43.2%	14	31.8%	<5	N/A	<5	N/A
Franklin	95	<5	N/A	<5	N/A	39	41.1%	15	15.8%	<5	N/A	<5	N/A
Fulton	106	<5	N/A	<5	N/A	56	52.8%	40	37.7%	<5	N/A	<5	N/A
Gibson	242	<5	N/A	<5	N/A	135	55.8%	76	31.4%	9	3.7%	<5	N/A
Grant	117	16	13.7%	7	6.0%	43	36.8%	23	19.7%	5	4.3%	<5	N/A
Greene	161	6	3.7%	<5	N/A	102	63.4%	66	41.0%	<5	N/A	<5	N/A
Hamilton	660	91	13.8%	21	3.2%	134	20.3%	58	8.8%	13	2.0%	5	0.8%
Hancock	447	42	9.4%	15	3.4%	117	26.2%	69	15.4%	<5	N/A	<5	N/A
Harrison	47	<5	N/A	<5	N/A	18	38.3%	10	21.3%	<5	N/A	<5	N/A
Hendricks	556	39	7.0%	11	2.0%	162	29.1%	71	12.8%	8	1.4%	<5	N/A
Henry	306	17	5.6%	6	2.0%	139	45.4%	79	25.8%	<5	N/A	<5	N/A
Howard	615	69	11.2%	24	3.9%	310	50.4%	116	18.9%	7	1.1%	<5	N/A
Huntington	179	11	6.1%	<5	N/A	82	45.8%	39	21.8%	<5	N/A	<5	N/A
Jackson	231	14	6.1%	<5	N/A	163	70.6%	110	47.6%	<5	N/A	<5	N/A
Jasper	90	20	22.2%	<5	N/A	34	37.8%	19	21.1%	<5	N/A	<5	N/A
Jay	89	<5	N/A	<5	N/A	60	67.4%	40	44.9%	<5	N/A	<5	N/A
Jefferson	255	<5	N/A	<5	N/A	167	65.5%	117	45.9%	<5	N/A	<5	N/A
Jennings	131	<5	N/A	<5	N/A	91	69.5%	54	41.2%	<5	N/A	<5	N/A
Johnson	351	20	5.7%	<5	N/A	116	33.0%	67	19.1%	<5	N/A	<5	N/A
Knox	392	<5	N/A	<5	N/A	221	56.4%	128	32.7%	14	3.6%	<5	N/A
Kosciusko	234	13	5.6%	<5	N/A	119	50.9%	70	29.9%	<5	N/A	<5	N/A

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APPENDIX 6B *(Continued from previous page)*

	Treatment Episodes	Cocaine Use		Cocaine Dependence		Meth Use		Meth Dependence		Rx Stimulant Use		Rx Stimulant Dependence	
County	Total	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
LaGrange	122	<5	N/A	<5	N/A	67	54.9%	37	30.3%	<5	N/A	<5	N/A
Lake	1,725	475	27.5%	161	9.3%	58	3.4%	22	1.3%	18	1.0%	<5	N/A
LaPorte	394	64	16.2%	19	4.8%	81	20.6%	20	5.1%	5	1.3%	<5	N/A
Lawrence	361	5	1.4%	<5	N/A	227	62.9%	150	41.6%	6	1.7%	<5	N/A
Madison	928	122	13.1%	41	4.4%	430	46.3%	193	20.8%	11	1.2%	<5	N/A
Marion	4,824	900	18.7%	330	6.8%	882	18.3%	399	8.3%	45	0.9%	11	0.2%
Marshall	125	15	12.0%	<5	N/A	53	42.4%	33	26.4%	<5	N/A	<5	N/A
Martin	29	<5	N/A	<5	N/A	19	65.5%	13	44.8%	<5	N/A	<5	N/A
Miami	153	<5	N/A	<5	N/A	81	52.9%	43	28.1%	<5	N/A	<5	N/A
Monroe	820	72	8.8%	11	1.3%	460	56.1%	232	28.3%	20	2.4%	<5	N/A
Montgomery	276	7	2.5%	<5	N/A	142	51.4%	80	29.0%	<5	N/A	<5	N/A
Morgan	429	10	2.3%	<5	N/A	224	52.2%	140	32.6%	<5	N/A	<5	N/A
Newton	25	<5	N/A	<5	N/A	9	36.0%	7	28.0%	<5	N/A	<5	N/A
Noble	225	10	4.4%	<5	N/A	121	53.8%	79	35.1%	<5	N/A	<5	N/A
Ohio	22	<5	N/A	<5	N/A	10	45.5%	<5	N/A	<5	N/A	<5	N/A
Orange	97	<5	N/A	<5	N/A	47	48.5%	39	40.2%	<5	N/A	<5	N/A
Owen	88	<5	N/A	<5	N/A	49	55.7%	26	29.5%	<5	N/A	<5	N/A
Parke	35	7	20.0%	<5	N/A	7	20.0%	5	14.3%	<5	N/A	<5	N/A
Perry	71	<5	N/A	<5	N/A	36	50.7%	23	32.4%	<5	N/A	<5	N/A
Pike	47	<5	N/A	<5	N/A	23	48.9%	12	25.5%	<5	N/A	<5	N/A
Porter	466	105	22.5%	24	5.2%	34	7.3%	8	1.7%	<5	N/A	<5	N/A
Posey	140	<5	N/A	<5	N/A	72	51.4%	49	35.0%	7	5.0%	<5	N/A
Pulaski	64	<5	N/A	<5	N/A	18	28.1%	9	14.1%	<5	N/A	<5	N/A
Putnam	206	12	5.8%	<5	N/A	141	68.4%	82	39.8%	<5	N/A	<5	N/A
Randolph	120	8	6.7%	<5	N/A	73	60.8%	46	38.3%	<5	N/A	<5	N/A
Ripley	130	8	6.2%	<5	N/A	58	44.6%	35	26.9%	<5	N/A	<5	N/A
Rush	146	8	5.5%	<5	N/A	68	46.6%	45	30.8%	<5	N/A	<5	N/A
Saint Joseph	1,563	479	30.6%	221	14.1%	373	23.9%	190	12.2%	22	1.4%	<5	N/A
Scott	309	15	4.9%	<5	N/A	174	56.3%	82	26.5%	<5	N/A	<5	N/A
Shelby	211	7	3.3%	<5	N/A	108	51.2%	65	30.8%	<5	N/A	<5	N/A
Spencer	62	<5	N/A	<5	N/A	47	75.8%	38	61.3%	<5	N/A	<5	N/A
Starke	248	8	3.2%	<5	N/A	121	48.8%	66	26.6%	5	2.0%	<5	N/A
Steuben	128	12	9.4%	<5	N/A	58	45.3%	35	27.3%	<5	N/A	<5	N/A
Sullivan	73	<5	N/A	<5	N/A	48	65.8%	33	45.2%	6	8.2%	<5	N/A
Switzerland	94	5	5.3%	<5	N/A	47	50.0%	32	34.0%	<5	N/A	<5	N/A
Tippecanoe	306	25	8.2%	5	1.6%	113	36.9%	53	17.3%	8	2.6%	<5	N/A
Tipton	25	<5	N/A	<5	N/A	9	36.0%	<5	N/A	<5	N/A	<5	N/A
Union	35	<5	N/A	<5	N/A	11	31.4%	7	20.0%	<5	N/A	<5	N/A
Vanderburgh	937	56	6.0%	21	2.2%	476	50.8%	304	32.4%	14	1.5%	<5	N/A
Vermillion	81	<5	N/A	<5	N/A	49	60.5%	28	34.6%	<5	N/A	<5	N/A
Vigo	504	28	.6%	6	1.2%	313	62.1%	201	39.9%	<5	N/A	<5	N/A
Wabash	250	<5	N/A	<5	N/A	117	46.8%	50	20.0%	<5	N/A	<5	N/A
Warren	18	<5	N/A	<5	N/A	11	61.1%	10	55.6%	<5	N/A	<5	N/A
Warrick	225	<5	N/A	<5	N/A	136	60.4%	95	42.2%	<5	N/A	<5	N/A
Washington	76	<5	N/A	<5	N/A	45	59.2%	29	38.2%	<5	N/A	<5	N/A

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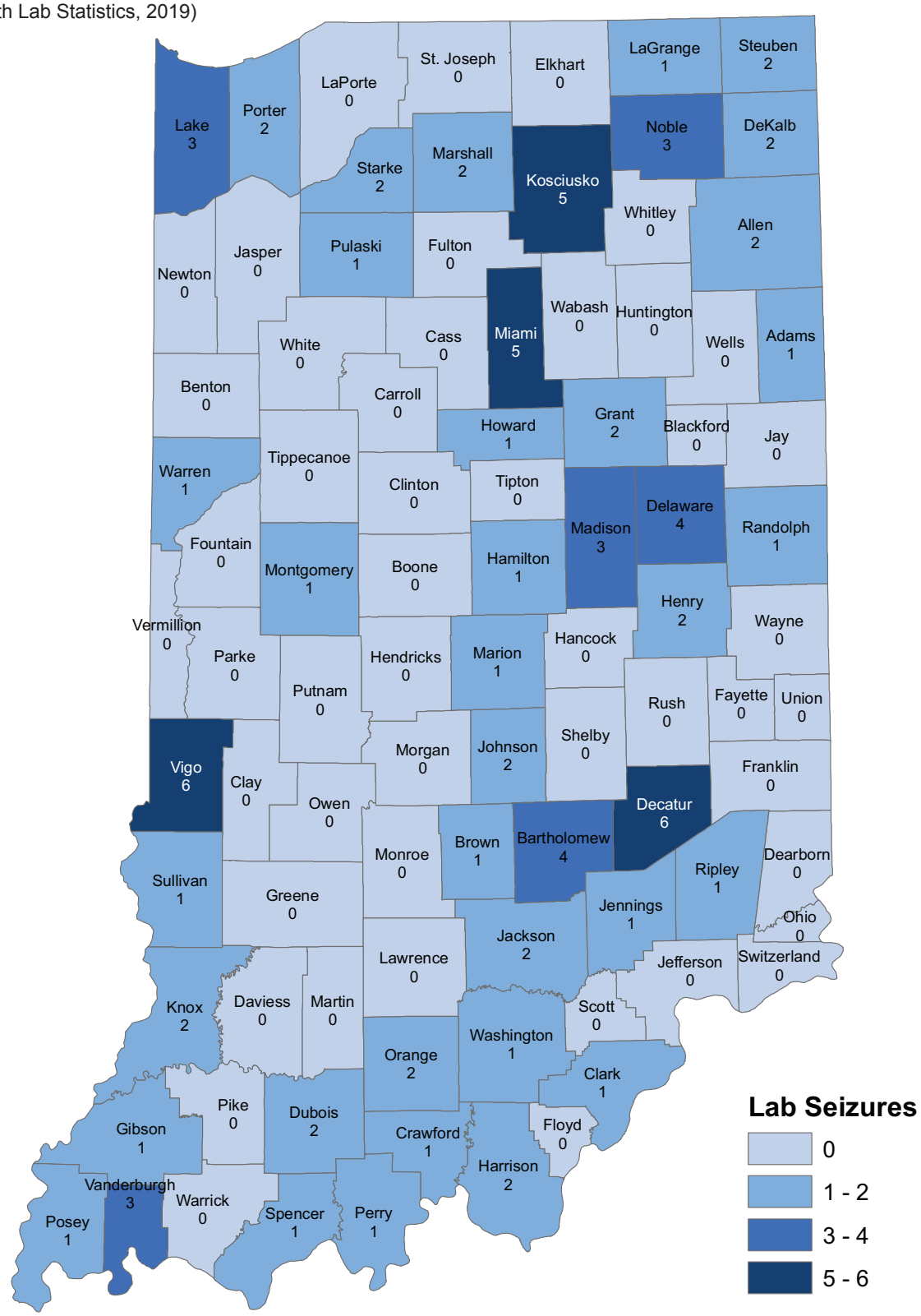
APPENDIX 6B *(Continued from previous page)*

	Treatment Episodes	Cocaine Use		Cocaine Dependence		Meth Use		Meth Dependence		Rx Stimulant Use		Rx Stimulant Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
Wayne	377	65	17.2%	23	6.1%	126	33.4%	66	17.5%	<5	N/A	<5	N/A
Wells	120	22	18.3%	<5	N/A	36	30.0%	21	17.5%	<5	N/A	<5	N/A
White	107	<5	N/A	<5	N/A	27	25.2%	9	8.4%	7	6.5%	<5	N/A
Whitley	93	14	15.1%	<5	N/A	37	39.8%	23	24.7%	<5	N/A	<5	N/A
Indiana	**29,633**	**3,757**	**12.7%**	**1,213**	**4.1%**	**10,824**	**36.5%**	**6,064**	**20.5%**	**387**	**1.3%**	**108**	**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.
Information on treatment episodes <5 was suppressed due to confidentiality constraints.
Source: Indiana Family and Social Services Administration, 2020

Map 6.1 Number of Clandestine Methamphetamine Labs Seized by the Indiana State Police, by County (Indiana Meth Lab Statistics, 2019)



Source: ISP, 2020

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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 2018 National Survey on Drug Use and Health (NSDUH) reported that of the 47.6 million U.S. adults who experienced a mental illness in the past year, 9.2 million (or 3.7%) also had a substance use disorder (SAMHSA, 2020). 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.

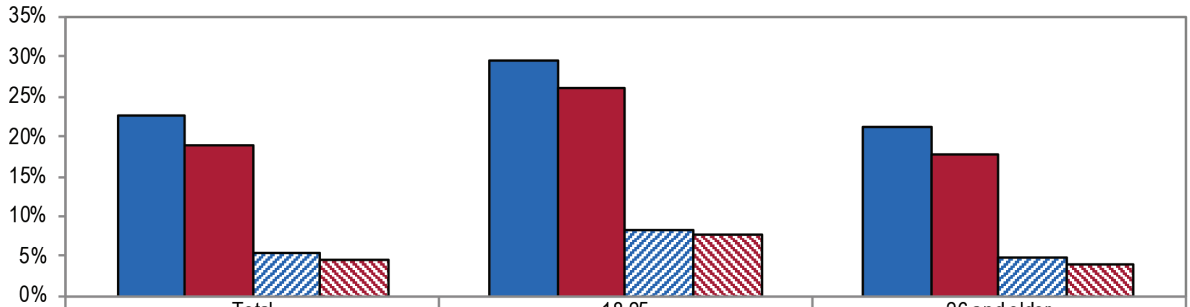
PREVALENCE OF PSYCHOLOGICAL DISTRESS IN INDIANA

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 2018 NSDUH, more than one in five Indiana adults (22.5%) reported having any mental illness in the past year (95% CI [Confidence Interval]:20.4-24.8), compared to 19.0% (95% CI: 18.6-19.4) of U.S. adults. Past-year prevalence rates for serious mental illness were similar in Indiana (5.3%, 95% CI: 4.4-6.3) and the nation (4.6%, 95% CI: 4.4-4.7). For AMI and SMI prevalence rates by age group, see Figure 7.1 (SAMHSA, 2020).

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, 2018)

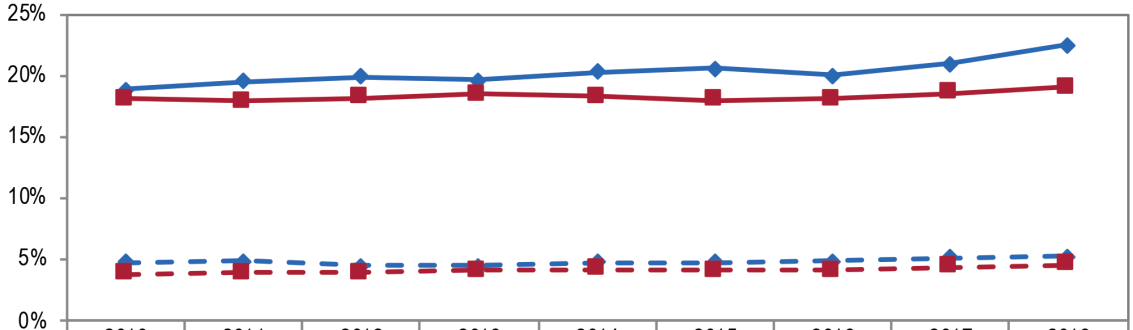


	Total	18-25	26 and older
Indiana AMI	22.5%	29.4%	21.3%
U.S. AMI	19.0%	26.0%	17.9%
Indiana SMI	5.3%	8.3%	4.8%
U.S. SMI	4.6%	7.6%	4.1%

Source: SAMHSA, 2020

Among adults ages 18 and older, past-year prevalence rates of AMI and SMI remained fairly stable between 2009 and 2018 (see Figure 7.2) (SAMHSA, 2020).

Figure 7.2 Percentage of Indiana and U.S. Population (18 Years and Older) Reporting Any Mental Illness (AMI) or Serious Mental Illness (SMI) in the Past Year (National Survey on Drug Use and Health, 2009–2018)



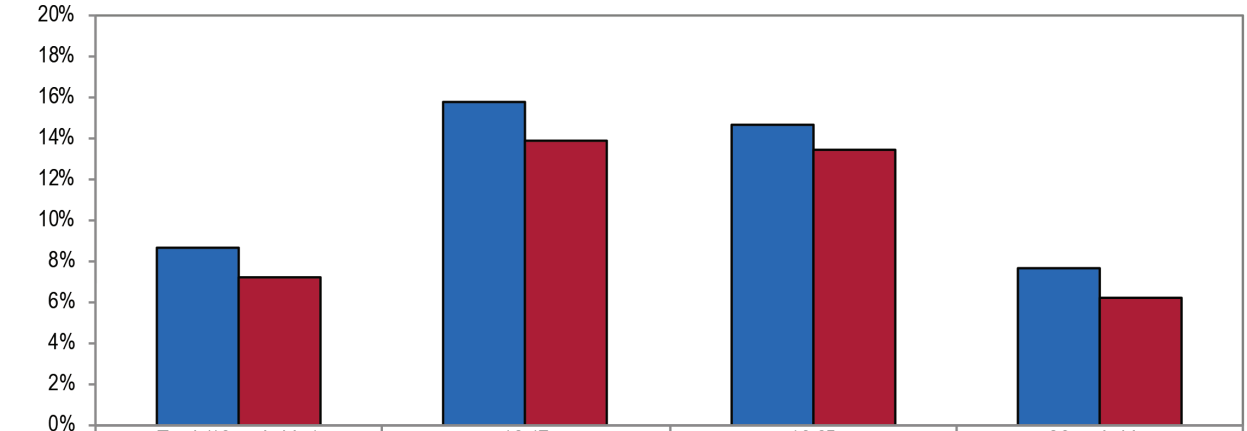
	2010	2011	2012	2013	2014	2015	2016	2017	2018
Indiana AMI	18.8%	19.5%	19.9%	19.6%	20.3%	20.6%	20.0%	20.9%	22.5%
U.S. AMI	18.1%	17.9%	18.2%	18.5%	18.3%	18.0%	18.1%	18.6%	19.0%
Indiana SMI	4.8%	4.9%	4.5%	4.5%	4.8%	4.8%	4.9%	5.2%	5.3%
U.S. SMI	3.9%	4.0%	4.0%	4.1%	4.2%	4.1%	4.1%	4.4%	4.6%

Source: SAMHSA, 2020

In 2018, 8.7% of Indiana adults (95% CI: 6.9-7.4) reported having had at least one major depressive episode (MDE) in the past year (U.S.: 7.1%, 95% CI: 7.4-10.1). For rates by age group, see Figure 7.3 (SAMHSA, 2020).

The percentage of adults with a major depressive episode remained stable between 2008 and 2018 (see Figure 7.4) (SAMHSA, 2020).

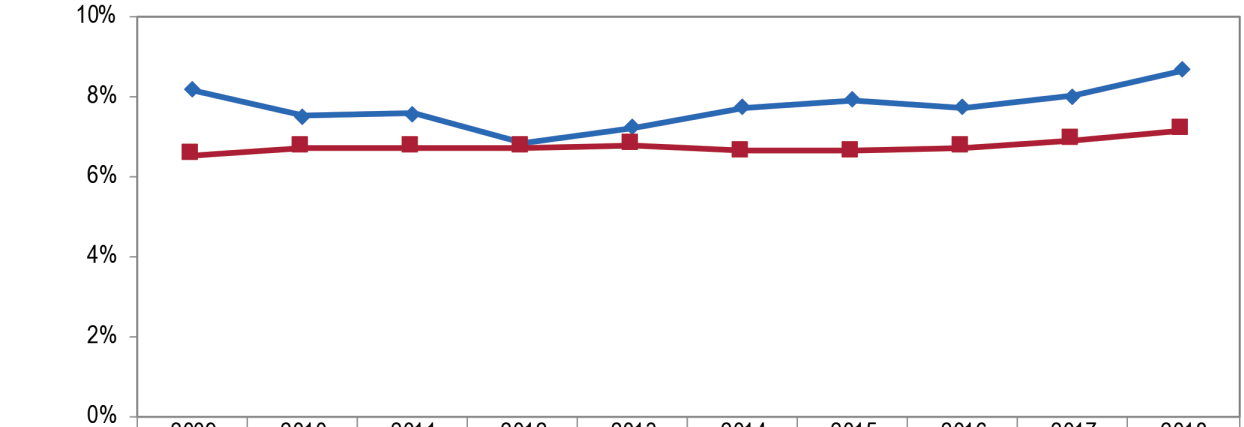
Figure 7.3 Percentage of Indiana and U.S. Population Reporting at Least One Major Depressive Episode in the Past Year, by Age Group (National Survey on Drug Use and Health, 2018)



	Total (18 and older)	12-17	18-25	26 and older
Indiana	8.7%	15.7%	14.7%	7.6%
U.S.	7.1%	13.8%	13.4%	6.1%

Note: There are minor wording differences in the questions in the adult and adolescent MDE modules. Therefore, data from youths ages 12 to 17 were not combined with data from persons ages 18 or older to produce the total MDE estimate.
Source: SAMHSA, 2020

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, 2008–2018)



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Indiana	8.1%	7.5%	7.6%	6.8%	7.2%	7.7%	7.9%	7.7%	8.0%	8.7%
U.S.	6.5%	6.7%	6.7%	6.7%	6.8%	6.6%	6.6%	6.7%	6.9%	7.1%

Source: SAMHSA, 2020

In 2018, nearly 9.2 million U.S. adults (or 3.7%) had a co-occurring mental illness and substance use disorder; the prevalence rate was particularly high in young adults ages 18 to 25 (7.2%) (SAMHSA, 2020). State-level estimates for co-occurring disorders are currently not available from the NSDUH.

Behavioral Risk Factor Surveillance System

According to the 2018 Behavioral Risk Factor Surveillance System (BRFSS), 19.7% of adults in Indiana reported ever being told that they had depression (U.S.: 19.6%). 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, 2019a).

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 4.3 (95% CI: 4.0-4.5) poor mental health days in the past 30 days (U.S.: 3.8). 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, 2019).

Table 7.1 Percentage of Indiana and U.S. Population (18 Years and Older) Reporting a History of Depression (Behavioral Risk Factor Surveillance System, 2018)

		Indiana (95% CI)
Gender	Male	14.0% (12.4 -15.6)
	Female	25.2% (23.5-27.0)
Race/Ethnicity	White	20.0% (18.7-21.3)
	Black	18.6% (14.5-22.6)
	American Indian or Alaskan Native	40.5% (22.9-58.1)
	Multiracial	41.6% (30.7-52.5)
	Hispanic	16.7% (11.1-22.4)
Age Group	18-24	24.5% (19.6-29.4)
	25-34	21.1% (17.6-24.7)
	35-44	19.0% (15.8-22.1)
	45-54	21.8% (19.2-24.5)
	55-64	21.1% (18.8-23.4)
	65+	13.5% (12.0-14.9)
Total		**19.7 (18.5-21.0)**

Source: CDC, 2019a

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, 1991-2017).

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, 1991-2017

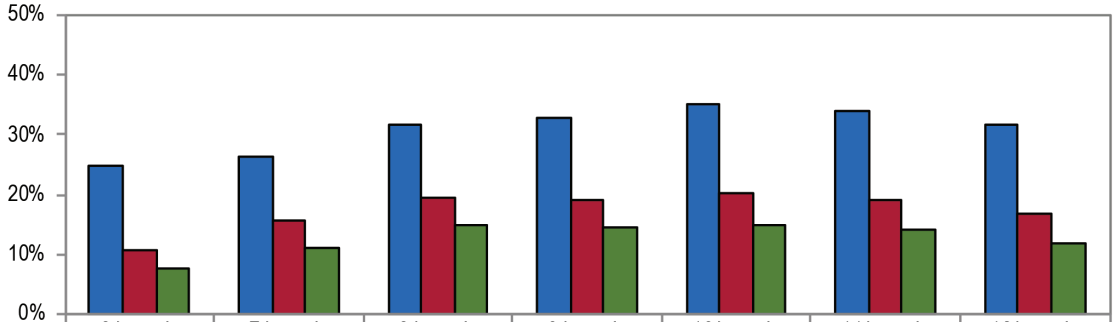
Physically and verbally threatening behaviors, most often in the form of bullying, have been linked to a number of mental health problems in youth, primarily depression and anxiety (CDC, 2018a). The YRBSS collects information on some of these indicators. According to 2015 findings:

- 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, 1991-2017).

Indiana Youth Survey

Results from the 2018 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., 2018).

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, 2018)



	6th grade	7th grade	8th grade	9th grade	10th grade	11th grade	12th grade
Felt sad or hopeless	24.8%	26.2%	31.5%	32.9%	35.1%	33.8%	31.6%
Considered suicide	10.8%	15.6%	19.5%	19.1%	20.2%	19.1%	16.9%
Made suicide plan	7.6%	11.1%	14.7%	14.3%	14.9%	14.2%	11.7%

Source: Gassman et al., 2018

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 2018 NSDUH, 22.5% (95% CI: 20.4-24.7) of adult Hoosiers experienced a mental illness in the past year (Figure 7.1); this was higher than the national rate of 19.0% (95% CI: 18.6-19.4).Within the past year, 17.0% (95% CI: 15.1-19.0) of adult Hoosiers received mental health services, similar to the national rate of 14.9% (95% CI: 14.6-15.3) (SAMHSA, 2020).

Uniform Reporting System

In 2018, a total of 137,388 clients were served by the Indiana Division of Mental Health and Addiction (DMHA)—the state's mental health authority. Of those, nearly all (136,722) were treated in community settings rather than state hospitals (1,102). The client population was predominately non-Hispanic (91.4%), white (77.7%), and slightly more than half were female (52.6%) (SAMHSA/CMHS, 2019).

Clients included children who met the federal definition for severe emotional disturbance (SED) and adults who met the federal definition for serious mental illness (SMI). Over one-fourth (26.0%) of adults served by DMHA received services for co-occurring mental illness and substance use disorders, as did 2.0% of the children (SAMHSA/CMHS, 2019). For more detailed client information, see Table 7.3.

Table 7.3 Demographic Characteristics of Adults with SMI and Children with SED Served by the Indiana Division of Mental Health and Addiction, FY 2018

Gender	Male	47.4%
	Female	52.6%
Race	White	77.7%
	Black	14.7%
	Other/Unknown	7.6%
Ethnicity	Hispanic	7.0%
Age Group	Children 0-17	40.5%
	Adults 18+	59.5%
Medicaid Status	Medicaid only	64.7%
	Both Medicaid and other funds	11.6%
	Non-Medicaid	23.7%
Total		**137,388**

Source: SAMHSA/CMHS, 2019

SUICIDE

Suicide is a public health issue that is often associated with mental illness and substance use (CDC, 2019b; 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 2018 NSDUH findings, 5.2% of Indiana adults (95% CI: 4.3–6.3) reported having serious thoughts of suicide in the past year; an estimate similar to the U.S. rate of 4.3% (95% CI: 4.2–4.5). This was particularly prevalent among young adults ages 18 to 25 (IN: 12.4%, 95% CI: 10.3–14.9; U.S.: 10.7%, 95% CI: 10.3–11.2) (SAMHSA, 2020).

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, 1991-2017).

Suicide Mortality

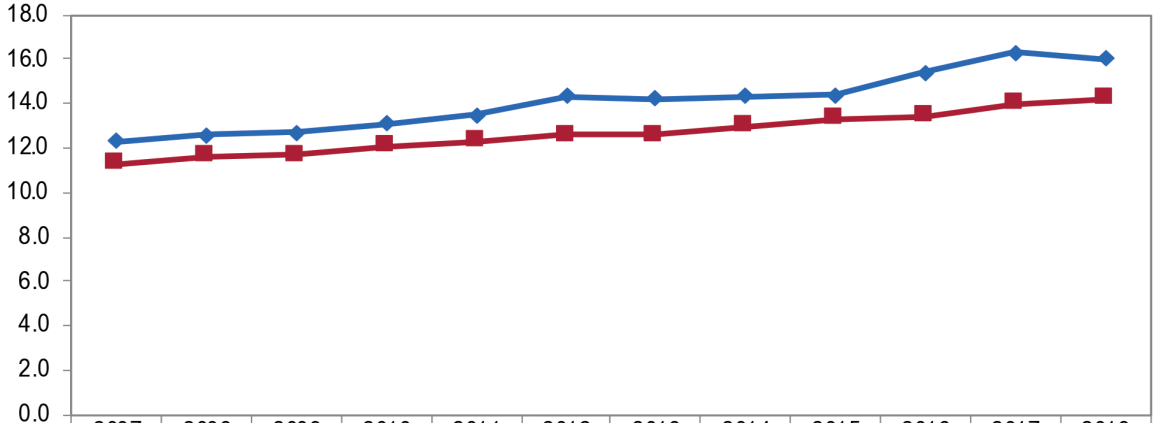
Suicide deaths both nationally and in Indiana have increased significantly since 1999 (IN: 10.4; U.S.: 10.5, per 100,000 population). According to 2018 estimates, Indiana's age-adjusted suicide mortality rate of 16.0 per 100,000 population (95% CI: 15.0–16.9) was significantly higher than the U.S. rate of 14.2 (95% CI: 14.1–14.4). 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, 1999-2018).

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, 1991-2017

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



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Indiana	12.3	12.6	12.7	13.1	13.5	14.3	14.2	14.3	14.4	15.4	16.3	16.0
U.S.	11.3	11.6	11.7	12.1	12.3	12.6	12.6	13.0	13.3	13.4	14.0	14.2

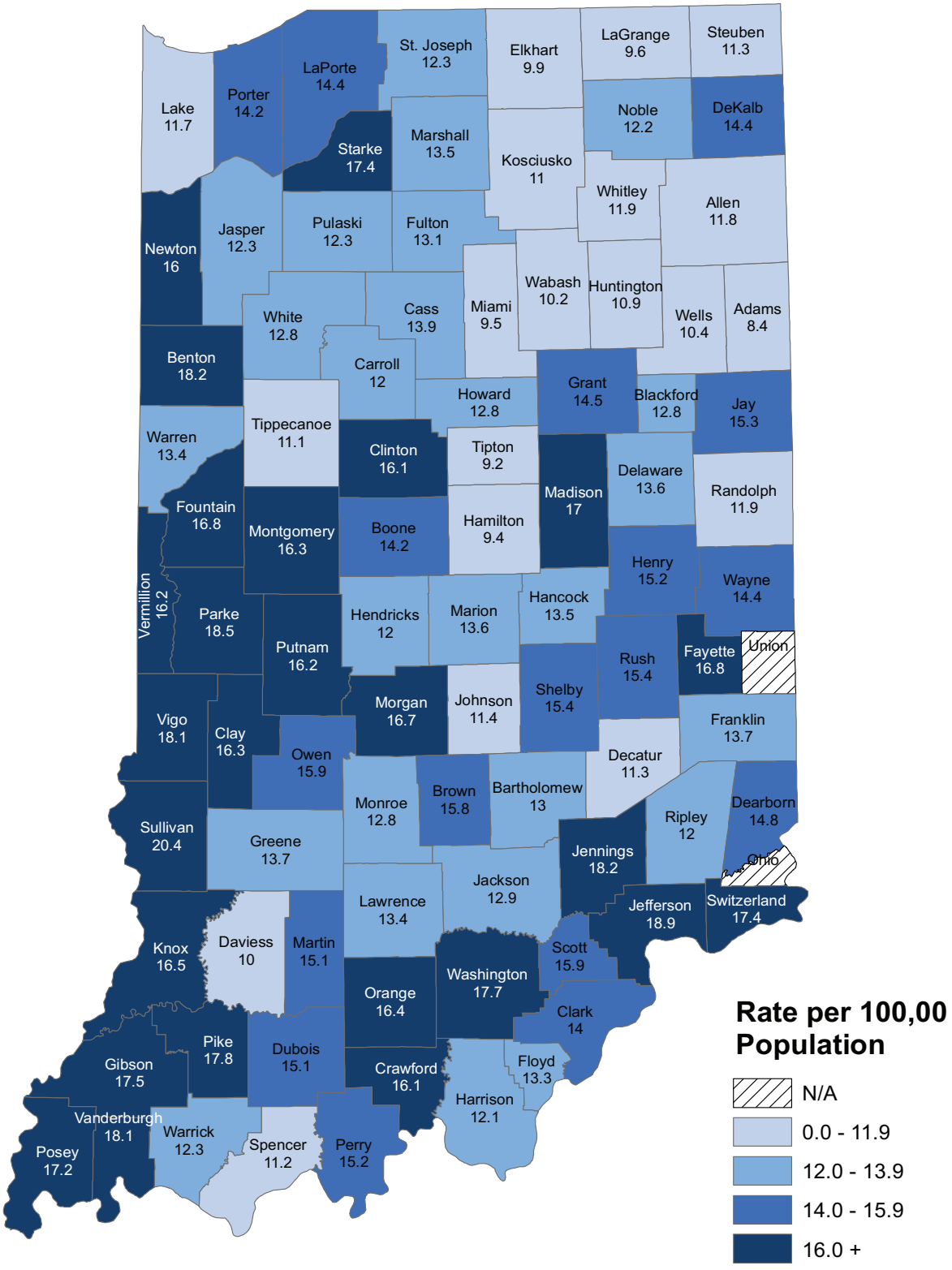
Source: CDC, 1999-2018

Table 7.5 Age-Adjusted Suicide Mortality Rate per 100,000 Population in Indiana and the United States (CDC WONDER, combined data from 1999-2018)

		Indiana (95% CI)	U.S. (95% CI)
Gender	Male	24.9 (23.1 - 26.6)	22.8 (22.5 - 23.0)
	Female	7.4 (6.5 - 8.3)	6.2 (6.0 - 6.3)
Race	White	17.1 (16.0 - 18.2)	16.1 (15.9 - 16.2)
	Black	8.5 (6.5 - 11.0)	7.0 (6.7 - 7.2)
	Asian or Pacific Islander	N/A	6.9 (6.6 - 7.3)
	American Indian or Alaska Native	N/A	13.7 (12.6 - 14.8)
Ethnicity	Hispanic	6.8 (4.5 - 9.9)	7.4 (7.2 - 7.7)
	Not Hispanic	16.6 (15.6 - 17.6)	15.6 (15.4 - 15.7)
Total		**16.0 (15.0 - 16.9)**	**12.0 (12.0 - 12.0)**

Source: CDC, 1999-2018

Map 7.1 Age-Adjusted Annual Suicide Mortality Rates per 100,000 Population in Indiana, by County (CDC Wonder, pooled data from 1999–2018)



Source: CDC, 1999-2018

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, 2020).

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, 2020).

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, 2020).

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, 1991-2017).
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., 2018).

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, 2016)

County	Number of Poor Mental Health Days	% of Adults reporting Frequent Mental Distress
Adams	4.1	12.8%
Allen	3.8	11.7%
Bartholomew	3.9	11.4%
Benton	4.1	12.4%
Blackford	4.2	12.5%
Boone	3.6	10.7%
Brown	4.0	12.0%
Carroll	3.8	11.7%
Cass	4.2	12.5%
Clark	3.9	11.6%
Clay	4.2	12.7%
Clinton	4.1	12.3%
Crawford	4.3	13.4%
Daviess	4.1	12.5%
Dearborn	3.8	11.3%
Decatur	4.0	11.7%
DeKalb	4.0	11.9%
Delaware	4.5	13.7%
Dubois	3.7	11.1%
Elkhart	4.0	12.3%
Fayette	4.5	13.5%
Floyd	4.0	11.6%
Fountain	4.2	12.3%
Franklin	4.1	12.3%
Fulton	4.0	12.3%
Gibson	3.9	11.6%
Grant	4.4	13.4%
Greene	4.2	12.6%
Hamilton	3.0	9.5%
Hancock	3.6	10.8%
Harrison	4.1	11.9%
Hendricks	3.4	10.3%
Henry	4.0	12.3%
Howard	4.1	12.5%
Huntington	4.1	12.3%
Jackson	4.2	12.5%
Jasper	3.9	11.5%
Jay	4.3	12.9%
Jefferson	4.0	12.6%
Jennings	4.1	12.3%
Johnson	3.7	11.1%
Knox	4.0	12.3%
Kosciusko	3.8	11.4%
LaGrange	4.1	12.4%
Lake	3.9	12.2%
LaPorte	4.1	12.3%
Lawrence	4.0	12.3%

County	Number of Poor Mental Health Days	% of Adults reporting Frequent Mental Distress
Madison	4.8	13.7%
Marion	4.1	12.8%
Marshall	4.2	12.3%
Martin	4.1	12.2%
Miami	4.2	12.7%
Monroe	4.4	13.2%
Montgomery	3.9	12.0%
Morgan	4.1	11.9%
Newton	4.1	12.4%
Noble	4.0	11.9%
Ohio	3.7	10.8%
Orange	4.2	13.0%
Owen	4.0	12.3%
Parke	4.2	13.1%
Perry	4.2	12.6%
Pike	3.9	11.7%
Porter	3.9	11.3%
Posey	3.9	11.3%
Pulaski	4.1	12.3%
Putnam	3.9	11.5%
Randolph	4.4	13.3%
Ripley	4.0	11.7%
Rush	4.2	12.8%
St. Joseph	4.2	12.6%
Scott	4.5	12.9%
Shelby	4.1	12.3%
Spencer	3.8	11.3%
Starke	4.2	12.9%
Steuben	3.8	11.6%
Sullivan	4.2	12.8%
Switzerland	4.4	13.8%
Tippecanoe	4.1	12.6%
Tipton	3.9	11.5%
Union	4.0	12.1%
Vanderburgh	4.5	13.2%
Vermillion	4.0	11.8%
Vigo	4.6	13.6%
Wabash	4.1	12.2%
Warren	3.8	11.1%
Warrick	4.0	11.4%
Washington	4.2	12.6%
Wayne	4.4	13.5%
Wells	4.0	11.7%
White	3.8	11.4%
Whitley	3.8	11.3%

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, 2019

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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.

[1]Throughout 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 2006–2010.

Strengths/Weaknesses: ARDI may underestimate the actual number of alcohol-related deaths and years of potential life lost.

Automated Reporting Information Exchange System (ARIES)

The Indiana State Police's ARIES is a central repository for all vehicle collisions reported in the state of Indiana, with and without alcohol involvement. Information on fatal accidents contained in the system is submitted to the national Fatality Analysis Reporting System.

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

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

Geographic Level: State and county levels.

Availability: Upon request from the ISP.

Trend: Annual; most recent data from 2018.

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 2018.

Strengths/Weaknesses: CDC consistently works to test and improve BRFSS methodology in an effort to make findings result in more valid and reliable data for public health surveillance. Due to substantial changes in methodology starting with the 2011 survey, comparison of current estimates with estimates from previous years would not be appropriate.

Hospital Discharge Data

The Indiana State Department of Health (ISDH) collects information on inpatients discharged from hospitals in Indiana. The data are publicly available in aggregate format and include information on hospitals, principal diagnoses and procedures, length of stay, total charges, etc.

Description: Hospital discharge data are publicly available in aggregate format. Dataset can be queried by primary diagnosis (ICD-10-CM codes), e.g., for alcohol- and drug-induced diseases.

Sponsoring Organization/Source: ISDH.

Geographic Level: Indiana.

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

Trend: Annual; most recent data from 2018.

Strengths/Weaknesses: The data are in aggregate format; comparisons by demographic variables such as age, gender, and race/ethnicity are not possible. Comparisons to years prior to 2016 are not possible due to the ICD-9-CM to ICD-10-CM switch that occurred on October 1, 2015.

Indiana Adult Tobacco Survey (IATS)

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

Description: This survey measures tobacco use among Indiana adults, and includes items on tobacco use, cessation, secondhand smoke, and awareness.

Sponsoring Organization/Source: ISDH/TPCC.

Geographic Level: Indiana.

Availability: Datasets can be requested from ISDH/TPCC; reports are available at http://www.in.gov/isdh/tpc/2343.htm.

Trend: 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 2019.
Strengths/Weaknesses: The data include all meth incidents, including labs, "dumpsites," or "chemical and glassware" seizures.

Indiana Mortality Data and National Vital Statistics System (NVSS)

NVSS is a CDC-maintained data system that provides information on mortality rates by cause of death as coded in the World Health Organization's International Classification of Diseases, 10th Edition (ICD-10). Health departments in the 50 states, the District of Columbia, and U.S. territories provide CDC with data on deaths throughout the country. Using the query system on CDC's website (CDC WONDER), researchers can compute mortality rates for deaths due to diseases and events associated with alcohol, tobacco, and other drug use (e.g., cirrhosis, lung cancer, heart disease, suicide, homicide, etc.) at the national, state, and county level. The system also allows for comparisons across gender, age, and racial groups. Indiana mortality data can also be requested directly from the Indiana State Department of Health (ISDH).
Description: NVSS contains mortality data from all U.S. states; the online database can be queried on number of deaths and death rates from alcohol- and drug-related causes. Indiana data can also be requested directly from ISDH.
Sponsoring Organization/Source: CDC's National Center for Health Statistics; ISDH.
Geographic Level: National, state, and county levels.
Availability: National mortality data can be accessed by underlying cause of death (ICD-10 codes) from CDC at https://wonder.cdc.gov/ucd-icd10.html; state data are available on request from ISDH.
Trend: Annual; most recent data from 2018.
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 ISDH at https://gis.in.gov/apps/isdh/meta/stats_layers.htm.
Trend: Quarterly; most recent 2019, Quarter 2.
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.

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 2018.

Strengths/Weaknesses: School-specific survey results are valuable to participating schools and provide statewide prevalence estimates. Due to changes made to the survey, data cannot be compared to findings from previous years (prior to 2015).

Indiana Youth Tobacco Survey (IYTS)

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

Description: IYTS is Indiana's adapted version of CDC's NYTS. The surveys collect data from students in grades 6 through 12 on all types of tobacco use, exposure to secondhand smoke, and access to tobacco.

Sponsoring Organization/Source: CDC; ISDH/TPCC.

Geographic Level: Indiana.

Availability: Data are available on request from TPCC, and annual reports can be accessed at http://www.in.gov/isdh/tpc/2343.htm. National data are available at http://www.cdc.gov/tobacco/data_statistics/surveys/NYTS/.

Trend: Biannual; most recent data from 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 2018.

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://wwwdasis.samhsa.gov/dasis2/teds.htm; county-level data available from FSSA upon request.

Trend: Annual; most recent data from 2017 (from SAMHSA) and 2019 (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 biannual national survey monitors health risks and behaviors among youth in grades 9 through 12.

Sponsoring Organization/Source: CDC.

Geographic Level: National and state level.

Availability: National and state-level data are downloadable from selected published tables on the CDC website at http://nccd.cdc.gov/YouthOnline/App/Default.aspx.

Trend: Biennial; most recent data from 2017.
Strengths/Weaknesses: Availability of state-level results is dependent upon sufficient participation; Indiana's response rates in 2013 and 2017 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	IPRC	2019	https://iprc.iu.edu/epidemiological-data/	Indiana	Statewide alcohol outlet density
Alcohol-Related Disease Impact (ARDI) Database	CDC	Based on averages 2006-2010	http://nccd.cdc.gov/DPH_ARDI/default/default.aspx	U.S. and states	General population
Automated Reporting Information Exchange System (ARIES)	ISP	Annual Most recent 2018	On request from ISP	Indiana and counties	Vehicle collisions in general population
Behavioral Risk Factor Surveillance System (BRFSS)	CDC	Annual Most recent 2018	http://www.cdc.gov/brfss/brfssprevalence/index.html	U.S. and states	Adults 18 and older
Hospital Discharge Database	ISDH	Annual Most recent 2018	http://www.in.gov/isdh/20624.htm	Indiana and counties	General population
Indiana Adult Tobacco Survey (IATS)	ISDH/TPCC	Biennial Most recent 2019	On request from ISDH	Indiana	Adults
Indiana College Substance Use Survey	ICAN/IPRC	Annual Most recent 2019	http://www.drugs.indiana.edu/indiana-college-survey/substance-use-survey	Indiana	College students
Indiana Clandestine Meth Lab Seizures	ISP	Annual Most recent 2019	On request from ISP	Indiana and counties	General population
Indiana Youth Survey	IPRC	Biennial Most recent 2018	http://inys.indiana.edu/survey-results	Indiana and regions	6th – 12th grade students in Indiana
Indiana Youth Tobacco Survey (IYTS)	ISDH/TPCC	Biennial Most recent 2018	On request from ISDH	Indiana	6th – 12th grade students in Indiana
Monitoring the Future (MTF) Survey	NIDA	Annual Most recent 2019	http://www.monitoringthefuture.org/data/data.html	U.S.	8th, 10th, and 12th grade students

Continued on Next Page

APPENDIX I (continued)

Data Set	Source	Years	How to Access	Coverage	Target
Mortality data	CDC	Annual Most recent 2018	https://wonder.cdc.gov/	U.S., states, and counties	General population
National Survey on Drug Use and Health (NSDUH)	SAMHSA	Annual Most recent 2018	http://www.samhsa.gov/data/population-data-nsduh	U.S., states, and some sub-state estimates	Population 12 years and older
Population Estimates	U.S. Census Bureau	Annual	http://www.census.gov/	U.S., states, and counties	General population
Treatment Episode Data Set (TEDS)	SAMHSA	Annual Most recent 2017	http://wwwdasis.samhsa.gov/dasis2/teds.htm	U.S. and states; for county-level data contact Indiana DMHA	Substance abuse treatment population eligible for public services (200% FPL)
	DMHA	Annual Most recent 2019			
Uniform Reporting System (URS) – Mental Health National Outcomes Measures	SAMHSA	Annual Most recent 2018	https://wwwdasis.samhsa.gov/dasis2/urs.htm https://www.samhsa.gov/data/report/2017-uniform-reporting-system urs-table-indiana	U.S. and states	Treatment population eligible for public services (200% FPL)
Youth Risk Behavior Surveillance System (YRBSS)	CDC	Biennial Most recent 2017 (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; ICAN = Indiana Collegiate Action Network; IPRC = Indiana Prevention Resource Center; ISDH = Indiana State Department of Health; ISP = Indiana State Police; NACJD = National Archive of Criminal Justice Data; NIDA = National Institute on Drug Abuse; SAMHSA = Substance Abuse and Mental Health Services Administration; TPCC = Tobacco Prevention & Cessation Commission.

APPENDIX II: SUBSTANCE USE INDICATORS AT-A-GLANCE

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

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APPENDIX II (continued)

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

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APPENDIX II (continued)

SUBSTANCE	USE OR CONSEQUENCE	TARGET POPULATION	DATASET
Prescription Drugs	Past-year misuse of pain relievers	General population ages 12+	NSDUH
	Past-month use of prescription drugs Mean age of first use	Grades 6-12	INYS
	Past-year dispensation of opioids	General population	INSPECT
	Use reported at treatment admission Primary use (dependence) reported at treatment admission	Treatment population at or below 200% FPL, in state-sponsored programs	TEDS
	Poisoning/overdose deaths	General population	ISDH, 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; ISDH = Indiana State 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 2019 state fiscal year Treatment Episode Data Set (TEDS), which we received from the Indiana Family and Social Services Administration (FSSA, 2020).

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 63% of Hoosiers who received substance use treatment in the 2019 fiscal year reported misusing two or more drugs. Polysubstance users primarily fell into one of 13 drug clusters (see Table III.1). The most commonly used combination of drugs included alcohol and marijuana. Marijuana combined with methamphetamine was the second most frequent grouping. Overall, marijuana was the drug most commonly combined with another substance and showed up in 8 out of the 13 drug clusters; opioids were represented in 6 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 11 of the 13 drug clusters; however, females were more strongly represented in the group of individuals who used (1) an opioid and methamphetamine and (2) made up just over half of persons who used a combination of an opioid and a sedative.

Whites composed the majority of polysubstance users in all of the 13 drug use groupings. Blacks were more strongly represented among individuals who reported using alcohol, cocaine, and marijuana, making up over 40% of persons in this category. Hispanics made up less than 10% of polysubstance users across all drug combination categories.

At least half of polysubstance users in 10 of the 13 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 marijuana and sedatives. Polysubstance users were somewhat older if they used a combination of alcohol, cocaine, and marijuana (see Table III.2).

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Table III.1 Drug Combinations Used by Indiana Polysubstance Users (Treatment Episode Data Set, SFY 2019)

Drug Combinations	Number of Admissions	% of Admissions
Alcohol & Marijuana	2,160	17.9%
Marijuana & Methamphetamine	1,426	11.8%
Opioids & Methamphetamine	1,403	11.6%
Marijuana, Opioids, & Methamphetamine	1,021	8.4%
Alcohol & Methamphetamine	904	7.5%
Alcohol & Opioids	854	7.1%
Marijuana & Opioids	774	6.4%
Alcohol, Cocaine, & Marijuana	761	6.3%
Alcohol, Marijuana, & Methamphetamine	701	5.8%
Cocaine & Opioids	674	5.6%
Opioids & Tranquilizers	644	5.3%
Cocaine & Marijuana	539	4.5%
Marijuana & Tranquilizers	231	1.9%

Source: FSSA, 2020

Table III.2 Demographic Characteristics of Individuals within Polysubstance Groups (Treatment Episode Data Set, 2019)

		Alcohol & Marijuana		Marijuana & Meth		Opioids & Meth		Marijuana, Opioids, & Meth		Alcohol & Meth	
		N	%	N	%	N	%	N	%	N	%
Gender											
	Male	1,536	71.1%	751	52.7%	649	46.3%	527	51.6%	508	56.2%
	Female	624	28.9%	675	47.3%	754	53.7%	494	48.4%	396	43.8%
Race											
	White	1,530	70.8%	1,340	94.0%	1,321	94.2%	952	93.2%	825	91.3%
	Black	466	21.6%	26	1.8%	12	0.9%	19	1.9%	28	3.1%
	Other	164	7.5%	60	4.2%	70	5.0%	50	4.9%	51	5.6%
Ethnicity											
	Hispanic	149	6.9%	30	2.1%	31	2.2%	27	2.6%	28	3.1%
	Non-Hispanic	1,989	92.1%	1,380	96.8%	1,348	96.1%	973	95.3%	856	94.7%
	Unknown	22	1.0%	16	1.1%	24	1.0%	21	2.1%	20	2.2%
Age											
	Under 18	102	4.7%	18	1.3%	1	0.1%	6	0.6%	3	0.3%
	18-24	496	23.0%	247	17.3%	147	10.5%	146	14.3%	56	6.2%
	25-34	719	33.3%	602	42.2%	743	53.0%	561	54.9%	376	41.6%
	35-44	438	20.3%	376	26.4%	408	29.1%	254	24.9%	296	32.7%
	45-54	266	12.3%	150	10.5%	82	5.8%	44	4.3%	132	14.6%
	55 and Over	139	6.4%	33	2.3%	22	1.6%	10	1.0%	41	4.5%

		Alcohol & Opioids		Marijuana & Opioids		Alcohol, Cocaine, & Marijuana		Alcohol, Marijuana, & Meth	
		N	%	N	%	N	%	N	%
Gender									
	Male	543	63.6%	475	61.4%	493	64.8%	454	64.8%
	Female	311	36.4%	299	38.6%	268	35.2%	247	35.2%
Race									
	White	555	82.3%	652	84.2%	364	47.8%	639	91.2%
	Black	68	10.1%	53	6.8%	326	42.8%	27	3.9%
	Other	51	7.6%	69	8.9%	71	9.3%	35	5.0%
Ethnicity									
	Hispanic	32	3.7%	38	4.9%	59	7.8%	17	2.4%
	Non-Hispanic	798	93.4%	725	93.7%	684	89.9%	678	96.7%
	Unknown	19	2.8%	11	1.4%	18	2.4%	6	0.9%
Age									
	Under 18	5	0.6%	3	0.4%	2	0.3%	7	1.0%
	18-24	95	11.1%	100	12.9%	56	7.4%	96	13.7%
	25-34	341	39.9%	398	51.4%	161	21.2%	258	36.8%
	35-44	227	26.6%	202	26.1%	167	21.9%	216	30.8%
	45-54	104	12.2%	51	6.6%	231	30.4%	95	13.6%
	55 and Over	82	9.6%	20	2.6%	144	18.9%	29	4.1%

		Cocaine & Opioids		Opioids & Tranquilizers		Cocaine & Marijuana		Marijuana & Tranquilizers	
		N	%	N	%	N	%	N	%
Gender									
	Male	339	50.3%	304	47.2%	310	57.5%	173	59.3%
	Female	335	49.7%	340	52.8%	229	42.5%	94	40.7%
Race									
	White	1,340	94.0%	587	91.1%	350	64.9%	177	76.6%
	Black	26	1.8%	25	3.9%	149	27.6%	25	10.8%
	Other	60	4.2%	32	5.0%	40	7.4%	29	12.6%
Ethnicity									
	Hispanic	32	4.7%	23	3.6%	32	5.9%	15	6.5%
	Non-Hispanic	623	92.4%	612	95.0%	497	92.2%	213	92.2%
	Unknown	19	2.8%	9	1.4%	10	1.9%	3	1.3%
Age									
	Under 18	1	0.1%	2	0.3%	2	0.4%	17	7.4%
	18-24	44	6.5%	93	14.4%	93	17.3%	89	38.5%
	25-34	272	40.4%	308	47.8%	218	40.4%	71	30.7%
	35-44	210	31.2%	167	25.9%	121	22.4%	41	17.7%
	45-54	106	15.7%	47	7.3%	73	13.5%	10	4.3%
	55 and Over	41	6.1%	27	4.2%	32	5.9%	3	1.3%

Source: FSSA, 2020

REFERENCES, Appendices

Indiana Family and Social Services Administration. (2020). *Treatment Episode Data System (TEDS), SFY 2019.* 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 2019

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.

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

INDIANA FAMILY & SOCIAL SERVICES ADMINISTRATION
FSSA

TOBACCO HEROIN METHAMPHETAMINE ALCOHOL

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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