

MARIJUANA
COCAINE
PRESCRIPTION DRUGS

**THE CONSUMPTION AND CONSEQUENCES
OF ALCOHOL, TOBACCO, AND DRUGS IN INDIANA:
A STATE EPIDEMIOLOGICAL PROFILE
2011**

INDIANA STATE EPIDEMIOLOGY AND OUTCOMES WORKGROUP



INDIANA UNIVERSITY

CENTER FOR HEALTH POLICY

Department of Public Health

TOBACCO
HEROIN
METHAMPHETAMINE
ALCOHOL

THE CONSUMPTION AND CONSEQUENCES OF ALCOHOL, TOBACCO, AND DRUGS IN INDIANA: A STATE EPIDEMIOLOGICAL PROFILE 2011

Developed by the Indiana State Epidemiology and
Outcomes Workgroup, 2011

Our Vision

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

Our Mission

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

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

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The mission of the Center for Health Policy is to collaborate with state and local government and public and private healthcare organizations in policy and program development, program evaluation, and applied research on critical health policy-related issues. Faculty and staff aspire to serve as a bridge between academic health researchers and government, healthcare organizations, and community leaders. The Center for Health Policy has established working partnerships through a variety of projects with government and foundation support.

TABLE OF CONTENTS

Introduction.....	1
1. Data Highlights.....	3
2. Methods.....	17
3. Alcohol Use in Indiana: Consumption Patterns and Consequences.....	27
4. Tobacco Use in Indiana: Consumption Patterns and Consequences.....	59
5. Marijuana Use in Indiana: Consumption Patterns and Consequences.....	77
6. Cocaine Use in Indiana: Consumption Patterns and Consequences.....	101
7. Heroin Use in Indiana: Consumption Patterns and Consequences.....	121
8. Methamphetamine Use in Indiana: Consumption Patterns and Consequences.....	137
9. Prescription Drug Abuse in Indiana: Consumption Patterns and Consequences.....	161
10. Polysubstance Abuse and Co-occurring Disorder in Indiana.....	195
11. Indicators of Substance Abuse.....	225
APPENDIX I. Data Sources Recommended by the State Epidemiology and Outcomes Workgroup (SEOW).....	253
APPENDIX II. Substance Use Indicators At-A-Glance.....	256

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 represents a continuation of ongoing CSAP initiatives to encourage states to engage in data-based decision-making in the area of substance abuse prevention planning and grant making.

This grant was made on the heels of an earlier CSAP State Incentive Grant (SIG) which helped to lay 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.

For the first SIG, CSAP required that the Governor form a state advisory council to oversee all activities related to the grant. A new federal requirement of the SPF SIG initiative, however, stipulated that the state establish a State Epidemiology and Outcomes Workgroup (SEOW). This workgroup was to collate and analyze available epidemiological data and report findings to the Governor's Advisory Council (GAC) to facilitate data-based decision-making regarding substance abuse prevention programming across the state. While the Indiana SPF SIG officially came to an end in 2010, the State of Indiana decided to continue to support the SEOW as part of its long-term efforts to improve substance abuse prevention policy.

This report represents the sixth official *State Epidemiological Profile* completed by the SEOW. As we have in past years, we 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.

Last November, the State of Indiana received a federal grant from the Substance Abuse and Mental Health Services Administration (SAMHSA) to support the integration of substance abuse and mental health prevention efforts and expand the focus of the SEOW's work. As a requirement of the grant, the State was asked to identify new high-risk populations, specifically those believed to be at high risk but about which not much is known. These discussions resulted in the identification of four new high-risk populations: Veterans returning from the wars in Afghanistan and Iraq; offenders (those in the prison system and/or reentering society); lesbian, gay, transgender, and bisexual (LGBTB) individuals; and individuals with dual diagnosis (co-occurring substance abuse and mental disorders). A supplement to the 2011 *State Epidemiological Report*, profiling these four populations, will be published in August 2012. The supplement will provide an overview of what is known about these specific groups in terms of their mental health and substance use patterns and offer suggestions for expanding efforts to monitor change in and improve prevention services for these populations.

As with all of our prior reports, the primary aim in preparing this annual document is to provide a useful reference tool for policymakers, communities, and professionals involved in substance abuse prevention and mental health promotion. We realize that not everyone has the time or energy to review the contents

in detail. For this reason, we once again are making available a chart pack of the graphs and figures and a series of fact sheets on each of the major substances. This report, as well as earlier versions and these supplemental resources, are available on the Center for Health Policy website (www.healthpolicy.iupui.edu/SPFSIG/epi).

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

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1. DATA HIGHLIGHTS

ALCOHOL

Alcohol is the most frequently used drug in both Indiana and the United States. About half of the population 12 years and older reported current (past month) use (IN: 48.0%; U.S.: 51.8%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

It is estimated that 70.3% of Indiana college students currently drink alcohol (Indiana Collegiate Action Network, 2011).¹ Potentially dangerous uses of alcohol include binge, heavy, and underage drinking, and combining alcohol with driving.

Binge Drinking

Binge drinking is defined as five or more drinks on the same occasion at least once in the past month. The 30-day prevalence for binge drinking in the population 12 years and older was similar between Indiana (23.0%) and the United States (23.5%). The highest rate was found among 18- to 25-year-olds (IN: 40.8%; U.S.: 41.4%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Among Indiana college students, the past-month binge drinking prevalence was an estimated 50.3% (Indiana Collegiate Action Network, 2011),

Heavy Drinking

Heavy drinking is defined differently for men and women by the Centers for Disease Control and Prevention. For adult men, it is defined as having more than two drinks per day, and for adult women, having more than one drink per day. Overall rates for heavy use were significantly lower in Indiana (3.9%) than the United States (5.0%). No significant differences by gender, race, or age group were found among Hoosiers (Centers for Disease Control and Prevention, 2010a).

Youth Consumption—Underage Drinking

The rates for underage drinking in Indiana and the nation were statistically similar. In Indiana, 14.5% of 12- to 17-year-old youths reported that they had consumed alcohol in the past 30 days (U.S.: 14.7%).

In the age category of 12- to 20-year-olds, the numbers were even higher: 23.6% of young Hoosiers reported current use of alcohol (U.S.: 26.8%), and 17.0% stated that they engaged in binge drinking (U.S.: 17.7%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

An estimated 4 in 10 high school students (grades 9 through 12) reported current alcohol use (IN: 38.5%; U.S.: 41.8%), and one in four admitted to binge drinking in the past month (IN: 24.9%; U.S.: 24.2%). Indiana and the nation were similar on both measures (Centers for Disease Control and Prevention, 2011b.).

Alcohol Abuse and Dependence

The population-based rates for alcohol abuse and/or dependence were similar in Indiana (7.0%) and the nation (7.4%). The most affected age group encompassed 18- to 25-year-olds (IN: 16.9%; U.S.: 16.6%). The percentages of individuals needing but not receiving treatment for alcohol use in the past year were also comparable (IN: 6.5%; U.S.: 7.0%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

According to treatment data, alcohol was responsible for the largest percentage of admissions to substance abuse treatment facilities in 2009. Indiana's percentage (44.2%) was significantly higher than the nation's (41.7%). White individuals and older adults reported the highest rates (Substance Abuse and Mental Health Data Archive, 2009).

¹ Based on CDC's trend analysis report for 2009 Youth Risk Behavior Survey (report received February 1, 2012, from the Indiana State Department of Health).

Morbidity and Mortality

An estimated 8.0% of the deaths in Indiana and the nation are attributable to alcohol (Centers for Disease Control and Prevention, 2008). Between 2000 and 2008, a total of 3,270 Hoosiers died from alcohol-related disease causes. In 2008, Indiana's age-adjusted mortality rate for alcohol-attributable deaths was 5.4 per 100,000 population (U.S.: 7.3 per 100,000 population) (Centers for Disease Control and Prevention, 2011a). Tables 1.1 and 1.2 list conditions that can be attributed to alcohol use.

Motor Vehicle Crashes

Among Indiana high school students, 9.7% admitted to drinking and driving in the past month (U.S.: 9.7%), and 23.4% rode with a driver who had been drinking (U.S.: 28.3%) (Centers for Disease Control and Prevention, 2011b).

Table 1.1 Conditions that are Completely Attributable to Alcohol Use in Indiana (Alcohol-Related Disease Impact Database, Based on Averages from 2001–2005)

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%

Source: Centers for Disease Control and Prevention, 2008

In Indiana, the number of alcohol-related collisions decreased from 13,911 in 2003 to 8,339 in 2010. Also, the number of fatalities in crashes attributable to alcohol declined from 242 to 173 during those same years. The 2010 overall annual rate for alcohol-related collisions in Indiana was 1.3 per 1,000 population (Indiana State Police, 2011a).

Legal Consequences

Indiana's 2009 arrest rates per 1,000 population for alcohol-related infractions were significantly higher than the nation's. This trend included arrests for driving under the influence (IN: 4.8; U.S.: 4.1), public intoxication (IN: 3.2; U.S.: 1.6), and liquor law violations (IN: 2.5; U.S.: 1.6) (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009).

Table 1.2 Conditions that Are Partially Attributable to Alcohol Use in Indiana (Alcohol-Related Disease Impact Database, Based on Averages from 2001–2005)

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, 2008

TOBACCO

Cigarette smoking remains the leading cause of preventable death in the United States, accounting for approximately one of every five deaths (Centers for Disease Control and Prevention, 2010c). In Indiana, one-third of the population ages 12 years and older (31.9%) said they used a tobacco product in the past month (current use), a rate significantly higher than the U.S. rate of 28.0%. The age group with the highest rate was 18- to 25-year-olds (IN: 46.5%; U.S.: 41.5%), and here too, Indiana's rate exceeded the nation's significantly. Most tobacco consumers smoked cigarettes, and Indiana's current cigarette smoking prevalence among individuals ages 12 years and older was significantly higher than the nation's (IN: 26.8%; U.S.: 23.6%). Again, the highest rate was found among 18- to 25-year-olds (IN: 41.0%; U.S.: 35.8%); the difference between Indiana and the nation was significant (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Adult (18 years and older) smoking prevalence in Indiana (21.2%) was the tenth highest in the nation and significantly greater than the U.S. rate (17.3%) in 2010. Smoking prevalence was inversely associated with education and income level: Very high rates of use were found among individuals with less than a high school education (IN: 35.1%; U.S.: 32.4%) and people whose household income was below \$15,000 (IN: 39.4%; U.S.: 32.9%) (see Table 1.3) (Centers for Disease Control and Prevention, 2010a).

In regard to smoking, 28.1% of Indiana college students reported past-year cigarette use and 20.4% reported current use (Indiana Collegiate Action Network, 2011).

Youth Consumption

The percentages of young people (12 to 17 years) currently using a tobacco product (IN: 13.9%; U.S.: 11.5%) and currently smoking cigarettes (IN: 10.8%; U.S.: 9.0%) were greater in Indiana than the nation (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Of all Indiana high school students surveyed, 29.3% reported past-month use of a tobacco product; 52.2% had tried smoking a cigarette during their lifetime; and 23.5% currently smoke cigarettes. National rates were statistically similar. Black high school students

in Indiana have a significantly lower 30-day smoking prevalence than white students (black: 11.3%; white: 25.3%) (Centers for Disease Control and Prevention, 2011b).

Past-month cigarette use decreased significantly from 2000 through 2010 among Indiana students: from 9.8% to 4.4% for middle school students, and from 31.6% to 17.5% for high school students (Indiana State Department of Health, Tobacco Prevention and Cessation Commission, 2011).

Morbidity and Mortality

Tobacco causes serious health consequences, including lung cancer, respiratory illness, and heart disease. Over 9,700 Hoosiers are estimated to die annually from smoking-attributable causes. The age-adjusted annual tobacco-attributable mortality rate (per 100,000 population) was higher among Hoosiers (308.9) than the rest of the nation (263.3) (Centers for Disease Control and Prevention, 2004).

Table 1.3 Adult Smoking Prevalence in Indiana, by Education and Income Levels (Behavioral Risk Factor Surveillance System, 2010)

Education	Smoking Prevalence (95% CI)
Less than high school	35.1% (30.1–40.1)
High school or GED	25.3% (22.9–27.7)
Some post-high school	24.8% (22.1–27.4)
College graduate	8.9% (7.2–10.5)
Income	
Less than \$15,000	39.4% (33.9–44.9)
\$15,000–\$24,999	30.9% (27.2–34.7)
\$25,000–\$34,999	26.6% (22.4–30.9)
\$35,000–\$49,999	22.6% (19.0–26.1)
\$50,000 and above	13.2% (11.5–15.0)

Source: Centers for Disease Control and Prevention, 2010a

MARIJUANA

Marijuana is the most commonly used illicit substance. One-tenth of Indiana residents ages 12 and older (10.3%) reported past-year use (U.S.: 10.8%), and 6.1% reported past-month use (U.S.: 6.4%). Highest rates of use were found among 18- to 25-year-old Hoosiers (past-year use: 27.2%; past-month use: 16.5%); national rates were similar (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Marijuana use is also prevalent among Indiana college students, as 19.3% of college students reported current marijuana use and 28.4% reported past-year use (Indiana Collegiate Action Network, 2011).

Youth Consumption

Among Indiana youth ages 12 to 17, an estimated 5.8% had used marijuana for the first time during the past year (U.S.: 5.7%). Patterns of current use among young people in Indiana and the nation were similar (IN: 7.2%; U.S.: 7.0%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

About one in five high school students used marijuana in the past month (IN: 20.9%; U.S.: 20.8%). Marijuana use was significantly lower in 9th graders than in 11th and 12th grade students, but no statistical differences were observed by gender or race/ethnicity (Centers for Disease Control and Prevention, 2011b).

Current marijuana use among Indiana and U.S. 8th, 10th, and 12th grade students is depicted in Table

1.4 (Gassman, Jun, Samuel, Agle, Lee, Morrison, Agle, et al., 2011; Inter-university Consortium for Political and Social Research, University of Michigan, 2011)

Marijuana Abuse and Dependence

In 2009, more than half (51.0%) of Indiana residents in substance abuse treatment reported marijuana use at admission; the percentage was significantly higher in Indiana than the rest of the nation (38.0%). In Indiana's treatment population, the highest percentages of marijuana use were found among males (53.5%), blacks (58.8%), and individuals under the age of 18 (82.0%). About one-fourth of Hoosiers in treatment (23.0%) reported marijuana dependence,² a percentage significantly higher than the nation's (18.0%). Again, males (24.2%), blacks (33.7%), and individuals under the age of 18 (70.3%) had statistically higher percentages (Substance Abuse and Mental Health Data Archive, 2009).

Legal Consequences

In 2009, the arrest rate per 1,000 population for marijuana possession was the same in Indiana and the nation (IN: 2.2; U.S.: 2.2). Indiana and U.S. arrest rates per 1,000 population for marijuana sale/manufacture were comparable (IN: 0.4; U.S.: 0.3) (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009).

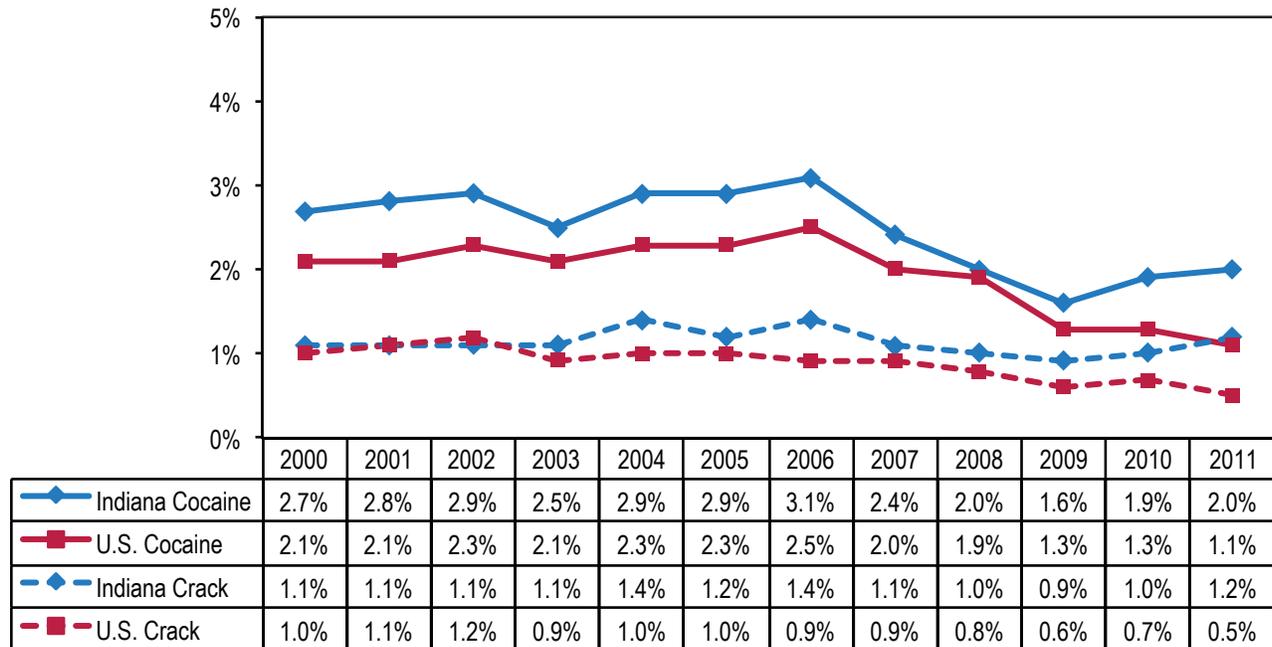
Table 1.4 Percentage of Indiana and U.S. 8th, 10th, and 12th Grade Students Reporting Current Marijuana Use, by Grade (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey and Monitoring the Future Survey, 2002–2011)

Grade	Geography	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
8 th	Indiana	11.1%	10.6%	9.8%	9.3%	8.2%	8.3%	7.1%	7.8%	8.9%	8.3%
	U.S.	8.3%	7.5%	6.4%	6.6%	6.5%	5.7%	5.8%	6.5%	8.0%	7.2%
10 th	Indiana	19.2%	18.2%	17.2%	16.0%	14.6%	14.4%	13.5%	14.6%	16.8%	16.4%
	U.S.	17.8%	17.0%	15.9%	15.2%	14.2%	14.2%	13.8%	15.9%	16.7%	17.6%
12 th	Indiana	20.5%	19.8%	18.3%	17.8%	17.2%	15.8%	16.2%	16.7%	19.2%	19.8%
	U.S.	21.5%	21.2%	19.9%	19.8%	18.3%	18.8%	19.4%	20.6%	21.4%	22.6%

Source: Gassman, et al., 2011; Inter-university Consortium for Political and Social Research, University of Michigan, 2011

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

Figure 1.1 Percentage of Indiana and U.S. High School Seniors (Grade 12) Reporting Current Cocaine and Crack Use (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey and Monitoring the Future Survey, 2000–2011)



Source: Gassman, et al., 2011; Inter-university Consortium for Political and Social Research, University of Michigan, 2011

COCAINE

Population-based estimates on past-year cocaine use were lower in Indiana than in the nation (IN: 1.7%; U.S.: 2.0%). Young adults ages 18 to 25 displayed the highest rates (IN: 5.0%; U.S.: 5.4%). Additional data based on annual averages from 2002–2004 show that 562,000 Indiana residents (11.1%) had used cocaine at least once in their life, and 33,000 Hoosiers (0.7%) were current users (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Additionally, 3.6% of Indiana college students used cocaine in the past year and 0.9% currently use it (Indiana Collegiate Action Network, 2011).

Youth Consumption

Past-year cocaine use prevalence among 12- to 17-year-olds was the same in Indiana and the United States (1.1%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

High school students' rates for lifetime use (IN: 6.6%; U.S.: 6.4%) and current use (IN: 2.7%; U.S.: 2.8%) in Indiana and the nation were statistically the same; no differences by gender, race, or grade were detected in Indiana (Centers for Disease Control and Prevention, 2011b).

From 2000 through 2011, rates for current cocaine and crack use among high school seniors seemed similar between Indiana and the nation; rates remained stable or even declined over the years (see Figure 1.1). However, due to lack of detail in the publicly available data sets, statistical significance of the results could not be determined (Gassman, et al., 2011; Inter-university Consortium for Political and Social Research, University of Michigan, 2011)

Cocaine Abuse and Dependence

In 2009, almost one-fifth of Indiana’s treatment episodes involved cocaine use (18.3%); this figure was significantly lower than the U.S. percentage (24.3%). The percentages of treatment episodes with cocaine use were highest among females, blacks, and 35- to 44-year-olds.

In nearly one-tenth (8.0%) of treatment episodes in Indiana, cocaine was listed as the primary drug; the U.S. percentage (9.4%) was significantly higher. The percentage of treatment episodes with cocaine dependence³ has been significantly lower in Indiana than the nation for at least the past nine years (2001

Table 1.5 Percentage of Treatment Episodes with Cocaine Dependence Reported at Treatment Admission in Indiana (Treatment Episode Data Set, 2009)

		Cocaine Dependence
Gender	Male	6.6%
	Female	10.9%
Race	White	5.2%
	Black	21.6%
	Other	8.8%
Age Group	Under 18	0.3%
	18-24	2.4%
	25-34	7.1%
	35-44	14.0%
	45-54	13.5%
	55 and over	9.3%
Total		8.0%

Source: Substance Abuse and Mental Health Data Archive, 2009

through 2009). Significant differences within Indiana’s treatment population were seen by gender, race, and age group (see Table 1.5) (Substance Abuse and Mental Health Data Archive, 2009).

Legal Consequences

Indiana law enforcement made over 2,600 arrests for possession and over 2,400 arrests for sale/manufacture of opiates and cocaine in 2009, representing arrest rates of 0.4 and 0.4 per 1,000 population, respectively. Indiana’s arrest rates were lower for cocaine/opiate possession but comparable to the nation’s for sale/manufacture (0.8 and 0.3 per 1,000 population, respectively) (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009).⁴

HEROIN

Population data based on 2002–2004 annual averages reveal that among Indiana residents, 54,000 tried heroin at least once (1.1%), 9,000 used it in the past year (0.2%), and 1,000 were current users (less than 0.1%) of the substance. U.S. data were comparable. (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Among Indiana college students, 1.6% reported past-year heroin use and less than 0.1% reported use in the past month (Indiana Collegiate Action Network, 2011).

Youth Consumption

Lifetime heroin use among high school students has been similar in Indiana and the nation (IN: 2.6%; U.S.: 2.5%). No significant differences were detected by gender, race, or grade level in Indiana (Centers for Disease Control and Prevention, 2011b).

In 2011, reported heroin use among Indiana 12th grade students was as follows: 2.4% for lifetime use (U.S.: 1.4%) and 1.2% for monthly use (U.S.: 0.4%) (Gassman, et al., 2011; Inter-university Consortium for Political and Social Research, University of Michigan, 2011)

³ We defined cocaine dependence as “individuals in substance abuse treatment listing cocaine as their primary substance at admission.”

⁴ The Uniform Crime Reporting Program data set combines arrests for cocaine and opiates; arrest information is not available for cocaine or opiates alone.

Heroin Abuse and Dependence

In 2009, heroin use was reported in 5.5% of Indiana treatment episodes; this figure was significantly lower than the U.S. percentage (17.3%). In only 4.5% of treatment episodes in Indiana, heroin dependence⁵ was indicated. Again, the U.S. percentage was significantly higher (14.5%). Significant differences in heroin dependence were seen by gender (more women reported use), race (higher rates for those classified as “other” race), and age group (adults ages 18 to 34, and those 55 years and older) (Substance Abuse and Mental Health Data Archive, 2009).

Morbidity and Mortality

A potential consequence of injected heroin use is contraction of HIV and/or hepatitis (B or C) from contaminated needles. In 2010, 386 new HIV infections and 128 new AIDS cases were reported in Indiana. A total of 9,216 individuals were living in Indiana with HIV disease,⁶ and 397 (or 4.3%) of these cases were attributable to injection drug use (IDU) (Indiana State Department of Health, 2010).

The calculated annual AIDS rate (per 100,000 population) in Indiana was 6.3 (U.S.: 11.2) (Centers for Disease Control and Prevention, 2010b).

The hepatitis B virus (HBV) and hepatitis C virus (HCV) are usually transmitted via unprotected sex and among injection drug users. The incidence rates per 100,000 population for acute hepatitis in Indiana were 1.2 for HBV (U.S.: 1.1) and less than 0.1 for HCV (U.S.: < 0.1) in 2009. Both HBV and HCV incidence rates have dropped in the past decades (Centers for Disease Control and Prevention, 2009). The age-adjusted mortality rate (per 100,000 population) attributable to hepatitis B and hepatitis C (acute and chronic) was 1.6 in Indiana, which was significantly lower than the national rate (U.S.: 2.2) (Centers for Disease Control and Prevention, 2009).

Legal Consequences

In 2009, law enforcement made over 2,600 arrests for possession and more than 2,400 arrests for sale/manufacture of opiates and cocaine in Indiana, representing arrest rates of 0.4 and 0.4 per 1,000 population, respectively. Compared to the nation, Indiana’s arrest rates were lower for cocaine/opiate possession but similar for sale/manufacture (0.8 and 0.3 per 1,000 population, respectively) (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, 2009).⁷

METHAMPHETAMINE

In Indiana, 4.5% of the population (225,000 residents) have used meth at least once in their life (U.S.: 5.0%), 0.8% (40,000 residents) used it in the past year (U.S.: 0.3%), and 0.2% (10,000 residents) used it in the past month (U.S.: 0.1%). The rate for past-year use was greatest among 18- to 25-year-old Hoosiers (1.9%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

In 2011, an estimated 1.7% of Indiana college students had used meth in the past year and 0.1% had used it in the past month (Indiana Collegiate Action Network, 2011).

Youth Consumption Patterns

Lifetime prevalence of methamphetamine use among high school students was similar in Indiana and the nation (IN: 4.1%; U.S.: 4.1%). Rate differences by gender, race, or grade level were not significant in Indiana (Centers for Disease Control and Prevention, 2011b).

Lifetime and monthly meth use prevalence among 12th grade students in Indiana is depicted in Figure 1.2 (Gassman, et al., 2011).

⁵ We defined heroin dependence as “individuals in substance abuse treatment listing heroin as their primary substance at admission.”

⁶ HIV disease includes both HIV infections and AIDS cases.

⁷ The Uniform Crime Reporting Program data set combines arrests for cocaine and opiates; this information is not available for cocaine or opiates alone.

Methamphetamine Abuse and Dependence

Between 2000 and 2009, the percentage of treatment admissions in Indiana reporting meth dependence⁸ increased significantly from 1.5% to 5.0%, peaking at 5.9% in 2005. Indiana's percentage was statistically significantly lower compared to the nation's (see Figure 1.3). Significant differences were observed by gender (more women reported using meth), race (whites had the highest rate of use), and age group (primarily 25- to 34-year-olds were affected) (Substance Abuse and Mental Health Data Archive, 2009).

Legal Consequences

The Indiana State Police seized 1,346 clandestine methamphetamine labs in 2010; this represents the highest number of lab seizures thus far (Indiana State Police, 2011b).

In Indiana, over 1,800 arrests were made for possession and 777 for the sale/manufacture of synthetic drugs⁹ in 2009; this represents annual arrest rates (per 1,000 population) of 0.3 (U.S.: 0.2) and 0.1

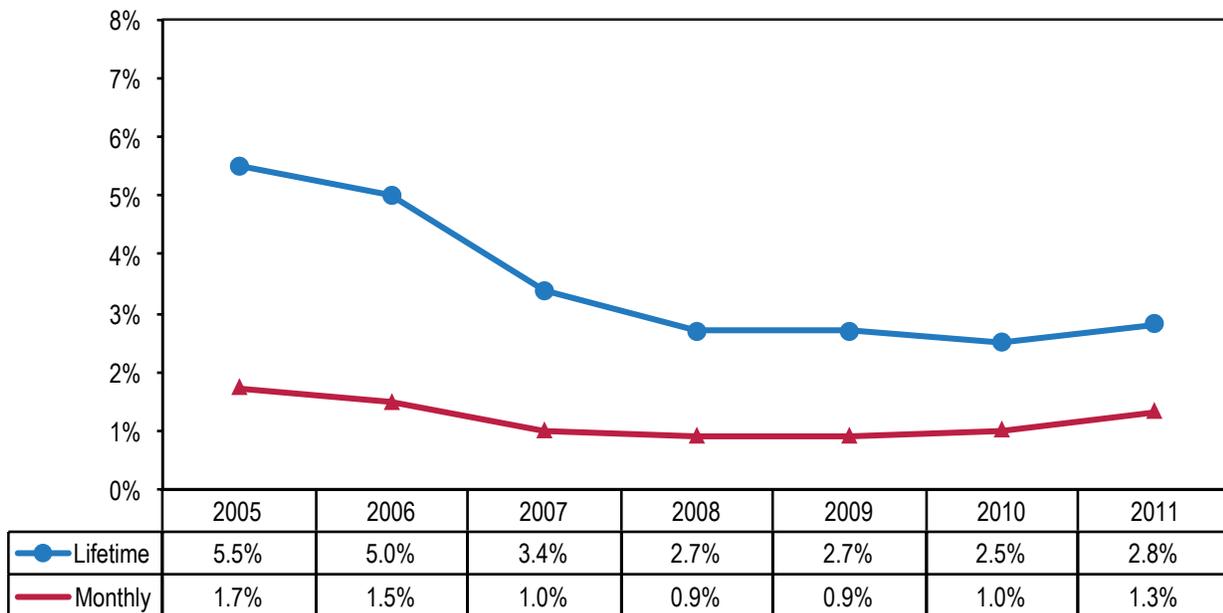
(U.S.: 0.1), respectively. Indiana's arrest rate for possession was statistically higher than the nation's (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009).

PRESCRIPTION DRUG ABUSE

In 2010, more than 11.3 million prescription drugs were dispensed in Indiana; most of these pharmaceuticals (11.0 million) were purchased by Indiana residents, while the rest was distributed to out-of-state consumers. The most widely dispensed prescription drugs were opioids¹⁰ (49.3%), followed by depressants of the central nervous system¹¹ (31.0%) and stimulants¹² (11.6%) (Indiana Board of Pharmacy, 2011).

In Indiana, over a million residents (20.7%) have misused psychotherapeutics at least once in their life (U.S.: 20.4%). Additionally, an estimated 383,000 Hoosiers (7.6%) abused prescription drugs in the past year (U.S.: 6.3%), and 138,000 residents (2.7%) did so

Figure 1.2 Percentage of Indiana 12th Grade Students Reporting Lifetime and Monthly Methamphetamine Use (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2005–2011)



Source: Gassman, et al., 2011

⁸ We defined methamphetamine dependence as “individuals in substance abuse treatment listing methamphetamine as their primary substance at admission.”

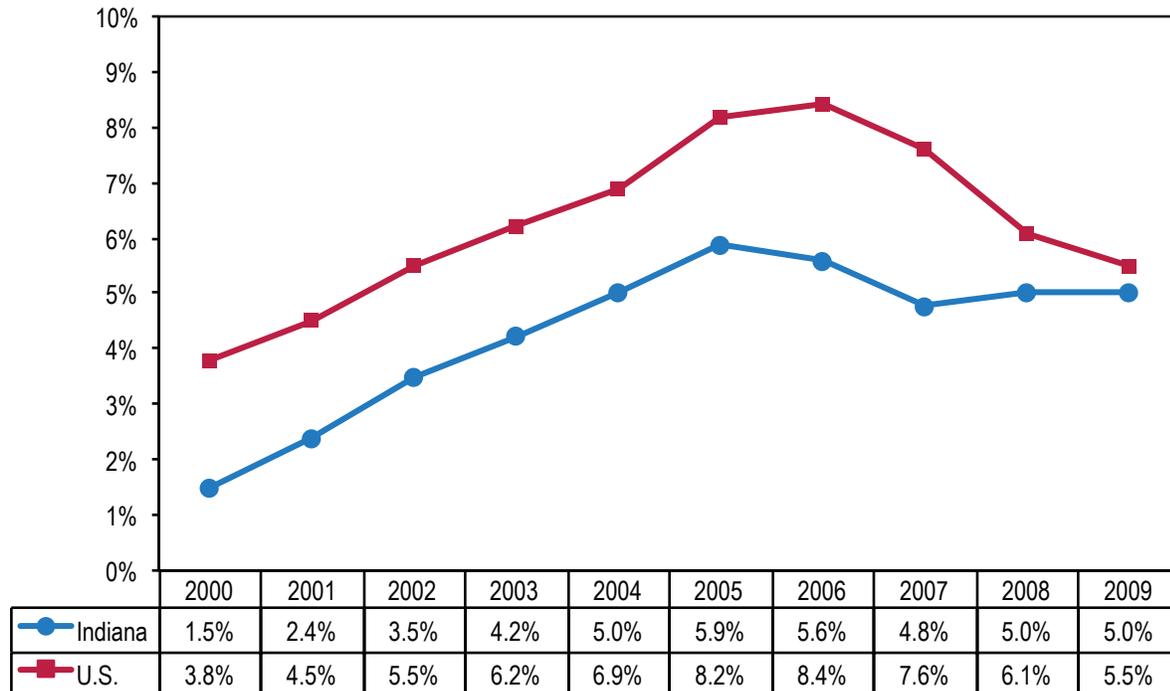
⁹ The Uniform Crime Reporting Program collects arrest information on synthetic drugs. The category includes methamphetamine, methadone, and Demerol.

¹⁰ Opioids include pain relievers, such as oxycodone and hydrocodone.

¹¹ CNS depressants include sedatives, tranquilizers, and hypnotics.

¹² Stimulants include Ritalin®, Adderall®, and dextroamphetamine.

Figure 1.3 Percentage of Treatment Episodes with Methamphetamine Dependence Reported at Treatment Admission in Indiana and U.S. (Treatment Episode Data Set, 2000–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

in the past month (U.S.: 2.7%).¹³ The psychotherapeutics that were primarily abused included pain relievers, tranquilizers, sedatives, and stimulants (see Table 1.6) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Young people between the ages of 18 and 25 had the highest rate of past-year pain medication abuse in 2009 (IN: 13.9%; U.S.: 11.9%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Table 1.6 Lifetime, Past-Year, and Past-Month Nonmedical Use of Psychotherapeutics, Indiana and United States (National Survey on Drug Use and Health)

	Lifetime Use		Past-Year Use		Past-Month Use	
	Indiana	U.S.	Indiana	U.S.	Indiana	U.S.
All Psychotherapeutics	20.7%	20.4%	7.6%	6.3%	2.7%	2.7%
Pain Relievers	15.0%	13.7%	6.1%	4.8%	2.0%	2.0%
OxyContin	2.5%	2.4%	0.8%	0.7%	0.3%	0.2%
Tranquilizers	9.1%	8.7%	2.8%	2.2%	0.8%	0.9%
Sedatives	3.9%	3.0%	0.4%	0.4%	0.1%	0.1%
Stimulants	8.3%	8.5%	1.7%	1.1%	0.8%	0.4%

Note: Indiana rates are based on 2002–2004 averages; U.S. rates are based on the 2010 findings.

Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012

¹³ The terms “prescription drug misuse,” “prescription drug abuse,” and “nonmedical use of prescription drugs” are used interchangeably.

The Indiana College Substance Use Survey includes questions on (a) use of prescription medications not prescribed to the student and (b) use of prescription medication prescribed to student but misused. According to findings from the 2011 survey: (a) 11.3% of Indiana college students used prescription medications not prescribed to them in the past year, with 6.2% currently using; and (b) 3.8% of Indiana college students misused their prescription medication in the past year, with 1.4% of students reporting current misuse (Indiana Collegiate Action Network, 2011).

Youth Consumption

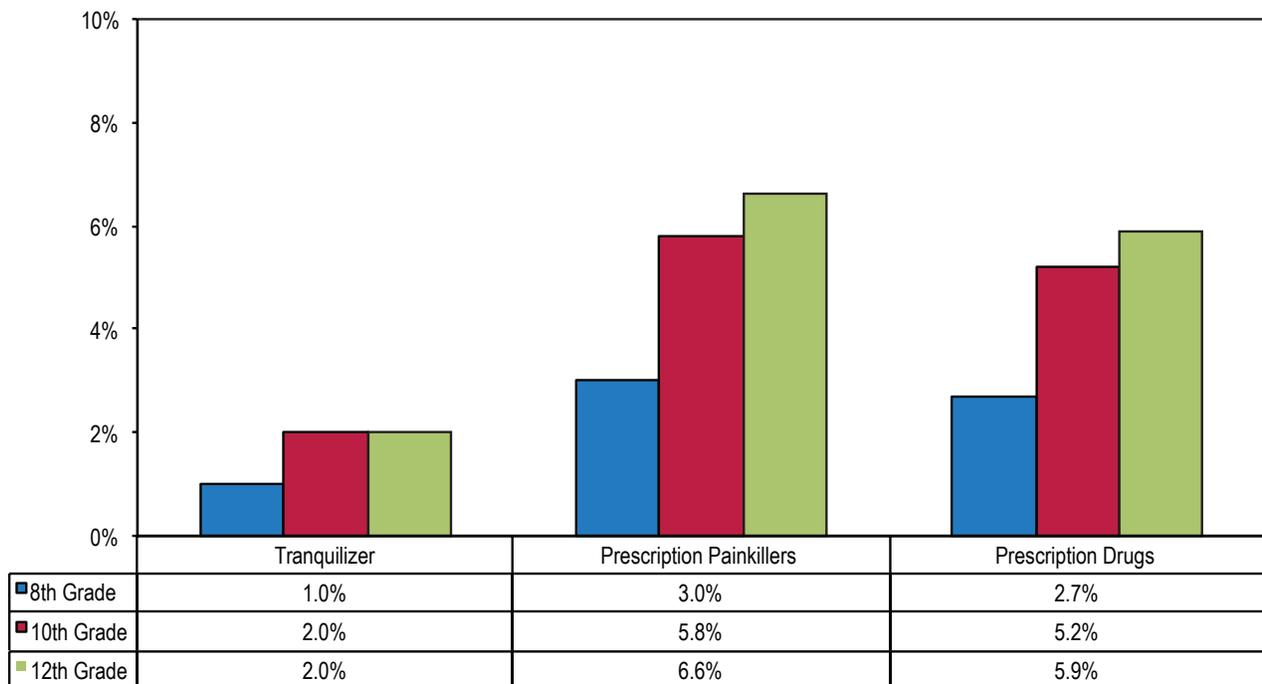
Among Hoosiers ages 12 to 17, 8.2% used prescription pain medications for nonmedical purposes in the past year; Indiana's percentage was statistically similar to the nation's, 6.5% (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

For Indiana prevalence rates of current nonmedical use of tranquilizers, prescription painkillers,¹⁴ and overall prescription drugs¹⁵ among 8th, 10th, and 12th grade students, see Figure 1.4.

Prescription Drug Abuse and Dependence

In 9.8% of Indiana treatment episodes in 2009, prescription drug dependence¹⁶ was indicated (U.S.: 8.4%). Most of these were due to pain relievers (IN: 7.9%; U.S.: 7.1%), followed by sedatives and tranquilizers (IN: 1.7%; U.S.: 1.0%) and stimulants (IN: 0.3%; U.S.: 0.4%). Compared to the nation, Indiana's rates were significantly higher for overall prescription drug, pain reliever, and sedative/tranquilizer dependence, but stimulant dependence rates were higher for the nation. In Indiana, significant differences were seen by gender, race, and age group (see Table 1.7). Rates for prescription drug dependence have increased significantly in Indiana from 2000 through 2009, only remaining stable for stimulants (Substance Abuse and Mental Health Data Archive, 2009).

Figure 1.4 Percentage of Indiana 8th, 10th, and 12th Grade Students Reporting Current Nonmedical Use of Tranquilizers, Prescription Painkillers, and Overall Prescription Drugs (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2011)



Source: Gassman, et al., 2011

¹⁴ Prescription painkillers include Vicodin®, Oxycontin®, and Percocet®.

¹⁵ Overall prescription drugs include Ritalin®, Adderall®, and Xanax®, but excludes painkillers.

¹⁶ We defined prescription drug dependence as “individuals in substance abuse treatment listing prescription drugs as their primary substance at admission.”

Table 1.7 Percentage of Treatment Episodes with Prescription Drug Dependence Reported at Treatment Admission in Indiana, by Drug Category, Gender, Race, and Age Group (Treatment Episode Data Set, 2009)

		All Prescription Drugs	Pain Relievers	Sedatives/ Tranquilizers	Stimulants
Gender	Male	7.5%	6.1%	1.2%	0.2%
	Female	14.5%	11.6%	2.6%	0.3%
Race	White	11.6%	9.4%	2.0%	0.3%
	Black	0.9%	0.7%	0.2%	0.0%
	Other	9.0%	6.6%	2.5%	0.0%
Age Group	Under 18	3.7%	1.5%	1.8%	0.3%
	18 to 24	10.4%	8.1%	2.2%	0.2%
	25 to 34	14.0%	11.8%	1.9%	0.2%
	35 to 44	7.9%	6.3%	1.2%	0.4%
	45 to 54	4.9%	3.6%	0.9%	0.3%
	55 and over	4.7%	3.3%	1.1%	0.3%
Total		9.8%	7.9%	1.7%	0.3%

Source: Substance Abuse and Mental Health Data Archive, 2009

Legal Consequences

In 2009, law enforcement made nearly 4,000 arrests for possession and over 900 arrests for sale/manufacture of “other drugs” in Indiana. This represents arrest rates of 0.6 and 0.1 per 1,000 population, respectively. U.S. rates were significantly higher for possession (0.7) but similar for sale/manufacture (0.2) (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009).

POLYSUBSTANCE ABUSE

Polysubstance abuse is a particularly serious pattern of drug use that involves consumption of two or more substances. A review of data from 2000 through 2009 revealed that over half of the individuals seeking substance abuse treatment reported using at least two drugs at the time of admission, and Indiana’s rates were significantly higher than the nation’s. The percentage of treatment episodes involving two or more substances increased significantly in Indiana, from

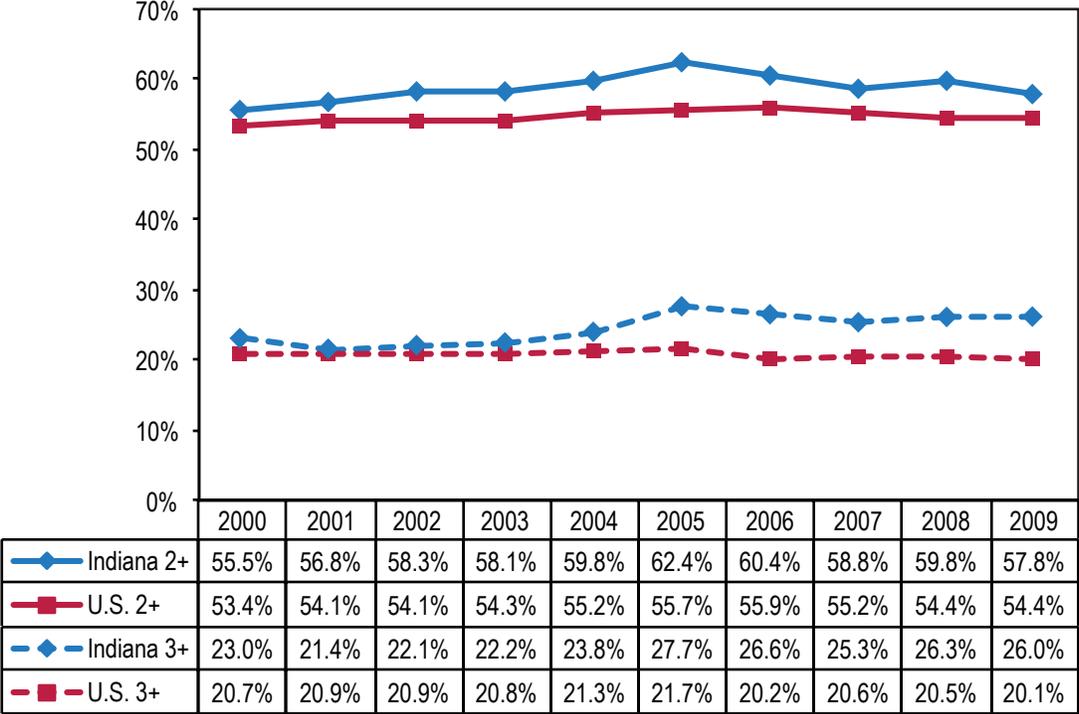
55.5% in 2000 to 57.8% in 2009 (see Figure 1.5).

Furthermore, in roughly one-fourth of Indiana treatment episodes, use of three or more substances was reported; again, Indiana’s rate increased significantly from 23.0% in 2000 to 26.0% in 2009 (see Figure 1.5). The percentages of polysubstance abuse were slightly higher for females, blacks, and adults under 35 (Substance Abuse and Mental Health Data Archive, 2009).

Cluster Analysis

We conducted a cluster analysis of 2009 Indiana TEDS data to determine the combinations of drugs currently used by polysubstance abusers within the state. Alcohol, marijuana, and cocaine were most widely indicated in polysubstance abuse. The drug clusters most frequently reported at substance abuse treatment admission in Indiana were (a) alcohol and marijuana, (b) alcohol, marijuana, and methamphetamine, and (c) alcohol, marijuana, and opiates/synthetic drugs (Substance Abuse and Mental Health Data Archive, 2009).

Figure 1.5 Percentage of Indiana and U.S. Treatment Episodes with Polysubstance Abuse (Using at Least Two Substances; Using at Least Three Substances) Reported at Treatment Admission (Treatment Episode Data Set, 2000–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

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2. METHODS

This report describes the consumption and consequences of alcohol, tobacco, and other drugs in Indiana residents. We analyzed patterns among Indiana's overall, adult, and youth population, and compared them to patterns found among the U.S. population. Based on discussions with the State Epidemiology and Outcomes Workgroup (SEOW), we have reviewed consumption and consequences data for the following drugs: alcohol, tobacco, marijuana, cocaine, heroin, methamphetamine, and prescription medications. Additionally, we examined the occurrence of polysubstance abuse (i.e., the use of two or more drugs) in Indiana.

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

Prevalence rates and other statistics may be presented somewhat differently across all chapters, depending on the data sources providing 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 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. We set priority indicators based on consumption behaviors or drug-use consequences trending toward increased frequency within a particular group of Hoosiers, for example, based on gender, race/ethnicity, or age.

DATA SOURCES

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

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

Alcohol-Related Disease Impact (ARDI) Database

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

Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents (ATOD) Survey

ATOD is an annual survey conducted by the Indiana Prevention Resource Center (IPRC) and funded through the Indiana Family and Social Services Administration/Division of Mental Health and Addiction. The survey is designed to monitor patterns of alcohol, tobacco, and other drug use; gambling behaviors; as well as risk and protective factors among Indiana middle and high school students, grades 6 through 12. Young people who complete the questionnaire are asked to report on their lifetime use (use of drug at least once in the respondent's life) and monthly use (use of drug at least once in the 30 days prior to the survey) of a wide range of substances.¹ However, results should be interpreted with caution as the survey uses a nonrandom convenience sample² of students and may not be representative of Indiana's entire student population. ATOD survey results can be compared to findings from the Monitoring the Future survey (see page 20) conducted by the National Institute on Drug Abuse.

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

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

Behavioral Risk Factor Surveillance System (BRFSS) Survey

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

Hospital Discharge Data

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

Indiana Adult Tobacco Survey (IN ATS)

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

Indiana College Substance Use Survey

The Indiana College Substance Use Survey was developed in 2009 by the Indiana Collegiate Action

¹ Until 2010, ATOD also collected information on annual use and, for some substances, on daily or special use.

² Respondents for a survey can be drawn from a random sample or convenience sample. In a random sample, each member of that population has an equal probability of being selected and results will be more likely to be representative of the underlying population. In convenience sampling, individuals who are easiest to reach are selected at the convenience of the researcher. It is not guaranteed that the sample is an accurate representation of the population under study.

Network (ICAN) and the Indiana Prevention Resource Center (IPRC), with input from Indiana institutions of higher education and the Indiana State Epidemiology and Outcomes Workgroup. The instrument was designed to assess prevalence of alcohol, tobacco, and other drug use; consequences of use; alcohol availability; and student perceptions of peer behaviors among Indiana college students. Information is available by gender, age category (under 21 vs. 21 or over), and type of institution (private vs. public). All two- and four-year colleges in Indiana are invited to participate in the survey. Results are based on nonrandom sampling and are not representative of all college students in Indiana.

Indiana Household Survey on Substance Abuse

The SEOW, in collaboration with the Survey Research Center (SRC) at Indiana University-Purdue University Indianapolis, designed a statewide survey to measure substance use in Indiana. The instrument incorporated National Outcomes Measures (NOMs) developed by the U.S. Department of Health and Human Services' Substance Abuse and Mental Health Services Administration (SAMHSA). These measures were designed to help communities funded through the Strategic Prevention Framework State Incentive Grant (SPF SIG), set performance targets and evaluate program outcomes.

SRC administered the survey by phone, using a landline random-digit-dial sample, supplemented by a cell phone sample. The survey oversampled all 20 SPF SIG-funded communities to provide accurate estimates in these counties. Initially, the instrument was intended to survey Indiana residents ages 12 and older. However, due to an insufficient response rate among youth ages 12 to 17, reliable estimates only exist for adults 18 and older. Data collection began in January 2008 and was completed in November 2008.

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

The Indiana State Police (ISP) Meth Suppression Section collects data on clandestine meth lab seizures in the state, including number of meth labs seized, number of arrests made during lab seizures, and

the number of children located at/rescued from meth labs. The information is then submitted to NCLSS, a database maintained by the U.S. Drug Enforcement Administration and the El Paso Intelligence Center. State and county-level information can be requested from the Indiana State Police.

Indiana Mortality Data and National Vital Statistics System (NVSS)

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

Indiana Scheduled Prescription Electronic Collection & Tracking (INSPECT)

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

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

The CDC developed NYTS 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. In order to compare Indiana with the rest of the nation, the Indiana Tobacco Prevention and Cessation Agency conducts the statewide survey that includes CDC core and recommended questions, as well as state-specific questions. IYTS is conducted every other year (even years) and findings allow comparisons between Indiana and the nation across gender, race/ethnicity, and grade levels.

Monitoring the Future (MTF) Survey

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

National Survey on Drug Use and Health (NSDUH)

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

Prevalence rates for alcohol, tobacco, and other drug use are provided for the nation and each state. State-level rates are based on statistical algorithms, not on data collected within specific states. 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 Office of Applied Studies 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.

Smoking-Attributable Mortality, Morbidity, and Economic Costs (SAMMEC)

The CDC's SAMMEC is an online application that allows the user to estimate the health impacts and health-related economic consequences of smoking for adults and infants. Users can compute outcomes such as smoking-attributable mortality, years of potential life lost (YPLL), productivity losses, and expenditures.

Treatment Episode Data Set (TEDS)

TEDS is a national database maintained by SAMHSA that records information about individuals entering treatment for substance abuse and/or dependence. State mental health departments submit data to TEDS on an annual basis. The information reported in TEDS includes age, race, ethnicity, gender, and other demographic characteristics, as well as information on the use of various substances. TEDS data become publicly available one to two years after the information is gathered. The format of the TEDS data allows for comparisons between Indiana and the United States by gender, race, and age groups.

County-level TEDS data for Indiana are available from the Indiana Family and Social Services Administration. While TEDS data can provide some information on drug use and abuse patterns both nationally and at the state level, the population on which the data are based may not be representative of all individuals in

drug and alcohol treatment. For Indiana, TEDS data are limited to information on individuals entering substance abuse treatment who are 200% below the poverty level and receive state-funded treatment.

Uniform Crime Reporting Program (UCR)

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

While UCR data include information about drug possession and drug manufacturing arrests, the involvement of drugs or alcohol in the commission of other crimes, such as rape, burglary, robbery, etc., is not recorded. Additionally, since states are not required to submit crime information to the FBI, the level of reporting varies considerably. Because of these variations, the FBI uses statistical algorithms to estimate arrests for counties in which reporting is less than 100 percent. In Indiana, typically 50% of counties, on average, submit information to the FBI. Because Indiana has a rather low reporting rate, UCR results should be interpreted with caution (see Appendix 11A, pages 230-232, for coverage indicator by county).

Youth Risk Behavior Surveillance System (YRBSS)

The YRBSS is a national survey of health-related behaviors among students in grades 9 through 12. The CDC conducts the survey biannually with the cooperation of state health departments throughout the nation. Student respondents are asked to describe

whether they have engaged in numerous behaviors that could pose a danger to their health, including the use of alcohol, tobacco, and other drugs. CDC's online database allows comparisons between Indiana and the United States on gender, race/ethnicity, and grade level. Data for the YRBSS are available every other year (odd years), with a one-year lag between the end of data collection and the publication of results. Though YRBSS data for some states are available from 1991, Indiana started participating in data collection in 2003.

CONSIDERATIONS

This report relies exclusively on the data sources just discussed. These are publicly available sources that our researchers could access and analyze for this year's state epidemiological report. Because of the nature of the available data, there are significant limitations to the interpretations presented:

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

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

SEOW DATA SOURCES LIST

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

Alcohol-Related Disease Impact (ARDI) Database

Description: ARDI provides state and national estimates on alcohol-related deaths and years of potential life lost (YPLL) based on alcohol-attributable fractions.

Sponsoring Organization/Source: Centers for Disease Control and Prevention (CDC)

Geographic Level: National and state

Availability: The database can be accessed at <http://apps.nccd.cdc.gov/ardi/HomePage.aspx>.

Trend: 2001–2005 (all estimates are based on data averages from 2001 through 2005)

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

Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents (ATOD) Survey

Description: The Indiana Prevention Resource Center (IPRC) manages the survey on alcohol, tobacco, and other drug use among children and adolescents (6th through 12th graders) annually in a number of schools throughout the state.

Sponsoring Organization/Source: Indiana Prevention Resource Center (IPRC); the Indiana Family and Social Services Administration (FSSA)/Indiana Division of Mental Health and Addiction (DMHA)

Geographic Level: State and regions

Availability: Reports with data tables are available at http://www.drugs.indiana.edu/data-survey_monograph.html.

Trend: 1993–2011

Strengths/Weaknesses: School-specific survey results are valuable to participating schools. Statewide findings provide prevalence estimates but may not be representative of all Hoosier students due to sampling method.

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

Description: ARIES contains data on vehicle crashes with and without alcohol involvement; data on fatal crashes are submitted to FARS.

Sponsoring Organization/Source: Indiana State Police (ISP); U.S. Department of Transportation/National Highway Traffic Safety Administration (NHTSA)

Geographic Level: National, state, and county levels

Availability: Data are available from the NHTSA at <http://www.fars.nhtsa.dot.gov/Main/index.aspx> and upon request from the Indiana State Police.

Trend: 1994–2010

Strengths/Weaknesses: The data are in aggregate format; comparisons by demographic variables such as age, gender, and race/ethnicity are not possible.

Behavioral Risk Factor Surveillance System (BRFSS) Survey

Description: BRFSS is an annual state health survey that monitors risk behaviors, including alcohol and tobacco consumption, related to chronic diseases, injuries, and death.

Sponsoring Organization/Source: Centers for Disease Control and Prevention (CDC); Indiana State Department of Health (ISDH)

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

Availability: National and state data are available from the CDC at <http://apps.nccd.cdc.gov/brfss/>; selected area data can be accessed at <http://apps.nccd.cdc.gov/brfsssmart/index.asp>.

Trend: 1995–2010

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.

Hospital Discharge Data

Description: Hospital discharge data are publicly available in aggregate format. Data set can be queried by primary diagnosis (ICD-9 codes), e.g., alcohol- and drug-induced diseases.

Sponsoring Organization/Source: Indiana State Department of Health (ISDH)

Geographic Level: Indiana

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

Trend: 1999–2010

Strengths/Weaknesses: The data are in aggregate format; comparisons by demographic variables such as age, gender, and race/ethnicity are not possible.

Indiana College Substance Use Survey

Description: The survey measures the prevalence of alcohol, tobacco and other drug use; consequences of use; alcohol availability; and student perceptions of peer behaviors among Indiana college students.

Sponsoring Organization/Source: ICAN/IPRC

Geographic Level: Indiana

Availability: Annual

Trend: 2009–2011

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

Indiana Adult Tobacco Survey (IN ATS)

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

Sponsoring Organization/Source: Indiana Tobacco Prevention and Cessation Agency (ITPC)

Geographic Level: Indiana and regions

Availability: Data sets can be requested from ITPC; reports are available at <http://www.in.gov/itpc/>.

Trend: 2002, 2006–2008

Strengths/Weaknesses: IN ATS uses a random-sample design, making findings representative of all Hoosier adults. Oversampling of African-American and Hispanic adults, as well as residents in more rural regions, provides more robust estimates for these population groups.

Indiana Household Survey on Substance Abuse

Description: The Indiana Household Survey on Substance Abuse offers prevalence estimates on use of alcohol, tobacco, and other drugs.

Sponsoring Organization/Source: State Epidemiology and Outcomes Workgroup (SEOW)

Geographic Level: Indiana

Availability: Results are available on request from the Indiana University Center for Health Policy (iuchp@iupui.edu).

Trend: 2008

Strengths/Weaknesses: Due to oversampling in SPF SIG-funded communities, the estimates in these counties were more robust.

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

Description: The Indiana State Police (ISP) Meth Suppression Section collects meth lab incidence data and submits the information to NCLSS, a national database. Data include: Number of meth labs seized, number of arrests made during lab seizures, and number of children located at/rescued from meth labs.

Sponsoring Organization/Source: Indiana State Police (ISP)/Meth Suppression Section; Drug Enforcement Administration (DEA); and El Paso Intelligence Center (EPIC)

Geographic Level: National, state, and county

Availability: Indiana data are available from ISP on request; national data can be accessed at http://www.justice.gov/dea/concern/map_lab_seizures.html.

Trend: 1995–2011

Indiana Mortality Data and National Vital Statistics System (NVSS)

Description: NVSS contains mortality data from all U.S. states; the online database can be queried on number of deaths and death rates from alcohol- and drug-related causes. Indiana data can also be directly requested from the Indiana State Department of Health (ISDH).

Sponsoring Organization/Source: CDC's National Center for Health Statistics; Indiana State Department of Health (ISDH)

Geographic Level: National, state, and county levels

Availability: National mortality data can be accessed by underlying cause of death (ICD-10 codes) from CDC at <http://wonder.cdc.gov/mortSQL.html>; state data are available on request from the Indiana State Department of Health.

Trend: 1999–2008 (online from CDC)

Indiana Scheduled Prescription Electronic Collection & Tracking (INSPECT)

Description: INSPECT is Indiana's prescription drug monitoring program; the online database collects information each time a controlled substance is dispensed.

Sponsoring Organization/Source: Indiana Professional Licensing Agency (IPLA)

Geographic Level: Indiana and counties (zip codes)

Availability: Eligible users may register for a secured account at www.in.gov/INSPECT.

Trend: 2008–2010

Strengths/Weaknesses: Data collection is statewide, and licensed dispensers (e.g., pharmacies, physicians) are required to submit information each time a controlled substance is dispensed.

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

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

Sponsoring Organization/Source: Indiana Tobacco Prevention and Cessation Agency (ITPC); Centers for Disease Control and Prevention (CDC)

Geographic Level: National and state

Availability: Data are available on request from ITPC, and annual reports can be accessed at <http://www.in.gov/itpc/>. National data are available at http://www.cdc.gov/tobacco/data_statistics/surveys/NYTS/.

Trend: 2000 through 2010 (IYTS) / 1999 through 2009 (NYTS)

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

Monitoring the Future (MTF) Survey

Description: MTF is an ongoing study of youth behaviors, attitudes, and values. Approximately 50,000 students in 8th, 10th, and 12th grades are surveyed annually. Follow-up surveys are distributed to a sample of each graduating class for a number of years after initial participation.

Sponsoring Organization/Source: National Institutes of Health (NIH)/National Institute on Drug Abuse (NIDA)

Geographic Level: National

Availability: Data tables are available at <http://www.monitoringthefuture.org/data/data.html>.

Trend: 1991–2011

Strengths/Weaknesses: A limitation of the survey design is that the target population does not include students who drop out of high school before graduation.

National Survey on Drug Use and Health (NSDUH)

Description: NSDUH provides information on the prevalence, patterns, and consequences of alcohol, tobacco, and illegal drug use in the general population (ages 12 and older).

Sponsoring Organization/Source: Substance Abuse and Mental Health Services Administration (SAMHSA)/Office of Applied Studies (OAS)

Geographic Level: National and state; sub-state data are available using small-area estimation techniques.

Availability: National and state data tables are available at the NSDUH website at <http://nsduhweb.rti.org/>.

Trend: National estimates are available for 1994–2010; state estimates are available for 1999–2009.

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

Smoking-Attributable Mortality, Morbidity, and Economic Costs (SAMMEC)

Description: SAMMEC generates estimates on smoking-attributable outcomes, such as mortality, years of potential life lost (YPLL), productivity losses, and expenditures.

Sponsoring Organization/Source: Centers for Disease Control and Prevention (CDC)

Geographic Level: National and state

Availability: The database can be accessed at <http://apps.nccd.cdc.gov/sammecc/index.asp>.

Trend: Based on 2004 data

Strengths/Weaknesses: During periods where smoking prevalence is declining, the attributable-fraction (AF) methodology tends to understate the number of deaths caused by smoking. Conversely, when smoking prevalence is increasing, the AF formula may overstate the number of deaths. The relative risk estimates have been adjusted to account for the influence of age, but not for other risk factors, such as alcohol consumption. Although the sample population includes more than 1.2 million people, it is not representative of the U.S. population; it is somewhat more white and middle class. Productivity loss estimates are also understated because they do not include the value of work missed due to smoking-related illness, other smoking-related absenteeism, excess work breaks, or the effects of secondhand smoke.

Treatment Episodes Data Set (TEDS)

Description: TEDS provides information on demographic and substance abuse characteristics of individuals in alcohol- and drug-abuse treatment.

Data are collected by treatment episode. A treatment episode is defined as the period from the beginning of treatment services (admission) to termination of services.

Sponsoring Organization/Source: Substance Abuse and Mental Health Services Administration (SAMHSA); Indiana Family and Social Services Administration (FSSA)/Division of Mental Health and Addiction (DMHA)

Geographic Level: National and state; county-level data available from FSSA upon special request.

Availability: 1999–2008 national and state TEDS data were acquired from the Inter-university Consortium for Political and Social Research at <http://webapp.icpsr.umich.edu/>.

Trend: 1999–2009; county-level data reported for 2010

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

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

Description: The UCR program provides a nationwide view of crime based on the submission of statistics by local law enforcement agencies throughout the country.

Sponsoring Organization/Source: United States Department of Justice/Federal Bureau of Investigation (FBI)

Geographic Level: National, state, and county

Availability: Data can be downloaded from the National Archive of Criminal Justice Data website (<http://www.icpsr.umich.edu/NACJD/ucr.html>).

Trend: 1994–2009

Strengths/Weaknesses: Reporting of UCR data by jurisdictions across the state is often less than 100%, in which case statistical algorithms are employed to estimate arrest numbers.

Youth Risk Behavior Surveillance System (YRBSS)

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

Sponsoring Organization/Source: Centers for Disease Control and Prevention (CDC); Indiana State Department of Health (ISDH)

Geographic Level: National, state

Availability: National and state-level data are downloadable from selected published tables on the CDC website at <http://apps.nccd.cdc.gov/yrbss/>.

Trend: For the nation, the survey tracks every other year from 1991 through 2009; Indiana data are available for 2003 through 2009.

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

3. ALCOHOL USE IN INDIANA: CONSUMPTION PATTERNS AND CONSEQUENCES

ALCOHOL CONSUMPTION

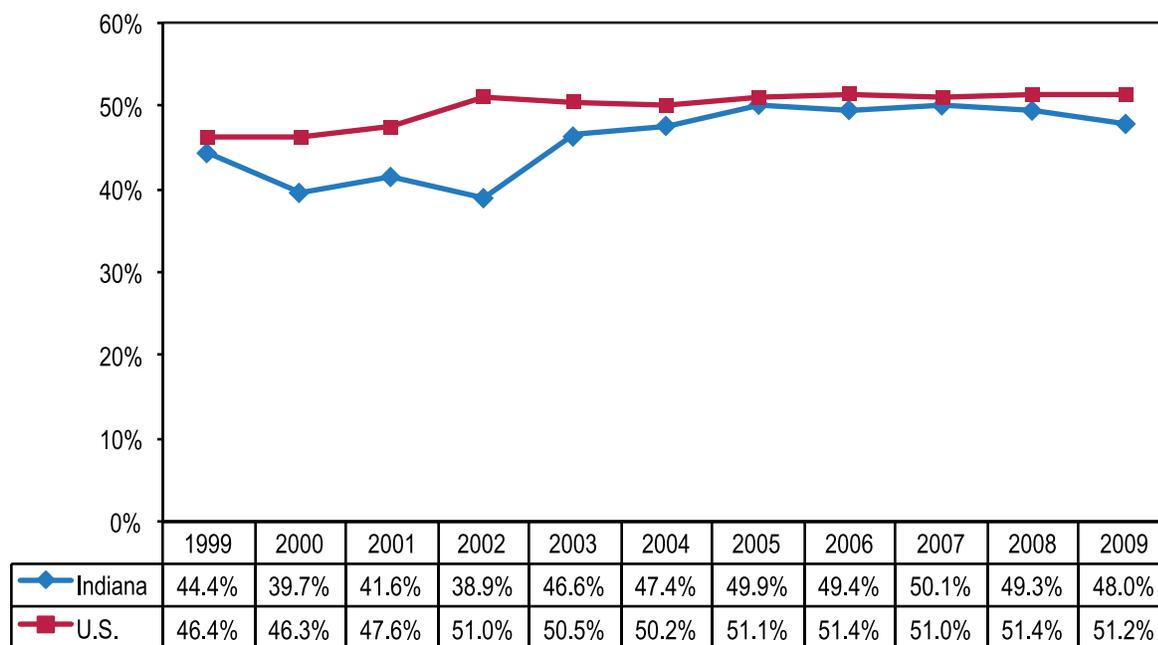
General Alcohol Consumption Patterns

Alcohol is the most frequently used substance in both Indiana and the United States. In 2007, almost 10.8 million gallons of ethanol (the intoxicating agent in alcoholic beverages) were consumed in Indiana; this included 129.1 million gallons of beer, 9.7 million gallons of wine, and 9.0 million gallons of spirits. The annual per capita consumption of ethanol for the population 14 years and older was 2.1 gallons in Indiana and 2.3 gallons in the nation (National Institute on Alcohol Abuse and Alcoholism, 2009).

In 2011 a total of 14,032 permits for the sale of alcoholic beverages were on file in Indiana, representing a rate of 2.16 licenses per 1,000 Hoosiers. Most licenses were in Marion (1,984) and Lake (1,217) Counties (Alcohol and Tobacco Commission, 2011).

Based on 2008–2009 averages calculated from the National Survey on Drug Use and Health (NSDUH), the Substance Abuse and Mental Health Services Administration (SAMHSA) estimated that 48.0% (95% Confidence Interval [CI]: 44.9–51.1) of Indiana residents 12 years of age or older had used alcohol during the past month. SAMHSA estimated that 51.8% (95% CI: (51.2–52.3) of the U.S. population had used alcohol during the past month. Indiana’s rate for current alcohol use¹ was statistically significantly lower than the U.S. rate. Prevalence rates of current use seemed to have increased from 1999 to 2009 in Indiana; however, the difference was statistically not significant (see Figure 3.1) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Figure 3.1 Percentage of Indiana and U.S. Population (12 Years and Older) Reporting Current Alcohol Use (National Survey on Drug Use and Health, 1999–2009)



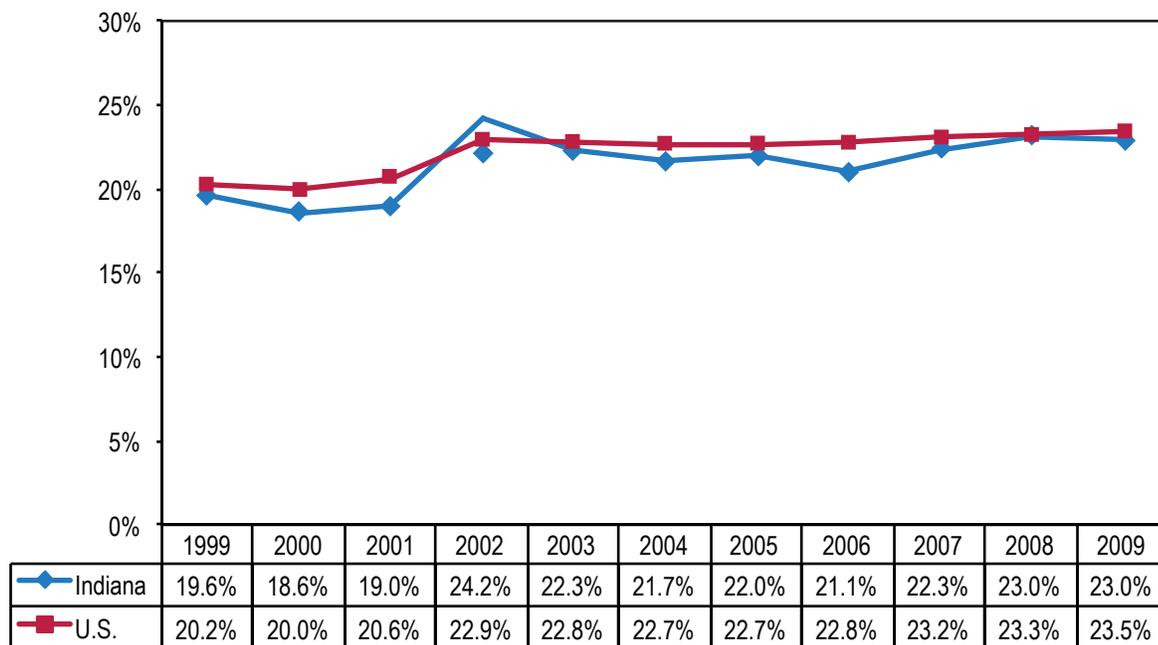
Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012

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

One risky alcohol consumption pattern assessed by the NSDUH is binge drinking. The NSDUH defines binge drinking as consumption of five or more alcoholic beverages on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least one day in the past month. In 2009, 23.0% of the

Indiana population 12 years of age or older reported binge drinking (95% CI: 20.7–25.4), similar to that of the national average of 23.5% (95% CI: 23.0–23.9) (see Figure 3.2) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Figure 3.2 Percentage of Indiana and U.S. Population (12 years and older) Reporting Binge Drinking in the Past 30 Days (National Survey on Drug Use and Health, 1999–2009)



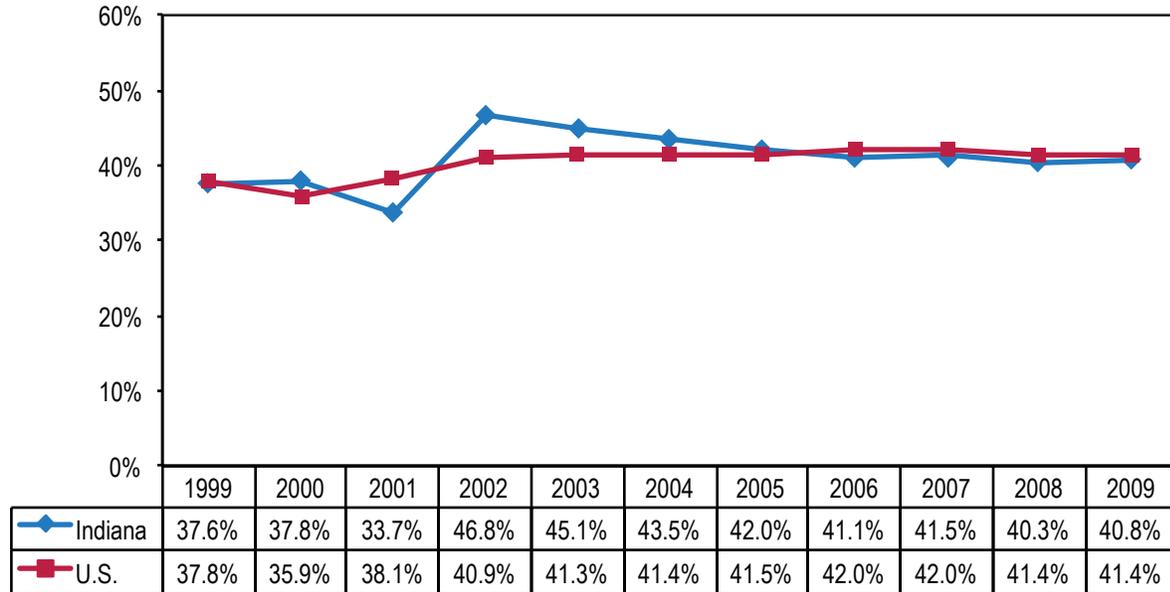
Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012

Adult Alcohol Consumption Patterns

According to 2008–2009 NSDUH results, 58.0% of Hoosiers (95% CI: 53.8–62.0) between the ages of 18 and 25 reported current alcohol use; the U.S. rate was similar at 61.5%. Past-month consumption of alcohol was significantly lower for adults 26 years and older; Indiana’s rate (50.7%; 95% CI: 47.0–54.4) and the national rate (54.8%) were similar (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Binge drinking was particularly widespread among young adults. The highest prevalence rate was found among 18- to 25-year-olds, with the Indiana rate (40.8%; 95% CI: 37.0–44.8) and U.S. rate (41.4%; 95% CI: 40.6–42.1) being statistically similar (see Figure 3.3). Among adults, binge drinking rates decreased with age; 21.8% (95% CI: 19.1–24.6) of Hoosiers ages 26 years and older reported having consumed five or more drinks on the same occasion during the last 30 days (U.S.: 22.3%, 95% CI: 21.7–22.8) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Figure 3.3 Percentage of Indiana and U.S. 18- to 25-Year-Olds Reporting Binge Drinking in the Past 30 Days (National Survey on Drug Use and Health, 1999–2009)



Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012

Table 3.1 Percentage of Indiana and U.S. Adults Having Used Alcohol in the Past 30 Days (Behavioral Risk Factor Surveillance System, 2010)

		Indiana (95% CI)	U.S.
Gender	Male	54.5% (52.0–56.9)	61.7%
	Female	40.2% (38.5–42.0)	47.6%
Race/Ethnicity	White	48.0% (46.5–49.6)	58.5%
	Black	44.7% (37.9–51.5)	40.7%
	Hispanic	46.4% (36.8–56.0)	44.4%
Age Group	18-24	37.1% (30.2–44.1)	48.3%
	25-34	54.9% (50.7–59.1)	61.0%
	35-44	56.8% (53.3–60.4)	60.2%
	45-54	50.1% (47.2–53.0)	57.7%
	55-64	44.7% (42.2–47.2)	53.6%
	65+	33.1% (31.1–35.1)	40.5%
Total		47.2% (45.7–48.7)	54.6%

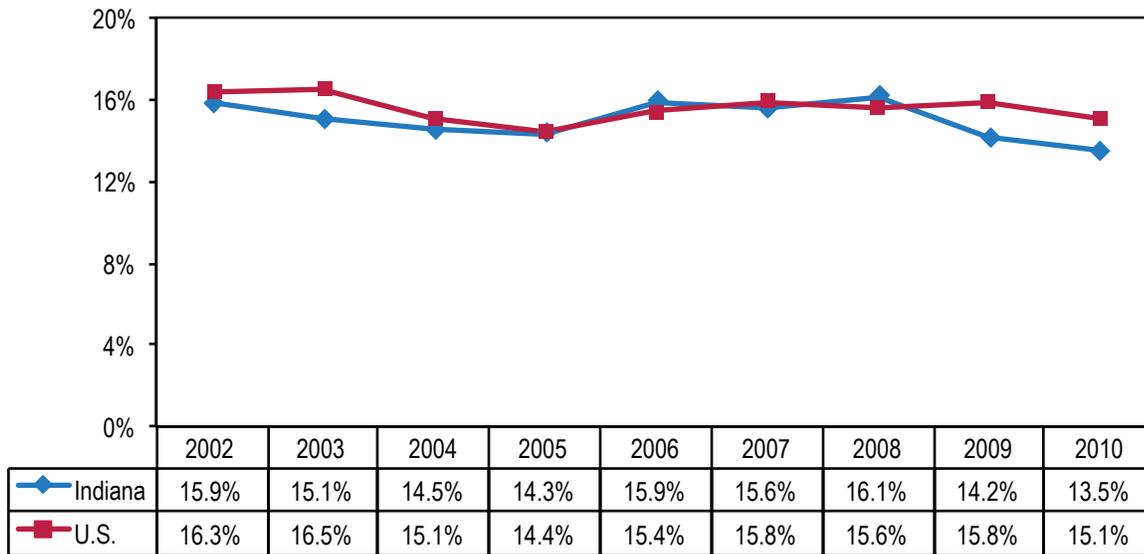
Source: Centers for Disease Control and Prevention, 2010

The 2010 Behavioral Risk Factor Surveillance System (BRFSS) reported that Indiana’s adult prevalence rate for current alcohol use (47.2%; 95% CI: 45.7–48.7) was significantly lower than the nation’s (54.6%). In Indiana, rates were significantly higher among males than females, and among younger age groups (see Table 3.1) (Centers for Disease Control and Prevention, 2010).

The BRFSS examines binge drinking as well, but its definition varies slightly from NSDUH’s description and takes gender into account. 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 based on this definition was lower in Indiana (13.5%; 95% CI: 12.4–14.7) than the United

States (15.1%), and has remained relatively stable from 2002 through 2010 (see Figure 3.4). Binge alcohol use was significantly higher in males than females, and more prevalent in younger individuals; no statistical differences were observed by race/ethnicity (see Table 3.2) (Centers for Disease Control and Prevention, 2010).

Figure 3.4 Percentage of Indiana and U.S. Adults Reporting Binge Drinking in the Past 30 Days (Behavioral Risk Factor Surveillance System, 2002–2010)



Source: Centers for Disease Control and Prevention, 2010

Additionally, the BRFSS collects information on a measure called heavy drinking. The BRFSS defines heavy drinking as “adult men having more than two drinks per day and adult women having more than one drink per day.” Overall rates for heavy drinking were lower in Indiana (3.9%; 95% CI: 3.3–4.4) than the United States (5.0%) in 2010. Heavy drinking prevalence was higher among men (4.9%; 95% CI: 3.9–5.9) than women (2.9%; 95% CI: 2.3–3.5) in Indiana (Centers for Disease Control and Prevention, 2010).

The Indiana State Epidemiology and Outcomes Workgroup (SEOW) conducted a statewide survey

on substance use among adults in 2008. The results indicated that:

- 86.1% have had at least one alcoholic beverage in their lifetime
- 62.1% have had five or more drinks within a few hours at least once in their lifetime
- 10.3% have driven a vehicle while under the influence of alcohol in the past 12 months
- 8.3% have been arrested because of drinking at least once in their lifetime
- 2.1% have gotten into trouble at work or school because of drinking at least once in their lifetime

Table 3.2 Percentage of Indiana and U.S. Residents Who Engaged in Binge Drinking in the Past 30 Days (Behavioral Risk Factor Surveillance System, 2010)

		Indiana (95% CI)	U.S.
Gender	Male	18.6% (16.5–20.6)	20.2%
	Female	8.8% (7.7–9.9)	10.1%
Race/ Ethnicity	White	13.6% (12.5–14.8)	16.1%
	Black	12.8% (7.8–17.8)	9.7%
	Hispanic	16.0% (7.5–24.5)	15.2%
Age Group	18-24	18.9% (13.0–24.7)	22.4%
	25-34	20.1% (16.5–23.6)	22.6%
	35-44	15.9% (13.4–18.5)	19.1%
	45-54	14.9% (12.8–16.9)	14.9%
	55-64	7.9% (6.5–9.2)	9.5%
	65+	3.8% (3.0–4.6)	3.4%
Total		13.5% (12.4–14.7)	15.1%

Source: Centers for Disease Control and Prevention, 2010

The average age that Hoosiers started drinking alcohol was 18.2 years (Standard Deviation [SD]: 4.3); the average age that Hoosiers initiated binge drinking was 19.3 years (SD: 4.9). Furthermore, most respondents (70.1%) indicated that they found it acceptable, in general, for people to use alcohol (State Epidemiology and Outcomes Workgroup, 2008).

Youth Alcohol Consumption Patterns / Underage Drinking

We examined various patterns of alcohol consumption among youth using data provided by the Youth Risk Behavior Surveillance System, or YRBSS (Centers for Disease Control and Prevention, 2011-a), the NSDUH (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012), the Monitoring the Future survey, or MTF (Inter-university Consortium for Political and Social Research, University of Michigan, 2011), and the Alcohol, Tobacco,

and Other Drug Use by Indiana Children and Adolescents (ATOD) survey (Gassman, Jun, Samuel, Agle, Lee, Morrison, Agle, et al., 2011), a nonrandom survey of Indiana students modeled after the MTF. All of these report on alcohol consumption behaviors in middle school and/or high school students.

According to the YRBSS, 38.5% (95% CI: 34.2–43.0) of high school students in Indiana had consumed at least one alcoholic drink in the past 30 days in 2009; no significant differences were observed by gender or race/ethnicity. However, rates varied by grade level, with 9th grade students reporting the lowest rate. Past-month alcohol prevalence among high school students was similar between Indiana and the nation (41.8%; 95% CI: 40.2–43.4). Indiana's rate has remained stable from 2003 until 2009 (Centers for Disease Control and Prevention, 2011-a).

In 2009, 24.9% (95% CI: 21.4–28.7) of high school students in Indiana said they had had five or more alcoholic drinks within a couple of hours at least once in the past month. This was statistically similar to the U.S. rate (24.2%; 95% CI: 22.6–25.9). Rates did not differ significantly by gender but by race. Whites (27.5%; 95% CI: 23.3–32.2) had significantly higher rates than blacks (13.5%; 95% CI: 8.3–21.3), but did not differ statistically from Hispanics (16.1%; 95% CI: 9.9–25.1). In addition, prevalence increased with grade level; more high school seniors (36.6%; 95% CI: 30.0–43.9) engaged in binge drinking than freshmen (12.3%; 95% CI: 8.3–17.9). Indiana's rate has remained stable from 2003 until 2009 (Centers for Disease Control and Prevention, 2011-a).²

According to 2008–2009 NSDUH estimates, 14.5% (95% CI: 12.3–17.0) of young people ages 12 to 17 consumed alcohol in the past 30 days in Indiana; the rate was similar on the national level (14.7%; 95% CI: 14.2–15.1). Additionally, 9.4% (95% CI: 7.6–11.5) of Indiana youths in this age group engaged in binge drinking in the past month; the state's prevalence among 12- to 17-year-olds was similar to the nation's (8.8%; 95% CI: 8.48–9.16) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).³

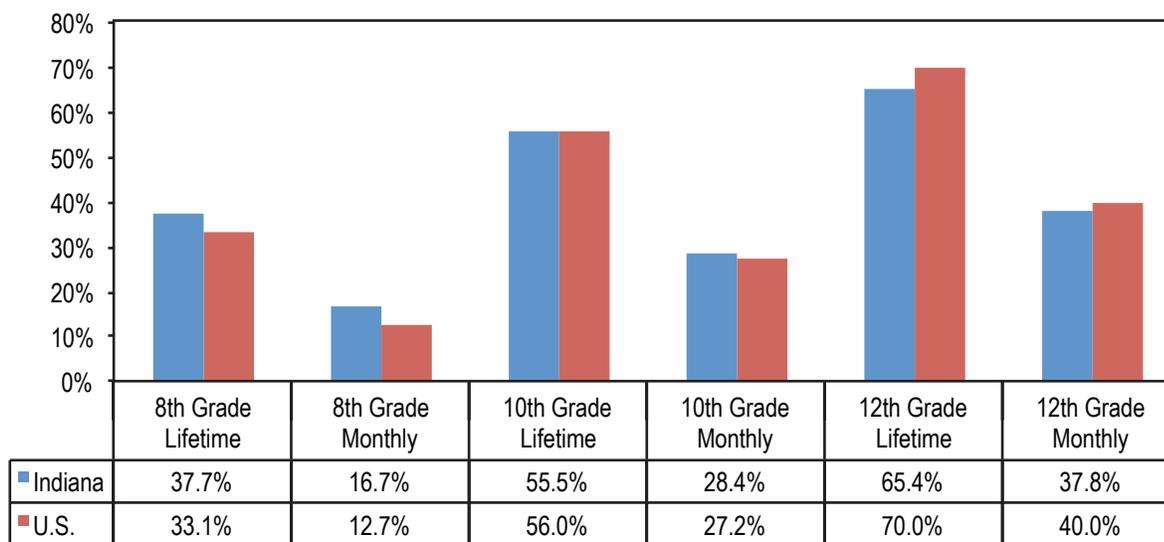
² Based on CDC's trend analysis report for 2009 Youth Risk Behavior Survey (report received February 1, 2012, from the Indiana State Department of Health).

³ Based on CDC's trend analysis report for 2009 Youth Risk Behavior Survey (report received February 1, 2012, from the Indiana State Department of Health).

NSDUH also provides underage drinking prevalence estimates among 12- to 20-year-olds. Indiana's rates for current use (23.6%; 95% CI: 21.0–26.3) and binge drinking (17.0%; 95% CI: 14.8–19.3) were similar to U.S. rates of 26.8% (95% CI: 26.2–27.4) and 17.7% (95% CI: 17.2–18.3) respectively (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

In Indiana, over 65% of 12th grade students reported using alcohol at least once during their lifetime (U.S.: 70.0%) (Gassman, et al., 2011; Inter-university Consortium for Political and Social Research, University of Michigan, 2011).⁴ Overall alcohol consumption patterns seemed to progress with age; i.e., 8th grade students showed lower prevalence rates than 10th and 12th grade students. Indiana students initiated alcohol use, on average, at the age of 13.2 years (Gassman, et al., 2011).

Figure 3.5 Percentage of Indiana and U.S. 8th, 10th, and 12th Grade Students Reporting Lifetime and Monthly Alcohol Use (Alcohol, Tobacco, and other Drug Use by Indiana Children and Adolescents Survey and Monitoring the Future Survey, 2011)



Source: Gassman, et al., 2011; Inter-university Consortium for Political and Social Research, University of Michigan, 2011

For more detailed data on lifetime and monthly alcohol use among Indiana and U.S. 8th, 10th, and 12th grade students, see Figure 3.5; for trend information (from 2000 through 2011) on lifetime and monthly alcohol use among high school seniors, see Figure 3.6. For lifetime, monthly, and binge use by Indiana region and grade for 2011, see Appendix 3A, page 42.

The Indiana College Substance Use Survey was developed to measure alcohol and other drug usage, attitudes, and perceptions among college students at two- and four-year institutions (Indiana Collegiate

Action Network, 2011). According to 2011 results, 76.0% of students who responded to the survey reported past-year alcohol use and 70.3% reported past-month use; consumption rates were significantly lower for underage students (past-year use: 69.5%; past-month use: 62.7%) than those ages 21 and older (past-year use: 81.7%; past-month use: 77.0%). However, past-month binge drinking prevalence, 50.3%, was similar between the two groups (Indiana Collegiate Action Network, 2011).⁵

⁴ Comparisons between national data (MTF) and Indiana data (ATOD survey) should be interpreted with caution as the ATOD survey is based on a nonrandom sample of Indiana students.

⁵ Nine Indiana colleges participated in the survey; results are based on nonrandom sampling and are not representative of all college students in Indiana.

The Indiana Department of Education collects information on suspensions and expulsions of students from kindergarten through grade 12. During the 2007–2008 school year, a total of 6,023 students were suspended or expelled due to alcohol, drug, or weapon involvement. This represents a suspension/expulsion rate of 5.21 per 1,000 enrolled students (Indiana Department of Education, n.d.). (For county-level rates, see Map 3.1, page 53.)

CONSEQUENCES

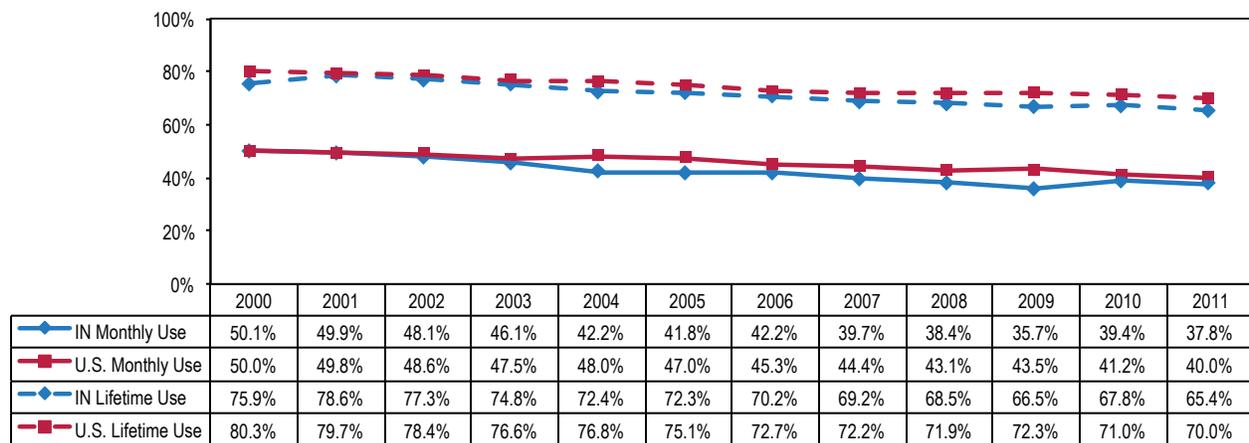
Alcohol use is a major factor in homicides, suicides, violent crimes, and motor vehicle crashes. Heavy alcohol use can lead to serious patterns of abuse and/or dependence and is associated with other unsafe behaviors such as cigarette smoking, illicit drug use, and risky sex. Chronic alcohol use can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

Alcohol Abuse and Dependence

Based on 2008–2009 NSDUH averages, the estimated prevalence for alcohol abuse and/or dependence⁶ in the past year among those ages 12 and older was 7.0% (95% CI: 6.0–8.2) in Indiana, which was similar to the national estimate (7.4%; 95% CI: 7.1–7.6). Since at least 2000, Indiana’s alcohol abuse/dependence prevalence estimates have been similar to U.S. rates (see Figure 3.7). Of all age groups, adults ages 18 to 25 reported the highest prevalence rates both in Indiana and nationally across all years reviewed. Additionally, an estimated 6.5% (95% CI: 5.5–7.6) were in need of but did not receive treatment for alcohol use in Indiana (U.S.: 7.0%; 95% CI: 6.8–7.2) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Based on findings from the Treatment Episode Data Set (TEDS), alcohol plays a major role in admissions to substance abuse treatment. In two-thirds (66.4%) of treatment episodes in 2009, alcohol

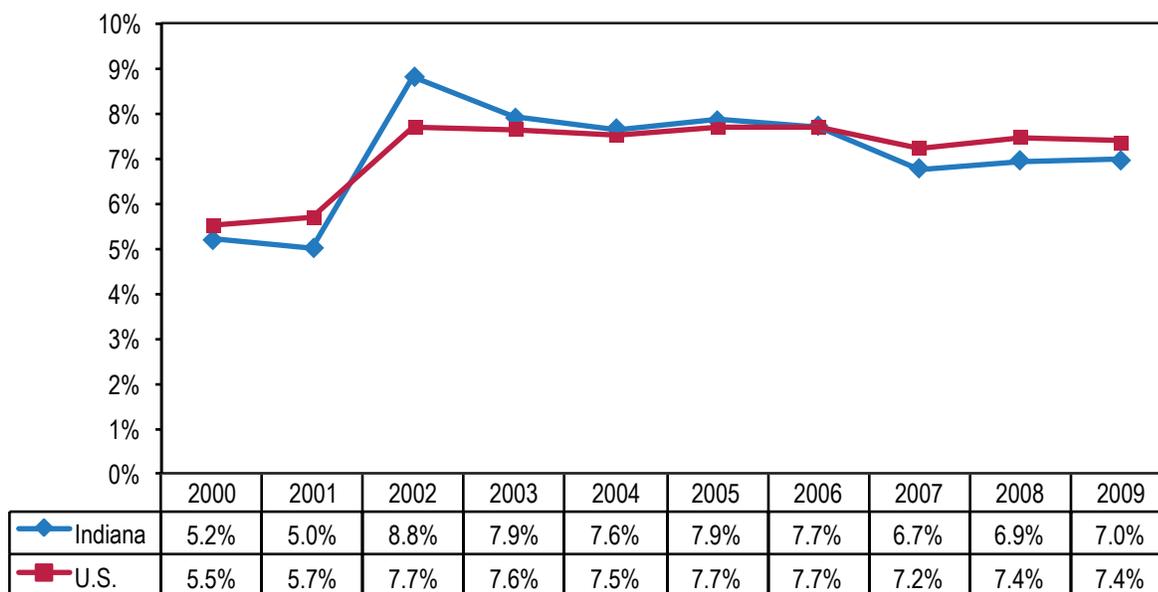
Figure 3.6 Percentage of Indiana and U.S. High School Seniors (12th Grade) Reporting Monthly and Lifetime Alcohol Use (Alcohol, Tobacco, and Other Drug Use) by Indiana Children and Adolescents Survey and Monitoring the Future Survey, 2000–2011



Source: Gassman, et al., 2011; Inter-university Consortium for Political and Social Research, University of Michigan, 2011

⁶ The NSDUH uses the terms “dependence” and “abuse” based on definitions found in the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV).

Figure 3.7 Percentage of Indiana and U.S. Population Ages 12 and Older with Alcohol Abuse and/or Dependence (National Survey on Drug Use and Health, 2000–2009)



Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012

use was reported in Indiana. This is a significantly higher proportion than for the rest of the United States (60.6%). Similarly, the percentage of treatment episodes in which alcohol dependence⁷ was indicated was statistically higher in Indiana (44.2%) than the nation (41.7%) (see Figure 3.8). These differences between Indiana and the rest of the United States regarding alcohol abuse and dependence in the treatment population have been true for at least the past 10 years (from 2000 through 2009) (Substance Abuse and Mental Health Data Archive, 2009).

Factors significantly associated with alcohol abuse and dependence in Indiana included gender, race/ethnicity, and age (findings from the 2009 TEDS dataset):

Gender—Nearly half of the males (48.0%) in substance abuse treatment listed alcohol as their primary substance, compared to 36.4% of females ($P < 0.001$).

Race/ethnicity—Over one-third of blacks (38.2%) reported alcohol as their primary substance; this percentage was below that for whites (45.3%) and other races (44.7%) ($P < 0.001$). With regard to ethnicity, a significantly higher percentage of Hispanics (55.7%) reported alcohol dependence than non-Hispanics (44.0%) ($P < 0.001$).

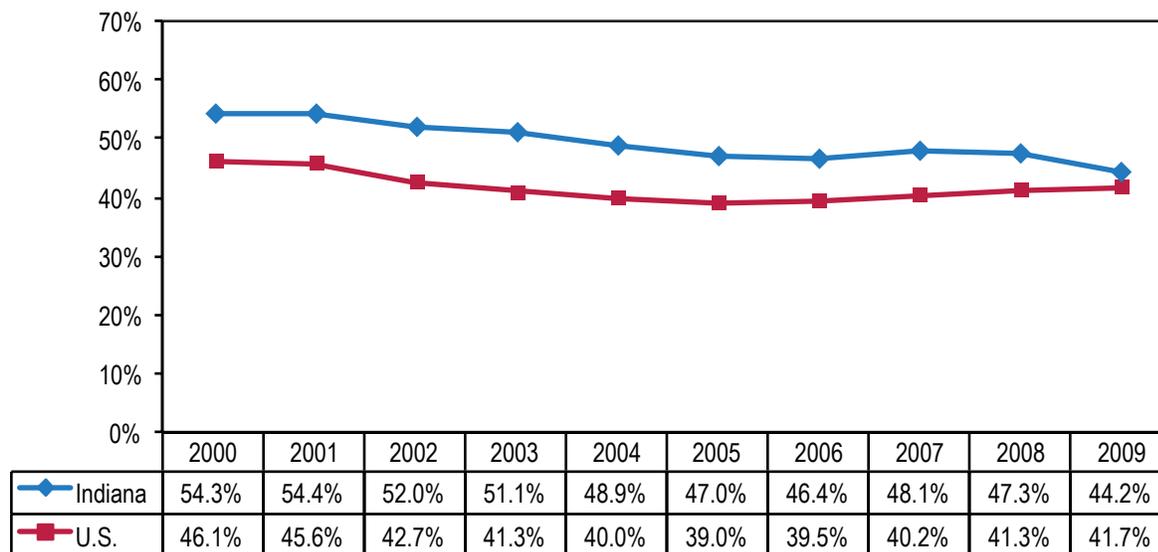
Age—In the treatment population, the percentage of Hoosiers with alcohol dependence increased with age; clients under the age of 18 had the lowest percentage (17.0%) and those ages 55 and older had the highest percentage (70.4%) ($P < 0.001$).

Table 3.3 depicts the percentage of Indiana residents, categorized by gender, race, ethnicity, and age group, in treatment for alcohol abuse and dependence.

See Appendix 3B, pages 43-45, for county-level treatment data.

⁷ We defined alcohol dependence as “individuals in substance abuse treatment listing alcohol as their primary substance at admission.”

Figure 3.8 Percentage of Treatment Episodes in Indiana and the United States with Alcohol Dependence Reported at Treatment Admission (Treatment Episode Data Set, 2000–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

Table 3.3 Percentage of Treatment Episodes in Indiana with Alcohol Dependence Reported at Treatment Admission, by Gender, Race, and Age Group (Treatment Episode Data Set, 2009)

		Alcohol Dependence
Gender	Male	48.0%
	Female	36.4%
Race	White	45.3%
	Black	38.2%
	Other	44.7%
Ethnicity	Hispanic	55.7%
	Non-Hispanic	44.0%
Age Group	Under 18	17.0%
	18-24	35.0%
	25-34	38.2%
	35-44	51.2%
	45-54	64.4%
	55 and over	70.4%
Total		44.2%

Source: Substance Abuse and Mental Health Data Archive, 2009

Alcohol-Related Morbidity and Mortality

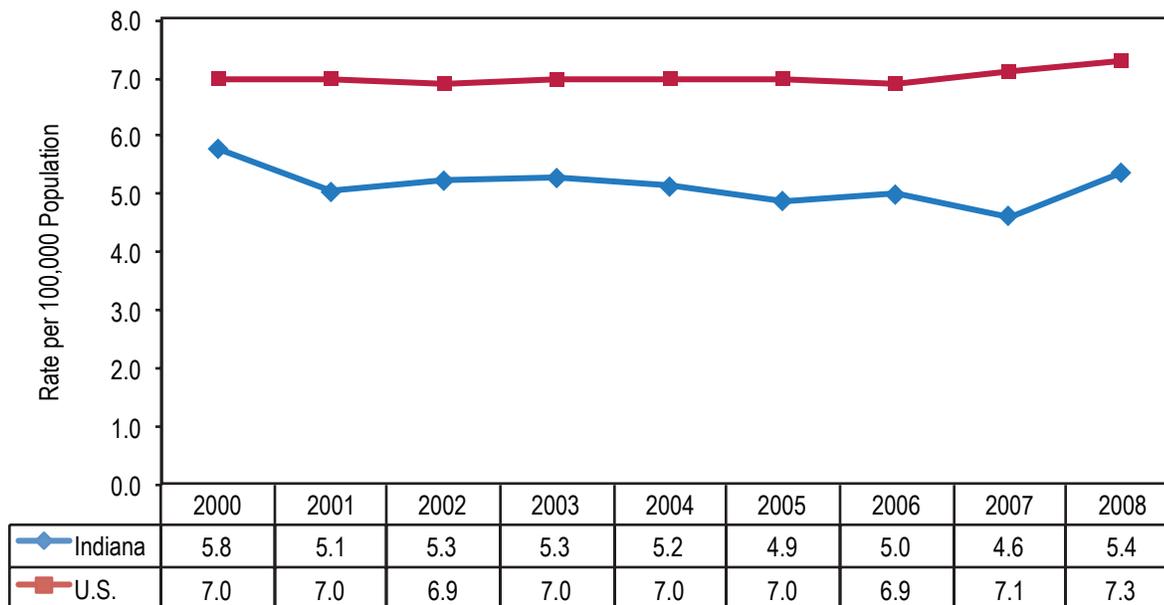
Hospital discharge records show that in 2010, a total of 1,666 hospitalized patients were treated in Indiana for an alcohol-attributable primary diagnosis, representing one percent (1.0%) of all hospital discharges in the state (Indiana State Department of Health, n.d.).⁸

From 2000 through 2008, a total of 3,270 Hoosiers died from alcohol-induced causes.⁹ The age-adjusted mortality rate for alcohol-attributable deaths has remained stable throughout this time period in Indiana and the United States. Indiana’s age-adjusted rate was 5.4 per 100,000 (95% CI: 4.8–5.9) in 2008, which was significantly lower than the U.S. rate of 7.3 per 100,000 population (95% CI: 7.2–7.4) (see Figure 3.9) (Centers for Disease Control and Prevention, 2011). (For alcohol-attributable deaths by county, see Map 3.2, page 54.)

⁸ 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-9 codes 291, 303.0, 303.9, 305.0, 357.5, 425.5, 535.3, 571.0-571.3, 655.4, 760.71, 790.3, 980.0, 980.1, E860.0, E860.1, E860.2, E860.9 (Centers for Disease Control and Prevention, n.d.).

⁹ 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.

Figure 3.9 Age-Adjusted Alcohol-attributable Mortality Rates per 100,000 Population in Indiana and the United States (CDC WONDER, 2000–2008)



Source: Centers for Disease Control and Prevention, 2011

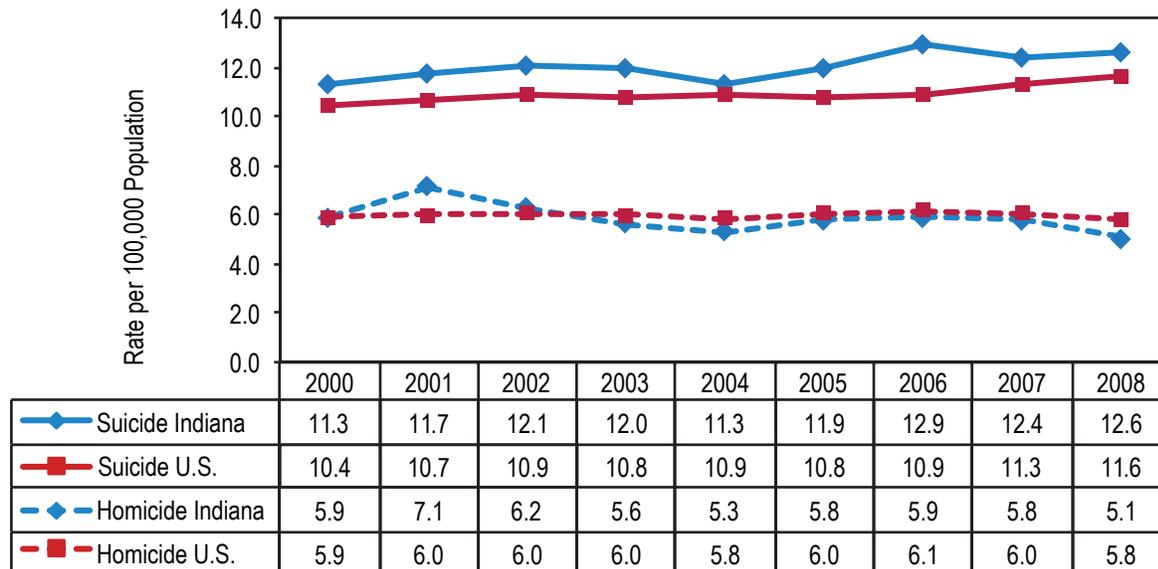
Though alcohol use is not associated with every suicide and homicide, these violent acts often involve individuals who have been drinking. According to the Alcohol-Related Disease Impact (ARDI) database, the direct alcohol-attributable fraction for suicides and homicides, both in Indiana and in the nation, is 23% and 47%, respectively. In other words, 23% of suicides and 47% of homicides can be attributed to alcohol consumption (Centers for Disease Control and Prevention, 2008). (Appendix 3C, page 46, lists conditions that can be attributed to alcohol, along with their alcohol-attributable fractions) For this reason, intentional self-harm (suicide)¹⁰ and assault (homicide)¹¹ rates may provide additional information on alcohol's impact in a community.

From 2000 through 2008, a total of 7,373 Hoosiers committed suicide. Applying ARDI's alcohol-attributable fraction of 23%, this means that during these nine years 1,696 suicide deaths were attributable to alcohol. Indiana's age-adjusted mortality rate for suicide was 12.6 per 100,000 population (95% CI: 11.7–13.5) in 2008, which was statistically similar to the U.S. rate of 11.6 per 100,000 population (95% CI: 11.5–11.7) (see Figure 3.10). Additionally, rates were significantly higher for males (21.0 per 100,000 population; 95% CI: 19.3–22.6) than for females (4.9 per 100,000 population; 95% CI: 4.2–5.7). Rates were also significantly higher for whites (13.5 per 100,000 population; 95% CI: 12.5–14.4) than for blacks (5.0 per 100,000 population; 95% CI: 3.3–7.2), in Indiana.

¹⁰ Intentional self-harm (suicide) includes ICD-10 codes X60-X84.

¹¹ Assault (homicide) includes ICD-10 codes X85-Y09.

Figure 3.10 Age-Adjusted Mortality Rates per 100,000 Population for Intentional Self-Harm (Suicide) and Assault (Homicide), Indiana and the United States (CDC WONDER, 2000–2008)



Source: Centers for Disease Control and Prevention, 2011

From 2000 through 2008, a total of 3,675 homicides were committed in Indiana. Applying ARDI’s alcohol-attributable fraction of 47%, this means that 1,727 homicide deaths were attributable to alcohol during that time period. Indiana’s age-adjusted homicide death rate was 5.1 per 100,000 population (95% CI: 4.6–5.7) in 2008, which was statistically similar to the U.S. rate of 5.8 per 100,000 population (95% CI: 5.7–5.9) (see Figure 3.10). In 2008, rates were significantly higher for Indiana males (7.9 per 100,000 population; 95% CI: 6.9–8.8) than for females (2.3 per 100,000 population; 95% CI: 1.8–2.9). Rates were also significantly higher for blacks (29.4 per 100,000 population; 95% CI: 25.1–33.8) than for whites (2.4 per 100,000 population; 95% CI: 2.0–2.8) (Centers for Disease Control and Prevention, 2008).

Alcohol consumption during pregnancy is another major concern since fetal alcohol spectrum disorders (FASD) are a direct result of prenatal exposure to alcohol. FASD is not a clinical diagnosis, but an umbrella term used to describe a range of disorders

such as fetal alcohol syndrome, alcohol-related neurodevelopmental disorder, and alcohol-related birth defects. Possible physical effects include brain damage; facial anomalies; growth deficiencies; defects of heart, kidney, and liver; vision and hearing problems; skeletal defects; and dental abnormalities. In the United States, the prevalence of fetal alcohol spectrum disorders is 10.0 per 1,000 live births (Substance Abuse and Mental Health Services Administration, Fetal Alcohol Spectrum Disorders Center for Excellence, 2007).

The Indiana Birth Defects and Problems Registry collects information on birth defects and birth problems for all children in Indiana from birth to 3 years old (5 years old for autism and fetal alcohol syndrome). State law requires doctors, hospitals, and other healthcare providers to submit a report to the registry at the Indiana State Department of Health when a child is born with a birth defect. From 2004 through 2008, 181 children were born with fetal alcohol syndrome¹², the most severe form of FASD, in Indiana (Indiana State Department of Health, n.d.).

¹² The ICD-9 code for fetal alcohol syndrome is 760.71.

Alcohol-Related Motor Vehicle Accidents

According to the Fatality Analysis Reporting System (FARS), a total of 632 fatal crashes occurred in Indiana in 2009, of which 197 (or 31%) were alcohol-related (U.S.: 9,813 alcohol-related crashes; 32%) (National Highway Traffic Safety Administration, 2011). Even though most fatal collisions happened in the afternoon between 3:00 and 5:59 p.m., the highest percentage of crashes attributable to alcohol-impaired driving¹³ occurred at nighttime, especially between midnight and early morning hours (see Table 3.4).

Data from the Automated Reporting Information Exchange System (ARIES), part of the Indiana State Police's Vehicle Crash Records System, showed a decrease in alcohol-related collisions from 13,911 in 2003 to 8,339 in 2010. This represents a 40% drop. The number of fatal crashes with alcohol involvement also decreased from 242 to 173. (For a detailed listing of alcohol-related collisions and fatalities in Indiana by county for 2010, see Appendix 3D, pages 47-49). The overall rate for alcohol-related collisions in Indiana in 2010 was 1.3 per 1,000 population (Indiana State Police, 2011).

Table 3.4 Number of Fatal Crashes and Percent Alcohol-Related in Indiana, by Time of Day and Crash Type (Fatality Analysis Reporting System, 2009)

Time of Crash	Single Vehicle			Multiple Vehicle			All Crashes		
	Number	Alcohol-impaired driving	Percent Alcohol-impaired driving	Number	Alcohol-impaired driving	Percent Alcohol-impaired driving	Number	Alcohol-impaired driving	Percent Alcohol-impaired driving
Midnight to 2:59 a.m.	67	47	69%	15	9	62%	82	56	68%
3 a.m. to 5:59 a.m.	42	28	66%	15	5	32%	57	33	57%
6 a.m. to 8:59 a.m.	25	3	11%	33	4	11%	58	6	11%
9 a.m. to 11:59 a.m.	33	3	10%	38	1	3%	71	4	6%
Noon to 2:59 p.m.	34	3	7%	53	4	8%	87	7	8%
3 p.m. to 5:59 p.m.	38	7	18%	60	10	17%	98	17	17%
6 p.m. to 8:59 p.m.	45	17	38%	40	13	32%	85	30	35%
9 p.m. to 11:59 p.m.	72	36	49%	22	9	42%	94	45	48%
Total	356	142	40%	276	55	20%	632	197	31%

Note: National Highway Traffic Safety Administration estimates alcohol involvement when alcohol test results are unknown. Source: National Highway Traffic Safety Administration, 2011

¹³Alcohol-impaired driving means that at least one driver or motorcycle rider had a blood alcohol content (BAC) of .08 or higher.

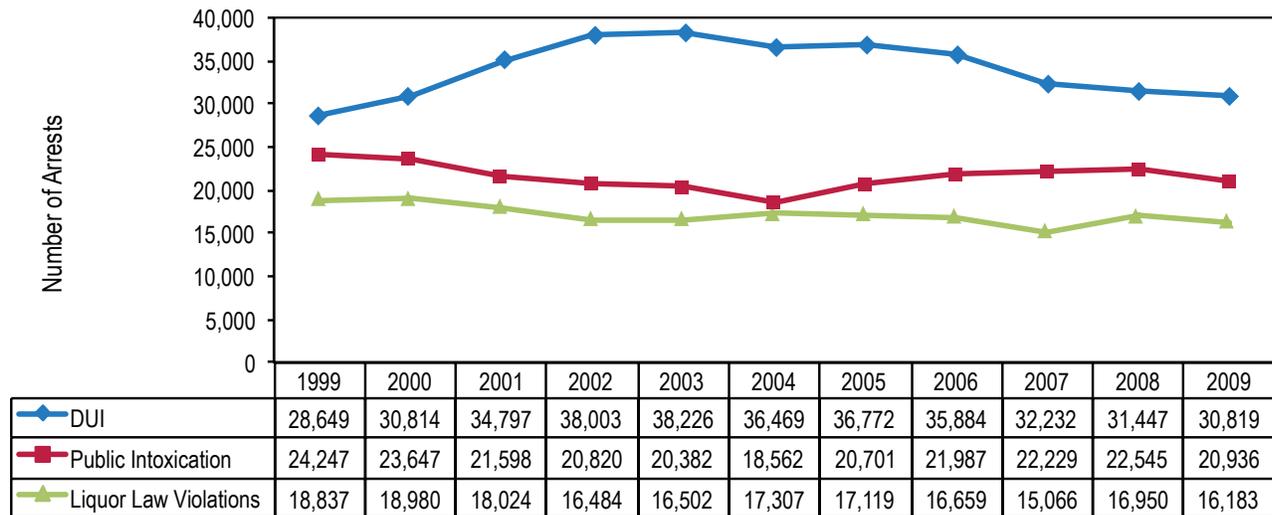
Alcohol-Related Crimes

Using the Uniform Crime Reporting Program (UCR) dataset, we compared alcohol-related offenses, including arrests for driving under the influence (DUI), public intoxication, and liquor law violations, between Indiana and the United States (National Archive of Criminal Justice Data, Interuniversity Consortium for Political and Social Research, University of Michigan, 2009). In 2009, nearly 31,000 DUI arrests were made in Indiana. The arrest rate was significantly higher among Hoosiers, 4.8 per 1,000 population (95% CI: 4.8–4.9), than among U.S. residents, 4.1 per 1,000 population (95% CI: 4.1–4.1). Close to 21,000 Hoosiers

were arrested for public intoxication; the arrest rate was twice as high for Indiana, 3.2 per 1,000 population (95% CI: 3.2–3.2), than for the nation, 1.6 per 1,000 population (95% CI: 1.6–1.6). Additionally, more than 16,000 arrests occurred for liquor law violations in Indiana, representing an arrest rate of 2.5 per 1,000 population (95% CI: 2.5–2.5), which was significantly higher than the U.S. rate of 1.6 per 1,000 population (95% CI: 1.6–1.6) (see Figures 3.11–3.14).

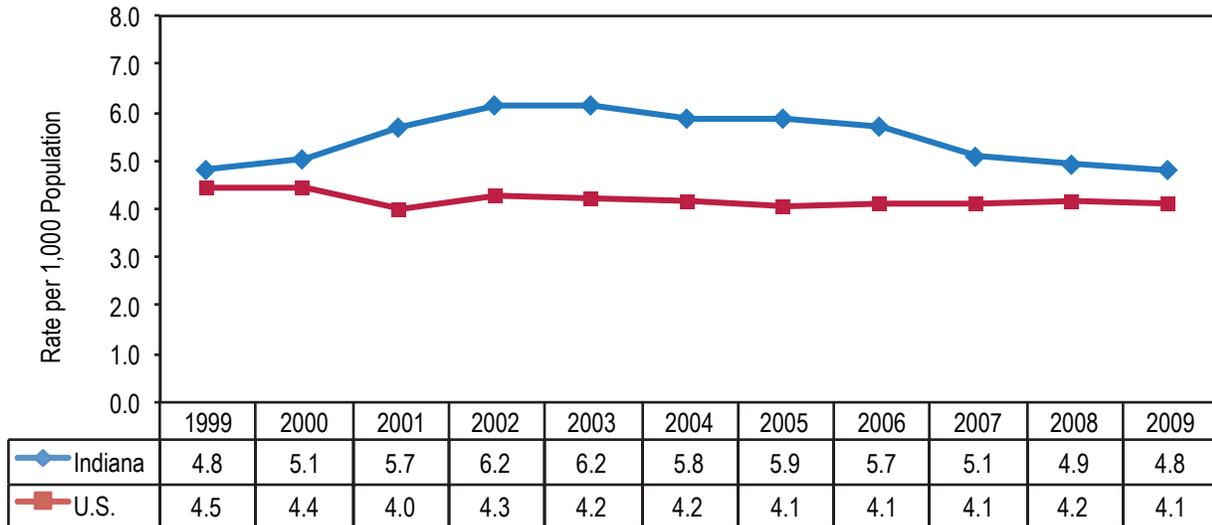
Arrests for alcohol-related crimes varied among Indiana counties. These county differences are presented in Maps 3.3 through 3.5 (pages 55-57) and Appendix 3E (pages 50-52).

Figure 3.11 Number of Arrests for Driving Under the Influence (DUI), Public Intoxication, and Liquor Law Violations in Indiana (Uniform Crime Reporting Program, 1999–2009)



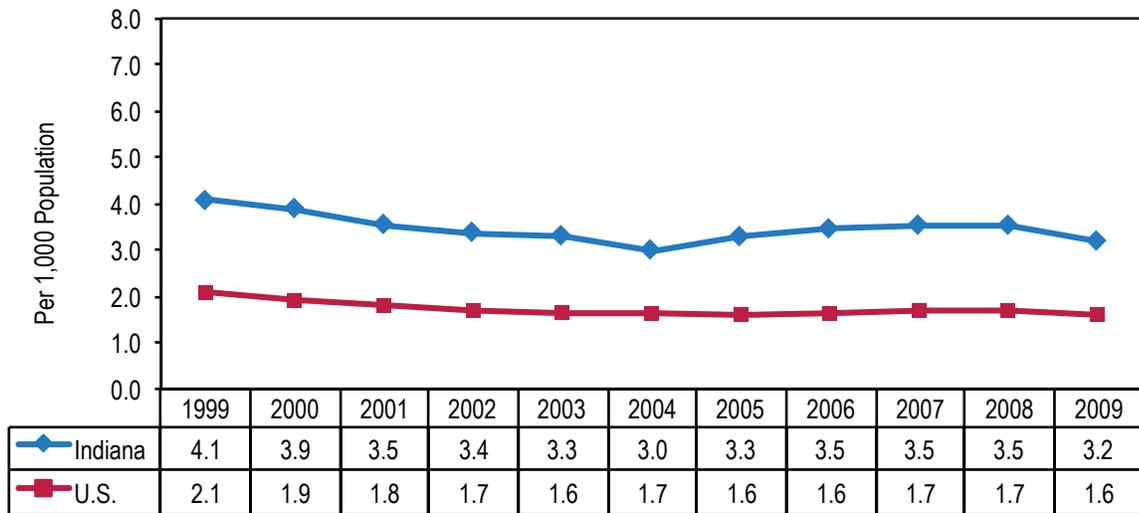
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

Figure 3.12 Arrest Rates, per 1,000 Population, for Driving Under the Influence (DUI) in Indiana and the United States (Uniform Crime Reporting Program, 1999–2009)



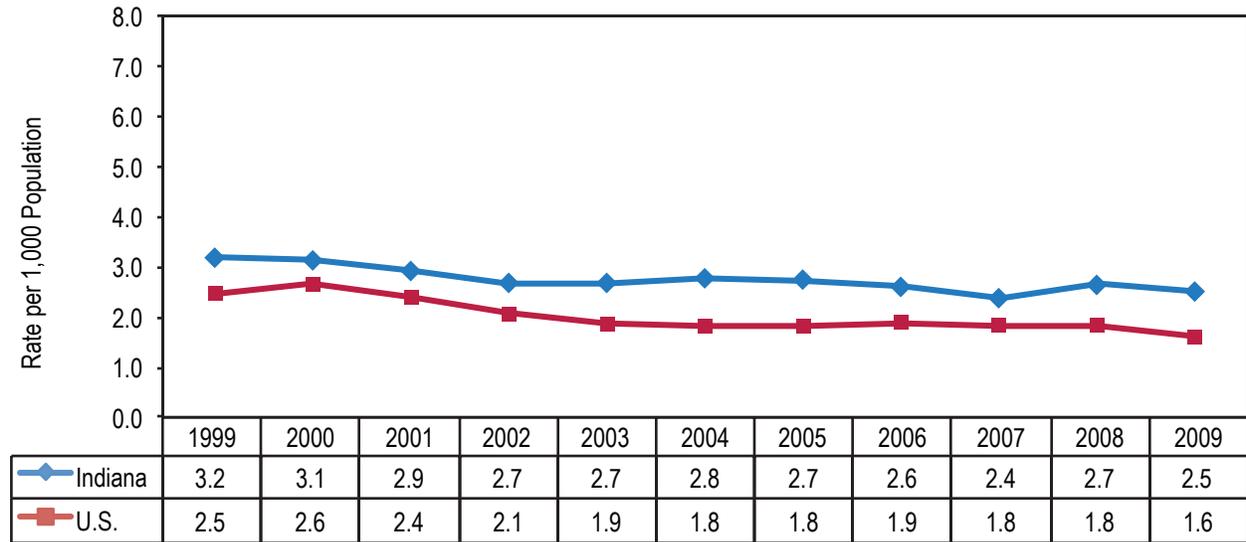
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

Figure 3.13 Arrest Rates, per 1,000 Population, for Public Intoxication in Indiana and the United States (Uniform Crime Reporting Program, 1999–2009)



Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

Figure 3.14 Arrest Rates, per 1,000 Population, for Liquor Law Violation in Indiana and the United States (Uniform Crime Reporting Program, 1999–2009)



Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

APPENDIX 3A

Percentage of Indiana Students Reporting Lifetime, Monthly, and Binge Alcohol Use, by Region and Grade (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2011)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Lifetime	17.4	17.0	19.5	12.6	18.0	17.5	20.0	14.9	18.3
	Monthly	5.3	5.3	4.9	3.4	5.1	5.8	6.6	4.8	5.7
	Binge	5.8	6.7	4.6	4.8	6.6	6.1	6.5	4.5	6.2
7th Grade	Lifetime	26.1	28.7	26.7	22.1	29.4	22.9	28.9	22.8	29.6
	Monthly	10.2	11.4	10.1	8.5	11.3	8.6	11.1	9.7	12.0
	Binge	7.9	8.8	8.4	7.6	7.9	6.8	9.4	6.7	8.8
8th Grade	Lifetime	37.7	42.1	38.2	34.3	37.7	34.5	41.2	33.5	40.8
	Monthly	16.7	19.5	14.5	13.4	17.0	16.4	18.2	15.6	17.8
	Binge	11.1	12.4	10.6	9.0	10.4	11.7	13.1	9.0	11.7
9th Grade	Lifetime	47.7	52.1	48.5	44.6	49.0	42.9	50.6	46.3	51.6
	Monthly	23.8	27.0	23.2	22.1	23.0	21.0	24.2	24.7	27.1
	Binge	15.3	16.8	16.4	12.9	14.9	13.9	15.5	16.6	16.3
10th Grade	Lifetime	55.5	59.8	53.7	51.4	54.9	53.0	58.4	53.5	60.4
	Monthly	28.4	31.2	25.2	26.2	27.7	26.3	29.0	29.5	32.0
	Binge	18.1	20.7	15.8	17.2	17.9	16.1	18.7	19.2	20.2
11th Grade	Lifetime	60.6	64.9	59.3	57.4	59.2	58.2	65.9	59.1	63.3
	Monthly	31.7	35.0	28.7	30.2	29.5	29.2	34.1	33.0	34.7
	Binge	20.8	21.5	19.1	19.3	17.3	20.0	23.2	24.6	21.8
12th Grade	Lifetime	65.4	66.9	61.0	63.5	63.7	63.9	67.5	65.9	68.9
	Monthly	37.8	38.9	31.2	38.4	36.6	35.7	36.6	42.2	40.6
	Binge	26.4	27.5	21.0	25.4	27.5	23.6	25.1	30.3	28.9

Source: Gassman, et al., 2011

APPENDIX 3B

Number of Treatment Episodes with Alcohol Use and Dependence Reported at Treatment Admission in Indiana, by County (Substance Abuse Population by County/Treatment Episode Data Set, 2010)

County	Treatment Episodes	Alcohol Use		Alcohol Dependence	
	Total	Number	Percentage	Number	Percentage
Adams	202	80	39.6%	46	22.8%
Allen	1,447	851	58.8%	514	35.5%
Bartholomew	508	113	22.2%	74	14.6%
Benton	22	16	72.7%	11	50.0%
Blackford	32	5	15.6%	<5	N/A
Boone	196	130	66.3%	93	47.4%
Brown	64	24	37.5%	20	31.3%
Carroll	95	83	87.4%	61	64.2%
Cass	211	165	78.2%	133	63.0%
Clark	183	82	44.8%	51	27.9%
Clay	135	78	57.8%	56	41.5%
Clinton	119	58	48.7%	48	40.3%
Crawford	35	19	54.3%	14	40.0%
Daviess	173	98	56.6%	68	39.3%
Dearborn	128	63	49.2%	42	32.8%
Decatur	92	23	25.0%	18	19.6%
DeKalb	166	114	68.7%	83	50.0%
Delaware	698	430	61.6%	310	44.4%
Dubois	235	183	77.9%	143	60.9%
Elkhart	769	508	66.1%	313	40.7%
Fayette	112	30	26.8%	20	17.9%
Floyd	70	33	47.1%	20	28.6%
Fountain	70	46	65.7%	32	45.7%
Franklin	23	9	39.1%	6	26.1%
Fulton	177	141	79.7%	85	48.0%
Gibson	138	109	79.0%	72	52.2%
Grant	250	84	33.6%	61	24.4%
Greene	127	59	46.5%	37	29.1%
Hamilton	571	435	76.2%	280	49.0%
Hancock	89	55	61.8%	37	41.6%
Harrison	25	10	40.0%	7	28.0%
Hendricks	354	161	45.5%	124	35.0%
Henry	206	119	57.8%	74	35.9%
Howard	580	302	52.1%	213	36.7%
Huntington	347	99	28.5%	65	18.7%
Jackson	138	40	29.0%	23	16.7%

APPENDIX 3B (Continued from previous page)

County	Treatment Episodes	Alcohol Use		Alcohol Dependence	
	Total	Number	Percentage	Number	Percentage
Jasper	71	42	59.2%	23	32.4%
Jay	57	31	54.4%	18	31.6%
Jefferson	134	39	29.1%	32	23.9%
Jennings	171	45	26.3%	29	17.0%
Johnson	293	149	50.9%	100	34.1%
Knox	244	140	57.4%	98	40.2%
Kosciusko	608	291	47.9%	185	30.4%
LaGrange	172	126	73.3%	81	47.1%
Lake	1,892	1,126	59.5%	775	41.0%
LaPorte	503	346	68.8%	254	50.5%
Lawrence	296	84	28.4%	67	22.6%
Madison	551	411	74.6%	268	48.6%
Marion	4,240	2,228	52.5%	1,443	34.0%
Marshall	230	125	54.3%	71	30.9%
Martin	59	33	55.9%	26	44.1%
Miami	233	133	57.1%	92	39.5%
Monroe	1,103	377	34.2%	327	29.6%
Montgomery	186	86	46.2%	47	25.3%
Morgan	424	116	27.4%	95	22.4%
Newton	36	24	66.7%	15	41.7%
Noble	335	176	52.5%	114	34.0%
Ohio	<5	<5	N/A	<5	N/A
Orange	78	40	51.3%	29	37.2%
Owen	231	94	40.7%	66	28.6%
Parke	105	68	64.8%	56	53.3%
Perry	161	140	87.0%	113	70.2%
Pike	37	27	73.0%	23	62.2%
Porter	446	238	53.4%	158	35.4%
Posey	154	123	79.9%	98	63.6%
Pulaski	73	45	61.6%	38	52.1%
Putnam	172	87	50.6%	57	33.1%
Randolph	101	37	36.6%	32	31.7%
Ripley	68	32	47.1%	25	36.8%
Rush	113	52	46.0%	39	34.5%
Saint Joseph	1,391	978	70.3%	557	40.0%

APPENDIX 3B (Continued from previous page)

County	Treatment Episodes	Alcohol Use		Alcohol Dependence	
	Total	Number	Percentage	Number	Percentage
Scott	84	51	60.7%	20	23.8%
Shelby	82	53	64.6%	38	46.3%
Spencer	183	147	80.3%	111	60.7%
Starke	130	80	61.5%	56	43.1%
Steuben	116	86	74.1%	55	47.4%
Sullivan	50	21	42.0%	14	28.0%
Switzerland	14	<5	N/A	<5	N/A
Tippecanoe	468	328	70.1%	230	49.1%
Tipton	42	17	40.5%	10	23.8%
Union	7	<5	N/A	<5	N/A
Vanderburgh	1,158	819	70.7%	484	41.8%
Vermillion	124	79	63.7%	56	45.2%
Vigo	580	307	52.9%	187	32.2%
Wabash	358	138	38.5%	79	22.1%
Warren	28	15	53.6%	9	32.1%
Warrick	313	225	71.9%	144	46.0%
Washington	26	11	42.3%	8	30.8%
Wayne	251	81	32.3%	52	20.7%
Wells	79	45	57.0%	27	34.2%
White	116	97	83.6%	71	61.2%
Whitley	159	94	59.1%	50	31.4%
County Info Missing	1,316	594	45.1%	402	30.5%
Indiana	29,443	16,238	55.2%	10,814	36.7%

Note: 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.

Source: Indiana Family and Social Services Administration, Revenue Enhancement and Data, 2011

APPENDIX 3C

Conditions that are Directly Attributable to Alcohol in Indiana (Alcohol-Related Disease Impact, Based on Averages from 2001–2005)

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%
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, 2008

APPENDIX 3D

Number and Rate (per 1,000) of All and Fatal Alcohol-Related Collisions in Indiana, by County (Automated Reporting Information Exchange System, 2010)

County	All Collisions			Fatal Collisions		
	Total Collisions	Alcohol-related Collisions	Alcohol-related Collision Rate	Total Fatal Collisions	Alcohol-related Fatal Collisions	Alcohol-related Fatal Collision Rate
Adams	652	22	0.64	2	0	*0.00
Allen	11,338	593	1.67	20	2	*0.01
Bartholomew	2,211	88	1.15	10	4	*0.05
Benton	168	8	*0.90	3	0	*0.00
Blackford	303	13	*1.02	0	0	*0.00
Boone	1,802	62	1.09	7	3	*0.05
Brown	517	23	1.51	2	0	*0.00
Carroll	603	17	*0.84	4	0	*0.00
Cass	1,276	40	1.03	7	2	*0.05
Clark	4,188	159	1.44	13	2	*0.02
Clay	816	34	1.27	3	1	*0.04
Clinton	1,180	62	1.87	5	1	*0.03
Crawford	272	9	*0.84	2	0	*0.00
Daviess	387	26	0.82	6	1	*0.03
Dearborn	1,981	79	1.58	8	2	*0.04
Decatur	798	33	1.28	7	3	*0.12
DeKalb	1,273	41	0.97	6	1	*0.02
Delaware	4,408	179	1.52	10	2	*0.02
Dubois	904	42	1.00	2	0	*0.00
Elkhart	6,098	207	1.05	23	5	*0.03
Fayette	543	28	1.15	4	3	*0.12
Floyd	2,554	95	1.27	6	0	*0.00
Fountain	448	18	*1.04	3	1	*0.06
Franklin	516	24	1.04	4	1	*0.04
Fulton	519	15	*0.72	2	0	*0.00
Gibson	1,071	38	1.13	7	0	*0.00
Grant	2,375	78	1.11	7	2	*0.03
Greene	887	37	1.11	6	0	*0.00
Hamilton	6,671	239	0.86	18	9	*0.03
Hancock	1,441	64	0.91	8	1	*0.01
Harrison	1,143	30	0.76	11	1	*0.03
Hendricks	3,476	117	0.80	11	1	*0.01
Henry	1,089	30	0.61	3	1	*0.02
Howard	2,455	105	1.27	6	2	*0.02
Huntington	1,122	33	0.89	4	1	*0.03

APPENDIX 3D (Continued from previous page)

County	All Collisions			Fatal Collisions		
	Total Collisions	Alcohol-related Collisions	Alcohol-related Collision Rate	Total Fatal Collisions	Alcohol-related Fatal Collisions	Alcohol-related Fatal Collision Rate
Jackson	1,514	50	1.17	12	1	*0.02
Jasper	1,230	55	1.64	15	4	*0.12
Jay	660	14	*0.66	1	1	*0.05
Jefferson	920	36	1.11	3	0	*0.00
Jennings	863	31	1.09	8	2	*0.07
Johnson	2,986	124	0.89	9	0	*0.00
Knox	1,031	60	1.56	11	4	*0.10
Kosciusko	2,434	94	1.21	7	4	*0.05
LaGrange	874	43	1.16	10	4	*0.11
Lake	16,964	935	1.89	44	15	*0.03
LaPorte	3,386	162	1.45	15	6	*0.05
Lawrence	1,389	59	1.28	6	0	*0.00
Madison	3,934	175	1.33	16	5	*0.04
Marion	27,519	1,129	1.25	71	30	0.03
Marshall	1,415	57	1.21	7	0	*0.00
Martin	257	15	*1.45	3	1	*0.10
Miami	1,016	42	1.14	2	0	*0.00
Monroe	4,053	221	1.60	13	2	*0.01
Montgomery	1,035	38	1.00	3	2	*0.05
Morgan	1,532	51	0.74	3	0	*0.00
Newton	369	17	*1.19	1	1	*0.07
Noble	1,301	63	1.33	8	1	*0.02
Ohio	208	17	*2.78	1	0	*0.00
Orange	595	19	*0.96	6	2	*0.10
Owen	545	25	1.16	4	0	*0.00
Parke	583	23	1.33	3	0	*0.00
Perry	473	34	1.76	2	0	*0.00
Pike	193	25	1.95	2	1	*0.08
Porter	4,725	259	1.57	27	4	*0.02
Posey	485	29	1.12	3	1	*0.04
Pulaski	463	13	*0.97	1	0	*0.00
Putnam	832	25	0.66	2	1	*0.03
Randolph	513	15	*0.57	2	0	*0.00
Ripley	767	31	1.08	5	2	*0.07
Rush	380	21	1.21	1	0	*0.00
Saint Joseph	6,855	337	1.26	15	6	*0.02

APPENDIX 3D (Continued from previous page)

County	All Collisions			Fatal Collisions		
	Total Collisions	Alcohol-related Collisions	Alcohol-related Collision Rate	Total Fatal Collisions	Alcohol-related Fatal Collisions	Alcohol-related Fatal Collision Rate
Scott	616	19	*0.79	7	1	*0.04
Shelby	1,112	33	0.74	14	0	*0.00
Spencer	628	34	1.63	8	1	*0.05
Starke	679	29	1.24	9	0	*0.00
Steuben	1,377	46	1.35	1	0	*0.00
Sullivan	441	41	1.91	8	3	*0.14
Switzerland	213	6	*0.57	1	1	*0.09
Tippecanoe	7,140	291	1.68	9	1	*0.01
Tipton	336	13	*0.82	1	0	*0.00
Union	159	9	*1.20	3	1	*0.13
Vanderburgh	6,394	276	1.53	6	3	*0.02
Vermillion	395	29	1.80	2	2	*0.12
Vigo	3,493	183	1.70	17	5	*0.05
Wabash	1,002	32	0.97	10	1	*0.03
Warren	262	10	*1.18	0	0	*0.00
Warrick	1,530	54	0.90	3	0	*0.00
Washington	748	40	1.41	4	1	*0.04
Wayne	2,211	71	1.03	5	0	*0.00
Wells	624	15	*0.54	2	0	*0.00
White	943	33	1.34	5	0	*0.00
Whitley	801	43	1.29	4	1	*0.03
Indiana	192,890	8,339	1.28	701	173	0.03

* Rates that are based on numbers lower than 20 are unreliable.
Source: Indiana State Police, 2011

APPENDIX 3E

Conditions that are Directly Attributable to Alcohol in Indiana (Alcohol-Related Disease Impact, Based on Averages from 2001–2005)

County	Number of Arrests for DUI	DUI Arrest Rate	Number of Arrests for Public Intoxication	Public Intoxication Arrest Rate	Number of Arrests for Liquor Law Violations	Liquor law Violation Arrest Rate
Adams	133	3.9	37	1.1	75	2.2
Allen	1,930	5.5	867	2.5	305	0.9
Bartholomew	463	6.0	267	3.5	331	4.3
Benton	25	2.9	6	*0.7	13	*1.5
Blackford	31	2.4	29	2.3	21	1.6
Boone	286	5.1	93	1.7	152	2.7
Brown	47	3.1	5	*0.3	37	2.4
Carroll	129	6.4	30	1.5	42	2.1
Cass	201	5.2	110	2.8	153	3.9
Clark	1,196	11.0	615	5.6	299	2.7
Clay	103	3.8	85	3.2	39	1.4
Clinton	123	3.7	73	2.2	153	4.6
Crawford	99	9.3	14	*1.3	23	2.2
Daviess	198	6.3	120	3.8	102	3.2
Dearborn	221	4.4	89	1.8	97	1.9
Decatur	113	4.4	65	2.5	86	3.4
DeKalb	211	5.0	117	2.8	107	2.5
Delaware	632	5.4	274	2.3	186	1.6
Dubois	115	2.7	82	2.0	109	2.6
Elkhart	927	4.7	368	1.9	498	2.5
Fayette	76	3.1	13	*0.5	114	4.7
Floyd	836	11.3	273	3.7	148	2.0
Fountain	91	5.3	36	2.1	36	2.1
Franklin	2	*0.1	0	*0.0	54	2.3
Fulton	57	2.7	34	1.6	44	2.1
Gibson	148	4.4	38	1.1	59	1.8
Grant	281	4.0	156	2.2	100	1.4
Greene	124	3.8	67	2.0	71	2.2
Hamilton	1,126	4.2	250	0.9	796	3.0
Hancock	303	4.4	131	1.9	197	2.8
Harrison	113	2.9	23	0.6	24	0.6
Hendricks	484	3.4	183	1.3	396	2.8
Henry	165	3.3	92	1.9	147	3.0
Howard	258	3.1	192	2.3	135	1.6
Huntington	177	4.8	27	0.7	66	1.8

APPENDIX 3E (Continued from previous page)

County	Number of Arrests for DUI	DUI Arrest Rate	Number of Arrests for Public Intoxication	Public Intoxication Arrest Rate	Number of Arrests for Liquor Law Violations	Liquor law Violation Arrest Rate
Jackson	149	3.6	135	3.2	117	2.8
Jasper	128	3.8	36	1.1	66	2.0
Jay	114	5.3	122	5.7	76	3.6
Jefferson	146	4.5	82	2.5	107	3.3
Jennings	105	3.7	91	3.2	57	2.0
Johnson	649	4.7	191	1.4	545	3.9
Knox	150	3.9	76	2.0	276	7.2
Kosciusko	378	4.9	228	3.0	213	2.8
LaGrange	131	3.5	32	0.9	104	2.8
Lake	3,732	7.5	2,367	4.8	1,539	3.1
LaPorte	702	6.3	390	3.5	545	4.9
Lawrence	189	4.1	207	4.5	83	1.8
Madison	555	4.2	551	4.2	382	2.9
Marion	3,143	3.5	6,116	6.8	934	1.0
Marshall	292	6.2	158	3.4	122	2.6
Martin	9	*0.9	6	*0.6	13	*1.3
Miami	146	3.9	94	2.5	49	1.3
Monroe	466	3.4	917	6.7	947	7.0
Montgomery	181	4.7	107	2.8	94	2.5
Morgan	279	4.1	53	0.8	314	4.6
Newton	96	6.8	45	3.2	7	*0.5
Noble	212	4.5	94	2.0	168	3.5
Ohio	22	3.6	5	*0.8	10	*1.6
Orange	67	3.4	24	1.2	35	1.8
Owen	86	4.0	22	1.0	40	1.8
Parke	96	5.5	32	1.8	21	1.2
Perry	130	6.7	63	3.3	98	5.1
Pike	50	3.9	23	1.8	32	2.5
Porter	719	4.4	333	2.0	628	3.8
Posey	114	4.4	48	1.9	73	2.8
Pulaski	57	4.2	11	*0.8	27	2.0
Putnam	341	9.0	148	3.9	126	3.3
Randolph	80	3.0	64	2.4	51	1.9
Ripley	122	4.2	42	1.5	53	1.8
Rush	81	4.6	28	1.6	63	3.6

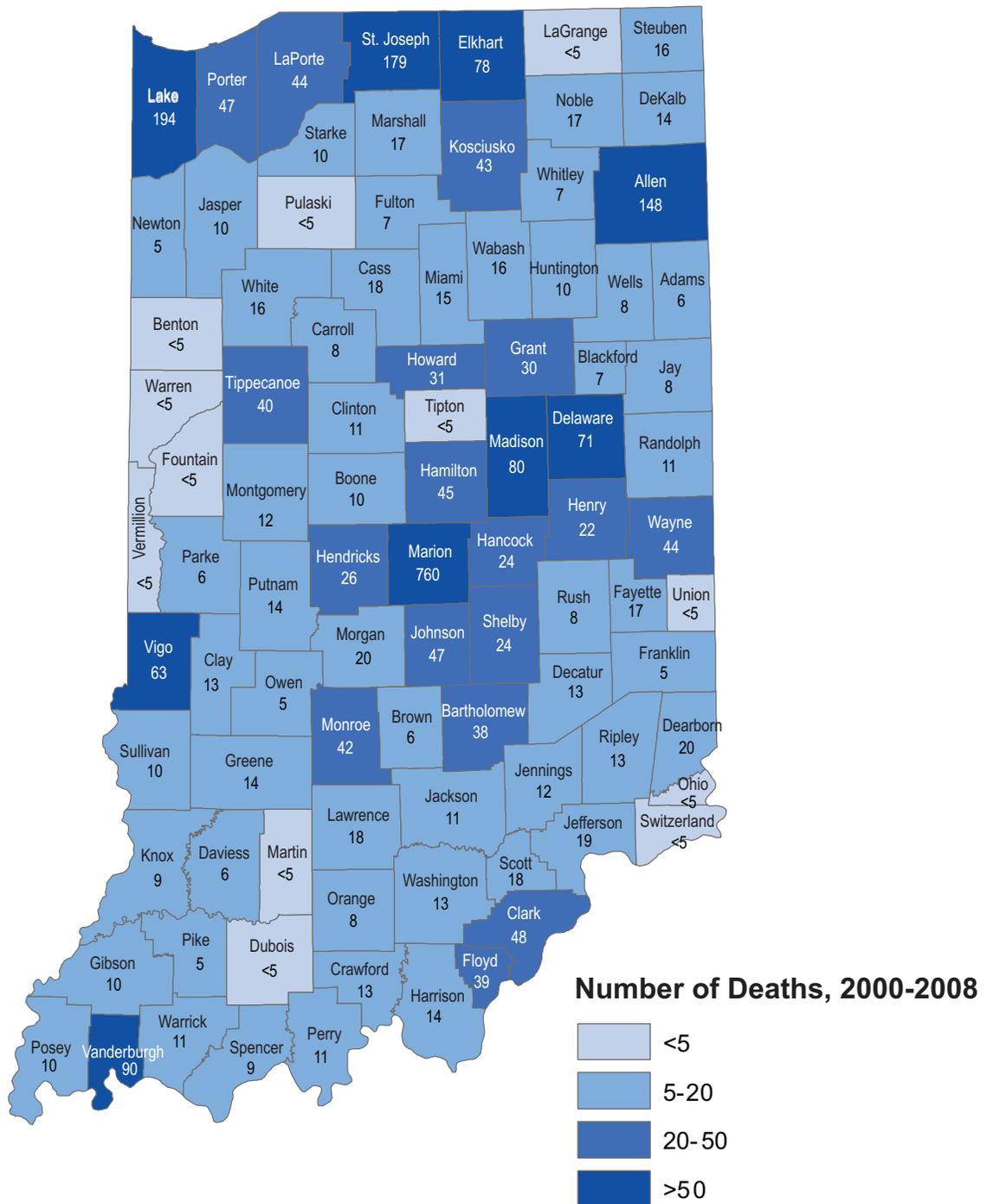
APPENDIX 3E (Continued from previous page)

County	Number of Arrests for DUI	DUI Arrest Rate	Number of Arrests for Public Intoxication	Public Intoxication Arrest Rate	Number of Arrests for Liquor Law Violations	Liquor law Violation Arrest Rate
Saint Joseph	729	2.7	116	0.4	360	1.3
Scott	80	3.3	88	3.6	70	2.9
Shelby	91	2.0	49	1.1	58	1.3
Spencer	69	3.3	25	1.2	35	1.7
Starke	58	2.5	52	2.2	29	1.2
Steuben	193	5.6	33	1.0	197	5.8
Sullivan	108	5.0	52	2.4	15	*0.7
Switzerland	33	3.1	13	*1.2	17	*1.6
Tippecanoe	751	4.4	723	4.2	580	3.4
Tipton	43	2.7	15	*0.9	18	*1.1
Union	24	3.2	8	*1.1	12	*1.6
Vanderburgh	1,390	7.8	809	4.5	274	1.5
Vermillion	75	4.6	66	4.0	50	3.1
Vigo	699	6.5	296	2.8	584	5.4
Wabash	125	3.8	75	2.3	102	3.1
Warren	29	3.4	11	*1.3	16	*1.9
Warrick	101	1.7	66	1.1	95	1.6
Washington	163	5.8	31	1.1	54	1.9
Wayne	311	4.5	440	6.4	150	2.2
Wells	42	1.5	38	1.4	80	2.9
White	232	9.4	89	3.6	92	3.7
Whitley	132	4.0	39	1.2	65	2.0
Indiana	30,819	4.8	20,936	3.2	16,183	2.5

* Rates that are based on arrest numbers lower than 20 are unreliable.

Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

Map 3.2 Number of Alcohol-Induced Deaths in Indiana, by County (Indiana Mortality Data, 2000–2008)



Source: Indiana State Department of Health, Epidemiology Resource Center, Data Analysis Team, 2012

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4. TOBACCO USE IN INDIANA: CONSUMPTION PATTERNS AND CONSEQUENCES

TOBACCO CONSUMPTION

The harmful effects of tobacco on population health have been widely studied and the results published. Cigarette smoking remains the leading cause of preventable death in the United States, accounting for approximately one of every five deaths (Centers for Disease Control and Prevention, 2010b).

General Consumption Patterns

The 2009 National Survey on Drug Use and Health (NSDUH) estimates that 31.9% (95% Confidence Interval [CI]: 29.5–34.5) of Indiana residents 12 years and older used a tobacco product in the past month (U.S.: 28.0%). Tobacco products include cigarettes, smokeless tobacco, cigars, and pipe tobacco. Indiana’s rate has remained stable and higher than the nation for at least the past nine years, from 2000 through 2009 (see Figure 4.1) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

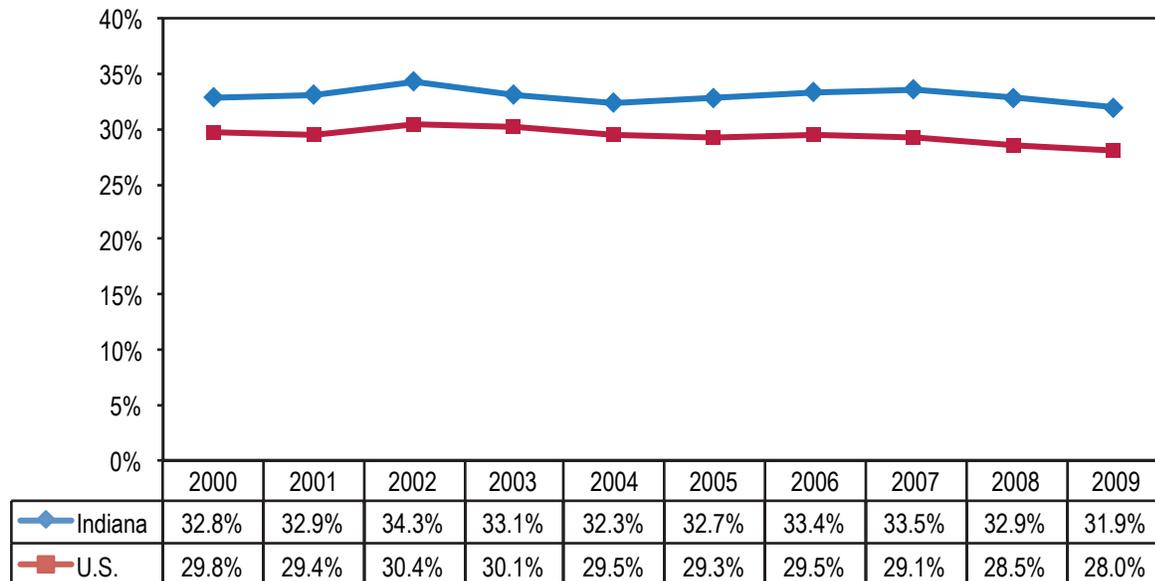
The majority of tobacco consumers smoke cigarettes. In 2009, 26.8% (95% CI: 24.5–29.3) of Hoosiers ages 12 years and older admitted to having used cigarettes in the past month, a rate significantly higher than the nation’s, 23.6%. The smoking prevalence for Indiana remained stable from 2000 (27.2%; 95% CI: 24.7–29.9) to 2009 (see Figure 4.2).

In Indiana, 67.5% (95% CI: 64.9–70.1) of the population 12 years and older perceived smoking one or more packs of cigarettes per day to be a great risk; the percentage within the nation was significantly higher (72.3%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Adult Consumption Patterns

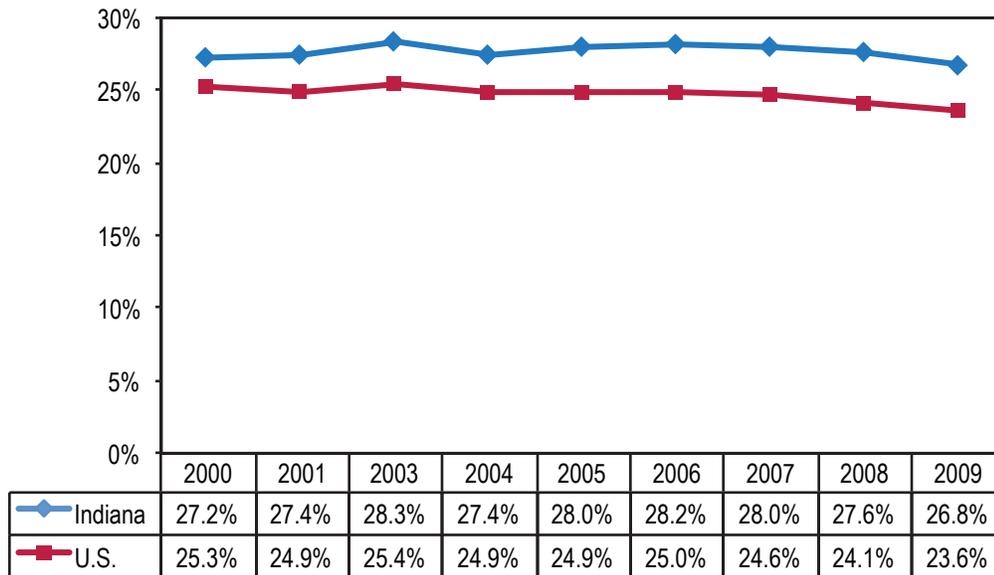
The highest rate of tobacco use was among 18- to 25-year-olds. An estimated 46.5% of Hoosiers in this age group (95% CI: 42.7–50.3) reported currently using a tobacco product (within the past 30 days), representing a significantly higher rate than the

Figure 4.1 Percentage of Indiana and U.S. Population (12 Years and Older) Reporting Any Tobacco Use in the Past Month (National Survey on Drug Use and Health, 2000–2009)



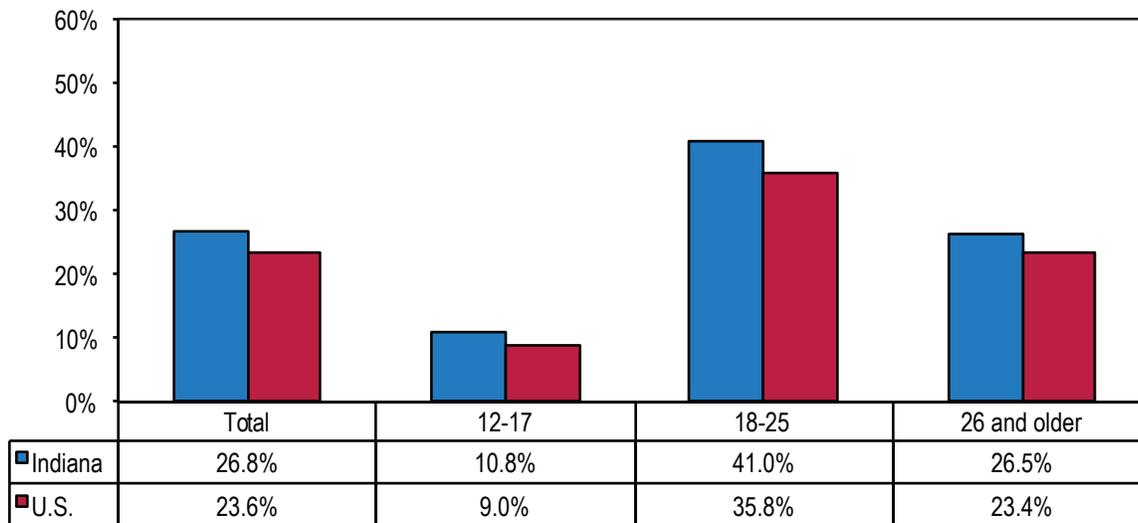
Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012

Figure 4.2 Percentage of Indiana and U.S. Population (12 Years and Older) Reporting Cigarette Use in the Past Month (National Survey on Drug Use and Health, 2000–2009)



Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012

Figure 4.3 Percentage of Indiana and U.S. Population (12 Years and Older) Reporting Cigarette Use in the Past Month (National Survey on Drug Use and Health, 2009)



Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012

nation's (U.S.: 41.5%). The 30-day prevalence rate for cigarette smoking among 18- to 25-year-olds was 41.0% (95% CI: 37.4–44.8) in Indiana and a significantly lower 35.8% in the United States (see Figure 4.3).

Among Hoosiers ages 26 and older, 31.9% (95% CI: 28.9–35.0) used a tobacco product in the past month and 26.5% (95% CI: 23.7–29.5) smoked cigarettes in the past month; again, the rates among the U.S. population in that age group were significantly lower, at 27.8% and 23.4% respectively (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

The Behavioral Risk Factor Surveillance System (BRFSS) focuses on behaviors and conditions that are linked with leading causes of death. The tobacco prevention community relies heavily on these data to assess adult smoking behaviors. According to the 2010 BRFSS, the past-month prevalence rate for adult (18 years and older) smoking in Indiana was 21.2% (95% CI: 19.9–22.5). Moreover, 16.3% (95% CI: 15.1–17.4) of Hoosiers used cigarettes every day. Indiana's smoking prevalence rates were significantly higher than national rates: 17.3% of U.S. residents smoked in the past month and 12.4% reported smoking every day (Centers for Disease Control and Prevention, 2010a).

Statistical differences in current smoking prevalence were not evident by gender or race, but were observed by age, educational attainment, and income (see Table 4.1):

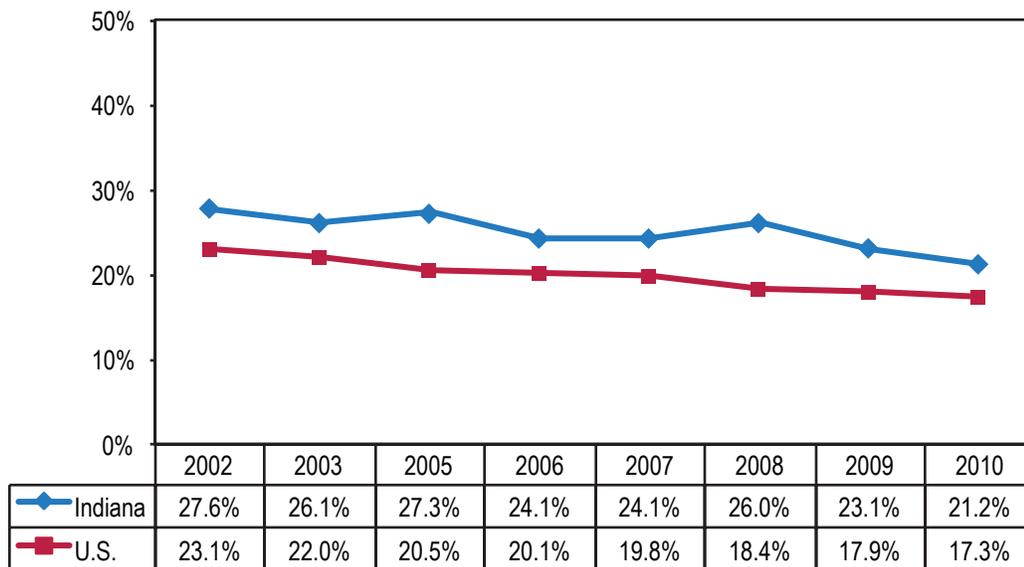
- Males displayed higher smoking rates than females. The difference was statistically significant.
- The percentage of black smokers was higher compared to whites. The difference was statistically significant.
- Younger adults displayed higher smoking rates than older adults. The difference was statistically significant.
- Educational attainment was inversely associated with prevalence rate; i.e., individuals who achieved higher levels of education had lower smoking rates. The difference was statistically significant.
- Income level was inversely associated with prevalence rate; i.e., individuals with higher income levels had lower smoking rates. The difference was statistically significant.

Table 4.1 Adult Smoking Prevalence (95% CI) in Indiana and the United States, by Gender, Race, Age Group, Educational Attainment, and Income Level (Behavioral Risk Factor Surveillance System, 2010)

		Indiana (95 % CI)	U.S.
Gender	Male	23.3% (21.0–25.5)	18.5%
	Female	19.3% (17.9–20.7)	15.8%
Race/ Ethnicity	White	20.6% (19.3–21.9)	16.7%
	Black	30.1% (23.3–36.9)	20.5%
	Hispanic	16.8% (9.6–23.9)	15.1%
Age Group	18-24	21.2% (15.7–26.7)	19.9%
	25-34	26.8% (23.0–30.6)	23.4%
	35-44	25.2% (21.7–28.7)	18.3%
	45-54	24.8% (22.3–27.2)	19.5%
	55-64	19.8% (17.7–21.8)	16.0%
	65+	8.0% (6.9–9.0)	8.4%
Education	Less than High School	35.1% (30.1–40.1)	32.4%
	High School or GED	25.3% (22.9–27.7)	24.0%
	Some Post-High School	24.8% (22.1–27.4)	19.2%
	College Graduate	8.9% (7.2–10.5)	7.8%
Income	Less than \$15,000	39.4% (33.9–44.9)	32.9%
	\$15,000 – \$24,999	30.9% (27.2–34.7)	26.1%
	\$25,000 – \$34,999	26.6% (22.4–30.9)	21.5%
	\$35,000 – \$49,999	22.6% (19.0–26.1)	19.1%
	\$50,000 and above	13.2% (11.5–15.0)	11.4%
Total		21.2% (19.9–22.5)	17.3%

Note: U.S. rates are based on median percentages and do not have an associated confidence interval (CI).
Source: Centers for Disease Control and Prevention, 2010a

Figure 4.4 Percentage of Indiana and U.S. Population (18 Years and Older) Reporting Current Cigarette Use (Behavioral Risk Factor Surveillance System, 2002–2010)



Source: Centers for Disease Control and Prevention, 2010a

Adult smoking prevalence in Indiana has been above the U.S. level for at least the past eight years (see Figure 4.4). Even though Indiana rates are on the decline, they still continue to be high compared to the nation. Indiana is ranked 10th among the

50 U.S. states in 2010 in terms of adult cigarette use. However, the top ten states were very close together and prevalence rates among them did not differ significantly (Centers for Disease Control and Prevention, 2010a).

Table 4.2 Rates of Past-Year and Past-Month (Current) Tobacco Use by Indiana College Students, by Type of Product and by Overall Use, Gender, Age Group, and Type of Institution (Indiana College Substance Use Survey, 2011)

	All Students		Gender		Age		Type of Institution	
	Indiana	U.S.	Male	Female	Under 21	21 or Over	Private	Public
Cigarettes (Past-Year)	28.1	28.1	31.8***	26.0***	25.4***	30.5***	23.1***	31.1***
Cigarettes (Past-Month)	20.4	16.4	24.0***	18.3***	17.8***	22.6***	15.9***	23.0***
Cigars (Past-Year)	21.2	N/A	39.0***	11.2***	23.4***	19.4***	20.4	21.8
Cigars (Past-Month)	10.3	N/A	20.2***	4.7***	11.6**	9.2**	10.4	10.2
Chewing/smokeless tobacco (Past-Year)	7.9	N/A	17.1***	2.7***	8.1	7.8	8.4	7.6
Chewing/smokeless tobacco (Past-Month)	4.4	N/A	11.0***	0.6***	4.5	4.3	4.4	4.3
Smoking tobacco with hookah/water pipe (Past-Year)	26.6	N/A	31.7***	23.7***	30.5***	23.2***	21.2***	29.8***
Smoking tobacco with hookah/water pipe (Past-Month)	12.0	N/A	15.9***	9.8***	14.8***	9.6***	9.4***	13.6***

Note: * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$

Source: Indiana Collegiate Action Network, 2011

The Indiana College Substance Use Survey includes questions on the use of cigarettes, cigars, chewing/smokeless tobacco, and smoking tobacco with hookah/water pipe. According to findings from the 2011 survey,¹ 28.1% of Indiana college students reported use of cigarettes in the past-year (U.S.: 28.1%; $P > 0.05$), while 20.4% reported current (past-month) use (U.S. 16.4%; $P > 0.05$). Results for the different types of tobacco by demographic characteristics can be found in Table 4.2 (Indiana Collegiate Action Network, 2011).²

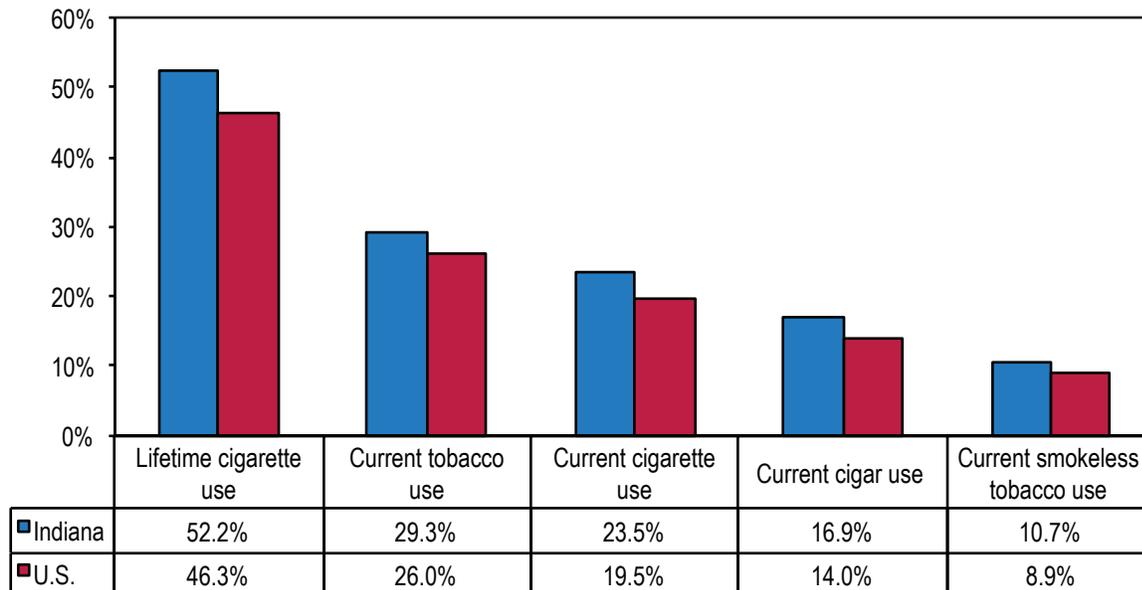
Youth Consumption Patterns

Based on results from the 2009 NSDUH, 13.9% (95% CI: 11.8–16.4) of Hoosiers ages 12 to 17 used a tobacco product in the past month (U.S.: 11.5%). Of these, 10.8% (95% CI: 9.1–12.9) of young Hoosiers smoked cigarettes (U.S.: 9.0%). Indiana’s rates were significantly higher than U.S. rates on both measures (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

According to the 2009 Youth Risk Behavior Surveillance System (YRBSS), 52.2% (95% CI: 47.5–56.9) of Indiana high school students (grades 9 through 12) have tried smoking a cigarette, even one or two puffs, in their lifetime (Centers for Disease Control and Prevention, 2011). This rate has remained stable from 2003 to 2009 and is similar to the nation’s rate (46.3%; 95% CI: 43.7–48.9). The percentage of Indiana students in grades 9 through 12 who currently use any tobacco product (29.3%; 95% CI: 25.7–33.2) has also remained stable and is statistically similar to the U.S. rate of 26.0% (95% CI: 23.8–28.3). The YRBSS further found that in 2009, as illustrated in Figure 4.5:

- 23.5% (95% CI: 20.4–27.0) of Hoosier high school students currently smoke cigarettes (U.S.: 19.5%; 95% CI: 17.9–21.2);
- 16.9% (95% CI: 14.5–19.6) currently smoke cigars (U.S.: 14.0%; 95% CI: 12.8–15.4); and
- 10.7% (95% CI: 9.0–12.5) currently use smokeless tobacco (U.S.: 8.9%; 95% CI: 7.3–10.8) (Centers for Disease Control and Prevention, 2011).

Figure 4.5 Percentage of Indiana and U.S. High School Students Reporting Tobacco Consumption (Youth Risk Behavior Surveillance System, 2009)



Source: Centers for Disease Control and Prevention, 2011

¹ National data, based on the Monitoring the Future study, are not currently available for comparison of prescription drug variables from the Indiana College Substance Use Survey. College students in the national study were defined as “[T]hose follow-up respondents one to four years past high school who say they were registered as full-time students in a two- or four-year undergraduate college at the beginning of March in the year in question” (Johnston, O’Malley, Bachman, & Schulenberg, 2011, p. 255).

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

Current cigarette use rates did not differ by gender. Indiana males seemed to have higher rates in 2009 (24.3%; 95% CI: 20.5–28.6) than females (22.6%; 95% CI: 18.6–27.1), but the difference was statistically not significant. Overall smoking rates remained stable from 2003 to 2009, as did smoking rates by gender (see Table 4.3).

The prevalence rate for current cigarette use among high school students was more than twice as high among white students (25.3%; 95% CI: 21.2–29.9) than black students (11.3%; 95% CI: 6.9–18.0); almost one-fourth of Hispanic students (23.2%; 95% CI: 17.1–30.8) reported that they currently smoke cigarettes (see Figure 4.6).

Prevalence of current cigarette use increased as students progressed through high school. In 2009, 14.2% (95% CI: 9.4–20.7) of 9th grade students reported current use; this represents a rate significantly lower than the rates for 11th and 12th grade students (11th grade: 29.3%; 95% CI: 23.8–35.5; 12th grade: 30.0%; 95% CI: 25.2–35.3) in Indiana (see Figure 4.7) (Centers for Disease Control and Prevention, 2011).

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, lifetime use of cigarettes and current use of various tobacco products declined significantly in Indiana from 2000 to 2010 (see Figure 4.8) (Indiana State Department of Health, Tobacco Prevention and Cessation Commission, 2011).

Based on 2010 IYTS results, a total of 7.8% of middle school students (95% CI: 6.2–9.4) and 26.4% of high school students (95% CI: 23.9–28.8) used a tobacco product (any type) in the past month, while 4.4% of middle school students (95% CI: 3.3–5.5) and 17.5% of high school students (95% CI: 15.1–19.9)

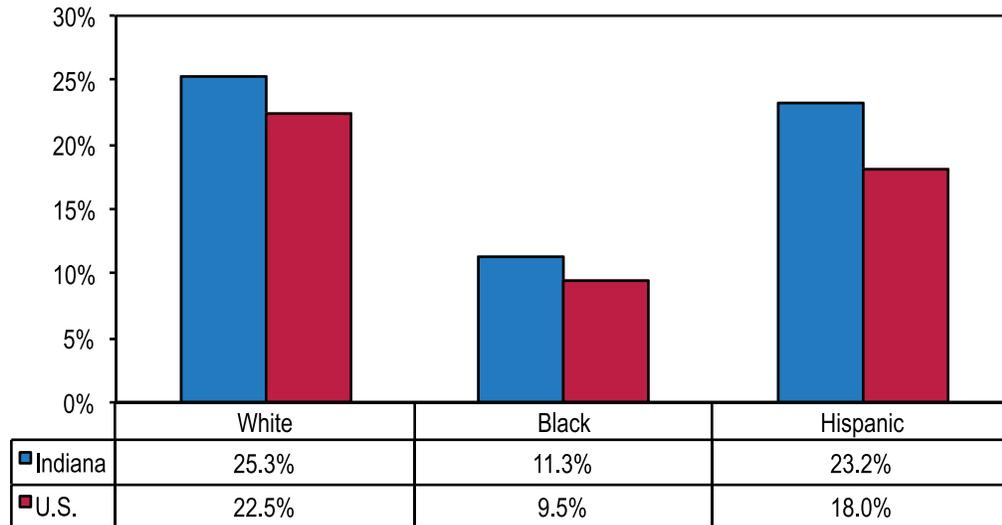
Table 4.3 Rates of Current Cigarette Use in Indiana and U.S. High School Students (9th–12th grade), by Gender (Youth Risk Behavior Surveillance System, 2003–2009)

Years	Gender	Indiana (95% CI)	U.S. (95% CI)
2003	Females	25.7% (23.2–28.5)	21.9% (19.2–24.9)
	Males	25.6% (22.2–29.4)	21.8% (19.8–24.1)
	Total	25.6% (23.2–28.2)	21.9% (19.8–24.2)
2005	Females	20.5% (16.1–25.8)	23.0% (20.4–25.8)
	Males	23.2% (18.7–28.3)	22.9% (20.7–25.3)
	Total	21.9% (18.0–26.4)	23.0% (20.7–25.5)
2007	Females	19.9% (15.2–25.5)	18.7% (16.5–21.1)
	Males	24.6% (19.4–30.6)	21.3% (18.3–24.6)
	Total	22.5% (17.8–27.9)	20.0% (17.6–22.6)
2009	Females	22.6 (18.6–27.1)	19.1 (17.2–21.0)
	Males	24.3 (20.5–28.6)	19.8 (17.8–21.9)
	Total	23.5 (20.4–27.0)	19.5 (17.9–21.2)

Source: Centers for Disease Control and Prevention, 2011

smoked cigarettes in the past month (Indiana State Department of Health, Tobacco Prevention and Cessation Commission, 2011). A review of IYTS data from 2000 through 2010 reveals that the prevalence of cigarette smoking has declined significantly among Indiana middle school students over the past few years. The drop in current cigarette use among high school students from 2000 through 2010 was also significant. For trend information, see Figure 4.9.

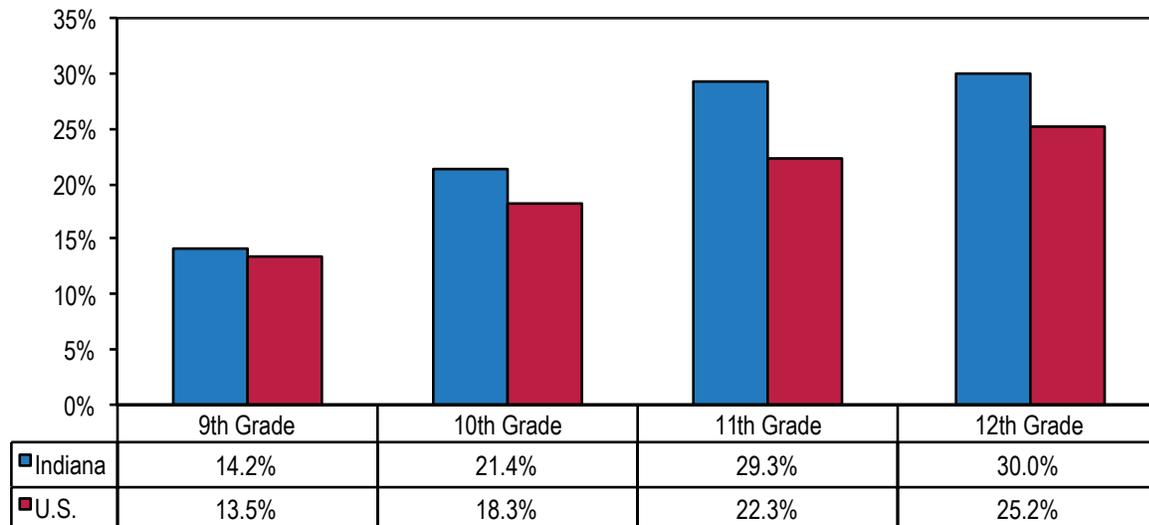
Figure 4.6 Rates of Current Cigarette Use in Indiana and U.S. High School Students (9th–12th Grade), by Race/Ethnicity (Youth Risk Behavior Surveillance System, 2009)



Note: Percentages are only reported for whites, blacks, and Hispanics. Results for other races/ethnicities were too little in number to make valid statistical inferences.

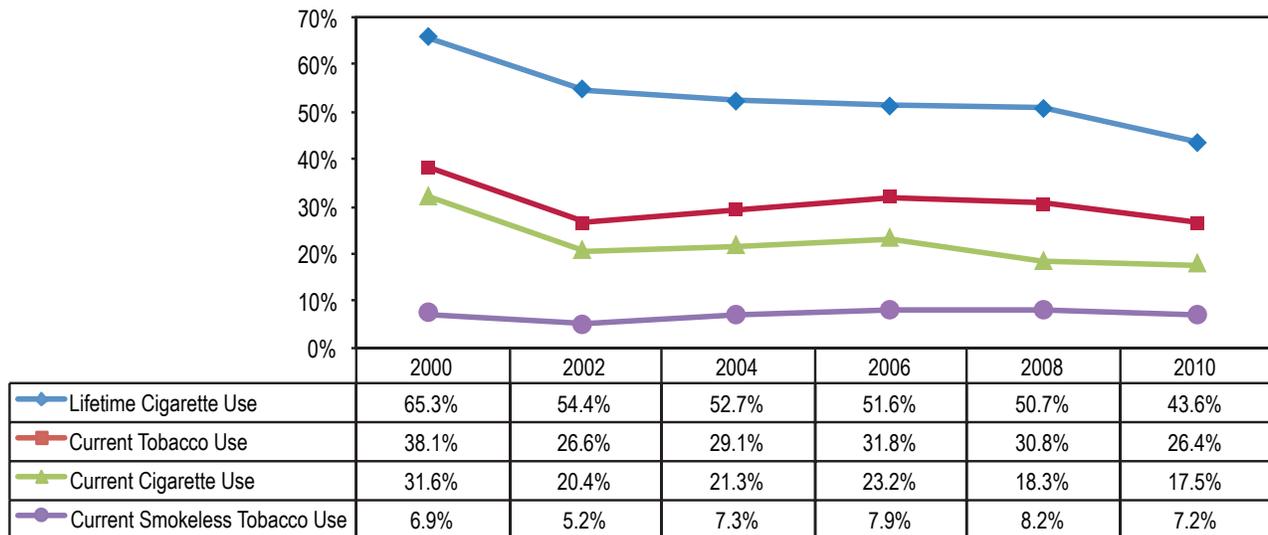
Source: Centers for Disease Control and Prevention, 2011

Figure 4.7 Current Smoking Prevalence for Indiana and U.S. High School Students (9th–12th Grade), by Grade (Youth Risk Behavior Surveillance System, 2009)



Source: Centers for Disease Control and Prevention, 2011

Figure 4.8 Tobacco Use Among Indiana High School Students (9th–12th Grade) (Indiana Youth Tobacco Survey, 2000–2010)



Source: Indiana State Department of Health, Tobacco Prevention and Cessation Commission, 2011

Appendix 4A (pages 71-73) shows the percentages, including 95% confidence intervals, of Indiana middle and high school students who reported current use of various tobacco products, grouped by gender, race/ethnicity, and grade, from 2000 through 2010.

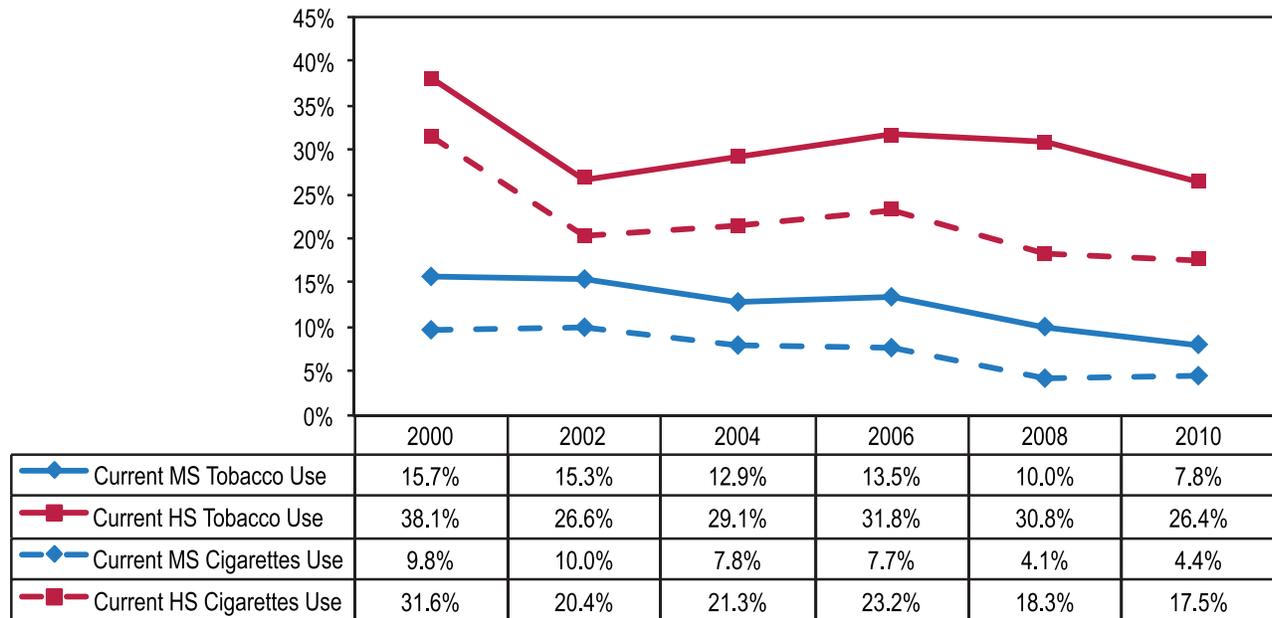
According to the 2011 Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents (ATOD) survey, the mean age of first-time cigarette use among Hoosier 6th through 12th graders was 13.0 years. Initiation of smokeless tobacco use occurred on average at the age of 13.6 years, cigar use at 14.1 years, and pipe use at 14.3 years (Gassman, Jun, Samuel, Agle, Lee, Morrison, Agle, et al., 2011). A comparison of 2010 Indiana data (ATOD survey) and national data (Monitoring the Future, or MTF, survey; Inter-university Consortium for Political and Social Research, University of Michigan, 2011) suggests that Indiana’s smoking prevalence among 8th, 10th, and 12th grade students exceeded the national level.

However, due to the nature of the data, the statistical significance of the differences could not be determined.

Generally, tobacco use seemed to increase as students progressed in school; i.e., higher smoking rates were found in 12th grade students (see Figure 4.10) (Gassman, et al., 2011; Inter-university Consortium for Political and Social Research, University of Michigan, 2011). See Appendix 4B (page 74) for Indiana students’ 2011 lifetime and monthly cigarette use by region and grade.

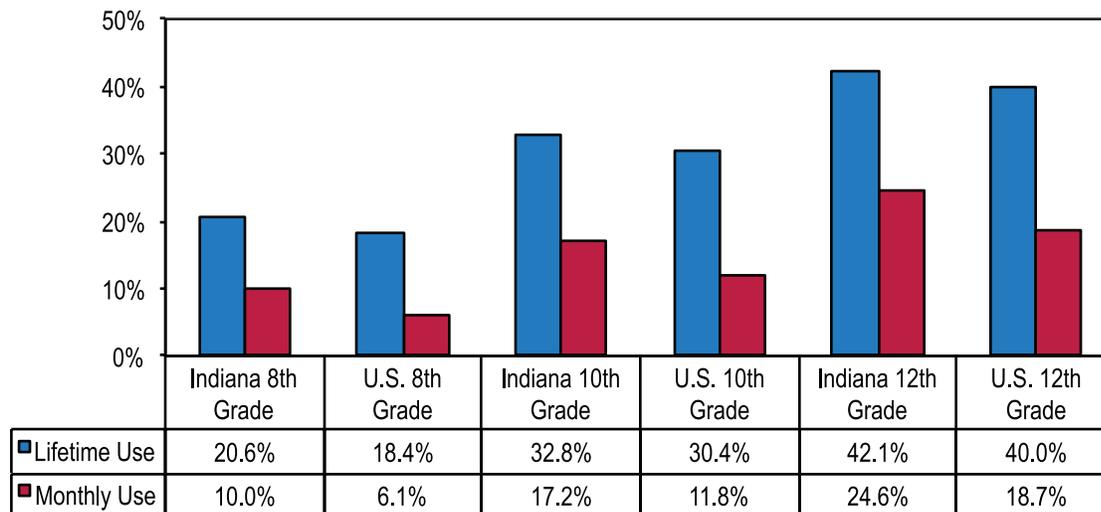
Comparisons between Indiana (ATOD survey) and the United States (MTF survey) on 30-day prevalence of cigarette use among 12th grade students imply that (a) Hoosier students have had higher rates throughout the years, and (b) rates have been declining for both groups (see Figure 4.11). However, these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

Figure 4.9 Percentage of Indiana Middle School and High School Students Reporting Current Tobacco and Cigarette Use (Indiana Youth Tobacco Survey, 2000–2010)



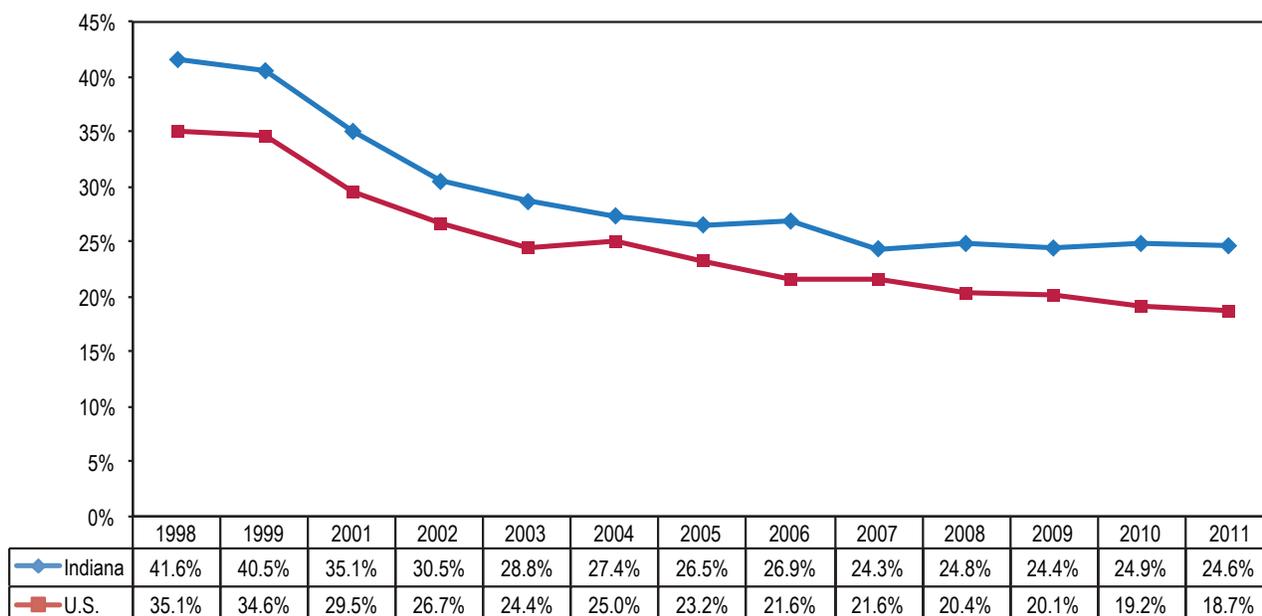
Source: Indiana State Department of Health, Tobacco Prevention and Cessation Commission, 2011

Figure 4.10 Cigarette Use Among 8th, 10th, and 12th Grade Students, Indiana and the United States (Alcohol, Tobacco, and Other Drug Use by Indiana Children Survey and Adolescents and Monitoring the Future Survey, 2011)



Source: Gassman et al., 2011; Inter-university Consortium for Political and Social Research, University of Michigan, 2011

Figure 4.11 Past-Month Smoking Prevalence for 12th Grade Students in Indiana and the United States (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey and Monitoring the Future Survey, 1998–2011)



Source: Gassman et al., 2011; Inter-university Consortium for Political and Social Research, University of Michigan, 2011

CONSEQUENCES

Health Consequences

Tobacco is the second major cause of death in the world. It is responsible for approximately one in 10 deaths among adults worldwide, or about 5 million deaths annually (World Health Organization, n.d.). In the United States, cigarette smoking is the single most preventable cause of disease and death, causing more deaths each year than AIDS, alcohol, cocaine, heroin, homicide, suicide, motor vehicle crashes, and fires combined.

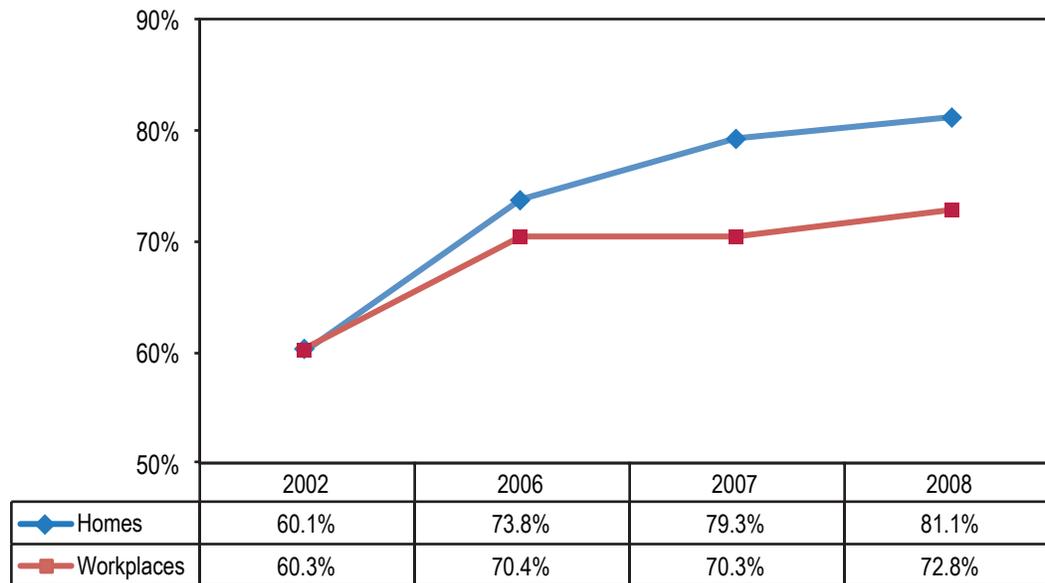
Tobacco use is responsible for more than 430,000 deaths per year among adults in the United States, representing more than 5 million years of potential life lost (U.S. Department of Health and Human Services, 2000). On average, smoking reduces adult life expectancy by approximately 14 years. It contributes greatly to the number of deaths from lung cancer, heart disease, chronic lung diseases, and other illnesses (Centers for Disease Control and Prevention, 2010b).

Smoking affects respiratory health as well; it 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 declines in smokers faster

than in nonsmokers. Smoking can result in cancers of the oral cavity, pharynx, larynx, esophagus, lung, bladder, stomach, cervix, kidney, and pancreas, as well as acute myeloid leukemia. For smoking-attributable cancers, the risk generally increases with the number of cigarettes smoked and the number of years of smoking, and generally 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 be a risk factor for cardiovascular disease as well (U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2004).

The effects of smoking can also be observed in unborn babies, infants, and children, and may influence women’s reproductive health. Women who smoke have an increased risk for infertility and ectopic pregnancies. Smoking during pregnancy causes health problems for both mothers and babies, such as an increased risk of spontaneous abortions, pregnancy complications (e.g., placenta previa, placental abruption, and premature rupture of membranes before labor

Figure 4.12 Percentage of Smoke-free Homes and Workplaces in Indiana (Adult Tobacco Survey, 2002–2008)



Source: Indiana State Department of Health, Tobacco Prevention and Cessation Commission, 2010

begins), premature delivery, low-birth-weight infants, stillbirth, and sudden infant death syndrome (SIDS). Mothers who smoke during pregnancy reduce their babies' lung function (Centers for Disease Control and Prevention, 2010b). The percentage of births to mothers who smoked during pregnancy declined in Indiana from 21.3% in 1997 to 18.5% in 2008; a higher percentage of white mothers (19.9%) smoked during pregnancy than black mothers (14.3%) (Indiana State Department of Health, Epidemiology Resource Center, 2008). For a list of health outcomes/diseases for which maternal smoking is a significant risk factor in Indiana, see Appendix 4C, page 74.

Secondhand smoke: Furthermore, even secondhand smoke (also called environmental tobacco smoke) has serious health consequences. More than 126 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 non-smoking adults, increasing the risk by 25 to 30% for heart disease and by 20 to 30% for lung cancer

(Centers for Disease Control and Prevention, 2010b). Children, in particular, are heavily impacted by second-hand smoke. Exposure increases their possibility of developing significant lung conditions, especially asthma and bronchitis (U.S. Department of Health and Human Services, 2000). Secondhand smoke can cause SIDS, acute respiratory infections, ear problems, and more frequent and severe asthma attacks in children (Centers for Disease Control and Prevention, 2010b). In the U.S. population, secondhand smoke is responsible for an estimated 46,000 deaths due to heart disease and 3,000 lung cancer deaths each year among nonsmoking adults (U.S. Department of Health and Human Services, 2000). Furthermore, approximately 1,240 adult Hoosiers die each year from exposure to secondhand smoke (Zollinger, Saywell, Muegge, and Przybylski, 2008).

In Indiana, the percentage of smoke-free homes³ has increased significantly from 60.1% (95% CI: 56.9–63.2) in 2002 to 81.1% (95% CI: 78.5–83.4) in 2008. Similarly, the percentage of smoke-free workplaces⁴ rose from 60.3% (95% CI: 55.9–64.6) to 72.8% (95% CI: 68.3–76.9) during that time period (see Figure 4.12)

³ This measure refers to the prevalence of smoke-free homes among smokers' households; this is a more sensitive and meaningful measure, given that more than 80% of homes in the general population are smoke-free (Adult Tobacco Survey).

⁴ This measure refers to the prevalence of workers reporting a 100% smoke-free workplace (Adult Tobacco Survey).

Health Consequences for Youth: The use of tobacco products has wide-ranging consequences for adolescents and young adults. The younger people start smoking cigarettes, the more likely they are to become strongly addicted to nicotine. 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. Tobacco use in adolescence is associated with many other health risk behaviors, including higher risk sexual behavior and use of alcohol or other drugs (Centers for Disease Control and Prevention, 2010b).

It is estimated that over 9,700 Hoosiers die annually from smoking-attributable causes. This represents an age-adjusted mortality rate of 308.9 per 100,000 population (95% CI: 302.8–315.0), which is significantly higher than the U.S. median of 263.3 per 100,000 population (Centers for Disease Control and Prevention, 2004b). For a detailed list of smoking-attributable mortality rates by disease category, see Appendix 4D, page 75.

Economic Consequences

Annual U.S. tobacco industry marketing expenditures were an estimated \$10.5 billion in 2008, including Indiana's share of \$307.5 million. While total tobacco marketing expenditures in Indiana declined after peaking at \$475.4 million in 2003, current spending is still at historically high levels and has increased by almost 80% since the 1998 state tobacco settlement (Campaign for Tobacco-Free Kids, 2011).

The federal excise tax, as of April 1, 2009, is \$1.01 per pack of cigarettes. In addition to the federal tax, tobacco companies are required to pay state and local excise taxes. Currently, the average state cigarette excise tax rate is \$1.46 per pack, but varies from 17 cents in Missouri to \$4.35 in New York; Indiana's tobacco excise tax rate is 99.5 cents (Campaign for Tobacco-Free Kids, 2012).

During 2000–2004, cigarette smoking was estimated to be responsible for \$193 billion in annual health-related economic losses in the United States (\$96 billion in direct medical costs and approximately \$97 billion in lost productivity) (Centers for Disease Control and Prevention, 2010b). In Indiana, almost \$2.18 billion dollars of health-related costs in 2004 were smoking-attributable expenditures (SAE). Most of these costs accrued through hospital care (\$1.14 billion) and prescription drugs (\$372 million); the SAE estimate also included ambulatory care (\$318 million), nursing home care (\$215 million), and other health-related costs (\$138 million) (Centers for Disease Control and Prevention, 2004b). 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 American businesses every year.

APPENDIX 4A – Part 1

Percentage of Indiana Middle School and High School Respondents Who Currently Use Any Tobacco Product, by Gender, Race/Ethnicity, and School Grade (Indiana Youth Tobacco Survey, 2000–2010)

		2000		2002		2004		2006		2008		2010	
		%	(95% CI)	%	(95% CI)								
MIDDLE SCHOOL													
Gender													
Male	16.8	(12.9–20.8)	15.9	(12.5–19.3)	11.3	(8.9–13.7)	13.8	(10.4–17.2)	11.5	(8.3–14.7)	10.0	(7.5–12.5)	
Female	14.6	(10.1–19.0)	14.6	(10.8–18.4)	14.6	(11.3–18.0)	13.2	(10.5–15.8)	8.3	(6.2–10.5)	5.3	(3.4–7.2)	
Race/Ethnicity													
White	14.3	(10.5–18.1)	12.2	(9.0–15.5)	12.5	(9.6–15.3)	12.2	(9.3–15.0)	13.5	(9.4–17.6)	6.5	(5.0–8.0)	
Black	22.1	(13.2–30.9)	21.7	(17.0–26.5)	15.9	(10.6–21.3)	19.8	(15.0–24.5)	10.0	(6.6–13.5)	11.7	(7.2–16.3)	
Hispanic	26.0	(14.9–37.2)	20.3	(12.0–28.7)	14.4	(8.0–20.7)	14.2	(10.1–18.2)	9.3	(6.4–12.3)	14.8	(11.0–18.6)	
Grade													
6	10.7	(5.3–16.1)	11.1	(6.2–16.0)	8.9	(4.5–13.4)	6.4	(4.5–8.2)	3.2	(1.5–5.0)	2.1	(0.5–3.7)	
7	12.0	(7.9–16.1)	14.5	(10.8–18.3)	11.5	(8.8–14.3)	11.4	(8.9–13.8)	9.5	(6.9–12.0)	5.7	(3.9–7.5)	
8	24.9	(19.6–30.1)	19.0	(13.0–25.0)	17.7	(13.4–22.0)	22.3	(17.0–27.5)	17.0	(12.4–21.6)	13.2	(8.8–17.5)	
Total	15.7	(12.3–19.2)	15.3	(12.5–18.1)	12.9	(10.6–15.3)	13.5	(10.9–16.2)	10.0	(7.5–12.4)	7.8	(6.2–9.4)	
HIGH SCHOOL													
Gender													
Male	42.5	(36.9–48.0)	30.0	(25.7–34.3)	33.9	(30.9–37.0)	36.0	(31.3–40.7)	34.5	(30.7–38.4)	30.4	(26.5–34.2)	
Female	33.2	(29.5–37.0)	23.0	(18.4–27.7)	24.0	(21.2–26.7)	27.4	(22.4–32.3)	26.9	(23.6–30.3)	21.9	(19.1–24.8)	
Race/Ethnicity													
White	39.1	(35.1–43.2)	27.0	(23.1–30.9)	28.9	(25.8–32.0)	32.6	(27.6–37.7)	34.7	(30.4–39.1)	25.7	(22.9–28.4)	
Black	24.7	(18.8–30.7)	26.4	(20.5–32.3)	24.1	(18.8–29.5)	24.8	(18.8–30.9)	29.7	(24.7–34.7)	24.0	(19.5–28.4)	
Hispanic	36.7	(25.7–47.7)	22.8	(14.9–30.7)	34.4	(27.5–41.4)	32.0	(27.4–36.6)	25.5	(20.9–30.0)	32.7	(26.7–38.7)	
Grade													
9	29.5	(22.4–36.5)	23.4	(17.5–29.2)	25.3	(22.4–28.3)	24.3	(20.1–28.5)	22.1	(18.0–26.3)	19.8	(16.7–23.0)	
10	39.0	(34.0–44.0)	24.9	(18.7–31.0)	25.5	(22.3–28.6)	31.1	(25.4–36.8)	28.7	(23.7–33.6)	23.0	(19.2–26.7)	
11	36.5	(28.3–44.7)	27.4	(18.6–36.1)	31.7	(26.9–36.5)	36.4	(30.2–42.5)	36.9	(31.3–42.6)	30.9	(27.0–34.9)	
12	48.2	(37.9–58.5)	32.4	(25.0–39.7)	35.2	(29.3–41.1)	37.6	(30.4–44.8)	37.5	(31.6–43.4)	31.8	(26.1–37.4)	
Total	38.1	(34.3–41.9)	26.6	(23.1–30.2)	29.1	(26.5–31.7)	31.8	(27.6–36.0)	30.8	(27.8–33.9)	26.4	(23.9–28.8)	

Source: Indiana State Department of Health, Tobacco Prevention and Cessation Commission, 2011

APPENDIX 4A – Part 2

Percentage of Indiana Middle School and High School Respondents Who Currently Use Cigarettes, by Gender, Race/Ethnicity, and School Grade (Indiana Youth Tobacco Survey, 2000–2010)

		2000		2002		2004		2006		2008		2010	
		%	(95% CI)	%	(95% CI)								
MIDDLE SCHOOL													
Gender													
Male	9.3	(6.8–11.9)	8.4	(5.6–11.1)	5.7	(3.7–7.6)	7.1	(5.2–9.1)	4.5	(2.9–6.0)	5.2	(3.7–6.8)	
Female	10.4	(6.7–14.2)	11.1	(7.4–14.8)	10.1	(7.5–12.6)	8.3	(6.2–10.5)	3.7	(2.4–4.9)	3.5	(1.9–5.1)	
Race/Ethnicity													
White	9.0	(5.9–12.1)	9.1	(6.1–12.1)	8.2	(5.6–10.7)	7.4	(5.5–9.4)	7.0	(4.8–9.1)	4.1	(2.9–5.3)	
Black	12.3	(6.0–18.6)	10.2	(7.2–13.1)	6.2	(2.9–9.6)	7.8	(4.5–11.1)	2.9	(1.3–4.4)	4.7	(1.8–7.5)	
Hispanic	20.2	(10.3–30.1)	12.1	(5.6–18.6)	7.6	(2.9–12.3)	8.4	(5.3–11.5)	4.2	(2.5–6.0)	8.8	(5.6–12.0)	
Grade													
6	5.9	(2.1–9.7)	5.0	(1.6–8.4)	4.9	(0.6–9.2)	2.9	(1.7–4.1)	1.3	(0.3–2.2)	1.5	(0.1–2.9)	
7	7.2	(4.1–10.4)	10.2	(6.9–13.5)	8.2	(6.2–10.2)	5.4	(3.8–7.0)	4.1	(2.6–5.7)	2.6	(1.1–4.0)	
8	17.1	(11.8–22.3)	13.2	(8.3–18.1)	10.2	(7.1–13.3)	14.6	(10.8–18.5)	6.9	(4.6–9.3)	8.1	(5.3–10.9)	
Total	9.8	(7.1–12.6)	10.0	(7.6–12.4)	7.8	(5.9–9.7)	7.7	(5.9–9.6)	4.1	(2.9–5.3)	4.4	(3.3–5.5)	
HIGH SCHOOL													
Gender													
Male	32.8	(27.9–37.7)	21.2	(17.9–24.5)	22.8	(20.1–25.6)	23.6	(20.0–27.1)	19.0	(16.0–21.9)	18.8	(15.6–21.9)	
Female	30.1	(26.0–34.2)	19.7	(15.3–24.2)	19.4	(17.1–21.8)	22.7	(18.0–27.4)	17.5	(15.1–20.0)	15.8	(13.1–18.5)	
Race/Ethnicity													
White	32.8	(29.4–36.3)	20.9	(17.1–24.7)	22.1	(19.4–24.9)	24.8	(20.6–28.9)	21.1	(17.6–24.6)	18.2	(15.4–20.9)	
Black	16.5	(11.5–21.6)	16.4	(11.4–21.5)	12.6	(8.9–16.3)	12.5	(8.3–16.8)	12.7	(9.4–16.0)	9.2	(6.2–12.2)	
Hispanic	28.2	(16.3–40.1)	17.6	(7.8–27.4)	22.6	(17.3–27.9)	19.9	(14.6–25.1)	15.5	(12.4–18.5)	21.0	(15.6–26.4)	
Grade													
9	23.8	(17.1–30.5)	17.0	(11.6–22.5)	18.5	(15.5–21.5)	16.4	(13.5–19.4)	11.5	(8.5–14.5)	13.2	(10.8–15.5)	
10	31.4	(26.9–35.9)	19.5	(14.1–25.0)	19.1	(16.6–21.6)	22.5	(18.1–27.0)	16.9	(13.4–20.3)	14.1	(10.5–17.6)	
11	30.5	(24.5–36.5)	19.7	(13.1–26.3)	22.9	(18.4–27.3)	27.5	(22.1–32.9)	23.4	(18.2–28.6)	21.2	(17.4–24.9)	
12	41.8	(31.7–52.0)	27.3	(20.5–34.1)	25.6	(20.4–30.8)	28.1	(20.6–35.7)	22.7	(18.5–26.9)	21.5	(16.4–26.6)	
Total	31.6	(28.3–34.9)	20.4	(17.0–23.8)	21.3	(19.1–23.5)	23.2	(19.5–26.8)	18.3	(16.0–20.5)	17.5	(15.1–19.9)	

Source: Indiana State Department of Health, Tobacco Prevention and Cessation Commission, 2011

APPENDIX 4A – Part 3

Percentage of Indiana Middle School and High School Respondents Who Currently Use Smokeless Tobacco, by Gender, Race/Ethnicity, and School Grade (Indiana Youth Tobacco Survey, 2000–2010)

		2000		2002		2004		2006		2008		2010	
		%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
MIDDLE SCHOOL													
Gender													
Male	6.3	(3.8–8.8)	3.3	(1.7–4.9)	3.1	(1.5–4.7)	5.2	(3.1–7.3)	4.3	(2.7–5.9)	4.2	(2.6–5.8)	
Female	1.8	(0.7–3.0)	1.7	(0.7–2.7)	1.1	(0.3–2.0)	2.0	(1.1–2.8)	2.2	(1.0–3.4)	0.7	(0.2–1.1)	
Race/Ethnicity													
White	3.8	(2.3–5.2)	2.5	(1.4–3.6)	2.3	(1.2–3.4)	3.4	(1.9–4.9)	4.1	(2.0–6.2)	2.4	(1.4–3.3)	
Black	3.8	(0.0–8.1)	2.0	(0.8–3.2)	3.0	(0.7–5.3)	3.9	(1.4–6.3)	2.8	(1.3–4.3)	1.9	(0.2–3.6)	
Hispanic	7.4	(0.6–14.1)	1.3	(0.0–3.0)	0.6	(0.0–1.4)	2.7	(0.8–4.6)	2.7	(1.1–4.2)	2.9	(0.3–5.5)	
Grade													
6	4.2	(1.0–7.4)	1.6	(0.3–3.0)	1.9	(0.2–3.5)	1.5	(0.6–2.3)	0.9	(0.1–1.8)	0.5	(0.2–1.3)	
7	2.8	(0.9–4.7)	2.2	(0.6–3.8)	1.6	(0.6–2.6)	3.2	(1.8–4.5)	2.9	(1.6–4.1)	1.7	(0.7–2.7)	
8	5.4	(2.1–8.6)	3.1	(1.5–4.7)	2.6	(1.1–4.1)	6.1	(2.9–9.3)	6.1	(3.4–8.8)	4.5	(2.3–6.8)	
Total	4.1	(2.7–5.6)	2.4	(1.6–3.2)	2.2	(1.2–3.1)	3.6	(2.4–4.9)	3.3	(2.0–4.6)	2.5	(1.7–3.4)	
HIGH SCHOOL													
Gender													
Male	12.2	(8.5–16.0)	8.1	(4.4–11.8)	11.8	(9.4–14.1)	14.1	(10.1–18.1)	13.9	(10.5–17.2)	11.8	(9.7–13.9)	
Female	1.4	(0.6–2.1)	2.1	(0.8–3.5)	2.5	(1.6–3.3)	1.6	(0.7–2.5)	2.4	(1.5–3.4)	2.3	(1.3–3.3)	
Race/Ethnicity													
White	7.7	(5.3–10.1)	5.9	(3.6–8.2)	7.8	(6.2–9.5)	8.9	(6.3–11.4)	10.3	(7.3–13.3)	7.5	(6.1–9.0)	
Black	1.2	(0.0–2.8)	3.7	(0.0–8.5)	2.6	(1.0–4.1)	2.5	(0.9–4.0)	5.7	(3.1–8.3)	1.4	(0.1–2.9)	
Hispanic	N/A	N/A	0.5	(0.0–1.2)	7.6	(4.3–11.0)	7.1	(3.3–10.9)	4.5	(2.5–6.6)	10.2	(6.5–13.9)	
Grade													
9	5.4	(2.0–8.8)	3.9	(2.1–5.7)	6.2	(5.0–7.5)	6.9	(4.3–9.4)	4.6	(3.2–6.0)	3.7	(1.8–5.7)	
10	6.7	(4.4–9.0)	5.6	(3.2–7.9)	7.3	(5.3–9.4)	7.0	(3.5–10.5)	8.5	(5.6–11.4)	7.9	(5.5–10.3)	
11	6.8	(2.4–11.3)	6.5	(0.3–12.6)	7.8	(5.0–10.6)	7.3	(3.6–11.1)	10.9	(5.9–15.9)	9.1	(6.9–11.4)	
12	8.9	(2.3–15.6)	5.2	(1.8–8.6)	8.0	(5.5–10.5)	10.9	(6.9–14.9)	9.4	(6.5–12.4)	8.1	(4.7–11.6)	
Total	6.9	(4.7–9.2)	5.2	(3.1–7.4)	7.3	(5.9–8.8)	7.9	(5.7–10.1)	8.2	(6.1–10.2)	7.2	(5.9–8.6)	

Source: Indiana State Department of Health, Tobacco Prevention and Cessation Commission, 2011

APPENDIX 4B

Percentage of Indiana Students Reporting Lifetime and Monthly Cigarette Use, by Region and Grade (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2011)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Lifetime	7.3	5.7	8.2	4.1	9.8	7.1	11.3	4.5	8.9
	Monthly	2.6	1.8	2.9	1.8	3.6	2.9	4.4	1.5	2.8
7th Grade	Lifetime	13.2	13.1	13.4	9.9	15.7	10.5	19.7	9.6	17.0
	Monthly	6.0	5.8	5.7	4.1	7.0	5.0	8.6	4.9	8.1
8th Grade	Lifetime	20.6	22.4	19.8	17.1	21.4	18.2	25.0	17.3	23.8
	Monthly	10.0	10.5	9.3	8.2	10.8	9.4	11.4	8.5	11.4
9th Grade	Lifetime	27.2	30.0	30.0	21.5	29.6	21.3	32.3	27.6	31.1
	Monthly	14.4	15.5	14.6	10.5	15.8	10.8	17.3	15.7	17.9
10th Grade	Lifetime	32.8	33.8	32.9	27.9	34.0	28.2	38.9	30.3	39.1
	Monthly	17.2	16.6	16.6	14.9	18.7	14.1	20.3	17.3	21.0
11th Grade	Lifetime	38.1	38.3	38.3	34.0	37.9	34.1	43.4	38.2	43.1
	Monthly	20.7	20.8	20.2	18.8	19.5	17.5	23.5	21.9	24.9
12th Grade	Lifetime	42.1	40.9	39.9	39.7	43.5	38.9	44.8	43.2	45.5
	Monthly	24.6	23.6	21.9	23.9	25.5	22.2	24.0	26.5	27.3

Source: Gassman, et al., 2011

APPENDIX 4C

Smoking-Attributable Health Outcomes or Diseases for which Maternal Smoking is a Significant Risk Factor in Indiana (Smoking-Attributable Mortality, Morbidity, and Economic Costs, 2004)

Relative Risk (Risk for infants having the condition, given that their mother smoked during pregnancy)	Short Gestation / Low Birth Weight	1.83
	Sudden Infant Death Syndrome	2.29
	Respiratory Distress (Syndrome)—newborn	1.30
	Other Respiratory Conditions—perinatal	1.41
Mortality (Number of infant deaths caused by maternal smoking)	Short Gestation / Low Birth Weight	Males: 74 Females: 57
	Sudden Infant Death Syndrome	Males: 20 Females: 22
	Respiratory Distress (Syndrome)—newborn	Males: 10 Females: 8
	Other Respiratory Conditions—perinatal	Males: 15 Females: 10
Maternal Smoking Prevalence (Among women who gave birth, percentage who had smoking during pregnancy indicated on the birth certificate)		18.0

Source: Centers for Disease Control and Prevention, 2004a

APPENDIX 4D

Average Annual Age-Adjusted Smoking-Attributable Mortality Rate per 100,000 Population Among Adults 35 Years and Older in Indiana (Smoking-Attributable Mortality, Morbidity, and Economic Costs, 2000–2004)

Disease Category	Male	Female	Total
Malignant Neoplasms			
Lip, Oral Cavity, Pharynx	4.9	1.3	2.9
Esophagus	12.1	2.0	6.4
Stomach	2.3	0.6	1.3
Pancreas	5.6	4.4	5.0
Larynx	3.6	0.7	1.9
Trachea, Lung, Bronchus	152.3	66.7	102.2
Cervix Uteri	0.0	0.6	0.3
Kidney and Renal Pelvis	5.5	0.4	2.6
Urinary Bladder	7.0	1.2	3.5
Acute Myeloid Leukemia	1.6	0.4	0.9
Subtotal	194.9	78.3	127.0
Cardiovascular Diseases			
Ischemic Heart Disease	88.6	34.5	57.8
Other Heart Disease	29.5	11.4	18.4
Cerebrovascular Disease	14.9	11.1	12.5
Atherosclerosis	3.4	1.0	1.8
Aortic Aneurysm	11.4	3.8	6.8
Other Circulatory Diseases	1.1	0.9	1.0
Subtotal	148.9	62.7	98.3
Respiratory Diseases			
Pneumonia, Influenza	10.9	4.8	6.9
Bronchitis, Emphysema	17.5	9.2	12.4
Chronic Airway Obstruction	85.0	52.7	64.3
Subtotal	113.4	66.7	83.6
Average Annual Total	457.2	207.7	308.9

Source: Centers for Disease Control and Prevention, 2004a

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5. MARIJUANA USE IN INDIANA: CONSUMPTION PATTERNS AND CONSEQUENCES

MARIJUANA CONSUMPTION

Marijuana is a green, brown, or gray mixture of dried, shredded leaves, stems, seeds, and flowers of the hemp plant (*Cannabis sativa*). All forms of cannabis are mind-altering (psychoactive) drugs. The main active chemical in marijuana is THC (delta-9-tetrahydrocannabinol). Marijuana is usually smoked as a cigarette (called a joint) or in a pipe or bong. It can also be consumed in blunts, which are cigars that have been emptied of tobacco and refilled with marijuana, sometimes in combination with another drug, such as crack. Marijuana can be mixed into foods or brewed as tea (National Institute on Drug Abuse, 2010).

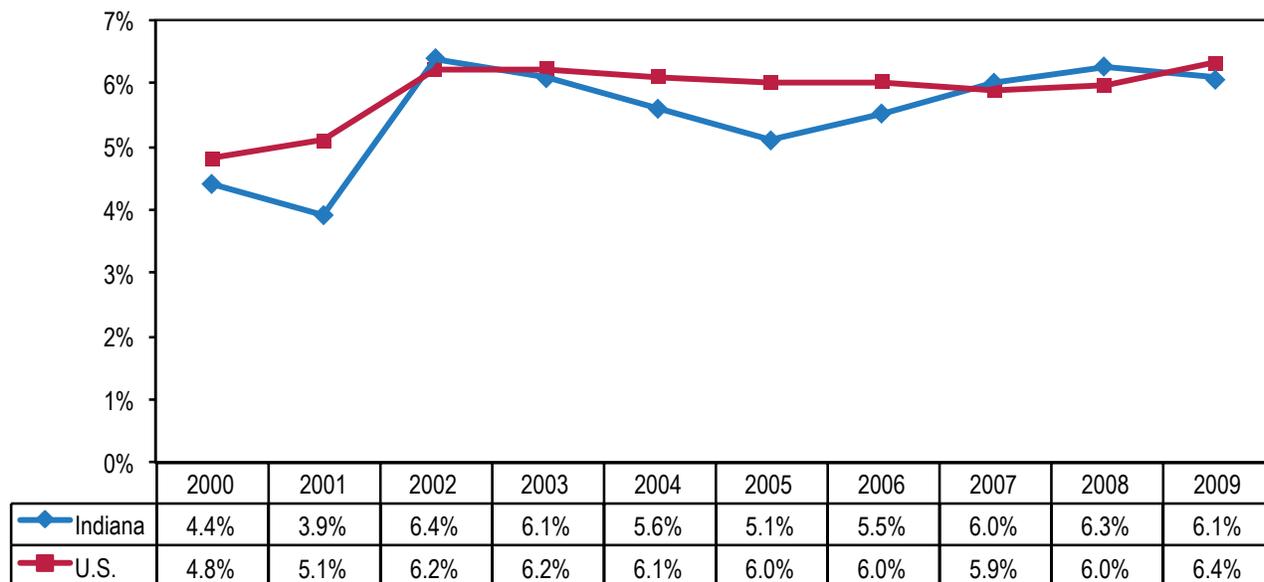
General Consumption Patterns

Marijuana is the most commonly used illicit drug, both in the United States and Indiana. According to results

from the 2008–2009 National Survey on Drug Use and Health (NSDUH), an estimated 6.1% (95% Confidence Interval [CI]: 5.1–7.4) of Indiana residents ages 12 and older reported current (past 30 days) marijuana use (U.S.: 6.4%; 95% CI: 6.2–6.6). A slightly larger number, 10.3% (95% CI: 8.9–11.9), of Indiana residents reported past-year use of the drug (U.S.: 10.8%; 95% CI: 10.5–11.1) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Looking at trend data from 2000 through 2009, it seems that the prevalence of current marijuana use has risen from 4.4% to 6.1% in Indiana; however, this increase was statistically not significant (see Figure 5.1). During this period, marijuana use patterns were similar in Indiana and the nation (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Figure 5.1 Percentage of Indiana and U.S. Population (Ages 12 and Older) Reporting Current Marijuana Use (National Survey on Drug Use and Health, 2000–2009)



Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012

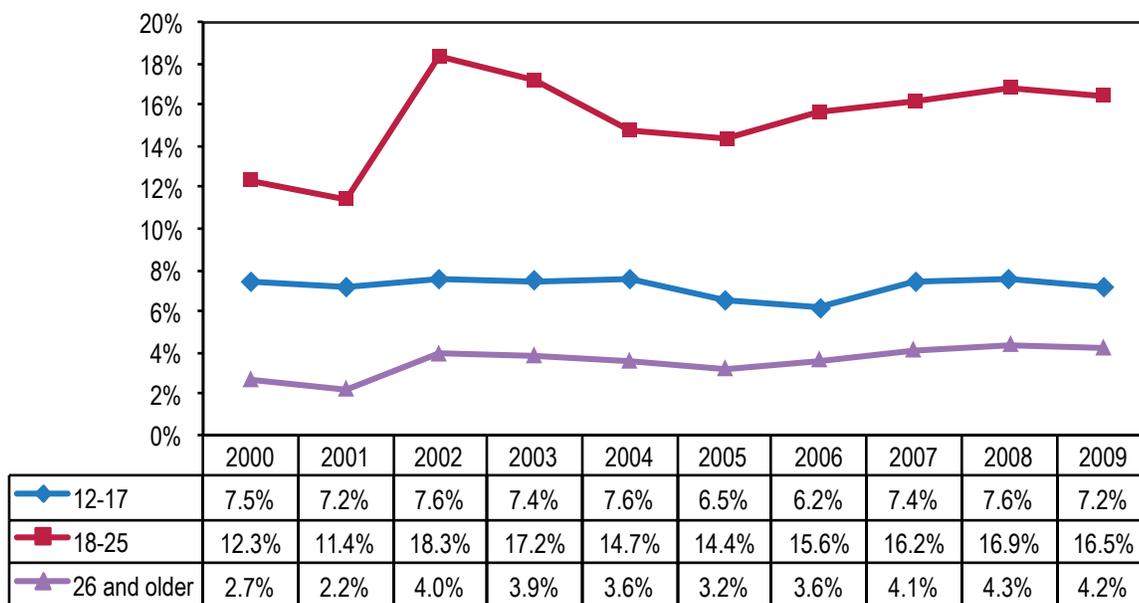
Adult Consumption Patterns

Patterns of marijuana use among adults were similar in Indiana and the United States. According to 2008–2009 NSDUH data, marijuana use was highest among individuals ages 18 to 25, with 16.5% (95% CI: 13.6–19.8) of Hoosiers in this age group reporting current use (U.S.: 17.3%; 95% CI: 16.8–17.9) and 27.2% (95% CI: 23.9–30.9) reporting past-year use (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Among Indiana residents ages 26 and older, 4.2% (95% CI: 3.2–5.6) reported current use (U.S.: 4.4%; 95% CI: 4.2–4.7) and 7.1% (95% CI: 5.7–8.9) reported past-year use (U.S.: 7.4%; 95% CI: 7.0–7.7) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012). See Figure 5.2 for Indiana rates by age group.

Regarding initiation of use in Indiana, 7.4% (95% CI: 6.0–9.0) of 18- to 25-year-olds and 0.1% (95% CI: 0.1–0.2) of individuals 26 years and older reported

Figure 5.2 Percentage of Indiana Residents Reporting Current Marijuana Use, by Age Group (National Survey on Drug Use and Health, 2000–2009)



Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012

first use of marijuana during the past year. These rates were statistically similar to the nation’s prevalence, 7.0% (95% CI: 6.6–7.3) and 0.1% (95% CI: 0.1–0.2) respectively (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

The Indiana State Epidemiology and Outcomes Workgroup (SEOW) conducted a statewide survey on substance use among adults in 2008 (State Epidemiology and Outcomes Workgroup, 2008). The results indicated significant differences ($P < 0.001$)

by gender, race, and age group (see Table 5.1), as follows:

- More men than women used marijuana.
- Blacks had higher rates of use than whites or other races.
- Consumption rates were higher among younger individuals than older ones.

Table 5.1 Patterns of Marijuana Use among Indiana Residents Ages 18 and Older (Indiana Household Survey on Substance Abuse, 2008)

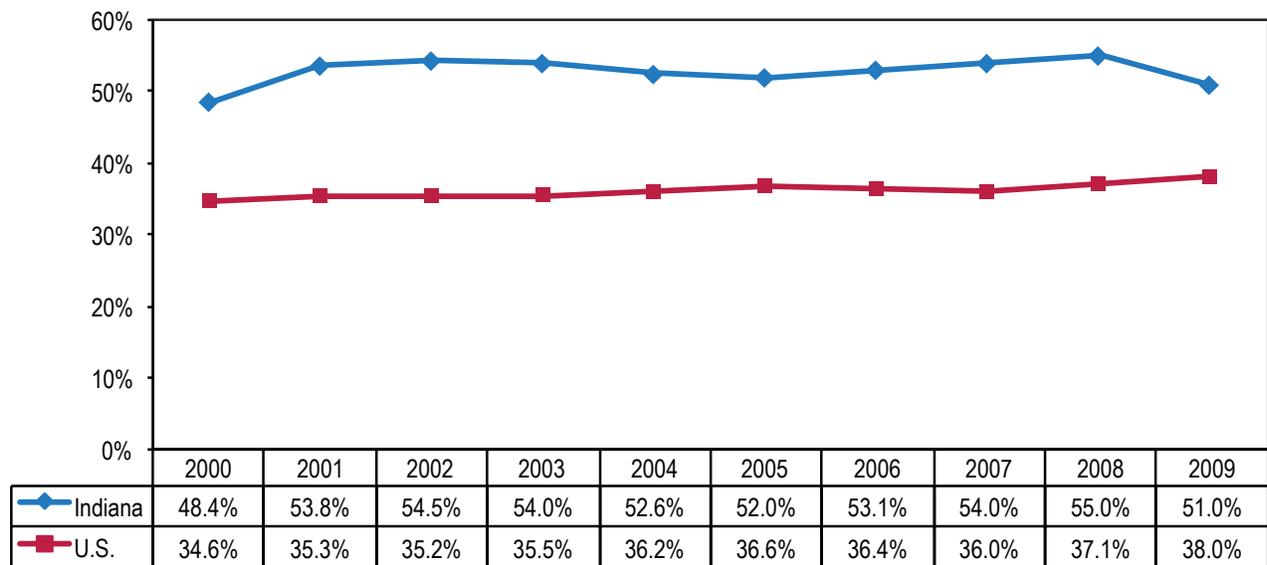
	Lifetime Use	Annual Use	Current Use
Gender			
Male	40.0%	8.3%	4.4%
Female	24.5%	3.1%	1.7%
Race			
White	31.5%	4.9%	2.4%
Black	39.1%	11.6%	9.1%
Other	32.0%	9.5%	6.9%
Age Group			
18-25	33.9%	17.8%	10.4%
26-34	40.9%	9.2%	4.9%
35-44	39.1%	5.2%	2.1%
45-54	41.0%	2.4%	1.4%
55-64	29.3%	1.7%	1.2%
65+	4.3%	0.1%	0.1%
Total	32.0%	5.6%	3.0%

Source: State Epidemiology and Outcomes Workgroup, 2008

Marijuana use is also prevalent among Indiana college students. Based on results from the 2011 Indiana College Substance Use Survey, 19.3% of college students reported current marijuana use (U.S.: 17.5%) and 28.4% reported past-year use (U.S.: 32.7%). Users were more likely to be male, under the age of 21, and attend a public institution of higher education (Indiana Collegiate Action Network, 2011).¹

The Treatment Episode Data Set (TEDS) series represents information gathered from clients at admission for each episode of substance abuse treatment (Substance Abuse and Mental Health Data Archive, 2009). TEDS data from 2000 through 2009 show that the percentage of treatment episodes in which marijuana use was reported was significantly higher in Indiana compared to the rest of the United States ($P < 0.001$). Between 2000 and 2009, roughly one-half of Indiana treatment episodes and approximately one-third of U.S. treatment episodes indicated marijuana use at admission (see Figure 5.3).

Figure 5.3 Percentage of Indiana and U.S. Treatment Episodes with Marijuana Use Reported at Treatment Admission (Treatment Episode Data Set, 2000–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

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

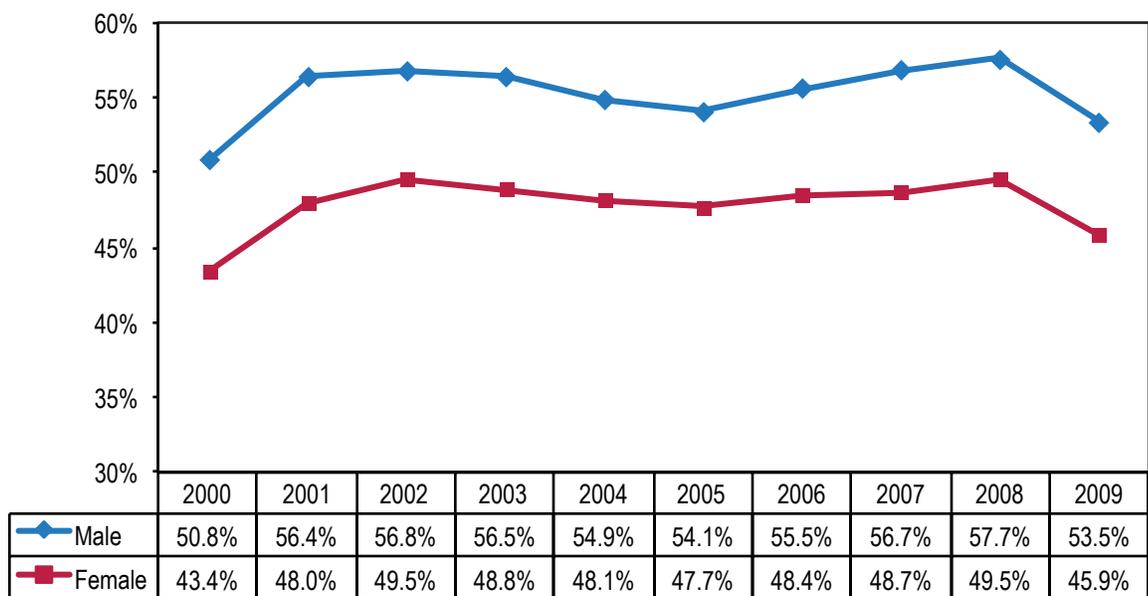
Statistically significant differences in marijuana use among Indiana’s treatment population were observed by gender, race, and age ($P < 0.001$), as follows:

- Across the years, the percentage of males reporting marijuana use was higher than the percentage of females (see Figure 5.4).
- Blacks had the highest percentage of reported marijuana use, compared to whites and other races in 2009 (see Figure 5.5).

- Throughout the years, marijuana use in the treatment population was highest among adolescents and decreased with age. Most Hoosiers in treatment who were under the age of 18 reported marijuana use (82.0%); while less than one-fifth of Indiana residents ages 55 and older indicated use of the substance (see Figure 5.6).

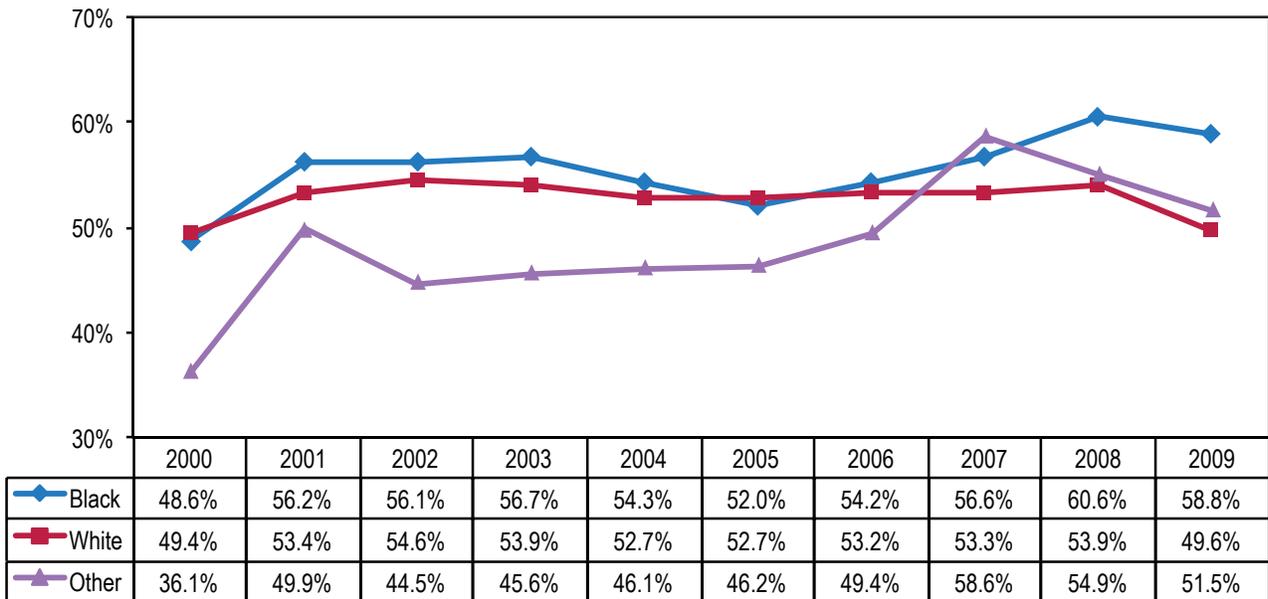
For county-level information on marijuana use, see Appendix 5A, page 91-93 (Substance Abuse and Mental Health Data Archive, 2009).

Figure 5.4 Percentage of Indiana Treatment Episodes with Marijuana Use Reported at Treatment Admission, by Gender (Treatment Episode Data Set, 2000–2009)



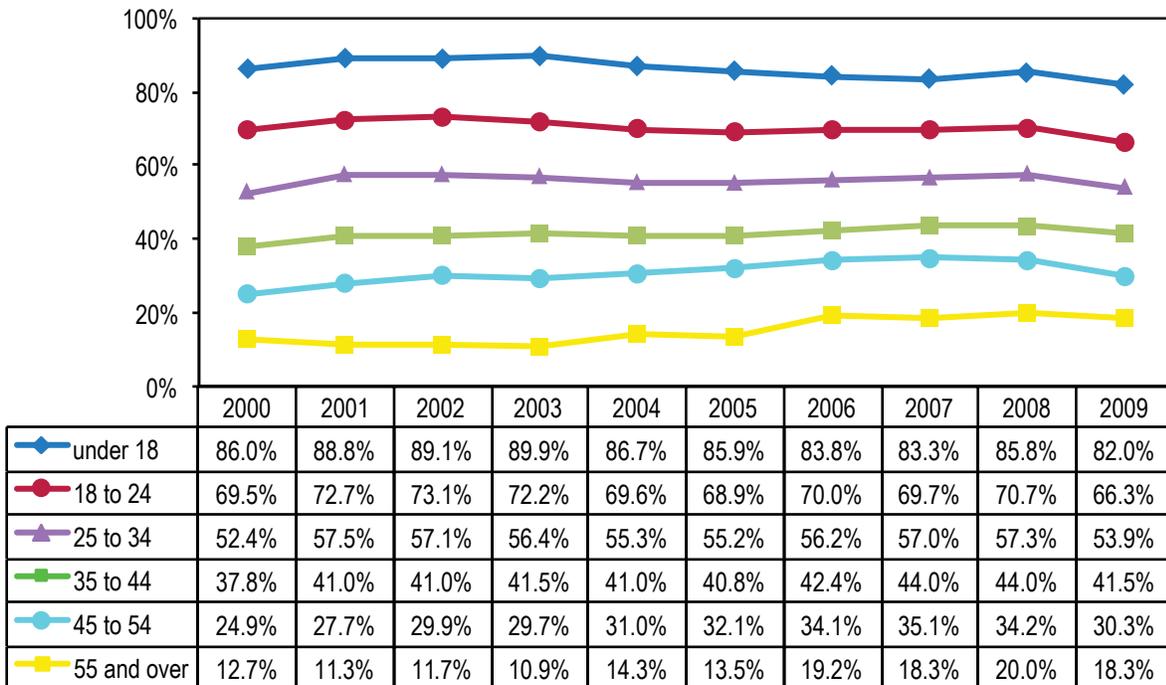
Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 5.5 Percentage of Indiana Treatment Episodes with Marijuana Use Reported at Treatment Admission, by Race (Treatment Episode Data Set, 2000–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 5.6 Percentage of Indiana Treatment Episodes with Marijuana Use Reported at Treatment Admission, by Age Group (Treatment Episode Data Set, 2000–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

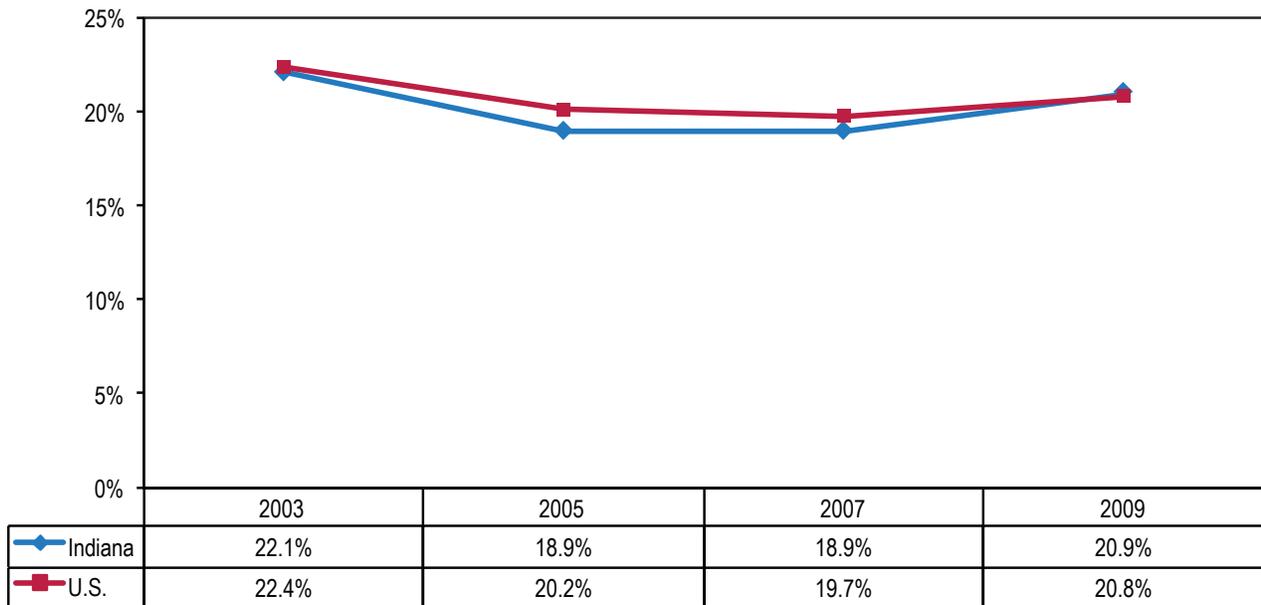
Youth Consumption Patterns

According to 2009 NSDUH findings, an estimated 5.8% (95% CI: 4.8–7.0) of 12- to 17-year-olds had used marijuana for the first time during the past year in Indiana; the rate was similar to the U.S. rate of 5.7% (95% CI: 5.5–5.9). Nearly 13% (12.9%; 95% CI: 10.8–15.4) in that age group reported past-year marijuana use (U.S.: 13.3%; 95% CI: 12.9–13.7). Patterns of current marijuana use among Indiana youth mirrored national rates, and remained constant from 2000 to 2009 (see Figure 5.2) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Based on findings from the 2009 Youth Risk Behavior Surveillance System (YRBSS), 20.9% (95% CI: 17.3–24.9) of high school students (grades 9 through 12) reported current marijuana use; this was similar to the national rate of 20.8% (95% CI: 19.4–22.3) (Centers for Disease Control and Prevention, 2011). Prevalence has remained stable from 2003 levels when 22.1% (95% CI: 19.8–24.7) of Indiana students and 22.4% (95% CI: 20.2–24.6) of U.S. students indicated current use (see Figure 5.7).²

In 2009, current use increased with grade level and was significantly lower among 9th graders compared to students in grades 11 and 12. However,

Figure 5.7 Percentage of Indiana and U.S. High School Students Currently Using Marijuana (Youth Risk Behavior Surveillance System, 2003–2009)



Source: Centers for Disease Control and Prevention, 2011

² Based on CDC's trend analysis report for 2009 Youth Risk Behavior Survey (report received February 1, 2012, from the Indiana State Department of Health).

no statistically significant differences were observed by gender or race/ethnicity (see Table 5.2) (Centers for Disease Control and Prevention, 2011).

Age at drug initiation is an important risk factor in the subsequent progression to substance abuse and dependence. Researchers found that adolescents who used marijuana by the age of 17 were at greater risk to use other drugs and develop alcohol dependence and drug abuse/dependence (Lynskey, M., Heath, A., Bucholz, K., Slutske, W., Madden, P., Nelson, E., et al., 2003).

Table 5.2 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, 2009)

	Indiana	U.S.
	Prevalence Rate (95% CI)	Prevalence Rate (95% CI)
Grade		
9th	12.9% (8.5–19.1)	15.5% (13.7–17.6)
10th	18.3% (13.5–24.3)	21.1% (18.9–23.4)
11th	27.9% (20.5–36.6)	23.2% (20.3–26.4)
12th	25.5% (19.1–33.2)	24.6% (21.7–27.7)
Gender		
Male	22.1% (18.3–26.3)	23.4% (21.8–25.1)
Female	19.4% (15.3–24.3)	17.9% (16.2–19.7)
Race/Ethnicity		
Black	21.4% (12.4–34.3)	22.2% (19.4–25.3)
White	20.9% (17.0–25.5)	20.7% (18.9–22.6)
Other Races	N/A	N/A
Hispanic	16.1% (10.8–23.3)	21.6% (19.6–23.8)
Total	20.9% (17.3–24.9)	20.8% (19.4–22.3)

Source: Centers for Disease Control and Prevention, 2011

In 2009, 7.6% (95% CI: 5.9–9.9) of Indiana students reported that they had tried marijuana before the age of 13; that figure was similar at the national level (7.5%; 95% CI: 6.7–8.3).

No statistically significant differences in initiation of marijuana use before age 13 were observed by gender, race/ethnicity, or grade level in Indiana (see Table 5.3), and the incidence rate remained stable from 2003 through 2009 (Centers for Disease Control and Prevention, 2011).³

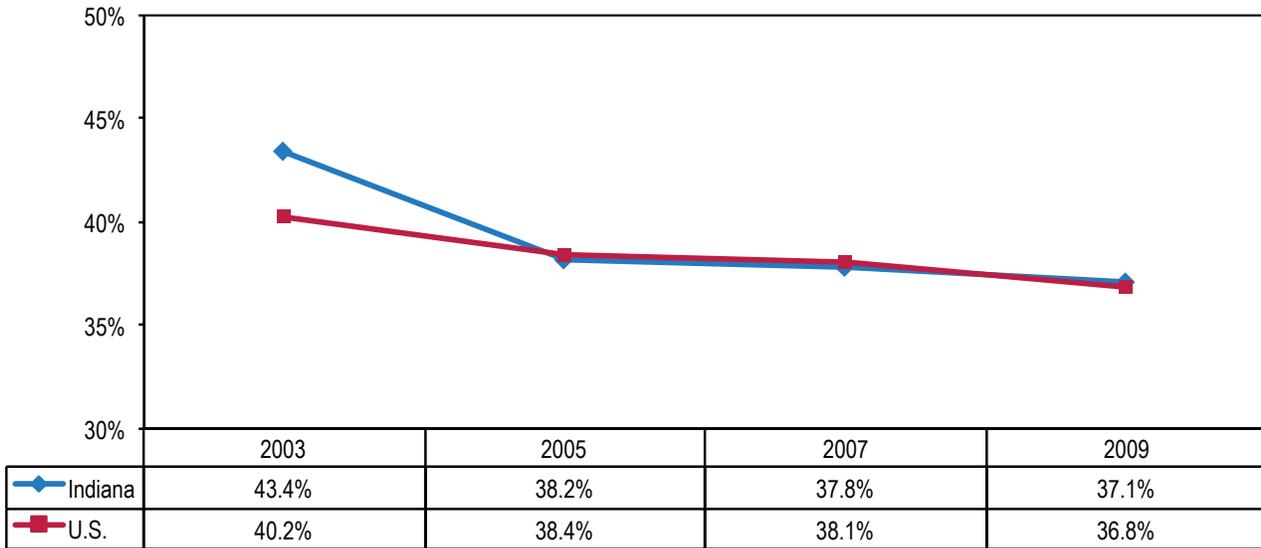
Table 5.3 Percentage of Indiana and U.S. High School Students Reporting Marijuana Initiation Before Age 13, by Grade, Gender, and Race/Ethnicity (Youth Risk Behavior Surveillance System, 2009)

	Indiana	U.S.
	Prevalence Rate (95% CI)	Prevalence Rate (95% CI)
Grade		
9th	6.2% (3.6–10.4)	9.1% (7.8–10.5)
10th	6.4% (3.9–10.3)	8.3% (7.1–9.8)
11th	8.6% (5.9–12.2)	6.5% (5.6–7.5)
12th	8.9% (6.2–12.6)	5.2% (4.4–6.3)
Gender		
Male	8.6% (6.6–11.2)	9.7% (8.4–11.1)
Female	6.7% (4.7–9.5)	5.0% (4.3–5.7)
Race/Ethnicity		
Black	12.1% (7.4–19.3)	10.2% (8.7–11.9)
White	6.6% (4.9–8.8)	5.7% (4.8–6.6)
Other Races	N/A	N/A
Hispanic	8.5% (4.9–14.4)	10.3% (9.1–11.8)
Total	7.6% (5.9–9.9)	7.5% (6.7–8.3)

Source: Centers for Disease Control and Prevention, 2011

³ Based on CDC's trend analysis report for 2009 Youth Risk Behavior Survey (report received February 1, 2012, from the Indiana State Department of Health).

Figure 5.8 Percentage of Indiana and U.S. High School Students Reporting Lifetime Marijuana Use (Youth Risk Behavior Surveillance System, 2003–2009)



Source: Centers for Disease Control and Prevention, 2011

Reported lifetime use of marijuana among Indiana high school students was 37.1% (95% CI: 33.6–40.7) in 2009 (see Figure 5.8). Prevalence rates did not differ by gender or race/ethnicity; however, 9th grade students had a significantly lower rate than 11th and 12th graders (see Table 5.4). Lifetime prevalence decreased significantly among Indiana high school students from 2003 through 2009 (Centers for Disease Control and Prevention, 2011).⁴

Results from the Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents (ATOD) survey (Gassman, Jun, Samuel, Agle, Lee, Morrison, Agle, et al., 2011) and the Monitoring the Future (MTF) survey (Inter-university Consortium for Political and Social Research, University of Michigan, 2011) show that marijuana use among 8th, 10th, and 12th grade students increased with age. Prevalence rates for current marijuana use seemed comparable between Indiana and the nation; however, due to the lack of detail provided in the publicly available dataset, statistical significance could not be determined. (For current marijuana use trends among 8th, 10th, and 12th grade students from 2002 through 2011, see Figure 5.9).

Table 5.4 Percentage of Indiana and U.S. High School Students Reporting Lifetime Marijuana Use, by Grade, Gender, and Race/Ethnicity (Youth Risk Behavior Surveillance System, 2009)

	Indiana Prevalence Rate (95% CI)	U.S. Prevalence Rate (95% CI)
Grade		
9th	23.3% (16.3–32.0)	26.4% (23.8–29.1)
10th	30.9% (24.4–38.2)	35.5% (32.8–38.3)
11th	44.4% (35.7–53.5)	42.0% (38.3–45.8)
12th	51.4% (44.0–58.8)	45.6% (42.6–48.6)
Gender		
Male	36.8% (32.6–41.2)	39.0% (36.4–41.6)
Female	37.1% (32.4–42.2)	34.3% (32.1–36.5)
Race/Ethnicity		
Black	44.2% (32.4–56.7)	41.2% (37.7–44.9)
White	35.4% (31.0–40.1)	35.7% (33.3–38.2)
Other Races	N/A	N/A
Hispanic	39.5% (26.6–54.1)	39.9% (37.1–42.8)
Total	37.1% (33.6–40.7)	36.8% (34.8–38.8)

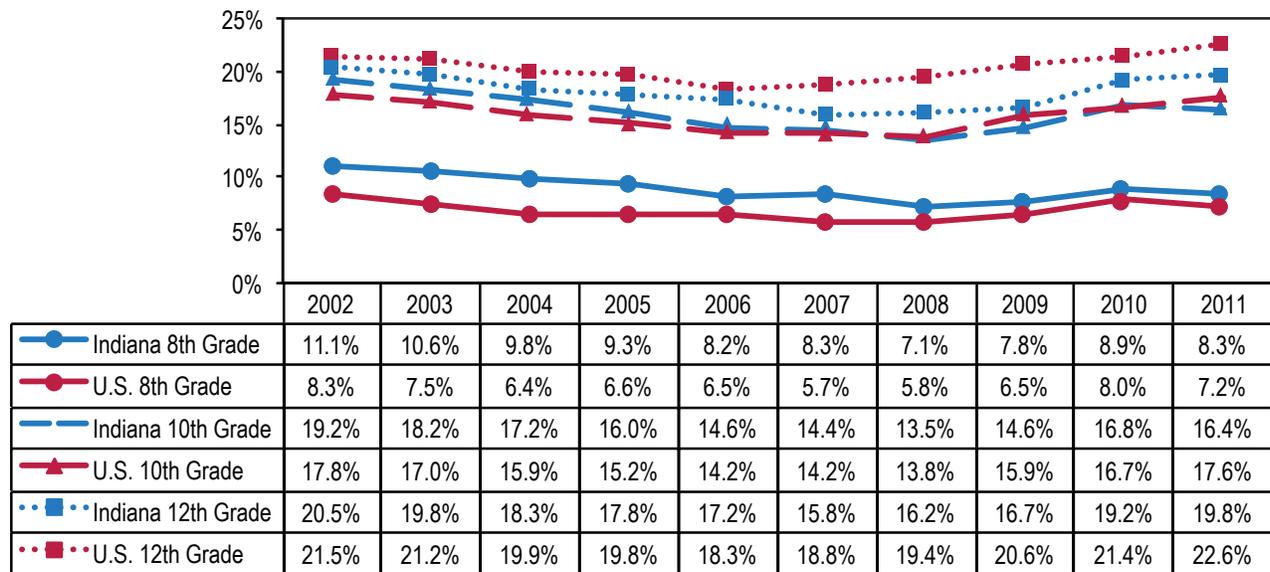
Source: Centers for Disease Control and Prevention, 2011

⁴ Based on CDC’s trend analysis report for 2009 Youth Risk Behavior Survey (report received February 1, 2012, from the Indiana State Department of Health).

From 2002 until 2011, lifetime use among students in grades 8, 10, and 12 seemed to have declined both nationally and in Indiana (see Figure 5.10). Again, due to the data format, statistical significance of the differences could not be determined (Gassman, et al., 2011;

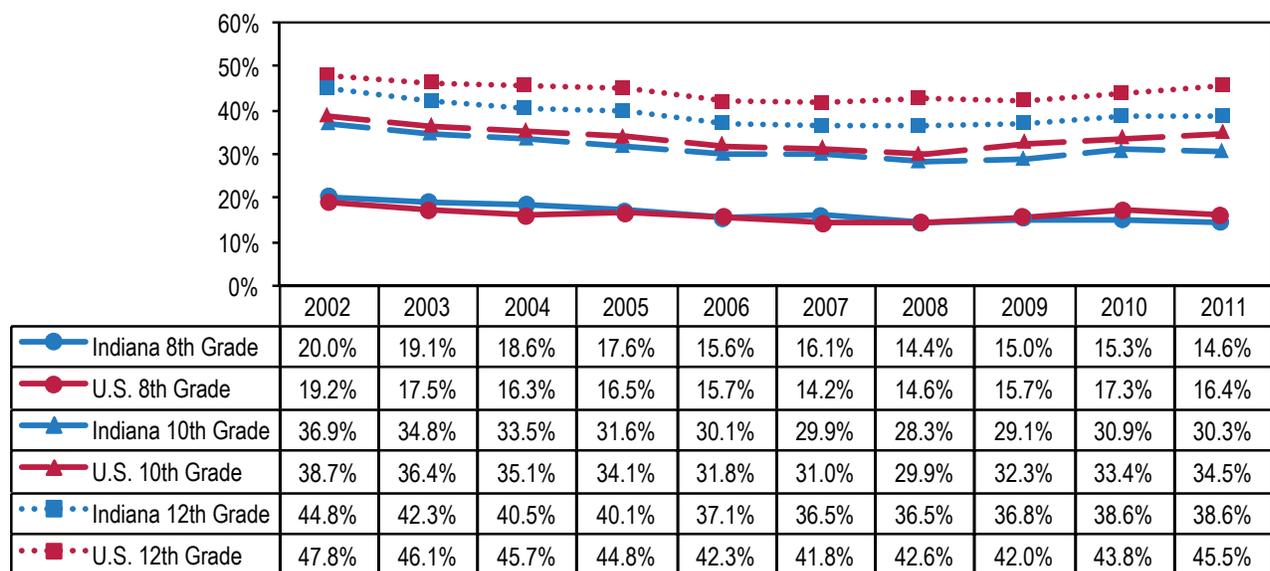
Inter-university Consortium for Political and Social Research, University of Michigan, 2011). For lifetime and monthly marijuana use by Indiana region and grade level for 2011, see Appendix 5B, page 94.

Figure 5.9 Percentage of Indiana and U.S. 8th, 10th, and 12th Grade Students Reporting Current Marijuana Use (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey and Monitoring the Future Survey, 2002–2011)



Source: Gassman, et al., 2011; Inter-university Consortium for Political and Social Research, University of Michigan, 2011

Figure 5.10 Percentage of Indiana and U.S. 8th, 10th, and 12th Grade Students Reporting Use of Marijuana Once or More in Their Life, by Grade (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey and Monitoring the Future Survey, 2002–2011)



Source: Gassman, et al., 2011; Inter-university Consortium for Political and Social Research, University of Michigan, 2011

CONSEQUENCES OF MARIJUANA USE

Health-Related Consequences

Marijuana use can produce adverse physical, mental, emotional, and behavioral changes, and long-term use can lead to addiction. Short-term effects include memory impairment and learning problems, distorted perception, difficulty thinking and solving problems, loss of coordination, and increased heart rate. Harmful health effects also include respiratory illnesses, a weakened immune system, and increased risk of heart attack and cancer (National Institute on Drug Abuse, 2010).

Marijuana use also is associated with risky sexual behavior, and is considered a gateway to teen sex. As such, it might result in an increase in unwanted pregnancies and sexually transmitted diseases (STDs). In addition, babies born to women who used marijuana during their pregnancy exhibit altered responses to visual stimuli and increased tremulousness, indicating problems with neurological development. Marijuana use is also correlated with higher rates of “harder” drug use and higher rates of tobacco use (National Institute on Drug Abuse, 2009).

Marijuana Dependence

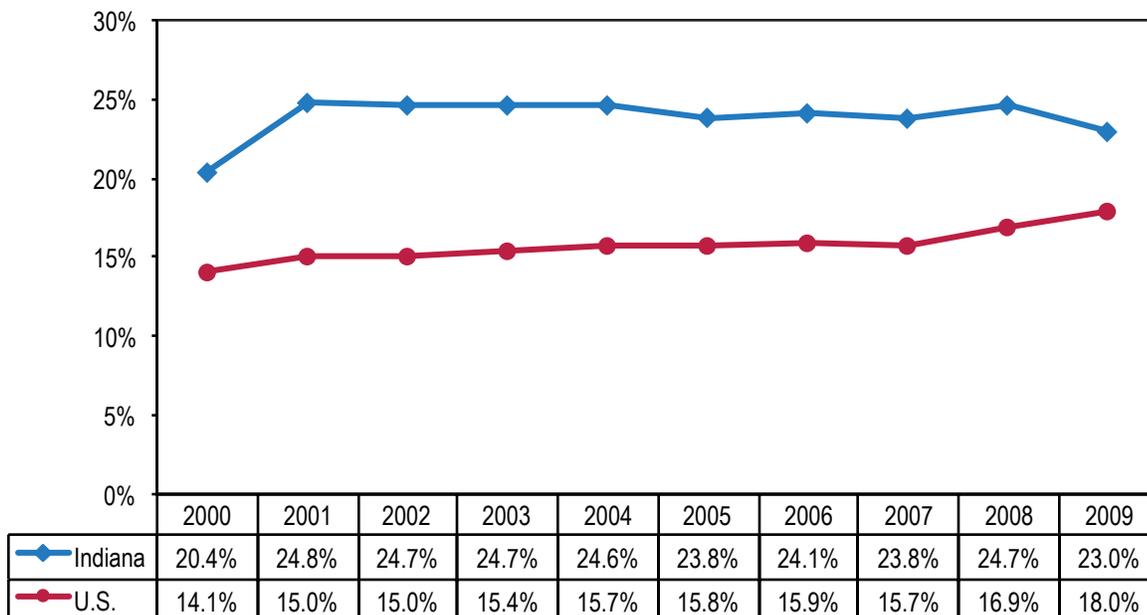
The Treatment Episode Data Set (TEDS) series indicates that at least for the past nine years, marijuana dependence was more of a problem among the treatment population in Indiana than the treatment population in the rest of the nation. In 2009, marijuana dependence⁵ was indicated in nearly one-quarter of Indiana’s treatment episodes, compared to 18.0% in the nation (see Figure 5.11) (Substance Abuse and Mental Health Data Archive, 2009).

Significant differences for marijuana dependence were observed by gender, age, and race, as follows (TEDS, 2009):

- More males (24.2%) than females (20.6%) reported marijuana dependency ($P < 0.001$) (see Figure 5.12).
- More blacks (33.7%) reported marijuana dependency than whites (20.9%) or persons from other races (22.9%) ($P < 0.001$) (see Figure 5.13).
- The percentage of adolescents (under age 18) reporting marijuana dependency was higher than any other age group ($P < 0.001$) (see Figure 5.14) (Substance Abuse and Mental Health Data Archive, 2009).

For county-level information on marijuana dependence, see Appendix 5A, page 91-93.

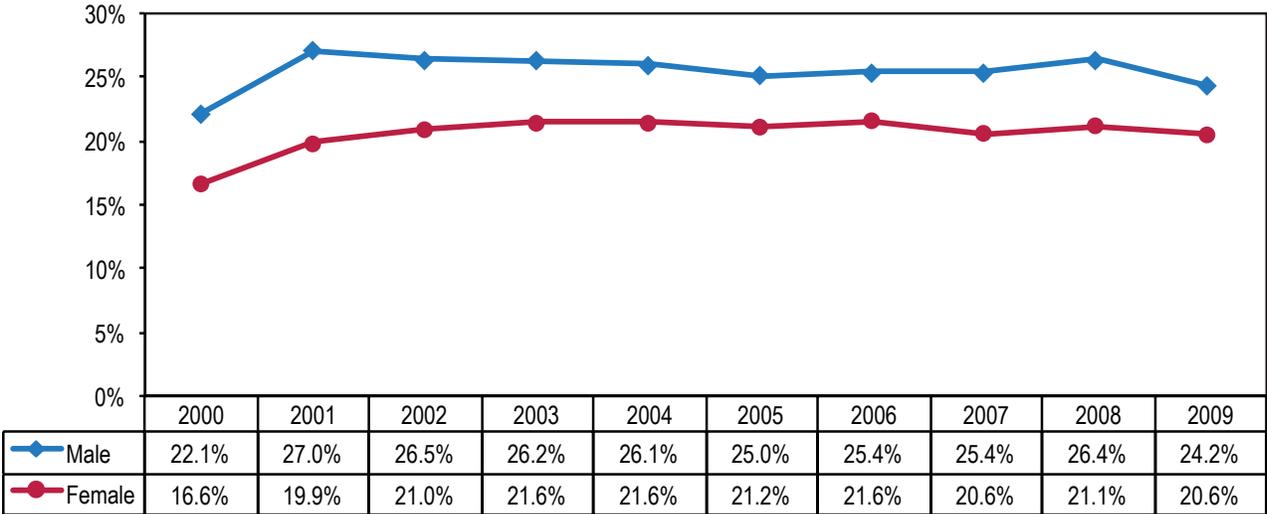
Figure 5.11 Percentage of Indiana and U.S. Treatment Episodes with Marijuana Dependence Reported at Treatment Admission (Treatment Episode Data Set, 2000–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

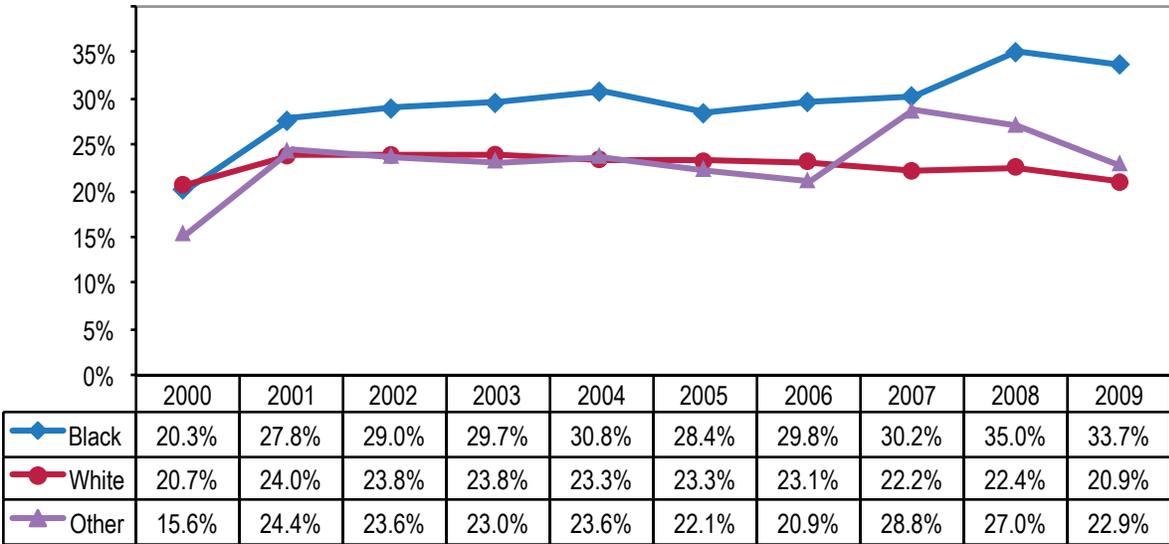
⁵ We defined marijuana dependence as “individuals in substance abuse treatment listing marijuana as their primary substance at admission.”

Figure 5.12 Percentage of Indiana Treatment Episodes with Marijuana Dependence Reported at Treatment Admission, by Gender (Treatment Episode Data Set, 2000–2009)



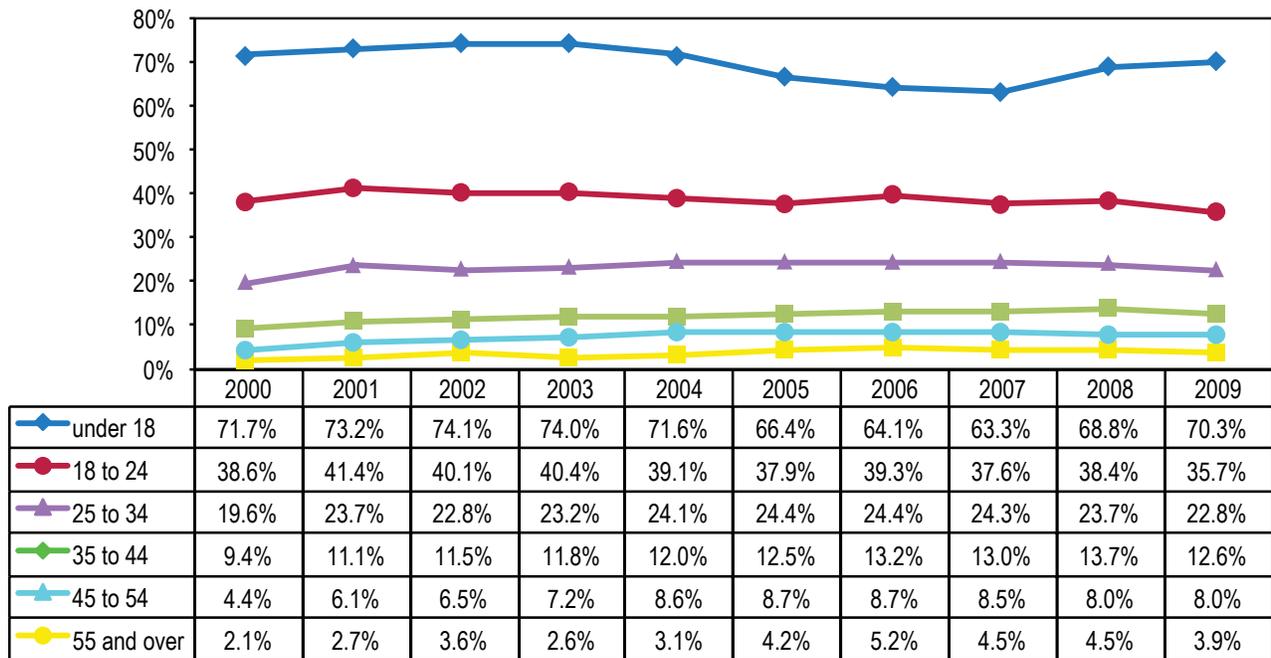
Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 5.13 Percentage of Indiana Treatment Episodes with Marijuana Dependence Reported at Treatment Admission, by Race (Treatment Episode Data Set, 2000–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 5.14 Percentage of Indiana Treatment Episodes with Marijuana Dependence Reported at Treatment Admission, by Age Group (Treatment Episode Data Set, 2000–2009)



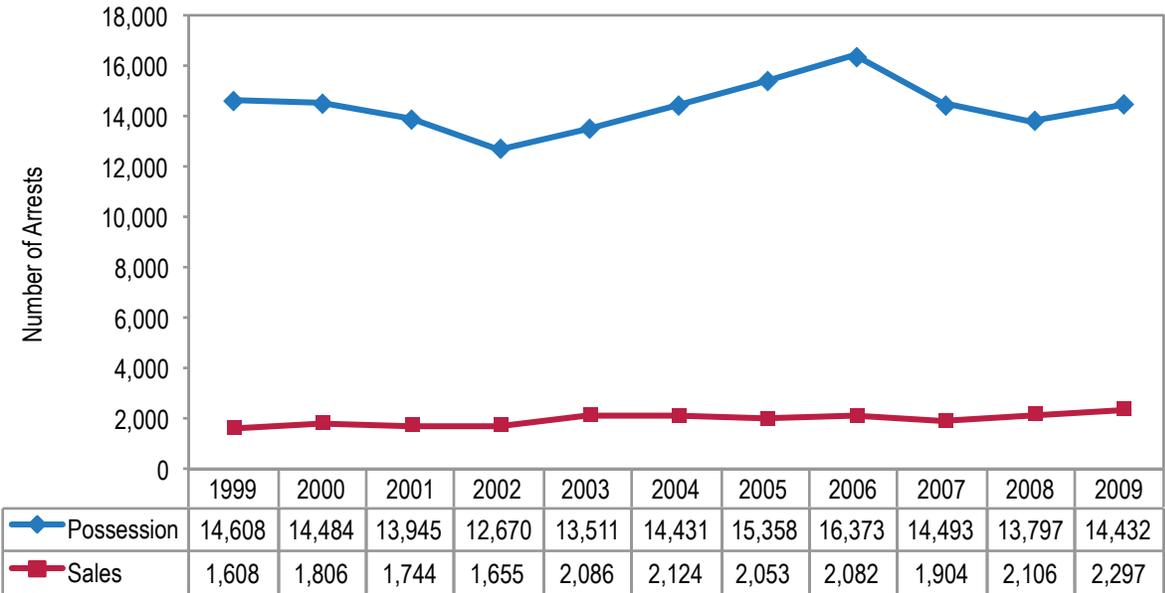
Source: Substance Abuse and Mental Health Data Archive, 2009

Criminal Consequences

The Uniform Crime Reporting (UCR) program collects drug violation arrest data nationwide (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009). According to 2009 results, over 14,000 arrests were made in Indiana for the possession of marijuana. This represents an arrest rate of 2.2 (95% CI: 2.2–2.3)

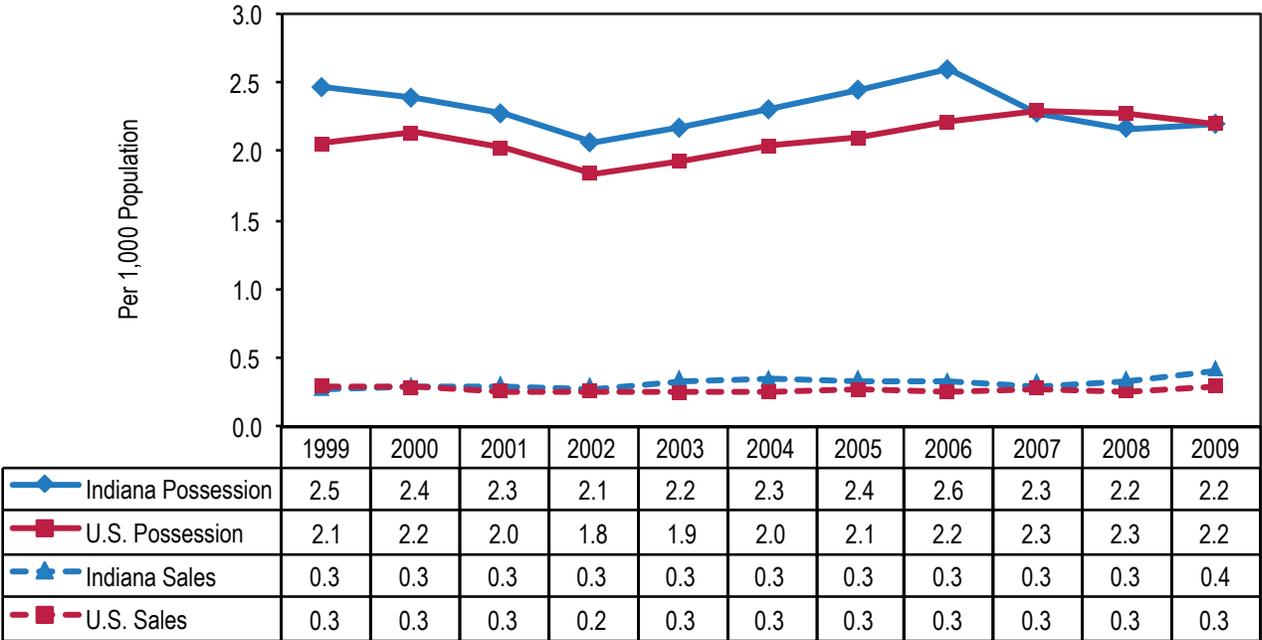
per 1,000 population; which is the same as the U.S. rate of 2.2 (95% CI: 2.2–2.3). Additionally, nearly 2,300 Hoosiers were arrested for selling and manufacturing marijuana. Indiana’s arrest rate for sale/manufacture of the substance was 0.4 per 1,000 population (95% CI: 0.3–0.4), comparable to the national rate of 0.3 per 1,000 population (95% CI: 0.3–0.3) (see Figures 5.15 and 5.16).

Figure 5.15 Number of Indiana Arrests for Marijuana Possession and Sale/Manufacture (Uniform Crime Reporting Program, 1999–2009)



Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

Figure 5.16 Indiana and U.S. Arrest Rates for Marijuana Possession and Sale/Manufacture per 1,000 Population (Uniform Crime Reporting Program, 1999–2009)



Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

Maps 5.1 and 5.2 (pages 98 and 99) and Appendix 5C (pages 95-97), portray the distribution by county of 2008 arrest rates (per 1,000 population) due to marijuana possession and dealing (sale/manufacture) based on UCR data. While geographic/regional arrest patterns are not immediately apparent, these data demonstrate that most counties' arrest rates for possession exceed those for dealing. Caution should be exercised when interpreting these data due to variations in reporting procedures. In Indiana, reporting coverage by county and local law enforcement jurisdictions is sometimes incomplete; therefore, a portion of these data are based on estimates. (For further details, see the discussion of UCR data in Chapter 2, Methods, page 21.)

Social Consequences

In terms of social consequences, depression, anxiety, and personality disturbances are associated with chronic marijuana use. Marijuana use compromises the ability to learn and retain information, and heavy use leads to loss of critical intellectual, job, and social skills. Students who smoke marijuana exhibit lower academic performance and are less likely to graduate from high school, compared to their nonsmoking peers. Higher rates of absenteeism are also found among students who use marijuana. Individuals who use marijuana are more likely to have problems at work, including accidents, injuries, and absenteeism. Marijuana use also impacts children and families by contributing to increased interpersonal conflicts, financial problems, poor parenting, incarceration of parents, and children being placed in protective custody (National Institute on Drug Abuse, 2009).

APPENDIX 5A

Number of Treatment Episodes with Marijuana Use and Dependence Reported at Treatment Admission in Indiana, by County (Substance Abuse Population by County/Treatment Episode Data Set, 2010)

County	Treatment Episodes	Marijuana Use		Marijuana Dependence	
	Total	Number	Percentage	Number	Percentage
Adams	202	65	32.2%	32	15.8%
Allen	1,447	697	48.2%	351	24.3%
Bartholomew	508	96	18.9%	35	6.9%
Benton	22	16	72.7%	5	22.7%
Blackford	32	10	31.3%	6	18.8%
Boone	196	96	49.0%	37	18.9%
Brown	64	17	26.6%	8	12.5%
Carroll	95	66	69.5%	14	14.7%
Cass	211	99	46.9%	30	14.2%
Clark	183	66	36.1%	23	12.6%
Clay	135	73	54.1%	46	34.1%
Clinton	119	38	31.9%	15	12.6%
Crawford	35	16	45.7%	6	17.1%
Daviess	173	76	43.9%	30	17.3%
Dearborn	128	51	39.8%	19	14.8%
Decatur	92	20	21.7%	5	5.4%
DeKalb	166	96	57.8%	35	21.1%
Delaware	698	312	44.7%	156	22.3%
Dubois	235	86	36.6%	37	15.7%
Elkhart	769	433	56.3%	269	35.0%
Fayette	112	27	24.1%	9	8.0%
Floyd	70	20	28.6%	12	17.1%
Fountain	70	38	54.3%	11	15.7%
Franklin	23	7	30.4%	<5	N/A
Fulton	177	91	51.4%	44	24.9%
Gibson	138	72	52.2%	26	18.8%
Grant	250	64	25.6%	28	11.2%
Greene	127	65	51.2%	39	30.7%
Hamilton	571	344	60.2%	188	32.9%
Hancock	89	42	47.2%	24	27.0%
Harrison	25	14	56.0%	5	20.0%
Hendricks	354	137	38.7%	77	21.8%
Henry	206	90	43.7%	25	12.1%
Howard	580	258	44.5%	121	20.9%
Huntington	347	81	23.3%	27	7.8%
Jackson	138	26	18.8%	8	5.8%

APPENDIX 5A (Continued from previous page)

County	Treatment Episodes	Marijuana Use		Marijuana Dependence	
	Total	Number	Percentage	Number	Percentage
Jasper	71	42	59.2%	19	26.8%
Jay	57	32	56.1%	19	33.3%
Jefferson	134	30	22.4%	14	10.4%
Jennings	171	45	26.3%	13	7.6%
Johnson	293	113	38.6%	54	18.4%
Knox	244	112	45.9%	59	24.2%
Kosciusko	608	199	32.7%	67	11.0%
LaGrange	172	100	58.1%	46	26.7%
Lake	1892	801	42.3%	376	19.9%
LaPorte	503	232	46.1%	73	14.5%
Lawrence	296	63	21.3%	17	5.7%
Madison	551	374	67.9%	157	28.5%
Marion	4,240	1,912	45.1%	996	23.5%
Marshall	230	93	40.4%	45	19.6%
Martin	59	21	35.6%	7	11.9%
Miami	233	113	48.5%	49	21.0%
Monroe	1,103	237	21.5%	74	6.7%
Montgomery	186	105	56.5%	59	31.7%
Morgan	424	79	18.6%	37	8.7%
Newton	36	14	38.9%	5	13.9%
Noble	335	142	42.4%	58	17.3%
Ohio	<5	<5	N/A	<5	N/A
Orange	78	35	44.9%	21	26.9%
Owen	231	73	31.6%	38	16.5%
Parke	105	60	57.1%	29	27.6%
Perry	161	79	49.1%	22	13.7%
Pike	37	8	21.6%	<5	N/A
Porter	446	196	43.9%	97	21.7%
Posey	154	72	46.8%	22	14.3%
Pulaski	73	27	37.0%	12	16.4%
Putnam	172	67	39.0%	39	22.7%
Randolph	101	25	24.8%	12	11.9%
Ripley	68	25	36.8%	<5	N/A
Rush	113	42	37.2%	26	23.0%
Saint Joseph	1,391	658	47.3%	225	16.2%
Scott	84	43	51.2%	12	14.3%
Shelby	82	36	43.9%	12	14.6%

APPENDIX 5A (Continued from previous page)

County	Treatment Episodes	Marijuana Use		Marijuana Dependence	
	Total	Number	Percentage	Number	Percentage
Spencer	183	87	47.5%	37	20.2%
Starke	130	53	40.8%	24	18.5%
Steuben	116	63	54.3%	34	29.3%
Sullivan	50	20	40.0%	14	28.0%
Switzerland	14	5	35.7%	<5	N/A
Tippecanoe	468	272	58.1%	117	25.0%
Tipton	42	18	42.9%	9	21.4%
Union	7	<5	N/A	<5	N/A
Vanderburgh	1,158	743	64.2%	288	24.9%
Vermillion	124	67	54.0%	28	22.6%
Vigo	580	297	51.2%	158	27.2%
Wabash	358	103	28.8%	39	10.9%
Warren	28	14	50.0%	9	32.1%
Warrick	313	199	63.6%	70	22.4%
Washington	26	11	42.3%	<5	N/A
Wayne	251	67	26.7%	31	12.4%
Wells	79	35	44.3%	20	25.3%
White	116	75	64.7%	25	21.6%
Whitley	159	62	39.0%	22	13.8%
Indiana	28,127	12,306	42.7%	5,552	18.2%

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 were suppressed due to confidentiality constraints.

Source: Indiana Family and Social Services Administration, Revenue Enhancement and Data, 2011

APPENDIX 5B

Percentage of Indiana Students Reporting Lifetime and Monthly Marijuana Use, by Region and Grade (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2011)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Lifetime	3.1	2.9	2.1	2.1	2.9	4.4	5.9	1.4	2.8
	Monthly	1.6	1.5	1.1	1.1	1.5	2.5	3.0	0.5	1.4
7th Grade	Lifetime	7.3	8.8	7.1	6.3	7.8	6.9	11.3	3.8	7.8
	Monthly	4.1	4.9	3.7	3.9	4.6	4.0	6.2	2.0	4.6
8th Grade	Lifetime	14.6	17.7	13.6	12.0	14.0	16.2	18.1	8.7	14.7
	Monthly	8.3	11.1	7.0	5.9	8.0	9.9	10.1	4.7	8.0
9th Grade	Lifetime	23.0	27.1	22.6	19.5	24.7	22.9	26.8	20.1	22.5
	Monthly	13.0	16.1	12.0	11.1	14.2	12.8	15.9	11.4	11.9
10th Grade	Lifetime	30.3	34.4	28.4	26.9	29.9	32.3	35.4	23.2	31.8
	Monthly	16.4	18.8	14.5	15.0	15.4	18.4	19.4	12.5	16.8
11th Grade	Lifetime	35.4	39.0	32.3	34.2	34.6	38.5	40.4	29.3	35.5
	Monthly	18.6	20.6	16.5	18.4	17.3	21.1	20.2	15.5	18.1
12th Grade	Lifetime	38.6	40.2	34.4	36.8	38.3	41.0	41.5	33.6	41.3
	Monthly	19.8	20.6	16.8	20.3	20.9	21.0	21.8	15.9	20.7

Source: Gassman, et al., 2011

APPENDIX 5C

Number and Rate, per 1,000 Population, of Arrests for Marijuana Possession and Sale/Manufacture in Indiana, by County (Uniform Crime Reporting Program, 2009)

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Adams	34	1.0	5	*0.1
Allen	793	2.2	85	*0.2
Bartholomew	211	2.8	17	*0.2
Benton	9	*1.0	1	*0.1
Blackford	21	1.6	1	*0.1
Boone	82	1.5	19	*0.3
Brown	28	1.8	0	*0.0
Carroll	26	1.3	5	*0.2
Cass	70	1.8	14	*0.4
Clark	225	2.1	24	0.2
Clay	81	3.0	3	*0.1
Clinton	64	1.9	8	*0.2
Crawford	3	*0.3	15	*1.4
Daviess	63	2.0	14	*0.4
Dearborn	67	1.3	43	0.9
Decatur	48	1.9	8	*0.3
DeKalb	72	1.7	14	*0.3
Delaware	150	1.3	4	*0.0
Dubois	49	1.2	5	*0.1
Elkhart	515	2.6	26	0.1
Fayette	45	1.9	5	*0.2
Floyd	343	4.6	33	0.4
Fountain	28	1.6	4	*0.2
Franklin	1	*0.0	12	*0.5
Fulton	22	1.1	4	*0.2
Gibson	26	0.8	10	*0.3
Grant	154	2.2	9	*0.1
Greene	41	1.2	5	*0.2
Hamilton	585	2.2	15	*0.1
Hancock	127	1.8	17	*0.2
Harrison	35	0.9	0	*0.0
Hendricks	286	2.0	56	0.4
Henry	55	1.1	10	*0.2
Howard	207	2.5	8	*0.1
Huntington	51	1.4	3	*0.1
Jackson	112	2.7	14	*0.3

APPENDIX 5C (Continued from previous page)

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Jasper	38	1.1	6	*0.2
Jay	75	3.5	5	*0.2
Jefferson	59	1.8	11	*0.3
Jennings	12	*0.4	86	3.0
Johnson	382	2.8	36	0.3
Knox	122	3.2	69	1.8
Kosciusko	136	1.8	28	0.4
LaGrange	1	*0.0	0	*0.0
Lake	1194	2.4	515	1.0
LaPorte	207	1.9	29	0.3
Lawrence	63	1.4	6	*0.1
Madison	322	2.4	36	0.3
Marion	2607	2.9	394	0.4
Marshall	76	1.6	10	*0.2
Martin	5	*0.5	1	*0.1
Miami	27	0.7	23	0.6
Monroe	336	2.5	30	0.2
Montgomery	98	2.6	9	*0.2
Morgan	147	2.1	47	0.7
Newton	32	2.3	9	*0.6
Noble	104	2.2	15	*0.3
Ohio	8	*1.3	1	*0.2
Orange	21	1.1	5	*0.3
Owen	31	1.4	3	*0.1
Parke	52	3.0	1	*0.1
Perry	49	2.5	6	*0.3
Pike	18	*1.4	3	*0.2
Porter	375	2.3	33	0.2
Posey	47	1.8	7	*0.3
Pulaski	20	1.5	9	*0.7
Putnam	67	1.8	20	0.5
Randolph	36	1.4	12	*0.5
Ripley	25	0.9	9	*0.3
Rush	62	3.6	12	*0.7
Saint Joseph	467	1.8	39	0.1
Scott	43	1.8	10	*0.4
Shelby	36	0.8	7	*0.2

APPENDIX 5C (Continued from previous page)

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Spencer	22	1.0	5	*0.2
Starke	46	2.0	9	*0.4
Steuben	74	2.2	6	*0.2
Sullivan	38	1.8	21	1.0
Switzerland	11	*1.0	2	*0.2
Tippecanoe	501	2.9	46	0.3
Tipton	33	2.1	4	*0.2
Union	8	*1.1	1	*0.1
Vanderburgh	651	3.6	88	0.5
Vermillion	83	5.1	0	*0.0
Vigo	333	3.1	14	*0.1
Wabash	43	1.3	8	*0.2
Warren	9	*1.1	2	*0.2
Warrick	92	1.6	8	*0.1
Washington	36	1.3	3	*0.1
Wayne	168	2.4	14	*0.2
Wells	17	*0.6	5	*0.2
White	83	3.4	0	*0.0
Whitley	55	1.7	3	*0.1
Indiana	14,432	2.2	2,297	0.4

* Rates that are based on arrest numbers lower than 20 are unreliable.

Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

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6. COCAINE USE IN INDIANA: CONSUMPTION PATTERNS AND CONSEQUENCES

COCAINE CONSUMPTION

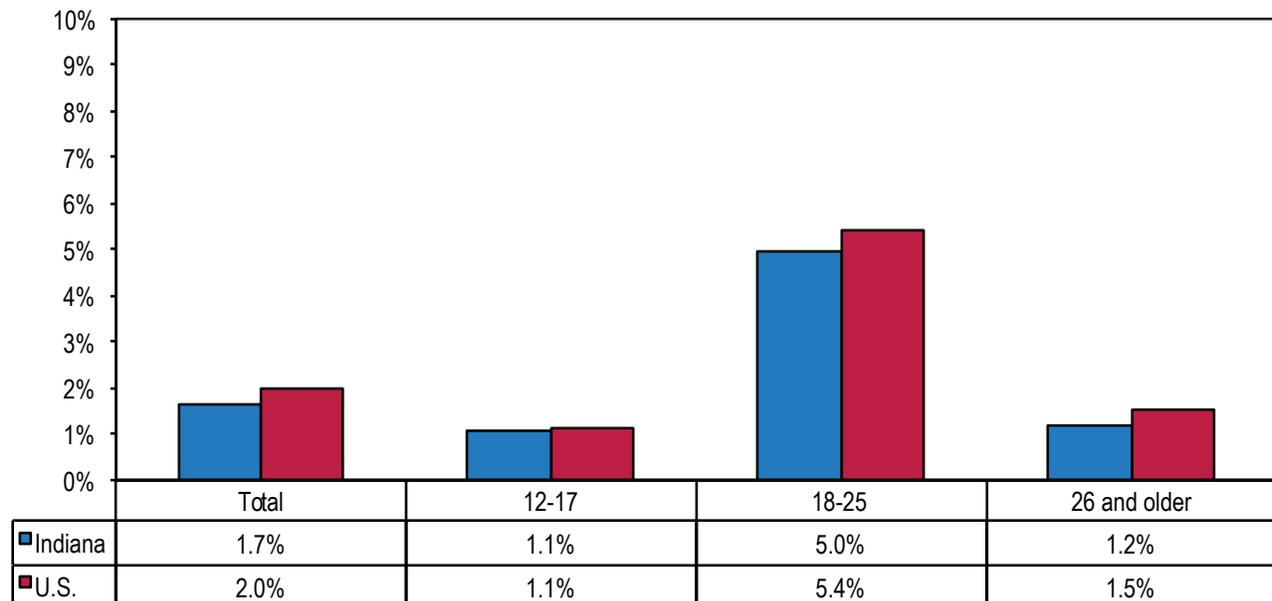
Cocaine is the most potent stimulant of natural origin. It can be snorted, smoked, or injected. When snorted, cocaine powder is inhaled through the nose where it is absorbed into the bloodstream through the nasal tissues. When injected, a needle is used to release the drug directly into the bloodstream. Smoking involves inhaling cocaine vapor or smoke into the lungs where absorption into the bloodstream is as rapid as by injection (National Institute on Drug Abuse, 2010).

Crack is cocaine base that has not been neutralized by an acid to make hydrochloride salt. This form of cocaine comes in a rock crystal that is heated to produce vapors, which are smoked. The term “crack” refers to the crackling sound produced by the rock as it is heated (National Institute on Drug Abuse, 2010).

General Consumption Patterns

The National Survey on Drug Use and Health (NSDUH) provides national and state-level estimates of alcohol, tobacco, and other drug use (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012). According to 2008–2009 data, the most recent estimates available, 1.7% (95% Confidence Interval [CI]: 1.2–2.4) of Indiana’s population ages 12 and older used cocaine in the past year, representing a rate similar to the nation’s (2.0%; 95% CI: 1.9–2.1) (see Figure 6.1).

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, 2009)



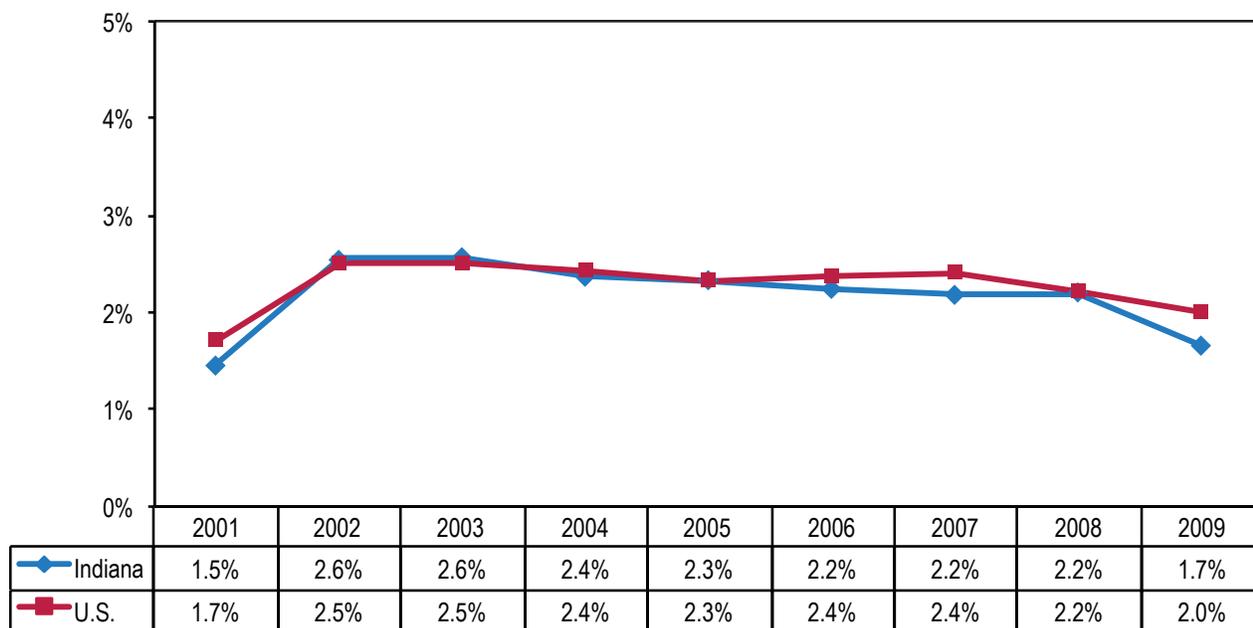
Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012

NSDUH data from 2001 through 2009 show that past-year cocaine use remained stable in Indiana from 1.5% (95% CI: 1.1–2.0) in 2001 to 1.7% (95% CI: 1.2–2.4) in 2009, mirroring national rates (see Figure 6.2).

Lifetime cocaine use was reported by 562,000 Hoosiers, or 11.1% (U.S.: 14.3%); current (past-month)

use was reported by 33,000 Hoosiers, or 0.7% (U.S.: 1.0%).¹ Publicly available NSDUH data currently do not include gender or race comparisons at the state level (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

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, 2001–2009)



Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012

Adult Consumption Patterns

According to 2008–2009 NSDUH estimates, the prevalence rate for cocaine use was highest among 18- to 25-year-olds; 5.0% (95% CI: 3.6–6.7) of Hoosiers in that age group reported using cocaine in the past year (U.S.: 5.4%; 95% CI: 5.1–5.7). The rate of cocaine use was significantly lower among those ages 26 and older in Indiana (1.2%; 95% CI: 0.7–2.0) and the nation (1.5%; 95% CI: 1.4–1.7) (see Figure 6.1). Indiana and U.S. rates were statistically the same.

The Indiana College Substance Use Survey provides estimates of alcohol, tobacco, and other drug use among Indiana college students. According to

findings from the 2011 survey, 3.6% of Indiana college students used cocaine in the past year (U.S.: 3.5%), and 0.9% currently use it (U.S.: 1.0%)². Rates were higher for males (past-year use: 4.5%; current use: 1.4%) than for females (past-year use: 3.1%; current use: 0.6%). Rates were also higher for those attending public institutions of higher education (past-year use: 4.4%; current use: 1.4%) than for those who attended private institutions (past-year use: 2.3%; current use: 0.2%) (Indiana Collegiate Action Network, 2011).³

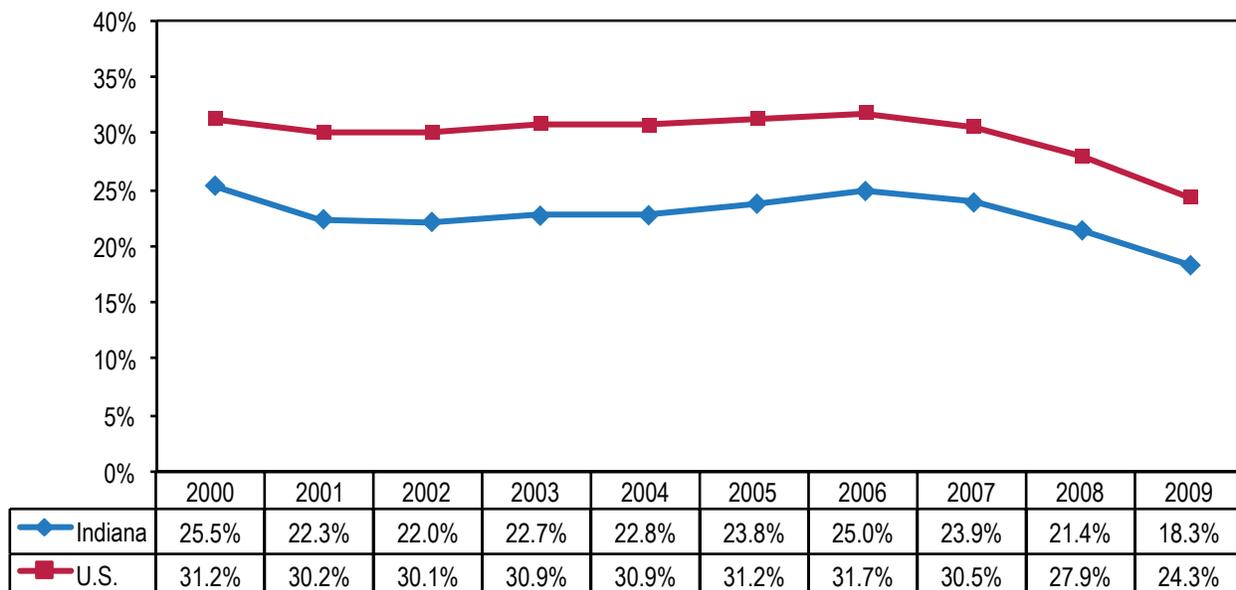
The 2009 Treatment Episode Data Set (TEDS) shows that cocaine use was reported in 18.3% of treatment episodes in Indiana; the U.S. percentage

¹ The most recent estimates of lifetime and current (past-month) cocaine use from the National Survey on Drug Use and Health are based on annual averages from 2002 to 2004. The confidence intervals (CI) for these rates were not provided.

² National data is based on the Monitoring the Future study. College students were defined as “[T]hose follow-up respondents one to four years past high school who say they were registered as full-time students in a two- or four-year undergraduate college at the beginning of March in the year in question” (Johnston, O’Malley, Bachman, & Schulenberg, 2011, p. 255).

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

Figure 6.3 Percentage of Indiana and U.S. Treatment Episodes with Cocaine Use Reported at Treatment Admission (Treatment Episode Data Set, 2000–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

was significantly higher at 24.3% ($P < 0.001$) (see Figure 6.3) (Substance Abuse and Mental Health Data Archive, 2009).

Gender, age, and race differences in the Indiana treatment population were significant ($P < 0.001$). More women (22.1%) than men (16.3%) reported cocaine use; blacks displayed drastically higher rates (38.3%) than whites (14.1%) and other races (18.8%); and the percentage of 35- to 44-year-olds (28.7%) using cocaine was greater than that of any other age group among those in treatment (see Table 6.1). (For county-level information on cocaine use, see Appendix 6A, page 109-111.)

Youth Consumption Patterns

Findings from the 2008–2009 NSDUH survey show that 1.1% (95% CI: 0.8–1.6) of 12- to 17-year-old Hoosiers used cocaine in the past year (see Figure 6.1). The national rate was similar, at 1.1% (95% CI: 1.0–1.2) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Table 6.1 Percentage of Indiana Treatment Episodes with Cocaine Use Reported at Treatment Admission (Treatment Episode Data Set, 2009)

		Cocaine Use
Gender	Male	16.3%
	Female	22.1%
Race	White	14.1%
	Black	38.3%
	Other	18.8%
Age Group	Under 18	2.7%
	18-24	8.6%
	25-34	17.2%
	35-44	28.7%
	45-54	27.3%
	55 and over	18.6%
Total		18.3%

Source: Substance Abuse and Mental Health Data Archive, 2009

¹ The most recent estimates of lifetime and current (past-month) cocaine use from the National Survey on Drug Use and Health are based on annual averages from 2002 to 2004. The confidence intervals (CI) for these rates were not provided.

Table 6.2 Percentage of Indiana and U.S. High School Students (Grades 9 through 12) Reporting Lifetime and Current Cocaine Use, by Gender, Race/Ethnicity, and Grade (Youth Risk Behavior Surveillance System, 2009)

			Lifetime Use (95% CI)	Current Use (95% CI)	
Indiana	Gender	Male	7.8% (5.9–10.3)	2.7% (1.7–4.3)	
		Female	5.4% (3.6–8.1)	2.6% (1.8–4.0)	
	Race/Ethnicity	White	6.8% (5.1–9.0)	2.5% (1.6–3.9)	
		Black	3.3% (1.1–9.7)	0.5% (0.1–4.2)	
		Hispanic	7.0% (2.5–18.1)	4.5% (1.2–15.8)	
	Grade	9	6.5% (3.6–11.7)	2.7% (1.1–6.3)	
		10	5.8% (4.5–7.6)	2.9% (1.3–6.3)	
		11	7.2% (5.0–10.3)	1.9% (0.8–4.3)	
		12	6.5% (3.5–11.6)	2.9% (1.5–5.6)	
	Total		6.6% (5.1–8.5)	2.7% (2.1–3.5)	
	U.S.	Gender	Male	7.3% (6.2–8.4)	3.5% (2.9–4.2)
			Female	5.3% (4.6–6.2)	2.0% (1.6–2.5)
		Race/Ethnicity	White	6.3% (5.3–7.4)	2.4% (2.1–2.9)
Black			2.9% (2.0–4.1)	1.9% (1.2–3.1)	
Hispanic			9.4% (8.0–11.0)	4.3% (3.3–5.5)	
Grade		9	4.5% (3.7–5.5)	2.3% (1.8–3.0)	
		10	5.6% (4.5–6.9)	2.5% (2.0–3.3)	
		11	7.7% (6.6–9.0)	3.3% (2.6–4.1)	
		12	7.9% (6.9–9.0)	3.0% (2.4–3.8)	
Total		6.4% (5.7–7.1)	2.8% (2.4–3.2)		

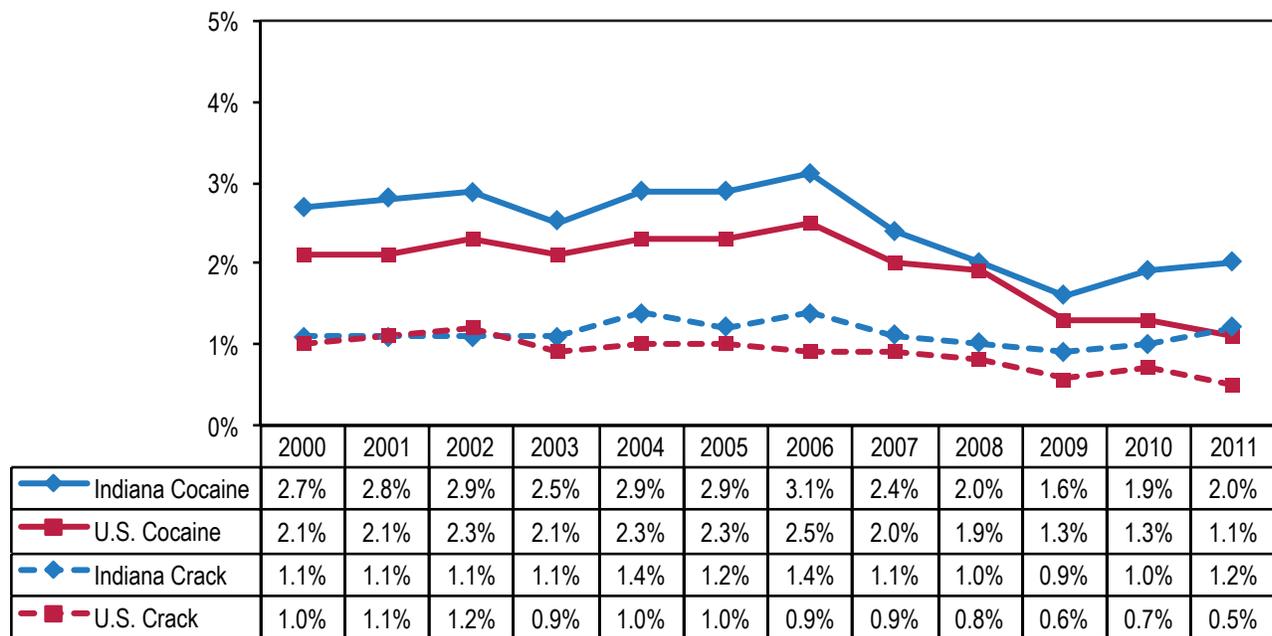
Source: Centers for Disease Control and Prevention, 2011

According to the 2009 Youth Risk Behavior Survey System (YRBSS), 6.6% (95% CI: 5.1–8.5) of Indiana high school students (grades 9 through 12) reported that they had used a form of cocaine, including powder, crack, or freebase, at least once in their life, and 2.7% (95% CI: 2.1–3.5) stated that they currently use cocaine (Centers for Disease Control and Prevention, 2011). National rates for lifetime use and current use were similar, at 6.4% (95% CI: 5.7–7.1) and 2.8% (95% CI: 2.4–3.2), respectively. The rate differences between Indiana and the United States were not statistically significant (see Table 6.2). Indiana rates for lifetime or current cocaine use remained stable from 2003 through 2009 (Centers for Disease Control and Prevention, 2011).⁴

In Indiana, 7.8% (95% CI: 5.9–10.3) of males and 5.4% (95% CI: 3.6–8.1) of females reported lifetime use, while 2.7% (95% CI: 1.7–4.3) of males and 2.6% (95% CI: 1.8–4.0) of females reported current use of the substance. National rates were comparable. Neither the differences between the genders nor between Indiana and the United States were statistically significant (see Table 6.2).

In Indiana, 7.0% (95% CI: 2.5–18.1) of Hispanic students reported lifetime cocaine use and 4.5% (95% CI: 1.2–15.8) reported current use. The prevalence seemed lower for white students (lifetime use: 6.8%; 95% CI: 5.1–9.0; current use: 2.5%; 95% CI: 1.6–3.9) and black students (lifetime use: 3.3%; 95% CI: 1.1–9.7; current use: 0.5%; 95% CI: 0.1–4.2); however, neither

Figure 6.4 Percentage of Indiana and U.S. High School Seniors (Grade 12) Reporting Current Cocaine and Crack Use (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey and Monitoring the Future Survey, 2000–2011)



Source: Gassman, et al., 2011; Inter-university Consortium for Political and Social Research, University of Michigan, 2011

⁴ Based on CDC's trend analysis report for 2009 Youth Risk Behavior Survey (report received February 1, 2012, from the Indiana State Department of Health).

the differences between races/ethnicities nor between Indiana and the United States were statistically significant (see Table 6.2).

The rate of cocaine use in Indiana high school students was fairly consistent among the four grade levels for both lifetime and current use, and similar to U.S. rates (see Table 6.2).

Overall prevalence of lifetime and current cocaine use among Indiana’s high school students remained stable from 2003 through 2009 (Centers for Disease Control and Prevention, 2011).

According to the annual Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents (ATOD) survey, rates of current cocaine and crack use among 12th grade students have remained fairly stable from 2000 through 2011. Comparisons with the national Monitoring the Future survey imply that Indiana rates were slightly above U.S. rates (see Figure 6.4); however, due to the nature of the publicly available data, no statistical significance could be inferred (Gassman, Jun, Samuel, Agle, Lee, Morrison, Agle, et al., 2011; Inter-university Consortium for

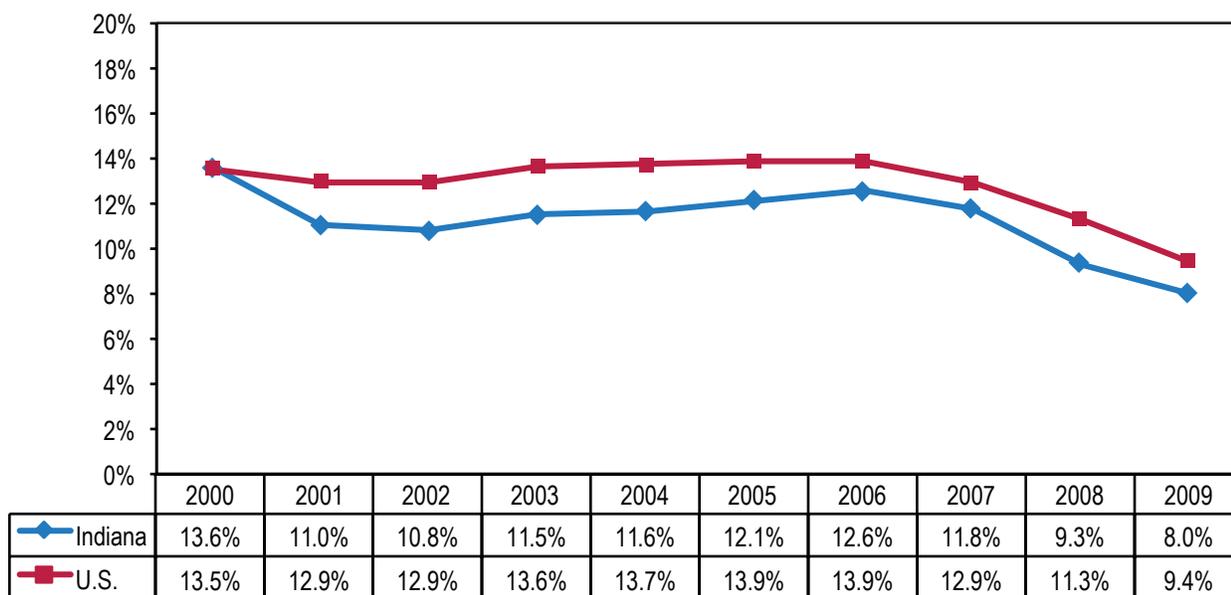
Political and Social Research, University of Michigan, 2011). For 2011 data on lifetime and current cocaine and crack use among students in grades 6 through 12, by Indiana region, see Appendix 6B, parts 1 and 2, pages 112-113.

CONSEQUENCES

Health Consequences

Cocaine is an addictive drug and powerful stimulant. The effects of cocaine depend on the amount of the drug taken and the route of administration. Taken in small amounts, it can make the user feel euphoric, energetic, talkative, and mentally alert; it might temporarily decrease the need for food and sleep. Short-term physiological effects of cocaine include constricted blood vessels; dilated pupils; and increased temperature, heart rate, and blood pressure. Large amounts might lead to bizarre, erratic, and violent behavior. Users might experience tremors, vertigo, muscle twitches, and paranoia. With repeated doses, users might have a toxic reaction closely resembling

Figure 6.5 Percentage of Indiana and U.S. Treatment Episodes with Cocaine Dependence Reported at Treatment Admission (Treatment Episode Data Set, 2000–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

⁵ We defined cocaine dependence as “individuals in substance abuse treatment listing cocaine as their primary substance at admission.”

amphetamine poisoning. Use of crack/cocaine might result in feelings of restlessness, irritability, and anxiety. A user might suffer sudden death with the first use of cocaine or unexpectedly during any use thereafter. Long-term effects of cocaine use include dependence, irritability, mood disturbances, restlessness, paranoia, and auditory hallucinations (National Institute on Drug Abuse, 2010).

The medical consequences of cocaine abuse are primarily cardiovascular problems (such as disturbances in heart rhythm and heart attacks), respiratory difficulties (such as chest pain and respiratory failure), neurological effects (such as strokes, seizures, and headaches), and gastrointestinal complications (such as abdominal pain and nausea). Babies born to mothers who abuse cocaine during pregnancy are often prematurely delivered, have low birth weights and smaller head circumferences, and are often shorter in length. Additionally, users who inject cocaine intravenously are at higher risk for acquiring and/or transmitting sexually transmitted diseases, including HIV/AIDS, if needles or other injection equipment are shared (National Institute on Drug Abuse, 2010).

Cocaine Dependence

Results from the Treatment Episode Data Set (TEDS) show that the percentage of treatment episodes for cocaine dependence⁵ has been significantly lower in Indiana than the nation for at least the past nine years (2001 through 2009) ($P < 0.001$). Furthermore, the percentage within Indiana decreased significantly from 13.6% in 2000 to 8.0% in 2009 ($P < 0.001$) (see Figure 6.5) (Substance Abuse and Mental Health Data Archive, 2009).

According to 2009 TEDS data, gender, race, and age were associated with cocaine dependence in Indiana ($P < 0.001$). Higher rates were found among women (10.9%) than among men (6.6%); among blacks (21.6%) than among whites (5.2%) or other races (8.8%); and among 35- to 44-year-olds (14.0%) compared to other age groups (see Table 6.3) (Substance Abuse and Mental Health Data Archive, 2009). (For county-level information, see Appendix 6A, page 109-111.)

Legal and Criminal Consequences

Legal consequences associated with cocaine use include arrests for possession and sale or manufacture of the substance. The Uniform Crime Reporting (UCR) Program provides the number of arrests for offenses regarding cocaine and opiates combined; data on either drug category individually are currently not available (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009). According to 2009 results, over 2,600 arrests were made in Indiana for possession of cocaine/opiates. However, Indiana's arrest rate, 0.4 (95% CI: 0.4–0.4) per 1,000 population, was below the nation's rate of 0.8 (95% CI: 0.8–0.8) per 1,000 population.

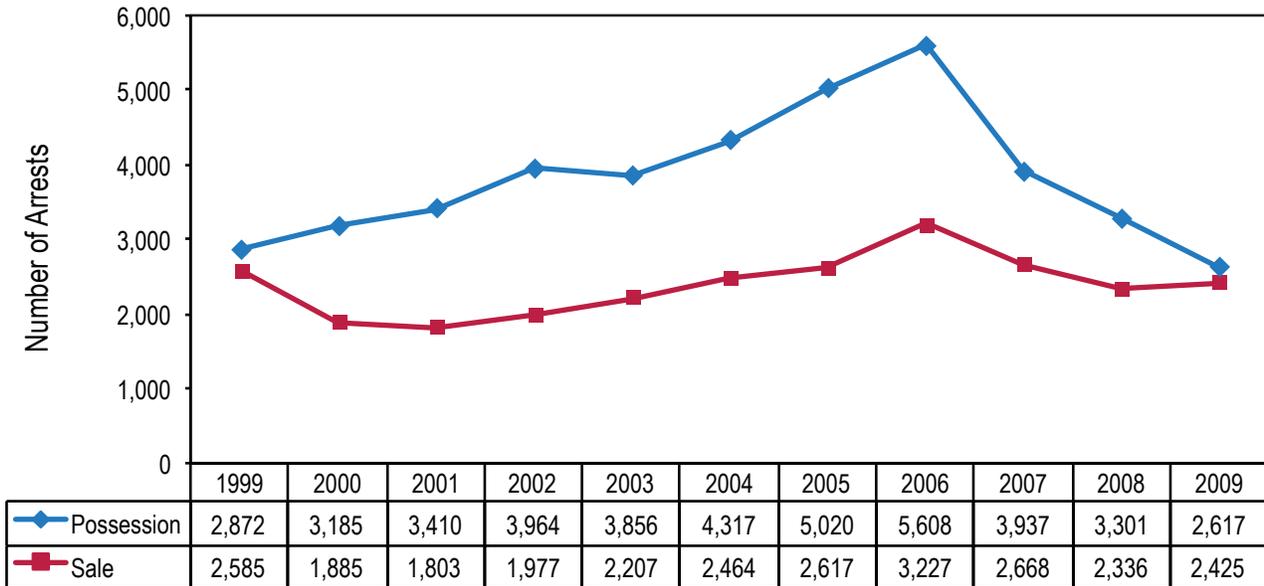
The number of arrests for sale and manufacture of cocaine/opiates in Indiana was more than 2,400, representing an arrest rate of 0.4 per 1,000 population (95% CI: 0.4–0.4), comparable to the U.S. rate of 0.3 per 1,000 population (95% CI: 0.3–0.3) (see Figures 6.6 and 6.7). Maps 6.1 and 6.2 (pages 117-118) and Appendix 6C (pages 114-116) show Indiana's cocaine/opiates possession and sale/manufacture arrests by county for 2009.

Table 6.3 Percentage of Indiana Treatment Episodes with Cocaine Dependence Reported at Treatment Admission (Treatment Episode Data Set, 2009)

Gender	Male	6.6%
	Female	10.9%
Race	White	5.2%
	Black	21.6%
	Other	8.8%
Age Group	Under 18	0.3%
	18-24	2.4%
	25-34	7.1%
	35-44	14.0%
	45-54	13.5%
	55 and over	9.3%
Total		8.0%

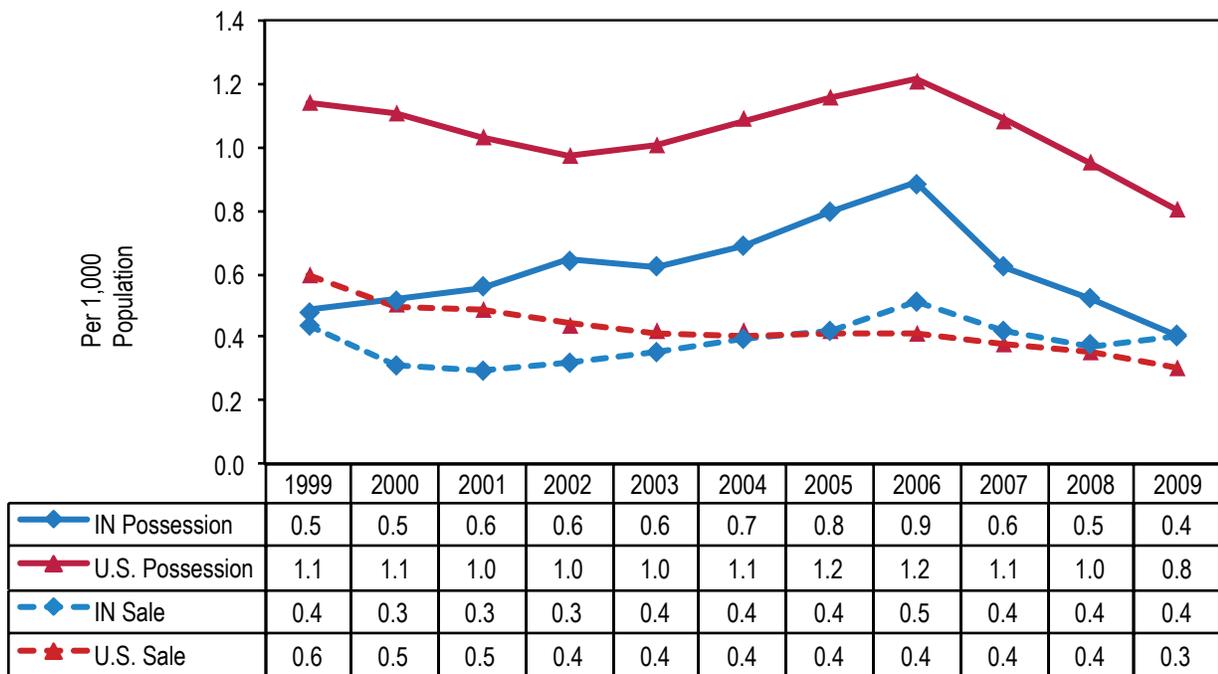
Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 6.6 Number of Arrests for Cocaine and Opiates Possession and Sale/Manufacture in Indiana (Uniform Crime Reporting Program, 1999–2009)



Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

Figure 6.7 Indiana and U.S. Arrest Rates, per 1,000 Population, for Cocaine and Opiates Possession and Sale/Manufacture (Uniform Crime Reporting Program, 1999–2009)



Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

APPENDIX 6A

Number of Treatment Episodes with Cocaine Use and Dependence Reported at Treatment Admission in Indiana, by County
(Substance Abuse Population by County/Treatment Episode Data Set, 2010)

County	Treatment Episodes	Cocaine Use		Cocaine Dependence	
	Total	Number	Percentage	Number	Percentage
Adams	202	24	11.9%	11	5.4%
Allen	1,447	223	15.4%	88	6.1%
Bartholomew	508	28	5.5%	6	1.2%
Benton	22	<5	N/A	<5	N/A
Blackford	32	<5	N/A	<5	N/A
Boone	196	28	14.3%	10	5.1%
Brown	64	<5	N/A	<5	N/A
Carroll	95	7	7.4%	<5	N/A
Cass	211	21	10.0%	5	2.4%
Clark	183	31	16.9%	13	7.1%
Clay	135	<5	N/A	<5	N/A
Clinton	119	9	7.6%	<5	N/A
Crawford	35	<5	N/A	<5	N/A
Daviess	173	10	5.8%	5	2.9%
Dearborn	128	22	17.2%	5	3.9%
Decatur	92	<5	N/A	<5	N/A
DeKalb	166	24	14.5%	<5	N/A
Delaware	698	105	15.0%	39	5.6%
Dubois	235	12	5.1%	<5	N/A
Elkhart	769	100	13.0%	49	6.4%
Fayette	112	<5	N/A	<5	N/A
Floyd	70	8	11.4%	5	7.1%
Fountain	70	6	8.6%	<5	N/A
Franklin	23	<5	N/A	<5	N/A
Fulton	177	12	6.8%	5	2.8%
Gibson	138	10	7.2%	<5	N/A
Grant	250	15	6.0%	6	2.4%
Greene	127	<5	N/A	<5	N/A
Hamilton	571	54	9.5%	18	3.2%
Hancock	89	11	12.4%	5	5.6%
Harrison	25	<5	N/A	<5	N/A
Hendricks	354	29	8.2%	17	4.8%
Henry	206	17	8.3%	<5	N/A
Howard	580	58	10.0%	22	3.8%
Huntington	347	13	3.7%	<5	N/A
Jackson	138	7	5.1%	<5	N/A

APPENDIX 6A (Continued from previous page)

County	Treatment Episodes	Cocaine Use		Cocaine Dependence	
	Total	Number	Percentage	Number	Percentage
Jasper	71	16	22.5%	<5	N/A
Jay	57	5	8.8%	<5	N/A
Jefferson	134	7	5.2%	<5	N/A
Jennings	171	10	5.8%	6	3.5%
Johnson	293	21	7.2%	7	2.4%
Knox	244	<5	N/A	<5	N/A
Kosciusko	608	28	4.6%	<5	N/A
LaGrange	172	17	9.9%	<5	N/A
Lake	1,892	397	21.0%	153	8.1%
LaPorte	503	82	16.3%	34	6.8%
Lawrence	296	11	3.7%	<5	N/A
Madison	551	83	15.1%	21	3.8%
Marion	4,240	1,087	25.6%	524	12.4%
Marshall	230	18	7.8%	7	3.0%
Martin	59	<5	N/A	<5	N/A
Miami	233	12	5.2%	<5	N/A
Monroe	1,103	59	5.3%	14	1.3%
Montgomery	186	19	10.2%	<5	N/A
Morgan	424	10	2.4%	<5	N/A
Newton	36	6	16.7%	<5	N/A
Noble	335	19	5.7%	<5	N/A
Ohio	<5	<5	N/A	<5	N/A
Orange	78	7	9.0%	<5	N/A
Owen	231	5	2.2%	<5	N/A
Parke	105	<5	N/A	<5	N/A
Perry	161	<5	N/A	<5	N/A
Pike	37	<5	N/A	<5	N/A
Porter	446	68	15.2%	23	5.2%
Posey	154	5	3.2%	<5	N/A
Pulaski	73	<5	N/A	<5	N/A
Putnam	172	5	2.9%	<5	N/A
Randolph	101	<5	N/A	<5	N/A
Ripley	68	<5	N/A	<5	N/A
Rush	113	<5	N/A	<5	N/A
Saint Joseph	1,391	678	48.7%	394	28.3%
Scott	84	8	9.5%	<5	N/A

APPENDIX 6A (Continued from previous page)

County	Treatment Episodes	Cocaine Use		Cocaine Dependence	
	Total	Number	Percentage	Number	Percentage
Shelby	82	9	11.0%	6	7.3%
Spencer	183	6	3.3%	<5	N/A
Starke	130	10	7.7%	<5	N/A
Steuben	116	12	10.3%	<5	N/A
Sullivan	50	<5	N/A	<5	N/A
Switzerland	14	<5	N/A	<5	N/A
Tippecanoe	468	57	12.2%	12	2.6%
Tipton	42	5	11.9%	<5	N/A
Union	7	<5	N/A	<5	N/A
Vanderburgh	1,158	174	15.0%	69	6.0%
Vermillion	124	10	8.1%	5	4.0%
Vigo	580	29	5.0%	10	1.7%
Wabash	358	9	2.5%	<5	N/A
Warren	28	<5	N/A	<5	N/A
Warrick	313	19	6.1%	<5	N/A
Washington	26	<5	N/A	<5	N/A
Wayne	251	20	8.0%	9	3.6%
Wells	79	7	8.9%	<5	N/A
White	116	9	7.8%	<5	N/A
Whitley	159	7	4.4%	<5	N/A
Indiana	28,127	4,004	8.7%	1,696	3.4%

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

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

Source: Indiana Family and Social Services Administration, Revenue Enhancement and Data, 2011

APPENDIX 6B – PART 1

Percentage of Indiana Students Reporting Lifetime and Monthly Cocaine Use, by Region and Grade (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2011)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Lifetime	0.6	0.5	0.6	0.7	0.5	0.5	1.1	0.3	0.6
	Monthly	0.3	0.2	0.4	0.2	0.1	0.4	0.5	0.2	0.3
7th Grade	Lifetime	1.1	1.1	1.1	0.8	1.1	1.2	1.2	0.7	1.5
	Monthly	0.6	0.4	0.6	0.4	0.4	0.7	0.7	0.4	0.9
8th Grade	Lifetime	2.0	2.6	1.5	1.1	1.7	2.4	2.4	1.5	2.4
	Monthly	1.0	1.3	0.8	0.5	1.0	1.2	1.3	0.7	1.1
9th Grade	Lifetime	2.9	3.5	3.3	2.1	2.7	3.2	2.8	2.7	2.7
	Monthly	1.4	1.6	1.3	1.1	1.3	1.7	1.2	1.4	1.3
10th Grade	Lifetime	3.8	4.4	3.4	2.6	3.9	4.1	3.7	3.1	4.5
	Monthly	1.6	1.9	1.4	1.2	1.0	1.7	1.7	1.7	1.7
11th Grade	Lifetime	5.1	5.7	5.0	4.4	5.5	4.9	4.6	4.1	6.6
	Monthly	1.8	1.8	1.9	1.8	1.6	2.0	1.2	1.4	2.4
12th Grade	Lifetime	5.9	6.2	4.5	4.6	5.9	6.4	5.3	5.5	7.4
	Monthly	2.0	2.6	1.5	2.1	2.0	2.1	2.3	1.7	2.0

Source: Gassman et al., 2011

APPENDIX 6B – PART 2

Percentage of Indiana Students Reporting Lifetime and Monthly Crack Use, by Region and Grade (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2011)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Lifetime	0.6	0.5	0.7	0.5	0.5	0.5	1.2	0.4	0.5
	Monthly	0.3	0.2	0.4	0.2	0.1	0.3	0.7	0.2	0.1
7th Grade	Lifetime	1.1	1.1	1.1	0.6	1.1	1.2	1.0	0.9	1.5
	Monthly	0.7	0.7	0.8	0.4	0.8	0.6	0.5	0.6	0.7
8th Grade	Lifetime	1.7	2.0	1.4	0.9	1.5	1.9	1.9	1.4	1.9
	Monthly	0.9	1.2	0.6	0.4	0.8	0.9	1.3	0.8	0.8
9th Grade	Lifetime	1.9	1.8	2.3	1.6	1.7	2.5	1.8	1.9	1.5
	Monthly	1.0	1.2	1.0	0.7	1.0	1.2	0.8	0.9	0.8
10th Grade	Lifetime	2.0	2.1	2.0	1.5	1.9	2.5	1.7	2.1	2.0
	Monthly	1.0	1.2	0.9	0.8	0.7	1.1	1.1	1.2	1.0
11th Grade	Lifetime	2.5	2.1	2.8	2.3	2.4	2.3	2.3	1.9	3.4
	Monthly	1.2	1.0	1.4	1.1	1.2	1.2	0.5	0.8	1.7
12th Grade	Lifetime	2.6	2.6	1.6	2.7	2.6	3.2	2.4	2.2	2.9
	Monthly	1.2	1.5	0.7	1.4	1.2	1.3	1.0	0.9	1.1

Source: Gassman et al., 2011

APPENDIX 6C

Number and Rate, per 1,000 Population, of Arrests for Cocaine/Opiates Possession and Sale/Manufacture in Indiana, by County (Uniform Crime Reporting Program, 2009)

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Adams	4	*0.1	3	*0.1
Allen	168	0.5	122	0.3
Bartholomew	17	*0.2	17	*0.2
Benton	1	*0.1	2	*0.2
Blackford	0	*0.0	0	*0.0
Boone	6	*0.1	7	*0.1
Brown	0	*0.0	0	*0.0
Carroll	1	*0.0	2	*0.1
Cass	5	*0.1	9	*0.2
Clark	37	0.3	68	0.6
Clay	6	*0.2	5	*0.2
Clinton	6	*0.2	6	*0.2
Crawford	0	*0.0	0	*0.0
Daviess	3	*0.1	10	*0.3
Dearborn	10	*0.2	19	*0.4
Decatur	6	*0.2	6	*0.2
DeKalb	11	*0.3	9	*0.2
Delaware	29	0.2	7	*0.1
Dubois	6	*0.1	3	*0.1
Elkhart	75	0.4	100	0.5
Fayette	6	*0.2	6	*0.2
Floyd	0	*0.0	153	2.1
Fountain	4	*0.2	3	*0.2
Franklin	0	*0.0	2	*0.1
Fulton	2	*0.1	3	*0.1
Gibson	3	*0.1	3	*0.1
Grant	18	*0.3	32	0.5
Greene	2	*0.1	3	*0.1
Hamilton	37	0.1	81	0.3
Hancock	16	*0.2	21	0.3
Harrison	2	*0.1	1	*0.0
Hendricks	30	0.2	26	0.2
Henry	5	*0.1	7	*0.1
Howard	55	0.7	79	1.0
Huntington	0	*0.0	0	*0.0
Jackson	13	*0.3	9	*0.2

APPENDIX 6C (Continued from previous page)

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Jasper	6	*0.2	10	*0.3
Jay	8	*0.4	8	*0.4
Jefferson	7	*0.2	8	*0.2
Jennings	1	*0.0	3	*0.1
Johnson	29	0.2	34	0.2
Knox	22	0.6	14	*0.4
Kosciusko	15	*0.2	10	*0.1
LaGrange	0	*0.0	0	*0.0
Lake	214	0.4	273	0.6
LaPorte	38	0.3	101	0.9
Lawrence	5	*0.1	2	*0.0
Madison	61	0.5	16	*0.1
Marion	1,074	1.2	603	0.7
Marshall	11	*0.2	6	*0.1
Martin	0	*0.0	0	*0.0
Miami	11	*0.3	21	0.6
Monroe	21	0.2	48	0.4
Montgomery	23	0.6	19	*0.5
Morgan	15	*0.2	57	0.8
Newton	8	*0.6	2	*0.1
Noble	10	*0.2	12	*0.3
Ohio	1	*0.2	2	*0.3
Orange	4	*0.2	3	*0.2
Owen	5	*0.2	6	*0.3
Parke	3	*0.2	1	*0.1
Perry	1	*0.1	0	*0.0
Pike	3	*0.2	2	*0.2
Porter	43	0.3	12	*0.1
Posey	6	*0.2	8	*0.3
Pulaski	1	*0.1	4	*0.3
Putnam	20	0.5	19	*0.5
Randolph	9	*0.3	4	*0.2
Ripley	4	*0.1	3	*0.1
Rush	8	*0.5	4	*0.2
Saint Joseph	113	0.4	42	0.2
Scott	4	*0.2	5	*0.2

APPENDIX 6C (Continued from previous page)

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Shelby	6	*0.1	15	*0.3
Spencer	4	*0.2	3	*0.1
Starke	13	*0.6	2	*0.1
Steuben	18	*0.5	6	*0.2
Sullivan	7	*0.3	0	*0.0
Switzerland	2	*0.2	1	*0.1
Tippecanoe	37	0.2	61	0.4
Tipton	3	*0.2	0	*0.0
Union	1	*0.1	1	*0.1
Vanderburgh	35	0.2	56	0.3
Vermillion	1	*0.1	1	*0.1
Vigo	18	*0.2	28	0.3
Wabash	12	*0.4	9	*0.3
Warren	2	*0.2	1	*0.1
Warrick	1	*0.0	1	*0.0
Washington	5	*0.2	6	*0.2
Wayne	55	0.8	38	0.6
Wells	1	*0.0	3	*0.1
White	1	*0.0	0	*0.0
Whitley	7	*0.2	7	*0.2
Indiana	2,617	0.4	2,425	0.4

* Rates that are based on arrest numbers lower than 20 are unreliable.

Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

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7. HEROIN USE IN INDIANA: CONSUMPTION PATTERNS AND CONSEQUENCES

HEROIN CONSUMPTION

Heroin is an illegal, highly addictive drug. It is the most abused and the most rapidly acting of the illegal opiate-type drugs. It is processed from morphine, a naturally occurring substance extracted from the seed pod of certain varieties of poppy plants. Heroin can be injected, smoked, or sniffed/snorted (National Institute on Drug Abuse, 2005).

General Consumption Patterns

Only limited information on heroin use is available, especially at the state level. According to the 2010 National Survey on Drug Use and Health (NSDUH), 1.6% of all U.S. citizens ages 12 or older had tried heroin at least once in their lifetime; 0.2% had used it in the past year; and 0.1% were current (past month) users. The annual averages in Indiana for heroin use, based on 2002–2004 NSDUH data,¹ were as follows:

- lifetime use: 1.1% (approximately 54,000 residents)
- past-year use: 0.2% (approximately 9,000 residents)
- current use: less than 0.1% (approximately 1,000 residents)

(Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Adult Consumption Patterns

Heroin use prevalence in the general population is very low. Based on findings from the 2010 NSDUH, past-year use was an estimated 0.6% among 18- to 25-year-old U.S. residents and 0.2% among those ages 26 and older (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012). Prevalence rates by age group were not available at the state level.

The Indiana College Substance Use Survey provides estimates of alcohol, tobacco, and other drug use among Indiana college students. According to 2011 results, 1.6% of Indiana college students had used heroin in the past year (U.S.: 0.2%) and less than 0.1% had used it in the past month (U.S.: less than 0.05%); compared to Indiana, U.S. rates were statistically significantly lower. Among Indiana college students, no significant differences in heroin prevalence were detected by gender, age group (under 21 vs. 21 or over), and type of academic institution (private/public) (Indiana Collegiate Action Network, 2011).

Data from the Treatment Episode Data Set (TEDS) spanning 2001 through 2009 show that the percentage of treatment episodes in which heroin use was reported at admission was significantly lower in Indiana than the United States ($P < 0.001$). In 2009, 5.5% of Hoosiers in treatment reported heroin use, as compared to 17.3% of Americans. Reported heroin use significantly increased in Indiana from 2.6% in 2001 to 5.5% in 2009; the opposite was true for the nation, which showed a decrease from 18.5% to 17.3% during the same time period (see Figure 7.1) (Substance Abuse and Mental Health Data Archive, 2009). For 2010 county-level information on treatment admissions with reported heroin use in Indiana, see Appendix 7A, pages 131-133.

¹ Estimates based on NSDUH averages from 2002 through 2004 are the most recent state-level data available.

Reported heroin use differed significantly by gender, race, and age group among Indiana’s treatment population:

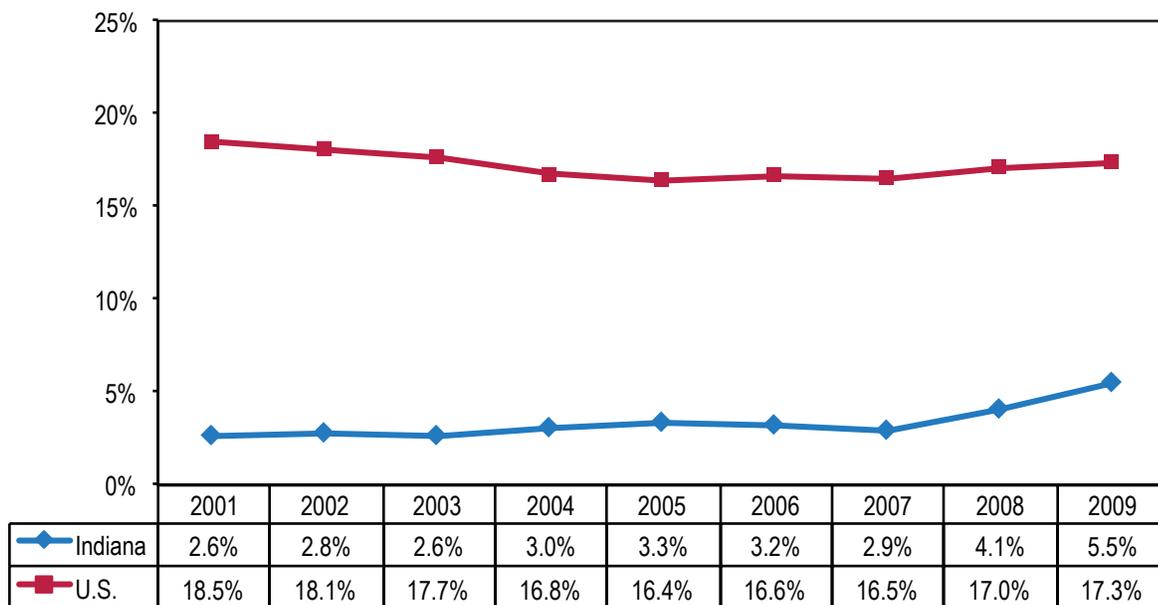
Gender—From 2001 through 2009, the percentage of females reporting use of the drug was significantly higher than the percentage of males (see Figure 7.2).

Race—Reported heroin use also differed significantly by race for most years examined (2001 through 2009, except 2007). In 2009, the reported

heroin use for “other” races was 6.1%, a considerable increase from the 2.2% of the previous year (see Figure 7.3).

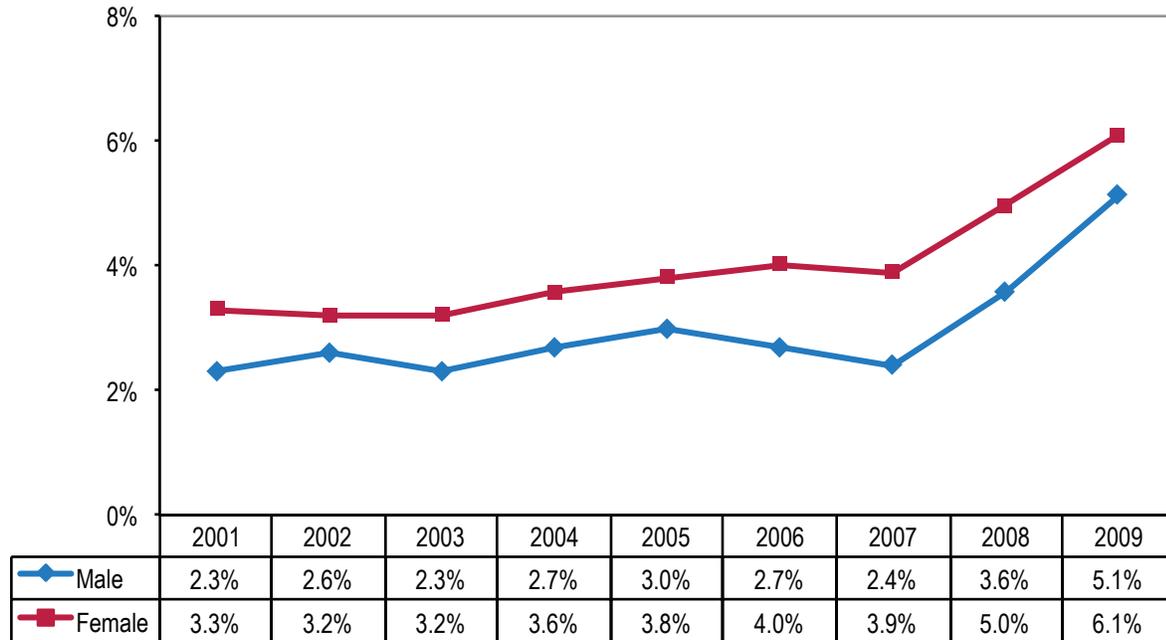
Age—For most years, heroin use within Indiana’s treatment population was associated with older adults aged 45 and above. However, the percentage of 18- to 24-year-olds who reported heroin use more than tripled from 2.0% in 2001 to 6.9% in 2009 (see Figure 7.4) (Substance Abuse and Mental Health Data Archive, 2009).

Figure 7.1 Percentage of Indiana and U.S. Treatment Episodes with Heroin Use Reported at Treatment Admission (Treatment Episode Data Set, 2001–2009)



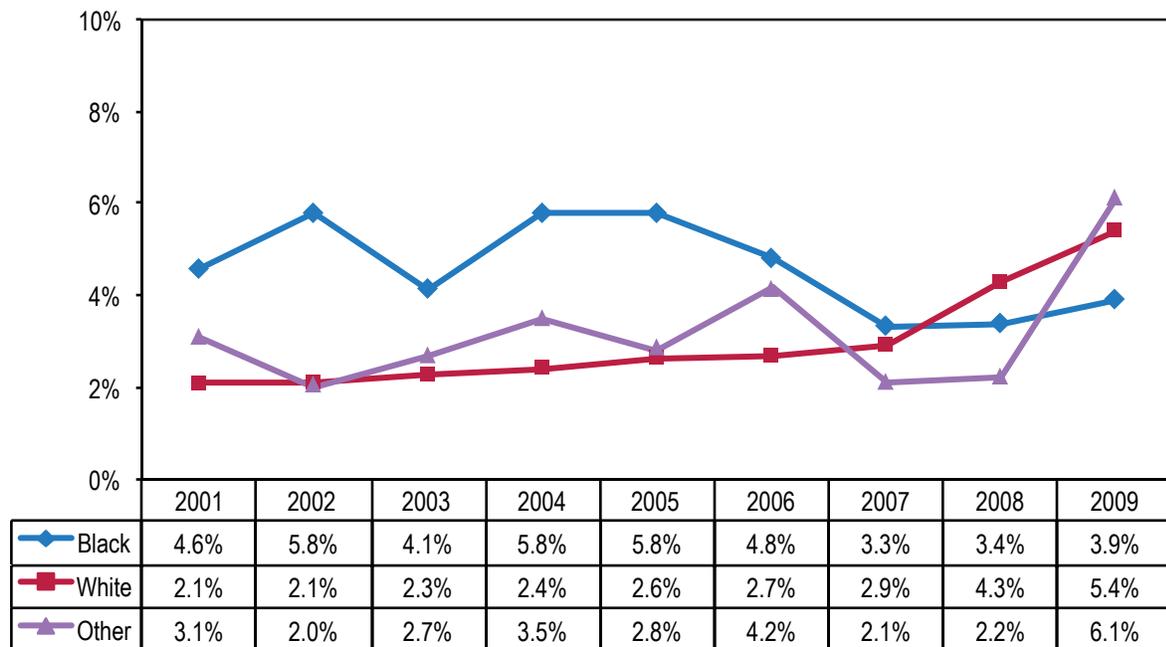
Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 7.2 Percentage of Indiana Treatment Episodes with Heroin Use Reported at Treatment Admission, by Gender (Treatment Episode Data Set, 2001–2009)



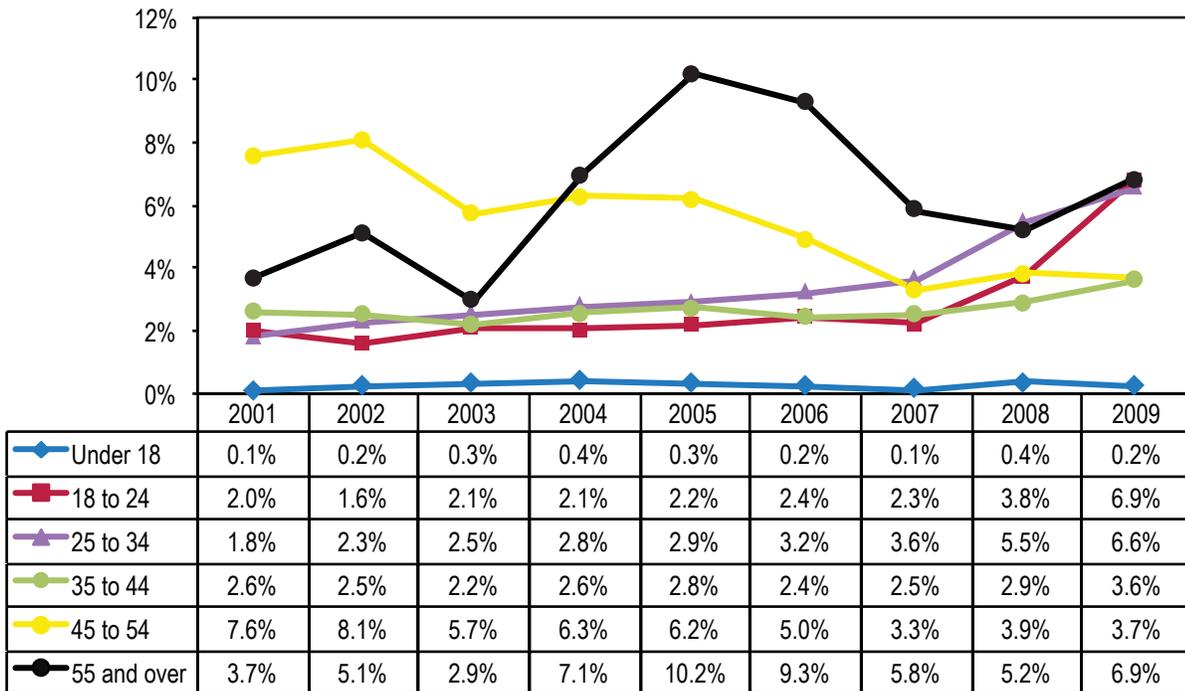
Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 7.3 Percentage of Indiana Treatment Episodes with Heroin Use Reported at Treatment Admission, by Race (Treatment Episode Data Set, 2001–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 7.4 Percentage of Indiana Treatment Episodes with Heroin Use Reported at Treatment Admission, by Age Group (Treatment Episode Data Set, 2001–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

Youth Consumption Patterns

According to the 2009 Youth Risk Behavior Surveillance System (YRBSS), 2.6% (95% Confidence Interval [CI]: 1.9–3.6) of high school students (grades 9 through 12) in Indiana tried heroin at least once in their life. Indiana’s rate was statistically similar to the national YRBSS rate (2.5%; 95% CI: 2.2–2.9) (see Figure 7.5). No statistical differences by gender, race, or grade level were observed in 2009. Prevalence of lifetime heroin use has remained stable among Indiana high school students from 2003 through 2009 (Centers for Disease Control and Prevention, 2011-d).²

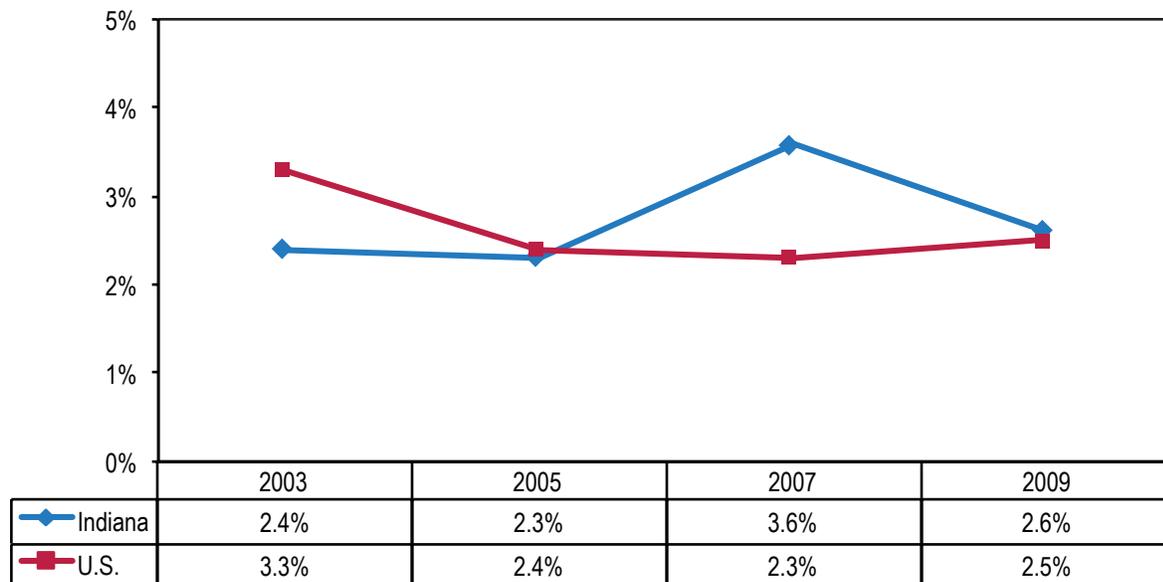
As noted previously, a common method for heroin usage is by needle injection. According to the 2009 YRBSS, the percentage of students who used a needle to inject any illegal drug into their body one or more times during their lifetime was statistically similar in Indiana (2.8%; 95% CI: 1.9–4.1) and the nation (2.1%; 95% CI: 1.8–2.5). Indiana’s rate remained stable from

2003 through 2009 (Centers for Disease Control and Prevention, 2011-d).³

Based on results from the 2011 Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents (ATOD) survey, 2.4% of Hoosier 12th grade students reported lifetime use (U.S. 1.4%) and 1.2% reported monthly (current) heroin use (U.S.: 0.4%) (see Figures 7.6 and 7.7) (Gassman, Jun, Samuel, Agle, Lee, Morrison, Agle, et al., 2011; Inter-university Consortium for Political and Social Research, University of Michigan, 2011).⁴

Heroin use among Hoosier students appeared to increase with age, with lower rates in earlier grades and highest rates in high school seniors; however, statistical significance could not be determined (Gassman, et al., 2011). For lifetime and monthly heroin use rates in Indiana by region and grade level, see Appendix 7B, page 134.

Figure 7.5 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, 2003–2009)



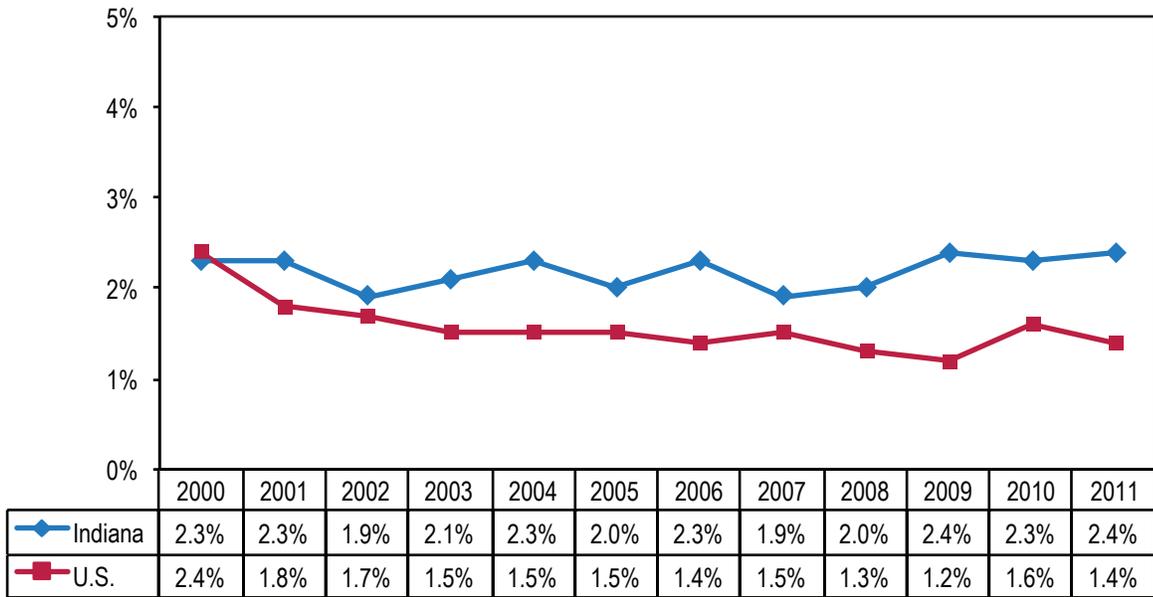
Source: Centers for Disease Control and Prevention, 2011-d

² Based on CDC’s trend analysis report for 2009 Youth Risk Behavior Survey (report received February 1, 2012, from the Indiana State Department of Health).

³ Based on CDC’s trend analysis report for 2009 Youth Risk Behavior Survey (report received February 1, 2012, from the Indiana State Department of Health).

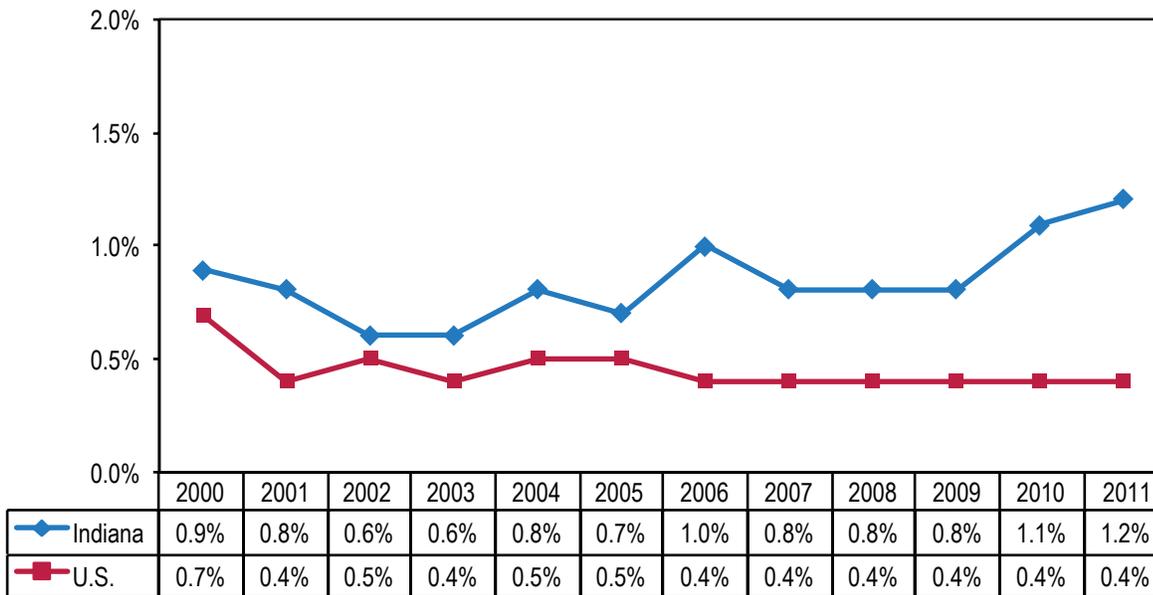
⁴ Due to lack of detail provided in the publicly available data sets, statistical significance between Indiana and U.S. rate differences could not be ascertained.

Figure 7.6 Percentage of Indiana and U.S. 12th Grade Students Reporting Lifetime Heroin Use (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey and Monitoring the Future Survey, 2000–2011)



Source: Gassman, et al., 2011; Inter-university Consortium for Political and Social Research, University of Michigan, 2011

Figure 7.7 Percentage of Indiana and U.S. 12th Grade Students Reporting Monthly Heroin Use (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey and Monitoring the Future Survey, 2000–2011)



Source: Gassman, et al., 2011; Inter-university Consortium for Political and Social Research, University of Michigan, 2011

CONSEQUENCES

Heroin abuse is associated with serious health conditions, including heroin dependence, fatal overdose, spontaneous abortion, and collapsed veins. In addition, particularly in users who inject the drug, serious health effects include infectious diseases, such as HIV/AIDS and hepatitis C (HCV). Other health problems reported in heroin abusers are infections of the heart lining and valves, abscesses, liver disease, and pulmonary complications (National Institute on Drug Abuse, 2005).

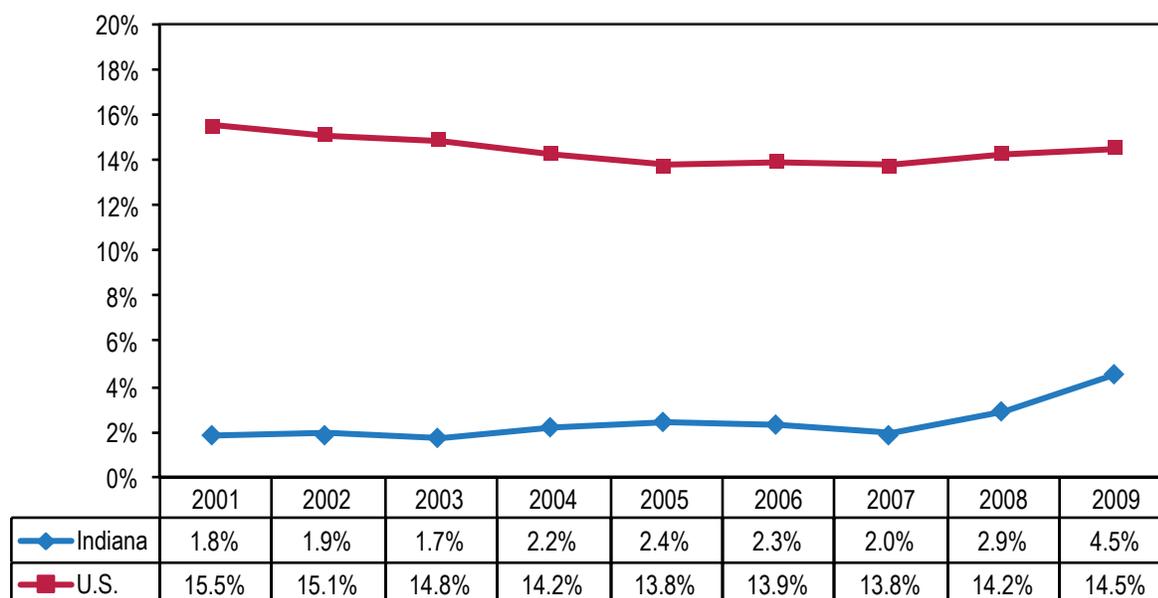
Because street heroin often contains toxic additives that do not easily dissolve, blood vessels leading to the heart, lungs, liver, kidneys, or brain can become clogged. Clogs of this nature can lead to infection or death of small patches of cells in vital organs (National Institute on Drug Abuse, 2005). The Drug Abuse Warning Network reported that nationwide,

approximately 213,118 visits to Emergency Departments (ED) in 2009 involved heroin use; i.e., heroin was implicated in nearly 22% of all ED visits involving illicit drugs (Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, 2011).

Heroin Dependence

A comparison of data from the Treatment Episode Data Set (TEDS) from 2001 through 2009 shows that the percentage of drug treatment admissions for heroin dependence⁵ has consistently been lower in Indiana than the rest of the United States ($P < 0.001$). In addition, there has been a considerable increase in Indiana for heroin dependence from 1.8% in 2001 to 4.5% in 2009 (see Figure 7.8).

Figure 7.8 Percentage of Indiana and U.S. Treatment Episodes with Heroin Dependence Reported at Treatment Admission (Treatment Episode Data Set, 2001–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

⁵ We defined heroin dependence as “individuals in substance abuse treatment listing heroin as their primary substance at admission.”

Statistically significant differences in treatment admissions for heroin dependence were observed in Indiana by gender, race, and age group:

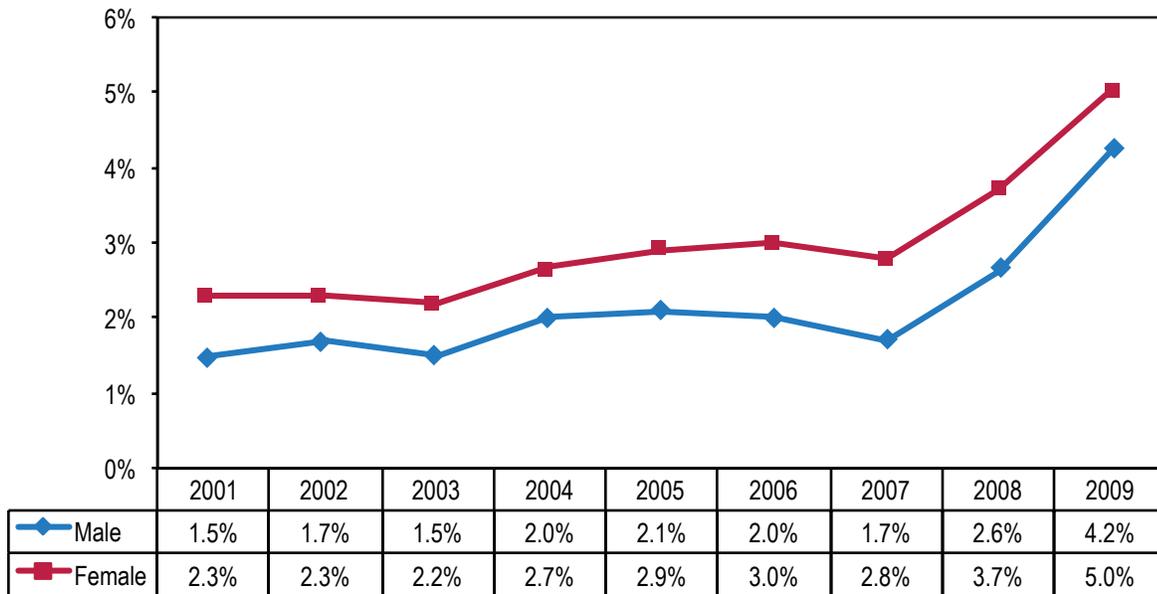
Gender—The percentage of women with heroin dependence was greater than the percentage of men, at 5.0% and 4.2% respectively (see Figure 7.9).

Race—In 2009, the percentage of those classified as “other” race surpassed both the percent-

age of whites and blacks for heroin dependence (see Figure 7.10).

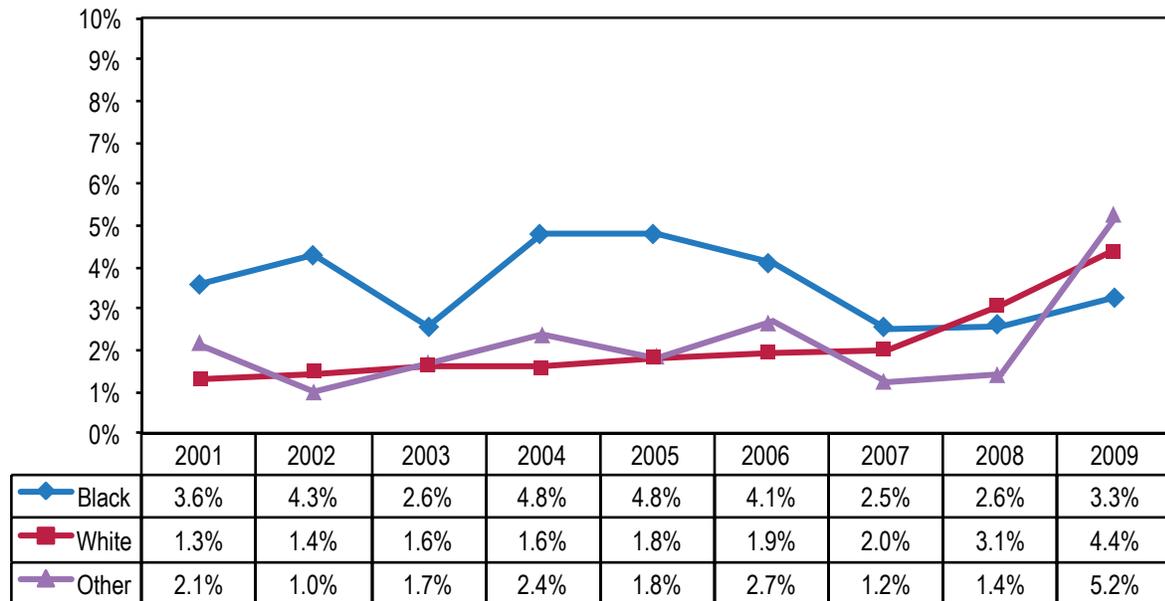
Age—Heroin dependence was reported almost exclusively by individuals 18 years of age or older. Heroin dependence among Hoosiers ages 18 to 24 quadrupled from 1.5% in 2001 to 6.1% in 2009 (see Figure 7.11). (For county-level information on heroin dependence, see Appendix 7A, pages 131-133.)

Figure 7.9 Percentage of Indiana Treatment Episodes with Heroin Dependence Reported at Treatment Admission, by Gender (Treatment Episode Data Set, 2001–2009)



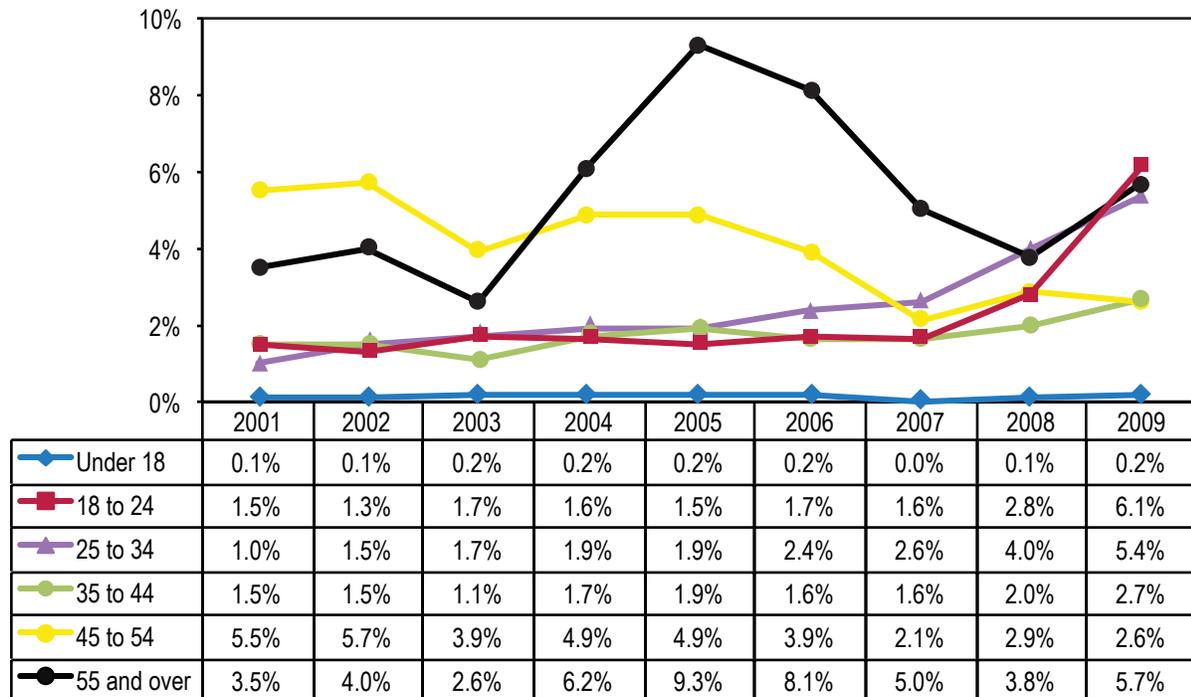
Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 7.10 Percentage of Indiana Treatment Episodes with Heroin Dependence Reported at Treatment Admission, by Race (Treatment Episode Data Set, 2001–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 7.11 Percentage of Indiana Treatment Episodes with Heroin Dependence Reported at Treatment Admission, by Age Group (Treatment Episode Data Set, 2001–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

HIV/AIDS

One of the most serious consequences of heroin abuse is contraction of HIV from contaminated needles. In 2010, 386 new HIV infections and 128 new AIDS cases were reported in Indiana. Seven of the new HIV infections and less than five of the new AIDS cases were transmitted through injection drug use (IDU) alone. By the end of 2010, a total of 9,216 individuals were living in Indiana with HIV disease;⁶ 397 (or 4.3%) of these cases were attributed to IDU (Indiana State Department of Health, 2010). The Centers for Disease Control and Prevention estimated that in Indiana 6.3 per 100,000 population were diagnosed with AIDS in 2009 (U.S.: 11.2 per 100,000 population) (Centers for Disease Control and Prevention, 2011b).

The age-adjusted 2008 HIV/AIDS mortality rate⁷ in Indiana was 1.9 per 100,000 population (95% CI: 1.6–2.3), which was significantly lower than the U.S. rate of 3.3 per 100,000 population (95% CI: 3.3–3.4) (Centers for Disease Control and Prevention, 2011a).

Hepatitis

Hepatitis is a liver disease that is caused by viral infection. The most common types are hepatitis A, B, and C. The hepatitis B virus (HBV) and hepatitis C virus (HCV) are transmitted when blood of an infected person enters the body of a person who is not infected. The disease is frequently spread via unprotected sex and among injection drug users (Centers for Disease Control and Prevention, 2011c). The 2009 incidence rates per 100,000 for acute hepatitis in Indiana were 1.2 for HBV (U.S.: 1.1) and less than 0.0 for HCV (U.S.: < 0.0) (Centers for Disease Control and Prevention, 2011c).

A decline in HBV incidence began in the mid-1980s and has coincided with the stepwise implementation of the national vaccination strategy to eliminate transmission of the virus. After peaking in the late 1980s, the incidence of HCV declined steadily through the 1990s. However, since 2003, HCV rates have plateaued, with IDU remaining the most commonly identified risk factor for infection (Centers for Disease Control and Prevention, 2011c).

⁶ HIV disease includes both HIV infections and AIDS cases.

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

⁸ 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).

With an estimated 3.2 million chronically infected persons nationwide, HCV is the most common chronic blood-borne infection in the United States. No effective vaccine is available (Centers for Disease Control and Prevention, 2011b). The 2008 age-adjusted mortality rate attributable to HBV and HCV⁸ was 1.6 per 100,000 population (95% CI: 1.3–1.9) in Indiana, which was significantly lower than the national rate of 2.2 per 100,000 population (95% CI: 2.2–2.3) (Centers for Disease Control and Prevention, 2011a).

Self-Injury

A potential consequence of heroin use is the increased risk of harming oneself. Suicidal intentions and behaviors have been reported in large numbers of illicit drug users, especially those who use heroin (Gossop, Marsden, Stewart, Lehmann, Edwards, Wilson, & Segar, 1998). Suicide is reported to be one of the four major causes of death of heroin users; the other three are accidental overdose, disease, and trauma (Darke, Williamson, Ross, & Teesson, 2005). According to a statewide survey, 98.3% of Hoosiers believe that using heroin once or twice a week is a great risk and can cause people to harm themselves physically and in other ways (State Epidemiology and Outcomes Workgroup, 2008).

Legal Consequences

The Uniform Crime Reporting (UCR) Program collects information on arrests for possession and sale/manufacture of opiates and cocaine combined; data on either drug category individually are currently not available (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009). According to the 2009 dataset, law enforcement made over 2,600 arrests for possession and more than 2,400 arrests for sale/manufacture of opiates and cocaine in Indiana in that year. This represents arrest rates of 0.4 per 1,000 population (95% CI: 0.4–0.4) for each offense. For trend information and comparisons with the United States, refer to Chapter 6, Cocaine, on pages 101-119; for county-level data, see Maps 6.1 and 6.2 (pages 117 and 118) and Appendix 6C (pages 114-116).

APPENDIX 7A

Number and Percentage of Treatment Episodes with Heroin Use and Dependence Reported at Treatment Admission in Indiana, by County (Substance Abuse Population by County/Treatment Episode Data Set, 2010)

County	Treatment Episodes	Heroin Use		Heroin Dependence	
	Total	Number	Percentage	Number	Percentage
Adams	202	21	10.4%	18	8.9%
Allen	1,447	14	1.0%	7	0.5%
Bartholomew	508	6	1.2%	<5	N/A
Benton	22	<5	N/A	<5	N/A
Blackford	32	<5	N/A	<5	N/A
Boone	196	23	11.7%	21	10.7%
Brown	64	<5	N/A	<5	N/A
Carroll	95	<5	N/A	<5	N/A
Cass	211	<5	N/A	<5	N/A
Clark	183	7	3.8%	5	2.7%
Clay	135	<5	N/A	<5	N/A
Clinton	119	<5	N/A	<5	N/A
Crawford	35	<5	N/A	<5	N/A
Daviess	173	<5	N/A	<5	N/A
Dearborn	128	28	21.9%	24	18.8%
Decatur	92	<5	N/A	<5	N/A
DeKalb	166	<5	N/A	<5	N/A
Delaware	698	<5	N/A	<5	N/A
Dubois	235	<5	N/A	<5	N/A
Elkhart	769	11	1.4%	9	1.2%
Fayette	112	11	9.8%	9	8.0%
Floyd	70	<5	N/A	<5	N/A
Fountain	70	11	15.7%	7	10.0%
Franklin	23	<5	N/A	<5	N/A
Fulton	177	<5	N/A	<5	N/A
Gibson	138	<5	N/A	<5	N/A
Grant	250	<5	N/A	<5	N/A
Greene	127	<5	N/A	<5	N/A
Hamilton	571	36	6.3%	29	5.1%
Hancock	89	<5	N/A	<5	N/A
Harrison	25	<5	N/A	<5	N/A
Hendricks	354	22	6.2%	16	4.5%
Henry	206	12	5.8%	8	3.9%
Howard	580	18	3.1%	13	2.2%
Huntington	347	5	1.4%	<5	N/A
Jackson	138	<5	N/A	<5	N/A

APPENDIX 7A (Continued from previous page)

County	Treatment Episodes	Heroin Use		Heroin Dependence	
	Total	Number	Percentage	Number	Percentage
Jasper	71	12	16.9%	9	12.7%
Jay	57	<5	N/A	<5	N/A
Jefferson	134	<5	N/A	<5	N/A
Jennings	171	<5	N/A	<5	N/A
Johnson	293	27	9.2%	19	6.5%
Knox	244	<5	N/A	<5	N/A
Kosciusko	608	5	0.8%	<5	N/A
LaGrange	172	5	2.9%	<5	N/A
Lake	1,892	197	10.4%	170	9.0%
LaPorte	503	89	17.7%	79	15.7%
Lawrence	296	<5	N/A	<5	N/A
Madison	551	7	1.3%	<5	N/A
Marion	4,240	374	8.8%	319	7.5%
Marshall	230	<5	N/A	<5	N/A
Martin	59	<5	N/A	<5	N/A
Miami	233	<5	N/A	<5	N/A
Monroe	1,103	34	3.1%	24	2.2%
Montgomery	186	30	16.1%	16	8.6%
Morgan	424	14	3.3%	10	2.4%
Newton	36	6	16.7%	6	16.7%
Noble	335	<5	N/A	<5	N/A
Ohio	<5	<5	N/A	<5	N/A
Orange	78	<5	N/A	<5	N/A
Owen	231	<5	N/A	<5	N/A
Parke	105	<5	N/A	<5	N/A
Perry	161	<5	N/A	<5	N/A
Pike	37	<5	N/A	<5	N/A
Porter	446	81	18.2%	73	16.4%
Posey	154	<5	N/A	<5	N/A
Pulaski	73	<5	N/A	<5	N/A
Putnam	172	5	2.9%	<5	N/A
Randolph	101	10	9.9%	9	8.9%
Ripley	68	<5	N/A	<5	N/A
Rush	113	<5	N/A	<5	N/A
Saint Joseph	1,391	74	5.3%	55	4.0%
Scott	84	<5	N/A	<5	N/A

APPENDIX 7A (Continued from previous page)

County	Treatment Episodes	Heroin Use		Heroin Dependence	
	Total	Number	Percentage	Number	Percentage
Shelby	82	10	12.2%	10	12.2%
Spencer	183	<5	N/A	<5	N/A
Starke	130	8	6.2%	5	3.8%
Steuben	116	<5	N/A	<5	N/A
Sullivan	50	<5	N/A	<5	N/A
Switzerland	14	<5	N/A	<5	N/A
Tippecanoe	468	36	7.7%	29	6.2%
Tipton	42	<5	N/A	<5	N/A
Union	7	<5	N/A	<5	N/A
Vanderburgh	1,158	<5	N/A	<5	N/A
Vermillion	124	<5	N/A	<5	N/A
Vigo	580	<5	N/A	<5	N/A
Wabash	358	15	4.2%	13	3.6%
Warren	28	5	17.9%	<5	N/A
Warrick	313	<5	N/A	<5	N/A
Washington	26	<5	N/A	<5	N/A
Wayne	251	29	11.6%	23	9.2%
Wells	79	<5	N/A	<5	N/A
White	116	<5	N/A	<5	N/A
Whitley	159	<5	N/A	<5	N/A
Indiana	28,127	1,388	4.7%	1,106	3.8%

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

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

Source: Indiana Family and Social Services Administration, Revenue Enhancement and Data, 2011

APPENDIX 7B

Percentage of Indiana Students Reporting Lifetime and Monthly Heroin Use in Indiana, by Region and Grade (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2011)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Lifetime	0.4	0.5	0.4	0.3	0.4	0.4	0.8	0.2	0.3
	Monthly	0.2	0.2	0.3	0.3	0.1	0.2	0.3	0.1	0.2
7th Grade	Lifetime	0.8	0.8	0.5	0.5	0.8	0.9	0.8	0.6	1.3
	Monthly	0.4	0.3	0.4	0.3	0.5	0.4	0.3	0.3	0.9
8th Grade	Lifetime	1.2	1.5	0.8	0.5	1.1	1.5	1.5	0.8	1.3
	Monthly	0.7	0.9	0.4	0.2	0.6	0.9	1.1	0.5	0.6
9th Grade	Lifetime	1.6	1.8	1.5	1.2	2.0	2.1	1.4	1.4	1.2
	Monthly	0.8	1.1	0.8	0.5	0.9	1.1	0.6	0.6	0.8
10th Grade	Lifetime	1.9	2.2	1.5	1.3	1.7	2.2	2.0	1.6	2.1
	Monthly	0.9	1.2	0.6	0.5	0.8	1.0	1.0	0.9	0.9
11th Grade	Lifetime	2.2	2.4	2.0	2.4	2.0	2.4	2.2	1.3	2.9
	Monthly	1.1	0.8	1.2	1.0	1.2	1.2	1.0	0.9	1.6
12th Grade	Lifetime	2.4	3.0	1.2	2.2	2.3	3.0	2.4	1.9	2.7
	Monthly	1.2	1.9	0.4	1.4	1.0	1.4	1.0	0.9	1.3

Source: Gassman, et al., 2011

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8. METHAMPHETAMINE USE IN INDIANA: CONSUMPTION PATTERNS AND CONSEQUENCES

METHAMPHETAMINE CONSUMPTION

Methamphetamine (meth) is a powerful, highly addictive stimulant that affects the central nervous system. Meth is similar to amphetamine, but it has a more pronounced effect. It can be injected, snorted, smoked, or ingested orally. Methamphetamine users feel a short, yet intense “rush” when the drug is initially administered. The immediate effects of methamphetamine include increased activity and decreased appetite (National Institute on Drug Abuse, 2010).

General Consumption Patterns

The National Survey on Drug Use and Health (NSDUH) measures lifetime, past year, and past month (current) use of methamphetamine in the population ages 12 and older (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012). The latest prevalence estimates for the nation are based on results from the 2010 survey. However, state-level rates were calculated using annual averages from 2002 through 2004. Therefore, comparisons between Indiana and U.S. rates should be made with caution, especially since national rates were higher between 2002 and 2004 than they are today. According to NSDUH findings:

- 4.5% of Hoosiers (225,000 residents) used meth at least once in their life (U.S.: 5.0%).
- 0.8% of Hoosiers (40,000 residents) used meth in the past year (U.S.: 0.3%).
- 0.2% of Hoosiers (10,000 residents) used meth in the past month (U.S.: 0.1%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Adult Consumption Patterns

According to pooled NSDUH data from 2002 through 2005, 1.9% of Indiana residents ages 18 to 25 used meth in the past year. In comparison, the highest and lowest rates of past-year meth use among 18- to 25-year-olds were found in young adults from Wyoming (4.6%) and New York (0.3%), respectively (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2006).

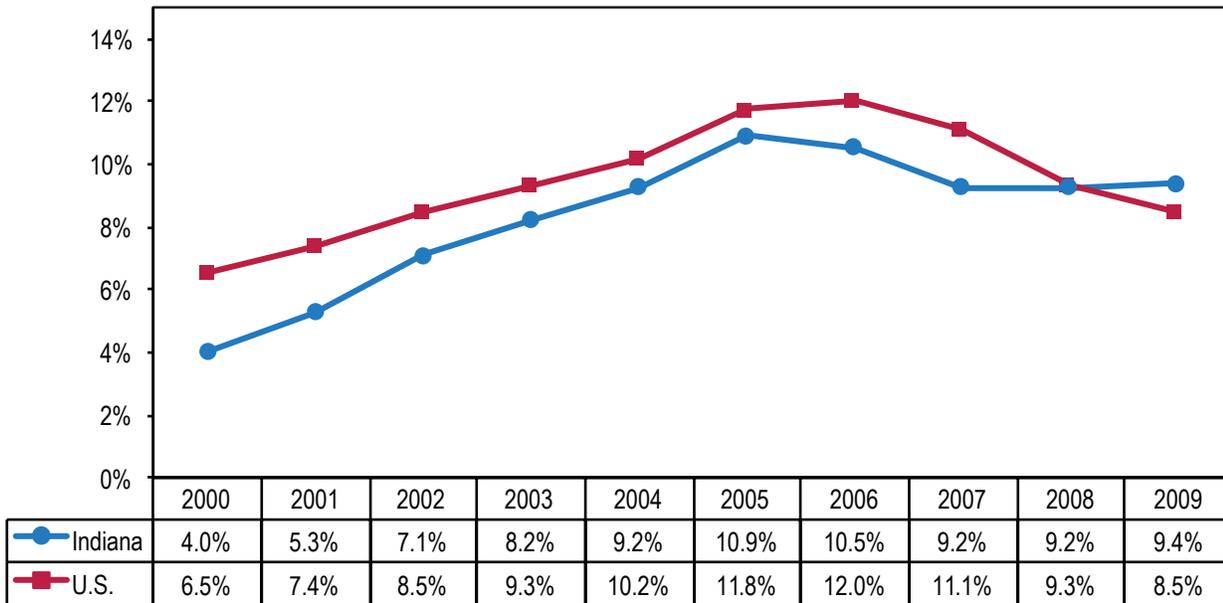
The Indiana College Substance Use Survey provides estimates of alcohol, tobacco, and other drug use among Indiana college students. According to 2011 results, 1.7% of Indiana college students had used meth in the past year (U.S.: 0.4%) and 0.1% had used it in the past month (U.S.: less than 0.05%); U.S. rates were statistically significantly lower.¹ Also, prevalence rates for meth use among Indiana college students did not differ by gender, age group (under 21 vs. 21 or over), or type of academic institution (private vs. public) (Indiana Collegiate Action Network, 2011).²

The Treatment Episode Data Set (TEDS) includes information gathered from patients at the time of substance abuse treatment admission (Substance Abuse and Mental Health Data Archive, 2009). Indiana TEDS data show a steady increase in the percentage of patients reporting meth use at admission, from 4.0% in 2000 to 10.9% in 2005, and then decreased to 9.4% in 2009. For the first time since 2000, the percentage of treatment admissions with reported meth use was significantly higher in Indiana than in the United States (see Figure 8.1).

¹ National data is based on the Monitoring the Future study. College students were defined as “[T]hose follow-up respondents one to four years past high school who say they were registered as full-time students in a two- or four-year undergraduate college at the beginning of March in the year in question” (Johnston, O’Malley, Bachman, & Schulenberg, 2011, p. 255).

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

Figure 8.1 Percentage of Treatment Episodes with Meth Use Reported at Treatment Admission in Indiana and the United States (Treatment Episode Data Set, 2000–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

In Indiana, statistically significant differences in meth use were observed by gender, race, and age, as follows:

Gender—Across all data points, the percentage of female clients reporting meth use at admission was significantly greater than the percentage of male clients (see Figure 8.2).

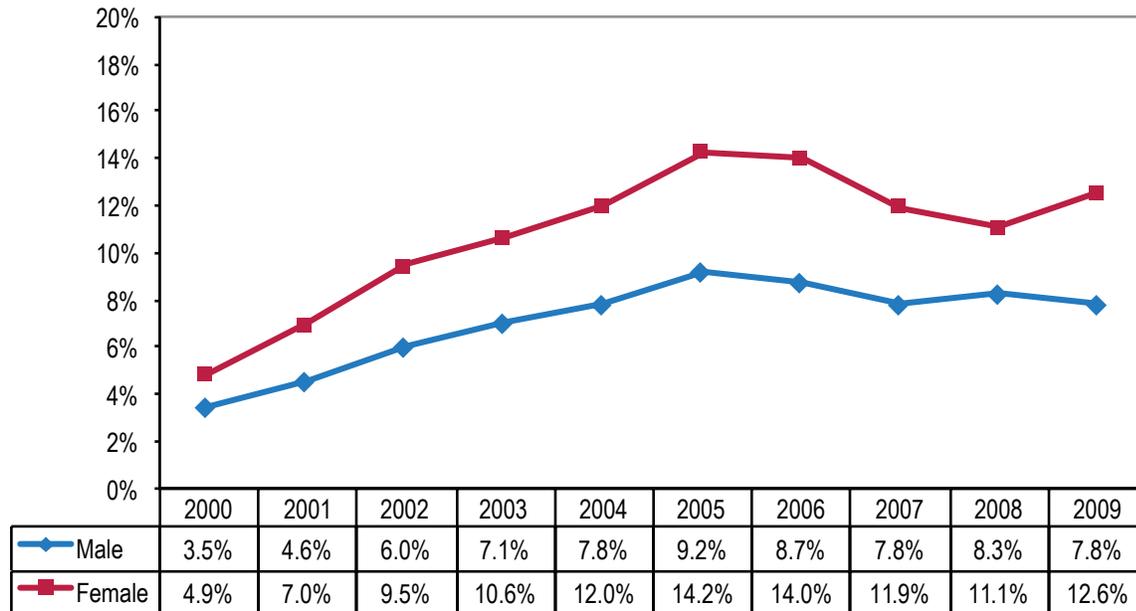
Race—Meth use was significantly higher among white patients than black or other minority patients. Reported use for whites more than doubled from 5.2% in 2000 to 11.2% in 2009. Even though blacks consistently had the lowest percentage, reported use

increased significantly from 0.3% to 1.7% during that time period; however, the greatest increase was found among other races, whose percentages rose from 0.7% to 6.6% (see Figure 8.3).

Age—With the exception of individuals under the age of 18, younger adults had higher rates of use than older people, with the highest rates among those ages 25 to 34 (see Figure 8.4) (Substance Abuse and Mental Health Data Archive, 2009).

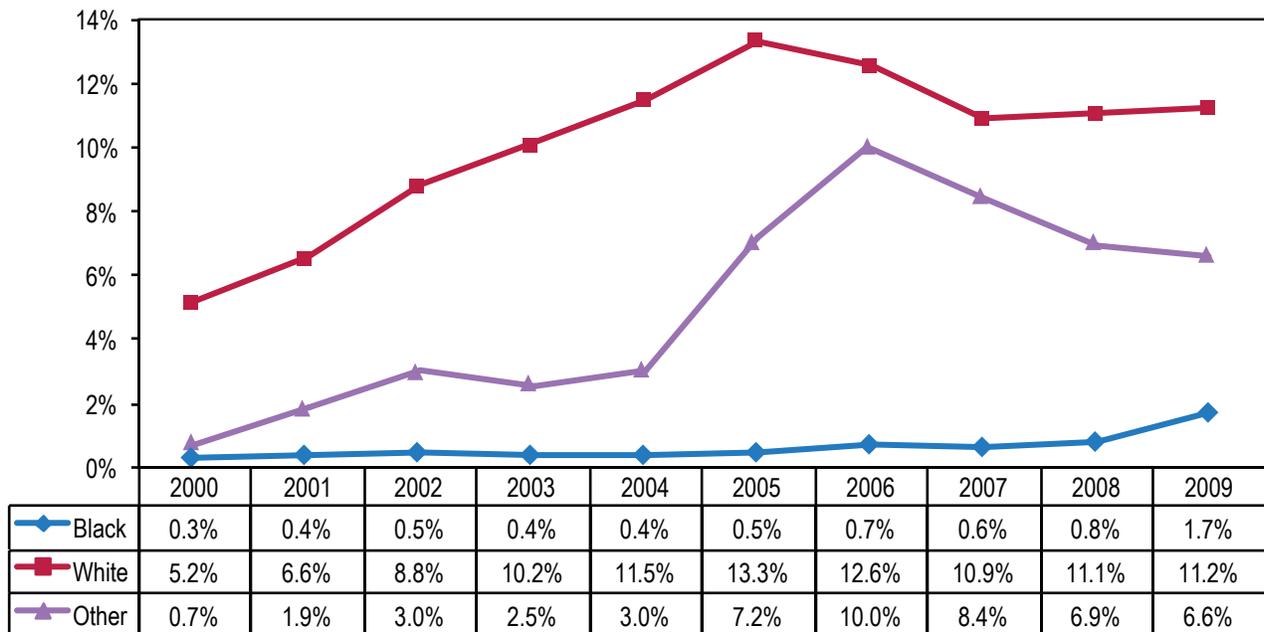
For county-level treatment data, see Appendix 8A, page 149-151.

Figure 8.2 Percentage of Treatment Episodes with Meth Use Reported at Treatment Admission in Indiana, by Gender (Treatment Episode Data Set, 2000–2009)



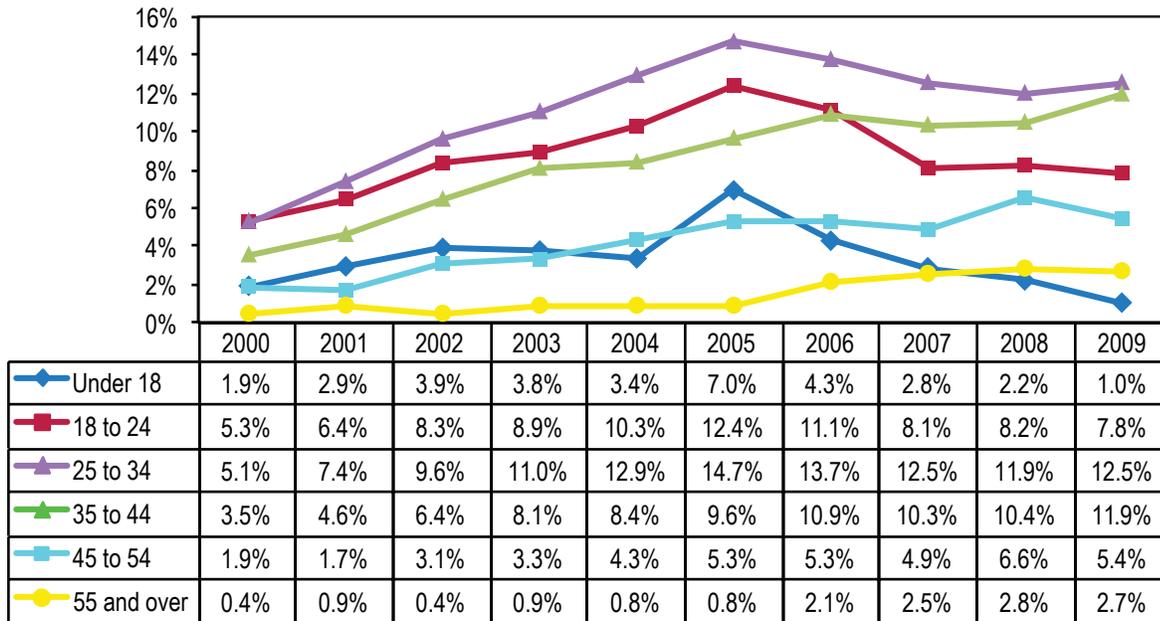
Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 8.3 Percentage of Treatment Episodes with Meth Use Reported at Treatment Admission in Indiana, by Race (Treatment Episode Data Set, 2000–2009)



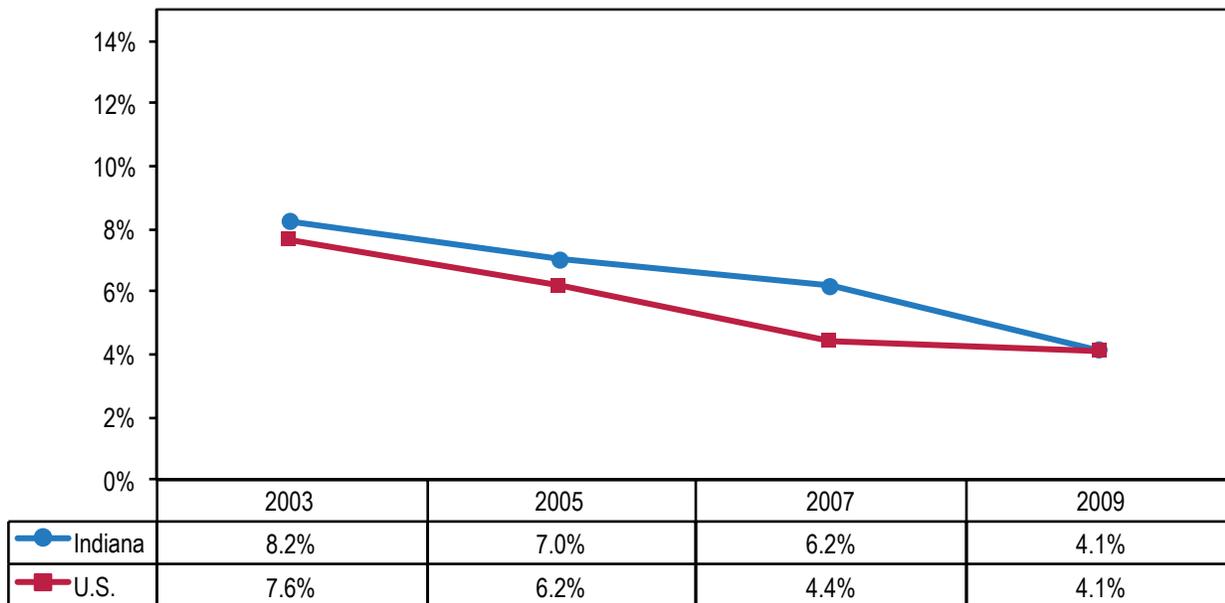
Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 8.4 Percentage of Treatment Episodes with Meth Use Reported at Treatment Admission in Indiana, by Age Group (Treatment Episode Data Set, 2000–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 8.5 Percentage of Indiana and U.S. High School Students (9th–12th Grade) Reporting Lifetime Methamphetamine Use (Youth Risk Behavior Surveillance System, 2003–2009)



Source: Centers for Disease Control and Prevention, 2011

The Indiana State Epidemiology and Outcomes Workgroup (SEOW) conducted a statewide survey on substance use among adults in 2008. The results indicated that virtually all respondents (98.7%) believe that it is unacceptable for a person to use crystal meth, and 98.2% stated that people who use crystal meth once or twice a week are at great risk of harming themselves physically and in other ways (State Epidemiology and Outcomes Workgroup, 2008).

Youth Consumption Patterns

According to the 2009 Youth Risk Behavior Surveillance System (YRBSS), 4.1% (95% Confidence Interval [CI]: 2.8–5.8) of Indiana high school students reported having used meth once or more in their lifetimes; the national rate was the same (4.1%; 95% CI: 3.6–4.6). This represents a significant drop from Indiana’s 2003 level of 8.2% (95% CI: 6.5–10.3) (see Figure 8.5).³ Rate differences by gender, race, and grade level were not significant in Indiana (see Table 8.1) (Centers for Disease Control and Prevention, 2011).

Two other surveys of young people that include questions about lifetime and current methamphetamine use are the Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents (ATOD) survey, conducted among Indiana students in grades 6 through 12 (Gassman, Jun, Samuel, Agle, Lee, Morrison, Agle, et al., 2011), and the Monitoring the Future (MTF) survey, administered nationally among 8th, 10th, and 12th graders (Inter-university Consortium for Political and Social Research, University of Michigan, 2011). Results for 2011 are shown in Figure 8.6. For grades 8, 10, and 12, Indiana’s rates of

current meth use seemed twice as high compared to U.S. rates; however, due to the lack of detail provided in the publicly available data sets, statistical significance of the differences could not be determined.

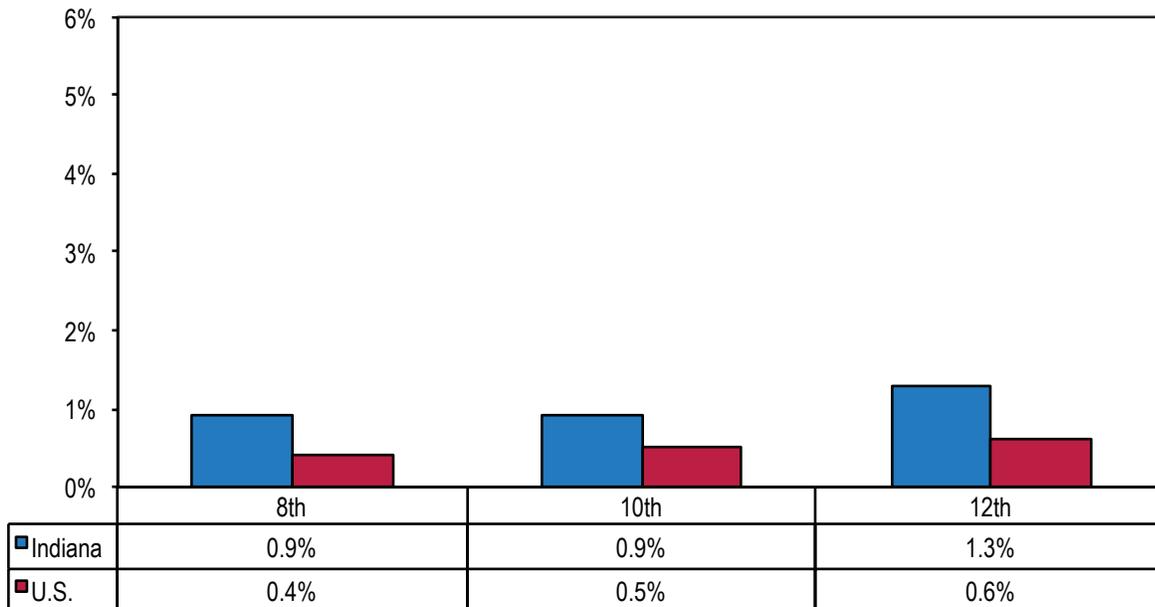
Table 8.1 Percentage of Indiana and U.S. High School Students Reporting Lifetime Methamphetamine Use, by Gender, Race/Ethnicity, and Grade (Youth Risk Behavior Surveillance System, 2009)

	Indiana	U.S.
	Prevalence (95% CI)	Prevalence (95% CI)
Gender		
Male	4.8% (3.1–7.3)	4.7% (4.0–5.5)
Female	3.4% (2.3–4.9)	3.3% (2.7–4.0)
Race/Ethnicity		
Black	2.4% (0.8–7.6)	2.7% (1.7–4.3)
White	4.4% (3.1–6.3)	3.7% (3.1–4.5)
Hispanic	1.9% (0.5–6.4)	5.7% (4.5–7.1)
Grade		
9th	1.1% (0.4–3.2)	3.3% (2.6–4.1)
10th	6.2% (3.9–9.7)	3.7% (3.1–4.5)
11th	3.5% (2.0–6.2)	5.2% (4.3–6.2)
12th	5.2% (2.6–10.0)	4.1% (3.5–4.8)
Total	4.1% (2.8–5.8)	4.1% (3.6–4.6)

Source: Centers for Disease Control and Prevention, 2011

³ Based on CDC’s trend analysis report for 2009 Youth Risk Behavior Survey (report received February 1, 2012, from the Indiana State Department of Health).

Figure 8.6 Percentage of Indiana and U.S. 8th, 10th, and 12th Grade Students Reporting Current (Past Month) Methamphetamine Use, by Grade (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey and Monitoring the Future Survey, 2011)

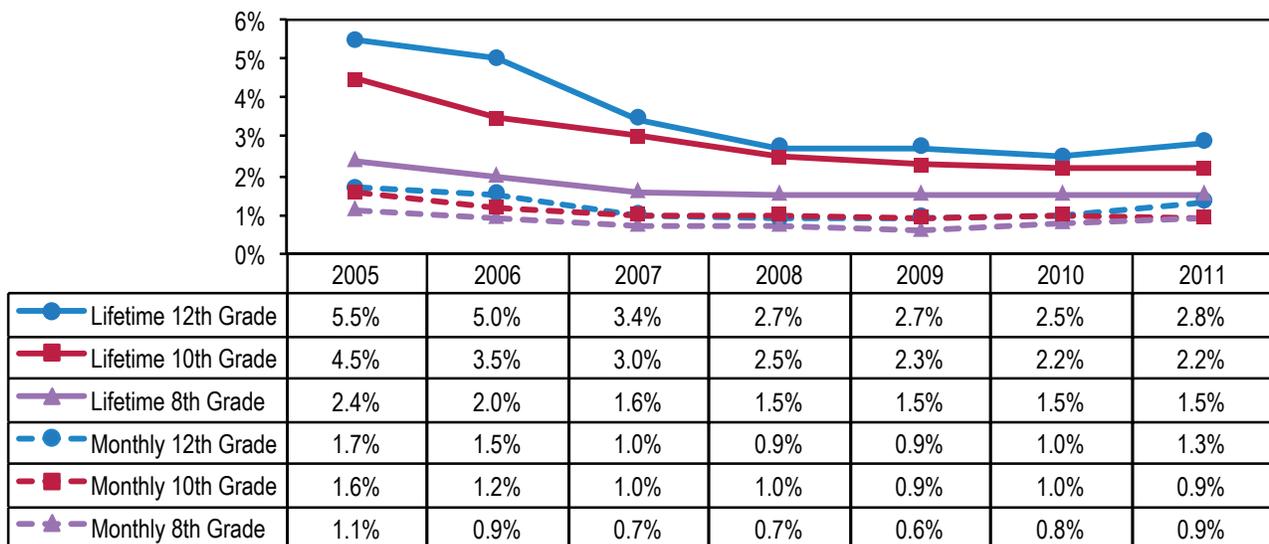


Source: Gassman et al., 2011; Inter-university Consortium for Political and Social Research, University of Michigan, 2011

In Indiana, rates of meth use (lifetime and monthly) in 8th, 10th, and 12th grade students seemed to have decreased from 2005 through 2011 (see Figure 8.7).

For lifetime and monthly meth use in Indiana, by region and grade, see Appendix 8B, page 152.

Figure 8.7 Percentage of Indiana 8th, 10th, and 12th Grade Students Reporting Lifetime and Monthly Methamphetamine Use (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2005–2011)



Source: Gassman et al., 2011

CONSEQUENCES

Health-Related Consequences

The health consequences of meth use include both short-term and chronic impacts. Short-term effects include increased wakefulness, physical activity, and decreased appetite, as well as cardiac problems, hyperthermia (elevated body temperature), depression, and confusion. When used chronically, meth causes physiological changes that result in impaired memory, mood alterations, diminished motor coordination, and psychiatric problems. Chronic, long-term use can also lead to insomnia, violent behavior, hallucinations, weight loss, and stroke. Other health consequences of prolonged meth use include cardiovascular collapse; brain, liver, and kidney damage; severe tooth decay (or “meth mouth”); hepatitis; extreme weight loss; mental illness; increased risk of unsafe sex and risky sexual behavior; increased risk of STD/HIV transmission; unwanted pregnancy; and death (National Institute on Drug Abuse, 2002, 2010).

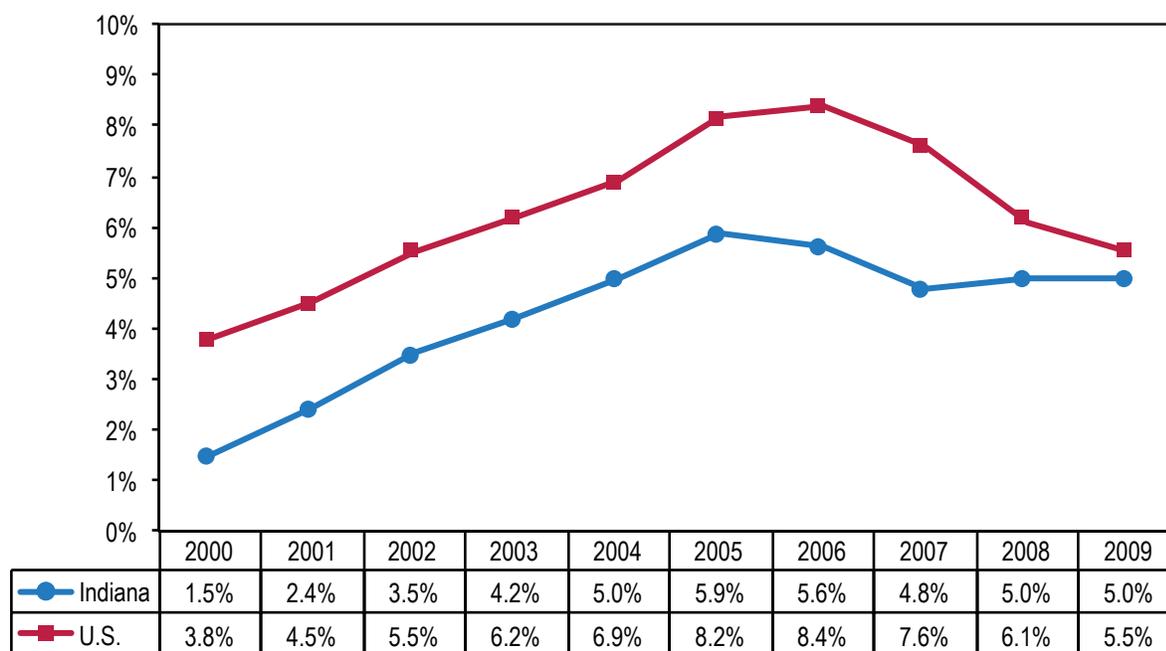
Meth labs and parental addiction pose serious risks to children due to the highly toxic fumes generated during production. Additionally, users often sleep for long periods of time, neglecting their children. Children who are present during or after meth production may face severe health and safety risks, including medical neglect and physical, emotional, and sexual abuse (Messina, Marinelli-Casey, West, and Rawson, 2007).

Meth Dependence

As previously mentioned, meth is considered a highly addictive substance, and consumption can easily result in drug dependence.⁴ TEDS data demonstrate that the percentage of treatment admissions in which meth was indicated as the primary drug has been statistically significantly lower in Indiana than in the rest of the nation (Substance Abuse and Mental Health Data Archive, 2009).

Between 2000 and 2009, the percentage of treatment admissions in Indiana in which meth dependence was indicated increased significantly from 1.5% to 5.0%, peaking at 5.9% in 2005 (see Figure 8.8).

Figure 8.8 Percentage of Treatment Episodes with Meth Dependence Reported at Treatment Admission in Indiana and the United States (Treatment Episode Data Set, 2000–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

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

According to the 2009 TEDS dataset, methamphetamine dependence in Indiana’s treatment population differed significantly by gender, race, and age group, as follows:

Gender—More women (7.1%) than men (3.9%) listed meth as their primary drug at treatment admission (see Figure 8.9).

Race—The highest and lowest percentages of meth dependence were reported by white patients (6.0%) and black patients (0.4%), respectively (see Figure 8.10).

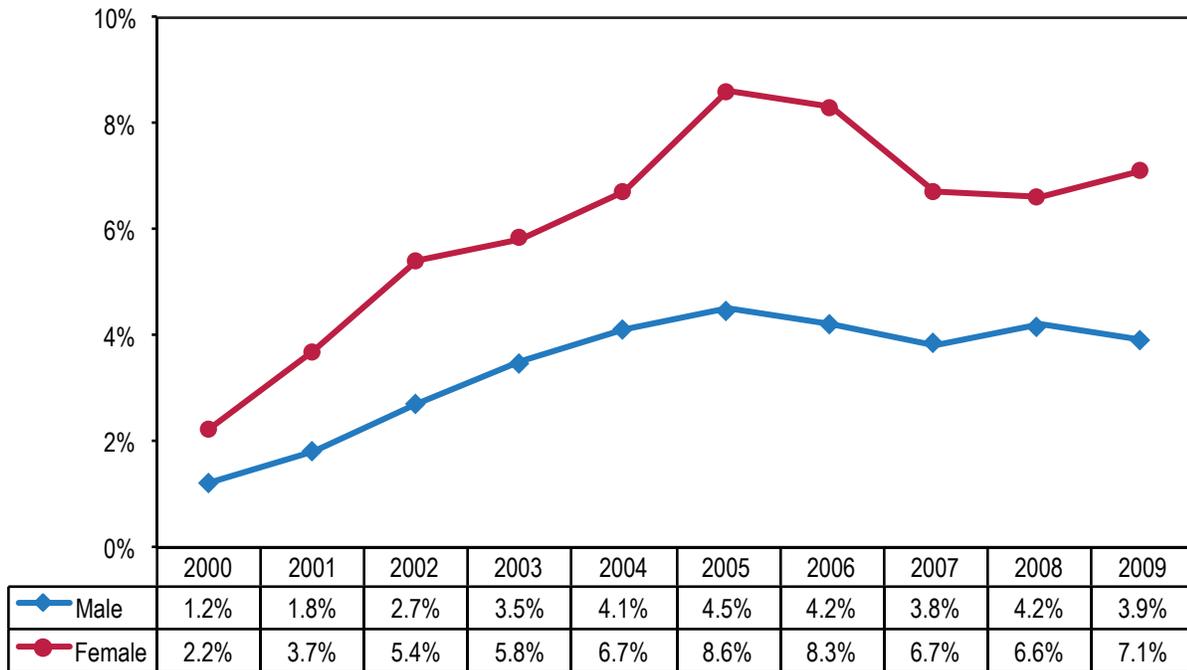
Age—Meth dependence was indicated primarily among patients ages 25 to 34 (7.0%); Hoosiers under the age of 18 had the lowest percentage (0.3%) (see Figure 8.11) (Substance Abuse and Mental Health Data Archive, 2009).

For county-level treatment data, see Appendix 8A, pages 149-151.

Criminal Consequences

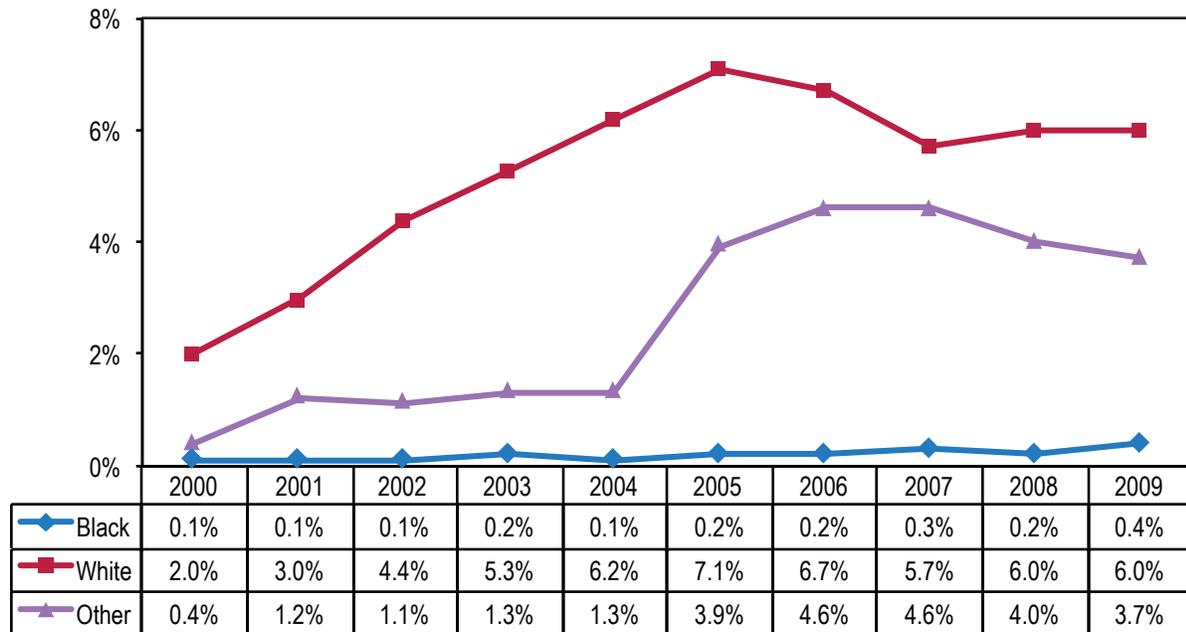
From January 1 to December 31, 2010, the Indiana State Police (ISP) seized 1,346 clandestine methamphetamine labs and made 1,212 meth lab arrests in the state, which is the highest number of lab seizures and resulting arrests since records have been kept (see Figure 8.12) (Indiana State Police, 2011). However, not all seizures involved the “traditional” clandestine lab. A popular technique to produce meth is the one-pot or “shake and bake” method, for which all ingredients are combined in one container (often a 2-liter or 20-ounce plastic soda bottle) and then shaken. This can be done almost anywhere, even in a moving vehicle. Waste is often disposed along roadsides, in discarded plastic bottles (Blostein, 2009; Greene, Williams, and Wright, 2010). The number of ISP’s meth lab seizures included all meth incidents, such as labs, “dump sites,” and “chemical and

Figure 8.9 Percentage of Treatment Episodes with Meth Dependence Reported at Treatment Admission in Indiana, by Gender (Treatment Episode Data Set, 2000–2009)



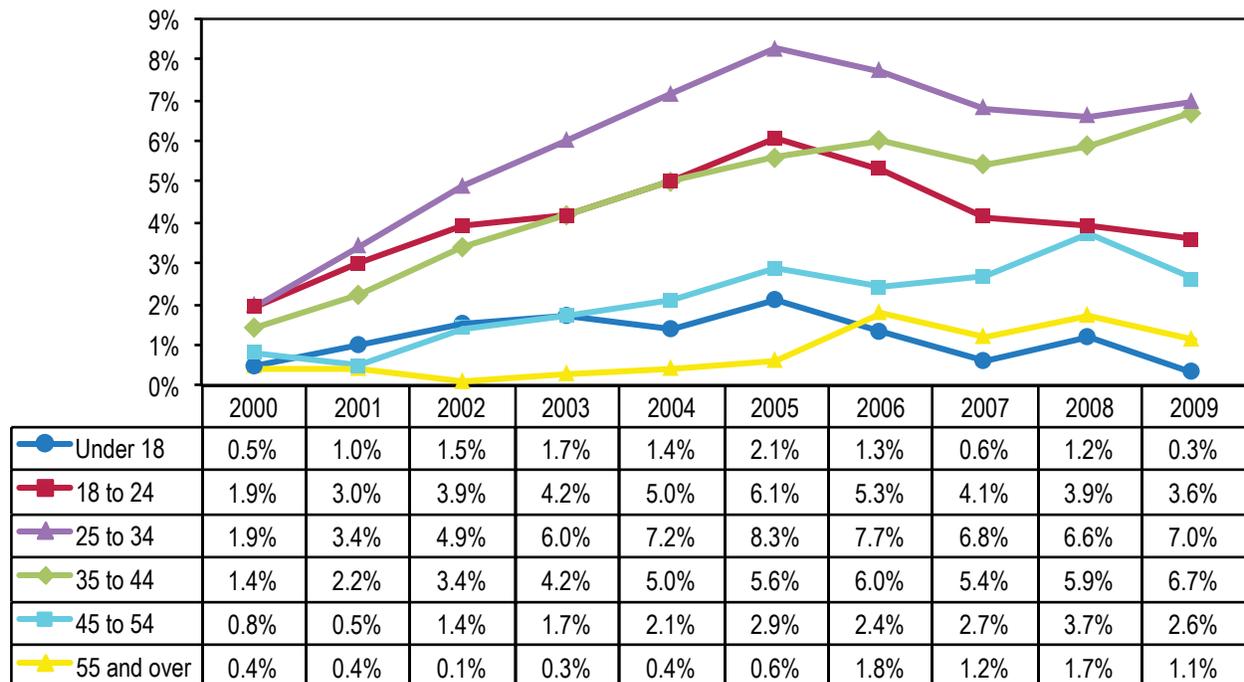
Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 8.10 Percentage of Treatment Episodes with Meth Dependence Reported at Treatment Admission in Indiana, by Race (Treatment Episode Data Set, 2000–2009)



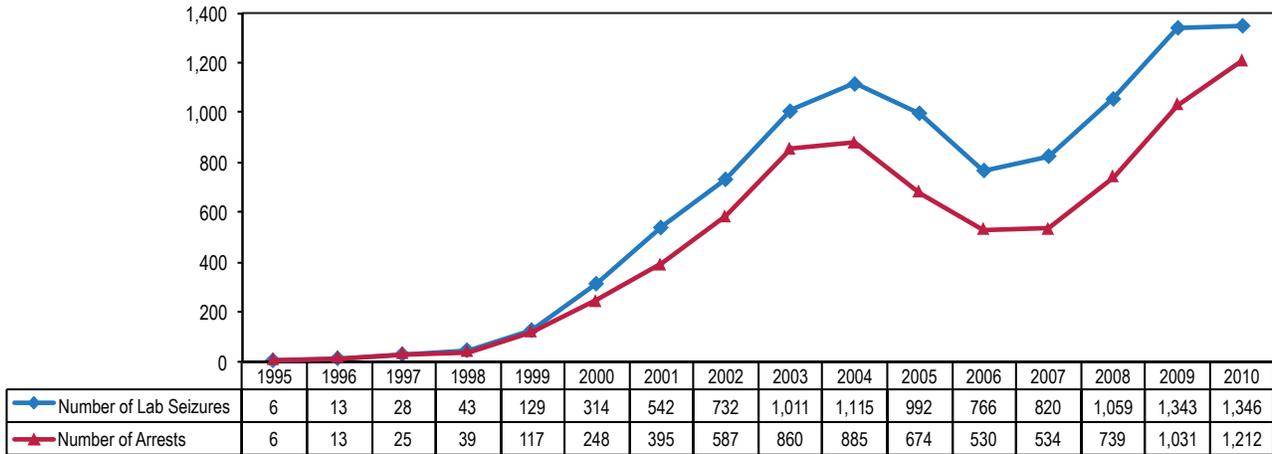
Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 8.11 Percentage of Treatment Episodes with Meth Dependence Reported at Treatment Admission in Indiana, by Age Group (Treatment Episode Data Set, 2000–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 8.12 Number of Clandestine Methamphetamine Labs Seized and Number of Arrests Made at Methamphetamine Labs by the Indiana State Police (Indiana Meth Lab Statistics, 1995–2010)



Source: Indiana State Police, 2011

glassware” seizures. In 2010, nearly 500 seizures, i.e., 37% of all lab seizures, were due to the one-pot method (Indiana State Police, 2011). Map 8.1 (page 156) shows the number of meth labs seized by ISP in each county in 2010.

Meth is classified as a synthetic stimulant. The Uniform Crime Reporting (UCR) Program describes crimes associated with synthetic drug possession and sale/manufacture. Substances defined as “synthetic” include a number of drugs in addition to methamphetamine, such as Demerol and methadone (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009). According to 2009 results, over 1,800 Hoosiers were arrested for possession of synthetic drugs. This represents an arrest rate of 0.3 (95% CI: 0.3–0.3) per 1,000 population, which was statistically higher than the nation’s, at 0.2 (95% CI: 0.2–0.2). Additionally, 777 arrests were made in Indiana for the sale and manufacture of synthetic drugs; Indiana’s arrest rate of 0.1 (95% CI: 0.1–0.1) per 1,000 population was the same as the U.S. rate (see Figures 8.13 and 8.14).

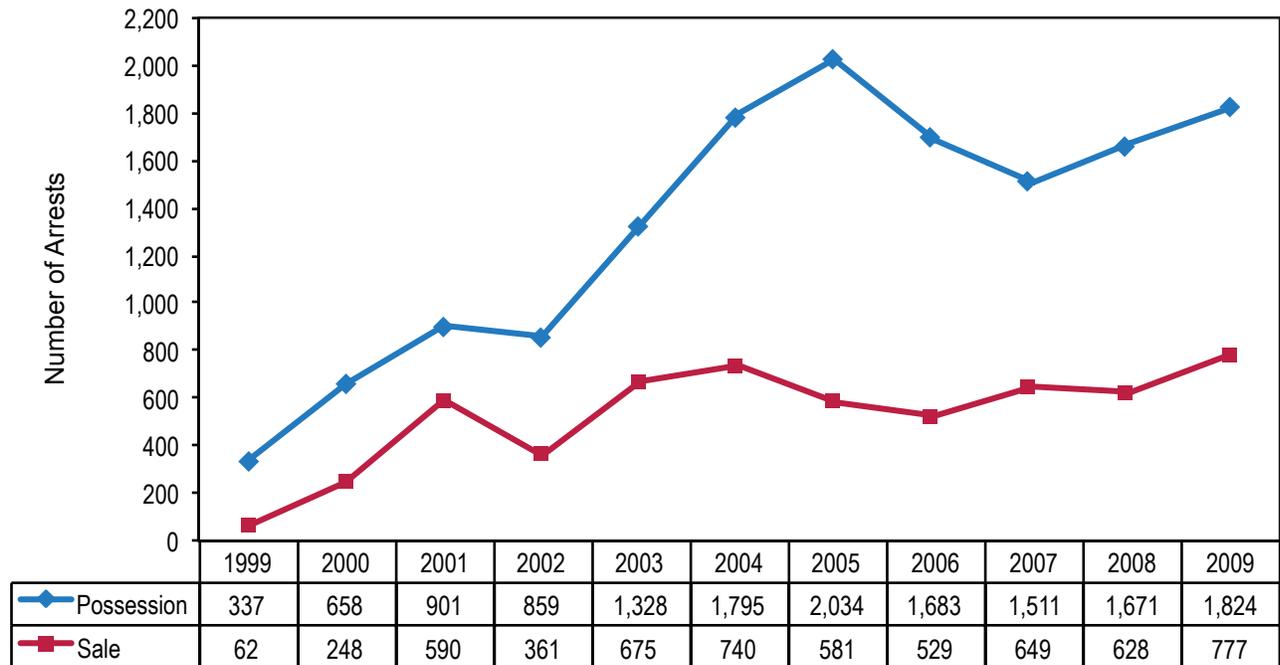
Maps 8.2 and 8.3 (pages 157 and 158), and Appendix 8C (pages 153-155) show arrest data for

synthetic drug possession and sale/manufacture by county. Caution should be exercised when interpreting these data due to variations in reporting procedures and a lack of data to identify meth-specific arrests. In Indiana, reporting by county and local law enforcement jurisdictions is sometimes incomplete; therefore, a portion of these data are based on estimates. (For more details, see the discussion of UCR data in Chapter 2, Methods, page 21.)

Social Consequences

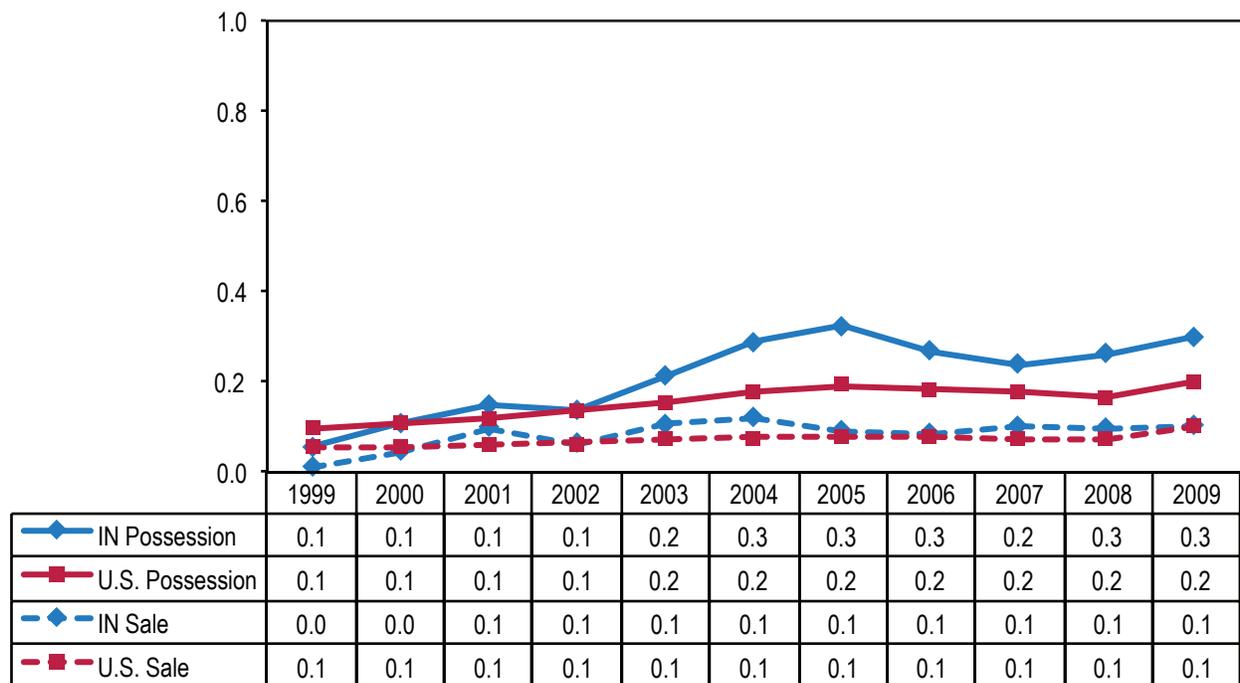
In addition to the consequences discussed above, meth use and abuse can have serious social impacts, affecting children and families in ways similar to other forms of substance abuse, such as contributing to increased interpersonal conflicts, financial problems, poor parenting, incarceration of parents, and placement of children in protective custody (National Institute on Drug Abuse, 2010). According to data from the Indiana State Police (ISP), the number of children who were taken from meth lab homes in Indiana rose from 125 in 2003 to 270 in 2010 (see Figure 8.15) (Indiana State Police, 2011).

Figure 8.13 Number of Arrests for Synthetic Drug Possession and Sale/Manufacture in Indiana (Uniform Crime Reporting Program, 1999–2009)



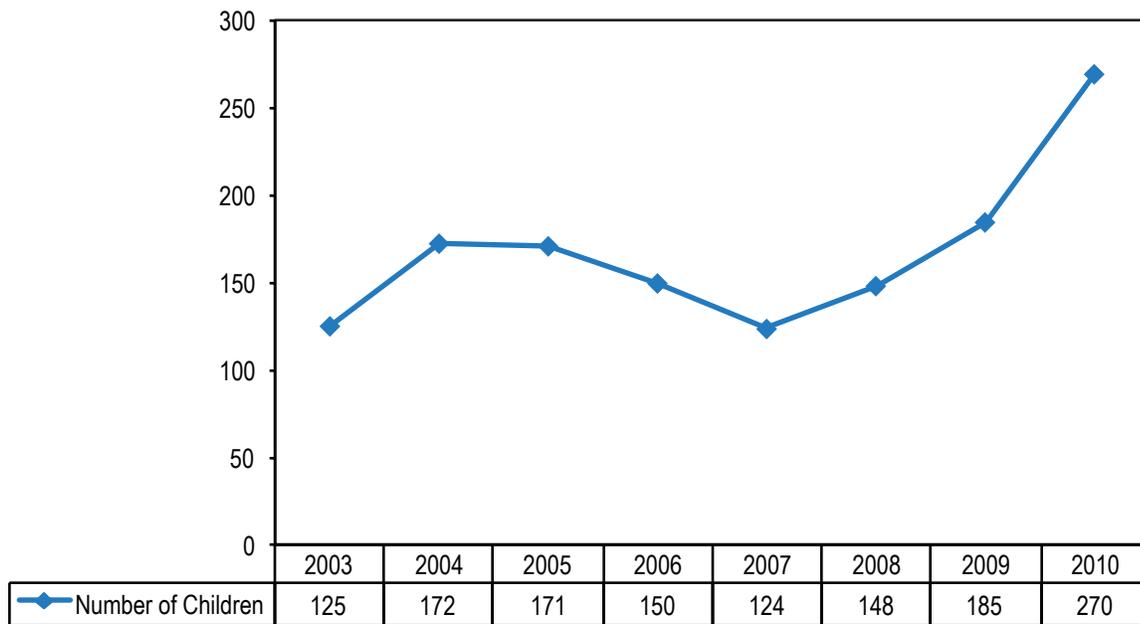
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

Figure 8.14 Arrest Rates for Synthetic Drug Possession and Sale/Manufacture per 1,000 Population, Indiana and United States (Uniform Crime Reporting Program, 1999–2009)



Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

Figure 8.15 Number of Indiana Children Taken by the Indiana State Police from Methamphetamine Lab Homes (Indiana Meth Lab Statistics, 2003–2010)



Source: Indiana State Police, 2011

APPENDIX 8A

Number of Treatment Episodes with Methamphetamine Use and Dependence Reported at Treatment Admission in Indiana, by County (Substance Abuse Population by County/Treatment Episode Data Set, 2010)

County	Treatment Episodes	Meth Use		Meth Dependence	
	Total	Number	Percentage	Number	Percentage
Adams	202	9	4.5%	7	3.5%
Allen	1,447	23	1.6%	17	1.2%
Bartholomew	508	42	8.3%	36	7.1%
Benton	22	<5	N/A	<5	N/A
Blackford	32	<5	N/A	<5	N/A
Boone	196	7	3.6%	<5	N/A
Brown	64	7	10.9%	5	7.8%
Carroll	95	17	17.9%	<5	N/A
Cass	211	19	9.0%	7	3.3%
Clark	183	7	3.8%	5	2.7%
Clay	135	27	20.0%	13	9.6%
Clinton	119	<5	N/A	<5	N/A
Crawford	35	5	14.3%	<5	N/A
Daviess	173	52	30.1%	31	17.9%
Dearborn	128	6	4.7%	<5	N/A
Decatur	92	5	5.4%	<5	N/A
DeKalb	166	54	32.5%	33	19.9%
Delaware	698	<5	N/A	<5	N/A
Dubois	235	33	14.0%	16	6.8%
Elkhart	769	87	11.3%	51	6.6%
Fayette	112	<5	N/A	<5	N/A
Floyd	70	<5	N/A	<5	N/A
Fountain	70	18	25.7%	8	11.4%
Franklin	23	<5	N/A	<5	N/A
Fulton	177	26	14.7%	10	5.6%
Gibson	138	45	32.6%	20	14.5%
Grant	250	<5	N/A	<5	N/A
Greene	127	25	19.7%	14	11.0%
Hamilton	571	<5	N/A	<5	N/A
Hancock	89	<5	N/A	<5	N/A
Harrison	25	5	20.0%	<5	N/A
Hendricks	354	15	4.2%	8	2.3%
Henry	206	<5	N/A	<5	N/A
Howard	580	56	9.7%	26	4.5%
Huntington	347	<5	N/A	<5	N/A
Jackson	138	23	16.7%	20	14.5%
Jasper	71	<5	N/A	<5	N/A

APPENDIX 8A (Continued from previous page)

County	Treatment Episodes	Meth Use		Meth Dependence	
	Total	Number	Percentage	Number	Percentage
Jay	57	<5	N/A	<5	N/A
Jefferson	134	<5	N/A	<5	N/A
Jennings	171	31	18.1%	24	14.0%
Johnson	293	8	2.7%	<5	N/A
Knox	244	82	33.6%	54	22.1%
Kosciusko	608	59	9.7%	36	5.9%
LaGrange	172	57	33.1%	28	16.3%
Lake	1,892	19	1.0%	10	0.5%
LaPorte	503	6	1.2%	<5	N/A
Lawrence	296	14	4.7%	12	4.1%
Madison	551	17	3.1%	5	0.9%
Marion	4,240	92	2.2%	41	1.0%
Marshall	230	30	13.0%	26	11.3%
Martin	59	9	15.3%	5	8.5%
Miami	233	14	6.0%	6	2.6%
Monroe	1,103	21	1.9%	13	1.2%
Montgomery	186	25	13.4%	11	5.9%
Morgan	424	21	5.0%	17	4.0%
Newton	36	<5	N/A	<5	N/A
Noble	335	88	26.3%	51	15.2%
Ohio	<5	<5	N/A	<5	N/A
Orange	78	<5	N/A	<5	N/A
Owen	231	19	8.2%	15	6.5%
Parke	105	18	17.1%	10	9.5%
Perry	161	40	24.8%	13	8.1%
Pike	37	8	21.6%	5	13.5%
Porter	446	10	2.2%	<5	N/A
Posey	154	43	27.9%	17	11.0%
Pulaski	73	10	13.7%	5	6.8%
Putnam	172	17	9.9%	8	4.7%
Randolph	101	<5	N/A	<5	N/A
Ripley	68	5	7.4%	<5	N/A
Rush	113	9	8.0%	<5	N/A
Saint Joseph	1,391	121	8.7%	39	2.8%
Scott	84	12	14.3%	8	9.5%
Shelby	82	<5	N/A	<5	N/A

APPENDIX 8A (Continued from previous page)

County	Treatment Episodes	Meth Use		Meth Dependence	
	Total	Number	Percentage	Number	Percentage
Spencer	183	38	20.8%	15	8.2%
Starke	130	23	17.7%	15	11.5%
Steuben	116	24	20.7%	9	7.8%
Sullivan	50	21	42.0%	15	30.0%
Switzerland	14	<5	N/A	<5	N/A
Tippecanoe	468	50	10.7%	16	3.4%
Tipton	42	<5	N/A	<5	N/A
Union	7	<5	N/A	<5	N/A
Vanderburgh	1,158	316	27.3%	148	12.8%
Vermillion	124	21	16.9%	14	11.3%
Vigo	580	223	38.4%	168	29.0%
Wabash	358	6	1.7%	<5	N/A
Warren	28	<5	N/A	<5	N/A
Warrick	313	112	35.8%	53	16.9%
Washington	26	<5	N/A	<5	N/A
Wayne	251	<5	N/A	<5	N/A
Wells	79	<5	N/A	<5	N/A
White	116	20	17.2%	8	6.9%
Whitley	159	13	8.2%	5	3.1%
Indiana	28,127	2,440	11.2%	1,308	5.9%

Note: We defined methamphetamine dependence as “individuals in substance abuse treatment listing methamphetamine as their primary substance at admission.” We calculated the percentages by dividing the number of reported methamphetamine use/dependence by the number of treatment episodes.

Source: Indiana Family and Social Services Administration, Revenue Enhancement and Data, 2011

APPENDIX 8B

Percentage of Indiana Students Reporting Lifetime and Monthly Methamphetamine Use, by Region and Grade (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2011)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Lifetime	0.5	0.5	0.7	0.4	0.2	0.5	1.0	0.4	0.5
	Monthly	0.3	0.2	0.4	0.2	0.1	0.4	0.3	0.3	0.2
7th Grade	Lifetime	1.0	1.1	0.9	0.7	0.7	1.0	0.9	0.7	1.5
	Monthly	0.5	0.5	0.7	0.2	0.5	0.5	0.4	0.4	0.6
8th Grade	Lifetime	1.5	1.8	1.3	0.8	1.4	1.8	1.6	1.2	1.6
	Monthly	0.9	1.1	0.8	0.3	0.6	1.1	1.1	0.7	0.8
9th Grade	Lifetime	1.9	2.1	1.9	1.1	2.0	2.0	1.4	2.3	1.9
	Monthly	0.9	0.9	1.1	0.5	0.9	0.9	0.6	0.8	0.9
10th Grade	Lifetime	2.2	1.8	2.3	1.5	2.3	2.2	1.7	2.4	2.7
	Monthly	0.9	1.1	0.9	0.6	0.9	1.0	0.8	1.3	0.9
11th Grade	Lifetime	2.7	2.3	2.5	2.3	2.8	2.7	2.1	2.7	3.9
	Monthly	1.3	1.0	1.0	1.1	1.3	1.5	0.7	1.4	1.7
12th Grade	Lifetime	2.8	2.7	2.0	2.1	3.4	2.9	2.5	2.6	3.5
	Monthly	1.3	1.7	0.8	1.3	1.5	1.4	1.0	1.2	1.2

Source: Gassman et al., 2011

APPENDIX 8C

Number and Rate, per 1,000 Population, of Arrests for Synthetic Drug Possession and Sale/Manufacture in Indiana, by County (Uniform Crime Reporting Program, 2009)

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Adams	11	*0.3	4	*0.1
Allen	10	*0.0	3	*0.0
Bartholomew	79	1.0	1	*0.0
Benton	1	*0.1	1	*0.1
Blackford	7	*0.5	8	*0.6
Boone	6	*0.1	1	*0.0
Brown	2	*0.1	6	*0.4
Carroll	0	*0.0	2	*0.1
Cass	8	*0.2	1	*0.0
Clark	97	0.9	24	0.2
Clay	33	1.2	5	*0.2
Clinton	6	*0.2	1	*0.0
Crawford	2	*0.2	4	*0.4
Daviess	23	0.7	8	*0.3
Dearborn	8	*0.2	4	*0.1
Decatur	9	*0.4	4	*0.2
DeKalb	14	*0.3	5	*0.1
Delaware	33	0.3	3	*0.0
Dubois	27	0.6	8	*0.2
Elkhart	43	0.2	35	0.2
Fayette	3	*0.1	3	*0.1
Floyd	46	0.6	0	*0.0
Fountain	6	*0.3	3	*0.2
Franklin	0	*0.0	0	*0.0
Fulton	2	*0.1	1	*0.0
Gibson	16	*0.5	8	*0.2
Grant	57	0.8	13	*0.2
Greene	9	*0.3	1	*0.0
Hamilton	61	0.2	12	*0.0
Hancock	17	*0.2	6	*0.1
Harrison	9	*0.2	7	*0.2
Hendricks	29	0.2	11	*0.1
Henry	8	*0.2	1	*0.0
Howard	2	*0.0	3	*0.0
Huntington	0	*0.0	5	*0.1
Jackson	10	*0.2	2	*0.0
Jasper	5	*0.2	5	*0.2

APPENDIX 8C (Continued from previous page)

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Jay	10	*0.5	15	*0.7
Jefferson	12	*0.4	5	*0.2
Jennings	0	*0.0	16	*0.6
Johnson	4	*0.0	3	*0.0
Knox	47	1.2	31	0.8
Kosciusko	24	0.3	13	*0.2
LaGrange	0	*0.0	0	*0.0
Lake	44	0.1	9	*0.0
LaPorte	14	*0.1	1	*0.0
Lawrence	18	*0.4	6	*0.1
Madison	21	0.2	10	*0.1
Marion	40	0.0	73	0.1
Marshall	44	0.9	6	*0.1
Martin	2	*0.2	9	*0.9
Miami	7	*0.2	14	*0.4
Monroe	39	0.3	2	*0.0
Montgomery	7	*0.2	4	*0.1
Morgan	8	*0.1	5	*0.1
Newton	1	*0.1	1	*0.1
Noble	27	0.6	7	*0.1
Ohio	1	*0.2	1	*0.2
Orange	6	*0.3	4	*0.2
Owen	4	*0.2	2	*0.1
Parke	11	*0.6	21	1.2
Perry	5	*0.3	3	*0.2
Pike	4	*0.3	2	*0.2
Porter	39	0.2	8	*0.0
Posey	6	*0.2	2	*0.1
Pulaski	13	*1.0	0	*0.0
Putnam	16	*0.4	14	*0.4
Randolph	6	*0.2	2	*0.1
Ripley	16	*0.6	4	*0.1
Rush	3	*0.2	6	*0.3
Saint Joseph	34	0.1	1	*0.0
Scott	20	0.8	19	*0.8
Shelby	5	*0.1	7	*0.2
Spencer	6	*0.3	4	*0.2

APPENDIX 8C (Continued from previous page)

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Starke	19	*0.8	15	*0.6
Steuben	1	*0.0	3	*0.1
Sullivan	2	*0.1	0	*0.0
Switzerland	3	*0.3	2	*0.2
Tippecanoe	96	0.6	32	0.2
Tipton	3	*0.2	1	*0.1
Union	2	*0.3	1	*0.1
Vanderburgh	172	1.0	79	0.4
Vermillion	3	*0.2	24	1.5
Vigo	161	1.5	27	0.3
Wabash	15	*0.5	8	*0.2
Warren	3	*0.4	2	*0.2
Warrick	39	0.7	31	0.5
Washington	4	*0.1	2	*0.1
Wayne	15	*0.2	3	*0.0
Wells	3	*0.1	6	*0.2
White	10	*0.4	0	*0.0
Whitley	10	*0.3	2	*0.1
Indiana	1,824	0.3	777	0.1

*Rates that are based on arrest numbers lower than 20 are unreliable.

Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

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9. PRESCRIPTION DRUG ABUSE IN INDIANA: CONSUMPTION PATTERNS AND CONSEQUENCES

Abuse of prescription drugs¹ is a serious and growing public health problem in the United States. According to the National Survey on Drug Use and Health (NSDUH), in 2010 almost 52 million Americans (20.4%) ages 12 years and older reported nonmedical use² of prescription-type psychotherapeutics at some point during their lifetime, including pain relievers, sedatives, tranquilizers, and stimulants. In Indiana alone, over a million Hoosiers reported that they misused psychotherapeutics at least once in their life (20.7%)³ (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012). The National Institute on Drug Abuse (NIDA) lists the three most commonly abused types of prescription medicine as:

- *Opioids*, which are primarily prescribed to treat pain—examples include oxycodone (e.g., OxyContin[®], Percocet[®]), hydrocodone (e.g., Vicodin[®]), codeine, and morphine;
- *Central nervous system (CNS) depressants*, such as sedatives and tranquilizers to treat sleep and anxiety disorders—examples include barbiturates (e.g., Mebaral[®], Nembutal[®]) and benzodiazepines (e.g., Valium[®], Xanax[®]); and
- *Stimulants*, which are often prescribed to treat narcolepsy, attention-deficit hyperactivity disorder (ADHD), and obesity—examples include dextro-amphetamine (Dexedrine[®] and Adderall[®]) and methylphenidate (Ritalin[®] and Concerta[®]) (National Institute on Drug Abuse, 2011).

Prescription drugs are regulated at the state level and can only be dispensed by licensed physicians and pharmacists. In addition, “all state pharmacy laws require that records of prescription drugs dispensed to patients be maintained and that state pharmacy boards have access to the prescription records” (United States General Accounting Office, 2003). Indiana maintains a statewide prescription drug monitoring database, the Indiana Scheduled Prescription Electronic Collection & Tracking (INSPECT) program, which collects information on the dispensing of all controlled substances (schedules II through V; schedule I drugs are not included because they contain substances that have no currently accepted medical use in the United States).

In 2010, more than 11.3 million prescription drugs were dispensed in Indiana; most of these pharmaceuticals (11.0 million) were purchased by Indiana residents, while the rest were distributed to out-of-state consumers. The most widely dispensed prescription drug categories to Indiana residents were opioids (49.3%), depressants of the central nervous system (31.0%), and stimulants (11.6%) (Indiana Board of Pharmacy, 2011).

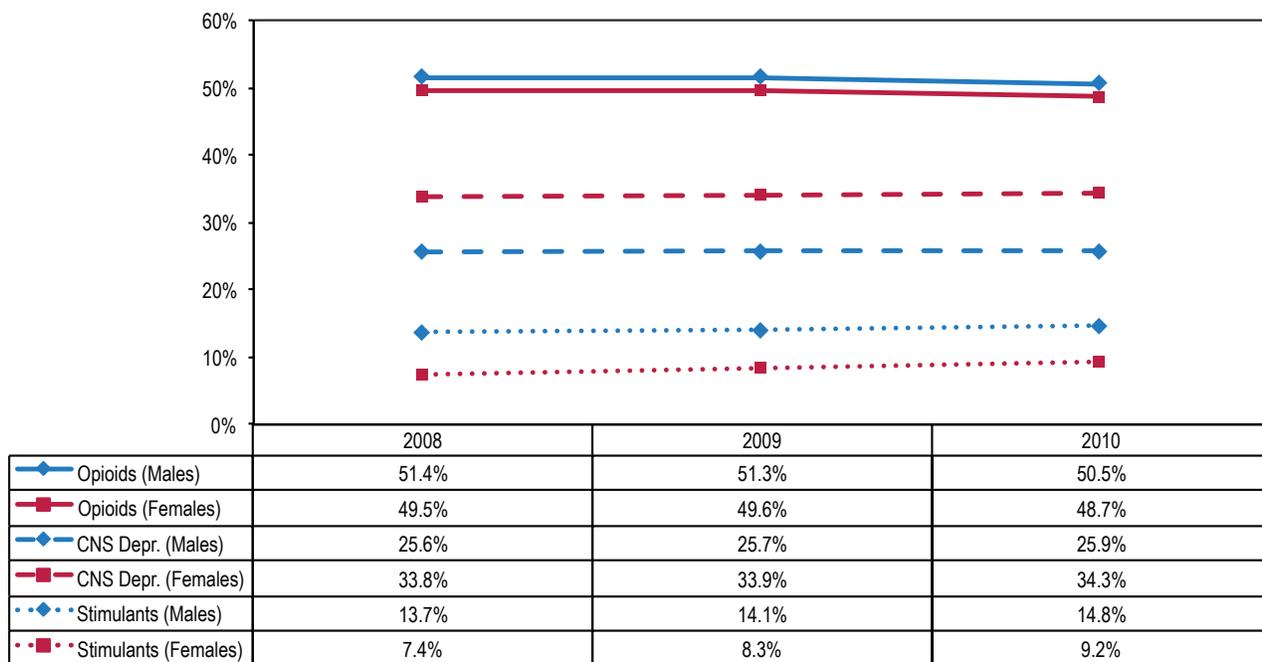
The number and percentage of prescriptions dispensed in Indiana were tabulated by gender. In 2010, a statistically significantly higher percentage of males than females received opioids and stimulants, while the opposite was true regarding CNS depressants (see Figure 9.1) (Indiana Board of Pharmacy, 2011).

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

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

³ Indiana rates are based on annual NSDUH averages from 2002 through 2004, the most recent state-level estimate available.

Figure 9.1 Percentage of Controlled Substance Prescriptions Dispensed in Indiana, by Gender (INSPECT, 2008–2010)



Source: Indiana Board of Pharmacy, 2011

However, it is important to note that these results describe the legal dispensation of prescription pharmaceuticals; they infer use of the drugs but do not estimate misuse. For number and percentage of prescription drugs dispensed at the county level, see Appendix 9A, pages 172-176.

General Consumption Patterns

According to NSDUH annual averages from 2002 through 2004, a total of 7.6% of Hoosiers ages 12 and

older (383,000 residents) engaged in the nonmedical use of psychotherapeutics in the past year, and 2.7% (138,000 residents) reported past-month use. The highest misuse was reported for pain relievers, which include OxyContin®, one of the most abused drugs among the psychotherapeutics. Due to the nature of the data, statistical significance could not be assessed (see Table 9.1) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

Table 9.1 Lifetime, Past Year, and Current Nonmedical Use of Psychotherapeutics, Indiana⁴ and United States⁵ (National Survey on Drug Use and Health)

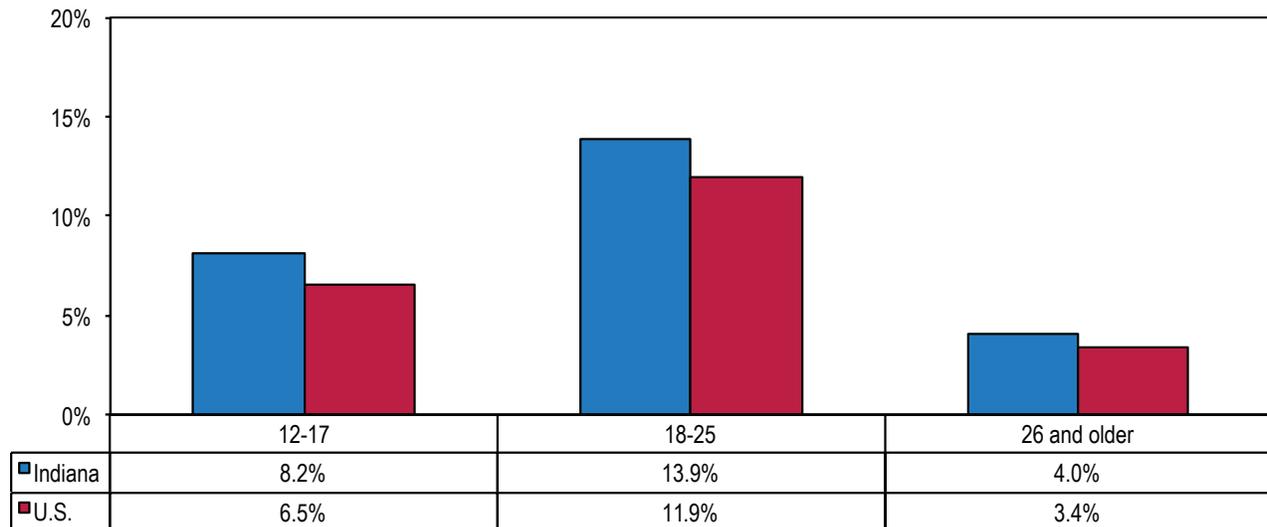
	Lifetime Misuse		Past Year Misuse		Past Month Misuse	
	Indiana	U.S.	Indiana	U.S.	Indiana	U.S.
All Psychotherapeutics	20.7%	20.4%	7.6%	6.3%	2.7%	2.7%
Pain Relievers	15.0%	13.7%	6.1%	4.8%	2.0%	2.0%
OxyContin	2.5%	2.4%	0.8%	0.7%	0.3%	0.2%
Tranquilizers	9.1%	8.7%	2.8%	2.2%	0.8%	0.9%
Sedatives	3.9%	3.0%	0.4%	0.4%	0.1%	0.1%
Stimulants	8.3%	8.5%	1.7%	1.1%	0.8%	0.4%

Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012

⁴ Indiana rates are based on annual NSDUH averages from 2002 through 2004.

⁵ U.S. rates are based on 2010 NSDUH survey results.

Figure 9.2 Prevalence of Past-Year Pain Reliever Use in Indiana and the United States, by Age Group (National Survey on Drug Use and Health, 2009)



Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012

Based on 2009 NSDUH results, an estimated 5.7% (95% Confidence Interval [CI]: 4.7–6.9) of the Indiana population ages 12 and older reported nonmedical use of pain relievers in the past year (U.S.: 4.8; 95% CI: 4.7–5.0); prevalence rates between Indiana and the nation were similar.

Adult Consumption Patterns

According to 2009 NSDUH results, young people ages 18 through 25 had the highest rate of prescription pain medication abuse. Indiana’s past-year usage rate of 13.9% (95% CI: 11.5–16.8) was statistically similar to the nation’s rate (11.9%) (see Figure 9.2).

The Indiana College Substance Use Survey includes questions on (a) use of prescription medications not prescribed to the student and (b) use of prescription medication prescribed to student but misused. According to findings from the 2011 survey:⁶

a) Regarding use of prescription medications not prescribed to the student:

- 11.3% of Indiana college students used prescription medications not prescribed to them in the past year, and 6.2% currently use it.

- Rates were significantly higher among males for both past-year use (14.2%) and current use (7.8%) than among females (9.6% and 5.3% respectively).
- Rates were significantly higher for those attending public institutions of higher education (past-year use: 13.5%; current use: 7.9%) than for those who attended private institutions (past-year use: 7.6%; current use: 3.5%).
- No significant differences were found by age group (under 21 vs. 21 or over) for either past-year or current use.

b) Regarding Use of prescription medication prescribed to student but misused:

- 3.8% of Indiana college students misused their prescription medication in the past year, and 1.4% of students reported current misuse.
- Rates were significantly higher for those attending public institutions of higher education (past-year use: 4.2%; current use: 1.8%) than for those who attended private institutions (past-year use: 3.1%; current use: 0.7%).

⁶ National data, based on the Monitoring the Future study, are not currently available for comparison of prescription drug variables from the Indiana College Substance Use Survey. College students in the national study were defined as “[T]hose follow-up respondents one to four years past high school who say they were registered as full-time students in a two- or four-year undergraduate college at the beginning of March in the year in question” (Johnston, O’Malley, Bachman, & Schulenberg, 2011, p. 255).

- No significant differences were found by gender or age group (under 21 vs. 21 or over) for either past-year or current use (Indiana Collegiate Action Network, 2011).⁷

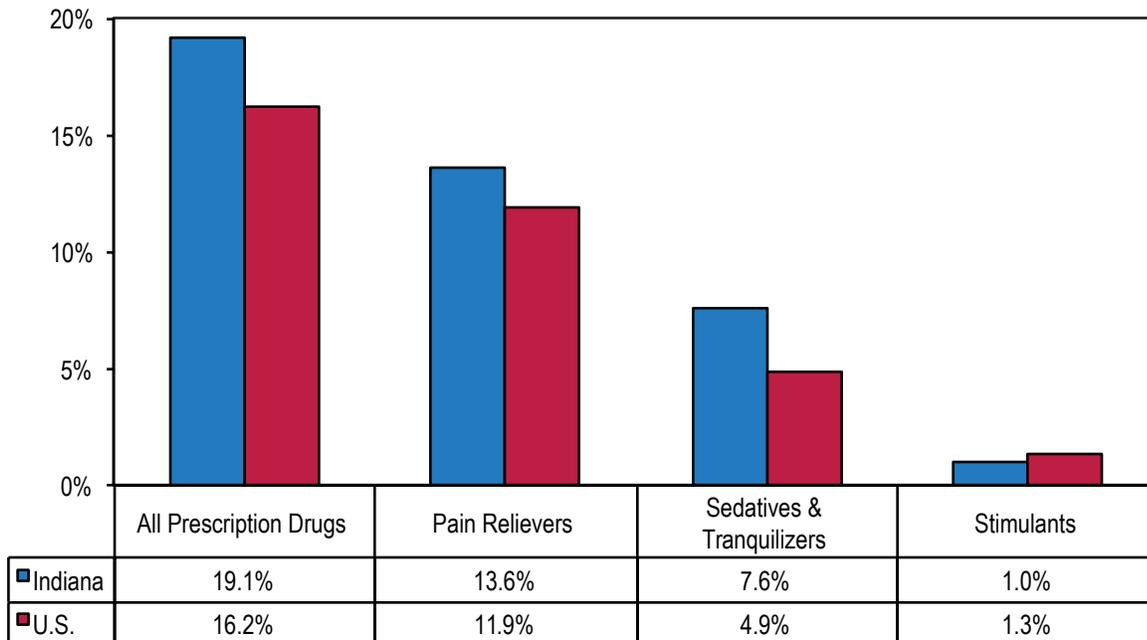
The State Epidemiology and Outcomes Workgroup survey (2008) collected information on the nonmedical use of prescription drugs among Hoosiers ages 18 and older. Lifetime prevalence for all prescription drug abuse was 4.6% and involved mostly abuse of pain pills (4.1%). We found significant differences in prevalence of nonmedical prescription drug use by gender, race, and age group (see Table 9.2). Furthermore, 97.1% of survey respondents found it unacceptable for people to use prescription drugs to get high, and 86.2% said that people put themselves at great risk when they misuse prescription pain pills to get high once or twice a week (State Epidemiology and Outcomes Workgroup, 2008).

Table 9.2 Prevalence Estimates for Nonmedical Use of Prescription Medication Among Adults in Indiana (Indiana Household Survey on Substance Abuse, 2008)

		Lifetime Misuse	Past-Year Misuse	Past-Month Misuse
Gender	Male	6.6%	2.4%	1.2%
	Female	2.8%	0.4%	0.1%
Race	White	4.5%	1.2%	0.5%
	Black	4.0%	1.8%	1.4%
	Other	7.3%	3.9%	2.2%
Age Group	18-25	12.5%	6.1%	2.8%
	26-34	5.9%	1.8%	1.0%
	35-44	3.8%	0.9%	0.5%
	45-54	3.6%	0.3%	0.0%
	55-64	3.1%	0.1%	0.1%
	65+	0.6%	0.0%	0.0%
Total		4.6%	1.4%	0.7%

Source: State Epidemiology and Outcomes Workgroup, 2008

Figure 9.3 Percentage of Indiana and U.S. Treatment Episodes with Nonmedical Prescription Drug Use Reported at Treatment Admission, by Drug Category (Treatment Episode Data Set, 2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

Another method of tracking prescription drug abuse is to examine the Treatment Episode Data Set (TEDS) for individuals who report nonmedical use of pain relievers (opioids),⁸ CNS depressants (sedatives and tranquilizers),⁹ and stimulants¹⁰ at the time of admission to substance abuse treatment (Substance Abuse and Mental Health Data Archive, 2009). Overall reported use of these drug categories in 2009, when combined, was 19.1% in Indiana, which was significantly higher than the nation’s rate of 16.2%. A look at the individual drug types shows that Indiana’s rates were significantly higher for pain relievers and CNS depressants, but not for stimulants (see Figure 9.3).

In Indiana, significant differences in reported prescription drug abuse were seen by gender, race, and age group (see Table 9.3) (Substance Abuse and Mental Health Data Archive, 2009):

Gender—Women reported higher rates of use across all prescription drug categories.

Race—Whites had the highest and blacks had the lowest rates across all prescription drug categories.

Age group—Differences by age group were observed for all prescription drug categories.

A review of TEDS data from 2000 through 2009 shows that rates for use of certain nonmedical prescription drugs have increased significantly in both Indiana and the nation; this trend includes pain reliever and sedative/tranquilizer use. However, the pattern was different for stimulant use, rates of which decreased slightly but significantly from 2000 to 2009 (see Figure 9.4). For county-level information, see Appendix 9B, pages 177-184.

Table 9.3 Percentage of Indiana Treatment Episodes with Nonmedical Prescription Drug Use Reported at Treatment Admission, by Drug Category, Gender, Race, and Age Group (Treatment Episode Data Set, 2009)

		All Prescription Drugs	Pain Relievers	Sedatives/ Tranquilizers	Stimulants
Gender	Male	15.8%	11.3%	5.9%	1.0%
	Female	25.7%	18.4%	10.9%	1.2%
Race	White	22.4%	16.1%	8.9%	1.1%
	Black	3.9%	2.2%	1.3%	0.6%
	Other	16.0%	11.0%	7.6%	0.9%
Age Group	Under 18	15.0%	7.8%	7.2%	1.8%
	18-24	22.5%	15.2%	9.5%	1.1%
	25-34	24.2%	18.2%	9.3%	1.2%
	35-44	15.0%	11.0%	5.8%	0.7%
	45-54	10.5%	7.2%	3.9%	0.9%
	55+	8.3%	6.0%	3.1%	1.1%

Source: Substance Abuse and Mental Health Data Archive, 2009

⁸ We used TEDS variables “nonprescription methadone” and “other opiates/synthetics” to define pain reliever use.

⁹ We used TEDS variables “benzodiazepines,” “other tranquilizers,” “barbiturates,” and “other sedatives/hypnotics” to define CNS depressant use.

¹⁰ We used TEDS variables “other amphetamines” and “other stimulants” to define stimulant use.

Youth Consumption Patterns

Estimates from the 2009 NSDUH suggest that 8.2% (95% CI: 6.6–10.0) of Indiana’s youth ages 12 through 17 used prescription pain medications for nonmedical purposes in the past year. The national rate of prescription drug abuse by 12- to 17-year-olds was statistically similar at 6.5% (95% CI: 6.2–6.8) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2012).

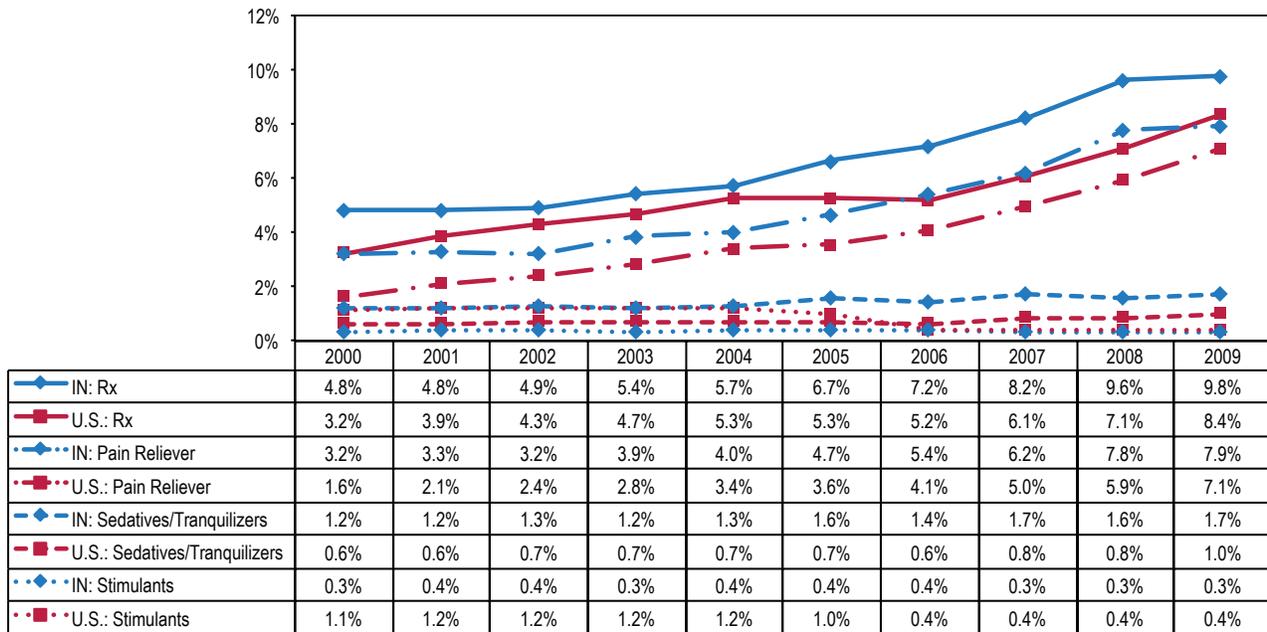
For Indiana prevalence rates of current nonmedical use of tranquilizers, prescription painkillers¹¹, and overall prescription drugs¹² among 8th, 10th, and 12th grade students, see Figure 9.5. (For regional prevalence rates, grades 6 through 12, see Appendix 9C, pages 185-187). The mean (average) age of first time use among Indiana’s students was 13.8 years for tranquilizers, 14.1 years for prescription painkillers, and 14.1 years

for overall prescription drug use (Gassman, Jun, Samuel, Agle, Lee, Morrison, Agle, et al., 2011). (For regional prevalence rates, grades 6 through 12, see Appendix 9C, pages 185-187).

The mean (average) age of first time use among Indiana’s students was 13.8 years for tranquilizers, 14.2 years for prescription painkillers, and 14.1 years for overall prescription drug use (Gassman, et al., 2011).

Young Hoosiers (under the age of 18) in treatment reported significantly less use of psychotherapeutics than adults 18 and older. An examination of use by individual drug category shows that young patients used significantly less pain relievers than their older counterparts. However, rates for sedative/tranquilizer and stimulant use were similar between the two groups (see Figure 9.6).

Figure 9.4 Percentage of Indiana and U.S. Treatment Episodes with Nonmedical Prescription Drug Use Reported at Treatment Admission, by Drug Category (Treatment Episode Data Set, 2000–2009)

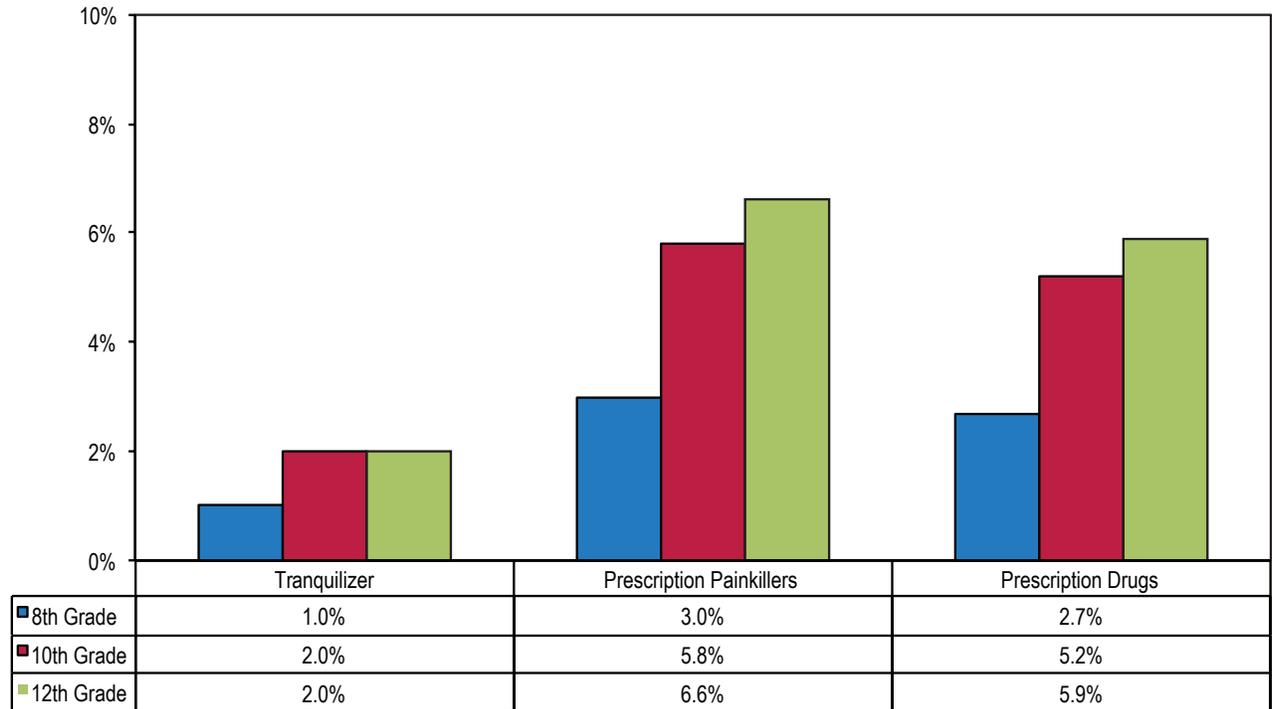


Source: Substance Abuse and Mental Health Data Archive, 2009

¹¹ Includes Vicodin®, Oxycontin®, and Percocet®.

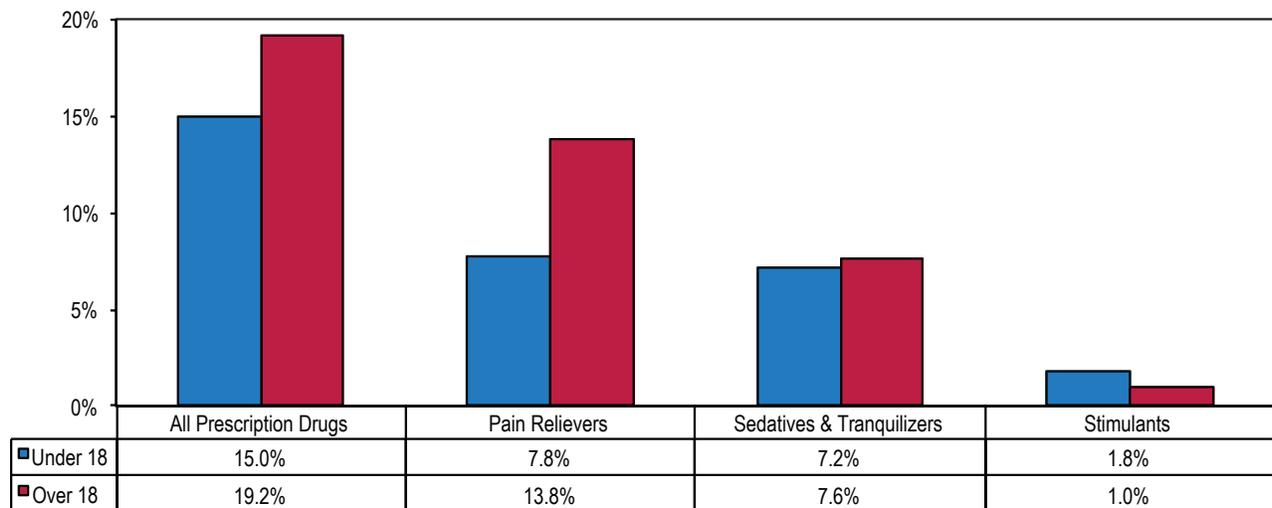
¹² Includes Ritalin®, Adderall®, and Xanax®, but excludes painkillers.

Figure 9.5 Percentage of Indiana 8th, 10th, and 12th Grade Students Reporting Current Nonmedical Use of Tranquilizers, Prescription Painkillers, and Overall Prescription Drugs (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2011)



Source: Gassman, et al., 2011

Figure 9.6 Percentage of Indiana Treatment Episodes with Nonmedical Prescription Drug Use Reported at Treatment Admission in Indiana, by Drug Category and Underage Status (Treatment Episode Data Set, 2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

PRESCRIPTION DRUG ABUSE CONSEQUENCES

Prescription Drug Dependence

The most common consequences of prescription drug abuse are addiction and/or dependence.¹³ To determine the extent of prescription drug abuse both nationally and in Indiana, we used the TEDS data set to track the percentage of substance abuse treatment admissions due to pain relievers, sedatives/tranquilizers, and stimulants. In 2009, overall prescription drug dependence was significantly higher in Indiana than the United States: The percentage of treatment episodes with reported pain reliever and sedative/tranquilizer dependence was significantly higher for Indiana, while the percentage with reported stimulant dependence was greater for the nation (see Figure 9.7).

The percentage of treatment episodes in which prescription drug dependence was indicated varied significantly by gender, race, and age group in Indiana (see Table 9.4) (Substance Abuse and Mental Health Data Archive, 2009):

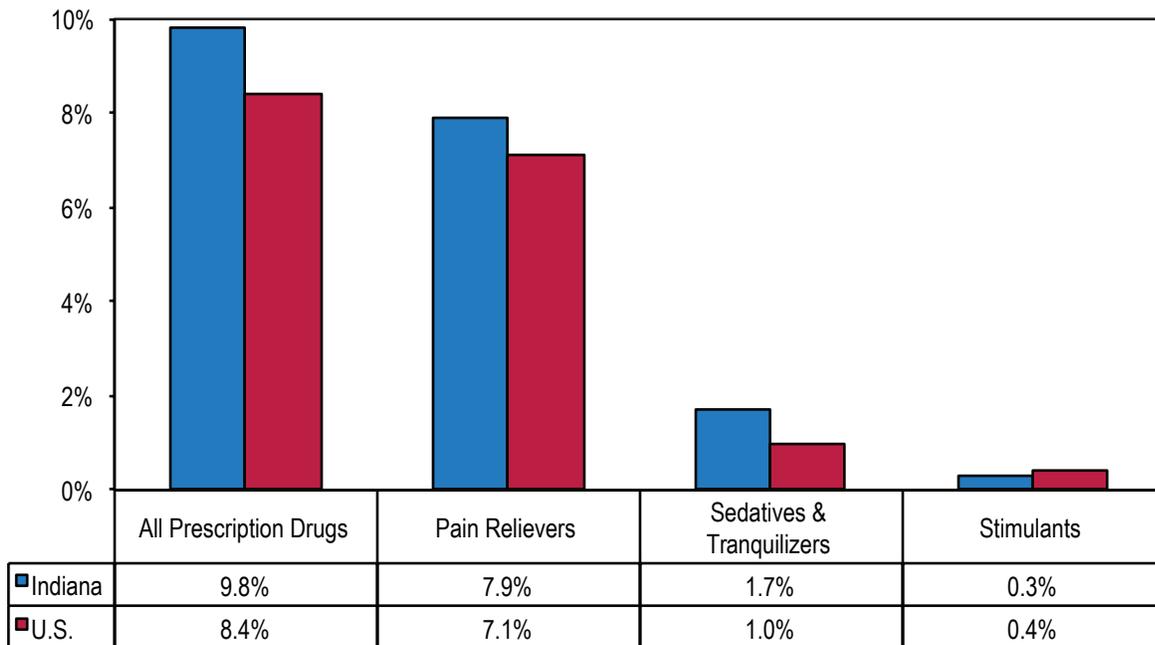
Gender—The percentage of females reporting dependence was higher than the percentage of males across all prescription drug categories, except stimulants.

Race—The lowest percentage of dependence was found in blacks and the highest percentage of dependence occurred in whites; results were significant across all prescription drug groups.

Age group—Significant differences by age category were found across all prescription drug categories, except stimulants.

For county-level information, see Appendix 9B, pages 177-184.

Figure 9.7 Percentage of Indiana and U.S. Treatment Episodes with Nonmedical Prescription Drug Dependence Reported at Treatment Admission, by Drug Category (Treatment Episode Data Set, 2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

¹³ We defined prescription drug dependence as “individuals in substance abuse treatment listing prescription drugs as their primary substance at admission.”

Table 9.4 Percentage of Indiana Treatment Episodes with Prescription Drug Dependence Reported at Treatment Admission, by Drug Category, Gender, Race, and Age Group (Treatment Episode Data Set, 2009)

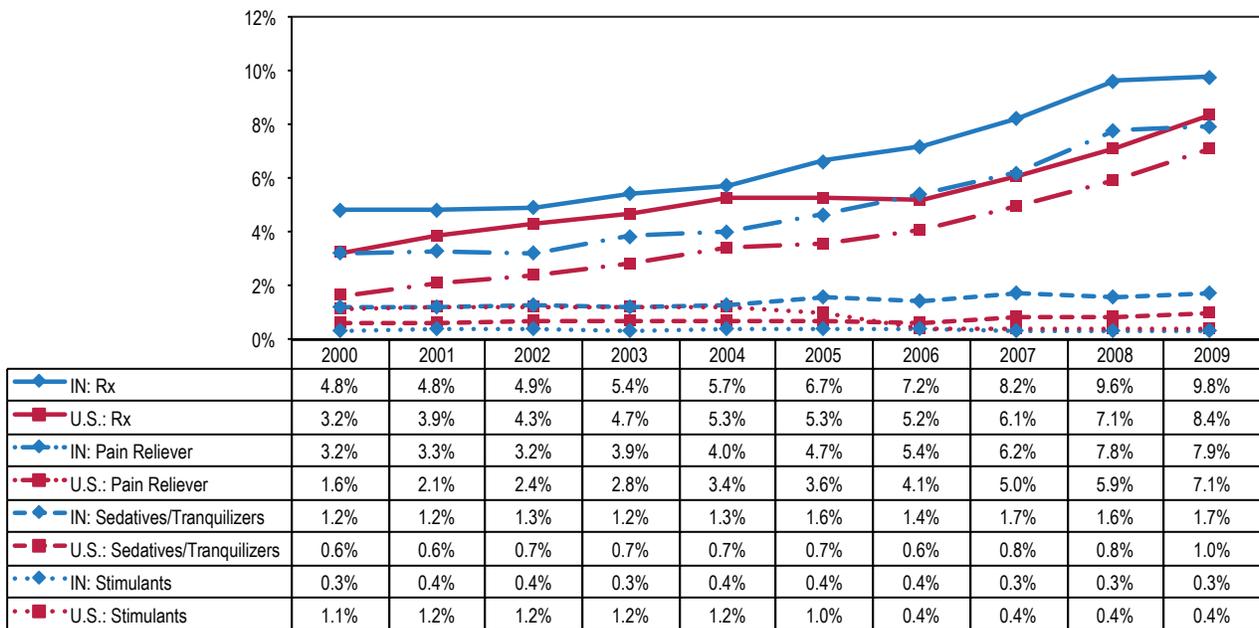
		All Prescription Drugs	Pain Relievers	Sedatives/ Tranquilizers	Stimulants
Gender	Male	7.5%	6.1%	1.2%	0.2%
	Female	14.5%	11.6%	2.6%	0.3%
Race	White	11.6%	9.4%	2.0%	0.3%
	Black	0.9%	0.7%	0.2%	0.0%
	Other	9.0%	6.6%	2.5%	0.0%
Age Group	Under 18	3.7%	1.5%	1.8%	0.3%
	18 to 24	10.4%	8.1%	2.2%	0.2%
	25 to 34	14.0%	11.8%	1.9%	0.2%
	35 to 44	7.9%	6.3%	1.2%	0.4%
	45 to 54	4.9%	3.6%	0.9%	0.3%
	55+	4.7%	3.3%	1.1%	0.3%

Source: Substance Abuse and Mental Health Data Archive, 2009

A review of TEDS data from 2000 through 2009 reveals that dependence on overall prescription medications increased significantly in Indiana. This holds true for pain relievers and sedatives/tranquilizers.

Stimulant dependence, however, remained constant in Indiana and even decreased in the nation (see Figure 9.8).

Figure 9.8 Number of Arrests for Possession and Sale/Manufacture of “Other Drugs” (Barbiturates and Bensedrine) in Indiana (Uniform Crime Reporting Program, 1999–2009)



Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

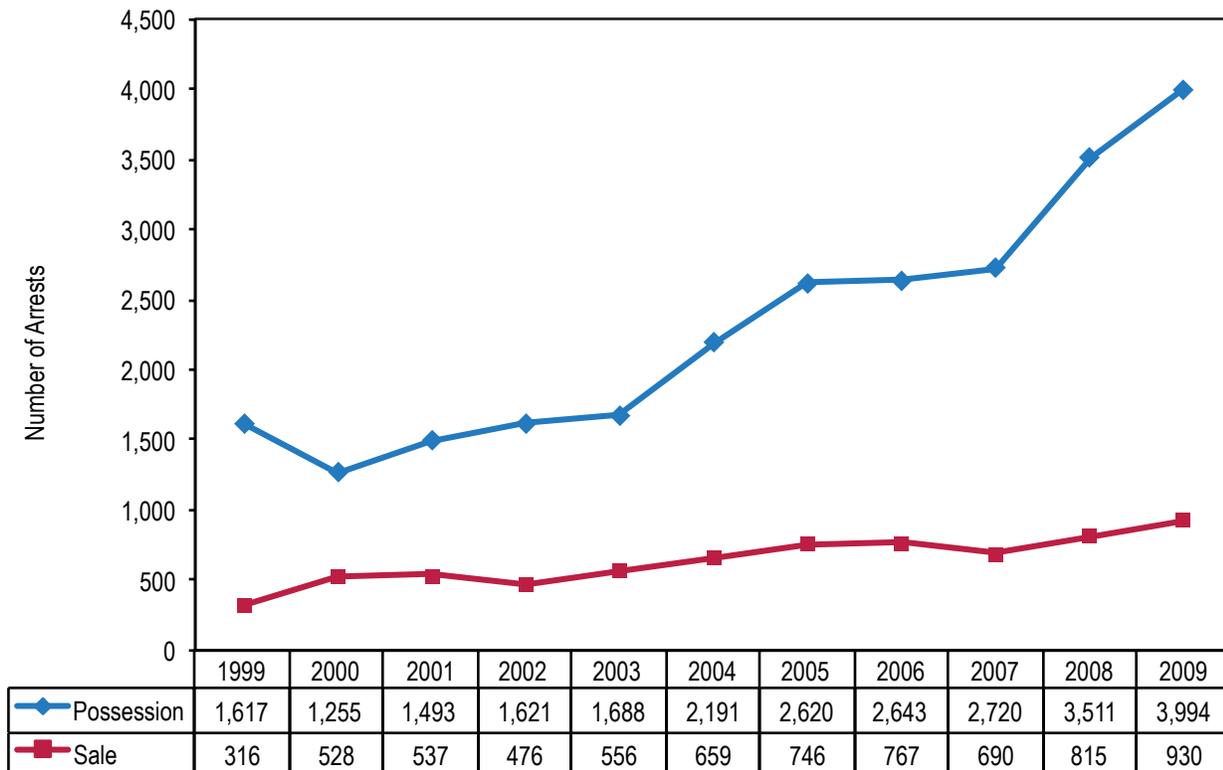
Criminal Consequences

Individuals illegally obtain prescription drugs through a variety of means, such as “doctor shopping” (going to a number of doctors to obtain prescriptions for a controlled pharmaceutical) or other prescription fraud; illegal online pharmacies; theft and burglary (from residences and pharmacies); and receiving/purchasing the medication from friends or family members. Patients may also obtain controlled substances when physicians overprescribe, either negligently or intentionally (Substance Abuse and Mental Health Services Administration, 2006).

The Uniform Crime Reporting (UCR) Program collects information on criminal activities, including possession and sale/manufacture of various drugs (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009). The “other drugs”

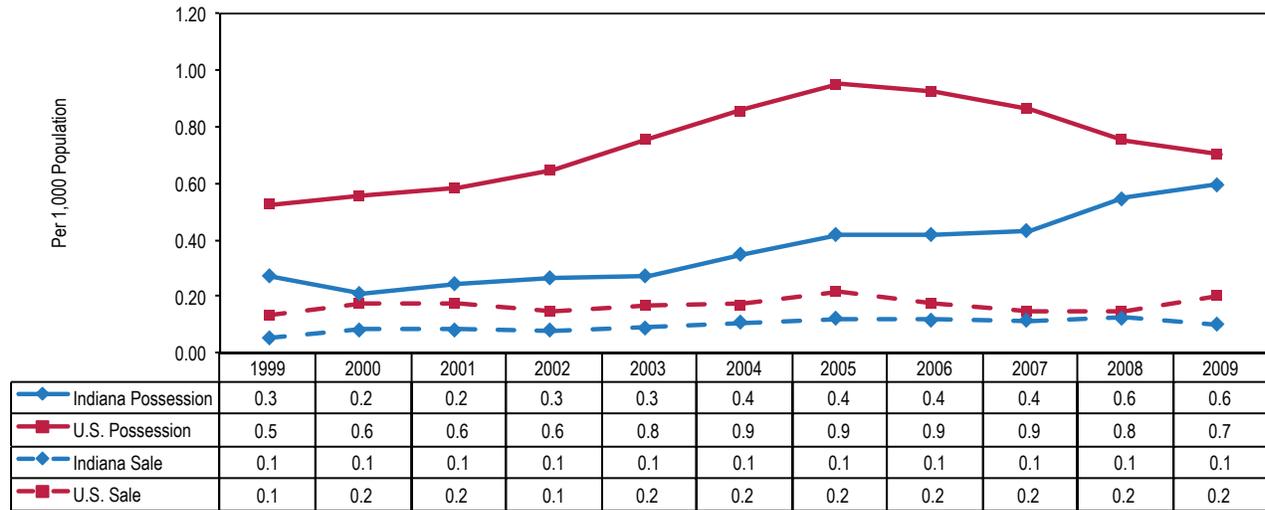
category in the data set refers to arrests involving barbiturates (sedatives) and Benzedrine (amphetamine/stimulant). In 2009, nearly 4,000 arrests were made for possession and over 900 arrests for sale/manufacture of “other drugs” in Indiana. This represents arrest rates of 0.6 (95% CI: 0.6–0.6) and 0.1 (95% CI: 0.1–0.2) per 1,000 population, respectively. The U.S. rates per 1,000 population were statistically higher for possession, 0.7 per 1,000 population (95% CI: 0.7–0.7), and similar for sale/manufacture of “other drugs”, 0.2 per 1,000 population (95% CI: 0.2–0.2) (see Figures 9.9 and 9.10) (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009). The distribution of arrest rates for possession and sale/manufacture in Indiana by county for 2009 is depicted on Maps 9.1 and 9.2, pages 191 and 192, and in Appendix 9D, pages 188-190.

Figure 9.9 Number of Arrests for Possession and Sale/Manufacture of “Other Drugs” (Barbiturates and Benzedrine) in Indiana (Uniform Crime Reporting Program, 1999–2009)



Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

Figure 9.10 Arrest Rates, per 1,000 Population, for Possession and Sale/Manufacture of “Other Drugs” (Barbiturates and Benzadrine) in Indiana and the United States (Uniform Crime Reporting Program, 1999–2009)



National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

APPENDIX 9A

Number and Percentage of Controlled Prescriptions Dispensed in Indiana, by Prescription Type and County (INSPECT Dataset, 2010)

County	Opioids	CNS Depressants	Stimulants	Other*	Total (all dispensed controlled substances)
Adams	20,505	12,451	3,861	2,832	39,649
	51.7%	31.4%	9.7%	7.1%	
Allen	222,349	128,850	57,129	40,470	448,798
	49.5%	28.7%	12.7%	9.0%	
Bartholomew	78,070	45,731	13,003	11,060	147,864
	52.8%	30.9%	8.8%	7.5%	
Benton	6,566	5,300	2,568	1,314	15,748
	41.7%	33.7%	16.3%	8.3%	
Blackford	15,912	7,747	2,573	2,096	28,328
	56.2%	27.3%	9.1%	7.4%	
Boone	42,792	31,850	15,800	9,740	100,182
	42.7%	31.8%	15.8%	9.7%	
Brown	18,021	10,941	3,031	2,734	34,727
	51.9%	31.5%	8.7%	7.9%	
Carroll	12,455	9,881	2,949	2,025	27,310
	45.6%	36.2%	10.8%	7.4%	
Cass	27,417	18,560	8,681	5,189	59,847
	45.8%	31.0%	14.5%	8.7%	
Clark	124,000	81,795	22,132	21,390	249,317
	49.7%	32.8%	8.9%	8.6%	
Clay	23,136	16,655	4,500	3,439	47,730
	48.5%	34.9%	9.4%	7.2%	
Clinton	35,367	23,220	6,188	4,730	69,505
	50.9%	33.4%	8.9%	6.8%	
Crawford	10,084	5,151	1,491	1,631	18,357
	54.9%	28.1%	8.1%	8.9%	
Daviess	26,420	20,409	5,911	3,578	56,318
	46.9%	36.2%	10.5%	6.4%	
Dearborn	39,115	24,705	5,776	6,247	75,843
	51.6%	32.6%	7.6%	8.2%	
Decatur	23,300	14,988	3,702	3,740	45,730
	51.0%	32.8%	8.1%	8.2%	
DeKalb	29,227	17,506	8,006	5,108	59,847
	48.8%	29.3%	13.4%	8.5%	
Delaware	120,394	64,179	22,675	18,205	225,453
	53.4%	28.5%	10.1%	8.1%	
Dubois	33,986	25,546	8,393	5,921	73,846
	46.0%	34.6%	11.4%	8.0%	

APPENDIX 9A (Continued from previous page)

County	Opioids	CNS Depressants	Stimulants	Other*	Total (all dispensed controlled substances)
Elkhart	125,000	71,825	52,612	17,719	267,156
	46.8%	26.9%	19.7%	6.6%	
Fayette	35,310	22,716	8,180	4,485	70,691
	49.9%	32.1%	11.6%	6.3%	
Floyd	76,531	52,684	15,859	13,053	158,127
	48.4%	33.3%	10.0%	8.3%	
Fountain	18,203	12,524	2,615	2,562	35,904
	50.7%	34.9%	7.3%	7.1%	
Franklin	22,989	14,198	4,873	3,479	45,539
	50.5%	31.2%	10.7%	7.6%	
Fulton	19,723	10,485	5,853	3,063	39,124
	50.4%	26.8%	15.0%	7.8%	
Gibson	32,678	23,988	9,758	5,565	71,989
	45.4%	33.3%	13.6%	7.7%	
Grant	76,726	42,427	17,659	9,378	146,190
	52.5%	29.0%	12.1%	6.4%	
Greene	34,618	23,676	6,666	4,882	69,842
	49.6%	33.9%	9.5%	7.0%	
Hamilton	143,736	117,946	78,415	36,957	377,054
	38.1%	31.3%	20.8%	9.8%	
Hancock	59,076	38,767	20,089	11,565	129,497
	45.6%	29.9%	15.5%	8.9%	
Harrison	36,864	21,122	6,432	6,193	70,611
	52.2%	29.9%	9.1%	8.8%	
Hendricks	90,900	62,460	25,406	18,644	197,410
	46.0%	31.6%	12.9%	9.4%	
Henry	65,886	35,326	10,477	14,263	125,952
	52.3%	28.0%	8.3%	11.3%	
Howard	93,619	59,326	19,318	18,184	190,447
	49.2%	31.2%	10.1%	9.5%	
Huntington	32,065	15,308	6,526	5,099	58,998
	54.3%	25.9%	11.1%	8.6%	
Jackson	45,587	24,291	6,391	7,925	84,194
	54.1%	28.9%	7.6%	9.4%	
Jasper	27,904	19,827	5,591	4,461	57,783
	48.3%	34.3%	9.7%	7.7%	
Jay	22,020	11,877	3,586	3,877	41,360
	53.2%	28.7%	8.7%	9.4%	

APPENDIX 9A (Continued from previous page)

County	Opioids	CNS Depressants	Stimulants	Other*	Total (all dispensed controlled substances)
Jefferson	37,237	26,368	6,344	6,581	76,530
	48.7%	34.5%	8.3%	8.6%	
Jennings	32,937	15,194	5,150	4,556	57,837
	56.9%	26.3%	8.9%	7.9%	
Johnson	122,498	82,188	28,518	21,953	255,157
	48.0%	32.2%	11.2%	8.6%	
Knox	45,874	34,821	9,021	7,797	97,513
	47.0%	35.7%	9.3%	8.0%	
Kosciusko	56,770	28,776	11,802	9,195	106,543
	53.3%	27.0%	11.1%	8.6%	
LaGrange	14,855	8,397	3,218	2,426	28,896
	51.4%	29.1%	11.1%	8.4%	
Lake	317,775	222,597	57,314	56,042	653,728
	48.6%	34.1%	8.8%	8.6%	
LaPorte	106,451	58,162	21,937	18,259	204,809
	52.0%	28.4%	10.7%	8.9%	
Lawrence	57,492	36,021	11,308	7,837	112,658
	51.0%	32.0%	10.0%	7.0%	
Madison	166,391	102,795	32,604	27,735	329,525
	50.5%	31.2%	9.9%	8.4%	
Marion	763,642	409,077	166,847	110,343	1,449,909
	52.7%	28.2%	11.5%	7.6%	
Marshall	34,159	21,693	12,244	6,103	74,199
	46.0%	29.2%	16.5%	8.2%	
Martin	13,043	10,243	2,937	2,183	28,406
	45.9%	36.1%	10.3%	7.7%	
Miami	28,680	16,240	7,652	4,759	57,331
	50.0%	28.3%	13.3%	8.3%	
Monroe	86,211	62,406	21,014	16,805	186,436
	46.2%	33.5%	11.3%	9.0%	
Montgomery	37,287	27,047	6,725	6,411	77,470
	48.1%	34.9%	8.7%	8.3%	
Morgan	84,956	47,917	15,020	12,669	160,562
	52.9%	29.8%	9.4%	7.9%	
Newton	9,251	6,850	1,898	1,140	19,139
	48.3%	35.8%	9.9%	6.0%	
Noble	34,264	21,094	6,244	5,493	67,095
	51.1%	31.4%	9.3%	8.2%	

APPENDIX 9A (Continued from previous page)

County	Opioids	CNS Depressants	Stimulants	Other*	Total (all dispensed controlled substances)
Ohio	5,607	3,328	604	795	10,334
	54.3%	32.2%	5.8%	7.7%	
Orange	27,223	17,123	5,108	3,934	53,388
	51.0%	32.1%	9.6%	7.4%	
Owen	26,235	15,381	3,777	3,357	48,750
	53.8%	31.6%	7.7%	6.9%	
Parke	10,017	7,360	2,043	1,777	21,197
	47.3%	34.7%	9.6%	8.4%	
Perry	15,276	11,341	3,113	3,067	32,797
	46.6%	34.6%	9.5%	9.4%	
Pike	16,436	12,516	4,030	2,572	35,554
	46.2%	35.2%	11.3%	7.2%	
Porter	125,177	80,918	29,068	24,057	259,220
	48.3%	31.2%	11.2%	9.3%	
Posey	26,483	16,625	5,770	4,126	53,004
	50.0%	31.4%	10.9%	7.8%	
Pulaski	13,604	8,320	2,952	1,969	26,845
	50.7%	31.0%	11.0%	7.3%	
Putnam	31,417	19,656	5,709	4,296	61,078
	51.4%	32.2%	9.3%	7.0%	
Randolph	26,688	12,709	4,919	4,141	48,457
	55.1%	26.2%	10.2%	8.5%	
Ripley	21,051	12,588	3,210	3,113	39,962
	52.7%	31.5%	8.0%	7.8%	
Rush	19,163	10,086	3,942	2,733	35,924
	53.3%	28.1%	11.0%	7.6%	
Saint Joseph	181,218	114,079	61,153	29,356	385,806
	47.0%	29.6%	15.9%	7.6%	
Scott	36,804	24,750	5,471	6,477	73,502
	50.1%	33.7%	7.4%	8.8%	
Shelby	42,254	26,024	8,261	6,477	83,016
	50.9%	31.3%	10.0%	7.8%	
Spencer	18,375	12,729	4,764	3,258	39,126
	47.0%	32.5%	12.2%	8.3%	
Starke	27,855	15,332	4,801	4,103	52,091
	53.5%	29.4%	9.2%	7.9%	
Steuben	23,260	13,445	4,787	4,072	45,564
	51.0%	29.5%	10.5%	8.9%	

APPENDIX 9A (Continued from previous page)

County	Opioids	CNS Depressants	Stimulants	Other*	Total (all dispensed controlled substances)
Sullivan	23,891	18,386	3,776	3,717	49,770
	48.0%	36.9%	7.6%	7.5%	
Switzerland	9,201	5,228	1,051	1,393	16,873
	54.5%	31.0%	6.2%	8.3%	
Tippecanoe	98,831	77,963	30,846	16,816	224,456
	44.0%	34.7%	13.7%	7.5%	
Tipton	13,970	9,095	3,051	2,583	28,699
	48.7%	31.7%	10.6%	9.0%	
Union	5,288	3,599	1,623	828	11,338
	46.6%	31.7%	14.3%	7.3%	
Vanderburgh	200,229	136,755	57,875	29,692	424,551
	47.2%	32.2%	13.6%	7.0%	
Vermillion	14,945	10,099	2,499	2,186	29,729
	50.3%	34.0%	8.4%	7.4%	
Vigo	99,555	76,281	20,103	13,355	209,294
	47.6%	36.4%	9.6%	6.4%	
Wabash	30,768	15,690	6,002	3,660	56,120
	54.8%	28.0%	10.7%	6.5%	
Warren	4,933	2,826	774	914	9,447
	52.2%	29.9%	8.2%	9.7%	
Warrick	53,643	39,412	19,283	8,837	121,175
	44.3%	32.5%	15.9%	7.3%	
Washington	30,534	19,044	4,598	4,725	58,901
	51.8%	32.3%	7.8%	8.0%	
Wayne	72,717	46,123	13,401	10,083	142,324
	51.1%	32.4%	9.4%	7.1%	
Wells	18,408	10,540	3,787	3,493	36,228
	50.8%	29.1%	10.5%	9.6%	
White	22,057	15,875	5,589	3,026	46,547
	47.4%	34.1%	12.0%	6.5%	
Whitley	26,822	13,465	5,738	5,850	51,875
	51.7%	26.0%	11.1%	11.3%	
Indiana	5,438,259	3,418,815	1,275,950	895,928	11,028,952
	49.8%	31.5%	10.7%	8.1%	
Out of State	153,420	95,546	33,315	30,306	312,587

* Other category contains controlled substances not defined as opioids, depressants, or stimulants.
Source: Indiana Board of Pharmacy, 2011

APPENDIX 9B — PART 1

Number of Treatment Episodes with Prescription Drug (Rx) Abuse and Dependence Reported at Treatment Admission in Indiana, by County and Drug Category
(Substance Abuse Population by County/Treatment Episode Data Set, 2010)

County	Treatment Episodes		All Rx Abuse		All Rx Dependence		Opioid Abuse		Opioid Dependence		
	Total	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Adams	202	33	16.3%	17	8.4%	29	14.4%	17	8.4%	17	8.4%
Allen	1,447	77	5.3%	28	1.9%	50	3.5%	21	1.5%	21	1.5%
Bartholomew	508	71	14.0%	45	8.9%	55	10.8%	32	6.3%	32	6.3%
Benton	22	<5	N/A	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Blackford	32	5	15.6%	<5	N/A	5	15.6%	<5	N/A	<5	N/A
Boone	196	36	18.4%	19	9.7%	27	13.8%	17	8.7%	17	8.7%
Brown	64	9	14.1%	<5	N/A	6	9.4%	<5	N/A	<5	N/A
Carroll	95	22	23.2%	9	9.5%	12	12.6%	<5	N/A	<5	N/A
Cass	211	25	11.8%	8	3.8%	19	9.0%	7	3.3%	7	3.3%
Clark	183	61	33.3%	41	22.4%	54	29.5%	40	21.9%	40	21.9%
Clay	135	14	10.4%	9	6.7%	7	5.2%	<5	N/A	<5	N/A
Clinton	119	19	16.0%	11	9.2%	13	10.9%	9	7.6%	9	7.6%
Crawford	35	14	40.0%	10	28.6%	13	37.1%	10	28.6%	10	28.6%
Daviess	173	61	35.3%	37	21.4%	55	31.8%	34	19.7%	34	19.7%
Dearborn	128	38	29.7%	15	11.7%	29	22.7%	14	10.9%	14	10.9%
Decatur	92	22	23.9%	15	16.3%	19	20.7%	12	13.0%	12	13.0%
DeKalb	166	18	10.8%	9	5.4%	14	8.4%	8	4.8%	8	4.8%
Delaware	698	162	23.2%	93	13.3%	131	18.8%	83	11.9%	83	11.9%
Dubois	235	37	15.7%	16	6.8%	29	12.3%	14	6.0%	14	6.0%
Eldham	769	72	9.4%	41	5.3%	46	6.0%	32	4.2%	32	4.2%
Fayette	112	35	31.3%	21	18.8%	24	21.4%	17	15.2%	17	15.2%
Floyd	70	23	32.9%	16	22.9%	18	25.7%	15	21.4%	15	21.4%
Fountain	70	27	38.6%	8	11.4%	17	24.3%	<5	N/A	<5	N/A
Franklin	23	<5	N/A	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Fulton	177	23	13.0%	7	4.0%	12	6.8%	5	2.8%	5	2.8%
Gibson	138	32	23.2%	19	13.8%	24	17.4%	15	10.9%	15	10.9%

APPENDIX 9B — PART 1 (Continued from previous page)

County	Treatment Episodes		All Rx Abuse		All Rx Dependence		Opioid Abuse		Opioid Dependence		
	Total	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Grant	250	30	12.0%	17	6.8%	25	10.0%	15	6.0%		
Greene	127	28	22.0%	11	8.7%	16	12.6%	6	4.7%		
Hamilton	571	104	18.2%	45	7.9%	69	12.1%	37	6.5%		
Hancock	89	23	25.8%	14	15.7%	17	19.1%	13	14.6%		
Harrison	25	6	24.0%	5	20.0%	6	24.0%	5	20.0%		
Hendricks	354	68	19.2%	41	11.6%	48	13.6%	30	8.5%		
Henry	206	88	42.7%	58	28.2%	79	38.3%	54	26.2%		
Howard	580	163	28.1%	94	16.2%	138	23.8%	83	14.3%		
Huntington	347	34	9.8%	18	5.2%	24	6.9%	13	3.7%		
Jackson	138	27	19.6%	15	10.9%	24	17.4%	14	10.1%		
Jasper	71	26	36.6%	9	12.7%	13	18.3%	6	8.5%		
Jay	57	11	19.3%	5	8.8%	10	17.5%	<5	N/A		
Jefferson	134	24	17.9%	13	9.7%	17	12.7%	10	7.5%		
Jennings	171	34	19.9%	14	8.2%	27	15.8%	8	4.7%		
Johnson	293	100	34.1%	70	23.9%	86	29.4%	60	20.5%		
Knox	244	50	20.5%	26	10.7%	33	13.5%	21	8.6%		
Kosciusko	608	44	7.2%	21	3.5%	30	4.9%	12	2.0%		
LaGrange	172	22	12.8%	10	5.8%	13	7.6%	7	4.1%		
Lake	1,892	173	9.1%	78	4.1%	113	6.0%	60	3.2%		
LaPorte	503	67	13.3%	34	6.8%	55	10.9%	34	6.8%		
Lawrence	296	28	9.5%	18	6.1%	21	7.1%	9	3.0%		
Madison	551	216	39.2%	83	15.1%	143	26.0%	66	12.0%		
Marion	4,240	704	16.6%	388	9.2%	529	12.5%	339	8.0%		
Marshall	230	22	9.6%	12	5.2%	13	5.7%	8	3.5%		
Martin	59	18	30.5%	12	20.3%	10	16.9%	7	11.9%		
Miami	233	45	19.3%	25	10.7%	37	15.9%	20	8.6%		
Monroe	1,103	133	12.1%	67	6.1%	108	9.8%	53	4.8%		

APPENDIX 9B — PART 1 (Continued from previous page)

County	Treatment Episodes		All Rx Abuse		All Rx Dependence		Opioid Abuse		Opioid Dependence		
	Total	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Montgomery	186	66	35.5%	27	14.5%	41	22.0%	22	11.8%		
Morgan	424	55	13.0%	39	9.2%	48	11.3%	37	8.7%		
Newton	36	<5	N/A	<5	N/A	<5	N/A	<5	N/A		
Noble	335	28	8.4%	15	4.5%	17	5.1%	9	2.7%		
Ohio	<5	<5	N/A	<5	N/A	<5	N/A	<5	N/A		
Orange	78	15	19.2%	10	12.8%	9	11.5%	7	9.0%		
Owen	231	23	10.0%	13	5.6%	19	8.2%	10	4.3%		
Parke	105	17	16.2%	7	6.7%	10	9.5%	6	5.7%		
Perry	161	28	17.4%	7	4.3%	14	8.7%	7	4.3%		
Pike	37	13	35.1%	8	21.6%	8	21.6%	6	16.2%		
Porter	446	97	21.7%	62	13.9%	77	17.3%	55	12.3%		
Posey	154	33	21.4%	15	9.7%	21	13.6%	11	7.1%		
Pulaski	73	11	15.1%	8	11.0%	7	9.6%	6	8.2%		
Putnam	172	38	22.1%	17	9.9%	29	16.9%	12	7.0%		
Randolph	101	14	13.9%	8	7.9%	10	9.9%	7	6.9%		
Ripley	68	13	19.1%	7	10.3%	10	14.7%	5	7.4%		
Rush	113	14	12.4%	8	7.1%	13	11.5%	8	7.1%		
Saint Joseph	1,391	198	14.2%	88	6.3%	145	10.4%	71	5.1%		
Scott	84	43	51.2%	30	35.7%	38	45.2%	28	33.3%		
Shelby	82	13	15.9%	7	8.5%	9	11.0%	6	7.3%		
Spencer	183	22	12.0%	12	6.6%	18	9.8%	10	5.5%		
Starke	130	35	26.9%	19	14.6%	27	20.8%	15	11.5%		
Steuben	116	16	13.8%	7	6.0%	7	6.0%	5	4.3%		
Sullivan	50	13	26.0%	6	12.0%	11	22.0%	5	10.0%		
Switzerland	14	<5	N/A	<5	N/A	<5	N/A	<5	N/A		
Tippecanoe	468	100	21.4%	50	10.7%	56	12.0%	31	6.6%		
Tipton	42	15	35.7%	11	26.2%	13	31.0%	10	23.8%		

APPENDIX 9B — PART 1 (Continued from previous page)

County	Treatment Episodes		All Rx Abuse		All Rx Dependence		Opioid Abuse		Opioid Dependence		
	Total	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Union	7	<5	N/A	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Vanderburgh	1,158	313	27.0%	155	13.4%	210	18.1%	118	10.2%		
Vermillion	124	29	23.4%	20	16.1%	21	16.9%	10	8.1%		
Vigo	580	94	16.2%	43	7.4%	61	10.5%	35	6.0%		
Wabash	358	35	9.8%	14	3.9%	25	7.0%	12	3.4%		
Warren	28	7	25.0%	<5	N/A	5	17.9%	<5	N/A		
Warrick	313	82	26.2%	37	11.8%	54	17.3%	29	9.3%		
Washington	26	8	30.8%	5	19.2%	5	19.2%	<5	N/A		
Wayne	251	41	16.3%	22	8.8%	28	11.2%	18	7.2%		
Wells	79	9	11.4%	<5	N/A	6	7.6%	<5	N/A		
White	116	22	19.0%	5	4.3%	13	11.2%	5	4.3%		
Whitley	159	11	6.9%	5	3.1%	8	5.0%	<5	N/A		
Indiana	28,127	4,813	20.3%	2,507	11.0%	3,520	15.0%	2,048	8.9%		

Note: We defined prescription drug dependence as “individuals in substance abuse treatment listing prescription drugs as their primary substance at admission.”
Source: Indiana Family and Social Services Administration, Revenue Enhancement and Data, 2011

APPENDIX 9B — PART 2

County	CNS Depressant Abuse		CNS Depressant Dependence		Stimulant Abuse		Stimulant Dependence	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Adams	9	4.5%	<5	N/A	<5	N/A	<5	N/A
Allen	16	1.1%	<5	N/A	14	1.0%	<5	N/A
Bartholomew	19	3.7%	6	1.2%	9	1.8%	7	1.4%
Benton	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Blackford	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Boone	15	7.7%	<5	N/A	<5	N/A	<5	N/A
Brown	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Carroll	10	10.5%	<5	N/A	<5	N/A	<5	N/A
Cass	<5	N/A	<5	N/A	7	3.3%	<5	N/A
Clark	22	12.0%	<5	N/A	<5	N/A	<5	N/A
Clay	9	6.7%	5	3.7%	<5	N/A	<5	N/A
Clinton	9	7.6%	<5	N/A	<5	N/A	<5	N/A
Crawford	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Daviness	24	13.9%	<5	N/A	<5	N/A	<5	N/A
Dearborn	12	9.4%	<5	N/A	<5	N/A	<5	N/A
Decatur	5	5.4%	<5	N/A	<5	N/A	<5	N/A
DeKalb	6	3.6%	<5	N/A	<5	N/A	<5	N/A
Delaware	61	8.7%	10	1.4%	<5	N/A	<5	N/A
Dubois	15	6.4%	<5	N/A	<5	N/A	<5	N/A
Elkhart	20	2.6%	6	0.8%	11	1.4%	<5	N/A
Fayette	19	17.0%	<5	N/A	<5	N/A	<5	N/A
Floyd	11	15.7%	<5	N/A	<5	N/A	<5	N/A
Fountain	14	20.0%	5	7.1%	<5	N/A	<5	N/A
Franklin	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Fulton	8	4.5%	<5	N/A	5	2.8%	<5	N/A
Gibson	10	7.2%	<5	N/A	<5	N/A	<5	N/A
Grant	10	4.0%	<5	N/A	<5	N/A	<5	N/A

APPENDIX 9B — PART 2

County	CNS Depressant Abuse		CNS Depressant Dependence		Stimulant Abuse		Stimulant Dependence	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Greene	14	11.0%	5	3.9%	<5	N/A	<5	N/A
Hamilton	42	7.4%	6	1.1%	8	1.4%	<5	N/A
Hancock	9	10.1%	<5	N/A	<5	N/A	<5	N/A
Harrison	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Hendricks	28	7.9%	11	3.1%	<5	N/A	<5	N/A
Henry	18	8.7%	<5	N/A	<5	N/A	<5	N/A
Howard	51	8.8%	9	1.6%	<5	N/A	<5	N/A
Huntington	9	2.6%	<5	N/A	<5	N/A	<5	N/A
Jackson	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Jasper	14	19.7%	<5	N/A	<5	N/A	<5	N/A
Jay	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Jefferson	7	5.2%	<5	N/A	<5	N/A	<5	N/A
Jennings	<5	N/A	<5	N/A	8	4.7%	5	2.9%
Johnson	37	12.6%	9	3.1%	6	2.0%	<5	N/A
Knox	23	9.4%	5	2.0%	<5	N/A	<5	N/A
Kosciusko	7	1.2%	<5	N/A	8	1.3%	6	1.0%
LaGrange	7	4.1%	<5	N/A	<5	N/A	<5	N/A
Lake	69	3.6%	16	0.8%	5	0.3%	<5	N/A
LaPorte	8	1.6%	<5	N/A	<5	N/A	<5	N/A
Lawrence	10	3.4%	8	2.7%	<5	N/A	<5	N/A
Madison	121	22.0%	16	2.9%	6	1.1%	<5	N/A
Marion	256	6.0%	44	1.0%	23	0.5%	5	0.1%
Marshall	6	2.6%	<5	N/A	6	2.6%	<5	N/A
Martin	11	18.6%	5	8.5%	<5	N/A	<5	N/A
Miami	14	6.0%	5	2.1%	<5	N/A	<5	N/A
Monroe	39	3.5%	12	1.1%	5	0.5%	<5	N/A
Montgomery	27	14.5%	<5	N/A	8	4.3%	<5	N/A

APPENDIX 9B — PART 2

County	CNS Depressant Abuse		CNS Depressant Dependence		Stimulant Abuse		Stimulant Dependence	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Morgan	13	3.1%	<5	N/A	<5	N/A	<5	N/A
Newton	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Noble	9	2.7%	<5	N/A	<5	N/A	<5	N/A
Ohio	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Orange	6	7.7%	<5	N/A	<5	N/A	<5	N/A
Owen	11	4.8%	<5	N/A	<5	N/A	<5	N/A
Parke	8	7.6%	<5	N/A	<5	N/A	<5	N/A
Perry	13	8.1%	<5	N/A	<5	N/A	<5	N/A
Pike	8	21.6%	<5	N/A	<5	N/A	<5	N/A
Porter	22	4.9%	5	1.1%	6	1.3%	<5	N/A
Posey	19	12.3%	<5	N/A	<5	N/A	<5	N/A
Pulaski	7	9.6%	<5	N/A	<5	N/A	<5	N/A
Putnam	14	8.1%	5	2.9%	<5	N/A	<5	N/A
Randolph	5	5.0%	<5	N/A	<5	N/A	<5	N/A
Ripley	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Rush	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Saint Joseph	60	4.3%	6	0.4%	24	1.7%	11	0.8%
Scott	18	21.4%	<5	N/A	<5	N/A	<5	N/A
Shelby	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Spencer	10	5.5%	<5	N/A	<5	N/A	<5	N/A
Starke	13	10.0%	<5	N/A	<5	N/A	<5	N/A
Steuben	6	5.2%	<5	N/A	<5	N/A	<5	N/A
Sullivan	5	10.0%	<5	N/A	<5	N/A	<5	N/A
Switzerland	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Tippecanoe	60	12.8%	16	3.4%	8	1.7%	<5	N/A
Tipton	5	11.9%	<5	N/A	<5	N/A	<5	N/A
Union	<5	N/A	<5	N/A	<5	N/A	<5	N/A

APPENDIX 9B — PART 2

County	CNS Depressant Abuse		CNS Depressant Dependence		Stimulant Abuse		Stimulant Dependence	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Vanderburgh	158	13.6%	32	2.8%	21	1.8%	5	0.4%
Vermillion	15	12.1%	9	7.3%	<5	N/A	<5	N/A
Vigo	42	7.2%	8	1.4%	<5	N/A	<5	N/A
Wabash	13	3.6%	<5	N/A	<5	N/A	<5	N/A
Warren	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Warrick	44	14.1%	7	2.2%	6	1.9%	<5	N/A
Washington	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Wayne	16	6.4%	<5	N/A	<5	N/A	<5	N/A
Wells	<5	N/A	<5	N/A	<5	N/A	<5	N/A
White	11	9.5%	<5	N/A	<5	N/A	<5	N/A
Whitley	<5	N/A	<5	N/A	<5	N/A	<5	N/A
Indiana	1,813	7.8%	363	1.8%	279	1.1%	96	0.4%

Note: We defined prescription drug dependence as “individuals in substance abuse treatment listing prescription drugs as their primary substance at admission.”
Source: Indiana Family and Social Services Administration, Revenue Enhancement and Data, 2011

APPENDIX 9C – PART 1

Percentage of Indiana Students Reporting Lifetime and Monthly Nonmedical Tranquilizer Use, by Region and Grade
(Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2011)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Lifetime	0.5	0.7	0.4	0.3	0.5	0.3	0.8	0.3	0.6
	Monthly	0.3	0.4	0.3	0.2	0.2	0.1	0.5	0.2	0.3
7th Grade	Lifetime	0.9	1.0	0.8	0.4	0.9	1.1	1.0	0.7	1.3
	Monthly	0.5	0.7	0.4	0.1	0.6	0.5	0.5	0.4	0.6
8th Grade	Lifetime	1.9	2.1	1.8	1.0	2.0	2.1	2.5	1.4	2.1
	Monthly	1.0	1.0	1.0	0.5	1.1	1.2	1.3	0.7	1.0
9th Grade	Lifetime	3.3	4.1	3.4	2.0	3.6	3.2	3.6	3.6	3.3
	Monthly	1.6	1.9	1.8	0.9	1.5	1.7	2.0	1.8	1.4
10th Grade	Lifetime	4.3	5.4	3.9	2.6	4.6	4.0	4.5	4.2	5.0
	Monthly	2.0	2.3	1.6	1.3	2.0	1.9	2.5	1.9	2.2
11th Grade	Lifetime	5.2	6.8	5.1	3.9	5.6	4.6	5.4	4.8	5.8
	Monthly	2.0	2.4	2.0	1.5	1.6	1.8	1.6	2.3	2.4
12th Grade	Lifetime	5.4	6.4	4.3	4.6	6.0	6.0	5.0	4.5	5.9
	Monthly	2.0	2.7	1.4	1.6	2.2	2.3	1.7	1.3	2.1

Source: Gassman, et al., 2011

APPENDIX 9C – PART 2

Percentage of Indiana Students Reporting Lifetime and Monthly Nonmedical Prescription Painkiller Use, by Region and Grade (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2011)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Lifetime	1.1	1.3	0.8	1.4	1.0	1.1	1.8	0.6	0.9
	Monthly	0.6	0.6	0.4	0.7	0.8	0.6	1.0	0.4	0.6
7th Grade	Lifetime	2.7	3.4	2.2	1.9	2.9	2.5	3.4	2.0	3.0
	Monthly	1.5	1.8	0.9	1.2	1.6	1.6	1.8	1.0	1.9
8th Grade	Lifetime	5.6	6.3	5.2	4.9	5.7	6.3	6.3	3.8	5.4
	Monthly	3.0	3.5	2.7	2.7	3.1	3.5	3.7	1.9	2.8
9th Grade	Lifetime	9.4	10.1	10.8	7.2	9.3	9.4	9.9	9.1	9.8
	Monthly	4.7	5.2	5.4	3.6	4.4	4.5	5.0	4.6	4.9
10th Grade	Lifetime	12.6	14.4	11.7	10.2	13.3	12.3	12.5	10.8	14.7
	Monthly	5.8	6.9	5.2	5.2	5.5	6.0	6.1	5.0	6.5
11th Grade	Lifetime	14.9	17.1	14.7	13.8	14.0	14.6	15.8	12.3	17.1
	Monthly	5.9	6.8	5.8	5.9	5.4	5.4	6.0	4.7	7.3
12th Grade	Lifetime	16.0	15.2	14.5	14.4	15.9	16.7	15.4	15.2	18.6
	Monthly	6.6	6.5	6.1	5.9	7.1	6.9	6.1	5.7	7.4

Note: Includes Vicodin®, Oxycontin®, and Percocet®.

Source: Indiana Prevention Resource Center, 2011

APPENDIX 9C – PART 3

Percentage of Indiana Students Reporting Lifetime and Monthly Nonmedical Prescription Drug Use, by Region and Grade (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2011)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Lifetime	1.0	1.2	1.0	1.2	1.1	1.1	1.3	0.8	0.8
	Monthly	0.6	0.6	0.6	0.9	0.7	0.6	0.9	0.6	0.5
7th Grade	Lifetime	2.4	2.8	2.0	2.1	2.8	2.3	2.8	1.7	2.8
	Monthly	1.4	1.9	1.1	1.3	1.5	1.6	1.2	1.0	1.7
8th Grade	Lifetime	4.8	5.6	3.8	3.5	5.2	5.5	5.2	3.4	4.8
	Monthly	2.7	3.7	2.2	2.0	2.8	3.2	2.9	1.7	2.5
9th Grade	Lifetime	8.2	9.3	9.1	6.2	8.6	7.6	8.2	9.4	7.9
	Monthly	4.3	5.1	4.5	2.9	4.6	4.3	4.3	4.6	4.0
10th Grade	Lifetime	11.2	13.8	11.5	7.6	12.3	10.4	10.6	11.2	12.2
	Monthly	5.2	7.0	4.8	3.9	5.6	5.1	4.8	5.3	5.4
11th Grade	Lifetime	13.3	15.7	13.5	11.4	13.1	13.0	14.0	12.1	14.0
	Monthly	5.6	7.0	6.3	4.8	5.2	5.3	5.3	4.6	6.3
12th Grade	Lifetime	14.6	14.8	14.1	12.3	15.1	15.1	12.0	14.4	16.4
	Monthly	5.9	6.4	5.8	4.5	6.0	7.1	4.7	5.1	6.4

Note: Includes Ritalin®, Adderall®, and Xanax®, but excludes painkillers.

Source: Gassman, et al., 2011

APPENDIX 9D

Number and Rate, per 1,000 Population, of Arrests for Possession and Sale/Manufacture of "Other Drugs" (including Barbiturates and Benzedrine) in Indiana, by County (Uniform Crime Reporting Program, 2009)

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Adams	8	*0.2	1	*0.0
Allen	174	0.5	72	0.2
Bartholomew	71	0.9	3	*0.0
Benton	2	*0.2	1	*0.1
Blackford	2	*0.2	1	*0.1
Boone	15	*0.3	2	*0.0
Brown	0	*0.0	0	*0.0
Carroll	21	1.0	4	*0.2
Cass	12	*0.3	4	*0.1
Clark	18	*0.2	4	*0.0
Clay	13	*0.5	3	*0.1
Clinton	15	*0.5	5	*0.2
Crawford	0	*0.0	0	*0.0
Daviess	42	1.3	3	*0.1
Dearborn	17	*0.3	18	*0.4
Decatur	13	*0.5	2	*0.1
DeKalb	16	*0.4	5	*0.1
Delaware	3	*0.0	7	*0.1
Dubois	8	*0.2	1	*0.0
Elkhart	19	*0.1	4	*0.0
Fayette	16	*0.7	15	*0.6
Floyd	131	1.8	225	3.0
Fountain	6	*0.3	1	*0.1
Franklin	9	*0.4	2	*0.1
Fulton	6	*0.3	1	*0.0
Gibson	30	0.9	2	*0.1
Grant	5	*0.1	0	*0.0
Greene	18	*0.5	1	*0.0
Hamilton	33	0.1	12	*0.0
Hancock	31	0.4	11	*0.2
Harrison	1	*0.0	0	*0.0
Hendricks	70	0.5	12	*0.1
Henry	11	0.2	3	*0.1
Howard	160	1.9	12	*0.1
Huntington	21	0.6	2	*0.1
Jackson	22	0.5	5	*0.1

APPENDIX 9D (Continued from previous page)

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Jasper	12	*0.4	9	*0.3
Jay	1	*0.0	1	*0.0
Jefferson	16	*0.5	3	*0.1
Jennings	0	*0.0	8	*0.3
Johnson	81	0.6	69	0.5
Knox	29	0.8	7	*0.2
Kosciusko	23	0.3	2	*0.0
LaGrange	0	*0.0	0	*0.0
Lake	452	0.9	64	0.1
LaPorte	7	*0.1	1	*0.0
Lawrence	15	*0.3	3	*0.1
Madison	103	0.8	33	0.3
Marion	592	0.7	92	0.1
Marshall	30	0.6	18	*0.4
Martin	0	*0.0	0	*0.0
Miami	18	*0.5	1	*0.0
Monroe	100	0.7	23	0.2
Montgomery	60	1.6	1	*0.0
Morgan	88	1.3	13	*0.2
Newton	3	*0.2	0	*0.0
Noble	27	0.6	3	*0.1
Ohio	2	*0.3	1	*0.2
Orange	8	*0.4	1	*0.1
Owen	8	*0.4	3	*0.1
Parke	4	*0.2	0	*0.0
Perry	10	*0.5	0	*0.0
Pike	5	*0.4	1	*0.1
Porter	39	0.2	13	*0.1
Posey	12	*0.5	4	*0.2
Pulaski	3	*0.2	2	*0.1
Putnam	7	*0.2	4	*0.1
Randolph	5	*0.2	1	*0.0
Ripley	9	*0.3	1	*0.0
Rush	4	*0.2	0	*0.0
Saint Joseph	62	0.2	15	*0.1
Scott	14	*0.6	1	*0.0

APPENDIX 9D (Continued from previous page)

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Shelby	4	*0.1	1	*0.0
Spencer	8	*0.4	1	*0.0
Starke	12	*0.5	3	*0.1
Steuben	104	3.0	9	*0.3
Sullivan	0	*0.0	1	*0.0
Switzerland	4	*0.4	0	*0.0
Tippecanoe	30	0.2	16	*0.1
Tipton	2	*0.1	1	*0.1
Union	3	*0.4	0	*0.0
Vanderburgh	738	4.1	27	0.2
Vermillion	4	*0.2	4	*0.2
Vigo	130	1.2	9	*0.1
Wabash	12	*0.4	2	*0.1
Warren	3	*0.4	0	*0.0
Warrick	3	*0.1	1	*0.0
Washington	8	*0.3	3	*0.1
Wayne	12	*0.2	4	*0.1
Wells	4	*0.1	3	*0.1
White	15	*0.6	0	*0.0
Whitley	10	*0.3	3	*0.1
Indiana	3,994	0.6	930	0.1

* Rates based on arrest numbers lower than 20 are unreliable.

Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

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10. POLYSUBSTANCE ABUSE

POLYSUBSTANCE ABUSE

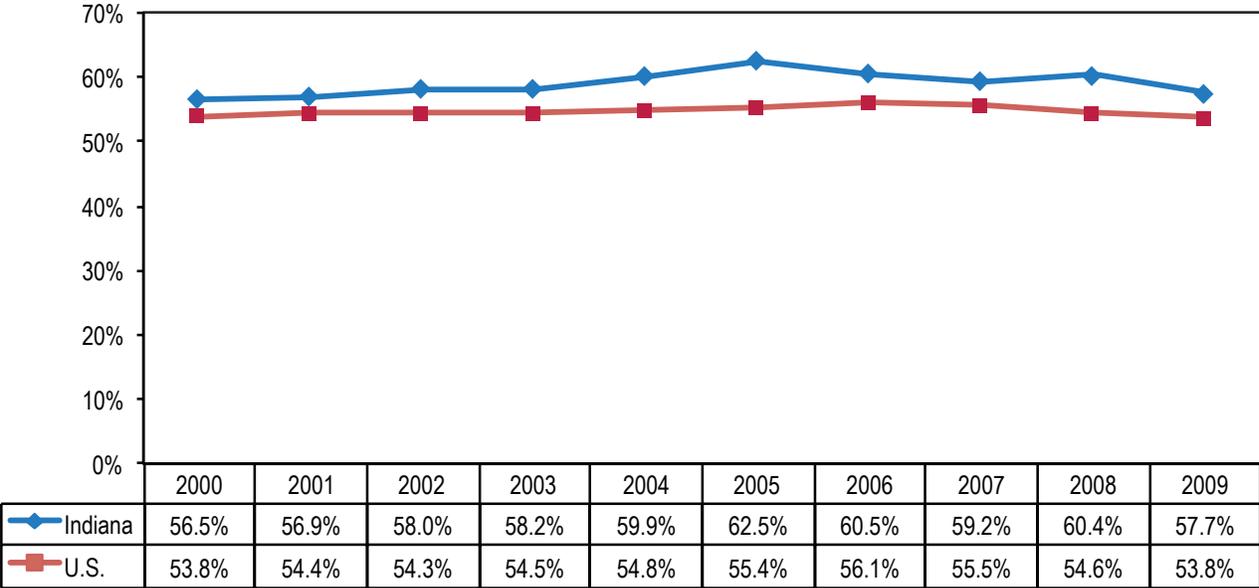
Polysubstance abuse refers to substance abuse during which two or more substances are used in combination. It is a particularly serious pattern of drug abuse that appears to be generally established by late adolescence (Collins, Ellickson, & Bell, 1998).

Available data are limited, and all information gathered for this chapter was provided by the Treatment Episode Data Set (TEDS) (Substance Abuse and Mental Health Data Archive, 2009). A review of the 2000 through 2009 TEDS data shows that for over half of the treatment episodes in the database, use of at least two drugs was reported at the time of treatment admission (see Figure 10.1).

Compared to the rest of the United States, the percentage of reported polysubstance abuse among the treatment population was significantly higher in Indiana. Also, use of two or more substances increased significantly from 2000 to 2009 in Indiana, peaking at 62.5% in 2005 (see Figure 10.1). The percentage of individuals reporting polysubstance abuse decreased slightly from 2008 to 2009 both nationally and in Indiana. County-level treatment data on individuals using two or more substances is available in Appendix 10A, pages 205-207.

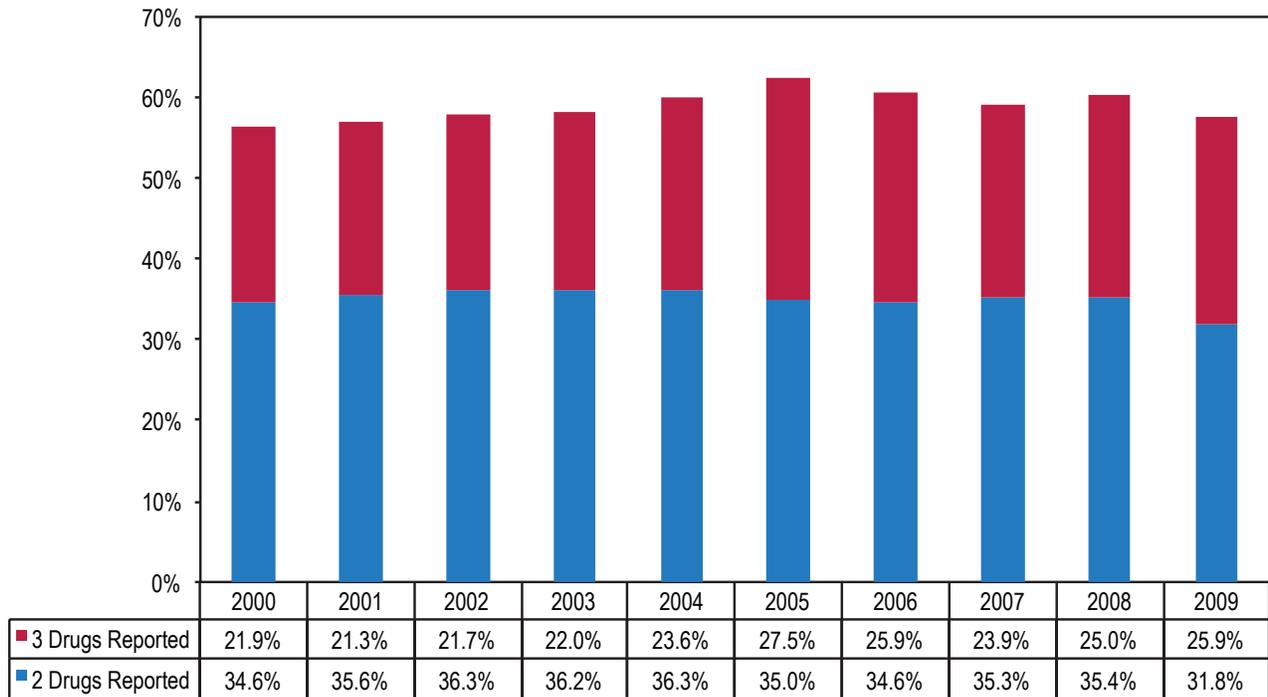
Among Indiana treatment episodes alone, about one-third reported use of two substances and slightly more than one-quarter reported use of three substances (see Figure 10.2).

Figure 10.1 Percentage of Indiana and U.S. Treatment Episodes with Polysubstance Abuse (Use of at Least Two Substances) Reported at Treatment Admission (Treatment Episode Data Set, 2000–2009)



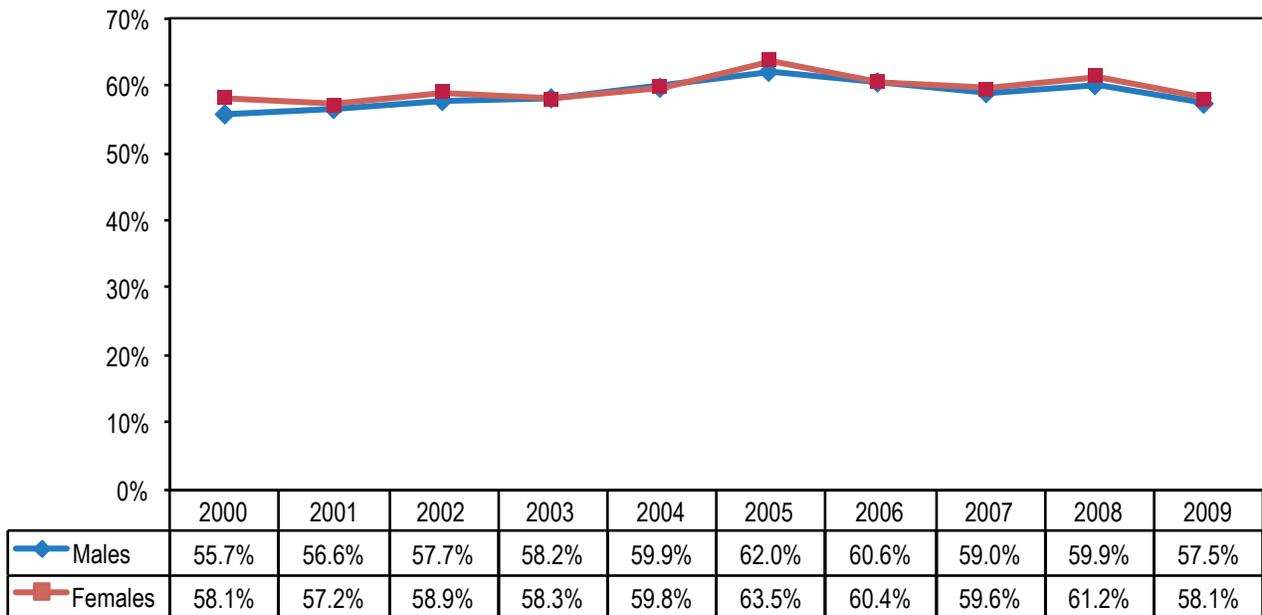
Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 10.2 Percentage of Indiana Treatment Episodes with Use of Two and Three Substances Reported at Treatment Admission (Treatment Episode Data Set, 2000–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 10.3 Percentage of Indiana Treatment Episodes with Polysubstance Abuse (Use of at Least Two Substances) Reported at Treatment Admission, by Gender (Treatment Episode Data Set, 2000–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

Demographic Characteristics of Polysubstance Users

Based on the TEDS data, we found differences in polysubstance use patterns by gender, race, and age group.

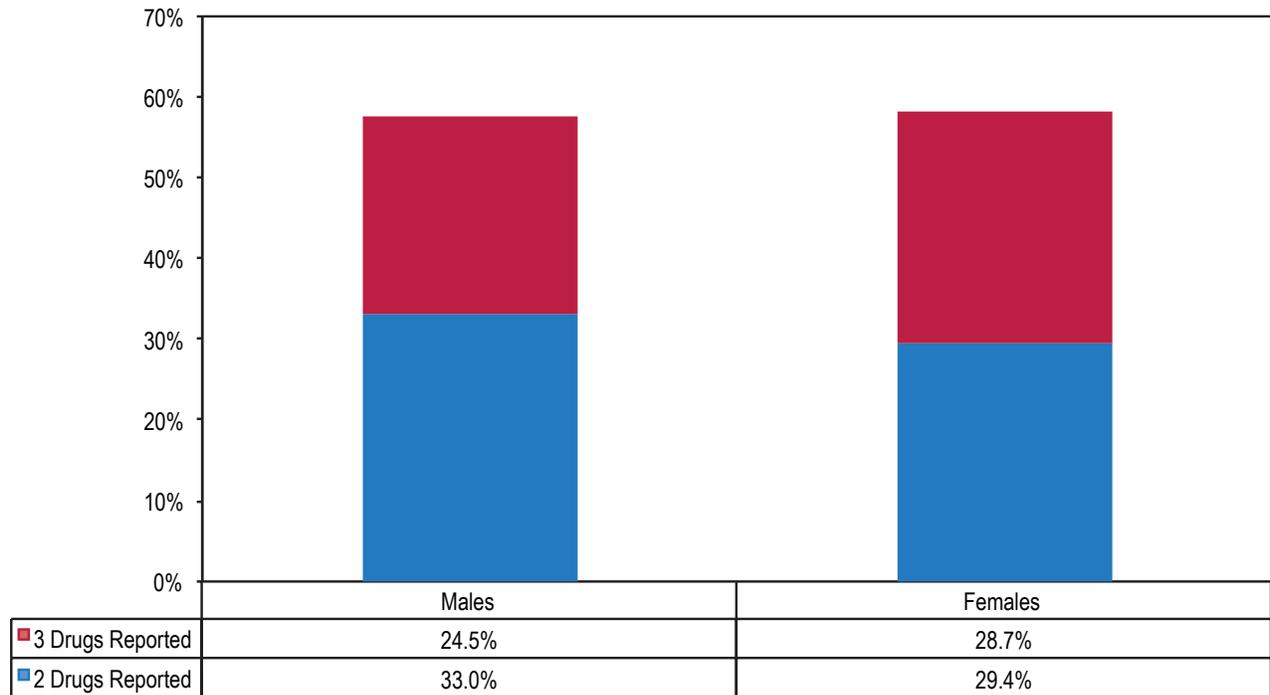
Gender—From 2000 through 2009, the percentage of both males and females reporting use of two or more substances at treatment admission hovered around 60% (see Figure 10.3).

In 2009, the percentage of men using two drugs was higher compared to the percentage of women; however, the opposite was true for use of three drugs (see Figure 10.4).

Race—The percentage of treatment episodes with polysubstance abuse reported at admission decreased for blacks from 63.4% in 2000 to 58.1% in 2009; however, it increased for whites (from 55.2% to 57.8%) and other races (from 51.0% to 55.9%) (see Figure 10.5).

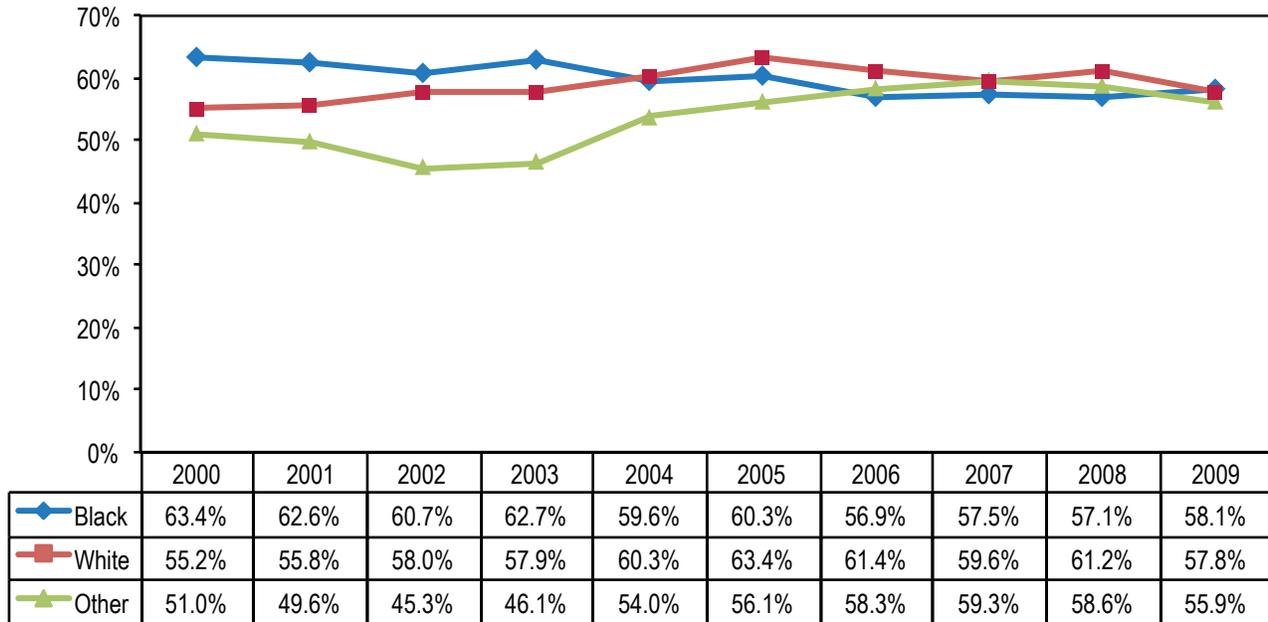
In 2009, reported use of two substances was highest among the black treatment population (36.2%), while use of three substances was greatest among whites (27.2%) (see Figure 10.6).

Figure 10.4 Percentage of Indiana Treatment Episodes with Use of Two and Three Substances Reported at Treatment Admission, by Gender (Treatment Episode Data Set, 2009)



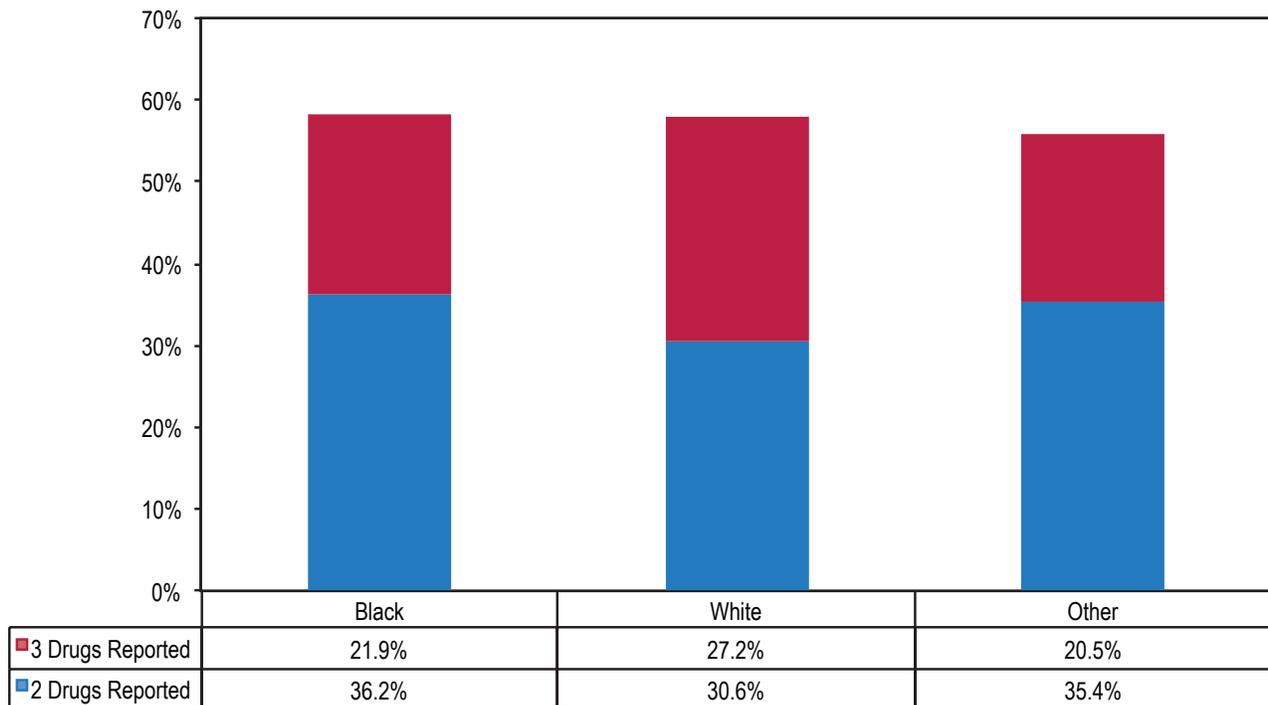
Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 10.5 Percentage of Indiana Treatment Episodes with Polysubstance Abuse (Use of at Least Two Substances) Reported at Treatment Admission, by Race (Treatment Episode Data Set, 2000–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 10.6 Percentage of Indiana Treatment Episodes with Use of Two and Three Substances Reported at Treatment Admission, by Race (Treatment Episode Data Set, 2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

Age—Young adults ages 18 to 24 had the highest percentage of polysubstance abuse reported at treatment admission, closely followed by 25- to 34-year-olds. Just over one-third of adults ages 55 and over reported use of two or more substances (see Figure 10.7).

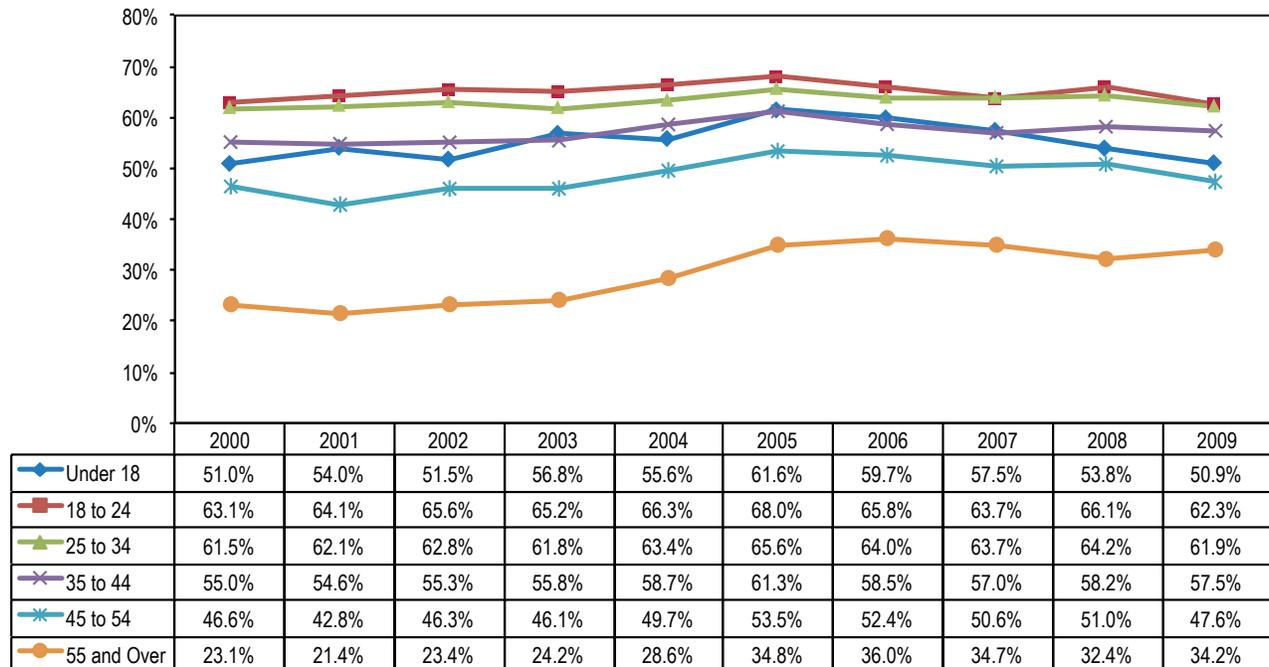
Even though 18- to 24-year-olds had the highest percentage of using two or more substances, 25- to 34-year-olds had the greatest percentage of using three drugs (see Figure 10.8).

Polysubstance Abuse Clusters in Indiana

Statewide Analysis—We conducted a cluster analysis of 2009 Indiana TEDS data to determine the combinations of drugs currently used by polysubstance abusers within the state. The cluster analysis was completed in two steps following standardized methods (Hair, Anderson, Tatham, & Black, 1995).

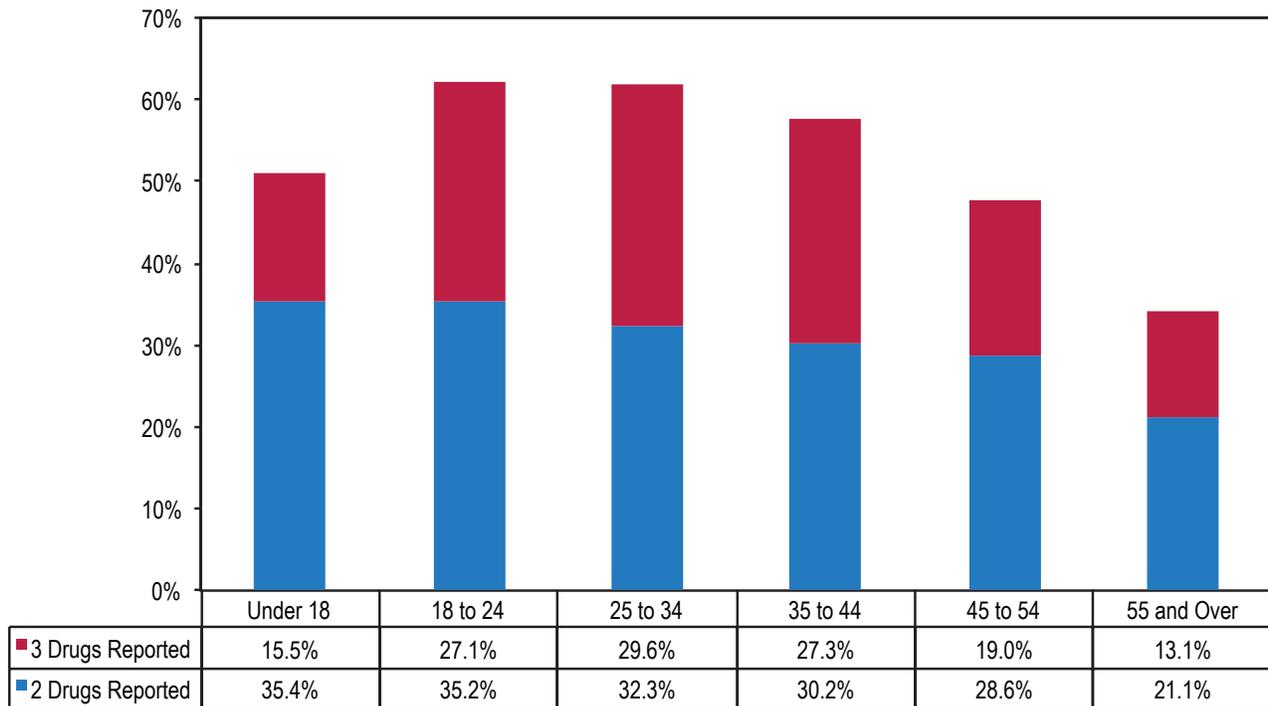
In the first step, we performed a hierarchical cluster analysis specifying solutions with 2 to 20 clusters using Ward’s method (Hair et al., 1995).

Figure 10.7 Percentage of Indiana Treatment Episodes with Polysubstance Abuse (Use of at Least Two Substances) Reported at Treatment Admission, by Age (Treatment Episode Data Set, 2000–2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

Figure 10.8 Percentage of Indiana Treatment Episodes with Use of Two and Three Substances Reported at Treatment Admission, by Age (Treatment Episode Data Set, 2009)



Source: Substance Abuse and Mental Health Data Archive, 2009

Second, we used the results of the hierarchical cluster analysis to create “seed points” to serve as cluster centroids for follow-up K-Means cluster analyses, specifying 2 to 20 clusters. We selected this two-step method because it produces clusters that are more easily interpretable (Hair et al., 1995).

Then, to select the final classification solution, we compared the cubic clustering criteria (the expected value of the within sum of squares) with the face-validity of the set of drugs across the clusters (Hair et al., 1995). The results of the K-Means cluster analyses indicated that an 8-cluster solution best fit the available data.

Tables 10.1 and 10.2, pages 201-202, show the image and identity matrices for the 8-cluster solution. The image matrix represents the percentage of individuals within a cluster that used each specific drug. Using cluster 3 as an example, 100% of the individuals in this cluster used alcohol, 90% used cocaine, 0.0% used marijuana, 10% used heroin and so on. A specific drug was considered part of a cluster if at least 50% of the individuals within the cluster used the drug.

The identity matrix presents the makeup of each cluster using a series of ones and zeros. For each specific drug within a cluster, a “1” indicates that at least 50% of the people within that cluster report using the drug; hence that drug is considered to be part of the cluster. A “0” indicates that less than 50% of the people within the cluster report using the drug, thus the drug is not considered to be part of the cluster.

The most frequently occurring drug clusters in Indiana were clusters 4, 6, and 7. These clusters accounted for more than half of polysubstance users in the analysis (57.6%). Individuals in cluster 4 reported using a combination of alcohol and marijuana. Polysubstance users in cluster 6 reported using a combination of alcohol, marijuana, and methamphetamine. The individuals making up cluster 7 reported using alcohol, marijuana, and opiate/synthetic drugs. The remaining five clusters each accounted for 5.5% to 11.0% of polysubstance users.

Alcohol and marijuana were the most commonly reported drugs, with both appearing in seven of the eight clusters. Cocaine was the second most frequently

reported drug, and it was included in three of the eight clusters. Opiates/synthetic drugs, methamphetamine, benzodiazepines, and “other” drugs were each represented in one cluster. For detailed information on all eight clusters, see Table 10.3 (page 202).

Table 10.4 (pages 203-204) breaks down the clusters by demographic characteristics. In terms of gender, men accounted for 50% or more of the individuals within all eight clusters. The difference in the percentages of men to women was smaller in clusters 2, 6, and 8, indicating that women may be more likely to use these combinations of drugs. Clusters 1, 4, and 5 were the most male-oriented clusters.

Racially, whites composed the largest percentage of polysubstance abusers within each cluster. Blacks, however, were more strongly represented in clusters 1 and 3. These clusters were similar to one another in that both included cocaine. Whites represented more than 90% of the population in clusters 6, 7, and 8. These three clusters included opiates/synthetics, methamphetamine, and benzodiazepines.

Over 50% of polysubstance abusers within seven of the eight clusters were between the ages of 21 and 39. The youngest polysubstance users, those between the ages of 12 and 20, were more likely to be found in clusters 4 (alcohol and marijuana) and 8 (alcohol, marijuana, and benzodiazepines). Each of these clusters contained both alcohol and marijuana. Older polysubstance users, those over 40 years of age, were most strongly represented in cluster 3 (alcohol/cocaine).

County-Level Analyses—We completed cluster analyses for each county within Indiana using the 2010 county-level TEDS data set. Appendix 10B (pages 208-223) lists the results of the cluster analysis for each county. Similar to the statewide findings, the most common polysubstance cluster was composed of both alcohol and marijuana, the top-ranked cluster in 61 of 92 counties.

Table 10.1 Image Matrix for Polysubstance Abuse Clusters (Treatment Episode Data Set, 2009)

Image Matrix	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Cluster 7	Cluster 8
Drug								
alcohol	1.00	0.00	1.00	1.00	0.83	0.57	0.58	0.59
cocaine	1.00	0.68	0.90	0.00	0.01	0.08	0.01	0.06
marijuana	1.00	0.71	0.00	1.00	0.58	0.77	0.60	0.72
heroin	0.00	0.44	0.10	0.02	0.04	0.02	0.02	0.13
methadone	0.00	0.03	0.01	0.00	0.00	0.01	0.03	0.03
opiates/synthetics	0.00	0.31	0.08	0.00	0.01	0.13	1.00	0.00
pcp	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
hallucinogens	0.00	0.03	0.01	0.02	0.00	0.01	0.00	0.00
methamphetamine	0.00	0.03	0.08	0.00	0.04	1.00	0.02	0.13
amphetamines	0.00	0.03	0.03	0.01	0.01	0.01	0.02	0.01
stimulants	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
benzodiazepines	0.00	0.02	0.03	0.00	0.01	0.00	0.31	1.00
tranquilizers	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.00
barbiturates	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.02
sedatives/hypnotics	0.00	0.05	0.02	0.01	0.00	0.01	0.03	0.02
inhalants	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
over-the-counter	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
other drug	0.00	0.04	0.04	0.00	1.00	0.03	0.03	0.01

Note: Each number in the image matrix represents the percentage of individuals within a cluster that used each individual drug. For example, in cluster 1, 100% used alcohol, 100% used cocaine, 100% used marijuana, 0% used heroin and so on. Source: Substance Abuse and Mental Health Data Archive, 2009

Table 10.2 Identity Matrix for Polysubstance Abuse Clusters (Treatment Episode Data Set, 2009)

Identity Matrix	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Cluster 7	Cluster 8
alcohol	1	0	1	1	1	1	1	1
cocaine	1	1	1	0	0	0	0	0
marijuana	1	1	0	1	1	1	1	1
heroin	0	0	0	0	0	0	0	0
methadone	0	0	0	0	0	0	0	0
opiates/synthetics	0	0	0	0	0	0	1	0
pcp	0	0	0	0	0	0	0	0
hallucinogens	0	0	0	0	0	0	0	0
methamphetamine	0	0	0	0	0	1	0	0
amphetamines	0	0	0	0	0	0	0	0
stimulants	0	0	0	0	0	0	0	0
benzodiazepines	0	0	0	0	0	0	0	1
tranquilizers	0	0	0	0	0	0	0	0
barbiturates	0	0	0	0	0	0	0	0
sedatives/hypnotics	0	0	0	0	0	0	0	0
inhalants	0	0	0	0	0	0	0	0
over-the-counter	0	0	0	0	0	0	0	0
other drug	0	0	0	0	1	0	0	0

Note: The identity matrix simplifies the information from the image matrix by using the percentages to assign a “1” or “0” to each drug. A “1” indicates that at least 50% of people in a cluster used the drug, and a “0” indicates that less than 50% of people in a cluster used the drug. The binary use of “1” and “0” provides a clearer picture of the drugs most commonly used within each cluster.

Source: Substance Abuse and Mental Health Data Archive, 2009

Table 10.3 Number and Percentage of Treatment Episodes within Each Cluster in Indiana (Treatment Episode Data Set, 2009)

Cluster	Number of Treatment Episodes Within Cluster	Percentage
4 – alcohol/marijuana	3,315	31.9
7 – alcohol/marijuana/opiates-synthetics	1,431	13.8
6 – alcohol/marijuana/methamphetamine	1,239	11.9
1 – alcohol/cocaine/marijuana	1,143	11.0
3 – alcohol/cocaine	1,099	10.6
2 – cocaine/marijuana	884	8.5
5 – alcohol/marijuana/other drug	706	6.8
8 – alcohol/marijuana/benzodiazepines	575	5.5
Total	10,392	100.0

Source: Substance Abuse and Mental Health Data Archive, 2009

Table 10.4 Demographic Characteristics of Polysubstance Abusers within Clusters (Treatment Episode Data Set, 2010)

	Cluster 1		Cluster 2		Cluster 3		Cluster 4	
	N	%	N	%	N	%	N	%
Gender								
Male	788	68.9	521	58.9	667	60.7	2,566	77.4
Female	355	31.1	363	41.1	432	39.3	749	22.6
Race								
White	672	58.8	641	72.5	659	60.0	2,477	74.7
Black	397	34.7	160	18.1	366	33.3	574	17.3
Other	74	6.5	83	9.4	74	6.7	264	8.0
Ethnicity								
Non-Hispanic	1,075	94.1	861	97.4	1,038	94.4	3,149	95.0
Hispanic	68	5.9	23	2.6	61	5.6	166	5.0
Age								
12-20	54	4.7	98	11.1	20	1.8	710	21.4
21-29	297	26.0	399	45.1	192	17.5	1,416	42.7
30-39	373	32.6	215	24.3	334	30.4	654	19.8
40-49	312	27.3	129	14.6	373	33.9	401	12.1
50 and Older	107	9.4	43	4.8	180	16.4	134	4.0
Unknown	0	0.0	0	0.0	0	0.0	0	0.0
Education								
Less than H.S.	393	34.4	289	32.7	320	29.1	1,182	35.7
H.S. Diploma	489	42.8	355	40.2	467	42.5	1,378	41.6
Above H.S.	201	17.6	191	21.6	254	23.1	617	18.6
Unknown	60	5.2	49	5.5	58	5.3	138	4.2

Table 10.4 (Continued from previous page)

	Cluster 5		Cluster 6		Cluster 7		Cluster 8	
	N	%	N	%	N	%	N	%
Gender								
Male	461	65.3	727	58.7	850	59.4	311	54.1
Female	245	34.7	512	41.3	581	40.6	265	45.9
Race								
White	587	83.1	1,146	92.5	1,304	91.1	519	90.3
Black	89	12.6	32	2.6	31	2.2	23	4.0
Other	30	4.3	61	4.9	96	6.7	33	5.7
Ethnicity								
Non-Hispanic	669	94.8	1,218	98.3	1,402	98.0	566	98.4
Hispanic	37	5.2	21	1.7	29	2.0	9	1.6
Age								
12-20	125	17.7	101	8.2	220	15.4	136	23.7
21-29	258	36.5	498	40.2	660	46.1	251	43.7
30-39	146	20.7	421	34.0	377	26.3	121	21.0
40-49	104	14.7	178	14.4	143	10.0	44	7.7
50 and Older	73	10.3	41	3.3	61	4.3	23	4.0
Unknown	0	0.0	0	0.0	0	0.0		
Education								
Less than H.S.	219	31.0	487	39.3	460	32.2	216	37.6
H.S. Diploma	270	38.2	575	46.4	613	42.8	242	42.1
Above H.S.	117	16.6	157	12.7	286	20.0	94	16.3
Unknown	100	14.2	20	1.6	72	5.0	23	4.0

Source: Indiana Family and Social Services Administration, Revenue Enhancement and Data, 2011

APPENDIX 10A

Number and Percentage of Treatment Episodes with Polysubstance Abuse (Use of Two and Three Substances) Reported at Treatment Admission in Indiana, by County (Substance Abuse Population by County/Treatment Episode Data Set, 2010)

County	Treatment Episodes	Use of 2 Substances		Use of 3 Substances		Polysubstance Abuse	
	Total	Number	Percentage	Number	Percentage	Number	Percentage
Adams	202	44	21.8%	39	19.3%	83	41.1%
Allen	1,447	490	33.9%	294	20.3%	784	54.2%
Bartholomew	508	63	12.4%	60	11.8%	123	24.2%
Benton	22	<5	N/A	14	63.6%	18	81.8%
Blackford	32	<5	N/A	<5	N/A	8	25.0%
Boone	196	61	31.1%	46	23.5%	107	54.6%
Brown	64	10	15.6%	8	12.5%	18	28.1%
Carroll	95	36	37.9%	40	42.1%	76	80.0%
Cass	211	63	29.9%	71	33.6%	134	63.5%
Clark	183	33	18.0%	51	27.9%	84	45.9%
Clay	135	29	21.5%	33	24.4%	62	45.9%
Clinton	119	22	18.5%	20	16.8%	42	35.3%
Crawford	35	9	25.7%	13	37.1%	22	62.9%
Daviess	173	44	25.4%	55	31.8%	99	57.2%
Dearborn	128	24	18.8%	52	40.6%	76	59.4%
Decatur	92	15	16.3%	10	10.9%	25	27.2%
DeKalb	166	46	27.7%	56	33.7%	102	61.4%
Delaware	698	212	30.4%	127	18.2%	339	48.6%
DuBois	235	58	24.7%	49	20.9%	107	45.5%
Elkhart	769	271	35.2%	119	15.5%	390	50.7%
Fayette	112	18	16.1%	21	18.8%	39	34.8%
Floyd	70	16	22.9%	11	15.7%	27	38.6%
Fountain	70	14	20.0%	45	64.3%	59	84.3%
Franklin	23	7	30.4%	<5	N/A	10	43.5%
Fulton	177	41	23.2%	87	49.2%	128	72.3%
Gibson	138	38	27.5%	68	49.3%	106	76.8%
Grant	250	32	12.8%	33	13.2%	65	26.0%
Greene	127	29	22.8%	28	22.0%	57	44.9%
Hamilton	571	233	40.8%	106	18.6%	339	59.4%
Hancock	89	30	33.7%	15	16.9%	45	50.6%
Harrison	25	7	28.0%	7	28.0%	14	56.0%
Hendricks	354	81	22.9%	44	12.4%	125	35.3%
Henry	206	68	33.0%	51	24.8%	119	57.8%
Howard	580	148	25.5%	134	23.1%	282	48.6%
Huntington	347	33	9.5%	71	20.5%	104	30.0%
Jackson	138	19	13.8%	19	13.8%	38	27.5%

APPENDIX 10A (Continued from previous page)

County	Treatment Episodes	Use of 2 Substances		Use of 3 Substances		Polysubstance Abuse	
	Total	Number	Percentage	Number	Percentage	Number	Percentage
Jasper	71	14	19.7%	45	63.4%	59	83.1%
Jay	57	17	29.8%	13	22.8%	30	52.6%
Jefferson	134	16	11.9%	14	10.4%	30	22.4%
Jennings	171	24	14.0%	29	17.0%	53	31.0%
Johnson	293	73	24.9%	71	24.2%	144	49.1%
Knox	244	77	31.6%	50	20.5%	127	52.0%
Kosciusko	608	115	18.9%	151	24.8%	266	43.8%
LaGrange	172	61	35.5%	60	34.9%	121	70.3%
Lake	1,892	592	31.3%	486	25.7%	1,078	57.0%
LaPorte	503	138	27.4%	117	23.3%	255	50.7%
Lawrence	296	36	12.2%	29	9.8%	65	22.0%
Madison	551	171	31.0%	243	44.1%	414	75.1%
Marion	4,240	1,251	29.5%	956	22.5%	2,207	52.1%
Marshall	230	47	20.4%	64	27.8%	111	48.3%
Martin	59	14	23.7%	11	18.6%	25	42.4%
Miami	233	62	26.6%	53	22.7%	115	49.4%
Monroe	1,103	174	15.8%	94	8.5%	268	24.3%
Montgomery	186	56	30.1%	77	41.4%	133	71.5%
Morgan	424	50	11.8%	29	6.8%	79	18.6%
Newton	36	16	44.4%	12	33.3%	28	77.8%
Noble	335	89	26.6%	84	25.1%	173	51.6%
Ohio	<5	<5	N/A	<5	N/A	<5	N/A
Orange	78	26	33.3%	17	21.8%	43	55.1%
Owen	231	64	27.7%	16	6.9%	80	34.6%
Parke	105	37	35.2%	28	26.7%	65	61.9%
Perry	161	42	26.1%	51	31.7%	93	57.8%
Pike	37	8	21.6%	9	24.3%	17	45.9%
Porter	446	140	31.4%	90	20.2%	230	51.6%
Posey	154	25	16.2%	68	44.2%	93	60.4%
Pulaski	73	17	23.3%	14	19.2%	31	42.5%
Putnam	172	49	28.5%	42	24.4%	91	52.9%
Randolph	101	16	15.8%	8	7.9%	24	23.8%
Ripley	68	13	19.1%	16	23.5%	29	42.6%
Rush	113	20	17.7%	15	13.3%	35	31.0%
Saint Joseph	1,391	463	33.3%	490	35.2%	953	68.5%
Scott	84	22	26.2%	39	46.4%	61	72.6%
Shelby	82	30	36.6%	10	12.2%	40	48.8%

APPENDIX 10A (Continued from previous page)

County	Treatment Episodes	Use of 2 Substances		Use of 3 Substances		Polysubstance Abuse	
	Total	Number	Percentage	Number	Percentage	Number	Percentage
Spencer	183	43	23.5%	49	26.8%	92	50.3%
Starke	130	33	25.4%	33	25.4%	66	50.8%
Steuben	116	32	27.6%	46	39.7%	78	67.2%
Sullivan	50	10	20.0%	13	26.0%	23	46.0%
Switzerland	14	<5	N/A	<5	N/A	<5	N/A
Tippecanoe	468	115	24.6%	228	48.7%	343	73.3%
Tipton	42	5	11.9%	13	31.0%	18	42.9%
Union	7	<5	N/A	<5	N/A	<5	N/A
Vanderburgh	1,158	305	26.3%	629	54.3%	934	80.7%
Vermillion	124	35	28.2%	45	36.3%	80	64.5%
Vigo	580	161	27.8%	149	25.7%	310	53.4%
Wabash	358	60	16.8%	79	22.1%	139	38.8%
Warren	28	8	2.6%	12	42.9%	20	71.4%
Warrick	313	76	24.3%	184	58.8%	260	83.1%
Washington	26	7	26.9%	7	26.9%	14	53.8%
Wayne	251	43	17.1%	32	12.7%	75	29.9%
Wells	79	28	35.4%	11	13.9%	39	49.4%
White	116	38	32.8%	65	56.0%	103	88.8%
Whitley	159	35	22.0%	52	32.7%	87	54.7%
Indiana	28,127	7,455	26.5%	7,157	25.4%	14,612	52.0%

Note: The category “Polysubstance Abuse” is an aggregate of “Use of 2 Substances” and “Use of 3 Substances.” We calculated the percentages by dividing the number of reported polysubstance abuse by the number of treatment episodes.

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

Source: Indiana Family and Social Services Administration, Revenue Enhancement and Data, 2011

APPENDIX 10B

Combination of Drugs Used Among Polysubstance Abusers in Substance Abuse Treatment, by County (Based on Cluster Analysis of Substance Abuse Population by County/Treatment Episode Data Set, 2010)

County	Cluster #	Cluster Composition	N	%
Adams				
	4	marijuana/opiates-synthetics	21	25.3
	1	alcohol/marijuana	19	22.9
	3	alcohol/cocaine/marijuana	16	19.3
	2	alcohol/marijuana/other drug	15	18.1
	5	marijuana/heroin	12	14.5
		Total	83	100.0
Allen				
	2	alcohol/marijuana	347	44.3
	4	alcohol/cocaine/marijuana	139	17.7
	5	alcohol/cocaine	73	9.3
	1	alcohol/marijuana/other drug	91	11.6
	3	alcohol/other drug	54	6.9
	7	alcohol/opiates-synthetics	42	5.4
	6	marijuana/other drug	38	4.8
	Total	784	100.0	
Bartholomew				
	1	alcohol/marijuana	30	24.4
	5	alcohol/cocaine	23	18.7
	4	alcohol/marijuana/opiates-synthetics	19	15.5
	6	alcohol/other drug	18	14.6
	2	methamphetamine/opiates-synthetics	17	13.8
	3	marijuana/methamphetamine	16	13.0
	Total	123	100.0	
Benton				
	1	alcohol/marijuana/other drug	11	61.1
	2	alcohol/marijuana	7	38.9
	Total	18	100.0	
Blackford†				
		Not Available		
		Total	8	100.0
Boone				
	2	alcohol/marijuana	59	55.1
	1	alcohol/cocaine/marijuana	24	22.4
	4	alcohol/marijuana/opiates-synthetics	15	14.0
	3	opiates-synthetics/benzodiazepines	9	8.4
	Total	107	100.0	

APPENDIX 10B (Continued from previous page)

County	Cluster #	Cluster Composition	N	%
Brown				
	2	alcohol/marijuana	8	44.4
	1	marijuana/methamphetamine	5	27.8
	3	alcohol/opiates-synthetics	5	27.8
	Total	18	100.0	
Carroll				
	1	alcohol/marijuana	30	39.5
	5	alcohol/marijuana/methamphetamine	14	18.4
	6	alcohol/marijuana/opiate-synthetics	10	13.2
	2	alcohol/marijuana/other drug	9	11.8
	3	alcohol/marijuana/benzodiazepines	7	9.2
	4	alcohol/cocaine/marijuana	6	7.9
	Total	76	100.0	
Cass				
	2	alcohol/marijuana	43	32.1
	1	alcohol/marijuana/other drug	25	18.7
	3	alcohol/other drug	22	16.4
	4	alcohol/cocaine	17	12.7
	5	alcohol/opiates-synthetics	15	11.2
	6	alcohol/marijuana/methamphetamine	12	9.0
	Total	134	100.0	
Clark				
	1	alcohol/cocaine/marijuana	33	39.3
	3	marijuana/opiates-synthetics/benzodiazepines	28	33.3
	2	alcohol/opiates-synthetics	23	24.7
	Total	84	100.0	
Clay				
	1	alcohol/marijuana/other drug	19	30.6
	2	alcohol/marijuana	16	25.8
	3	alcohol/marijuana/methamphetamine	11	17.7
	4	marijuana/methamphetamine	10	16.1
	5	marijuana/other drug	6	9.7
	Total	62	100.0	
Clinton				
	1	alcohol/marijuana	18	42.9
	2	alcohol/marijuana/opiates-synthetics	11	26.2
	3	alcohol/marijuana/benzodiazepines	7	16.7
	4	alcohol/marijuana/other drug	6	14.3
	Total	42	100.0	

APPENDIX 10B (Continued from previous page)

County	Cluster #	Cluster Composition	N	%
Crawford				
	2	marijuana/opiates-synthetics	15	68.2
	1	alcohol/other drug	7	31.8
	Total		22	100.0
Daviess				
	2	alcohol/marijuana	25	25.3
	3	alcohol/opiates-synthetics	22	22.2
	1	alcohol/marijuana/methamphetamine	21	21.1
	4	opiates-synthetics/benzodiazepines	16	16.2
	5	opiates-synthetics/methamphetamine	15	15.2
	Total		99	100.0
Dearborn				
	1	alcohol/cocaine/marijuana	30	39.5
	2	alcohol/marijuana/other drug	24	31.6
	3	marijuana/opiates-synthetics	22	28.9
	Total		76	100.0
Decatur				
	2	marijuana/opiates-synthetics	13	52.0
	1	alcohol/marijuana	12	48.0
	Total		25	100.0
DeKalb				
	1	alcohol/marijuana	40	39.2
	3	alcohol/marijuana/methamphetamine	20	19.6
	2	cocaine/marijuana/methamphetamine	18	17.6
	5	alcohol/cocaine/marijuana	14	13.7
	4	opiates-synthetics/methamphetamine	10	9.8
	Total		102	100.0
Delaware				
	2	alcohol/marijuana	141	41.6
	3	alcohol/cocaine/marijuana	71	20.9
	5	alcohol/opiates-synthetics	54	15.9
	1	alcohol/marijuana/opiates-synthetics	42	12.4
	4	alcohol/marijuana/benzodiazepines	31	9.1
	Total		339	100.0

APPENDIX 10B (Continued from previous page)

County	Cluster #	Cluster Composition	N	%
DuBois				
	2	alcohol/marijuana	48	44.9
	3	alcohol/marijuana/methamphetamine	26	24.3
	1	alcohol/opiates-synthetics/benzodiazepines	20	18.7
	4	marijuana/methamphetamine	13	12.1
		Total	107	100.0
Elkhart				
	1	alcohol/marijuana	191	49.0
	5	alcohol/marijuana/methamphetamine	59	15.1
	2	alcohol/cocaine/marijuana	44	11.3
	3	alcohol/cocaine	44	11.3
	6	alcohol/marijuana/opiates-synthetics	31	7.9
	4	alcohol/marijuana/other drug	21	5.4
		Total	390	100.0
Fayette				
	2	alcohol/marijuana	19	48.7
	1	alcohol/opiates-synthetics/benzodiazepines	11	28.2
	3*	heroin/opiates-synthetics/benzodiazepines	9	23.1
		Total	39	100.0
Floyd				
	1	alcohol/marijuana	15	55.6
	2	alcohol/opiates-synthetics	12	44.4
		Total	27	100.0
Fountain				
	2	alcohol/marijuana	37	62.7
	1	marijuana/methamphetamine	22	37.3
		Total	59	100.0
Franklin				
	1	marijuana/opiates-synthetics	6	60.0
	2	alcohol/cocaine	4	40.0
		Total	10	100.0
Fulton				
	1	alcohol/marijuana/other drug	41	32.0
	2	alcohol/marijuana	31	24.2
	4	alcohol/marijuana/methamphetamine	23	18.0
	5	alcohol/other drug	21	16.4
	3	alcohol/cocaine	12	9.4
		Total	128	100.0

APPENDIX 10B (Continued from previous page)

County	Cluster #	Cluster Composition	N	%
Gibson				
	2	alcohol/marijuana/methamphetamine	40	37.7
	3	alcohol/marijuana	29	27.4
	1	alcohol/marijuana/other drug	37	34.9
	Total			106
Grant				
	5	alcohol/marijuana	24	36.9
	2	alcohol/marijuana/opiates-synthetics	12	18.5
	1	marijuana/opiates-synthetics	10	15.4
	4	alcohol/cocaine/marijuana	10	15.4
	3	alcohol/marijuana/other drug	9	13.8
	Total			65
Greene				
	1	alcohol/marijuana	28	49.1
	2	alcohol/marijuana/methamphetamine	17	29.8
	3	marijuana/opiates-synthetics	12	21.1
Total			57	100.0
Hamilton				
	1	alcohol/marijuana	190	56.0
	4	alcohol/cocaine/marijuana	36	10.6
	2	alcohol/marijuana/opiates-synthetics	35	10.3
	3	marijuana/benzodiazepines	35	10.3
	5	marijuana/heroin	22	6.5
	6	alcohol/opiates-synthetics	21	6.2
	Total			339
Hancock				
	1	alcohol/marijuana	24	53.3
	2	alcohol/opiates-synthetics	6	13.3
	3	cocaine/marijuana	5	11.1
	4	alcohol/cocaine/marijuana	5	11.1
	5	alcohol/marijuana/sedatives-hypnotics	5	11.1
	Total			45
Harrison				
	1	alcohol/marijuana	8	57.1
	2	marijuana/opiates-synthetics	6	42.9
Total			14	100.0

APPENDIX 10B (Continued from previous page)

County	Cluster #	Cluster Composition	N	%
Hendricks	1	alcohol/marijuana	83	66.4
	2	marijuana/opiates-synthetics	42	33.6
	Total		125	100.0
Henry	1	alcohol/marijuana	37	31.1
	4	alcohol/marijuana/opiates-synthetics	20	16.8
	5	cocaine/marijuana/opiates-synthetics	18	15.1
	3	alcohol/opiates-synthetics/benzodiazepines	17	14.3
	2	alcohol/opiates-synthetics	11	9.2
	6	alcohol/cocaine	8	6.7
	7	heroin/opiates-synthetics	8	6.7
	Total		119	100.0
Howard	2	alcohol/marijuana	92	32.6
	4	alcohol/cocaine	55	19.5
	5	marijuana/opiates-synthetics	55	19.5
	1	alcohol/opiates-synthetics	43	15.2
	3	marijuana/methamphetamine	37	13.1
	Total		282	100.0
Huntington	1	alcohol/marijuana/other drug	32	30.8
	2	alcohol/other drug	25	24.0
	5	marijuana/other drug	17	16.3
	3	alcohol/marijuana	15	14.4
	4	alcohol/opiates-synthetics	15	14.4
	Total		104	100.0
Jackson	1	alcohol/marijuana	12	31.8
	2	alcohol/opiates-synthetics	6	15.8
	6	marijuana/methamphetamine	6	15.8
	4	alcohol/cocaine/methamphetamine	5	13.2
	5	marijuana/opiates-synthetics	5	13.2
	3	opiates-synthetics/methamphetamine	4	10.5
	Total		38	100.0

APPENDIX 10B (Continued from previous page)

County	Cluster #	Cluster Composition	N	%
Jasper				
	2	alcohol/marijuana	27	45.8
	1	marijuana/heroin	16	27.1
	3	alcohol/cocaine	16	27.1
		Total	59	100.0
Jay				
	1	alcohol/marijuana	18	60.0
	2	alcohol/marijuana/opiates-synthetics	9	30.0
	3	cocaine/methamphetamine/benzodiazepines	3	10.0
		Total	30	100.0
Jefferson				
	2	alcohol/marijuana	20	66.7
	1	marijuana/opiates-synthetics	10	33.3
		Total	30	100.0
Jennings				
	4	alcohol/opiates-synthetics	17	32.1
	1	alcohol/marijuana	14	26.4
	2	marijuana/methamphetamine	11	20.8
	3	alcohol/marijuana/methamphetamine	11	20.8
		Total	53	100.0
Johnson				
	1	alcohol/marijuana	46	31.9
	2	opiates-synthetics/benzodiazepines	20	13.9
	4	alcohol/opiates-synthetics/benzodiazepines	20	13.9
	5	alcohol/opiates-synthetics	15	10.4
	7	heroin/opiates-synthetics	15	10.4
	3	alcohol/cocaine/marijuana	14	9.7
	6*	opiates-synthetics/other drugs	14	9.7
		Total	144	100.0
Knox				
	1	marijuana/methamphetamine	46	36.2
	2	alcohol/marijuana	28	22.0
	4	alcohol/methamphetamine	27	21.3
	3	marijuana/opiates-synthetics	26	20.5
		Total	127	100.0

APPENDIX 10B (Continued from previous page)

County	Cluster #	Cluster Composition	N	%
Kosciusko				
	3	alcohol/marijuana	75	28.2
	1	alcohol/marijuana/other drug	71	26.7
	4	alcohol/other drug	55	20.7
	2	alcohol/marijuana/methamphetamine	42	15.8
	5	marijuana/opiates-synthetics	23	8.6
		Total	266	100.0
LaGrange				
	2	alcohol/marijuana	44	36.4
	4	marijuana/methamphetamine	26	21.5
	3	alcohol/marijuana/methamphetamine	22	18.2
	1	alcohol/methamphetamine	18	14.9
	5	alcohol/marijuana/other drug	11	9.1
		Total	121	100.0
Lake				
	4	alcohol/marijuana	299	27.7
	3	alcohol/other drug	249	23.1
	1	alcohol/cocaine/marijuana	155	14.4
	2	alcohol/cocaine	149	13.8
	5	marijuana/heroin/other drug	149	13.8
	6	marijuana/opiates-synthetics	77	7.1
		Total	1,078	100.0
LaPorte				
	1	alcohol/marijuana	109	42.7
	4	alcohol/cocaine/marijuana	53	20.8
	3	marijuana/heroin	37	14.5
	2	marijuana/opiates-synthetics	31	12.2
	5	alcohol/heroin	25	9.8
		Total	255	100.0
Lawrence				
	1	alcohol/marijuana	37	56.9
	2	marijuana/opiates-synthetics	16	24.6
	3	alcohol/methamphetamine	12	18.5
	Total	65	100.0	

APPENDIX 10B (Continued from previous page)

County	Cluster #	Cluster Composition	N	%
Madison	1	alcohol/marijuana	168	40.6
	2	marijuana/opiates-synthetics	57	13.8
	3	alcohol/cocaine/marijuana	56	13.5
	6	alcohol/opiates-synthetics/benzodiazepines	45	10.9
	4	alcohol/marijuana	46	11.1
	5	alcohol/marijuana/opiates-synthetics	42	10.1
	Total			414
Marion	4	alcohol/marijuana	622	28.2
	6	marijuana/opiates-synthetics	336	15.2
	2	alcohol/cocaine/marijuana	307	13.9
	5	alcohol/cocaine	306	13.9
	7	cocaine/marijuana	234	10.6
	1*	heroin/benzodiazepines	210	9.5
	3	alcohol/other drug	192	8.7
Total			2,207	100.0
Marshall	1	alcohol/marijuana	38	34.2
	2	alcohol/other drug	27	24.3
	4	alcohol/marijuana/methamphetamine	24	21.6
	3	alcohol/marijuana/other drug	22	19.8
	Total			111
Martin	2	alcohol/marijuana	11	44.0
	1	alcohol/marijuana/benzodiazepines	8	32.0
	3	marijuana/opiates-synthetics	6	24.0
	Total			25
Miami	1	alcohol/marijuana	56	48.7
	4	alcohol/marijuana/other drug	19	16.5
	5	marijuana/opiates-synthetics	15	13.0
	2	alcohol/benzodiazepines	13	11.3
	3	alcohol/marijuana/opiates-synthetics	12	10.4
	Total			115

APPENDIX 10B (Continued from previous page)

County	Cluster #	Cluster Composition	N	%
Monroe				
	1	alcohol/marijuana	119	44.4
	3	alcohol/opiates-synthetics	32	11.9
	2	marijuana/opiates-synthetics	28	10.5
	4	alcohol/cocaine	25	9.3
	6	alcohol/cocaine/marijuana	25	9.3
	7	alcohol/marijuana/benzodiazepines	21	7.8
	5	heroin/opiates-synthetics	18	6.7
	Total	268	100.0	
Montgomery				
	2	alcohol/marijuana	45	33.8
	1	alcohol/marijuana/other drug	33	24.8
	4*	heroin/marijuana/methamphetamine	31	23.3
	3	marijuana/benzodiazepines	22	16.5
	Total	133	100.0	
Morgan				
	1	alcohol/marijuana	31	39.2
	2	alcohol/marijuana/opiates-synthetics	16	20.3
	4	alcohol/marijuana/methamphetamine	12	15.2
	3	alcohol/cocaine/marijuana	7	8.9
	5	opiates-synthetics/methamphetamine/ benzodiazepines	7	8.9
	6	heroin/opiates-synthetics	6	7.6
	Total	79	100.0	
Newton				
	2	alcohol/other drug	10	35.7
	1	alcohol/marijuana/other drug	7	25.0
	3	alcohol/marijuana	6	21.4
	4	heroin/opiates-synthetics	5	17.9
	Total	28	100.0	
Noble				
	4	alcohol/marijuana	49	28.3
	1	alcohol/marijuana/other drug	39	22.5
	3	marijuana/methamphetamine	37	21.4
	2	alcohol/marijuana/methamphetamine	26	15.0
	5	alcohol/methamphetamine	22	12.7
	Total	173	100.0	

APPENDIX 10B (Continued from previous page)

County	Cluster #	Cluster Composition	N	%
Ohio†				
		Not Available		
		Total	2	100.0
Orange				
	1	alcohol/other drug	22	51.2
	2	alcohol/marijuana	21	48.8
		Total	43	100.0
Owen				
	1	alcohol/marijuana	37	46.3
	3	alcohol/marijuana/other drug	12	15.0
	2	alcohol/methamphetamine	11	13.8
	4	marijuana/methamphetamine	10	12.5
	5	opiates-synthetics/benzodiazepines	10	12.5
		Total	80	100.0
Parke				
	1	alcohol/marijuana	22	33.8
	2	alcohol/other drug	22	33.8
	3	marijuana/methamphetamine	21	30.9
	Total	65	100.0	
Perry				
	2	alcohol/marijuana	37	39.8
	4	alcohol/marijuana/methamphetamine	24	25.8
	3	alcohol/methamphetamine	16	17.2
	1	alcohol/marijuana/benzodiazepines	9	9.7
	5	alcohol/marijuana/opiates-synthetics	7	7.5
	Total	93	100.0	
Pike				
	2	alcohol/opiates-synthetics	9	52.9
	1	alcohol/marijuana/methamphetamine	8	47.1
	Total	17	100.0	
Porter				
	2	alcohol/marijuana	70	30.4
	5*	marijuana/heroin	40	17.4
	6	marijuana/opiates-synthetics	39	17.0
	1	alcohol/cocaine	36	15.7
	3	cocaine/marijuana	24	10.4
	4	alcohol/other drug	21	9.1
	Total	230	100.0	

APPENDIX 10B (Continued from previous page)

County	Cluster #	Cluster Composition	N	%
Posey				
	2	alcohol/marijuana	27	29.0
	3	alcohol/marijuana/methamphetamine	23	24.7
	4	marijuana/opiates-synthetics/methamphetamine	22	23.7
	1	alcohol/marijuana/other drug	21	22.6
	Total	93	100.0	
Pulaski				
	1	alcohol/marijuana	15	48.4
	2	marijuana/methamphetamine	9	29.0
	3	opiates-synthetics/benzodiazepines	7	22.6
	Total	31	100.0	
Putnam				
	2	alcohol/marijuana/other drug	38	41.8
	1	alcohol/other drug	30	33.0
	3	marijuana/opiates-synthetics	23	25.3
	Total	91	100.0	
Randolph				
	1	alcohol/cocaine/marijuana	10	41.7
	3	marijuana/opiates-synthetics	10	41.7
	2	alcohol/other drug	4	16.7
	Total	24	100.0	
Ripley				
	4	alcohol/marijuana/other drug	9	31.0
	1	alcohol/marijuana	8	27.6
	3	alcohol/marijuana/opiates-synthetics	6	20.7
	2	marijuana/benzodiazepines	3	10.3
	5	alcohol/heroin	3	10.3
	Total	29	100.0	
Rush				
	1	alcohol/marijuana	22	62.9
	2	marijuana/opiates-synthetics	13	37.1
	Total	35	100.0	

APPENDIX 10B (Continued from previous page)

County	Cluster #	Cluster Composition	N	%
Saint Joseph				
	3	alcohol/cocaine/marijuana	291	30.5
	5	alcohol/cocaine	206	21.6
	2	alcohol/marijuana	173	18.2
	4	marijuana/opiates-synthetics	125	13.1
	1	alcohol/cocaine/methamphetamine	104	10.9
	6	alcohol/other drug	54	5.7
	Total	953	100.0	
Scott				
	1	alcohol/marijuana	27	44.3
	2	alcohol/opiates-synthetics	19	31.1
	3	marijuana/opiates-synthetics	15	24.6
	Total	61	100.0	
Shelby				
	1	alcohol/marijuana	19	47.5
	2	alcohol/cocaine/marijuana	8	20.0
	3	marijuana/heroin	8	20.0
	4	alcohol/marijuana/opiates-synthetics	5	12.5
	Total	40	100.0	
Spencer				
	2	alcohol/marijuana	42	45.7
	1	alcohol/marijuana/methamphetamine	26	28.3
	3	marijuana/methamphetamine	13	14.1
	4	alcohol/opiates-synthetics	11	12.0
	Total	92	100.0	
Starke				
	2	alcohol/marijuana	36	54.5
	1	opiates-synthetics/methamphetamine	30	45.5
	Total	66	100.0	
Steuben				
	3	alcohol/marijuana	29	37.2
	2	alcohol/marijuana/other drug	27	34.6
	1	alcohol/marijuana/methamphetamine	22	28.2
	Total	78	100.0	

APPENDIX 10B (Continued from previous page)

County	Cluster #	Cluster Composition	N	%
Sullivan				
	3	alcohol/methamphetamine/other drug	8	34.8
	4	alcohol/marijuana	7	30.4
	1	marijuana/methamphetamine	5	21.7
	2	opiates-synthetics/methamphetamine/ benzodiazepines	3	13.0
	Total		23	100.0
Switzerland†				
		Not Available		
	Total		4	100.0
Tippecanoe				
	1	alcohol/marijuana	104	30.3
	2	alcohol/marijuana/other drug	101	29.4
	4	alcohol/other drug	49	14.3
	5	marijuana/opiates-synthetics/benzodiazepines	45	13.1
	3	alcohol/cocaine/marijuana	44	12.8
	Total		343	100.0
Tipton				
	2	alcohol/marijuana	12	66.7
	1	marijuana/opiates-synthetics/benzodiazepines	6	33.3
	Total		18	100.0
Union†				
		Not Available		
	Total		3	100.0
Vanderburgh				
	2	alcohol/marijuana	344	36.8
	1	alcohol/marijuana/other drug	173	18.5
	4	marijuana/methamphetamine	165	17.7
	3	alcohol/cocaine/marijuana	140	15.0
	5	alcohol/opiates-synthetics/methamphetamine	112	12.0
	Total		934	100.0
Vermillion				
	1	alcohol/marijuana/other drug	27	33.8
	3	alcohol/marijuana	26	32.5
	2	marijuana/methamphetamine	16	20.0
	4	marijuana/opiates-synthetics/benzodiazepines	11	13.8
	Total		80	100.0

APPENDIX 10B (Continued from previous page)

County	Cluster #	Cluster Composition	N	%
Vigo				
	1	alcohol/marijuana	82	26.5
	2	marijuana/methamphetamine	57	18.4
	4	alcohol/marijuana/methamphetamine	56	18.1
	6	methamphetamine/other drug	50	16.1
	5	opiates-synthetics/methamphetamine	42	13.6
	3	alcohol/cocaine	23	7.4
		Total	310	100.0
Wabash				
	3	alcohol/marijuana/other drug	37	26.6
	2	alcohol/marijuana	32	23.0
	1	alcohol/other drug	31	22.3
	4	marijuana/opiates-synthetics	21	15.1
	5	marijuana/other drugs	18	12.9
		Total	139	100.0
Warren				
	1*	cocaine/marijuana/other drug	7	35.0
	2	alcohol/marijuana/other drug	8	40.0
	4	alcohol/heroin	3	15.0
	3	heroin/opiates-synthetics	2	10.0
		Total	20	100.0
Warrick				
	1	alcohol/marijuana/methamphetamine	97	37.3
	2	alcohol/marijuana/other drug	57	21.9
	3	alcohol/marijuana	55	21.2
	4	marijuana/opiates-synthetics	51	19.6
	Total	260	100.0	
Washington†				
		Not Available		
		Total	14	100.0
Wayne				
	1	alcohol/marijuana	38	50.7
	2	heroin/benzodiazepines	21	28.0
	3	alcohol/cocaine/marijuana	16	21.3
		Total	75	100.0

APPENDIX 10B (Continued from previous page)

County	Cluster #	Cluster Composition	N	%
Wells				
	1	alcohol/marijuana	25	64.1
	2	alcohol/cocaine/marijuana	7	17.9
	3	alcohol/opiates-synthetics	7	17.9
	Total		39	100.0
White				
	1	alcohol/marijuana	36	35.0
	4	alcohol/marijuana/other drug	29	28.2
	2	alcohol/other drug	21	20.4
	3	alcohol/marijuana/methamphetamine	17	16.5
	Total		103	100.0
Whitley				
	1	alcohol/marijuana/other drug	34	39.1
	3	alcohol/other drug	23	25.3
	2	alcohol/marijuana	18	20.7
	4	alcohol/marijuana/methamphetamine	12	13.8
	Total		87	100.0

Note: Results from the county-level cluster analysis differ from the state-level findings.

*Due to the small sample size this cluster was composed of one drug where at least 50% of individuals reported using the drug and at least one other drug where at least 40% of individuals reported using the drug.

†Due to the very small number of treatment admissions in this county, a valid cluster analysis could not be completed.

Source: Indiana Family and Social Services Administration, Revenue Enhancement and Data, 2011

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11. INDICATORS OF SUBSTANCE ABUSE

To measure the severity of substance abuse at the county level, we identified proxy indicators¹ of substance use for individual drug categories, including alcohol, cocaine, methamphetamine, marijuana, and prescription drugs. We also identified general indicators that are associated with alcohol and illicit drug use, such as drug-related arrests, property crimes, and juvenile runaways. We then ranked the counties on the selected indicators, using a highest-need/highest-contributor model; counties received a priority score based on their need for intervention (measured by the rate² at which an indicator occurred) and their overall contribution to the problem (measured by the frequency with which an indicator occurred).

For each indicator, counties were given three points if they were in the top 10 percent (90th percentile), two points if they were in the top 11-25 percent (75th percentile), one point if they were in the top 26-50 percent (50th percentile), and zero points if they fell below the 50th percentile. The points were then added up to an overall priority score. Higher scores equated to larger burdens of substance abuse. Based on this overall score, the top 10% and 25% of counties were identified.

The selection of substance abuse indicators was limited to datasets with county-level data, such as data from the Uniform Crime Reporting (UCR) Program (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009) and the Indiana Automated Reporting Information Exchange System (ARIES) (Indiana State Police, 2011).

A limitation of the UCR Program is that law enforcement agencies are not required to submit arrest information to the Federal Bureau of Investigation

(FBI), the agency that is charged with collecting the data. Therefore, reporting levels vary among individual counties. For this reason, a statistical algorithm was used to estimate the number of arrests in counties in which reporting was below 100 percent; see Appendix 11A, pages 230-232, for the reporting level (coverage indicator) by county.

Alcohol Indicators

We examined the ranking of communities based on 10 indicators for alcohol abuse:

- number and rate of alcohol-related fatal auto accidents
- number and rate of alcohol-related crashes
- number and rate of arrests for driving under the influence (DUI)
- number and rate of arrests for public intoxication
- number and rate of arrests for liquor law violations

We selected these indicators because they represent the best proxy measures of our statewide alcohol prevention priority, which focuses on underage drinking and binge drinking by 18- to 25-year-olds. The indicators reflected data from the 2010 ARIES database (Indiana State Police, 2011) and the 2009 UCR program (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009). The counties that scored in the top 10 and 25 percent based on the 10 alcohol indicators are shown in Table 11.1. For a complete listing of counties by all alcohol abuse indicators, see Appendix 11B, pages 233-236.

¹ Substance abuse proxy indicators are indirect measures that represent the impact of alcohol and drug use on the community.

² The rate was calculated by taking the number of an event (e.g., number of arrests), dividing it by the specified population (e.g., county population), and multiplying the result by 1,000. This represents the rate per 1,000 population.

Cocaine and Methamphetamine Indicators

For both cocaine and methamphetamine, we applied a similar methodology to ranking counties, using the number and rate of arrests for possession and sale/manufacture of these substances as proxy indicators. Since the UCR program does not provide cocaine-specific information, we had to combine arrests for cocaine and opiates (proxy indicator for cocaine abuse). Nor does the UCR provide methamphetamine-

specific information, so we also combined arrests for methamphetamine, methadone, and Demerol in a category called synthetic drugs (proxy indicator for methamphetamine abuse).

Tables 11.2 and 11.3 display the counties with priority scores in the top 10 and 25 percent for cocaine and methamphetamine. For a complete listing of counties by cocaine and methamphetamine abuse indicators, see Appendix 11C, pages 237-240.

Table 11.1 Counties with Alcohol Priority Scores in the Top 10 and 25 Percent (Automated Reporting Information Exchange System, 2010; Uniform Crime Reporting Program, 2009)

Top 10%	Alcohol Priority Score	Top 11-25%	Alcohol Priority Score
Lake	27	Allen	19
LaPorte	24	Madison	19
Vigo	24	Elkhart	17
Clark	22	Knox	17
Tippecanoe	22	Kosciusko	17
Vanderburgh	22	Delaware	16
Monroe	21	Hamilton	16
Bartholomew	20	Floyd	14
Marion	20	Saint Joseph	14
Porter	20	Cass	13
		Putnam	13
		Johnson	12
		Perry	12
		Vermillion	12

Note: Alcohol priority scores ranged from 0 to 27, with higher scores indicating a more severe problem. Source: Indiana State Police, 2011; National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

Table 11.2 Counties with Cocaine Priority Scores in the Top 10 and 25 Percent (Uniform Crime Reporting Program, 2009)

Top 10%	Cocaine Priority Score	Top 11-25%	Cocaine Priority Score
Howard	12	Knox	8
Marion	12	Miami	8
Allen	11	Tippecanoe	8
Elkhart	11	Grant	7
Lake	11	Morgan	7
LaPorte	11	Saint Joseph	7
Wayne	11	Steuben	7
Clark	10	Vanderburgh	7
Montgomery	9	Dearborn	6
Putnam	9	Floyd	6
		Hamilton	6
		Hendricks	6
		Jay	6
		Johnson	6
		Madison	6
		Monroe	6

Note: Cocaine priority scores ranged from 0 to 12, with higher scores indicating a more severe problem. Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

Other Drug Indicators

From the UCR program, we selected the following proxy indicators for marijuana and prescription drug abuse:

- number and rate of arrests for possession of marijuana
- number and rate of arrests for sale/manufacture of marijuana
- number and rate of arrests for possession of “other drugs” (barbiturates and Benzedrine)³
- number and rate of arrests for sale/manufacture of “other drugs” (barbiturates and Benzedrine)

Table 11.3 Counties with Methamphetamine Priority Scores in the Top 10 and 25 Percent (Uniform Crime Reporting Program, 2009)

Top 10%	Meth Priority Score	Top 11-25%	Meth Priority Score
Knox	12	Daviess	8
Clark	11	Jay	8
Vanderburgh	11	Marshall	8
Vigo	11	Blackford	7
Warrick	10	Clay	7
Grant	9	Dubois	7
Parke	9	Gibson	7
Scott	9	Wabash	7
Stark	9	Bartholomew	6
Tippecanoe	9	Elkhart	6
		Hamilton	6
		Kosciusko	6
		Noble	6
		Putnam	6
		Vermillion	6

Note: Methamphetamine priority scores ranged from 0 to 12, with higher scores indicating a more severe problem. Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

³ Barbiturates (central nervous system depressants) and Benzedrine (amphetamine/stimulant) are types of prescription drugs that are frequently used nonmedically for recreational purposes.

Following the methodology of the highest-need/highest-contributor model, priority scores for marijuana and prescription drug abuse were computed for each county. Tables 11.4 and 11.5 list the counties in the top 10 and 25 percent for marijuana and prescription drug abuse. For a complete listing of counties by marijuana and prescription drug abuse indicators, see Appendix 11D, pages 241-244.

Table 11.4 Counties with Marijuana Priority Scores in the Top 10 and 25 Percent (Uniform Crime Reporting Program, 2009)

Top 10%	Marijuana Priority Score	Top 11-25%	Marijuana Priority Score
Lake	11	Dearborn	7
Vanderburgh	11	Elkhart	7
Knox	10	Jennings	6
Marion	10	LaPorte	6
Floyd	9	Monroe	6
Morgan	9	Porter	6
Tippecanoe	9	Sullivan	6
Allen	8	Vigo	6
Hendricks	8	Bartholomew	5
Johnson	8	Boone	5
Madison	8	Cass	5
Rush	8	Clark	5
		Daviess	5
		Hamilton	5
		Jackson	5
		Jefferson	5
		Kosciusko	5
		Montgomery	5
		Newton	5
		Putnam	5
		Saint Joseph	5
		Wayne	5

Note: Marijuana priority scores ranged from 0 to 11, with higher scores indicating a more severe problem. Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

Overall Use Indicators

Drugs are related to crime in multiple ways. Most directly, it is a crime to use, possess, manufacture, or distribute drugs classified as having a potential for abuse. But drugs are also associated with crime due to the effects they have on the user's behavior; drug use tends to generate violence and other illegal activity. Drug users in the general population are more likely to commit crimes than nonusers (U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, 1994).

Table 11.5 Counties with Prescription Drug (Rx) Priority Scores in the Top 10 and 25 Percent (Uniform Crime Reporting Program, 2009)

Top 10%	Rx Priority Score	Top 11-25%	Rx Priority Score
Floyd	12	Fayette	8
Madison	11	Knox	8
Steuben	11	Carol	7
Vanderburgh	11	Daviess	7
Howard	10	Dearborn	7
Johnson	10	Hancock	7
Lake	10	Jasper	7
Marshall	10	Bartholomew	6
Monroe	10	Hendricks	6
Allen	9	Clinton	5
Marion	9	Gibson	5
Morgan	9	Jennings	5
Vigo	9	Montgomery	5
		Noble	5
		Porter	5
		Posey	5
		Saint Joseph	5
		Starke	5
		Tippecanoe	5

Note: Prescription drug priority scores ranged from 0 to 12, with higher scores indicating a more severe problem. Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

We identified additional variables from the 2009 UCR program to serve as proxy indicators for overall substance abuse. These indicators included arrests for the possession and sale/manufacture of any illicit substance (see Table 11.6) and for property crimes (see Table 11.7).

For a complete listing of counties by these two overall abuse indicators, see Appendix 11E, pages 245-247; for a map of drug arrest rates, see page 251.

Table 11.6 Counties with Drug Arrest Priority Scores in the Top 10 and 25 Percent (Uniform Crime Reporting Program, 2009)

Top 10%	Drug Arrests Priority Score	Top 11-25%	Drug Arrests Priority Score
Floyd	6	Clay	3
Marion	6	Daviess	3
Vanderburgh	6	Grant	3
Vigo	6	Hamilton	3
Howard	5	Hendricks	3
Knox	5	Jackson	3
Lake	5	Jay	3
Tippecanoe	5	Madison	3
Allen	4	Monroe	3
Bartholomew	4	Rush	3
Clark	4	Saint Joseph	3
Elkhart	4	Scott	3
Johnson	4	Vermillion	3
Montgomery	4	Wayne	3
Morgan	4		
Steuben	4		

Note: Drug arrest priority scores ranged from 0 to 6, with higher scores indicating a more severe problem. Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

Research suggests an association between property crimes and substance use, in part because these crimes provide a venue for users to pay for drugs (U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, 1994). The UCR program collects information on property crimes, including arrests for burglaries, larcenies, motor vehicle thefts, and arsons. We examined the number and rate of such arrests and computed a property crime priority score. Table 11.7 depicts the counties that rank in the top 10 and 25 percent for property crimes.

Table 11.7 Counties with Property Crime Priority Scores in the Top 10 and 25 Percent (Uniform Crime Reporting Program, 2009)

Top 10%	Property Crime Priority Score	Top 11-25%	Property Crime Priority Score
Clark	6	Elkhart	4
Johnson	6	Jay	4
Marion	6	LaPorte	4
Saint Joseph	6	Madison	4
Vanderburgh	6	Morgan	4
Allen	5	Scott	4
Floyd	5	Vigo	4
Grant	5	Delaware	3
Lake	5	Fayette	3
Tippecanoe	5	Hendricks	3
Wayne	5	Howard	3
		Kosciusko	3
		Marshall	3
		Monroe	3
		Porter	3
		Steuben	3

Note: Property crime priority scores ranged from 0 to 6, with higher scores indicating a more severe problem. Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

Youth Substance Use Indicators

Studies have shown that runaway and homeless adolescents are at a greater risk for abuse of alcohol and other drugs (Greene, Ennett, Ringwalt, 1997; Windle, 1988). Therefore, we selected runaway arrests from the 2009 UCR program dataset as a proxy indicator for youth substance abuse. See Table 11.8 for the counties with runaway priority scores in the top 10 and 25 percent; see Appendix 11F, page 248-250, for a complete listing of runaway arrests by county.

Table 11.8 Counties with Runaway Priority Scores in the Top 10 and 25 Percent (Uniform Crime Reporting Program, 2009)

Top 10%	Runaway Priority Score	Top 11-25%	Runaway Priority Score
Howard	6	Hancock	3
LaPorte	6	Jefferson	3
Madison	6	Kosciusko	3
Saint Joseph	6	Lawrence	3
Tippecanoe	6	Miami	3
Vigo	6	Vanderburgh	3
Elkhart	5		
Grant	5		
Henry	5		
Allen	4		
Bartholomew	4		
Brown	4		
Clark	4		
Fayette	4		
Hamilton	4		
Jackson	4		
Johnson	4		
Lake	4		
Marshall	4		
Monroe	4		
Wayne	4		

Note: Runaway priority scores ranged from 0 to 6, with higher scores indicating a more severe problem. Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

APPENDIX 11A

Annual Coverage Indicator for Uniform Crime Reporting Program, with County Population Estimates (Uniform Crime Reporting Program, 2009)

County	Coverage Indicator (%)	Total County Population	Juvenile County Population (0-17 years)
Adams	41.0	34,351	10,472
Allen	100.0	353,693	94,334
Bartholomew	100.0	76,566	19,025
Benton	6.2	8,735	2,240
Blackford	100.0	12,844	2,962
Boone	72.4	55,915	15,534
Brown	100.0	15,261	2,806
Carroll	92.9	20,103	4,808
Cass	52.4	38,968	10,123
Clark	82.2	109,067	25,544
Clay	31.0	26,901	6,475
Clinton	52.1	33,280	9,175
Crawford	91.7	10,664	2,294
Daviess	62.3	31,389	8,643
Dearborn	11.3	49,931	12,511
Decatur	0.0	25,595	6,501
DeKalb	36.3	42,053	10,916
Delaware	100.0	117,490	23,184
Dubois	47.6	41,897	10,525
Elkhart	95.6	197,514	57,100
Fayette	42.9	24,247	5,658
Floyd	97.9	74,284	17,748
Fountain	17.7	17,183	4,064
Franklin	100.0	23,195	6,061
Fulton	28.4	20,772	4,977
Gibson	74.1	33,345	7,920
Grant	100.0	70,195	14,745
Greene	75.1	32,995	7,473
Hamilton	73.7	269,394	80,421
Hancock	0.0	69,183	18,032
Harrison	84.6	39,148	8,881
Hendricks	49.8	143,944	36,778
Henry	61.3	49,305	10,639
Howard	100.0	82,701	20,023
Huntington	100.0	37,205	8,891
Jackson	98.2	41,798	10,461
Jasper	15.9	33,278	8,526
Jay	88.0	21,399	5,556

APPENDIX 11A (Continued from previous page)

County	Coverage Indicator (%)	Total County Population	Juvenile County Population (0-17 years)
Jefferson	0.0	32,558	7,346
Jennings	100	28,546	7,221
Johnson	92.4	138,584	36,141
Knox	87.8	38,499	8,025
Kosciusko	23.7	77,263	19,867
LaGrange	100.0	37,119	12,030
Lake	80.4	495,789	130,241
LaPorte	96.7	111,465	25,690
Lawrence	90.1	46,138	10,525
Madison	100.0	131,599	29,943
Marion	95.1	898,394	227,659
Marshall	24.6	47,126	12,609
Martin	100.0	10,300	2,324
Miami	11.2	37,127	8,123
Monroe	98.8	136,198	21,695
Montgomery	39.7	38,180	9,043
Morgan	33.5	68,583	17,415
Newton	100.0	14,207	3,104
Noble	14.4	47,574	12,893
Ohio	0.0	6,134	1,273
Orange	0.0	19,931	4,830
Owen	0.0	21,642	4,962
Parke	100.0	17,326	3,585
Perry	94.0	19,331	3,963
Pike	0.0	12,836	2,744
Porter	91.0	163,572	39,282
Posey	0.0	25,941	5,939
Pulaski	100.0	13,548	3,255
Putnam	54.6	38,052	7,801
Randolph	83.1	26,240	6,156
Ripley	13.0	28,716	7,198
Rush	17.4	17,461	4,196
Saint Joseph	99.8	266,827	66,371
Scott	36.1	24,165	5,755
Shelby	100.0	44,551	10,905
Spencer	0.0	20,992	4,739
Starke	87.6	23,343	5,648
Steuben	100.0	34,194	7,878

APPENDIX 11A (Continued from previous page)

County	Coverage Indicator (%)	Total County Population	Juvenile County Population (0-17 years)
Sullivan	86.0	21,483	4,514
Switzerland	0.0	10,541	2,302
Tippecanoe	99.9	171,937	35,084
Tipton	100.0	16,046	3,772
Union	0.0	7,466	1,691
Vanderburgh	100.0	178,995	38,778
Vermillion	47.1	16,377	3,747
Vigo	58.0	107,429	22,696
Wabash	33.0	33,036	7,199
Warren	0.0	8,533	1,936
Warrick	100.0	59,197	14,653
Washington	23.3	28,144	6,698
Wayne	97.1	68,984	15,463
Wells	100.0	27,620	6,609
White	80.5	24,573	5,749
Whitley	31.1	33,125	8,074
Indiana		6,459,325	1,589,365

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

Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

APPENDIX 11B

Alcohol Abuse Indicators and Priority Scores by County, All Rates per 1,000 Population (Automated Reporting Information Exchange System, 2010; Uniform Crime Reporting Program, 2009)

County	Alcohol-Related Collisions		Alcohol-Related Fatal Collisions		DUI		Public Intoxication		Liquor Law Violations		Alcohol Priority Score
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	
Adams	22	0.6	0	*0.0	133	3.9	37	1.1	75	2.2	1
Allen	593	1.7	2	*0.0	1,930	5.5	867	2.5	305	0.9	19
Bartholomew	88	1.2	4	*0.1	463	6.0	267	3.5	331	4.3	20
Benton	8	*0.9	0	*0.0	25	2.9	6	*0.7	13	*1.5	0
Blackford	13	*1.0	0	*0.0	31	2.4	29	2.3	21	1.6	1
Boone	62	1.1	3	*0.1	286	5.1	93	1.7	152	2.7	10
Brown	23	1.5	0	*0.0	47	3.1	5	*0.3	37	2.4	3
Carroll	17	*0.8	0	*0.0	129	6.4	30	1.5	42	2.1	2
Cass	40	1.0	2	*0.1	201	5.2	110	2.8	153	3.9	13
Clark	159	1.4	2	*0.0	1,196	11.0	615	5.6	299	2.7	22
Clay	34	1.3	1	*0.0	103	3.8	85	3.2	39	1.5	6
Clinton	62	1.9	1	*0.0	123	3.7	73	2.2	153	4.6	11
Crawford	9	*0.8	0	*0.0	99	9.3	14	*1.3	23	2.2	3
Daviess	26	0.8	1	*0.0	198	6.3	120	3.8	102	3.3	11
Dearborn	79	1.6	2	*0.0	221	4.4	89	1.8	97	1.9	11
Decatur	33	1.3	3	*0.1	113	4.4	65	2.5	86	3.4	10
DeKalb	41	1.0	1	*0.0	211	5.0	117	2.8	107	2.5	9
Delaware	179	1.5	2	*0.0	632	5.4	274	2.3	186	1.6	16
Dubois	42	1.0	0	*0.0	115	2.7	82	2.0	109	2.6	4
Eikhart	207	1.1	5	*0.0	927	4.7	368	1.9	498	2.5	17
Fayette	28	1.2	3	*0.1	76	3.1	13	*0.5	114	4.7	9
Floyd	95	1.3	0	*0.0	836	11.3	273	3.7	148	2.0	14
Fountain	18	*1.0	1	*0.1	91	5.3	36	2.1	36	2.1	6
Franklin	24	1.0	1	*0.0	2	*0.1	0	*0.0	54	2.3	3
Fulton	15	*0.7	0	*0.0	57	2.7	34	1.6	44	2.1	0

APPENDIX 11B (Continued from previous page)

County	Alcohol-Related Collisions		Alcohol-Related Fatal Collisions		DUI		Public Intoxication		Liquor Law Violations		Alcohol Priority Score
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	
Gibson	38	1.1	0	*0.0	148	4.4	38	1.1	59	1.8	3
Grant	78	1.1	2	*0.0	281	4.0	156	2.2	100	1.4	9
Greene	37	1.1	0	*0.0	124	3.8	67	2.0	71	2.2	1
Hamilton	239	0.9	9	*0.0	1,126	4.2	250	0.9	796	3.0	16
Hancock	64	0.9	1	*0.0	303	4.4	131	1.9	197	2.9	9
Harrison	30	0.8	1	*0.0	113	2.9	23	0.6	24	0.6	2
Hendricks	117	0.8	1	*0.0	484	3.4	183	1.3	396	2.8	10
Henry	30	0.6	1	*0.0	165	3.3	92	1.9	147	3.0	6
Howard	105	1.3	2	*0.0	258	3.1	192	2.3	135	1.6	11
Huntington	33	0.9	1	*0.0	177	4.8	27	0.7	66	1.8	4
Jackson	50	1.2	1	*0.0	149	3.6	135	3.2	117	2.8	10
Jasper	55	1.6	4	*0.1	128	3.8	36	1.1	66	2.0	9
Jay	14	*0.7	1	*0.1	114	5.3	122	5.7	76	3.6	11
Jefferson	36	1.1	0	*0.0	146	4.5	82	2.5	107	3.3	7
Jennings	31	1.1	2	*0.1	105	3.7	91	3.2	57	2.0	7
Johnson	124	0.9	0	*0.0	649	4.7	191	1.4	545	3.9	12
Knox	60	1.6	4	*0.1	150	3.9	76	2.0	276	7.2	17
Kosciusko	94	1.2	4	*0.1	378	4.9	228	3.0	213	2.8	17
LaGrange	43	1.2	4	*0.1	131	3.5	32	0.9	104	2.8	10
Lake	935	1.9	15	*0.0	3,732	7.5	2,367	4.8	1,539	3.1	27
LaPorte	162	1.5	6	*0.1	702	6.3	390	3.5	545	4.9	24
Lawrence	59	1.3	0	*0.0	189	4.1	207	4.5	83	1.8	8
Madison	175	1.3	5	*0.0	555	4.2	551	4.2	382	2.9	19
Marion	1,129	1.3	30	0.0	3,143	3.5	6,116	6.8	934	1.0	20
Marshall	57	1.2	0	*0.0	292	6.2	158	3.4	122	2.6	11
Martin	15	*1.5	1	*0.1	9	*0.9	6	*0.6	13	*1.3	6

APPENDIX 11B (Continued from previous page)

County	Alcohol-Related Collisions		Alcohol-Related Fatal Collisions		DUI		Public Intoxication		Liquor Law Violations		Alcohol Priority Score
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	
Miami	42	1.1	0	*0.0	146	3.9	94	2.5	49	1.3	4
Monroe	221	1.6	2	*0.0	466	3.4	917	6.7	947	7.0	21
Montgomery	38	1.0	2	*0.1	181	4.7	107	2.8	94	2.5	11
Morgan	51	0.7	0	*0.0	279	4.1	53	0.8	314	4.6	7
Newton	17	*1.2	1	*0.1	96	6.8	45	3.2	7	*0.5	9
Noble	63	1.3	1	*0.0	212	4.5	94	2.0	168	3.5	11
Ohio	17	*2.8	0	*0.0	22	3.6	5	*0.8	10	1.6	3
Orange	19	*1.0	2	*0.1	67	3.4	24	1.2	35	1.8	5
Owen	25	1.2	0	*0.0	86	4.0	22	1.0	40	1.9	1
Parke	23	1.3	0	*0.0	96	5.5	32	1.9	21	1.2	3
Perry	34	1.8	0	*0.0	130	6.7	63	3.3	98	5.1	12
Pike	25	2.0	1	*0.1	50	3.9	23	1.8	32	2.5	7
Porter	259	1.6	4	*0.0	719	4.4	333	2.0	628	3.8	20
Posey	29	1.1	1	*0.0	114	4.4	48	1.9	73	2.8	4
Pulaski	13	*1.0	0	*0.0	57	4.2	11	*0.8	27	2.0	1
Putnam	25	0.7	1	*0.0	341	9.0	148	3.9	126	3.3	13
Randolph	15	*0.6	0	*0.0	80	3.0	64	2.4	51	1.9	1
Ripley	31	1.1	2	*0.1	122	4.2	42	1.5	53	1.9	5
Rush	21	1.2	0	*0.0	81	4.6	28	1.6	63	3.6	4
Saint Joseph	337	1.3	6	*0.0	729	2.7	116	0.4	360	1.4	14
Scott	19	*0.8	1	*0.0	80	3.3	88	3.6	70	2.9	6
Shelby	33	0.7	0	*0.0	91	2.0	49	1.1	58	1.3	0
Spencer	34	1.6	1	*0.1	69	3.3	25	1.2	35	1.7	5
Starke	29	1.2	0	*0.0	58	2.5	52	2.2	29	1.2	2
Steuben	46	1.4	0	*0.0	193	5.6	33	1.0	197	5.8	10
Sullivan	41	1.9	3	*0.1	108	5.0	52	2.4	15	*0.7	11

APPENDIX 11B (Continued from previous page)

County	Alcohol-Related Collisions		Alcohol-Related Fatal Collisions		DUI		Public Intoxication		Liquor Law Violations		Alcohol Priority Score
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	
Switzerland	6	*0.6	1	*0.1	33	3.1	13	*1.2	17	*1.6	3
Tippecanoe	291	1.7	1	*0.0	751	4.4	723	4.2	580	3.4	22
Tipton	13	*0.8	0	*0.0	43	2.7	15	*0.9	18	*1.1	0
Union	9	*1.2	1	*0.1	24	3.2	8	*1.1	12	*1.6	5
Vanderburgh	276	1.5	3	*0.0	1,390	7.8	809	4.5	274	1.5	22
Vermillion	29	1.8	2	*0.1	75	4.6	66	4.0	50	3.1	12
Vigo	183	1.7	5	*0.1	699	6.5	296	2.8	584	5.4	24
Wabash	32	1.0	1	*0.0	125	3.8	75	2.3	102	3.1	7
Warren	10	*1.2	0	*0.0	29	3.4	11	*1.3	16	*1.9	1
Warrick	54	0.9	0	*0.0	101	1.7	66	1.1	95	1.6	2
Washington	40	1.4	1	*0.0	163	5.8	31	1.1	54	1.9	8
Wayne	71	1.0	0	*0.0	311	4.5	440	6.4	150	2.2	11
Wells	15	*0.5	0	*0.0	42	1.5	38	1.4	80	2.9	1
White	33	1.3	0	*0.0	232	9.4	89	3.6	92	3.7	10
Whitley	43	1.3	1	*0.0	132	4.0	39	1.2	65	2.0	4
Indiana	8,339	1.3	173	0.0	30,819	4.8	20,936	3.2	16,183	2.5	
Min	6	0.5	0	0.0	2	0.1	0	0.0	7	0.5	0
Max	1,129	2.8	30	0.1	3,732	11.3	6,116	6.8	1,539	7.2	27

* Rates that are based on numbers lower than 20 are unreliable.

Note: Priority scores were computed using a highest need/highest contributor model; i.e., they were based on a county's need for intervention (measured by the rate at which an indicator occurred) and their overall contribution to the problem (measured by the frequency with which an indicator occurred). For each indicator, counties were given three points if they were in the top 10 percent (90th percentile), two points if they were in the top 25 percent (75th percentile), one point if they were in the top 50 percent (50th percentile), and zero points if they fell below the 50th percentile. The points were then added up to an overall priority score. The alcohol priority score was based on 10 indicators: number and rate of alcohol-related collisions; number and rate of alcohol-related fatal collisions; number and rate of DUI arrests; number and rate of arrests for public intoxication; and number and rate of arrests for liquor law violations. The highest possible alcohol priority score was 30 (3 points for being in the top 10 percent, multiplied by 10 indicators).

Higher priority scores indicate a more severe problem.

Source: Indiana State Police, 2011; National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

APPENDIX 11C

Cocaine and Methamphetamine Abuse Indicators and Priority Scores by County, All Rates per 1,000 Population (Uniform Crime Reporting Program, 2009)

County	Cocaine Possession		Cocaine Sale		Cocaine Priority Score	Meth Possession		Meth Sale		Meth Priority Score
	Number	Rate	Number	Rate		Number	Rate	Number	Rate	
Adams	4	*0.1	3	*0.1	0	11	*0.3	4	*0.1	3
Allen	168	0.5	122	0.3	11	10	*0.0	3	*0.0	1
Bartholomew	17	*0.2	17	*0.2	4	79	1.0	1	*0.0	6
Benton	1	*0.1	2	*0.2	1	1	*0.1	1	*0.1	0
Blackford	0	*0.0	0	*0.0	0	7	*0.6	8	*0.6	7
Boone	6	*0.1	7	*0.1	2	6	*0.1	1	*0.0	0
Brown	0	*0.0	0	*0.0	0	2	*0.1	6	*0.4	3
Carroll	1	*0.1	2	*0.1	0	0	*0.0	2	*0.1	0
Cass	5	*0.1	9	*0.2	2	8	*0.2	1	*0.0	0
Clark	37	0.3	68	0.6	10	97	0.9	24	0.2	11
Clay	6	*0.2	5	*0.2	3	33	1.2	5	*0.2	7
Clinton	6	*0.2	6	*0.2	3	6	*0.2	1	*0.0	0
Crawford	0	*0.0	0	*0.0	0	2	*0.2	4	*0.4	3
Davies	3	*0.1	10	*0.3	3	23	0.7	8	*0.3	8
Dearborn	10	*0.2	19	*0.4	6	8	*0.2	4	*0.1	1
Decatur	6	*0.2	6	*0.2	4	9	*0.4	4	*0.2	4
DeKalb	11	*0.3	9	*0.2	4	14	*0.3	5	*0.1	3
Delaware	29	0.3	7	*0.1	4	33	0.3	3	*0.0	3
Dubois	6	*0.1	3	*0.1	1	27	0.6	8	*0.2	7
Elkhart	75	0.4	100	0.5	11	43	0.2	35	0.2	6
Fayette	6	*0.3	6	*0.3	4	3	*0.1	3	*0.1	0
Floyd	0	*0.0	153	2.1	6	46	0.6	0	*0.0	5
Fountain	4	*0.2	3	*0.2	1	6	*0.4	3	*0.2	2
Franklin	0	*0.0	2	*0.1	0	0	*0.0	0	*0.0	0
Fulton	2	*0.1	3	*0.1	0	2	*0.1	1	*0.1	0
Gibson	3	*0.1	3	*0.1	0	16	*0.5	8	*0.2	7

APPENDIX 11C (Continued from previous page)

County	Cocaine Possession		Cocaine Sale		Cocaine Priority Score	Meth Possession		Meth Sale		Meth Priority Score
	Number	Rate	Number	Rate		Number	Rate	Number	Rate	
Grant	18	*0.3	32	0.5	7	57	0.8	13	*0.2	9
Greene	2	*0.1	3	*0.1	0	9	*0.3	1	*0.0	2
Hamilton	37	0.1	81	0.3	6	61	0.2	12	*0.0	6
Hancock	16	*0.2	21	0.3	5	17	*0.3	6	*0.1	3
Harrison	2	*0.1	1	*0.0	0	9	*0.2	7	*0.2	4
Hendricks	30	0.2	26	0.2	6	29	0.2	11	*0.1	4
Henry	5	*0.1	7	*0.1	1	8	*0.2	1	*0.0	0
Howard	55	0.7	79	1.0	12	2	*0.0	3	*0.0	0
Huntington	0	*0.0	0	*0.0	0	0	*0.0	5	*0.1	2
Jackson	13	*0.3	9	*0.2	5	10	*0.2	2	*0.1	2
Jasper	6	*0.2	10	*0.3	3	5	*0.2	5	*0.2	2
Jay	8	*0.4	8	*0.4	6	10	*0.5	15	*0.7	8
Jefferson	7	*0.2	8	*0.3	4	12	*0.4	5	*0.2	4
Jennings	1	*0.0	3	*0.1	0	0	*0.0	16	*0.6	5
Johnson	29	0.2	34	0.3	6	4	*0.0	3	*0.0	0
Knox	22	0.6	14	*0.4	8	47	1.2	31	0.8	12
Kosciusko	15	*0.2	10	*0.1	2	24	0.3	13	*0.2	6
LaGrange	0	*0.0	0	*0.0	0	0	*0.0	0	*0.0	0
Lake	214	0.4	273	0.6	11	44	0.1	9	*0.0	5
LaPorte	38	0.3	101	0.9	11	14	*0.1	1	*0.0	1
Lawrence	5	*0.1	2	*0.0	0	18	*0.4	6	*0.1	4
Madison	61	0.5	16	*0.1	6	21	0.2	10	*0.1	3
Marion	1,074	1.2	603	0.7	12	40	0.0	73	0.1	5
Marshall	11	*0.2	6	*0.1	3	44	0.9	6	*0.1	8
Martin	0	*0.0	0	*0.0	0	2	*0.2	9	*0.9	5
Miami	11	*0.3	21	0.6	8	7	*0.2	14	*0.4	4
Monroe	21	0.2	48	0.4	6	39	0.3	2	*0.0	3

APPENDIX 11C (Continued from previous page)

County	Cocaine Possession		Cocaine Sale		Cocaine Priority Score	Meth Possession		Meth Sale		Meth Priority Score
	Number	Rate	Number	Rate		Number	Rate	Number	Rate	
Montgomery	23	0.6	19	*0.5	9	*0.2	4	*0.1	1	
Morgan	15	*0.2	57	0.8	7	*0.1	5	*0.1	1	
Newton	8	*0.6	2	*0.1	4	*0.1	1	*0.1	0	
Noble	10	*0.2	12	*0.3	4	0.6	7	*0.2	6	
Ohio	1	*0.2	2	*0.3	2	*0.2	1	*0.2	1	
Orange	4	*0.2	3	*0.2	1	*0.3	4	*0.2	4	
Owen	5	*0.2	6	*0.3	3	*0.2	2	*0.1	0	
Parke	3	*0.2	1	*0.1	0	*0.6	21	1.2	9	
Perry	1	*0.1	0	*0.0	0	*0.3	3	*0.2	2	
Pike	3	*0.2	2	*0.2	1	*0.3	2	*0.2	2	
Porter	43	0.3	12	*0.1	5	0.2	8	*0.1	5	
Posey	6	*0.2	8	*0.3	5	*0.2	2	*0.1	1	
Pulaski	1	*0.1	4	*0.3	1	*1.0	0	*0.0	4	
Putnam	20	0.5	19	*0.5	9	*0.4	14	*0.4	6	
Randolph	9	*0.3	4	*0.2	3	*0.2	2	*0.1	1	
Ripley	4	*0.1	3	*0.1	0	*0.6	4	*0.1	5	
Rush	8	*0.5	4	*0.2	4	*0.2	6	*0.3	3	
Saint Joseph	113	0.4	42	0.2	7	0.1	1	*0.0	2	
Scott	4	*0.2	5	*0.2	1	0.8	19	*0.8	9	
Shelby	6	*0.1	15	*0.3	4	*0.1	7	*0.2	2	
Spencer	4	*0.2	3	*0.1	0	*0.3	4	*0.2	3	
Starke	13	*0.6	2	*0.1	4	*0.8	15	*0.6	9	
Steuben	18	*0.5	6	*0.2	7	*0.0	3	*0.1	0	
Sullivan	7	*0.3	0	*0.0	3	*0.1	0	*0.0	0	
Switzerland	2	*0.2	1	*0.1	0	*0.3	2	*0.2	2	
Tippecanoe	37	0.2	61	0.4	8	0.6	32	0.2	9	
Tipton	3	*0.2	0	*0.0	0	*0.2	1	*0.1	0	

APPENDIX 11C (Continued from previous page)

County	Cocaine Possession		Cocaine Sale		Cocaine Priority Score		Meth Possession		Meth Sale		Meth Priority Score
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	
Union	1	*0.1	1	*0.1	0	*0.3	2	*0.3	1	*0.1	2
Vanderburgh	35	0.2	56	0.3	7	1.0	172	1.0	79	0.4	11
Vermillion	1	*0.1	1	*0.1	0	*0.2	3	*0.2	24	1.5	6
Vigo	18	*0.2	28	0.3	5	1.5	161	1.5	27	0.3	11
Wabash	12	*0.4	9	*0.3	5	*0.5	15	*0.5	8	*0.2	7
Warren	2	*0.2	1	*0.1	1	*0.4	3	*0.4	2	*0.2	3
Warrick	1	*0.0	1	*0.0	0	0.7	39	0.7	31	0.5	10
Washington	5	*0.2	6	*0.2	2	*0.1	4	*0.1	2	*0.1	0
Wayne	55	0.8	38	0.6	11	*0.2	15	*0.2	3	*0.0	1
Wells	1	*0.0	3	*0.1	0	*0.1	3	*0.1	6	*0.2	3
White	1	*0.0	0	*0.0	0	*0.4	10	*0.4	0	*0.0	2
Whitley	7	*0.2	7	*0.2	4	*0.3	10	*0.3	2	*0.1	2
Indiana	2,617	0.4	2,425	0.4		0.3	1,824	0.3	777	0.1	
Min	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Max	1,074	1.2	603	2.1	12	1.5	172	1.5	79	1.5	12

* Rates that are based on numbers lower than 20 are unreliable.

Note: Priority scores were computed using a highest need/highest contributor model; i.e., they were based on a county's need for intervention (measured by the rate at which an indicator occurred) and their overall contribution to the problem (measured by the frequency with which an indicator occurred). For each indicator, counties were given three points if they were in the top 10 percent (90th percentile), two points if they were in the top 25 percent (75th percentile), one point if they were in the top 50 percent (50th percentile), and zero points if they fell below the 50th percentile. The points were then added up to an overall priority score. The cocaine priority score was based on four indicators: number and rate of arrests for cocaine possession, and number and rate of arrests for cocaine sale/manufacture. The highest possible cocaine priority score was 12 (3 points for being in the top 10 percent, multiplied by four indicators). The methamphetamine priority score was based on four indicators: number and rate of arrests for methamphetamine possession, and number and rate of arrests for methamphetamine sale/manufacture. The highest possible methamphetamine priority score was 12 (3 points for being in the top 10 percent, multiplied by four indicators).

Higher priority scores indicate a more severe problem.

Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

APPENDIX 11D

Marijuana and Prescription Drug Abuse Indicators and Priority Scores by County, All Rates per 1,000 Population (Uniform Crime Reporting Program, 2009)

County	Marijuana Possession		Marijuana Sale		Marijuana Priority Score	Prescription Drug Possession		Prescription Drug Sale		Prescription Drug Priority Score
	Number	Rate	Number	Rate		Number	Rate	Number	Rate	
Adams	34	1.0	5	*0.0	0	8	*0.2	1	*0.0	0
Allen	793	2.2	85	0.2	8	174	0.5	72	0.2	9
Bartholomew	211	2.8	17	*0.2	5	71	0.9	3	*0.0	6
Benton	9	*1.0	1	*0.1	0	2	*0.2	1	*0.1	1
Blackford	21	1.6	1	*0.1	0	2	*0.2	1	*0.1	1
Boone	82	1.5	19	*0.3	5	15	*0.3	2	*0.0	1
Brown	28	1.8	0	*0.0	1	0	*0.0	0	*0.0	0
Carroll	26	1.3	5	*0.3	1	21	1.0	4	*0.2	7
Cass	70	1.8	14	*0.4	5	12	*0.3	4	*0.1	3
Clark	225	2.1	24	0.2	5	18	*0.2	4	*0.0	2
Clay	81	3.0	3	*0.1	4	13	*0.5	3	*0.1	4
Clinton	64	1.9	8	*0.2	3	15	*0.5	5	*0.2	5
Crawford	3	*0.3	15	*1.4	4	0	*0.0	0	*0.0	0
Daviess	63	2.0	14	*0.5	5	42	1.3	3	*0.1	7
Dearborn	67	1.3	43	0.9	7	17	*0.3	18	*0.4	7
Decatur	48	1.9	8	*0.3	2	13	*0.5	2	*0.1	3
DeKalb	72	1.7	14	*0.3	3	16	*0.4	5	*0.1	4
Delaware	150	1.3	4	*0.0	2	3	*0.0	7	*0.1	3
Dubois	49	1.2	5	*0.1	0	8	*0.2	1	*0.0	0
Elkhart	515	2.6	26	0.1	7	19	*0.1	4	*0.0	2
Fayette	45	1.9	5	*0.2	1	16	*0.7	15	*0.6	8
Floyd	343	4.6	33	0.4	9	131	1.8	225	3.0	12
Fountain	28	1.6	4	*0.2	0	6	*0.4	1	*0.1	1
Franklin	1	*0.0	12	*0.5	3	9	*0.4	2	*0.1	2
Fulton	22	1.1	4	*0.2	0	6	*0.3	1	*0.1	0

APPENDIX 11D (Continued from previous page)

County	Marijuana Possession		Marijuana Sale		Marijuana Priority Score	Prescription Drug Possession		Prescription Drug Sale		Prescription Drug Priority Score	
	Number	Rate	Number	Rate		Number	Rate	Number	Rate		
Gibson	26	0.8	10	*0.3	2	0.9	30	0.9	2	*0.1	5
Grant	154	2.2	9	*0.1	4	*0.1	5	*0.1	0	*0.0	0
Greene	41	1.2	5	*0.2	0	*0.6	18	*0.6	1	*0.0	3
Hamilton	585	2.2	15	*0.1	5	0.1	33	0.1	12	*0.0	4
Hancock	127	1.8	17	*0.3	4	0.5	31	0.5	11	*0.2	7
Harrison	35	0.9	0	*0.0	0	*0.0	1	*0.0	0	*0.0	0
Hendricks	286	2.0	56	0.4	8	0.5	70	0.5	12	*0.1	6
Henry	55	1.1	10	*0.2	1	*0.2	11	*0.2	3	*0.1	2
Howard	207	2.5	8	*0.1	4	1.9	160	1.9	12	*0.2	10
Huntington	51	1.4	3	*0.1	0	0.6	21	0.6	2	*0.1	3
Jackson	112	2.7	14	*0.3	5	0.5	22	0.5	5	*0.1	4
Jasper	38	1.1	6	*0.2	0	*0.4	12	*0.4	9	*0.3	7
Jay	75	3.5	5	*0.2	4	*0.1	1	*0.1	1	*0.1	0
Jefferson	59	1.8	11	*0.3	5	*0.5	16	*0.5	3	*0.1	4
Jennings	12	*0.4	86	3.0	6	*0.0	0	*0.0	8	*0.3	5
Johnson	382	2.8	36	0.3	8	0.6	81	0.6	69	0.5	10
Knox	122	3.2	69	1.8	10	0.8	29	0.8	7	*0.2	8
Kosciusko	136	1.8	28	0.4	5	0.3	23	0.3	2	*0.0	1
LaGrange	1	*0.0	0	*0.0	0	*0.0	0	*0.0	0	*0.0	0
Lake	1,194	2.4	515	1.0	11	0.9	452	0.9	64	0.1	10
LaPorte	207	1.9	29	0.3	6	*0.1	7	*0.1	1	*0.0	0
Lawrence	63	1.4	6	*0.1	1	*0.3	15	*0.3	3	*0.1	3
Madison	322	2.5	36	0.3	8	0.8	103	0.8	33	0.3	11
Marion	2,607	2.9	394	0.4	10	0.7	592	0.7	92	0.1	9
Marshall	76	1.6	10	*0.2	2	0.6	30	0.6	18	*0.4	10
Martin	5	*0.5	1	*0.1	0	*0.0	0	*0.0	0	*0.0	0
Miami	27	0.7	23	0.6	4	*0.5	18	*0.5	1	*0.0	2

APPENDIX 11D (Continued from previous page)

County	Marijuana Possession		Marijuana Sale		Marijuana Priority Score	Prescription Drug Possession		Prescription Drug Sale		Prescription Drug Priority Score
	Number	Rate	Number	Rate		Number	Rate	Number	Rate	
Monroe	336	2.5	30	0.2	6	100	0.7	23	0.2	10
Montgomery	98	2.6	9	*0.2	5	60	1.6	1	*0.0	5
Morgan	147	2.1	47	0.7	9	88	1.3	13	*0.2	9
Newton	32	2.3	9	*0.6	5	3	*0.2	0	*0.0	0
Noble	104	2.2	15	*0.3	4	27	0.6	3	*0.1	5
Ohio	8	*1.3	1	*0.2	0	2	*0.3	1	*0.2	2
Orange	21	1.1	5	*0.3	1	8	*0.4	1	*0.1	1
Owen	31	1.4	3	*0.1	0	8	*0.4	3	*0.1	4
Parke	52	3.0	1	*0.1	3	4	*0.2	0	*0.0	0
Perry	49	2.5	6	*0.3	3	10	*0.5	0	*0.0	1
Pike	18	*1.4	3	*0.2	0	5	*0.4	1	*0.1	2
Porter	375	2.3	33	0.2	6	39	0.2	13	*0.1	5
Posey	47	1.8	7	*0.3	2	12	*0.5	4	*0.2	5
Pulaski	20	1.5	9	*0.7	4	3	*0.2	2	*0.2	2
Putnam	67	1.8	20	0.5	5	7	*0.2	4	*0.1	2
Randolph	36	1.4	12	*0.5	3	5	*0.2	1	*0.0	0
Ripley	25	0.9	9	*0.3	2	9	*0.3	1	*0.0	0
Rush	62	3.6	12	*0.7	8	4	*0.2	0	*0.0	0
Saint Joseph	467	1.8	39	0.2	5	62	0.2	15	*0.1	5
Scott	43	1.8	10	*0.4	4	14	*0.6	1	*0.0	3
Shelby	36	0.8	7	*0.2	0	4	*0.1	1	*0.0	0
Spencer	22	1.1	5	*0.2	1	8	*0.4	1	*0.1	1
Starke	46	2.0	9	*0.4	4	12	*0.5	3	*0.1	5
Steuben	74	2.2	6	*0.2	2	104	3.0	9	*0.3	11
Sullivan	38	1.8	21	1.0	6	0	*0.0	1	*0.1	0
Switzerland	11	*1.0	2	*0.2	0	4	*0.4	0	*0.0	1
Tippecanoe	501	2.9	46	0.3	9	30	0.2	16	*0.1	5

APPENDIX 11D (Continued from previous page)

County	Marijuana Possession		Marijuana Sale		Marijuana Priority Score	Prescription Drug Possession		Prescription Drug Sale		Prescription Drug Priority Score	
	Number	Rate	Number	Rate		Number	Rate	Number	Rate		
Tipton	33	2.1	4	*0.3	2	2	2	*0.1	1	*0.1	1
Union	8	*1.1	1	*0.1	0	3	3	*0.4	0	*0.0	1
Vanderburgh	651	3.6	88	0.5	11	738	4.1	4.1	27	0.2	11
Vermillion	83	5.1	0	*0.0	4	4	*0.2	*0.2	4	*0.2	4
Vigo	333	3.1	14	*0.1	6	130	1.2	1.2	9	*0.1	9
Wabash	43	1.3	8	*0.2	1	12	*0.4	*0.4	2	*0.1	3
Warren	9	*1.1	2	*0.2	0	3	*0.4	*0.4	0	*0.0	0
Warrick	92	1.6	8	*0.1	1	3	*0.1	*0.1	1	*0.0	0
Washington	36	1.3	3	*0.1	0	8	*0.3	*0.3	3	*0.1	2
Wayne	168	2.4	14	*0.2	5	12	*0.2	*0.2	4	*0.1	3
Wells	17	*0.6	5	*0.2	0	4	*0.1	*0.1	3	*0.1	2
White	83	3.4	0	*0.0	4	15	*0.6	*0.6	0	*0.0	3
Whitley	55	1.7	3	*0.1	0	10	*0.3	*0.3	3	*0.1	2
Indiana	14,432	2.2	2,297	0.4		3,994	0.6	0.6	930	0.1	
Min	1	0.0	0	0.0	0	0	0.0	0.0	0	0.0	0
Max	2,607	5.1	515	3.0	11	738	4.1	4.1	225	3.0	11

* Rates that are based on numbers lower than 20 are unreliable.

Note: Priority scores were computed using a highest need/highest contributor model; i.e., they were based on a county's need for intervention (measured by the rate at which an indicator occurred) and their overall contribution to the problem (measured by the frequency with which an indicator occurred). For each indicator, counties were given three points if they were in the top 10 percent (90th percentile), two points if they were in the top 25 percent (75th percentile), one point if they were in the top 50 percent (50th percentile), and zero points if they fell below the 50th percentile. The points were then added up to an overall priority score. The marijuana priority score was based on four indicators: number and rate of arrests for marijuana possession, and number and rate of arrests for marijuana sale/manufacture. The highest possible marijuana priority score was 12 (three points for being in the top 10 percent, multiplied by four indicators).

The prescription drug priority score was based on four indicators: number and rate of arrests for prescription drug possession, and number and rate of arrests for prescription drug sale/manufacture. The highest possible prescription drug priority score was 12 (three points for being in the top 10 percent, multiplied by four indicators). Higher priority scores indicate a more severe problem.

Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

APPENDIX 11E

Overall Substance Abuse Indicators (Arrests for Drug Possession and Sale/Manufacture, and for Property Crimes) and Priority Scores by County, All Rates per 1,000 Population (Uniform Crime Reporting Program, 2009)

County	Total Drug Violations		Drug Priority Score	Property Crimes		Property Crime Priority Score
	Number	Rate		Number	Rate	
Adams	79	2.3	0	88	2.6	0
Allen	1,434	4.1	4	2,024	5.7	5
Bartholomew	450	5.9	4	372	4.9	2
Benton	19	*2.2	0	16	*1.8	0
Blackford	41	3.2	0	70	5.5	2
Boone	147	2.6	1	163	2.9	1
Brown	37	2.4	0	9	*0.6	0
Carroll	64	3.2	0	52	2.6	0
Cass	135	3.5	1	160	4.1	2
Clark	568	5.2	4	1,099	10.1	6
Clay	151	5.6	3	109	4.1	1
Clinton	117	3.5	0	139	4.2	2
Crawford	44	4.1	1	43	4.0	1
Daviess	170	5.4	3	156	5.0	2
Dearborn	189	3.8	2	146	2.9	1
Decatur	105	4.1	1	120	4.7	1
DeKalb	168	4.0	2	136	3.2	1
Delaware	239	2.0	1	522	4.4	3
Dubois	118	2.8	0	169	4.0	2
Elkhart	821	4.2	4	1,036	5.3	4
Fayette	105	4.3	1	142	5.9	3
Floyd	974	13.1	6	924	12.4	5
Fountain	62	3.6	0	50	2.9	0
Franklin	26	1.1	0	16	*0.7	0
Fulton	42	2.0	0	119	5.7	2
Gibson	101	3.0	0	124	3.7	0
Grant	290	4.1	3	554	7.9	5
Greene	81	2.5	0	107	3.2	0
Hamilton	842	3.1	3	769	2.9	2
Hancock	254	3.7	2	280	4.1	2
Harrison	56	1.4	0	133	3.4	1
Hendricks	558	3.9	3	570	4.0	3
Henry	126	2.6	1	167	3.4	1
Howard	529	6.4	5	402	4.9	3
Huntington	83	2.2	0	105	2.8	0
Jackson	222	5.3	3	132	3.2	1
Jasper	92	2.8	0	97	2.9	0

APPENDIX 11E (Continued from previous page)

County	Total Drug Violations		Drug Priority Score	Property Crimes		Property Crime Priority Score
	Number	Rate		Number	Rate	
Jay	126	5.9	3	176	8.2	4
Jefferson	134	4.1	2	150	4.6	2
Jennings	126	4.4	2	49	1.7	0
Johnson	677	4.9	4	1,063	7.7	6
Knox	342	8.9	5	186	4.8	2
Kosciusko	281	3.6	1	414	5.4	3
LaGrange	101	2.7	0	45	1.2	0
Lake	2,881	5.8	5	3,661	7.4	5
LaPorte	402	3.6	2	791	7.1	4
Lawrence	139	3.0	1	195	4.2	2
Madison	604	4.6	3	771	5.9	4
Marion	5,499	6.1	6	7,361	8.2	6
Marshall	215	4.6	2	307	6.5	3
Martin	23	2.2	0	5	*0.5	0
Miami	134	3.6	1	79	2.1	0
Monroe	602	4.4	3	594	4.4	3
Montgomery	233	6.1	4	77	2.0	0
Morgan	384	5.6	4	414	6.0	4
Newton	57	4.0	1	26	1.8	0
Noble	221	4.7	2	186	3.9	1
Ohio	17	*2.8	0	15	2.5	0
Orange	60	3.0	0	48	2.4	0
Owen	65	3.0	0	57	2.6	0
Parke	94	5.4	2	38	2.2	0
Perry	76	3.9	1	121	6.3	2
Pike	44	3.4	0	44	3.4	0
Porter	568	3.5	2	798	4.9	3
Posey	95	3.7	1	104	4.0	1
Pulaski	53	3.9	1	25	1.9	0
Putnam	168	4.4	2	144	3.8	1
Randolph	77	2.9	0	117	4.5	1
Ripley	83	2.9	0	77	2.7	0
Rush	107	6.1	3	45	2.6	0
Saint Joseph	778	2.9	3	1,993	7.5	6
Scott	123	5.1	3	209	8.7	4
Shelby	82	1.8	0	126	2.8	0
Spencer	61	2.9	0	49	2.3	0
Starke	120	5.1	2	104	4.5	1

APPENDIX 11E (Continued from previous page)

County	Total Drug Violations		Drug Priority Score	Property Crimes		Property Crime Priority Score
	Number	Rate		Number	Rate	
Steuben	222	6.5	4	234	6.8	3
Sullivan	69	3.2	0	26	1.2	0
Switzerland	30	2.9	0	24	2.3	0
Tippecanoe	826	4.8	5	1,022	5.9	5
Tipton	48	3.0	0	43	2.7	0
Union	22	3.0	0	17	*2.3	0
Vanderburgh	1,849	10.3	6	1,572	8.8	6
Vermillion	121	7.4	3	37	2.3	0
Vigo	725	6.8	6	780	7.3	4
Wabash	116	3.5	0	123	3.7	0
Warren	26	3.1	0	21	2.5	0
Warrick	177	3.0	1	136	2.3	1
Washington	69	2.5	0	55	2.0	0
Wayne	311	4.5	3	535	7.8	5
Wells	42	1.5	0	83	3.0	0
White	109	4.4	1	121	4.9	1
Whitley	101	3.1	0	108	3.3	0
Indiana	30,254	4.5		36,921	5.7	
Min	17	1.1	0	5	0.5	0
Max	5,499	13.1	6	7,361	12.4	6

* Rates that are based on numbers lower than 20 are unreliable.

Note: Priority scores were computed using a highest need/highest contributor model; i.e., they were based on a county's need for intervention (measured by the rate at which an indicator occurred) and their overall contribution to the problem (measured by the frequency with which an indicator occurred). For each indicator, counties were given three points if they were in the top 10 percent (90th percentile), two points if they were in the top 25 percent (75th percentile), one point if they were in the top 50 percent (50th percentile), and zero points if they fell below the 50th percentile. The points were then added up to an overall priority score. The total drug priority score was based on two indicators: number of arrests for drug possession and sale/manufacture, and rate of arrests for drug possession and sale/manufacture. The highest possible total drug priority score was 6 (three points for being in the top 10 percent, multiplied by two indicators).

The property crime priority score was based on two indicators: number of property crime arrests and rate of property crime arrests. The highest possible property crime priority score was 6 (three points for being in the top 10 percent, multiplied by two indicators).

Higher priority scores indicate a more severe problem.

Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

APPENDIX 11F

Youth Substance Use Indicator (Juvenile Runaway Arrests) and Priority Scores by County, All Rates per 1,000 Population
(Uniform Crime Reporting Program, 2009)

County	Runaways		Runaway Priority Score
	Number	Rate	
Adams	8	*0.8	0
Allen	183	1.9	4
Bartholomew	76	4.0	4
Benton	2	*0.9	0
Blackford	0	*0.0	0
Boone	15	*1.0	1
Brown	14	*5.0	4
Carroll	0	*0.0	0
Cass	16	*1.6	1
Clark	75	2.9	4
Clay	12	*1.9	1
Clinton	14	*1.5	1
Crawford	1	*0.4	0
Daviess	11	*1.3	0
Dearborn	17	*1.4	1
Decatur	15	*2.3	2
DeKalb	19	*1.7	2
Delaware	17	*0.7	1
Dubois	19	*1.8	2
Elkhart	185	3.2	5
Fayette	28	4.9	4
Floyd	27	1.5	1
Fountain	7	*1.7	1
Franklin	0	*0.0	0
Fulton	6	*1.2	0
Gibson	7	*0.9	0
Grant	107	7.3	5
Greene	7	*0.9	0
Hamilton	139	1.7	4
Hancock	34	1.9	3
Harrison	8	*0.9	0
Hendricks	28	0.8	1
Henry	72	6.8	5
Howard	115	5.7	6
Huntington	16	*1.8	2
Jackson	40	3.8	4
Jasper	9	*1.1	0

APPENDIX 11F (Continued from previous page)

County	Runaways		Runaway Priority Score
	Number	Rate	
Jay	4	*0.7	0
Jefferson	19	*2.6	3
Jennings	0	*0.0	0
Johnson	99	2.7	4
Knox	17	*2.1	2
Kosciusko	41	2.1	3
LaGrange	0	*0.0	0
Lake	284	2.2	4
LaPorte	200	7.8	6
Lawrence	30	2.9	3
Madison	214	7.1	6
Marion	78	0.3	2
Marshall	35	2.8	4
Martin	2	*0.9	0
Miami	22	2.7	3
Monroe	89	4.1	4
Montgomery	10	*1.1	0
Morgan	24	1.4	1
Newton	0	*0.0	0
Noble	30	2.3	2
Ohio	2	*1.6	0
Orange	8	*1.7	0
Owen	8	*1.6	0
Parke	3	*0.8	0
Perry	7	*1.8	1
Pike	6	*2.2	1
Porter	33	0.8	2
Posey	13	*2.2	2
Pulaski	8	*2.5	2
Putnam	9	*1.2	0
Randolph	12	*1.9	1
Ripley	11	*1.5	0
Rush	11	*2.6	2
Saint Joseph	413	6.2	6
Scott	14	*2.4	2
Shelby	15	*1.4	1
Spencer	8	*1.7	1
Starke	0	*0.0	0

APPENDIX 11F (Continued from previous page)

County	Runaways		Runaway Priority Score
	Number	Rate	
Steuben	10	*1.3	0
Sullivan	0	*0.0	0
Switzerland	4	*1.7	1
Tippecanoe	171	4.9	6
Tipton	2	*0.5	0
Union	3	*1.8	1
Vanderburgh	65	1.7	3
Vermillion	3	*0.8	0
Vigo	154	6.8	6
Wabash	12	*1.7	1
Warren	4	*2.1	1
Warrick	3	*0.2	0
Washington	7	*1.0	0
Wayne	40	2.6	4
Wells	5	*0.8	0
White	8	*1.4	0
Whitley	13	*1.6	1
Indiana	3,632	2.3	
Min	0	0	0
Max	413	7.8	6

* Rates that are based on numbers lower than 20 are unreliable.

Note: Priority scores were computed using a highest need/highest contributor model; i.e., they were based on a county's need for intervention (measured by the rate at which an indicator occurred) and their overall contribution to the problem (measured by the frequency with which an indicator occurred). For each indicator, counties were given three points if they were in the top 10 percent (90th percentile), two points if they were in the top 25 percent (75th percentile), one point if they were in the top 50 percent (50th percentile), and zero points if they fell below the 50th percentile. The points were then added up to an overall priority score. The runaway priority score was based on two indicators: number of runaway arrests and rate of runaway arrests. The highest possible runaway priority score was 6 (three points for being in the top 10 percent, multiplied by two indicators).

Higher priority scores indicate a more severe problem.

Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, 2009

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APPENDIX I: Data Sources Recommended by the State Epidemiology and Outcomes Workgroup (SEOW)

Data Set	Source	Years	How to Access	Coverage	Target
Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents (ATOD) Survey	IPRC	Annual 1993-2011	http://www.drugs.indiana.edu/data-survey_monograph.html	Indiana and regions	6th – 12th grade students in Indiana
Alcohol-Related Disease Impact (ARDI) Database	CDC	Based on averages 2001-2005	http://apps.nccd.cdc.gov/ardi/Homepage.aspx	U.S. and states	General population
Automated Reporting Information Exchange System (ARIES)	ISP	Annual	On request from ISP	Indiana and counties	Vehicle collisions in general population
Behavioral Risk Factor Surveillance System (BRFSS)	CDC	Annual 1995-2010	http://apps.nccd.cdc.gov/brfss/	U.S. and states	Adults 18 and older
Behavioral Risk Factor Surveillance System: Selected Metropolitan/Micropolitan Area Risk Trends (BRFSS SMART)	CDC	Annual 2002-2010	http://apps.nccd.cdc.gov/brfss-smart/index.asp	Selected Metropolitan and Micropolitan Areas	Adults 18 and older
Fatality Analysis Reporting System (FARS)	NHTSA	Annual 1994-2009	http://www-fars.nhtsa.dot.gov/	U.S., states, and counties	General population
Hospital Discharge Database	ISDH	Annual 1999-2010	http://www.in.gov/isdh/20624.htm	Indiana and counties	General population
Indiana Adult Tobacco Survey (IATS)	ISDH/Tobacco Prevention and Cessation Commission	Bi-annual 2002-2010	On request from ISDH	Indiana	Adults

APPENDIX I: Continued

Data Set	Source	Years	How to Access	Coverage	Target
Indiana Clandestine Meth Lab Seizures	ISP	Annual 1995-2010	On request from ISP	Indiana and counties	General population
Indiana Youth Tobacco Survey (IYTS)	ISDH/Tobacco Prevention and Cessation Commission	Bi-annual 2000-2010	On request from ISDH	Indiana	6th – 12th grade students in Indiana
Monitoring the Future (MTF) Survey	NIDA	Annual 1999-2011	http://www.monitoringthefuture.org/data/data.html	U.S.	8th, 10th, and 12th grade students
Mortality data (e.g., alcohol-, smoking-, and drug-related mortality)	ISDH	Annual	On request from ISDH	Indiana and counties	General population
	CDC	Annual 1999-2008	http://wonder.cdc.gov/mortSQL.html	U.S., states, and counties	General population
National Survey on Drug Use and Health (NSDUH)	SAMHSA	Annual 1994-2009	https://nsduhweb.rti.org/	U.S., states, and some sub-state estimates	Population 12 years and older
National Youth Tobacco Survey (NYTS)	CDC	Bi-annual 1999-2009	http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/index.htm	U.S.	6th – 12th grade students
Population Estimates	U.S. Census Bureau	Annual	http://www.census.gov/	U.S., states, and counties	General population
School-related variables (e.g., suspensions & expulsions, drop-outs, ISTEP scores, etc.)	Indiana DOE	Annual 1998-2008	http://dew4.doe.state.in.us/htbin/sas1.sh	Indiana and counties	K-12 students in Indiana
Smoking-Attributable Mortality, Morbidity, and Economic Costs (SAMMEC)	CDC	Based on 2004 data	http://apps.nccd.cdc.gov/sammecc/index.asp	U.S. and states	General population

APPENDIX I: Continued

Data Set	Source	Years	How to Access	Coverage	Target
Treatment Episode Data Set (TEDS)	SAMHSA	Annual 1992-2009	http://www.icpsr.umich.edu/icpsrweb/ICPSR/index.jsp	U.S. and states; for county-level data contact Indiana DMHA	Treatment population eligible for public services (200% FPL)
Uniform Crime Reporting Program (UCR)	FBI/NACJD	Annual 1994-2009	http://www.icpsr.umich.edu/NACJD/ucr.html	U.S., states, and counties	Arrests within general population
Youth Risk Behavior Surveillance System	CDC	Bi-annual Indiana: 2003-2009	http://apps.nccd.cdc.gov/yrbss/	U.S. and states	High school students

Abbreviations used: ARIES = Automated Reporting Information Exchange System; CDC = Centers for Disease Control and Prevention; DOE = Department of Education; FBI = Federal Bureau of Investigation; IPRC = Indiana Prevention Resource Center; ISDH = Indiana State Department of Health; NACJD = National Archive of Criminal Justice Data; SAMMEC = Smoking-Attributable Mortality, Morbidity, and Economic Costs; ISP = Indiana State Police; NHTSA = National Highway Traffic Safety Administration; NIDA = National Institute on Drug Abuse; SAMHSA = Substance Abuse and Mental Health Services Administration.

Appendix II: Substance Use Indicators At-A-Glance

Substance	Pattern or Consequence	Target Population	Dataset
Alcohol	Past-month use Past-month binge drinking Alcohol dependence or abuse in the past year Needing but not receiving treatment for alcohol use in the past year	General population ages 12+	NSDUH
	Past-month alcohol use Past-month binge drinking Past-month heavy drinking	Adults ages 18+	BRFSS
	Past-month alcohol use Past-month binge drinking	Grades 9-12	YRBSS
	Lifetime use Past-month use	Grades 6-12	ATOD
	Use reported at treatment admission Primary use (dependence) reported at treatment admission	Treatment population at or below 200% FPL, in state-sponsored programs	TEDS
	Arrests for DUI Public intoxication Liquor law violation	General population	UCR
	Alcohol-related crashes Alcohol-related fatal crashes	General population	ARIES
	Alcohol-attributable deaths Alcohol-attributable fractions	General population	ARDI
	Past-month use of Tobacco product Cigarettes	General population ages 12+	NSDUH
	Past-month smoking Four-level smoking status (smoked every day)	Adults ages 18+	BRFSS
Tobacco	Past-month use of Tobacco Cigarettes Smokeless tobacco	Middle and high school students	IYTS
	Lifetime and past-month use of cigarettes Past-month use of Any tobacco Cigars Smokeless tobacco	Grades 9-12	YRBSS
	Lifetime use Past-month use	Grades 6-12	ATOD
	Percentage of smoke-free homes and work places	General population	IATS
	Smoking-attributable mortality rate	Adults ages 35+	SAMMEC

APPENDIX II: Continued

Substance	Pattern or Consequence	Target Population	Dataset
Marijuana	Past-year use Past-month use	General population ages 12+	NSDUH
	Past-month use Tried marijuana before age 13	Grades 9-12	YRBSS
	Lifetime use Past-month use	Grades 6-12	ATOD
	Use reported at treatment admission Primary use (dependence) reported at treatment admission	Treatment population at or below 200% FPL, in state-sponsored programs	TEDS
Arrests for Possession of marijuana Sale of marijuana	General population	UCR	
Cocaine	Past-year use	General population ages 12+	NSDUH
	Lifetime use Past-month use	Grades 9-12	YRBSS
	Lifetime and past-month use of Cocaine Crack	Grades 6-12	ATOD
	Use reported at treatment admission Primary use (dependence) reported at treatment admission	Treatment population at or below 200% FPL, in state-sponsored programs	TEDS
Arrests for Possession of cocaine/opiates Sale of cocaine/opiates	General population	UCR	
Heroin	Lifetime, past-year, and past-month use (aggregated data 2002-2004)	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
	Lifetime use Past-month use	Grades 6-12	ATOD
	Use reported at treatment admission Primary use (dependence) reported at treatment admission	Treatment population at or below 200% FPL, in state-sponsored programs	TEDS
Arrests for Possession of cocaine/opiates Sale of cocaine/opiates	General population	UCR	

APPENDIX II: Continued

Substance	Pattern or Consequence	Target Population	Dataset
Methamphetamine	Lifetime, past-year, and past-month use (aggregated data 2002-2004)	General population ages 12+	NSDUH
	Lifetime use	Grades 9-12	YRBSS
	Lifetime use Past-month use	Grades 6-12	ATOD
	Use reported at treatment admission Primary use (dependence) reported at treatment admission	Treatment population at or below 200% FPL, in state-sponsored programs	TEDS
Prescription Drugs	Arrests for Possession of synthetic drugs Sale of synthetic drugs	General population	UCR
	Clandestine meth lab seizures Children identified/rescued in lab homes Arrests made during lab seizures	General population	ISP Meth Lab Seizures
	Past-year nonmedical use of pain relievers	General population ages 12+	NSDUH
	Lifetime and past-month use of Prescription painkillers Prescription drugs Tranquilizers	Grades 6-12	ATOD
	Past-year dispensation of Opioids CNS depressants Stimulants	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
Polysubstance Abuse	Arrests for Possession of 'other drugs' Sale of 'other drugs'	General population	UCR
	Use of 2+ substances reported at treatment admission	Treatment population at or below 200% FPL, in state-sponsored programs	TEDS
Miscellaneous	Suspensions and expulsions due to drugs, weapons, or alcohol	K-12	IDOE School Data

Abbreviations used: ARDI = Alcohol-Related Disease Impact database; ARIES = Automated Reporting Information Exchange System; ATOD = Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents; BRFS = Behavioral Risk Factor Surveillance System; IATS = Indiana Adult Tobacco Survey; IDOE = Indiana Department of Education; INSPECT = Indiana Scheduled Prescription Drug Electronic Collection and Tracking system; ISP = Indiana State Police; IYTS = Indiana Youth Tobacco Survey; NSDUH = National Survey on Drug Use and Health; SAMMEC = Smoking-Attributable Mortality, Morbidity, and Economic Costs; TEDS = Treatment Episode Data Set; UCR = Uniform Crime Reporting program; YRBSS = Youth Risk Behavior Surveillance System.

Additional information on these datasets, including how to access them, can be found in Chapter 2 and Appendix I.

MARIJUANA
COCAINE
PRESCRIPTION DRUGS

**THE CONSUMPTION AND CONSEQUENCES
OF ALCOHOL, TOBACCO, AND DRUGS IN INDIANA:
A STATE EPIDEMIOLOGICAL PROFILE
2011**

INDIANA STATE EPIDEMIOLOGY AND OUTCOMES WORKGROUP

The Indiana State Epidemiology and Outcomes Workgroup (SEOW) was established in April 2006 to review epidemiological data on the patterns and consequences of substance use and abuse in Indiana and to make recommendations to the Governor's Strategic Prevention Framework (SPF) Advisory Council 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.



INDIANA UNIVERSITY

CENTER FOR HEALTH POLICY

Department of Public Health

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."