MARIJUANA

COCAINE

PRESCRIPTION DRUGS

The Consumption and Consequences of Alcohol, Tobacco, and Drugs in Indiana: A State Epidemiological Profile 2010

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 2010

Developed by the Indiana State Epidemiology and Outcomes Workgroup, 2010

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.

Published by the Indiana University Center for Health Policy

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

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About the SEOW Support Team and the Center for Health Policy

This report was developed by the SEOW Support Team headed by **Eric R. Wright, PhD.** Dr. Wright is the director of the Center for Health Policy; Professor and Division Director for Health Policy and Management at the Department of Public Health, Indiana University School of Medicine; and associate director of the Indiana Consortium for Mental Health Services Research.

The other members of the SEOW Support Team are analysts at the Center for Health Policy, including:
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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.

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Introduction

In July 2005, Indiana's Office of the Governor received a grant from the U.S. Department of Health and Human Services' Center for Substance Abuse Prevention (CSAP) as part of CSAP's Strategic Prevention Framework State Incentive Grant (SPF SIG) program. The SPF SIG program 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 (www.prevention.indiana.edu/imagine).

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. This report represents the fifth official state epidemiological profile completed by the SEOW under this initiative and summarizes both the methodology used and the key findings.

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. As part of this transition, the SEOW reviewed its strategic plan, which was developed in 2006 based on the results of the first epidemiological profile, and determined that a new set of strategic priorities was necessary to help guide the State in implementing data-driven substance abuse prevention policies and programs. Consequently, this year the SEOW also is publishing a companion document, *Indiana Strategic Substance Abuse Prevention Targets for 2015*, which outlines strategic prevention priorities for the future. These priorities were identified based on a careful review of the data contained within this report, and the SEOW plans to update this document on an annual basis as trends change and as new data become available.

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, where possible, each of Indiana's 92 counties. This year's report incorporates two significant new features.

First, we have incorporated new analyses of data on prescription narcotics dispensed across the state of Indiana. While not direct measures of prescription drug abuse, these data provide a clearer sense of the availability of substances that are at high risk of abuse. The data were made available to the SEOW by the Indiana State Pharmacy Board through the INSPECT program, and Pharmacy Board staff were incredibly helpful in preparing the data for analysis and in answering our data analysts' questions. This is a good example of the strong partnerships that have been formed among state agencies committed to using available data to improve substance abuse prevention policymaking. These data add to the already extraordinary array of data that other state agencies have made available to the SEOW and have deepened our understanding of the nature and extent of substance abuse across the state.

Second, we added a new section in our chapter on polysubstance abuse that examines the significant overlap of substance abuse with mental illness. While researchers have identified a wide array of comorbidities or co-occurring problems in recent years, the challenges associated with the dual diagnosis of addiction and psychiatric disorders are especially formidable. Indeed, policymakers within Indiana have long recognized the significant overlap involved in our efforts to respond to mental health and addiction problems. Clearly more work and data will be needed to fully understand the scope and nature of the problem, but we included this new section as an initial effort to document the problem and facilitate a conversation about how best to address the special concerns in this area.

As with all of our prior reports, our primary aim in preparing this annual report is to provide a useful reference tool for communities and professionals involved in substance abuse prevention. Each year this document has increased in size, and we realize that not everyone will have the time or energy to review the contents in detail. For this reason, we once again have published a chart pack of the graphs and figures and a series of fact sheets on each of the major substances.

This report and its earlier versions, along with these supplemental resources, are available on the Center for Health Policy web site (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: 49.3%; U.S.: 51.4%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.). 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 (23.3%). The highest rate was found among 18- to 25-year-olds (IN: 40.3%; U.S.: 41.4%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

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 (3.7%) than the United States (5.1%). No significant differences by gender, race, or age group were found among Hoosiers (Centers for Disease Control and Prevention, 2009a).

Youth Consumption — Underage Drinking

The rates for underage drinking in Indiana and the nation were statistically similar. In Indiana, 15.7% of 12- to 17-year-old youths reported that they consumed alcohol in the past 30 days (U.S.: 15.3%).

In the age category of 12- to 20-year-olds, the numbers were even higher: 25.5% of young Hoosiers reported current use of alcohol (U.S.: 27.2%), and 17.4% stated that they engaged in binge drinking (U.S.: 18.0%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

An estimated 4 in 10 high school students (grades 9 through 12) reported current alcohol use (IN: 38.5%; U.S.: 44.9%), 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, n.d-b.).

In Indiana, a small percentage of 8th, 10th, and 12th grade students reported drinking alcohol daily (i.e., on at least 20 occasions during the past month)—1.5%, 2.7%, and 4.0%, respectively. U.S. rates seemed lower (0.5%, 1.1%, and 2.5%), but due to lack of detail provided in the publicly available dataset, statistical significance of the differences could not be determined (Indiana Prevention Resource Center, 2010; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.)

Alcohol Abuse and Dependence

The population-based rates for alcohol abuse and/or dependence were similar in Indiana (6.9%) and the nation (7.4%). The most affected age group encompassed 18- to 25-year-olds (IN: 16.5%; U.S.: 17.0%). The percentages of individuals needing but not receiving treatment for alcohol use in the past year were also comparable (IN: 6.2%; U.S.: 7.1%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

According to treatment data, alcohol was responsible for the largest percentage of admissions to substance abuse treatment facilities in 2008. Indiana's percentage (47.3%) was significantly higher than the nation's (41.3%). White individuals and older adults reported the highest rates (Substance Abuse and Mental Health Data Archive, n.d.).

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, 2004). Between 2000 and 2006, a total of 2,284 Hoosiers died from alcohol-related disease causes. In 2006, Indiana's age-adjusted mortality rate for alcohol-attributable deaths was 5.0 per 100,000 population (U.S.: 6.9 per 100,000 population)

(Centers for Disease Control and Prevention, n.d.-a). 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, n.d.-b).

In Indiana, the number of alcohol-related collisions decreased from 13,911 in 2003 to 8,855 in 2009. Also, the number of fatalities in crashes attributable to alcohol declined from 242 to 157 during those same years. The 2009 overall annual rate for alcohol-related collisions in Indiana was 1.38 per 1,000 population (Indiana State Police, 2010a).

Legal Consequences

Indiana's 2008 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: 4.9; U.S.: 4.2), public intoxication (IN: 3.5; U.S.: 1.7), and liquor law violations (IN: 2.7; U.S.: 1.8) (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.).

TOBACCO

Cigarette smoking remains the leading cause of preventable death in the United States, accounting for approximately one of every five deaths. In Indiana, one-third of the population ages 12 years and older (32.9%) said they used a tobacco product in the past month (current use), a rate significantly higher than the U.S. rate of 28.5%. The age group with the highest rate was 18- to 25-year-olds (IN: 47.5%; U.S.: 41.6%), 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: 27.6%; U.S.: 24.1%). Again, the highest rate was found among 18- to 25-year-olds (IN: 42.3%; U.S.: 35.9%); the difference between Indiana and the nation was significant (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

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, 2004

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, 2004

Adult (18 years and older) smoking prevalence in Indiana (23.1%) was the sixth highest in the nation and significantly greater than the U.S. rate (17.9%). 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: 42.1%; U.S.: 31.5%) and people whose household income was below $15,000 (IN: 41.9%; U.S.: 31.4%) (see Table 1.3) (Centers for Disease Control and Prevention, 2009a).

Youth Consumption

The percentages of young people (12 to 17 years) currently using a tobacco product (IN: 15.1%; U.S.: 11.9%) and currently smoking cigarettes (IN: 12.0%; U.S.: 9.5%) were greater in Indiana than the nation (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

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, n.d.-b).

Table 1.3 Adult Smoking Prevalence in Indiana, by Education and Income Levels (Behavioral Risk Factor Surveillance System, 2009)

Education	Smoking Prevalence	95% CI
Less than high school	42.1%	36.5%-47.8%
High school or GED	26.8%	24.5%–29.2%
Some post-high school	26.1%	23.3%–29.0%
College graduate	8.5%	7.0%–10.0%
Income	**Smoking Prevalence**	**95% CI**
Less than $15,000	41.9%	36.4%–47.4%
$15,000 – $24,999	35.2%	31.1%–39.2%
$25,000 – $34,999	27.5%	23.1%–31.9%
$35,000 – $49,999	23.6%	20.1%–27.0%
$50,000 and above	14.4%	12.7%–16.1%

Note: CI = confidence interval
Source: Centers for Disease Control and Prevention, 2009a

Past-month cigarette use decreased significantly from 2000 through 2008 among Indiana students: from 9.8% to 4.1% for middle school students, and from 31.6% to 18.3% for high school students (Indiana Tobacco Prevention and Cessation Agency, 2009).

In Indiana, a small percentage of 8th, 10th, and 12th grade students reported daily cigarette use (i.e., on at least 20 occasions during the past month)—4.7%, 10.8%, and 15.0%, respectively. U.S. rates seemed lower (3.1%, 5.9%, and 11.4%); but due to lack of detail in the publicly available dataset, statistical significance could not be determined (Indiana Prevention Resource Center, 2010; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.).

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, n.d.-a).

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.: 10.2%), and 6.3% reported past-month use (U.S.: 6.0%). Highest rates of use were found among 18- to 25-year-old Hoosiers (past-year use: 27.3%; past-month use: 16.9%); national rates were similar (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

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.: 5.5%). Patterns of current use among young people in Indiana and the nation were similar (IN: 7.6%; U.S.: 6.7%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

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, n.d.

Current marijuana use dropped from 2002 through 2007-2008 among Indiana 8th, 10th, and 12th grade students, but is now on the rise again (see Table 1.4) (Indiana Prevention Resource Center, 2010; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.)

Marijuana Abuse and Dependence

In 2008, more than half (55.0%) 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 (37.1%). In Indiana's treatment population, the highest percentages of marijuana use were found among males (57.7%), blacks (60.6%), and individuals under the age of 18 (85.8%). About one-fourth of Hoosiers in treatment (24.7%) reported

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, 2002–2010; Monitoring the Future Survey, 2002–2009)

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

Note: National data for 2010 are not available yet.

Source: Indiana Prevention Resource Center, 2010; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

marijuana dependence,[1] a percentage significantly higher than the nation's (16.9%). Again, males (26.4%), blacks (35.0%), and individuals under the age of 18 (68.8%) had statistically higher percentages (Substance Abuse and Mental Health Data Archive, n.d.).

Legal Consequences

In 2008, the arrest rate per 1,000 population for marijuana possession was lower in Indiana than the nation (IN: 2.2; U.S.: 2.3). However, Indiana and U.S. arrest rates per 1,000 population for marijuana sale/manufacture were similar (0.3) (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.).

COCAINE

Population-based estimates on past-year cocaine use were similar in Indiana and the nation (IN: 2.2%; U.S.: 2.2%). Young adults ages 18 to 25 displayed the highest rates (IN: 6.4%; U.S.: 6.0%). 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, n.d.).

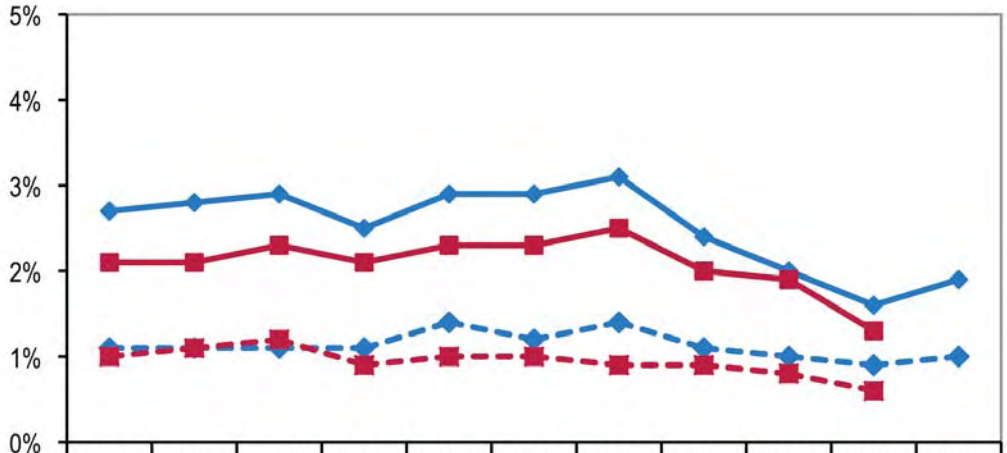
Youth Consumption

Past-year cocaine use among 12- to 17-year-olds was statistically similar in Indiana and the United States (IN: 1.3%; U.S.: 1.4%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

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, n.d.-b).

From 2000 through 2009, 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).

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, 2000–2010; Monitoring the Future Surveys, 2000–2009)



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Indiana Cocaine	2.7%	2.8%	2.9%	2.5%	2.9%	2.9%	3.1%	2.4%	2.0%	1.6%	1.9%
U.S. Cocaine	2.1%	2.1%	2.3%	2.1%	2.3%	2.3%	2.5%	2.0%	1.9%	1.3%	
Indiana Crack	1.1%	1.1%	1.1%	1.1%	1.4%	1.2%	1.4%	1.1%	1.0%	0.9%	1.0%
U.S. Crack	1.0%	1.1%	1.2%	0.9%	1.0%	1.0%	0.9%	0.9%	0.8%	0.6%	

Note: National data for 2010 were not available yet.
Source: Indiana Prevention Resource Center, 2010; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

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

However, due to lack of detail in the publicly available datasets, statistical significance of the results could not be determined (Indiana Prevention Resource Center, 2010; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.)

Cocaine Abuse and Dependence

In 2008, over one-fifth of Indiana's treatment episodes involved cocaine use (21.4%); this figure was significantly lower than the U.S. percentage (27.9%). The percentages of treatment episodes with cocaine use were highest among females, blacks, and 35- to 44-year-olds.

In almost one-tenth (9.3%) of treatment episodes in Indiana, cocaine was listed as the primary drug; the U.S. percentage (11.3%) was significantly higher. The percentage of treatment episodes with cocaine dependence[2] has been significantly lower in Indiana than the nation for at least the past eight years (2001 through 2008). 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, n.d.).

Table 1.5 Percentage of Treatment Episodes with Cocaine Dependence Reported at Treatment Admission in Indiana (Treatment Episode Data Set, 2008)

		Cocaine Dependence
Gender	Male	7.1%
	Female	13.7%
Race	White	6.8%
	Black	21.6%
	Other	6.8%
Age Group	Under 18	0.3%
	18-24	4.2%
	25-34	8.9%
	35-44	14.9%
	45-54	14.5%
	55 and over	9.2%
Total		**9.3%**

Source: Substance Abuse and Mental Health Data Archive, n.d.

Legal Consequences

Indiana law enforcement made over 3,300 arrests for possession and over 2,300 arrests for sale/manufacture of opiates and cocaine in 2008, representing arrest rates of 0.5 and 0.4 per 1,000 population, respectively. Indiana's arrest rates were lower for cocaine/opiate possession but similar for sale/manufacture when compared to the nation's (1.0 and 0.4 per 1,000 population, respectively) (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.).[3]

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 (0.0%) of the substance. U.S. data were comparable. (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

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, n.d.-b).

In 2009, reported heroin use among Indiana 12th grade students was as follows: 2.4% for lifetime use (U.S.: 1.2%), 1.5% for annual use (U.S.: 0.7%), and 0.8% for monthly use (0.4%) (Indiana Prevention Resource Center, 2010; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.)

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

Heroin Abuse and Dependence

In 2008, heroin use was reported in 4.1% of Indiana treatment episodes; this figure was significantly lower than the U.S. percentage (17.0%). In only 2.9% of treatment episodes in Indiana, heroin dependence[4] was indicated. Again, the U.S. percentage was significantly higher (14.2%). Significant differences in heroin dependence were seen by gender (more women reported use), race (higher rates for whites), and age group (adults ages 25 to 34 and 55 years and older were primarily affected) (Substance Abuse and Mental Health Data Archive, n.d.).

Morbidity and Mortality

A potential consequence of injected heroin use is contraction of HIV and/or hepatitis (B or C) from contaminated needles. In 2008, 367 new HIV infections and 146 new AIDS cases were reported in Indiana. A total of 9,253 individuals were living in Indiana with HIV disease,[5] and 781 (or 8.4%) of these cases were attributable to injection drug use (IDU) (Indiana State Department of Health, n.d.).

The calculated annual AIDS rate (per 100,000 population) in Indiana was 5.5 (U.S.: 12.9) (Centers for Disease Control and Prevention, 2010).

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 1.0 for HBV (U.S.: 1.5) and 0.2 for HCV (U.S.: 0.3) in 2007. Both HBV and HCV incidence rates have dropped in the past decades (Centers for Disease Control and Prevention, 2009b). The age-adjusted mortality rate (per 100,000 population) attributable to hepatitis B and hepatitis C (acute and chronic) was 1.4 in Indiana (U.S.: 2.2) (Centers for Disease Control and Prevention, n.d.-a).

Legal Consequences

In 2008, law enforcement made a total of 3,301 arrests for possession and 2,336 arrests for sale/manufacture of opiates and cocaine in Indiana, representing arrest rates of 0.5 and 0.4 per 1,000 population, respectively. Indiana's arrest rates were lower for cocaine/opiate possession but similar for sale/manufacture when compared to the nation's (1.0 and 0.4 per 1,000 population, respectively) (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, n.d.).[6]

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, n.d.).

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, n.d.-b).

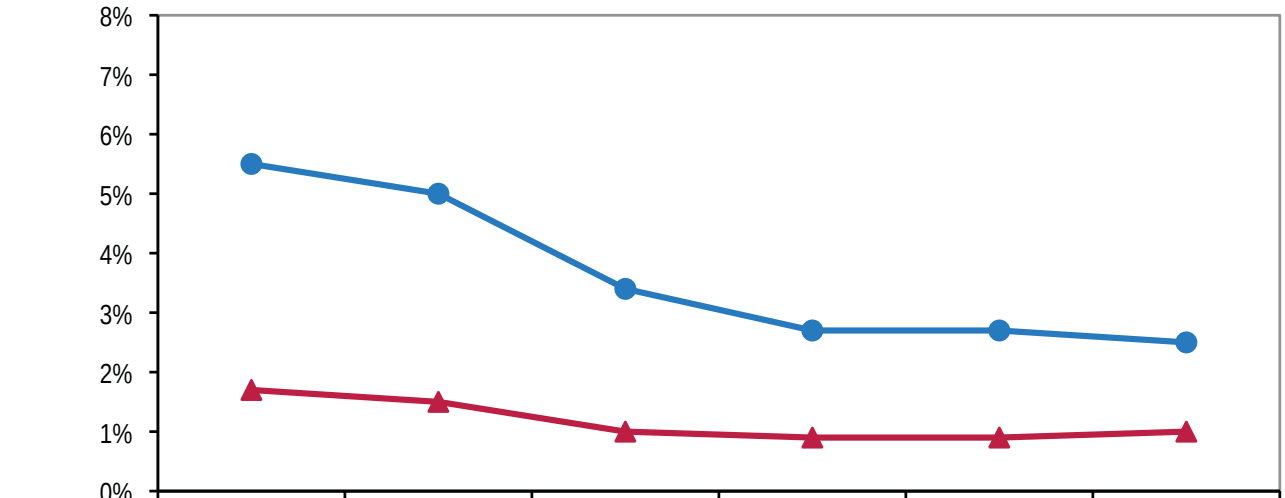
Indiana meth prevalence among 12th grade students seemed to have dropped from 2005 through 2010 for lifetime and monthly use (see Figure 1.2) (Indiana Prevention Resource Center, 2010).

Methamphetamine Abuse and Dependence

Between 2000 and 2008, the percentage of treatment admissions in Indiana reporting meth dependence[7] increased significantly from 1.5% to 5.0%, peaking at 5.9% in 2005. Indiana's percentage was 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, n.d.).

[4]We defined heroin dependence as "individuals in substance abuse treatment listing heroin as their primary substance at admission."
[5]HIV disease includes both HIV infections and AIDS cases.
[6]The Uniform Crime Reporting Program dataset combines arrests for cocaine and opiates; this information is not available for cocaine or opiates alone.
[7]We defined methamphetamine dependence as "individuals in substance abuse treatment listing methamphetamine as their primary substance at admission."

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, 2005–2010)



	2005	2006	2007	2008	2009	2010
Lifetime	5.5%	5.0%	3.4%	2.7%	2.7%	2.5%
Monthly	1.7%	1.5%	1.0%	0.9%	0.9%	1.0%

Source: Indiana Prevention Resource Center, 2010

Legal Consequences

The Indiana State Police seized 1,343 clandestine methamphetamine labs in 2009; the highest number of lab seizures thus far (Indiana State Police, 2010b).

In Indiana, almost 1,700 arrests were made for possession and 628 for the sale/manufacture of synthetic drugs[8] in 2008; 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, n.d.).

PRESCRIPTION DRUG ABUSE

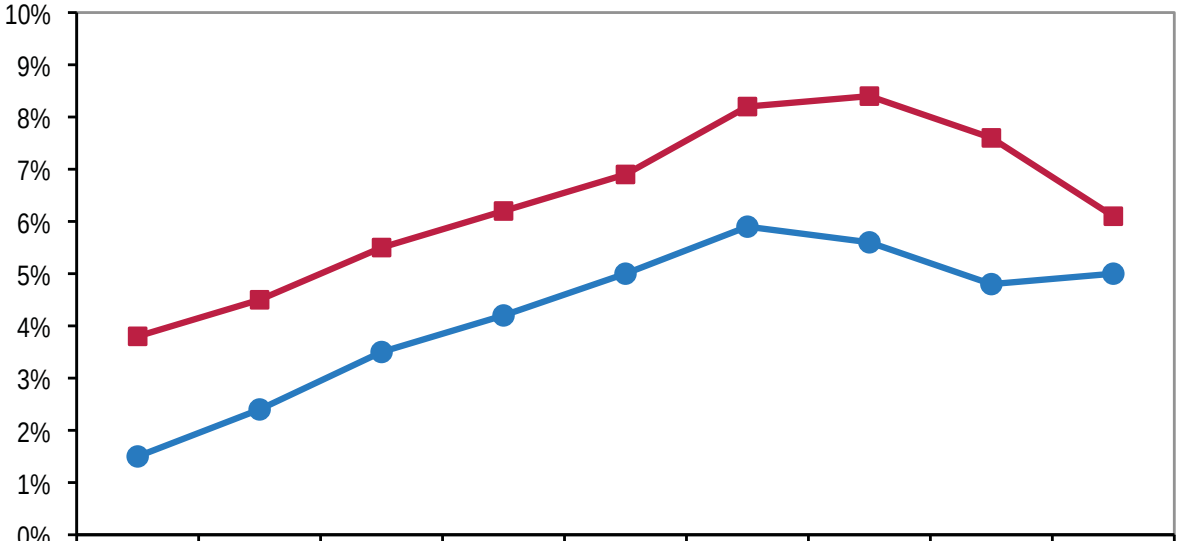
In 2008, more than 11.6 million prescription drugs were dispensed in Indiana; most of these pharmaceuticals (11.5 million) were purchased by Indiana residents, while the rest was distributed to out-of-state consumers. The most widely dispensed prescription drugs were opioids[9] (53.2%), followed by depressants of the central nervous system[10] (30.9%) and stimulants[11] (9.9%) (Indiana Board of Pharmacy, 2010).

In Indiana, over a million residents (20.7%) have misused psychotherapeutics at least once in their life (U.S.: 20.0%). Additionally, an estimated 383,000 Hoosiers (7.6%) abused prescription drugs in the past year (U.S.: 6.2%), and 138,000 residents (2.7%) did so in the past month (U.S.: 2.6%).[12] 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, n.d.).

Young people between the ages of 18 and 25 had the highest rate of past-year abuse in 2008 (IN: 14.2%; U.S.: 12.1%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

[8]The Uniform Crime Reporting Program collects arrest information on synthetic drugs. The category includes methamphetamine, methadone, and Demerol.
[9]Opioids include pain relievers, such as oxycodone and hydrocodone.
[10]CNS depressants include sedatives, tranquilizers, and hypnotics.
[11]Stimulants include Ritalin®, Adderall®, and dextroamphetamine.
[12]The terms "prescription drug misuse," "prescription drug abuse," and "nonmedical use of prescription drugs" were used interchangeably.

Figure 1.3 Percentage of Treatment Episodes with Methamphetamine Dependence Reported at Treatment Admission in Indiana and U.S. (Treatment Episode Data Set, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Indiana	1.5%	2.4%	3.5%	4.2%	5.0%	5.9%	5.6%	4.8%	5.0%
U.S.	3.8%	4.5%	5.5%	6.2%	6.9%	8.2%	8.4%	7.6%	6.1%

Source: Substance Abuse and Mental Health Data Archive, n.d.

Youth Consumption

A total of 41,000 Hoosiers (7.7%) ages 12 to 17 used prescription pain medications for nonmedical purposes in the past year; Indiana's percentage was similar to the nation's, 6.6% (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

Indiana data on current drug use show that among 12th grade students, 6.3% reported use of prescription painkillers,[13] 5.9% used prescription drugs (excludes painkillers),[14] and 1.8% used tranquilizers[15] (see Figure 1.4) (Indiana Prevention Resource Center, 2010).

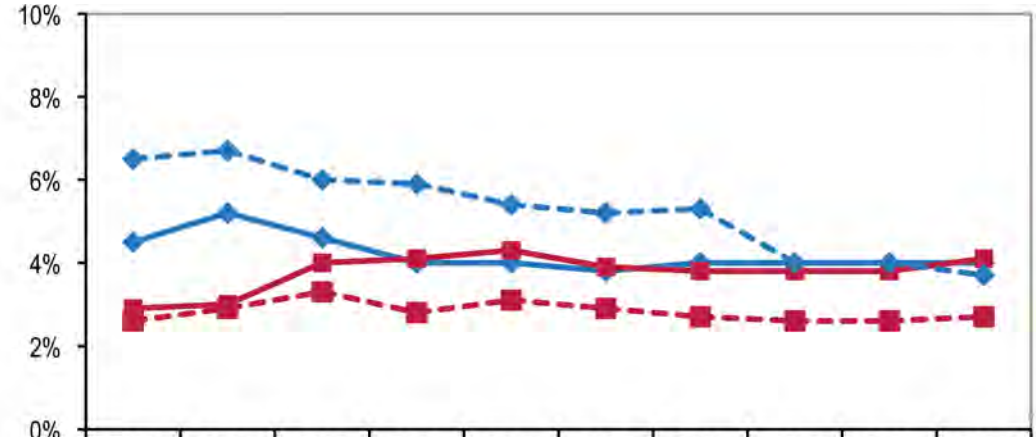
Table 1.6 Lifetime, Past Year, and Current Nonmedical Use of Psychotherapeutics, Indiana and United States (National Survey on Drug Use and Health)

	Lifetime Use		Past Year Use		Past Month Use	
	Indiana	U.S.	Indiana	U.S.	Indiana	U.S.
All Psychotherapeutics	20.7%	20.6%	7.6%	6.4%	2.7%	2.8%
Pain Relievers	15.0%	13.9%	6.1%	4.9%	2.0%	2.1%
OxyContin	2.5%	2.3%	0.8%	0.7%	0.3%	0.2%
Tranquilizers	9.1%	8.6%	2.8%	2.2%	0.8%	0.8%
Sedatives	3.9%	3.4%	0.4%	0.3%	0.1%	0.1%
Stimulants	8.3%	8.7%	1.7%	1.2%	0.8%	0.5%

Note: Indiana rates are based on 2002–2004 averages; U.S. rates are based on the 2009 findings.
Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.

[13]Includes Vicodin®, Oxycontin®, and Percocet®.
[14]Includes Ritalin®, Adderall®, and Xanax®.
[15]Also known as "downers".

Figure 1.4 Percentage of Indiana and U.S. 12th Grade Students Reporting Current Nonmedical Use of Narcotics and Tranquilizers (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2000–2009; Monitoring the Future Survey, 2000–2009)



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Indiana Narcotics	4.5%	5.2%	4.6%	4.0%	4.0%	3.8%	4.0%	4.0%	4.0%	4.0%
U.S. Narcotics	2.9%	3.0%	4.0%	4.1%	4.3%	3.9%	3.8%	3.8%	3.8%	4.1%
Indiana Tranquilizer	6.5%	6.7%	6.0%	5.9%	5.4%	5.2%	5.3%	4.0%	4.0%	3.7%
U.S. Tranquilizer	2.6%	2.9%	3.3%	2.8%	3.1%	2.9%	2.7%	2.6%	2.6%	2.7%

Source: Indiana Prevention Resource Center, 2010; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

Prescription Drug Abuse and Dependence

In 9.6% of Indiana treatment episodes in 2008, prescription drug dependence[16] was indicated (U.S.: 7.1%). Most of these were due to pain relievers (IN: 7.8%; U.S.: 5.9%), followed by sedatives and tranquilizers (IN: 1.6%; U.S.: 0.8%) 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 similar. 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 2008, only remaining stable for stimulants (Substance Abuse and Mental Health Data Archive, n.d.).

Legal Consequences

In 2008, law enforcement made over 3,500 arrests for possession and over 800 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 (0.8) but similar for sale/manufacture (0.2) (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.).

POLYSUBSTANCE ABUSE AND CO-OCCURRING DISORDER

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 2008 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 59.8% in 2008 (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 26.3% in 2008 (see Figure 1.5). The percentages of polysubstance abuse were slightly higher for females, whites, and younger adults

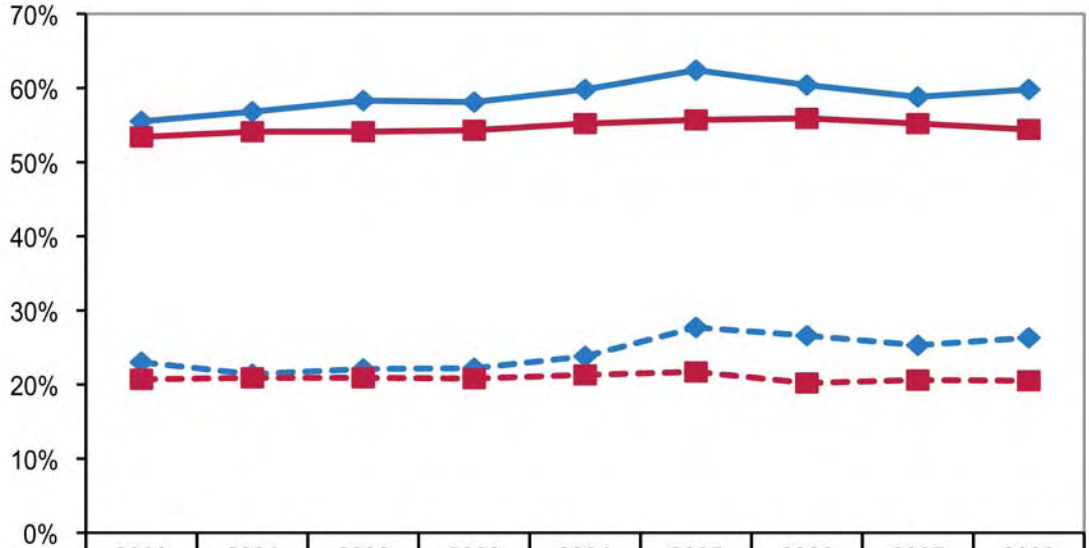
[16]We defined prescription drug dependence as "individuals in substance abuse treatment listing prescription drugs as their primary substance at admission."

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, 2008)

		All Prescription Drugs	Pain Relievers	Sedatives/Tranquilizers	Stimulants
Gender	Male	7.1%	5.8%	1.1%	0.2%
	Female	14.8%	11.9%	2.5%	0.4%
Race	White	11.6%	9.4%	1.9%	0.3%
	Black	1.4%	1.0%	0.4%	0.1%
	Other	5.4%	4.5%	0.9%	0.1%
Age Group	Under 18	3.6%	1.8%	1.9%	0.0%
	18 to 24	10.0%	8.1%	1.7%	0.2%
	25 to 34	13.2%	11.2%	1.7%	0.3%
	35 to 44	7.7%	6.0%	1.3%	0.4%
	45 to 54	6.0%	4.5%	1.3%	0.2%
	55 and over	4.5%	3.3%	1.0%	0.2%
Total		**9.6%**	**7.8%**	**1.6%**	**0.3%**

Source: Substance Abuse and Mental Health Data Archive, n.d.

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, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Indiana 2+	55.5%	56.8%	58.3%	58.1%	59.8%	62.4%	60.4%	58.8%	59.8%
U.S. 2+	53.4%	54.1%	54.1%	54.3%	55.2%	55.7%	55.9%	55.2%	54.4%
Indiana 3+	23.0%	21.4%	22.1%	22.2%	23.8%	27.7%	26.6%	25.3%	26.3%
U.S. 3+	20.7%	20.9%	20.9%	20.8%	21.3%	21.7%	20.2%	20.6%	20.5%

Source: Substance Abuse and Mental Health Data Archive, n.d.

Cluster Analysis

We conducted a cluster analysis of 2008 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 cocaine, and (c) alcohol, marijuana, and opiates/synthetics (Substance Abuse and Mental Health Data Archive, n.d.).

Co-Occurring Disorder

The terms "co-occurring disorder" and "dual diagnosis" are frequently used to denote the co-occurrence of mental illness and substance abuse. Research has shown that co-occurring disorders are very common (National Alliance on Mental Illness, 2003).

In 2008, 5.4% of adult Hoosiers (almost 250,000 residents) were estimated to be suffering from severe mental illness (SMI),[17] and an estimated 23.2% of adults with SMI also suffered from chronic addiction. This translates into over 57,000 Hoosiers with co-occurring disorder (Indiana Division of Mental Health and Addiction, Family and Social Services Administration, n.d.).

[17]The Substance Abuse and Mental Health Services Administration defines severe mental illness (SMI) as any diagnosable mental disorder, using DSM-IV criteria, that severely impacts functioning and significantly affects normal life activities.

REFERENCES, CHAPTER 1

Centers for Disease Control and Prevention. (2004). *Alcohol-related disease impact (ARDI).* Retrieved March 27, 2008, from http://apps.nccd.cdc.gov/ardi/Homepage.aspx

Centers for Disease Control and Prevention. (2009a). *Behavioral Risk Factor Surveillance System - prevalence data.* Retrieved September 11, 2010, from http://apps.nccd.cdc.gov/brfss/

Centers for Disease Control and Prevention. (2009b). *Surveillance for acute viral hepatitis — United States, 2007.* Retrieved September 16, 2010, from http://www.cdc.gov/mmwr/PDF/ss/ss5803.pdf

Centers for Disease Control and Prevention. (2010). *HIV/AIDS surveillance report.* Retrieved September 23, 2010, from http://www.cdc.gov/hiv/topics/surveillance/resources/reports/index.htm#surveillance

Centers for Disease Control and Prevention. (n.d.-a). *CDC Wonder.* Retrieved September 23, 2010, from http://wonder.cdc.gov/cmf-icd10.html

Centers for Disease Control and Prevention. (n.d.-b). *Youth Risk Behavior Surveillance System.* Retrieved September 1, 2010, from http://www.cdc.gov/HealthyYouth/yrbs/index.htm

Indiana Board of Pharmacy. (2010). *2008 INSPECT dataset.* Received May 26, 2010, from Joshua Klatte, Program Director, INSPECT Prescription Monitoring Program, Indiana Board of Pharmacy.

Indiana Division of Mental Health and Addiction and Family and Social Services Administration. (n.d.). *Prevalence of illness reports.* Retrieved January 22, 2010, from http://www.in.gov/fssa/dmha/7368.htm

Indiana Prevention Resource Center. (2010). *Alcohol, tobacco, and other drug use by Indiana children and adolescents.* Retrieved September 13, 2010, from http://www.drugs.indiana.edu/data-survey_monograph.html

Indiana State Department of Health. (n.d.). *HIV/STD spotlight reports – December 2009.* Retrieved September 9, 2010, from http://www.in.gov/isdh/24407.htm

Indiana State Police. (2010a). *Automated Reporting Information Exchange System (ARIES). Vehicle Crash Records System.* Database maintained by the Indiana State Police and made available to the Center for Criminal Justice Research, Public Policy Institute, School of Public and Environmental Affairs, Indiana University–Purdue University Indianapolis (March 1, 2010).

Indiana State Police. (2010b). *2009 ISP lab stats.* Received February 3, 2010, from Niki Crawford, First Sergeant Commander, Methamphetamine Suppression Section, in an e-mail to the Indiana University Center for Health Policy.

Indiana Tobacco Prevention and Cessation Agency. (2009). *Indiana Youth Tobacco Survey (IYTS), 2000–2008.* Received November 3, 2009, from Katelin Ryan, Research Director at the Indiana Tobacco Prevention and Cessation Agency, in an e-mail to the Indiana University Center for Health Policy.

Inter-university Consortium for Political and Social Research, University of Michigan. (n.d.). *Monitoring the Future.* Retrieved September 15, 2010, from http://www.monitoringthefuture.org/data/07data.html#2007data-drugs

National Alliance on Mental Illness. (2003). *Dual diagnosis and integrated treatment of mental illness and substance abuse disorder.* Retrieved January 20, 2010, from http://www.nami.org/Template.cfm?Section=By_Illness&Template=/TaggedPage/TaggedPageDisplay.cfm&TPLID=54&ContentID=23049

National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan. (n.d.). *Uniform Crime Reporting Program.* Available at http://www.icpsr.umich.edu/NACJD/

Substance Abuse and Mental Health Data Archive. (n.d.). *Treatment Episode Data Set - Admissions (TEDS-A), 2008.* Available at http://webapp.icpsr.umich.edu/cocoon/SAMHDA/STUDY/24280.xml

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (n.d.). *National Survey on Drug Use and Health.* Retrieved September 15, 2010, from https://nsduhweb.rti.org/

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) and co-occurring disorder (i.e., having a mental disorder and a substance use disorder). 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 national 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 the eight substance chapters, depending on the data sources that provided the information.

We used two guidelines to determine potential intervention 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. 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, such as 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.

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

Alcohol-Related Disease Impact (ARDI) Database

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

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 sample[2] 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 19) 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, which was developed by the National Highway Traffic Safety Administration's National Center for Statistics and Analysis in 1975. Comparisons between Indiana and the nation should be interpreted with caution as data submissions to the FARS database are done on a voluntary basis and may not include all fatal motor vehicle accidents within a state or the nation.

Behavioral Risk Factor Surveillance System (BRFSS) Survey

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

Hospital Discharge Data

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

Indiana Adult Tobacco Survey (IN ATS)

The 2008 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 used a random-sampling design; African-American and Hispanic adults as well as residents in more rural regions of the state were 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 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.

[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 that 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.

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, 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)

The 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 the UCR does 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 198-199, 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: 1993–2010
Strengths/Weaknesses: School-specific survey results are valuable to participating schools. Statewide findings provide prevalence estimates but may not be representative for 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: 1994–2009
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/brfss-smart/index.asp.
Trend: 1995–2009
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. Dataset can be queried by primary diagnosis (ICD-9 codes), e.g., alcohol- and drug-induced diseases.
Sponsoring Organization/Source: Indiana State Department of Health (ISDH)

Geographic Level: Indiana
Availability: Annual data are available at http://www.in.gov/isdh/20624.htm.
Trend: 1999–2008
Strengths/Weaknesses: The data are in aggregate format; comparisons by demographic variables such as age, gender, and race/ethnicity are not possible.

Indiana Adult Tobacco Survey (IN ATS)

Description: This survey measures tobacco use among Indiana adults, and includes items on tobacco use, cessation, secondhand smoke, and awareness.
Sponsoring Organization/Source: Indiana Tobacco Prevention and Cessation Agency (ITPC)
Geographic Level: Indiana and regions
Availability: Datasets 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 the 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 from ISP are available on request; national data can be accessed at http://www.justice.gov/dea/concern/map_lab_seizures.html.
Trend: 1995–2009

Indiana Mortality Data and National Vital Statistics System (NVSS)

Description: NVSS contains mortality data from all U.S. states; the online database can be queried on number of deaths and death rates from alcohol- and drug-related causes. Indiana data can also be directly requested from the Indiana State Department of Health (ISDH).
Sponsoring Organization/Source: Indiana State Department of Health (ISDH); CDC's National Center for Health Statistics
Geographic Level: National, state, and county levels
Availability: National mortality data can be accessed by underlying cause of death (ICD-10 codes) from CDC at http://wonder.cdc.gov/mortSQL.html; state data are available on request from the Indiana State Department of Health.
Trend: 1999–2006 (online from CDC). Indiana data for other years are available on request from Indiana State Department of Health.

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.
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 2009 (NYTS) / 2008 (IYTS)
Strengths/Weaknesses: The IYTS provides detailed statewide information regarding youth knowledge, attitudes, and behaviors. However, county-level data are not available.

Monitoring the Future (MTF) Survey

Description: MTF is an ongoing study of youth behaviors, attitudes, and values. 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: 1991–2009
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 1994–2008; state estimates are available for 1999–2008.
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/sammec/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: 1999–2008; county-level data reported for 2009
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: 1994–2008
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

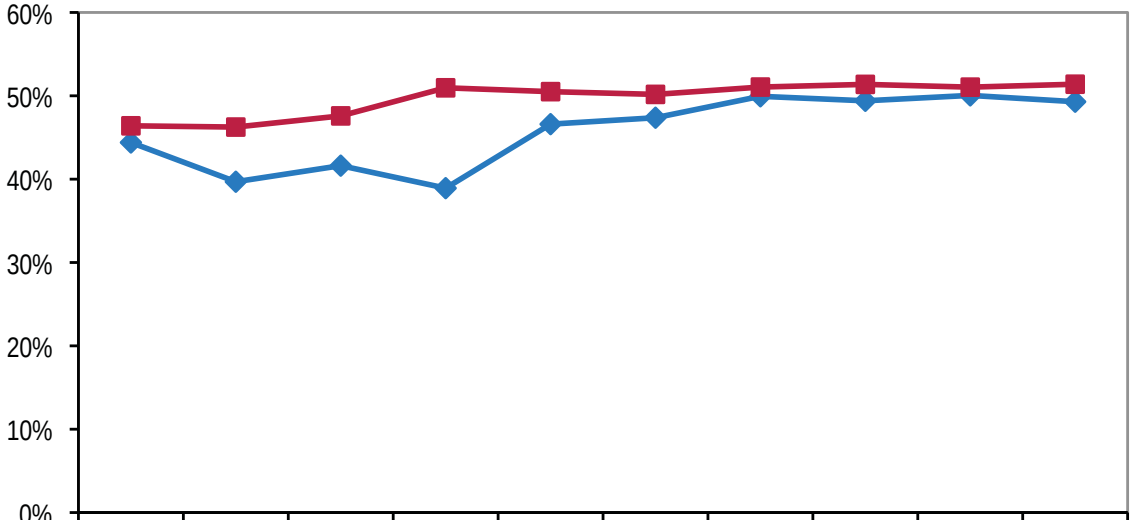
General Consumption Patterns

Alcohol is the most frequently used drug 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 2009, a total of 13,812 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 (1,924) and Lake (1,197) Counties (Alcohol and Tobacco Commission, 2009).

Based on 2007–2008 averages calculated from the National Survey on Drug Use and Health (NSDUH), the Substance Abuse and Mental Health Services Administration (SAMHSA) estimated that 49.3% (95% Confidence Interval [CI]: 46.2–52.4) of Indiana residents 12 years of age or older had used alcohol during the past month. SAMHSA estimated that 51.4% of the U.S. population had used alcohol during the past month. Although Indiana's current alcohol use[1] statistically seems to be below the national rate, the difference is not significant. Similarly, rates of current use seem to have increased from 1999 to 2008 in Indiana; however, the difference is not statistically significant (see Figure 3.1) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

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, 1999–2008)



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Indiana	44.4%	39.7%	41.6%	38.9%	46.6%	47.4%	49.9%	49.4%	50.1%	49.3%
U.S.	46.4%	46.3%	47.6%	51.0%	50.5%	50.2%	51.1%	51.4%	51.0%	51.4%

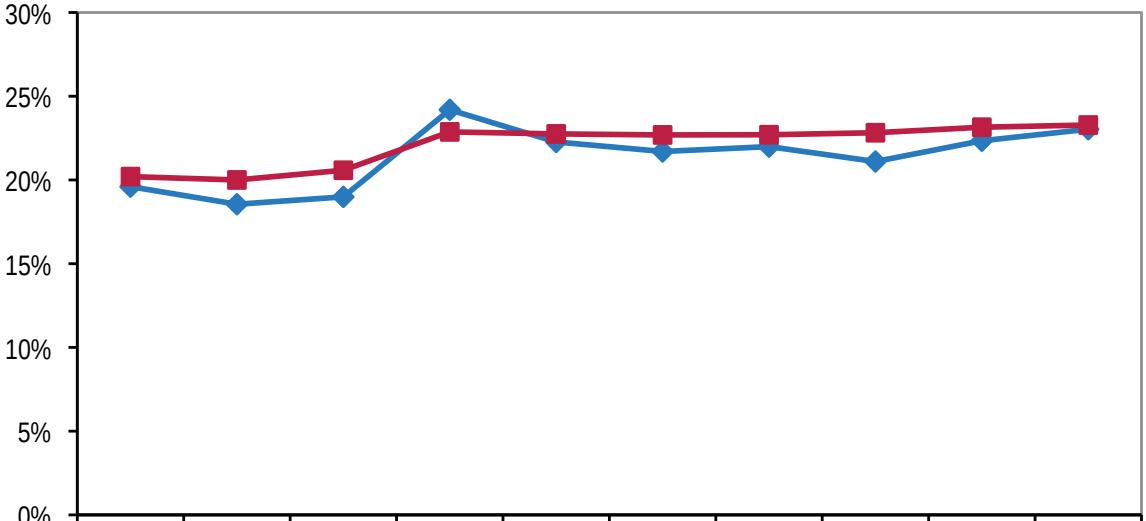
Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.

[1]Current 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 2008, the percentage of the Indiana population 12 years of age or older reporting binge drinking was , 23.0% (95% CI: 20.8–25.4), similar to that of the national average 23.3% (see Figure 3.2) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

Based on 2007–2008 NSDUH estimates, 39.7% (95% CI: 36.9–42.6) of Hoosiers 12 years of age and older (U.S.: 41.9%) perceived having five or more drinks of an alcoholic beverage once or twice a week to be a great risk to a person's health. Perception of risk seemed to be inversely related to actual rates of binge drinking among adults: 18- to 25-year-olds who showed the highest prevalence of binge drinking displayed the lowest rate of risk perception (29.2%; 95% CI: 26.1–32.5), compared to adults 26 years and older (41.7%; 95% CI: 38.3–45.2) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

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, 1999–2008)



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Indiana	19.6%	18.6%	19.0%	24.2%	22.3%	21.7%	22.0%	21.1%	22.3%	23.0%
U.S.	20.2%	20.0%	20.6%	22.9%	22.8%	22.7%	22.7%	22.8%	23.2%	23.3%

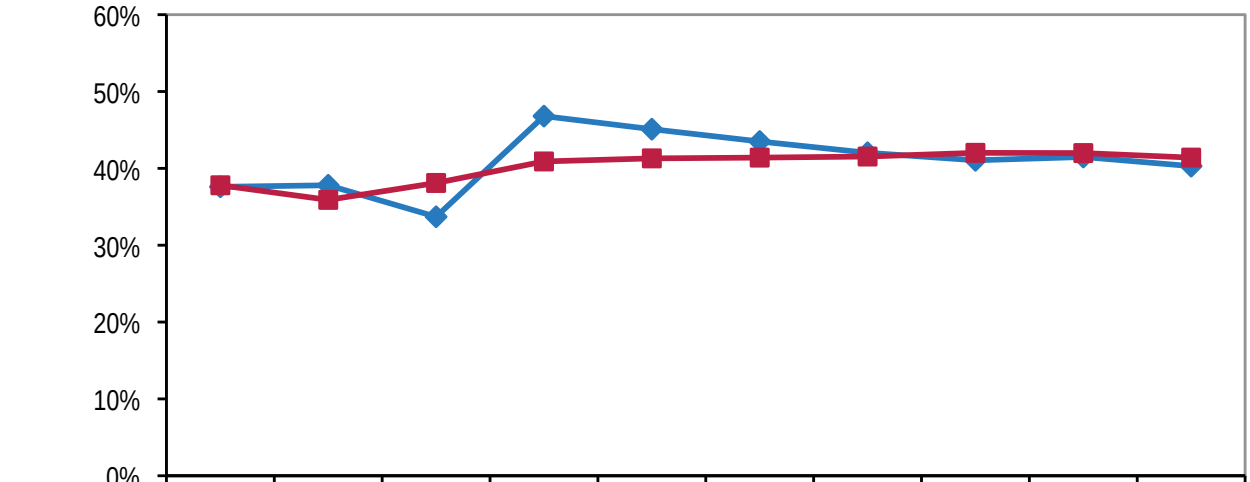
Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.

Adult Alcohol Consumption Patterns

According to 2007–2008 NSDUH results, 58.2% of Hoosiers (95% CI: 54.4–61.9) between the ages of 18 and 25 reported current alcohol use; the U.S. rate was similar at 61.2%. Past-month consumption of alcohol was significantly lower for adults 26 years and older; Indiana's rate (52.3%; 95% CI: 48.5–56.1) and the national rate (54.4%) were similar (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

Binge drinking was particularly widespread among young adults. The highest prevalence rate was found among 18- to 25-year-olds, with the Indiana rate (40.3%; 95% CI: 36.6–44.1) and U.S. rate (41.4%) being similar (see Figure 3.3). Among adults, binge drinking rates decreased with age; 21.9% (95% CI: 19.2–24.8) 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.: 22.0%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

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, 1999–2008)



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Indiana	37.6%	37.8%	33.7%	46.8%	45.1%	43.5%	42.0%	41.1%	41.5%	40.3%
U.S.	37.8%	35.9%	38.1%	40.9%	41.3%	41.4%	41.5%	42.0%	42.0%	41.4%

Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.

Table 3.1 Percentage of Indiana and U.S. Adults Having Used Alcohol in the Past 30 Days (Behavioral Risk Factor Surveillance System, 2009)

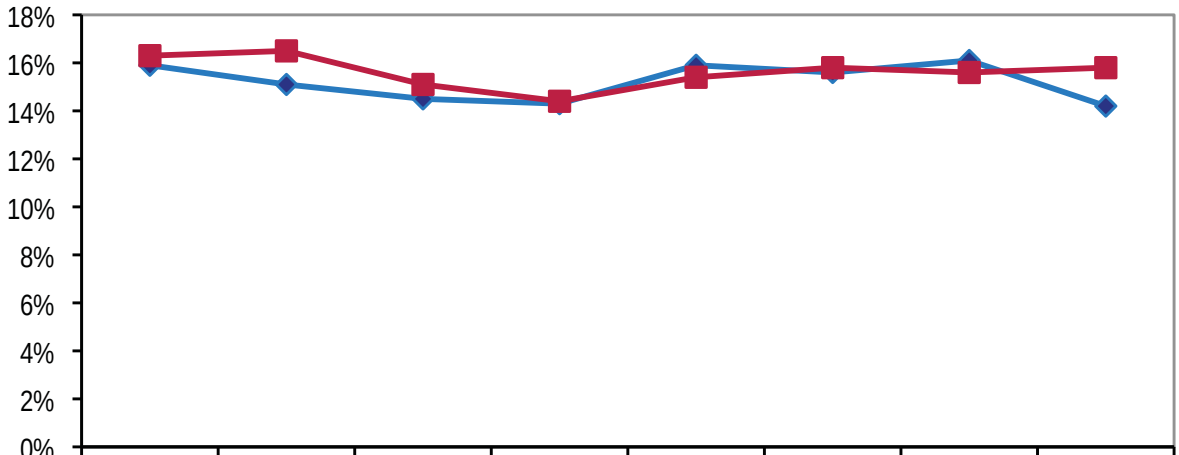
		Indiana % (95% CI)	U.S. %
Gender	Male	54.1% (51.6–56.6)	62.0%
	Female	41.2% (39.3–43.2)	46.9%
Race/Ethnicity	White	48.4% (46.8–50.0)	58.3%
	Black	40.1% (34.1–46.1)	42.1%
	Hispanic	43.1% (33.9–52.4)	43.2%
Age Group	18-24	40.5% (33.6–47.4)	49.9%
	25-34	57.7% (53.2–62.2)	60.2%
	35-44	54.2% (50.7–57.6)	60.3%
	45-54	53.2% (50.3–56.0)	57.6%
	55-64	43.3% (40.7–46.0)	54.1%
	65+	32.5% (30.3–34.6)	41.0%
Total		**47.5% (45.9–49.1)**	**54.4%**

Source: Centers for Disease Control and Prevention, 2009

The 2009 Behavioral Risk Factor Surveillance System (BRFSS) reported that Indiana's adult prevalence rate for current alcohol use (47.5%; 95% CI: 45.9–49.1) was significantly lower than the nation's (54.4%). In Indiana, rates were significantly higher among males than females, and among younger age groups; also, whites reported a higher prevalence rate than blacks (see Table 3.1) (Centers for Disease Control and Prevention, 2009).

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 (14.2%; 95% CI: 12.9–15.4) than the United States (15.8%), and has remained stable from 2002 through 2009 (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, 2009).

Figure 3.4 Percentage of Indiana and U.S. Adults Reporting Binge Drinking in the Past 30 Days (Behavioral Risk Factor Surveillance System, 2002–2009)



	2002	2003	2004	2005	2006	2007	2008	2009
Indiana	15.9%	15.1%	14.5%	14.3%	15.9%	15.6%	16.1%	14.2%
U.S.	16.3%	16.5%	15.1%	14.4%	15.4%	15.8%	15.6%	15.8%

Source: Centers for Disease Control and Prevention, 2009

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 (3.7%; 95% CI: 3.1–4.3) than the United States (5.1%) in 2009. No significant differences by gender, age, or race/ethnicity were observed (Centers for Disease Control and Prevention, 2009).

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

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).

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, 2009)

		Indiana % (95% CI)	U.S. %
Gender	Male	19.4% (17.1–21.6)	21.3%
	Female	9.3% (8.1–10.5)	10.6%
Race/Ethnicity	White	14.2% (12.9–15.4)	16.1%
	Black	9.0% (6.0–12.0)	10.2%
	Hispanic	17.3% (9.7–24.8)	14.7%
Age Group	18-24	19.4% (13.8–24.9)	25.2%
	25-34	22.0% (17.7–26.4)	23.9%
	35-44	17.8% (15.0–20.6)	18.4%
	45-54	14.7% (12.6–16.7)	14.4%
	55-64	8.9% (7.4–10.4)	9.4%
	65+	2.5% (1.8–3.3)	3.5%
Total		**14.2% (12.9-15.4)**	**15.8%**

Source: Centers for Disease Control and Prevention, 2009

Youth Alcohol Consumption Patterns

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, n.d.b), the NSDUH (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.), the Monitoring the Future survey, or MTF (Inter-university Consortium for Political and Social Research, University of Michigan, n.d.), and the Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents (ATOD) survey (Indiana Prevention Resource Center, 2009a), a nonrandom survey of Indiana students modeled after the MTF. All of these report on alcohol consumption behaviors in middle school and 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. The rate has remained stable from 2003 until 2009, and 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) (Centers for Disease Control and Prevention, n.d.-b).

In 2009, 24.9% (95% CI: 21.4–28.7) of high school students in Indiana said they had five or more alcoholic drinks within a couple of hours at least once in the past month. This is statistically similar to the U.S. rate (24.2%; 95% CI: 22.6–25.9). Rates did not differ significantly by gender but did vary 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). There was a significant reduction in the rate for Hispanics from 2007 (34.9%; 95% CI: 28.0-42.5) to 2009 (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) (Centers for Disease Control and Prevention, n.d.-b).

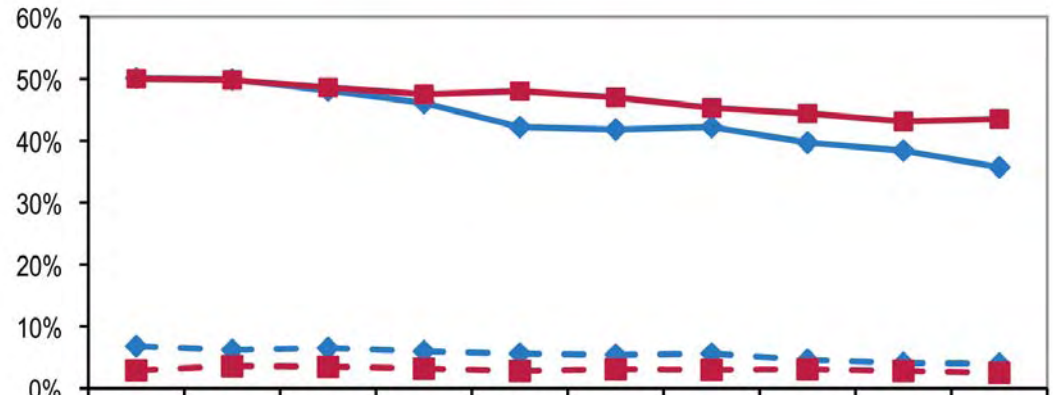
According to the most recent NSDUH estimates, 15.7% (95% CI: 13.6–18.0) of young people ages 12 to 17 consumed alcohol in the past 30 days in Indiana; the rate was similar on the national level (15.3%). Additionally, 9.9% (95% CI: 8.2–11.8) of Indiana youths in this age group engaged in binge drinking in the past month; the state's prevalence among 12- to 17-year-olds was similar to the nation's (9.3%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

Information on alcohol consumption from the MTF is based on responses by U.S. students in the 8th, 10th, and 12th grades. In 2009, 14.9% of 8th graders, 30.4% of 10th graders, and 43.5% of 12th graders reported they had used alcohol in the past month (Inter-university Consortium for Political and Social Research, University of Michigan, n.d.). Results from Indiana's annual school survey show that 19.3% of 8th graders, 30.3% of 10th graders, and 39.4% of 12th graders consumed alcohol in the past 30 days (Indiana Prevention Resource Center, 2010).[2]

[2]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.

Daily alcohol use,[3] as defined by the MTF and ATOD surveys, refers to the consumption of at least one alcoholic beverage on 20 or more days in the last month. In Indiana, 1.5% of 8th grade students (U.S.: 0.5%), 2.7% of 10th grade students (U.S.: 1.1%), and 4.0% of 12th grade students (U.S.: 2.5%) reported daily alcohol use in 2009 (Indiana Prevention Resource Center, 2009a; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.). For trend information on monthly and daily alcohol use among high school seniors, see Figure 3.5, and for 2009 information on 8th, 10th, and 12th grade students, see Figure 3.6.

Figure 3.5 Percentage of Indiana and U.S. High School Seniors (12th Grade) Reporting Monthly and Daily Alcohol Use (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey and Monitoring the Future Survey, 2000–2009)



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
IN Monthly Use	50.1%	49.9%	48.1%	46.1%	42.2%	41.8%	42.2%	39.7%	38.4%	35.7%
U.S. Monthly Use	50.0%	49.8%	48.6%	47.5%	48.0%	47.0%	45.3%	44.4%	43.1%	43.5%
IN Daily Use	6.8%	6.2%	6.5%	6.0%	5.6%	5.4%	5.6%	4.6%	4.1%	4.0%
U.S. Daily Use	2.9%	3.6%	3.5%	3.2%	2.8%	3.1%	3.0%	3.1%	2.8%	2.5%

Source: Indiana Prevention Resource Center, 2009a; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

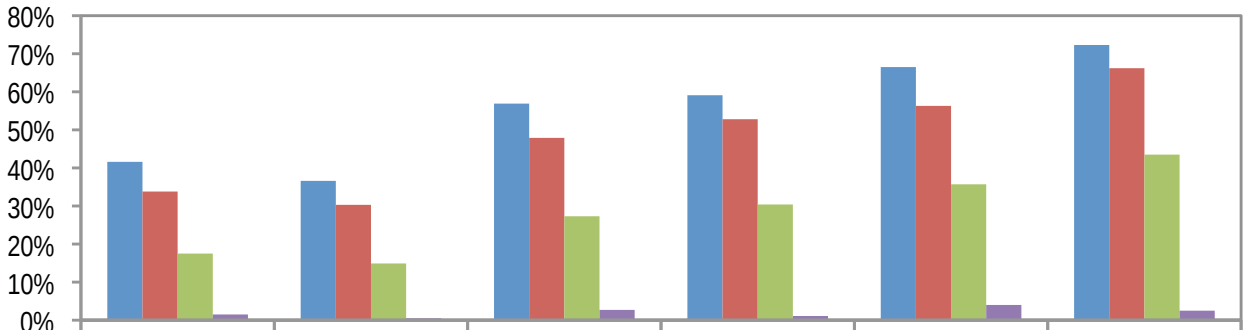
Overall alcohol consumption patterns seemed to progress with age; i.e., 8th grade students showed lower prevalence rates than 10th and 12th grade students. Comparisons between students in Indiana and the United States suggested higher prevalence rates among Hoosier 8th graders, but lower rates among 10th and 12th grade students, except for daily alcohol use, which seemed to be higher in Indiana (see Figure 3.6). (For lifetime, monthly, and binge use by Indiana region and grade for 2010, see Appendix 3A, page 42). Indiana students initiated alcohol use, on average, at the age of 13.2 years (Indiana Prevention Resource Center, 2010).

The NSDUH provides additional prevalence estimates for current alcohol use and binge drinking by individuals below the legal drinking age of 21. Based on 2007–2008 estimates, 25.5% (95% CI: 23.1–28.1) of young Hoosiers between ages 12 and 20 had used alcohol in the past month (U.S.: 27.2%), and 17.4% (95% CI: 15.3–19.7) had engaged in binge drinking (U.S.: 18.0%). Indiana's prevalence rates on these two measures were similar to U.S. rates (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

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. In 2009, among Indiana college

[3]Daily and annual alcohol use data were not published by Indiana Prevention Resource Center for 2010. Daily and annual usage comparisons between Indiana and the nation are based on 2009 data.

Figure 3.6 Percentage of Indiana and U.S. 8th, 10th, and 12th Grade Students Reporting Lifetime, Annual, Monthly, and Daily Alcohol Use (Alcohol, Tobacco, and other Drug Use by Indiana Children and Adolescents Survey and Monitoring the Future Survey, 2009)



	Indiana	U.S.	Indiana	U.S.	Indiana	U.S.
	8th Grade		10th Grade		12th Grade	
Lifetime	41.6%	36.6%	56.9%	59.1%	66.5%	72.3%
Annual	33.8%	30.3%	47.9%	52.8%	56.3%	66.2%
Monthly	17.5%	14.9%	27.3%	30.4%	35.7%	43.5%
Daily	1.5%	0.5%	2.7%	1.1%	4.0%	2.5%

Source: Indiana Prevention Resource Center, 2009a; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

students under the age of 21, 67.6% had consumed alcohol in the past month, and 46.2% reported binge drinking during the past two weeks (Indiana Prevention Resource Center, 2009b).

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 49.)

CONSEQUENCES

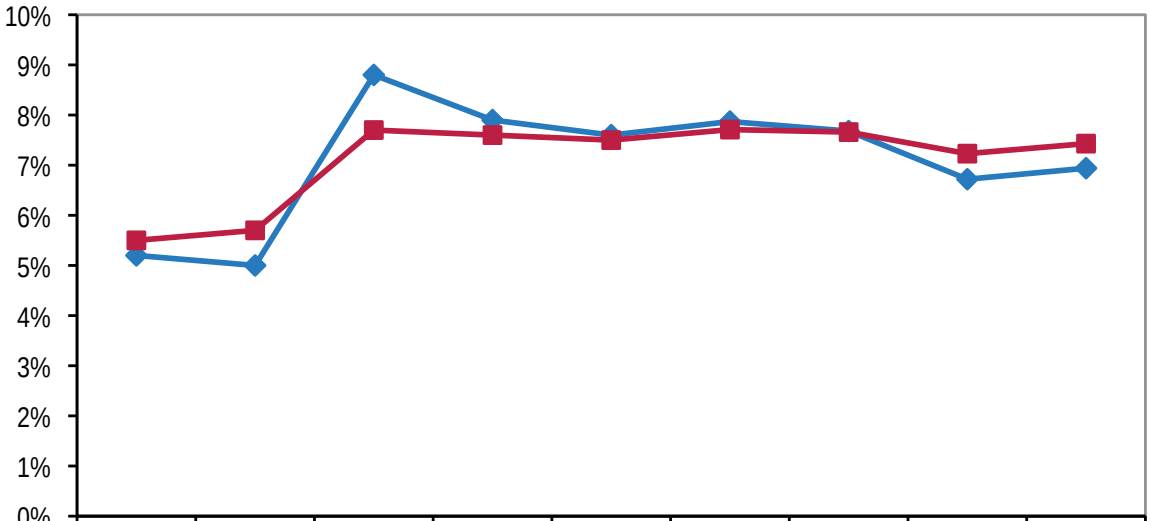
Alcohol use is a major factor in homicides, suicides, violent crimes, and motor vehicle crashes. Heavy alcohol use can lead to serious patterns of abuse and/or dependence and is associated with other unsafe behaviors such as cigarette smoking, illicit drug use, and risky sex. Chronic alcohol use can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

Alcohol Abuse and Dependence

Based on 2007-2008 NSDUH averages, the estimated prevalence for alcohol abuse and/or dependence[4] in the past year was 6.9% (95% CI: 5.9–8.2) in Indiana, which was similar to the national estimate (7.4%). At least since 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 6.2% (95% CI: 5.2–7.4) were in need of but did not receive treatment for alcohol use in Indiana (U.S.: 7.1%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

[4]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, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Indiana	5.2%	5.0%	8.8%	7.9%	7.6%	7.9%	7.7%	6.7%	6.9%
U.S.	5.5%	5.7%	7.7%	7.6%	7.5%	7.7%	7.7%	7.2%	7.4%

Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.

Based on findings from the Treatment Episode Data Set (TEDS), alcohol plays a major role in admissions to substance abuse treatment. In over two-thirds (71.0%) of treatment episodes in 2008, alcohol use was reported in Indiana. This is a significantly higher proportion than for the rest of the United States (61.0%). Similarly, the percentage of treatment episodes in which alcohol dependence[5] was indicated was greater in Indiana (47.3%) than the nation (41.3%) (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 nine years (from 2000 to 2008) (Substance Abuse and Mental Health Data Archive, n.d.).

Factors associated with alcohol abuse and dependence in Indiana included gender, age, and race/ethnicity (findings from the 2008 TEDS dataset):

Gender—More than half of the males (51.4%) listed alcohol as their primary substance, compared to 38.6% of females ($P < 0.001$).

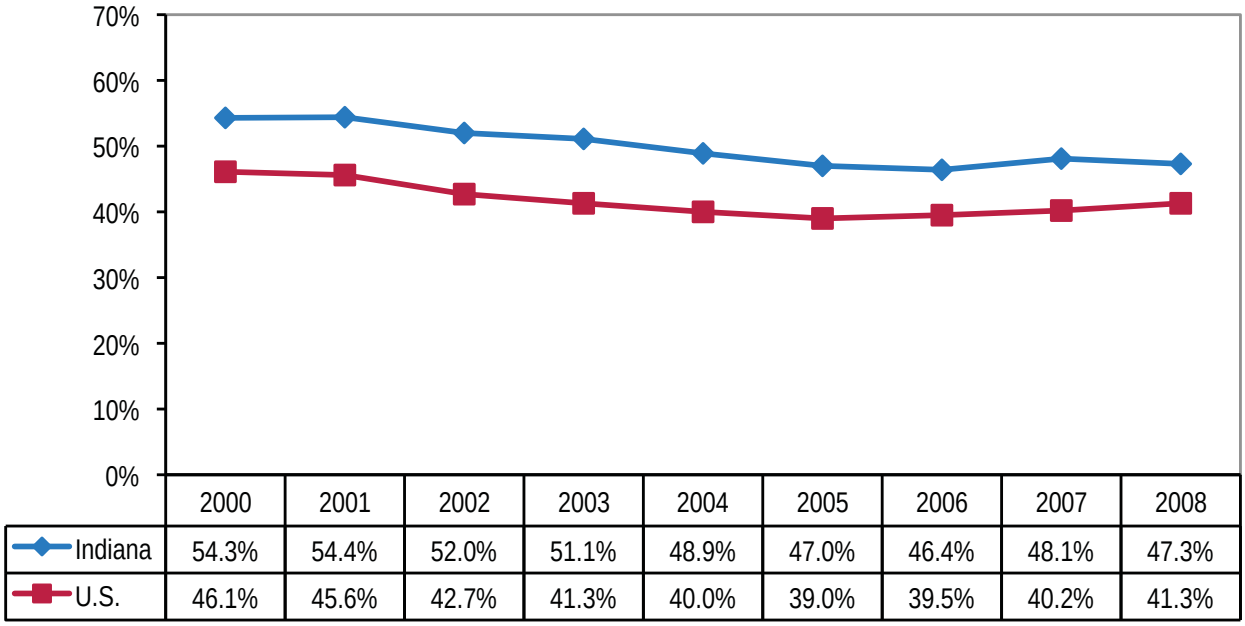
Race/ethnicity—Over one-third of blacks (38.4%) reported alcohol as their primary substance; this percentage was below that for whites (48.6%) and other races (54.8%) ($P < 0.001$). With regard to ethnicity, a significantly higher percentage of Hispanics (60.2%) reported alcohol dependence than non-Hispanics (46.6%) ($P < 0.001$).

Age—Adults ages 18 and older had higher rates of alcohol dependence (48.2%) compared to people 17 years and younger (23.5%) ($P < 0.001$). When looking at individual age groups, it became evident that the percentage reporting alcohol abuse or dependence tended to increase with age ($P < 0.001$). Table 3.3 depicts the percentage of Indiana residents, categorized by gender, race, and age group, seeking treatment for alcohol abuse and dependence.

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

[5]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, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Indiana	54.3%	54.4%	52.0%	51.1%	48.9%	47.0%	46.4%	48.1%	47.3%
U.S.	46.1%	45.6%	42.7%	41.3%	40.0%	39.0%	39.5%	40.2%	41.3%

Source: Substance Abuse and Mental Health Data Archive, n.d.

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, 2008)

		Alcohol Dependence
Gender	Male	51.4%
	Female	38.6%
Race	White	48.6%
	Black	38.4%
	Other	54.8%
Age Group	Under 18	23.5%
	18-24	39.4%
	25-34	42.2%
	35-44	54.7%
	45-54	64.0%
	55 and over	75.5%
Total		**47.3%**

Source: Substance Abuse and Mental Health Data Archive, 2008

Alcohol-Related Morbidity and Mortality

Hospital discharge records show that in 2006, 877 inpatient treatments for alcohol psychoses and alcohol dependence occurred in Indiana hospitals. This represents one-half percent (0.5%) of all hospital discharges (Indiana State Department of Health, n.d.). An additional 3,385 statewide outpatient visits were recorded for these alcohol-related diagnoses (Data Analysis Team, Public Health System Development and Data Commission, 2008).

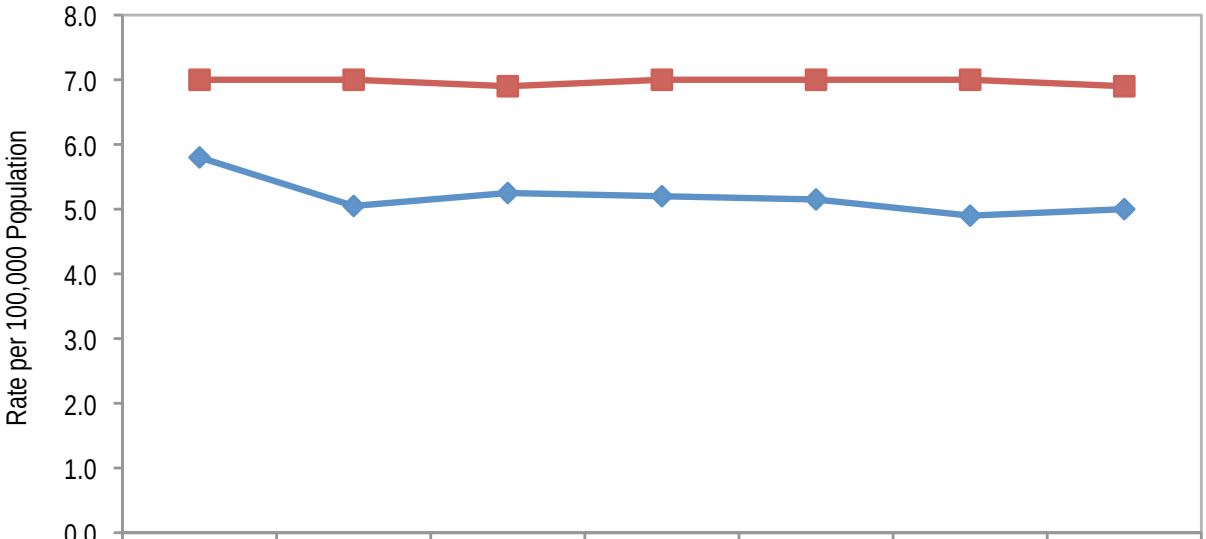
The list of ICD-10[6] codes for alcohol-induced causes of death was expanded in 2003 to be more comprehensive. Causes of death attributable to alcohol include alcohol-induced pseudo-Cushing's syndrome; mental and behavioral disorders due to alcohol use; degeneration of the nervous system due to alcohol; alcoholic polyneuropathy; alcoholic myopathy; alcoholic cardiomyopathy; alcoholic gastritis; alcoholic liver disease; alcohol-induced chronic pancreatitis; finding of alcohol in blood; accidental poisoning by and exposure

[6]ICD-10 = International Classification of Diseases and Related Health Problems, 10th Revision. These codes are used to classify underlying causes of death in the United States. More information on the codes can be found at the World Health Organization (WHO) Web site at http://www.who.int/classifications/apps/icd/icd10online/.

to alcohol; intentional self-poisoning by and exposure to alcohol; and poisoning by and exposure to alcohol with undetermined intent.[7] Excluded are accidents, homicides, and other causes indirectly related to alcohol use, and newborn deaths associated with maternal alcohol use (Epidemiology Resource Center, Data Analysis Team, 2008).

From 2000 to 2006, a total of 2,284 Hoosiers died from alcohol-induced causes. 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 5.0 per 100,000 (95% CI: 4.5–5.5) in 2006, which was significantly lower than the U.S. rate of 6.9 per 100,000 population (95% CI: 6.8–7.0) (see Figure 3.9) (Centers for Disease Control and Prevention, n.d.-a). (For alcohol-attributable deaths by county, see Map 3.2, page 50.)

Figure 3.9 Age-Adjusted Alcohol-attributable Mortality Rates per 100,000 Population in Indiana and the United States (CDC Wonder, 2000–2006)



	2000	2001	2002	2003	2004	2005	2006
Indiana	5.8	5.1	5.3	5.2	5.2	4.9	5.0
U.S.	7.0	7.0	6.9	7.0	7.0	7.0	6.9

Source: Centers for Disease Control and Prevention, n.d.-a

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 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, 2004). (Appendix 3C, page 44, lists conditions that can be attributed to alcohol, along with their alcohol-attributable fractions) For this reason, intentional self-harm (suicide)[8] and assault (homicide)[9] rates may provide additional information on alcohol's impact in a community.

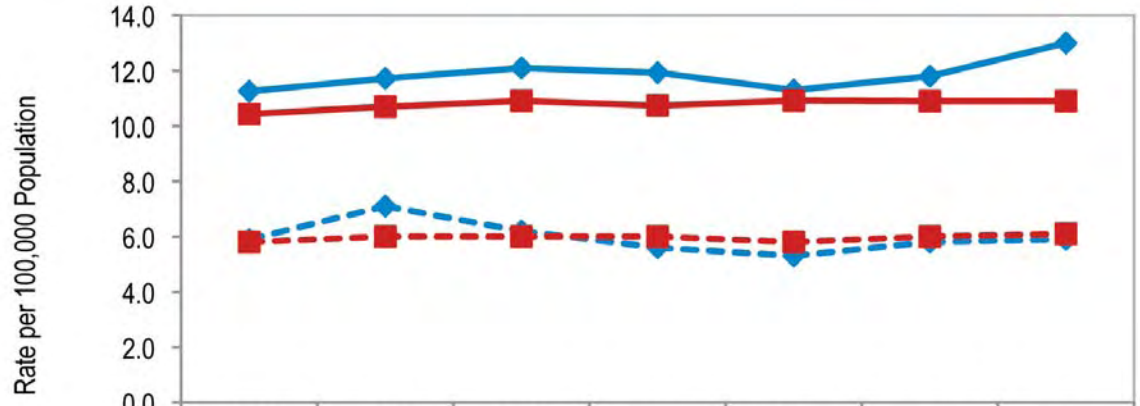
From 2000 through 2006, a total of 5,146 Hoosiers committed suicide. Applying ARDI's alcohol-attributable

[7]Alcohol-induced causes of death include the following ICD-10 codes: E24.4, F10, G31.2, G62.1, G72.1, I42.6, K29.2, K70, K86.0, R78.0, X45, X65, Y15.
[8]Intentional self-harm (suicide) includes ICD-10 codes X60-X84.
[9]Assault (homicide) includes ICD-10 codes X85-Y09.

fraction of 23%, this means that almost 1,184 suicide deaths were attributable to alcohol. Indiana's age-adjusted mortality rate for suicide was 13.0 per 100,000 population (95% CI: 12.1–13.9) in 2006, which was significantly higher than the U.S. rate of 10.9 per 100,000 population (95% CI: 10.8–11.0) (see Figure 3.10). Additionally, rates were significantly higher for males (21.9 per 100,000 population; 95% CI: 20.2–23.6) than for females (4.7 per 100,000 population; 95% CI: 4.0–5.5). Rates were also significantly higher for whites (13.8 per 100,000 population; 95% CI: 12.8–14.8) than for blacks (6.0 per 100,000 population; 95% CI: 4.0–8.1), in Indiana.

From 2000 through 2006, a total of 2,600 homicides were committed in Indiana. Applying ARDI's alcohol-attributable fraction of 47%, this means that 1,222 homicide deaths were attributable to alcohol. Indiana's age-adjusted homicide death rate was 5.9 per 100,000 population (95% CI: 5.3–6.5) in 2006, which was similar to the U.S. rate of 6.1 per 100,000 population (95% CI: 6.0–6.2) (see Figure 3.10). In 2006, rates were significantly higher for males (8.8 per 100,000 population; 95% CI: 7.8–9.8) than for females (2.9 per 100,000 population; 95% CI: 2.3–3.5). Rates were also significantly higher for blacks (32.0 per 100,000 population; 95% CI: 27.5–36.5) than for whites (3.2 per 100,000 population; 95% CI: 2.7–3.7), in Indiana (Centers for Disease Control and Prevention, n.d.-a).

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, 2000–2006)



	2000	2001	2002	2003	2004	2005	2006
Suicide Indiana	11.3	11.7	12.1	11.9	11.3	11.8	13.0
Suicide U.S.	10.4	10.7	10.9	10.7	10.9	10.9	10.9
Homicide Indiana	5.9	7.1	6.2	5.6	5.3	5.8	5.9
Homicide U.S.	5.8	6.0	6.0	6.0	5.8	6.0	6.1

Note: ICD-10 codes for intentional self-harm (suicide) include X60–X84; ICD-10 codes for assault (homicide) include X85–Y09.
Source: Centers for Disease Control and Prevention, n.d.-a

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).

In Indiana, 396 mothers reported that they used alcohol during their pregnancy in 2006 (Indiana State Department of Health, n.d.-a). 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).[10] 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. The number of children born with fetal alcohol syndrome[11] dropped from 26 in 2003 to 14 in 2006 (Indiana State Department of Health, n.d.-b).

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, n.d.). Even though most fatal collisions happened in the afternoon between 3:00 and 5:59 p.m., the highest percentage of crashes attributable to alcohol-impaired driving occurred at nighttime, especially

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)

	Single Vehicle			Multiple Vehicle			All Crashes		
Time of Crash	Number	Alcohol-impaired driving	Percent Alcohol-impaired driving	Number	Alcohol-impaired driving	Percent Alcohol-impaired driving	Number	Alcohol-impaired driving	Percent Alcohol-impaired driving
Midnight to 2:59 a.m.	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, n.d.

[10]Starting in 2007, these data are no longer collected for the Indiana Natality Report, as Indiana now uses the 2003 U.S. Revised Certificate of Live Birth which no longer asks for mother's use of alcohol during pregnancy (see http://www.in.gov/isdh/reports/natality/2007/tbl22.htm).
[11]The ICD-9 code for fetal alcohol syndrome is 760.71.

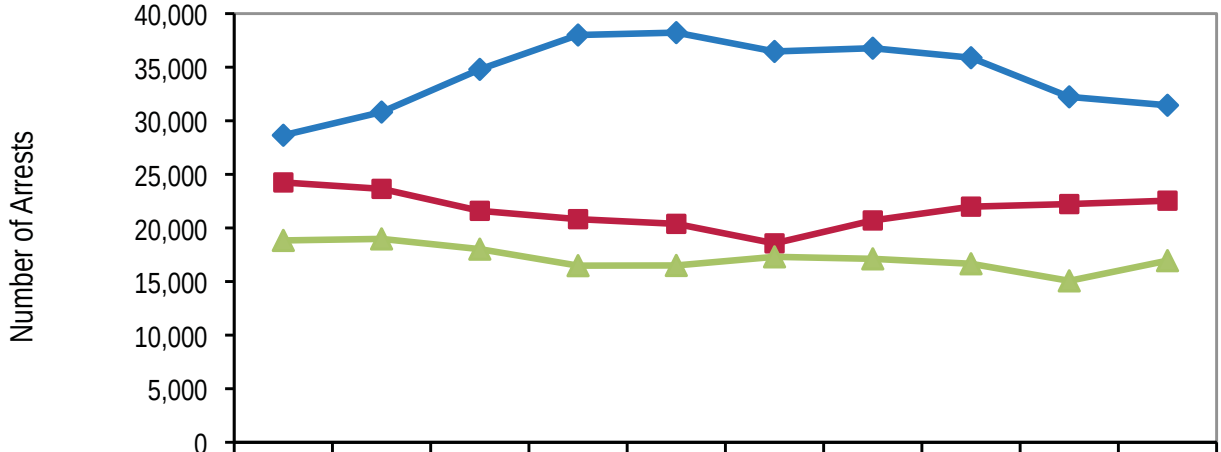
between midnight and early morning hours (see Table 3.4).

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 8,855 in 2009. This represents a 36% drop. The number of fatal crashes with alcohol involvement also decreased from 242 to 157 (For a detailed listing of alcohol-related collisions and fatalities in Indiana by county for 2009, see Appendix 3D, pages 44-46). The overall rate for alcohol-related collisions in Indiana in 2009 was 1.4 per 1,000 population; the lowest rate was found in Blackford County (0.6 per 1,000 population) and the highest rate was found in Ohio County (2.7 per 1,000 population) (Indiana State Police, 2010).

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, n.d.). In 2008, over 31,000 DUI arrests were made in Indiana. The arrest rate was significantly higher among Hoosiers, 4.9 per 1,000 population (95% CI: 4.9–5.0), than among U.S. residents, 4.2 per 1,000 population (95% CI: 4.2–4.2). More than 22,000 Hoosiers were arrested for public intoxication; the arrest rate was twice as high for Indiana, 3.5 per 1,000 population (95% CI: 3.5–3.6), than for the nation, 1.7 per 1,000 population (95% CI: 1.7–1.7). Additionally, almost 17,000 arrests occurred for liquor law violations in Indiana, representing an arrest rate of 2.7 per 1,000 population (95% CI: 2.6–2.7), which was significantly higher than the U.S. rate of 1.8 per 1,000 population (95% CI: 1.8–1.80) (see Figures 3.11–3.14). Alcohol-related crimes vary among Indiana counties. These county differences are presented in Maps 3.3 through 3.5 (pages 51-53) and Appendix 3E (pages 47-48).

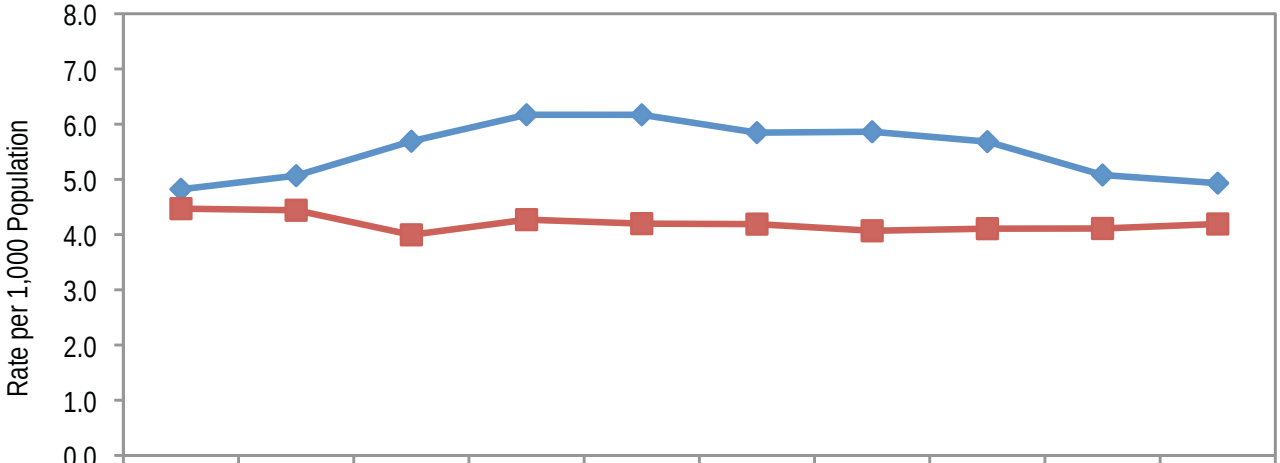
Figure 3.11 Number of Arrests for Driving Under the Influence (DUI), Public Intoxication, and Liquor Law Violations in Indiana (Uniform Crime Reporting Program, 1999–2008)



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
DUI	28,649	30,814	34,797	38,003	38,226	36,469	36,772	35,884	32,232	31,447
Public Intoxication	24,247	23,647	21,598	20,820	20,382	18,562	20,701	21,987	22,229	22,545
Liquor Law Violations	18,837	18,980	18,024	16,484	16,502	17,307	17,119	16,659	15,066	16,950

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

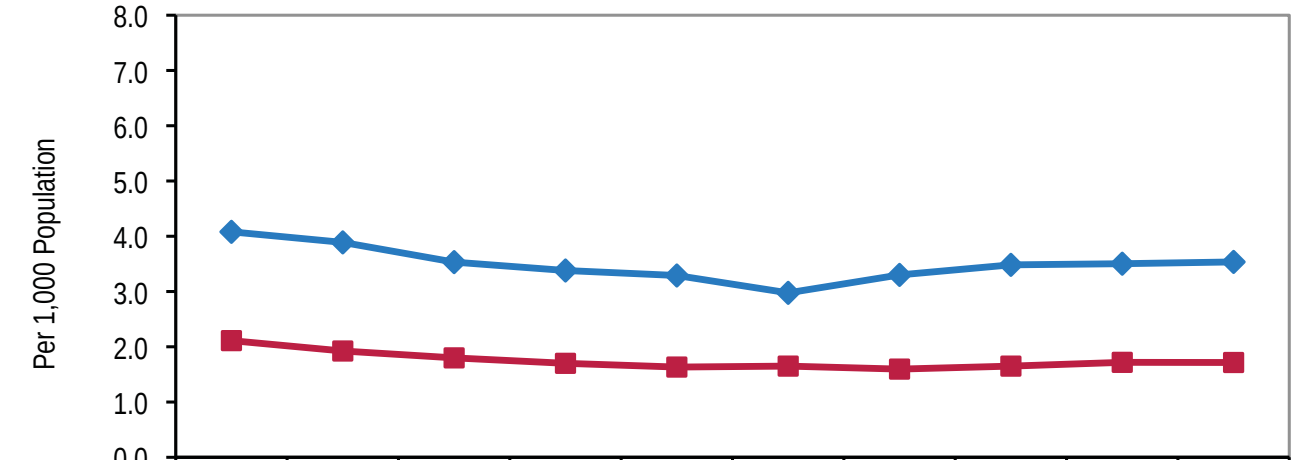
Figure 3.12 Arrest Rates, per 1,000 Population, for Driving Under the Influence (DUI) in Indiana and the United States (Uniform Crime Reporting Program, 1999–2008)



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Indiana	4.8	5.1	5.7	6.2	6.2	5.8	5.9	5.7	5.1	4.9
U.S.	4.5	4.4	4.0	4.3	4.2	4.2	4.1	4.1	4.1	4.2

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

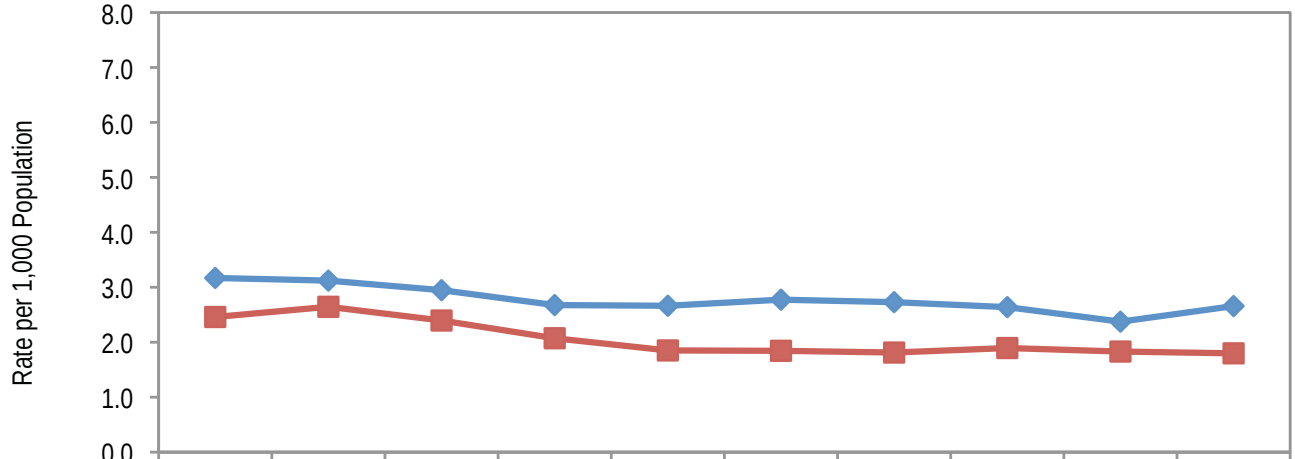
Figure 3.13 Arrest Rates, per 1,000 Population, for Public Intoxication in Indiana and the United States (Uniform Crime Reporting Program, 1999–2008)



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Indiana	4.1	3.9	3.5	3.4	3.3	3.0	3.3	3.5	3.5	3.5
U.S.	2.1	1.9	1.8	1.7	1.6	1.7	1.6	1.6	1.7	1.7

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

Figure 3.14 Arrest Rates, per 1,000 Population, for Liquor Law Violation in Indiana and the United States (Uniform Crime Reporting Program, 1999–2008)



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Indiana	3.2	3.1	2.9	2.7	2.7	2.8	2.7	2.6	2.4	2.7
U.S.	2.5	2.6	2.4	2.1	1.9	1.8	1.8	1.9	1.8	1.8

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

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, 2010)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Lifetime	18.3	20.4	18.1	18.1	21.4	15.0	19.1	16.6	21.3
	Monthly	6.2	7.4	5.3	5.3	7.6	5.4	5.8	5.1	7.6
	Binge	5.5	6.7	5.3	6.6	6.6	4.8	5.8	4.1	5.9
7th Grade	Lifetime	28.0	32.9	27.9	24.7	26.8	23.5	31.1	26.9	35.0
	Monthly	11.6	15.3	10.9	11.3	10.3	9.4	13.3	10.3	15.8
	Binge	7.7	10.3	7.3	6.6	7.0	6.3	9.3	6.2	10.4
8th Grade	Lifetime	41.7	47.1	42.0	38.8	41.5	36.6	45.2	39.1	46.2
	Monthly	19.3	24.8	19.2	16.2	18.0	15.7	21.8	18.0	22.1
	Binge	12.0	15.4	12.7	9.3	11.9	9.6	13.4	9.7	14.0
9th Grade	Lifetime	48.8	53.3	47.5	45.6	50.5	44.7	52.2	45.9	54.9
	Monthly	24.4	28.3	23.8	22.7	23.6	21.8	27.0	22.6	28.6
	Binge	15.2	18.4	14.3	14.9	14.9	13.0	17.3	14.2	17.6
10th Grade	Lifetime	58.5	61.7	58.7	56.8	57.9	53.7	62.7	56.6	63.6
	Monthly	30.3	33.9	29.5	32.1	28.1	27.0	31.4	31.5	33.7
	Binge	18.7	21.4	17.9	19.0	16.4	15.7	19.2	21.3	22.0
11th Grade	Lifetime	61.9	65.7	58.8	65.8	60.3	59.2	62.9	63.1	66.0
	Monthly	32.3	36.0	28.8	34.7	29.3	30.5	32.5	34.8	36.8
	Binge	20.9	24.3	18.9	24.3	17.7	18.9	21.5	23.7	23.4
12th Grade	Lifetime	67.8	70.4	66.5	65.3	67.6	64.4	68.0	68.9	71.4
	Monthly	39.4	41.5	35.5	37.2	36.6	38.5	38.1	42.5	43.8
	Binge	26.2	27.2	23.4	27.5	23.0	25.2	23.7	29.1	30.7

Source: Indiana Prevention Resource Center, 2010

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, 2009)

	Treatment Episodes	Alcohol Use		Alcohol Dependence	
County	Total	Number	%	Number	%
Adams	131	115	87.8%	88	67.2%
Allen	1,971	1,644	83.4%	1,039	52.7%
Bartholomew	327	198	60.6%	119	36.4%
Benton	20	17	85.0%	11	55.0%
Blackford	141	111	78.7%	64	45.4%
Boone	205	140	68.3%	105	51.2%
Brown	72	56	77.8%	43	59.7%
Carroll	83	74	89.2%	56	67.5%
Cass	144	120	83.3%	102	70.8%
Clark	512	242	47.3%	146	28.5%
Clay	199	155	77.9%	110	55.3%
Clinton	82	66	80.5%	47	57.3%
Crawford	53	33	62.3%	23	43.4%
Daviess	247	147	59.5%	100	40.5%
Dearborn	259	185	71.4%	130	50.2%
Decatur	77	53	68.8%	43	55.8%
DeKalb	221	176	79.6%	138	62.4%
Delaware	873	642	73.5%	433	49.6%
Dubois	261	160	61.3%	117	44.8%
Elkhart	893	646	72.3%	417	46.7%
Fayette	54	31	57.4%	24	44.4%
Floyd	168	95	56.5%	63	37.5%
Fountain	67	36	53.7%	19	28.4%
Franklin	36	25	69.4%	19	52.8%
Fulton	144	129	89.6%	94	65.3%
Gibson	118	93	78.8%	54	45.8%
Grant	481	379	78.8%	246	51.1%
Greene	170	111	65.3%	84	49.4%
Hamilton	698	571	81.8%	356	51.0%
Hancock	126	74	58.7%	61	48.4%
Harrison	53	31	58.5%	16	30.2%
Hendricks	314	186	59.2%	146	46.5%
Henry	118	69	58.5%	47	39.8%
Howard	666	447	67.1%	309	46.4%
Huntington	64	43	67.2%	29	45.3%
Jackson	147	92	62.6%	65	44.2%
Jasper	43	32	74.4%	20	46.5%
Jay	66	44	66.7%	24	36.4%
Jefferson	185	109	58.9%	78	42.2%
Jennings	147	93	63.3%	70	47.6%
Johnson	325	215	66.2%	160	49.2%
Knox	368	230	62.5%	166	45.1%
Kosciusko	213	179	84.0%	112	52.6%
LaGrange	167	130	77.8%	88	52.7%
Lake	2,554	1,739	68.1%	1,176	46.0%
LaPorte	633	535	84.5%	428	67.6%
Lawrence	372	242	65.1%	197	53.0%
Madison	895	649	72.5%	418	46.7%
Marion	4,339	2,352	54.2%	1,566	36.1%
Marshall	228	171	75.0%	102	44.7%
Martin	95	61	64.2%	50	52.6%
Miami	169	126	74.6%	91	53.8%
Monroe	1,376	881	64.0%	709	51.5%
Montgomery	188	110	58.5%	69	36.7%
Morgan	472	292	61.9%	229	48.5%
Newton	16	11	68.8%	6	37.5%
Noble	324	224	69.1%	153	47.2%
Ohio	14	9	64.3%	7	50.0%
Orange	83	43	51.8%	34	41.0%
Owen	267	175	65.5%	122	45.7%
Parke	119	82	68.9%	53	44.5%
Perry	149	118	79.2%	87	58.4%
Pike	42	30	71.4%	18	42.9%
Porter	477	329	69.0%	210	44.0%
Posey	162	132	81.5%	103	63.6%
Pulaski	43	30	69.8%	21	48.8%
Putnam	142	83	58.5%	55	38.7%
Randolph	82	68	82.9%	40	48.8%
Ripley	85	65	76.5%	56	65.9%
Rush	49	30	61.2%	23	46.9%
Saint Joseph	1,376	1,010	73.4%	624	45.3%
Scott	101	42	41.6%	25	24.8%
Shelby	107	65	60.7%	38	35.5%
Spencer	146	104	71.2%	83	56.8%
Starke	180	117	65.0%	86	47.8%
Steuben	115	98	85.2%	78	67.8%
Sullivan	99	60	60.6%	38	38.4%
Switzerland	55	39	70.9%	33	60.0%
Tippecanoe	473	367	77.6%	229	48.4%
Tipton	51	38	74.5%	23	45.1%
Union	25	17	68.0%	16	64.0%
Vanderburgh	1,664	1,176	70.7%	754	45.3%
Vermillion	136	100	73.5%	67	49.3%
Vigo	1,009	592	58.7%	351	34.8%
Wabash	181	128	70.7%	94	51.9%
Warren	23	15	65.2%	11	47.8%
Warrick	344	245	71.2%	154	44.8%
Washington	91	56	61.5%	31	34.1%
Wayne	384	242	63.0%	155	40.4%
Wells	141	132	93.6%	85	60.3%
White	163	151	92.6%	97	59.5%
Whitley	101	78	77.2%	54	53.5%
Indiana	**32,049**	**21,883**	**68.3%**	**14,830**	**46.3%**

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, 2010

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	Condition	Percentage Directly Attributable to Alcohol
Alcohol abuse/dependence	100%	Chronic pancreatitis	84%
Alcohol cardiomyopathy	100%	Gastroesophageal hemorrhage	47%
Alcohol polyneuropathy	100%	Homicide	47%
Alcohol-induced chronic pancreatitis	100%	Fire Injuries	42%
Alcoholic gastritis	100%	Hypothermia	42%
Alcoholic liver disease	100%	Esophageal varices	40%
Alcoholic myopathy	100%	Liver cirrhosis, unspecified	40%
Alcoholic psychosis	100%	Portal hypertension	40%
Degeneration of nervous system due to alcohol	100%	Drowning	34%
Fetal alcohol syndrome/Fetus and newborn affected by maternal alcohol use	100%	Fall injuries	32%
		Poisoning (not alcohol)	29%
Alcohol poisoning	100%	Acute pancreatitis	24%
Excessive blood alcohol level	100%	Suicide	23%
Suicide by and exposure to alcohol	100%		

Source: Centers for Disease Control and Prevention, 2004

APPENDIX 3D

Alcohol-Related Collisions and Fatalities in Indiana, by County (Automated Reporting Information Exchange System, 2009)

	All Collisions		Fatal Collisions		
County	Total Collisions	Alcohol-Related Collisions	Total Fatal Collisions	Alcohol-Related Fatal Collisions	Alcohol-Related Collision Rate (Per 1,000 population)
Adams	726	27	1	0	0.79
Allen	11267	597	23	14	1.69
Bartholomew	2156	89	5	1	1.17
Benton	173	11	3	0	*1.28
Blackford	293	8	1	0	*0.61
Boone	1653	67	7	1	1.19
Brown	543	22	4	1	1.51
Carroll	645	30	5	1	1.52
Cass	1264	67	6	2	1.72
Clark	3978	177	11	3	1.63
Clay	824	41	5	0	1.55
Clinton	850	59	9	3	1.72
Crawford	350	26	5	1	2.47
Daviess	370	36	2	1	1.18
Dearborn	1894	98	6	4	1.94
Decatur	695	30	1	1	1.20
DeKalb	1299	61	7	1	1.45
Delaware	4212	199	9	2	1.73
Dubois	891	40	3	2	0.97
Elkhart	5956	204	21	7	1.02
Fayette	571	36	0	0	1.49
Floyd	2689	136	4	0	1.83
Fountain	407	22	2	1	1.31

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	All Collisions		Fatal Collisions		
County	Total Collisions	Alcohol-Related Collisions	Total Fatal Collisions	Alcohol-Related Fatal Collisions	Alcohol-Related Collision Rate (Per 1,000 population)
Franklin	506	24	1	0	1.04
Fulton	602	26	5	1	1.28
Gibson	996	46	6	0	1.40
Grant	2244	72	6	1	1.05
Greene	867	38	6	2	1.17
Hamilton	6338	225	17	4	0.81
Hancock	1426	82	8	1	1.20
Harrison	1164	40	4	1	1.06
Hendricks	3598	144	12	2	1.02
Henry	1121	40	2	0	0.84
Howard	2304	110	7	2	1.33
Huntington	1150	31	6	0	0.82
Jackson	1322	59	1	0	1.39
Jasper	1,274	61	8	1	1.86
Jay	687	25	2	1	1.18
Jefferson	977	65	3	0	1.97
Jennings	798	31	4	1	1.11
Johnson	2,887	155	9	3	1.10
Knox	975	50	3	1	1.32
Kosciusko	2,453	90	13	3	1.18
LaGrange	823	47	5	3	1.26
Lake	16,889	831	39	14	1.68
LaPorte	3,258	200	25	9	1.80
Lawrence	1,152	51	4	1	1.11
Madison	4,217	219	9	2	1.67
Marion	26,436	1,126	56	10	1.26
Marshall	1,493	45	8	1	0.96
Martin	228	13	4	0	*1.31
Miami	1,145	44	10	1	1.22
Monroe	4,013	206	7	0	1.58
Montgomery	974	32	6	1	0.85
Morgan	1,606	69	7	2	0.97
Newton	399	21	3	0	1.53
Noble	1,284	55	4	0	1.15
Ohio	238	16	1	0	*2.71
Orange	600	38	1	0	1.94
Owen	543	19	5	0	*0.85
Parke	608	29	5	2	1.72
Perry	433	32	3	0	1.70
Pike	179	16	2	2	*1.31
Porter	4,767	224	22	5	1.37
Posey	526	44	1	0	1.69
Pulaski	565	17	4	0	*1.25
Putnam	765	32	4	1	0.87
Randolph	566	27	3	0	1.05
Ripley	749	45	4	1	1.64
Rush	323	19	3	0	*1.11

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APPENDIX 3D *(Continued from previous page)*

County	All Collisions		Fatal Collisions		
	Total Collisions	Alcohol-Related Collisions	Total Fatal Collisions	Alcohol-Related Fatal Collisions	Alcohol-Related Collision Rate (Per 1,000 population)
Saint Joseph	6,761	338	14	2	1.26
Scott	612	25	2	0	1.06
Shelby	1,132	66	5	0	1.48
Spencer	593	32	5	1	1.60
Starke	768	36	4	2	1.53
Steuben	1,379	64	5	1	1.91
Sullivan	386	28	5	2	1.32
Switzerland	231	14	0	0	*1.45
Tippecanoe	7,009	336	10	3	2.00
Tipton	365	13	4	0	*0.82
Union	127	7	2	2	*0.99
Vanderburgh	6,374	306	16	4	1.74
Vermillion	425	26	4	1	1.61
Vigo	3,543	209	9	2	1.97
Wabash	1,040	32	6	3	0.98
Warren	264	7	1	0	*0.82
Warrick	1,429	68	7	1	1.16
Washington	681	33	1	1	1.19
Wayne	2,083	116	12	5	1.72
Wells	595	17	1	0	*0.62
White	873	34	3	1	1.45
Whitley	823	33	7	1	1.00
Indiana	**189,676**	**8,855**	**631**	**157**	**1.38**

* Rates that are based on numbers lower than 20 are unreliable.
Source: Indiana State Police, 2010

APPENDIX 3E

Number and Rate, per 1,000 Population, of Arrests for Driving Under the Influence (DUI), Public Intoxication, and Liquor Law Violations in Indiana, by County (Uniform Crime Reporting Program, 2008)

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	134	3.98	55	1.64	108	3.21
Allen	2,161	6.15	956	2.72	299	0.85
Bartholomew	398	5.33	326	4.36	279	3.73
Benton	40	4.58	17	*1.95	24	2.75
Blackford	47	3.63	38	2.93	25	1.93
Boone	255	4.62	115	2.08	200	3.63
Brown	51	3.49	6	*0.41	25	1.71
Carroll	143	7.17	49	2.46	107	5.36
Cass	165	4.24	273	7.01	233	5.98
Clark	879	8.29	465	4.38	240	2.26
Clay	107	4.02	88	3.30	30	1.13
Clinton	131	3.88	79	2.34	195	5.78
Crawford	42	3.90	18	*1.67	20	1.86
Daviess	216	7.19	110	3.66	118	3.93
Dearborn	116	2.31	73	1.45	66	1.32
Decatur	123	4.92	75	3.00	89	3.56
DeKalb	233	5.55	112	2.67	127	3.03
Delaware	728	6.33	294	2.56	153	1.33
Dubois	175	4.23	78	1.88	111	2.68
Elkhart	1,036	5.18	395	1.97	713	3.56
Fayette	87	3.61	17	*0.71	172	7.14
Floyd	621	8.47	304	4.15	189	2.58
Fountain	87	5.11	41	2.41	41	2.41
Franklin	1	*0.05	0	*0.00	68	3.11
Fulton	94	4.64	54	2.66	64	3.16
Gibson	151	4.61	42	1.28	61	1.86
Grant	305	4.47	195	2.86	114	1.67
Greene	115	3.53	50	1.53	69	2.12
Hamilton	1,171	4.29	198	0.73	707	2.59
Hancock	312	4.61	141	2.08	197	2.91
Harrison	147	3.96	15	*0.40	18	*0.49
Hendricks	525	3.79	238	1.72	294	2.12
Henry	180	3.83	119	2.53	162	3.45
Howard	318	3.80	215	2.57	166	1.99
Huntington	184	4.88	30	0.80	98	2.60
Jackson	185	4.38	153	3.62	157	3.72
Jasper	133	4.09	37	1.14	66	2.03
Jay	106	4.91	92	4.26	68	3.15
Jefferson	158	4.82	95	2.90	112	3.41
Jennings	112	3.98	83	2.95	65	2.31
Johnson	679	4.88	214	1.54	609	4.38
Knox	101	2.67	62	1.64	303	8.02
Kosciusko	394	5.19	252	3.32	184	2.42
LaGrange	109	2.92	43	1.15	137	3.68
Lake	3,305	6.71	2,533	5.14	1,542	3.13
LaPorte	921	8.40	441	4.02	531	4.84
Lawrence	196	4.26	173	3.76	96	2.09
Madison	555	4.24	690	5.27	359	2.74

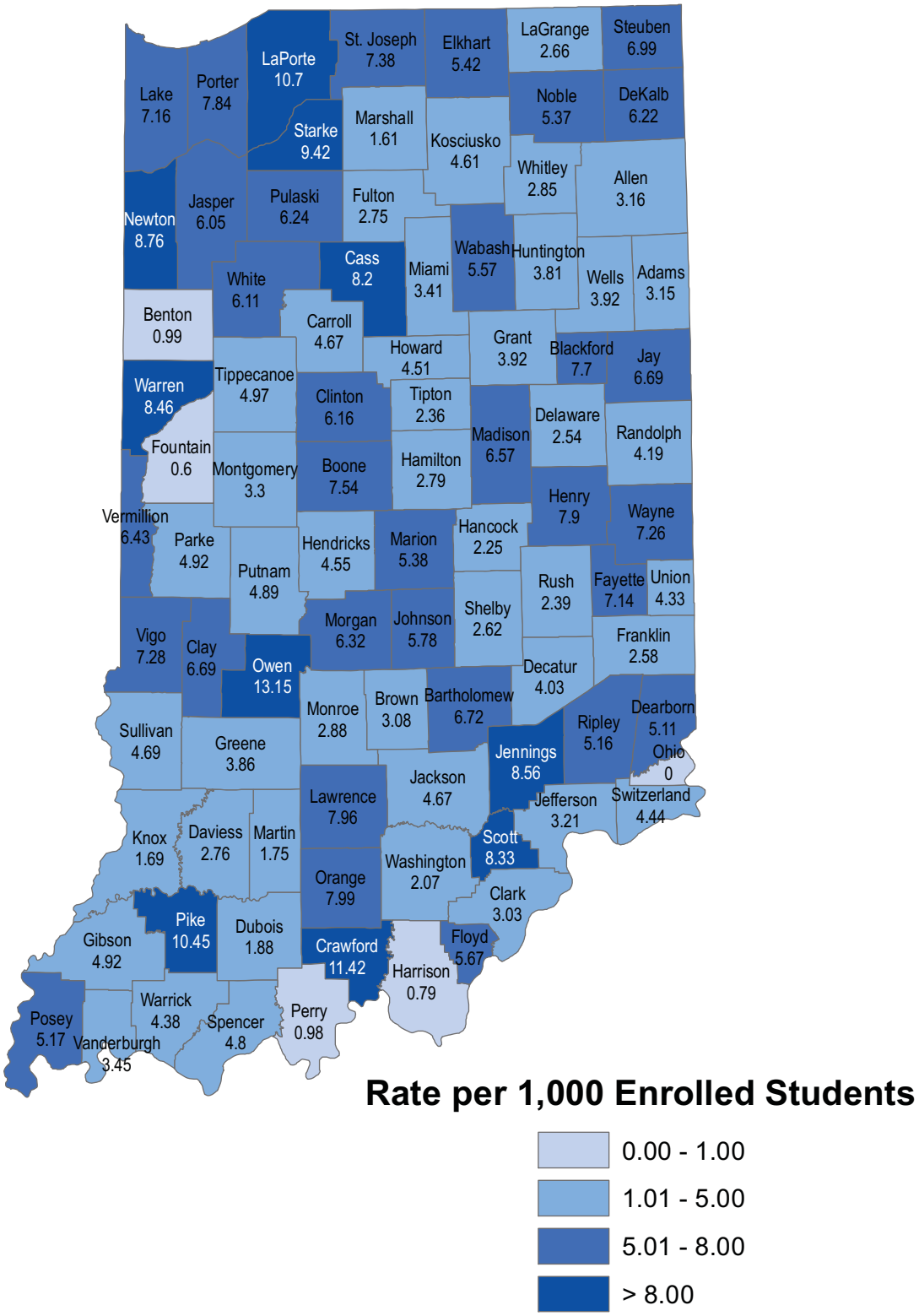
(continued on next page)

APPENDIX 3E *(Continued from previous page)*

County	Number of Arrests for DUI	DUI Arrest Rate	Number of Arrests for Public Intoxication	Public Intoxication Arrest Rate	Number of Arrests for Liquor Law Violations	Liquor Law Violation Arrest Rate
Marion	3,054	3.48	6,437	7.33	783	0.89
Marshall	320	6.83	155	3.31	150	3.20
Martin	26	2.60	17	*1.70	22	2.20
Miami	173	4.72	100	2.73	118	3.22
Monroe	532	4.11	692	5.34	1,021	7.88
Montgomery	225	5.94	126	3.33	133	3.51
Morgan	297	4.23	47	0.67	383	5.45
Newton	99	7.10	49	3.52	7	*0.50
Noble	259	5.44	90	1.89	132	2.77
Ohio	23	3.98	6	*1.04	10	*1.73
Orange	76	3.87	32	1.63	37	1.88
Owen	89	3.96	22	0.98	40	1.78
Parke	91	5.31	36	2.10	17	*0.99
Perry	117	6.19	62	3.28	101	5.34
Pike	55	4.38	29	2.31	33	2.63
Porter	852	5.25	356	2.19	578	3.56
Posey	120	4.59	53	2.03	75	2.87
Pulaski	27	1.96	30	2.18	14	*1.02
Putnam	285	7.68	145	3.91	104	2.80
Randolph	116	4.52	78	3.04	97	3.78
Ripley	128	4.43	68	2.35	80	2.77
Rush	85	4.89	35	2.01	69	3.97
Saint Joseph	839	3.15	156	0.59	383	1.44
Scott	100	4.21	104	4.38	74	3.12
Shelby	256	5.81	140	3.18	188	4.27
Spencer	79	3.89	33	1.62	38	1.87
Starke	88	3.74	87	3.70	100	4.25
Steuben	167	4.99	36	1.08	171	5.11
Sullivan	85	3.99	72	3.38	36	1.69
Switzerland	38	3.90	16	*1.64	18	*1.85
Tippecanoe	884	5.35	772	4.68	652	3.95
Tipton	64	4.00	20	1.25	11	*0.69
Union	28	3.90	12	*1.67	14	*1.95
Vanderburgh	1,281	7.34	859	4.92	182	1.04
Vermillion	52	3.18	93	5.68	41	2.51
Vigo	751	7.17	437	4.17	474	4.53
Wabash	131	4.01	87	2.66	113	3.46
Warren	33	3.89	14	*1.65	16	*1.89
Warrick	131	2.27	61	1.06	114	1.98
Washington	226	8.08	41	1.47	57	2.04
Wayne	321	4.73	482	7.10	177	2.61
Wells	52	1.86	56	2.00	112	4.01
White	238	10.07	119	5.04	76	3.22
Whitley	122	3.71	34	1.03	88	2.68
Indiana	**31,447**	**4.93**	**22,545**	**3.54**	**16,950**	**2.66**

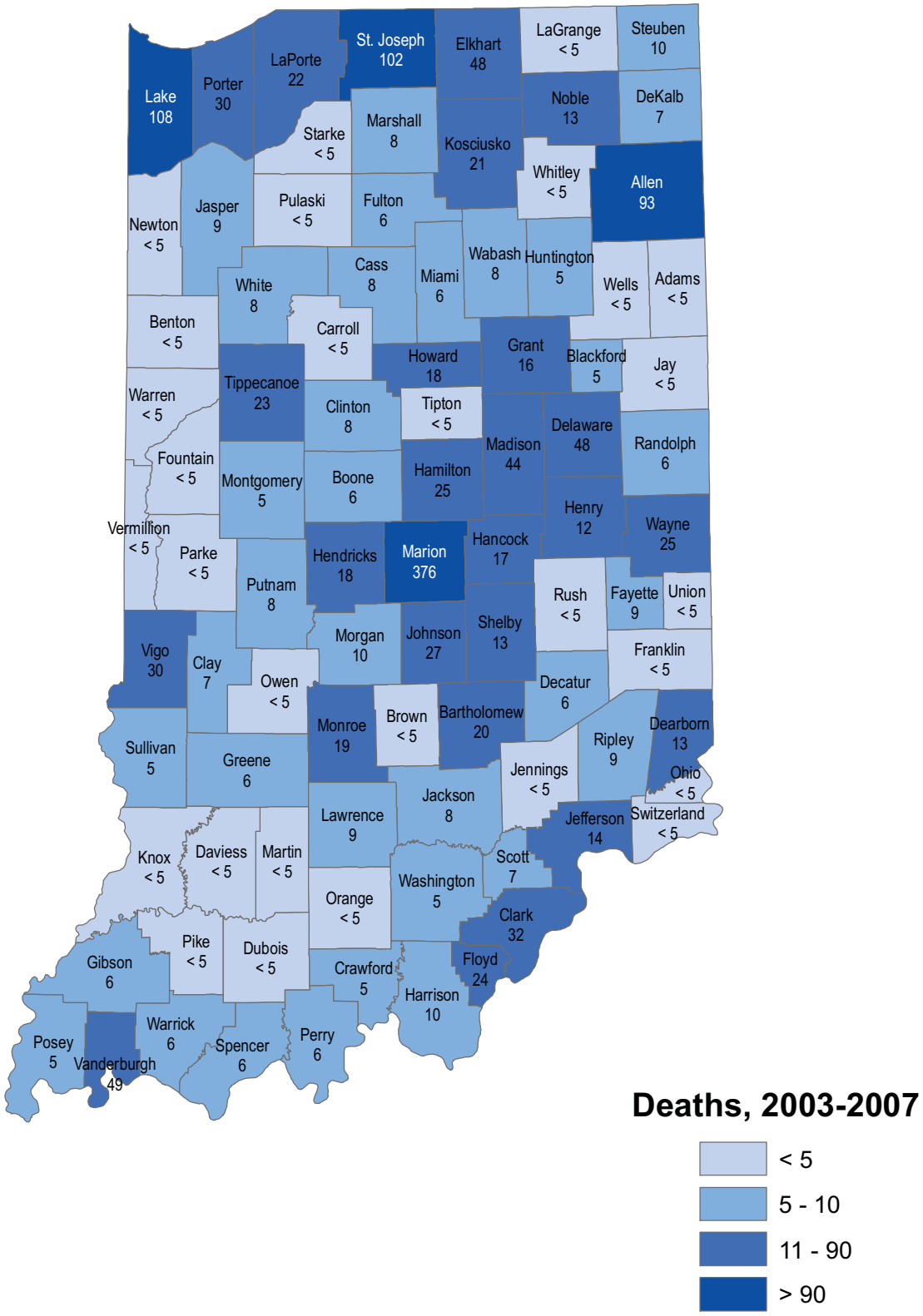
* Rates that are based on arrest numbers lower than 20 are unreliable.
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

Map 3.1 Suspension and Expulsion Rates, per 1,000 Enrolled Students, with Alcohol, Drug, or Weapon Involvement in Indiana, by County (School Data, 2007–2008)



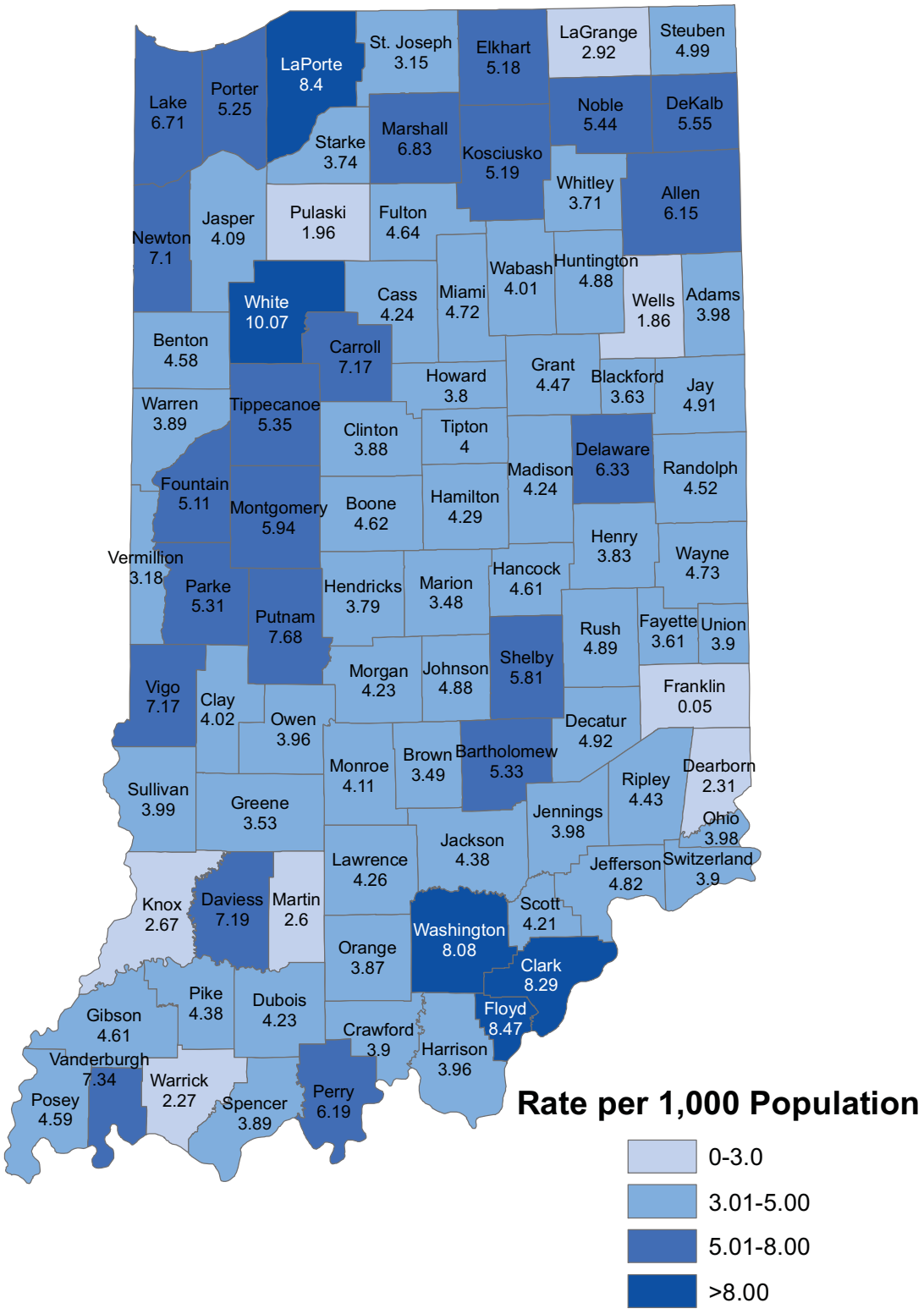
Source: Indiana Department of Education, n.d.

Map 3.2 Number of Alcohol-Induced Deaths in Indiana, by County (Indiana Mortality Data, 2003-2007)



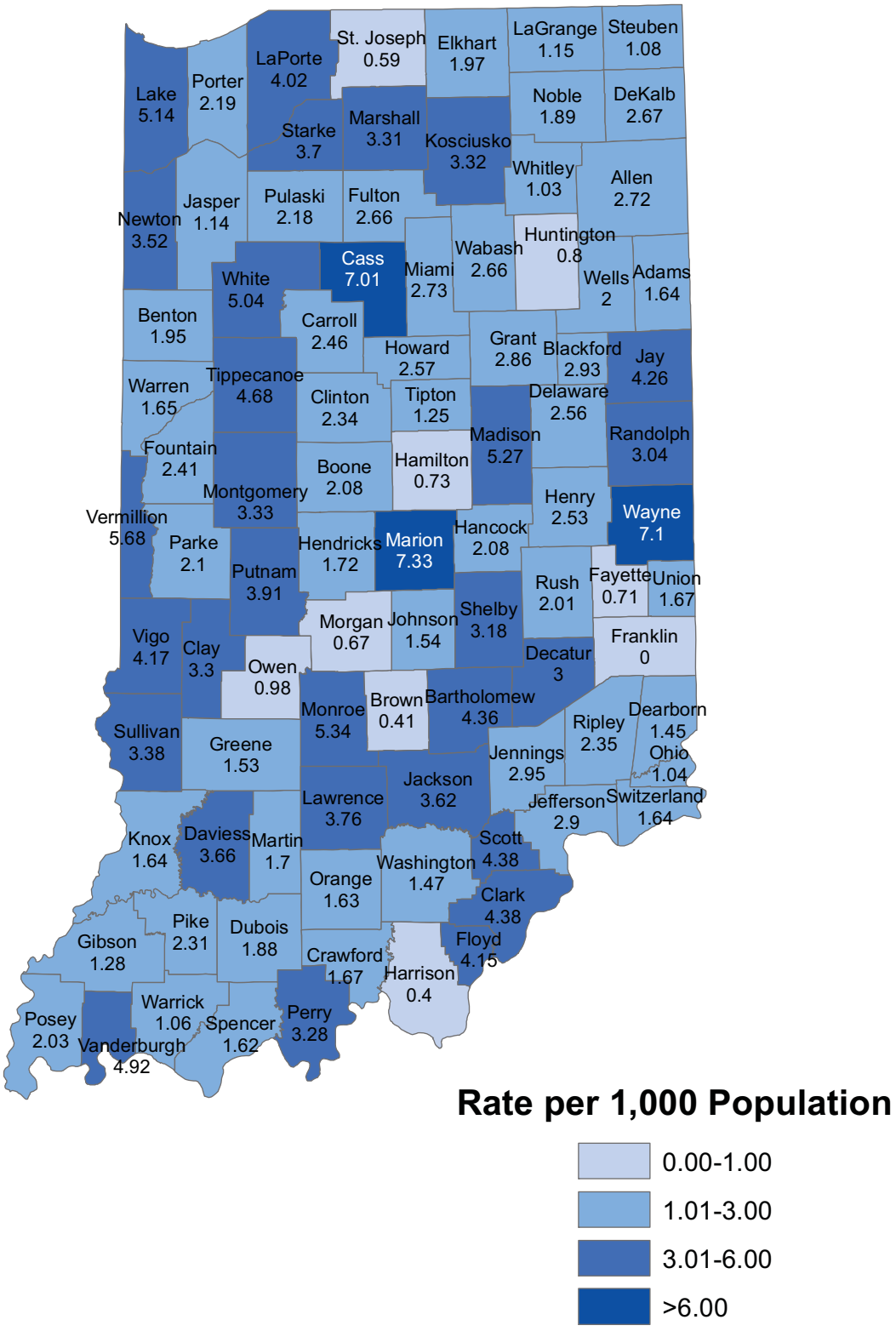
Source: Epidemiology Resource Center, Data Analysis Team, 2010

Map 3.3 DUI Arrest Rates in Indiana, by County (Uniform Crime Reporting Program, 2008)



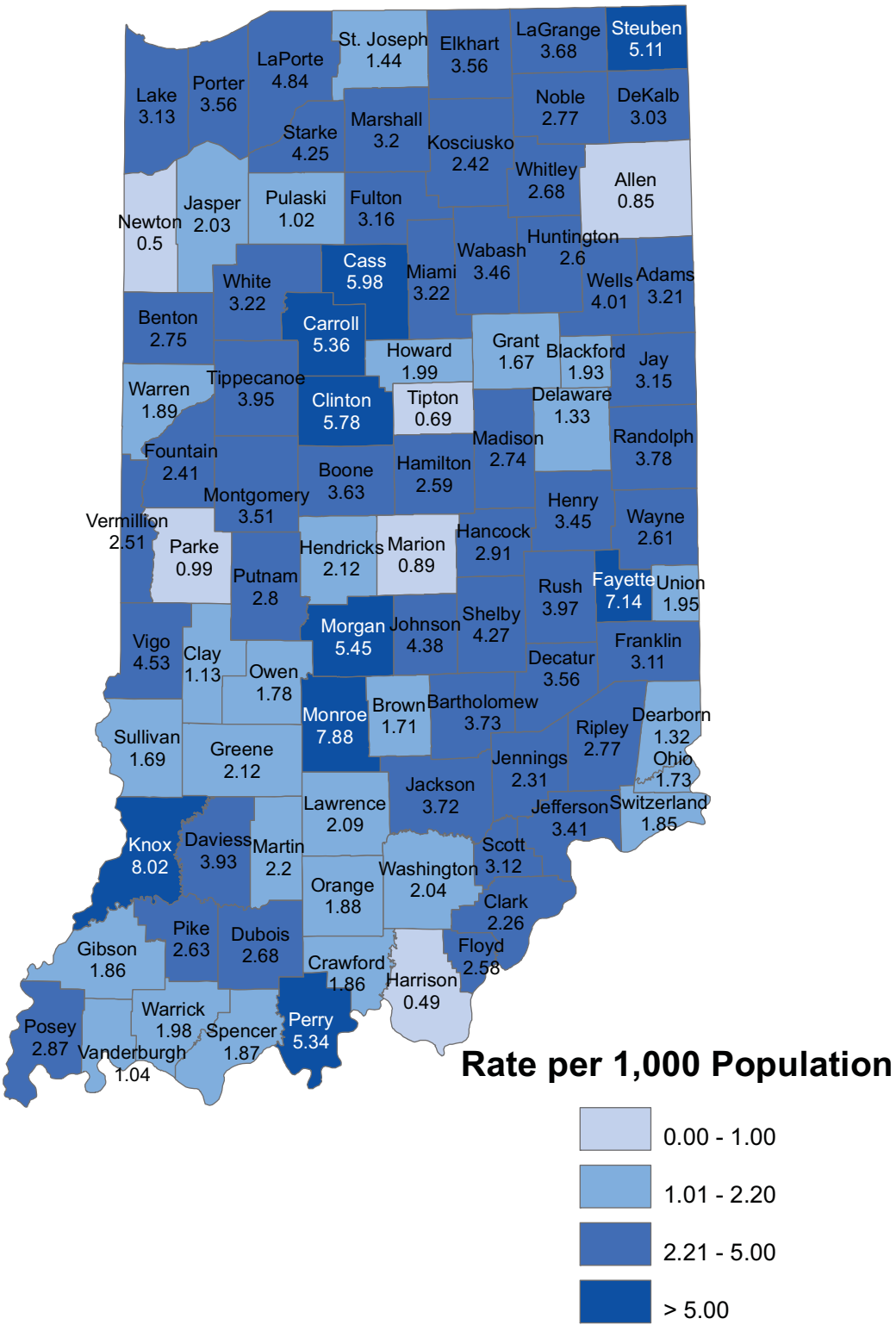
Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 3E (pages 47-48) for additional information.
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

Map 3.4 Public Intoxication Arrest Rates in Indiana, by County (Uniform Crime Reporting Program, 2008)



Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 3E (pages 47-48) for additional information.
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

Map 3.5 Liquor Law Violation Arrest Rates in Indiana, by County (Uniform Crime Reporting Program, 2008)



Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 3E (pages 47-48) for additional information.
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

REFERENCES, CHAPTER 3

Alcohol and Tobacco Commission. (2009). *Number of alcohol sales licenses in Indiana by county, 2009.* Data received September 2010 from the Indiana Prevention Resource Center.

Centers for Disease Control and Prevention. (2004). *Alcohol-related disease impact (ARDI).* Retrieved March 27, 2008, from http://apps.nccd.cdc.gov/ardi/Homepage.aspx

Centers for Disease Control and Prevention. (2009). *Behavioral Risk Factor Surveillance System - prevalence data.* Retrieved September 11, 2010, from http://apps.nccd.cdc.gov/brfss/

Centers for Disease Control and Prevention. (n.d.-a). *CDC Wonder.* Retrieved September 23, 2009, from http://wonder.cdc.gov/cmf-icd10.html

Centers for Disease Control and Prevention. (n.d.-b). *Youth Risk Behavior Surveillance System.* Retrieved September 1, 2010, from http://www.cdc.gov/HealthyYouth/yrbs/index.htm

Data Analysis Team, Public Health System Development and Data Commission. (2008). *Statewide outpatient visits, 2002–2006, diagnosis grouping by year.* Indianapolis, IN: Indiana State Department of Health.

Epidemiology Resource Center, Data Analysis Team. (2010). *Indiana mortality data, 2003–2007.* Indianapolis, IN: Indiana State Department of Health.

Indiana Department of Education. (n.d.). *School data.* Retrieved September 15, 2009, from http://dew4.doe.state.in.us/htbin/sas1.sh

Indiana Family and Social Services Administration, Revenue Enhancement and Data. (2010). *Substance abuse population by county, 2009.* Indianapolis, IN: Indiana Family and Social Services Administration.

Indiana Prevention Resource Center. (2009). *Results from the Indiana College Substance Use Survey – 2009.* Retrieved September 20, 2010, from http://www.drugs.indiana.edu/publications/icsus/ICSUS_Survey_2009.pdf

Indiana Prevention Resource Center. (2010). *Alcohol, tobacco, and other drug use by Indiana children and adolescents.* Retrieved September 13, 2010, from http://www.drugs.indiana.edu/data-survey_monograph.html

Indiana State Department of Health. (n.d.-a). *Birth reports (natality).* Retrieved September 17, 2009, from http://www.in.gov/isdh/19095.htm

Indiana State Department of Health. (n.d.-b). *Indiana birth defects and problems registry.* Retrieved September 16, 2009, from http://www.in.gov/isdh/20218.htm

Indiana State Police. (2010). Automated Reporting Information Exchange System (ARIES), *Vehicle Crash Records System.* Database maintained by the Indiana State Police and made available to the Center for Criminal Justice Research, Public Policy Institute, School of Public and Environmental Affairs, Indiana University–Purdue University Indianapolis (March 1, 2010).

Inter-university Consortium for Political and Social Research, University of Michigan. (n.d.). Monitoring the Future. Retrieved September 15, 2010, from http://www.monitoringthefuture.org/data/data.html

National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan. (n.d.). *Uniform Crime Reporting Program.* Available at http://www.icpsr.umich.edu/NACJD/

National Highway Traffic Safety Administration. (n.d.). *Fatality Analysis Reporting System (FARS).* Retrieved September 19, 2010, from http://www-fars.nhtsa.dot.gov/Main/index.aspx

National Institute on Alcohol Abuse and Alcoholism. (2009). *Per capita alcohol consumption, based on alcohol sales data.* Retrieved August 30, 2010, from http://www.niaaa.nih.gov/Resources/DatabaseResources/QuickFacts/AlcoholSales/consum02.htm

State Epidemiology and Outcomes Workgroup. (2008). *Indiana household survey on substance abuse.* Administered by the Survey Research Center at Indiana University-Purdue University Indianapolis.

Substance Abuse and Mental Health Data Archive. (n.d.). *Treatment Episode Data Set - Admissions (TEDS-A), 2008.* Available at http://webapp.icpsr.umich.edu/cocoon/SAMHDA/STUDY/24280.xml

REFERENCES, CHAPTER 3 *(continued from previous page)*

Substance Abuse and Mental Health Services Administration, Fetal Alcohol Spectrum Disorders Center for Excellence. (2007). *Fetal Alcohol Spectrum Disorders by the numbers.* Retrieved December 3, 2008, from http://www.fascenter.samhsa.gov/documents/WYNK_Numbers.pdf

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (n.d.). *National Survey on Drug Use and Health.* Retrieved September 15, 2010, from https://nsduhweb.rti.org/

4. Tobacco Use in Indiana: Consumption Patterns and Consequences

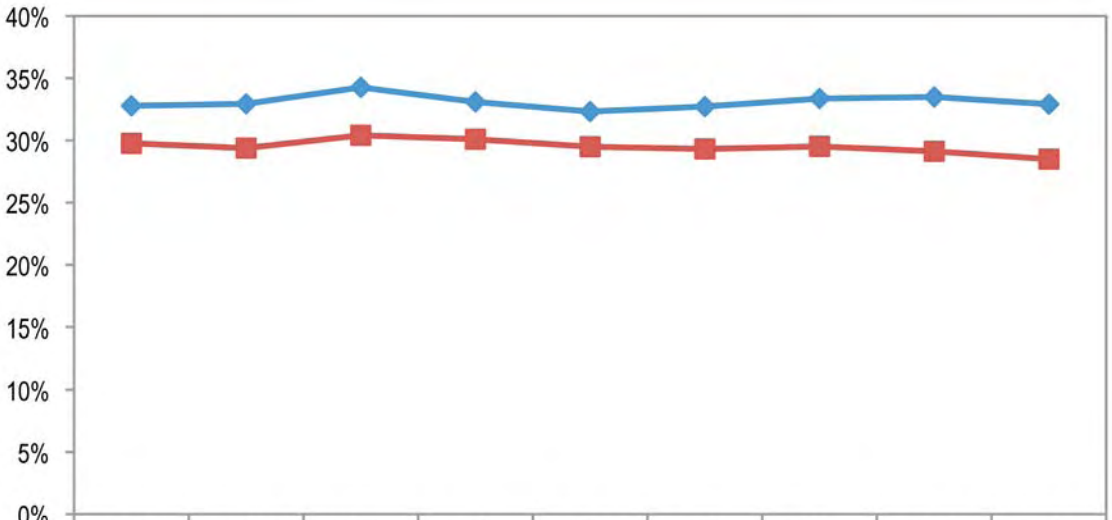
TOBACCO CONSUMPTION

General Consumption Patterns

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).

The 2008 National Survey on Drug Use and Health (NSDUH) estimates that 32.9% (95% Confidence Interval [CI]: 30.4–35.6) of Indiana residents 12 years and older used a tobacco product in the past month (U.S.: 28.5%). Tobacco products included 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 2008 (see Figure 4.1) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

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, 2000–2008)

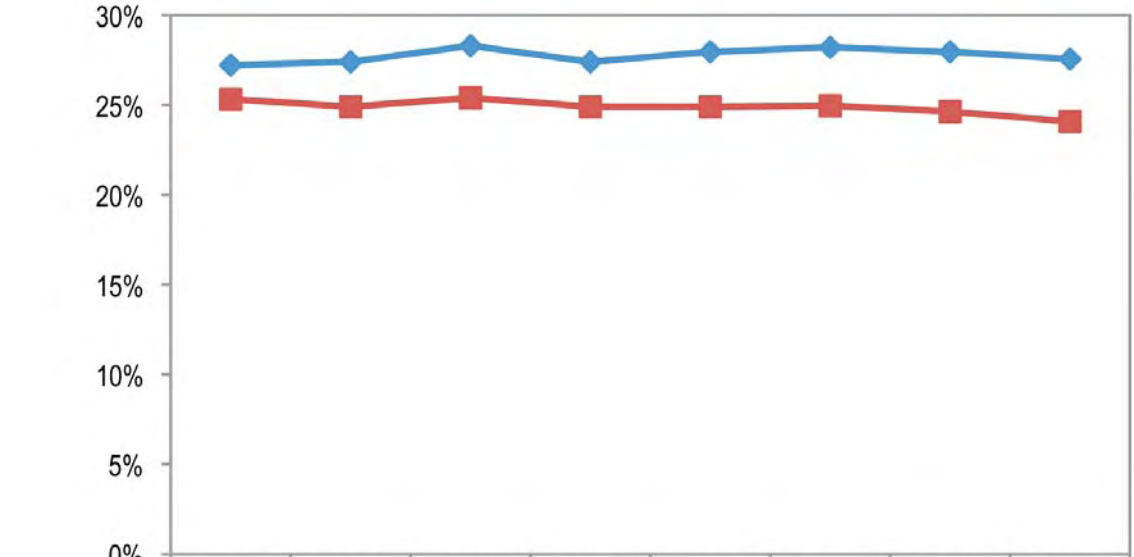


	2000	2001	2002	2003	2004	2005	2006	2007	2008
Indiana	32.8%	32.9%	34.3%	33.1%	32.3%	32.7%	33.4%	33.5%	32.9%
U.S.	29.8%	29.4%	30.4%	30.1%	29.5%	29.3%	29.5%	29.1%	28.5%

Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.

The majority of tobacco consumers smoked cigarettes. In 2008, 27.6% (95% CI: 25.1–30.2) of Hoosiers ages 12 years and older admitted to having used cigarettes in the past month, a rate significantly higher than the nation's, 24.1%. The smoking prevalence for Indiana remained stable from 2000 (27.2%; 95% CI: 24.7–29.9) to 2008 (see Figure 4.2).

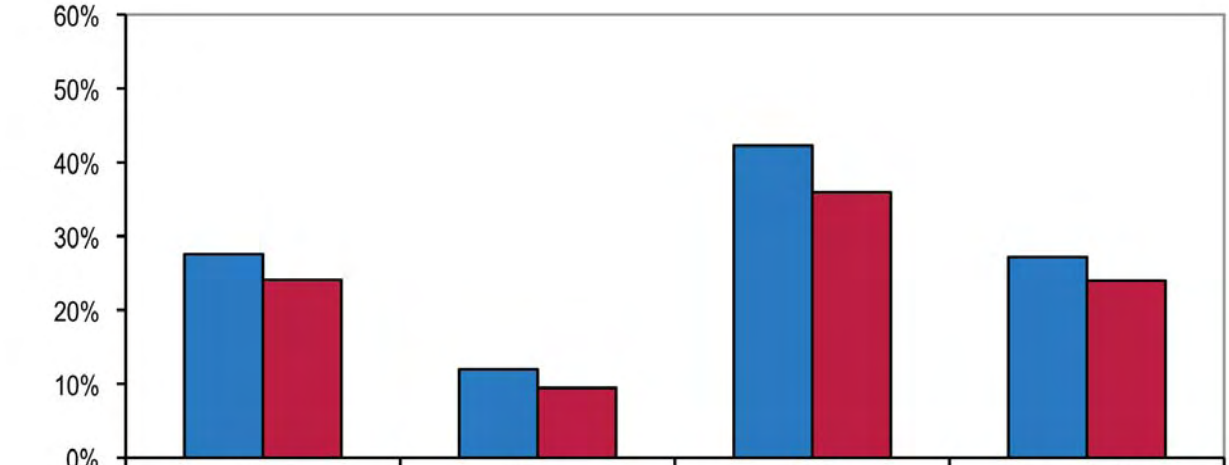
Figure 4.2 Percentage of Indiana and U.S. Population (12 Years and Older) Reporting Cigarette Use in the Past Month (National Survey on Drug Use and Health, 2000–2008)



	2000	2001	2003	2004	2005	2006	2007	2008
Indiana	27.2%	27.4%	28.3%	27.4%	28.0%	28.2%	28.0%	27.6%
U.S.	25.3%	24.9%	25.4%	24.9%	24.9%	25.0%	24.6%	24.1%

Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.

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, 2008)



	Total	12-17	18-25	26 and older
Indiana	27.6%	12.0%	42.3%	27.2%
U.S.	24.1%	9.5%	35.9%	24.0%

Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.

In Indiana, 70.1% (95% CI: 67.4–72.8) 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 (73.7%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

Adult Consumption Patterns

TThe highest rate of tobacco use was among 18- to 25-year-olds. An estimated 47.5% of Hoosiers in this age group (95% CI: 43.9–51.1), reported currently (within the past 30 days) using a tobacco product, representing a significantly higher rate than the nation's (U.S.: 41.6%). The 30-day prevalence rate for cigarette smoking among 18- to 25-year-olds was 42.3% (95% CI: 38.6–46.0) in Indiana and a significantly lower 35.9% in the United States (see Figure 4.3). Among Hoosiers ages 26 and older, 32.8% (95% CI: 29.7–36.1) used a tobacco product in the past month and 27.2% (95% CI: 24.2–30.4) smoked cigarettes in the past month; again, the rates among the U.S. population in that age group were significantly lower, at 28.4% and 24.0% respectively (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

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 2009 BRFSS, the past-month prevalence rate for adult (18 years and older) smoking in Indiana was 23.1% (95% CI: 21.7–24.5). Moreover, 17.1% (95% CI: 15.9–18.3) of Hoosiers used cigarettes every day. Indiana's smoking prevalence rates were significantly higher than national rates: 17.9% of U.S. residents smoked in the past month and 12.8% reported smoking every day (Centers for Disease Control and Prevention, 2009).

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 seemed to have a higher smoking rate than females. The difference was not statistically significant.
- The percentage of black smokers seemed higher compared to whites. The difference was not 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, 2009)

		Indiana	U.S.
Gender	Male	24.9% (22.6–27.1)	19.6%
	Female	21.4% (19.8–23.0)	16.7%
Race/ Ethnicity	White	22.2% (20.8–23.6)	17.3%
	Black	31.6% (25.7–37.4)	20.5%
	Hispanic	23.0% (14.8–31.3)	15.7%
Age Group	18-24	25.6% (19.7-31.6)	23.2%
	25-34	32.7% (28.5–37.0)	23.8%
	35-44	25.6% (22.5–28.7)	18.1%
	45-54	25.6% (23.1–28.0)	20.5%
	55-64	19.2% (17.2–21.2)	16.2%
	65+	9.3% (8.0–10.6)	8.2%
Education	Less than High School	42.1% (36.5–47.8)	31.5%
	High School or GED	26.8% (24.5–29.2)	24.9%
	Some Post-High School	26.1% (23.3–29.0)	19.6%
	College Graduate	8.5% (7.0–10.0)	8.3%
Income	Less than $15,000	41.9% (36.4–47.4)	31.4%
	$15,000 – $24,999	35.2% (31.1–39.2)	28.1%
	$25,000 – $34,999	27.5% (23.1–31.9)	24.0%
	$35,000 – $49,999	23.6% (20.1–27.0)	19.5%
	$50,000 and above	14.4% (12.7–16.1)	12.2%
Total		**23.1% (21.7–24.5)**	**17.9%**

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, 2009

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 among the highest in the nation and ranked fifth among the 50 U.S. states in 2009. However, the top ten states were very close together and prevalence rates among them did not differ significantly (Centers for Disease Control and Prevention, 2009).

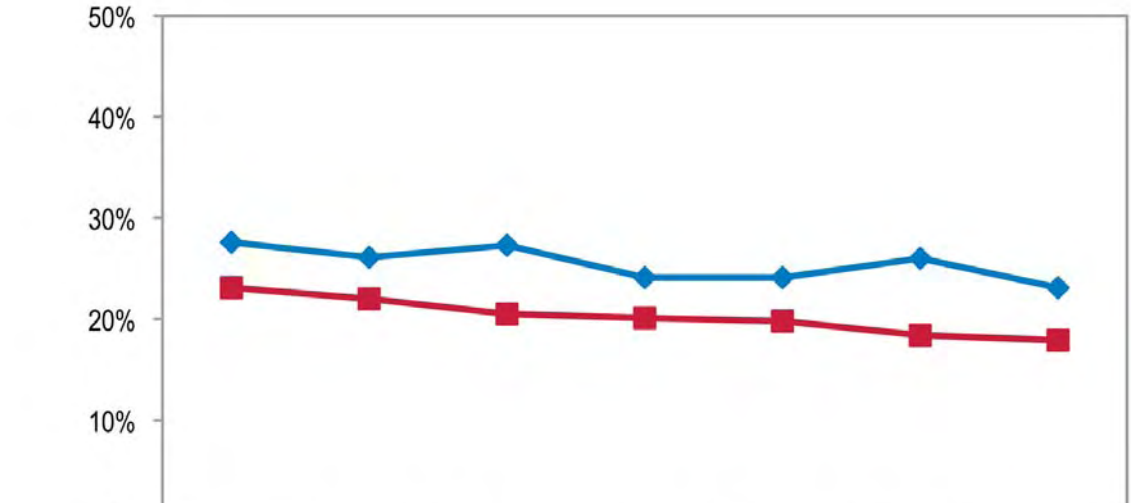
Youth Consumption Patterns

Based on results from the 2008 NSDUH, 15.11% (95% CI: 12.93–17.58) of Hoosiers ages 12 to 17 used a tobacco product in the past month (U.S.: 11.91%). Of these, 11.97% (95% CI: 10.12–14.10) of young Hoosiers smoked cigarettes (U.S.: 9.46%). Indiana's rates were significantly higher than U.S. rates on both measures (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

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, n.d.-c). 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:

- 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) (See Figure 4.5; Centers for Disease Control and Prevention, n.d.-c).

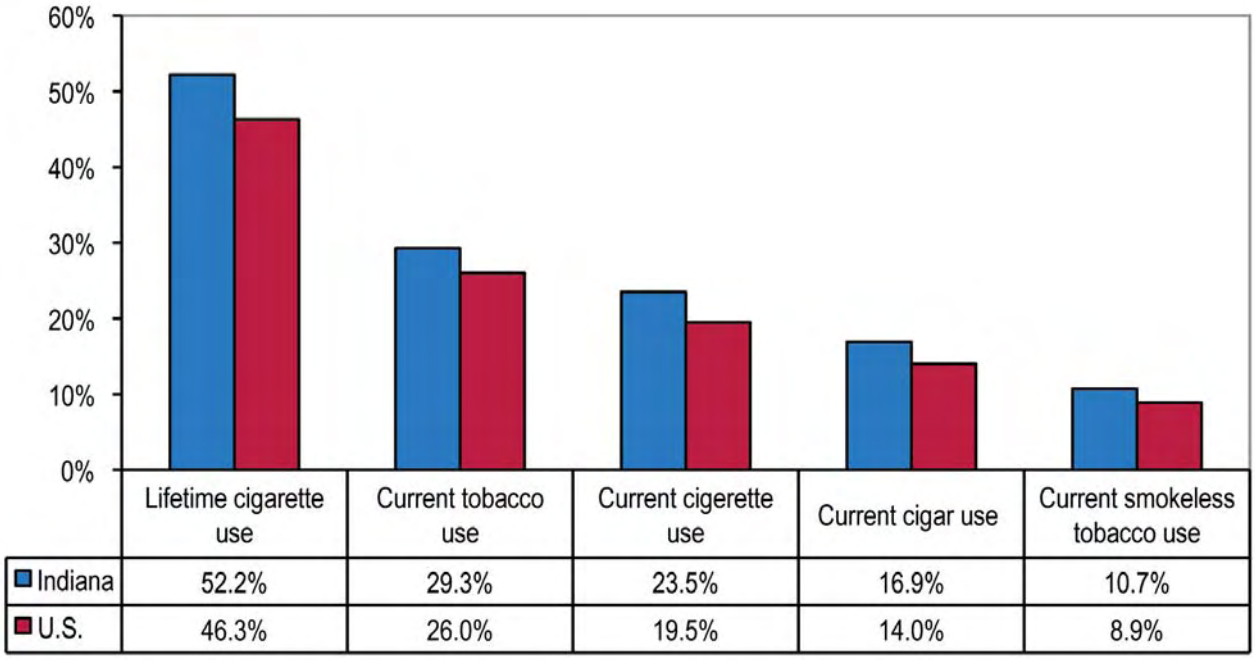
Figure 4.4 Percentage of Indiana and U.S. Population (18 Years and Older) Reporting Current Cigarette Use (Behavioral Risk Factor Surveillance System, 2002–2009)



	2002	2003	2005	2006	2007	2008	2009
Indiana	27.6%	26.1%	27.3%	24.1%	24.1%	26.0%	23.1%
U.S.	23.1%	22.0%	20.5%	20.1%	19.8%	18.4%	17.9%

Source: Centers for Disease Control and Prevention, 2009

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



	Lifetime cigarette use	Current tobacco use	Current cigerette use	Current cigar use	Current smokeless tobacco use
Indiana	52.2%	29.3%	23.5%	16.9%	10.7%
U.S.	46.3%	26.0%	19.5%	14.0%	8.9%

Source: Centers for Disease Control and Prevention, n.d.-c

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 4.2).

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).

Table 4.2 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)

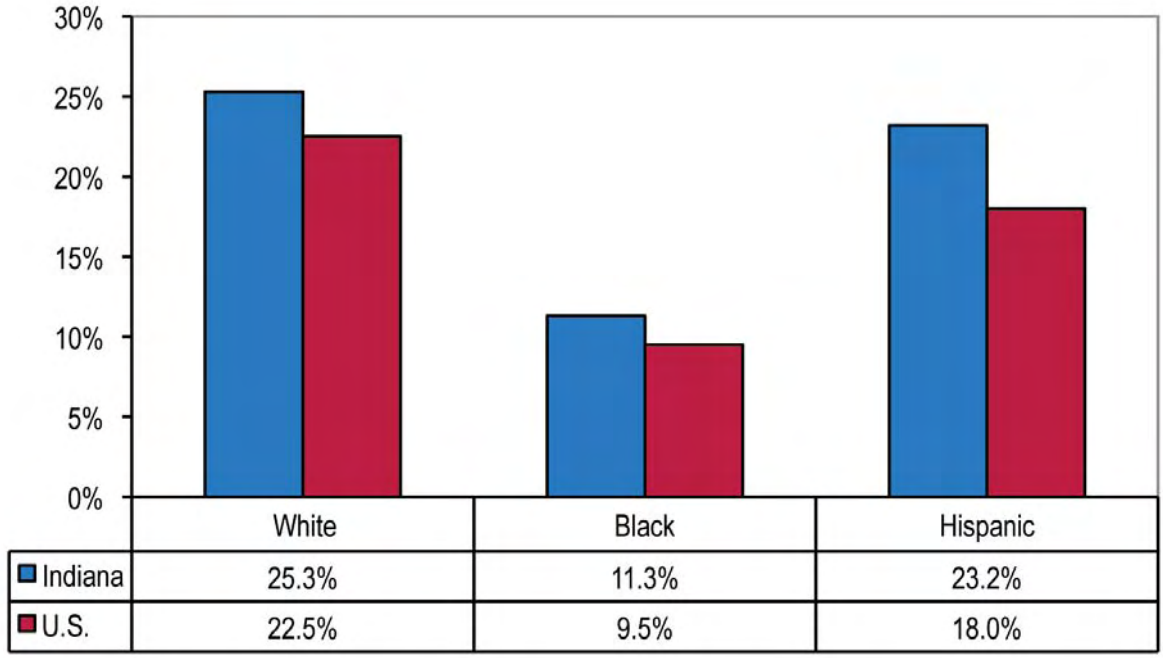
Year	Gender	Indiana	U.S.
2003	Females	25.7% (23.2–28.5)	21.9% (19.2–24.9)
	Males	25.6% (22.2–29.4)	21.8% (19.8–24.1)
	Total	25.6% (23.2–28.2)	21.9% (19.8–24.2)
2005	Females	20.5% (16.1–25.8)	23.0% (20.4–25.8)
	Males	23.2% (18.7–28.3)	22.9% (20.7–25.3)
	Total	21.9% (18.0–26.4)	23.0% (20.7–25.5)
2007	Females	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	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)

Source: Centers for Disease Control and Prevention, n.d.-c

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, n.d.-c).

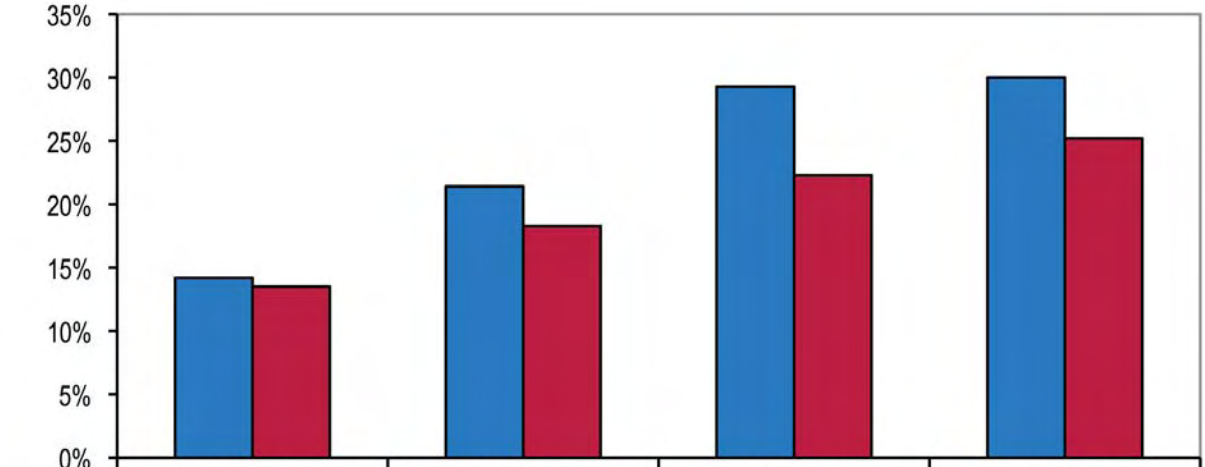
The Indiana Youth Tobacco Survey (IYTS) is a statewide school-based survey of middle school (grades 6 through 8) and high school (grades 9 through 12) students that captures information on various tobacco-related issues, such as tobacco use, smoking cessation, tobacco-related attitudes and beliefs, social 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 2008 (see Figure 4.8) (Indiana Tobacco Prevention and Cessation Agency, 2009).

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, n.d.-c

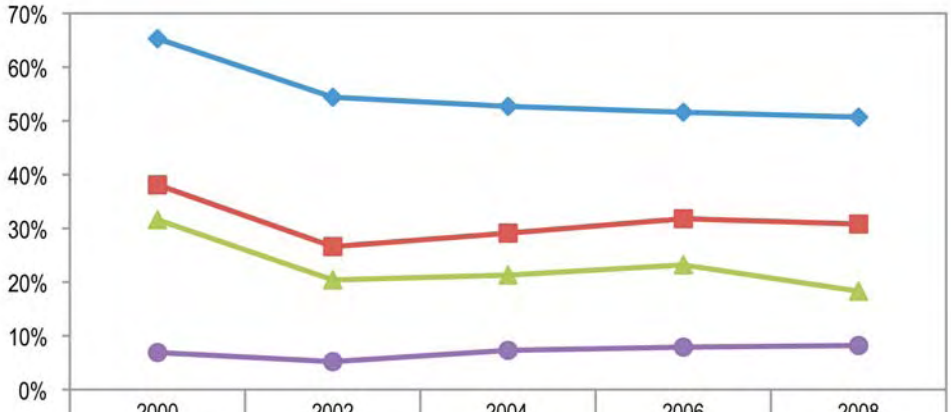
Figure 4.7 Current Smoking Prevalence for Indiana and U.S. High School Students (9th–12th grade), by Grade (Youth Risk Behavior Surveillance System, 2009)



	9th Grade	10th Grade	11th Grade	12th Grade
Indiana	14.2%	21.4%	29.3%	30.0%
U.S.	13.5%	18.3%	22.3%	25.2%

Source: Centers for Disease Control and Prevention, n.d.-c

Figure 4.8 Tobacco Use Among Indiana High School Students (9th–12th Grade) (Indiana Youth Tobacco Survey, 2000–2008)



	2000	2002	2004	2006	2008
Lifetime Cigarette Use	65.3%	54.4%	52.7%	51.6%	50.7%
Current Tobacco Use	38.1%	26.6%	29.1%	31.8%	30.8%
Current Cigarette Use	31.6%	20.4%	21.3%	23.2%	18.3%
Current Smokeless Tobacco Use	6.9%	5.2%	7.3%	7.9%	8.2%

Source: Indiana Tobacco Prevention and Cessation Agency, 2009

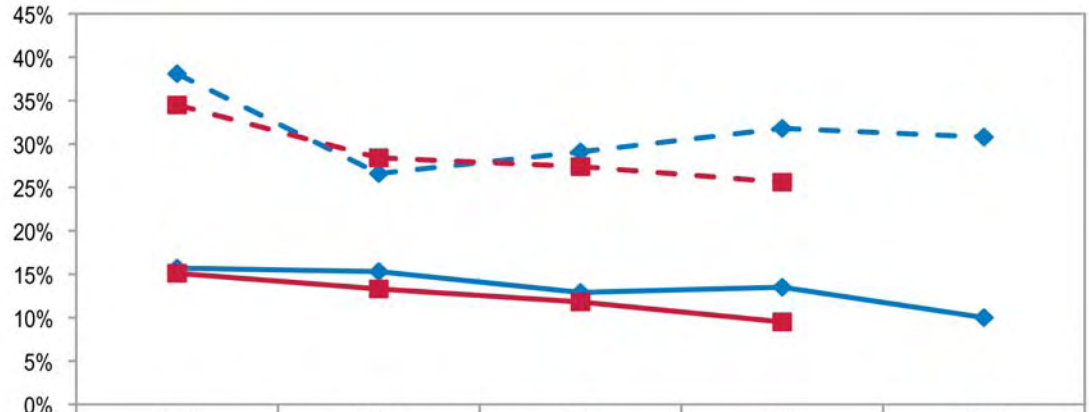
Based on 2008 IYTS results, a total of 10.0% of middle school students (95% CI: 7.5–12.4) and 30.8% of high school students (95% CI: 27.8–33.9) used a tobacco product (any type) in the past month, while 4.1% of middle school students (95% CI: 2.9–5.3) and 18.3% of high school students (95% CI: 16.0–20.5) smoked cigarettes in the past month (Indiana Tobacco Prevention and Cessation Agency, 2009). For trend information and comparisons with U.S. prevalence rates, as measured by the National Youth Tobacco Survey (NYTS), see Figures 4.9 and 4.10.

A review of IYTS data from 2000 through 2008 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 2008 was also significant (see Figure 4.10). Appendix 4A (pages 69-71) 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 2008.

According to the 2010 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 13.7 years, cigar use at 14.1 years, and pipe use at 14.4 years (Indiana Prevention Resource Center, 2010). A comparison of 2009 Indiana data (ATOD survey) and national data (Monitoring the Future, or MTF, survey; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.) suggests that Indiana's smoking prevalence among 8th, 10th, and 12th grade students exceeded the national level. However, due 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 4.11) (Indiana Prevention Resource Center, 2010; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.). See Appendix 4B (page 72) for Indiana students' 2010 lifetime and monthly cigarette use by region and grade.

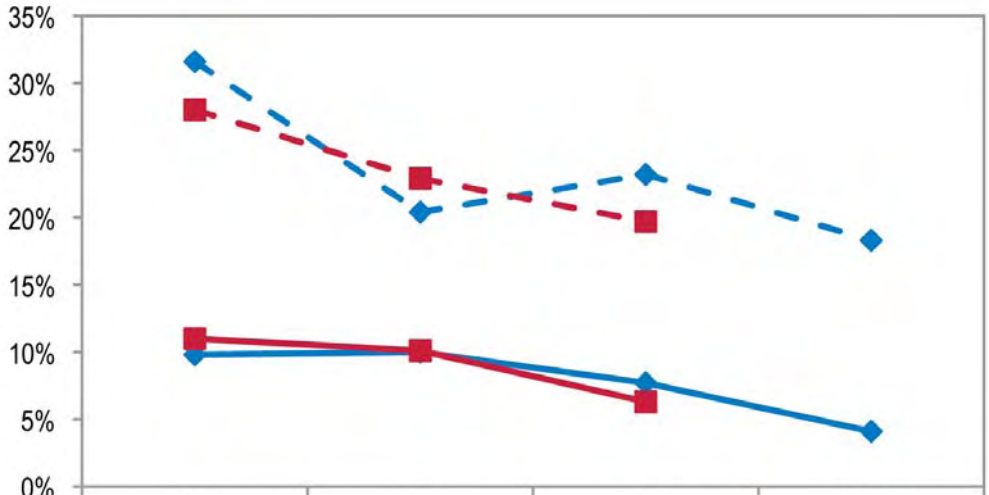
Figure 4.9 Percentage of Indiana and U.S. Middle and High School Students Reporting Current Tobacco Use (Indiana Youth Tobacco Survey, 2000–2008, and National Youth Tobacco Survey, 2000–2006)



	2000	2002	2004	2006	2008
Indiana MS	15.7%	15.3%	12.9%	13.5%	10.0%
U.S. MS	15.1%	13.3%	11.8%	9.5%	
Indiana HS	38.1%	26.6%	29.1%	31.8%	30.8%
U.S. HS	34.5%	28.4%	27.4%	25.6%	

Note: National data were not collected in 2008.
Source: Indiana Tobacco Prevention and Cessation Agency, 2009; Centers for Disease Control and Prevention, 2010a

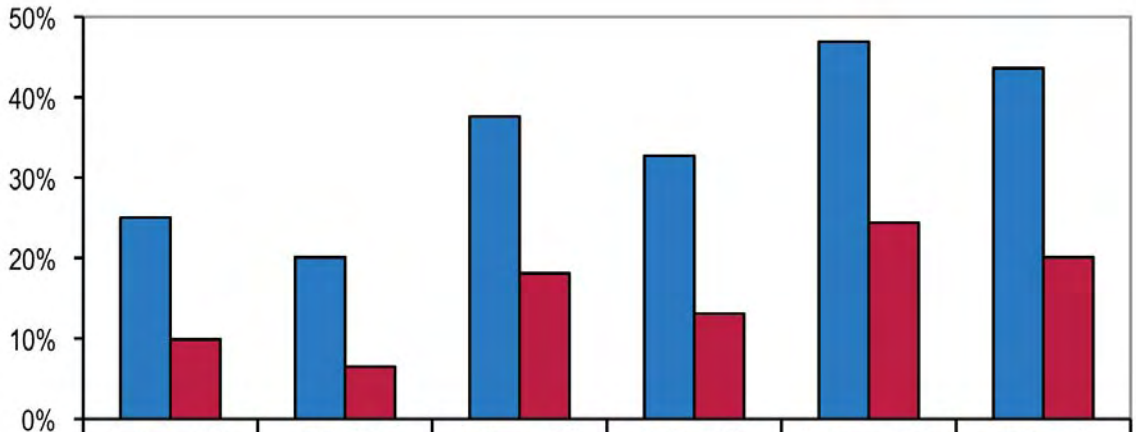
Figure 4.10 Percentage of Indiana and U.S. Middle and High School Students Reporting Current Cigarette Use (Indiana Youth Tobacco Survey, 2000–2008, and National Youth Tobacco Survey, 2000–2006)



	2000	2002	2006	2008
Indiana MS	9.8%	10.0%	7.7%	4.1%
U.S. MS	11.0%	10.1%	6.3%	
Indiana HS	31.6%	20.4%	23.2%	18.3%
U.S. HS	28.0%	22.9%	19.7%	

Note: National data were not collected in 2008.
Source: Indiana Tobacco Prevention and Cessation Agency, 2009; Centers for Disease Control and Prevention, 2010a

Figure 4.11 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, 2009)

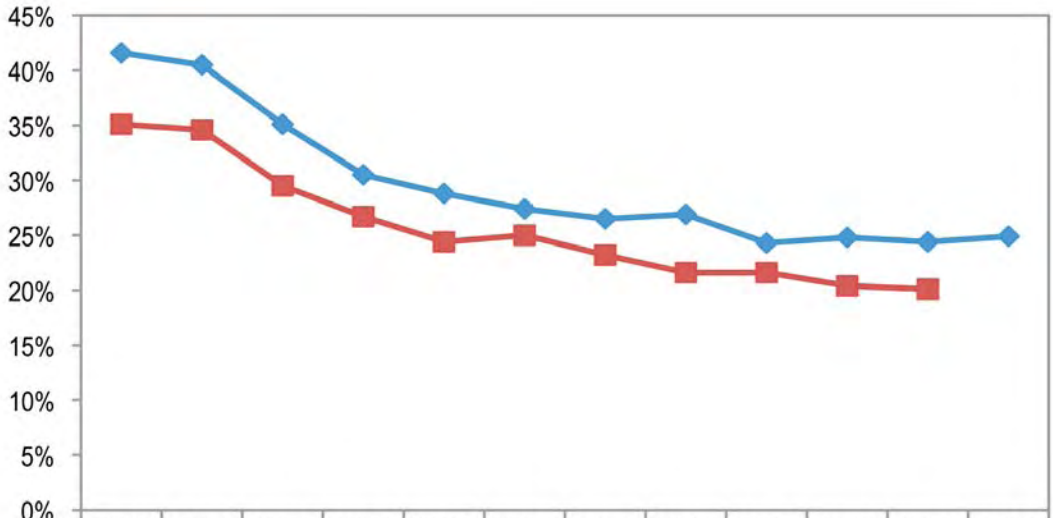


	Indiana 8th Grade	U.S. 8th Grade	Indiana 10th Grade	U.S. 10th Grade	Indiana 12th Grade	U.S. 12th Grade
Lifetime Use	25.0%	20.1%	37.6%	32.7%	46.9%	43.6%
Monthly Use	9.9%	6.5%	18.1%	13.1%	24.4%	20.1%

Source: Indiana Prevention Resource Center, 2010; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

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 4.12). However, these results need to be interpreted with caution; due to the lack of detail provided in the publicly available dataset, statistical significance could not be determined.

Figure 4.12 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, 1998–2010; Monitoring the Future Survey, 1998–2009)



	1998	1999	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Indiana	41.6%	40.5%	35.1%	30.5%	28.8%	27.4%	26.5%	26.9%	24.3%	24.8%	24.4%	24.9%
U.S.	35.1%	34.6%	29.5%	26.7%	24.4%	25.0%	23.2%	21.6%	21.6%	20.4%	20.1%	

Note: National data for 2010 are not yet available.
Source: Indiana Prevention Resource Center, 2010; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

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, 2004).

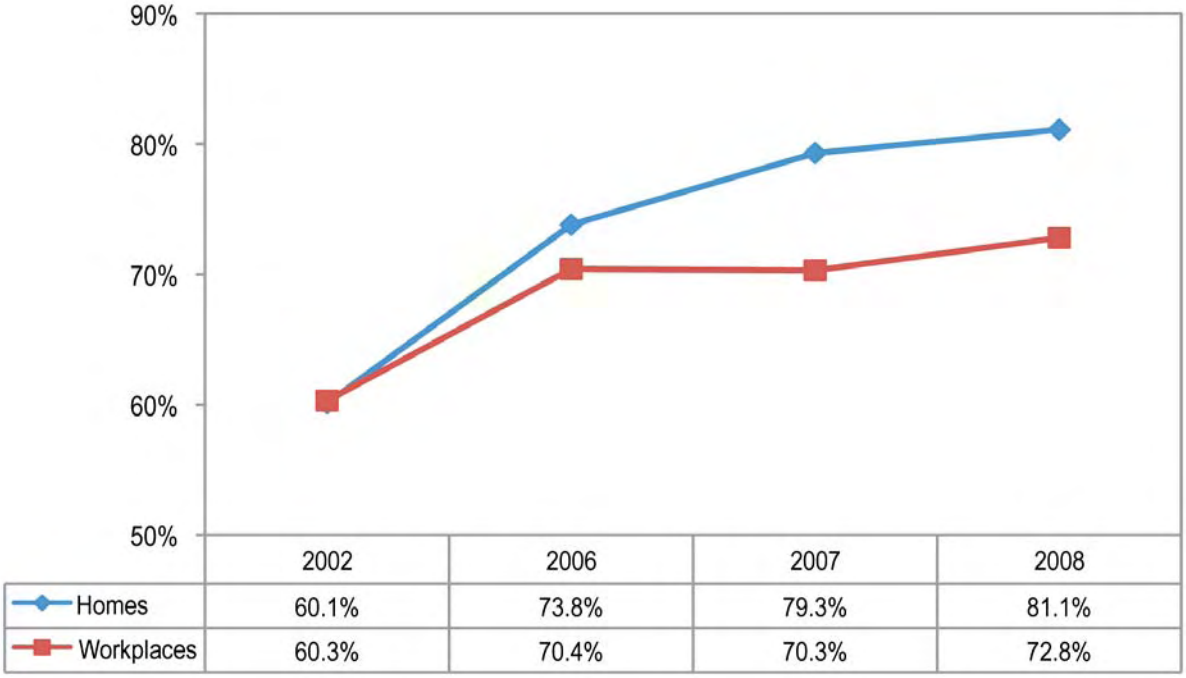
The effects of smoking can also be observed in unborn babies, infants, and children, and may influence women's reproductive health. Women who smoke have an increased risk for infertility and ectopic pregnancies.

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 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 percent of births to mothers who smoked during pregnancy declined in Indiana from 21.3% in 1997 to 18.5% in 2007; a higher percentage of white mothers (19.6%) smoked during pregnancy than black mothers (13.3%) (Epidemiology Resource Center, Indiana State Department of Health, n.d.). The U.S. smoking rate among pregnant women was lower at 10.4% in 2007 (Centers for Disease Control and Prevention, National Center for Health Statistics, 2010).[1] For a list of health outcomes/diseases for which maternal smoking is a significant risk factor in Indiana, see Appendix 4C, page 72.

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; the exposure to tobacco smoke can cause heart disease and lung cancer even in nonsmoking adults (increased risk of 25–30% for heart disease and 20–30% for lung cancer) (Centers for Disease Control and Prevention, 2010b). Children, in particular, are heavily impacted by secondhand 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 homes[2] 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 workplaces[3] 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 4.13).

Figure 4.13 Percentage of Smoke-free Homes and Workplaces in Indiana (Adult Tobacco Survey, 2002-2008)



	2002	2006	2007	2008
Homes	60.1%	73.8%	79.3%	81.1%
Workplaces	60.3%	70.4%	70.3%	72.8%

Source: Indiana Tobacco Prevention and Cessation Agency, 2010

[1]Estimate is based on data from 22 U.S. states.
[2]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).
[3]This measure refers to the prevalence of workers reporting a 100% smoke-free workplace (Adult Tobacco Survey).

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, n.d.-b). For a detailed list of smoking-attributable mortality rates by disease category, see Appendix 4D, page 73.

Economic Consequences

Annual U.S. tobacco industry marketing expenditures were an estimated $12.8 billion in 2006, including Indiana's share of $426.2 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, 2009).

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 $1.45 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, 2010).

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, n.d.-b). 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, 2000–2008)

	2000		2002		2004		2006		2008	
	%	95% CI	%	95% CI	%	95% CI	%	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)
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)
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)
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)	9.8	(6.4-13.3)
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)
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)
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)
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)
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)**
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)
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)
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)
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)	29.6	(24.7-34.6)
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)
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)
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)
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)
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)
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)**

Source: Indiana Tobacco Prevention and Cessation Agency, 2009

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, 2000–2008)

	2000		2002		2004		2006		2008	
	%	95% CI	%	95% CI	%	95% CI	%	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)
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)
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)
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	(1.3-4.5)
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)
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)
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)
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)
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)**
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)
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)
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)
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)	12.5	(9.3-15.7)
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)
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)
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)
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)
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)
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)**

Source: Indiana Tobacco Prevention and Cessation Agency, 2009

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, 2000–2008)

	2000		2002		2004		2006		2008	
	%	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)
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)
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)
Black	3.8	(-0.5-8.1)	2.0	(0.8-3.2)	3.0	(0.7-5.3)	3.9	(1.4-6.3)	2.6	(1.1-4.1)
Hispanic	7.4	(0.6-14.1)	1.3	(-0.3-3.0)	0.6	(-0.2-1.4)	2.7	(0.8-4.6)	2.7	(1.1-4.2)
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)
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)
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)
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)**
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)
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)
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)
Black	1.2	(-0.4-2.8)	3.7	(-1.1-8.5)	2.6	(1.0-4.1)	2.5	(0.9-4.0)	5.5	(3.0-8.1)
Hispanic	0.0	NA	0.5	(-0.1-1.2)	7.6	(4.3-11.0)	7.1	(3.3-10.9)	4.5	(2.5-6.6)
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)
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)
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)
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)
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)**

Source: Indiana Tobacco Prevention and Cessation Agency, 2009

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, 2010)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Lifetime	8.1	7.8	8.7	8.4	10.8	6.5	9.6	5.3	10.6
	Monthly	3.3	3.1	2.8	4.4	4.4	2.7	3.8	2.0	4.8
7th Grade	Lifetime	13.9	17.3	13.8	12.9	12.4	10.4	19.6	11.9	18.5
	Monthly	6.4	8.8	6.6	5.4	5.3	4.9	8.6	5.1	9.0
8th Grade	Lifetime	22.4	25.6	22.9	21.4	22.6	17.6	28.1	18.6	26.2
	Monthly	10.8	13.1	11.1	9.7	10.9	8.2	13.0	9.3	13.2
9th Grade	Lifetime	28.6	31.3	26.7	30.5	30.0	23.8	34.5	26.0	35.3
	Monthly	15.2	16.7	14.8	15.2	16.2	11.7	18.8	13.9	19.9
10th Grade	Lifetime	34.8	36.2	34.0	34.6	35.1	30.1	41.3	32.7	39.6
	Monthly	18.6	19.3	17.5	20.2	18.8	15.3	23.2	18.5	21.7
11th Grade	Lifetime	39.8	41.8	37.8	45.4	41.1	34.6	42.7	40.4	46.8
	Monthly	21.9	23.8	20.3	22.2	21.4	18.1	24.7	22.9	28.1
12th Grade	Lifetime	43.7	42.7	42.7	41.1	44.8	38.5	47.5	44.0	50.0
	Monthly	24.9	22.9	22.4	22.6	24.8	22.0	27.1	26.5	30.7

Source: Indiana Prevention Resource Center, 2010

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, n.d.-a

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, 2001–2004)

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, n.d.-a

REFERENCES, CHAPTER 4

Campaign for Tobacco-Free Kids. (2009). *State-specific tobacco company marketing expenditures 1998 to 2006.* Retrieved November 2, 2009, from http://www.tobaccofreekids.org/research/factsheets/pdf/0271.pdf

Campaign for Tobacco-Free Kids. (2010). *State cigarette excise tax rates & rankings.* Retrieved September 20, 2010, from http://www.tobaccofreekids.org/research/factsheets/pdf/0097.pdf

Centers for Disease Control and Prevention. (2009). *Behavioral Risk Factor Surveillance System - prevalence data.* Retrieved September 11, 2010, from http://apps.nccd.cdc.gov/brfss/

Centers for Disease Control and Prevention. (2010a). *National Youth Tobacco Survey (NYTS).* Retrieved September 30, 2010, from http://www.cdc.gov/tobacco/data_statistics/surveys/NYTS/index.htm#NYTS2006

Centers for Disease Control and Prevention. (2010b). *Smoking and tobacco use: Fact sheets.* Retrieved October 26, 2009, from http://www.cdc.gov/tobacco/data_statistics/fact_sheets/index.htm

Centers for Disease Control and Prevention. (n.d.-a). *Smoking-attributable mortality, morbidity, and economic costs (SAMMEC).* Retrieved September 30, 2010, from http://apps.nccd.cdc.gov/sammec/index.asp

Centers for Disease Control and Prevention. (n.d.-b). *State Tobacco Activities Tracking and Evaluation (STATE) System.* Retrieved September 30, 2010, from http://apps.nccd.cdc.gov/statesystem/DetailedReport/DetailedReports.aspx#ReportDetail

Centers for Disease Control and Prevention. (n.d.-c). *Youth Risk Behavior Surveillance System.* Retrieved September 1, 2010, from http://www.cdc.gov/HealthyYouth/yrbs/index.htm

Centers for Disease Control and Prevention, National Center for Health Statistics (2010). Births: Final data for 2007 (Table I). *National Vital Statistics Report,* 58(24). Retrieved November 1, 2010, from http://www.cdc.gov/nchs/data/nvsr/nvsr58/nvsr58_24.pdf

Data Analysis Team, Public Health System Development and Data Commission. (2009). *Indiana maternal and child health outcomes and performance measures data book - State and selected county data, 1997-2006.* Retrieved October 22, 2009, from http://www.in.gov/isdh/files/mch_outcomes_report_1997-2006.pdf

Federal Trade Commission. (2007). *Cigarette report for 2004 and 2005.* Retrieved October 26, 2009, from http://www.ftc.gov/reports/tobacco/2007cigarette2004-2005.pdf

Indiana Prevention Resource Center. (2010). *Alcohol, tobacco, and other drug use by Indiana children and adolescents.* Retrieved September 13, 2010, from http://www.drugs.indiana.edu/data-survey_monograph.html

Epidemiology Resource Center, Indiana State Department of Health. (n.d.). *Indiana natality report 2007 (table 38).* Retrieved November 1, 2010, from http://www.in.gov/isdh/reports/natality/2007/toc.htm

Indiana Tobacco Prevention and Cessation Agency. (2009). *Indiana Youth Tobacco Survey (IYTS), 2000-2008.* Received November 3, 2009, from Katelin Ryan, Research Director at the Indiana Tobacco Prevention and Cessation Agency, in an e-mail to the Indiana University Center for Health Policy.

Indiana Tobacco Prevention and Cessation Agency. (2010). *Smoke-free homes and workplaces.* Data received on September 24, 2010, from Miranda Spitznagle, Director of Program Evaluation, Indiana Tobacco Prevention and Cessation Agency.

Inter-university Consortium for Political and Social Research, University of Michigan. (n.d.). Monitoring the Future. Retrieved September 15, 2010, from http://www.monitoringthefuture.org/data/data.html

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (n.d.). *National Survey on Drug Use and Health.* Retrieved September 15, 2010, from https://nsduhweb.rti.org/

U.S. Department of Health and Human Services. (2000). *Healthy People 2010. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health:* Washington, DC: U.S. Government Printing Office.

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 health consequences of smoking: A report of the Surgeon General.* Retrieved October 19, 2009, from http://www.cdc.gov/tobacco/data_statistics/sgr/2004/complete_report/index.htm

World Health Organization. (n.d.). Tobacco Free Initiative (TFI): *Why is tobacco a public health priority?* Retrieved October 25, 2009, from http://www.who.int/tobacco/health_priority/en/index.html

Zollinger, TW, Saywell, RM, Muegge, CM, Przybylski, MJ (2008). *Estimating the economic impact of secondhand smoke on Indiana in 2007.* Bowen Research Center, Indiana University School of Medicine. Retrieved November 12, 2010, from http://www.in.gov/itpc/files/EconImpactSHS_IN_2007.pdf

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 (Office of National Drug Control Policy, n.d.).

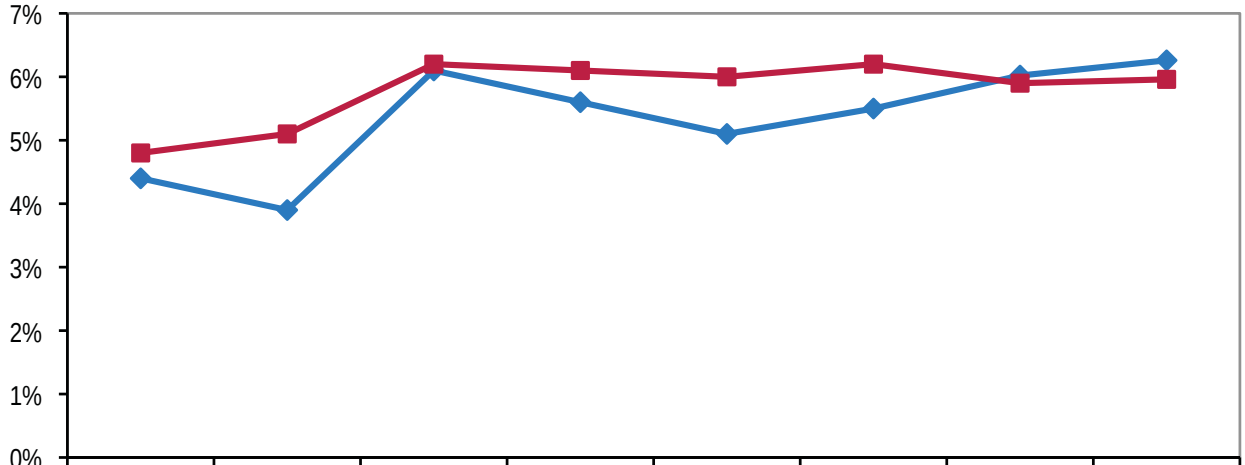
General Consumption Patterns

Marijuana is the most commonly used illicit drug, both in the United States and Indiana. According to the 2008 National Survey on Drug Use and Health (NSDUH), 6.0% (15.2 million) of the nation's population ages 12 and older reported current (past 30 days) marijuana use.

In Indiana, an estimated 6.3% (95% Confidence Interval [CI]: 5.2–7.6) reported current marijuana use, while 4.2% (95% CI: 3.3–5.4) indicated current use of illicit drugs other than marijuana (U.S.: 3.6%). Over one-tenth (10.3%; 95% CI: 8.9–11.9) of Indiana residents reported past year marijuana use (U.S.: 10.2%). According to averages from the 2002–2004 NSDUH data, approximately 2 million Hoosiers (39.9%) ages 12 and older have used marijuana once or more during their lifetime; this figure constitutes the most recent state-level estimate for lifetime marijuana use (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

Looking at trend data from 2000 through 2008, it seems that the prevalence of current marijuana use has risen from 4.4% to 6.3% in Indiana; however, this increase was not statistically 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, n.d.).

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, 2000–2008)



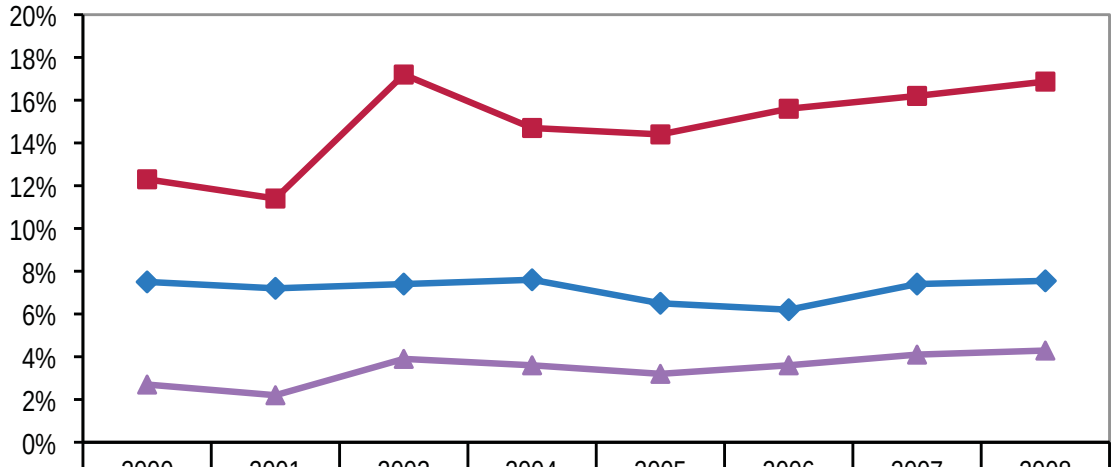
	2000	2001	2003	2004	2005	2006	2007	2008
Indiana	4.4%	3.9%	6.1%	5.6%	5.1%	5.5%	6.0%	6.3%
U.S.	4.8%	5.1%	6.2%	6.1%	6.0%	6.2%	5.9%	6.0%

Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.

Adult Consumption Patterns

Patterns of marijuana use among adults were similar in Indiana and the United States. According to 2008 NSDUH data, past-month marijuana use was highest among individuals ages 18 to 25; 16.9% (95% CI: 14.2–19.9) of Hoosiers in this age group reported current use (U.S.: 16.5 %). Among Hoosiers 26 years and older, current use was 4.3% (95% CI: 3.2–5.8), which was also comparable to the national prevalence (U.S.: 4.1%). Although it seems that Indiana's prevalence rose from 2000 through 2008 among adults, the increase was not statistically significant (see Figure 5.2 for Indiana rates by age group) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

Figure 5.2 Percentage of Indiana Residents Reporting Current Marijuana Use, by Age Group (National Survey on Drug Use and Health, 2000–2008)



	2000	2001	2003	2004	2005	2006	2007	2008
12-17	7.5%	7.2%	7.4%	7.6%	6.5%	6.2%	7.4%	7.6%
18-25	12.3%	11.4%	17.2%	14.7%	14.4%	15.6%	16.2%	16.9%
26 and older	2.7%	2.2%	3.9%	3.6%	3.2%	3.6%	4.1%	4.3%

Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.

Regarding initiation of use in Indiana, 7.4% (95% CI: 6.0–9.1) of 18- to 25-year-olds and 0.1% (95% CI: 0.1–0.2) of individuals 26 years and older reported first use of marijuana during the past year. These rates were statistically similar to the nation's prevalence, 6.5% and 0.1% respectively (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

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.

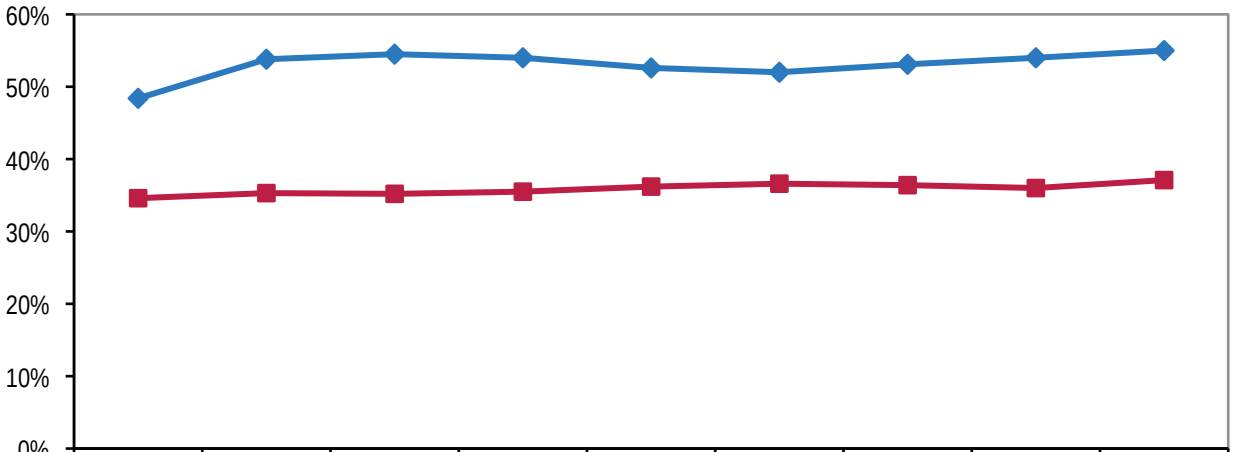
Table 5.1 Patterns of Marijuana Use among Indiana Residents Ages 18 and Older (Indiana Household Survey on Substance Abuse, 2008)

	Lifetime Use	Annual Use	Currect 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

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, n.d.). TEDS data from 2000 through 2008 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 2008, 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, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Indiana	48.4%	53.8%	54.5%	54.0%	52.6%	52.0%	53.1%	54.0%	55.0%
U.S.	34.6%	35.3%	35.2%	35.5%	36.2%	36.6%	36.4%	36.0%	37.1%

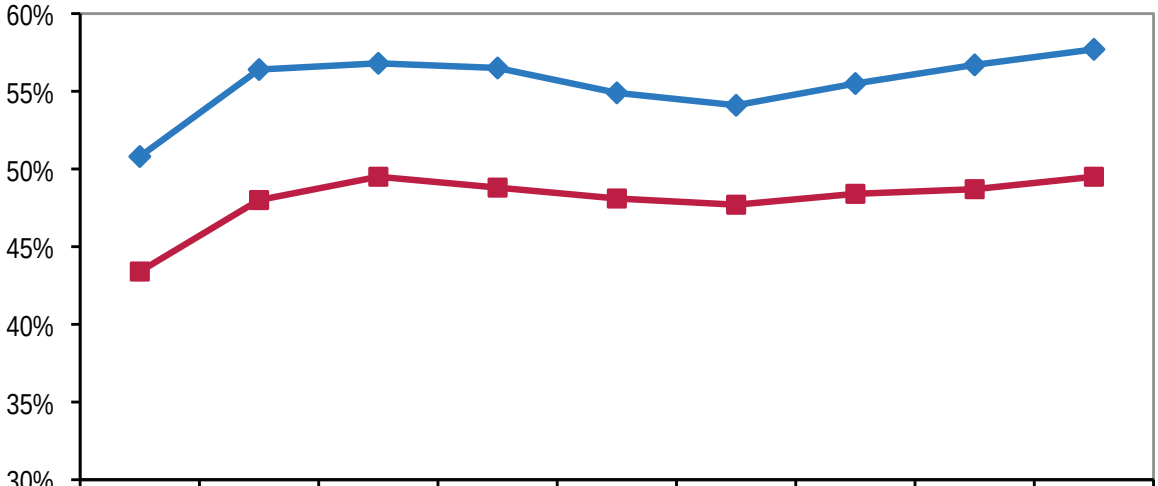
Source: Substance Abuse and Mental Health Data Archive, n.d.

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 2008 (see Figure 5.5).
- Throughout the years, marijuana use in the treatment population was highest among adolescents and decreased with age. Most Hoosiers under the age of 18 reported marijuana use (85.8%); while one-fifth of Indiana residents ages 55 and older indicated use of the substance. However, while marijuana use among younger patients remained stable from 2000 through 2008, the percentage of older adults reporting use increased during that time period (see Figure 5.6).

For county-level information on marijuana use, see Appendix 5A, page 89 (Substance Abuse and Mental Health Data Archive, n.d.).

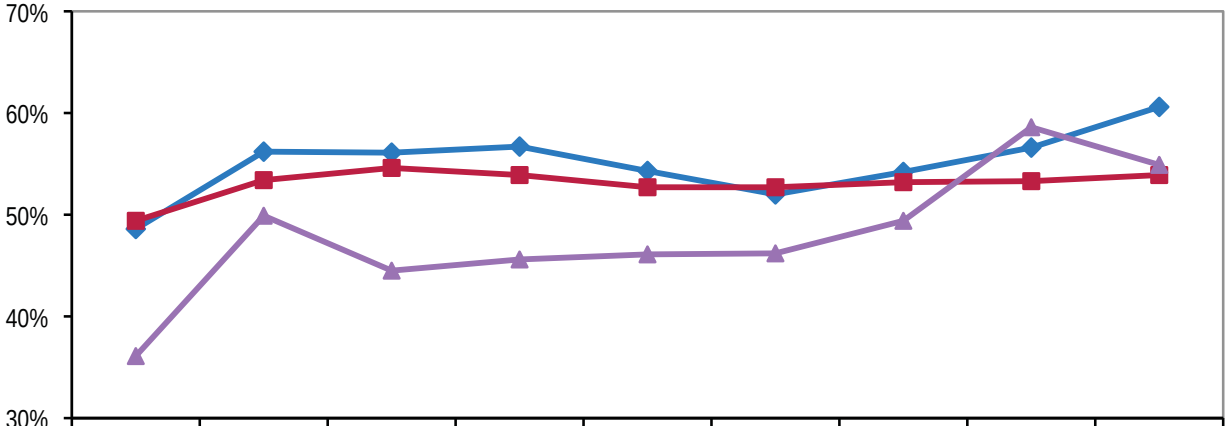
Figure 5.4 Percentage of Indiana Treatment Episodes with Marijuana Use Reported at Treatment Admission, by Gender (Treatment Episode Data Set, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Male	50.8%	56.4%	56.8%	56.5%	54.9%	54.1%	55.5%	56.7%	57.7%
Female	43.4%	48.0%	49.5%	48.8%	48.1%	47.7%	48.4%	48.7%	49.5%

Source: Substance Abuse and Mental Health Data Archive, n.d.

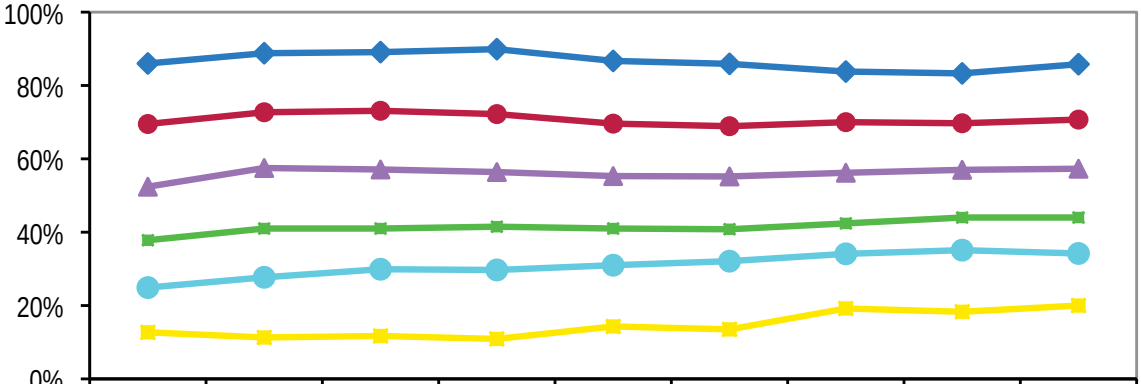
Figure 5.5 Percentage of Indiana Treatment Episodes with Marijuana Use Reported at Treatment Admission, by Race (Treatment Episode Data Set, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Black	48.6%	56.2%	56.1%	56.7%	54.3%	52.0%	54.2%	56.6%	60.6%
White	49.4%	53.4%	54.6%	53.9%	52.7%	52.7%	53.2%	53.3%	53.9%
Other	36.1%	49.9%	44.5%	45.6%	46.1%	46.2%	49.4%	58.6%	54.9%

Source: Substance Abuse and Mental Health Data Archive, n.d.

Figure 5.6 Percentage of Indiana Treatment Episodes with Marijuana Use Reported at Treatment Admission, by Age Group (Treatment Episode Data Set, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
under 18	86.0%	88.8%	89.1%	89.9%	86.7%	85.9%	83.8%	83.3%	85.8%
18 to 24	69.5%	72.7%	73.1%	72.2%	69.6%	68.9%	70.0%	69.7%	70.7%
25 to 34	52.4%	57.5%	57.1%	56.4%	55.3%	55.2%	56.2%	57.0%	57.3%
35 to 44	37.8%	41.0%	41.0%	41.5%	41.0%	40.8%	42.4%	44.0%	44.0%
45 to 54	24.9%	27.7%	29.9%	29.7%	31.0%	32.1%	34.1%	35.1%	34.2%
55 and over	12.7%	11.3%	11.7%	10.9%	14.3%	13.5%	19.2%	18.3%	20.0%

Source: Substance Abuse and Mental Health Data Archive, n.d.

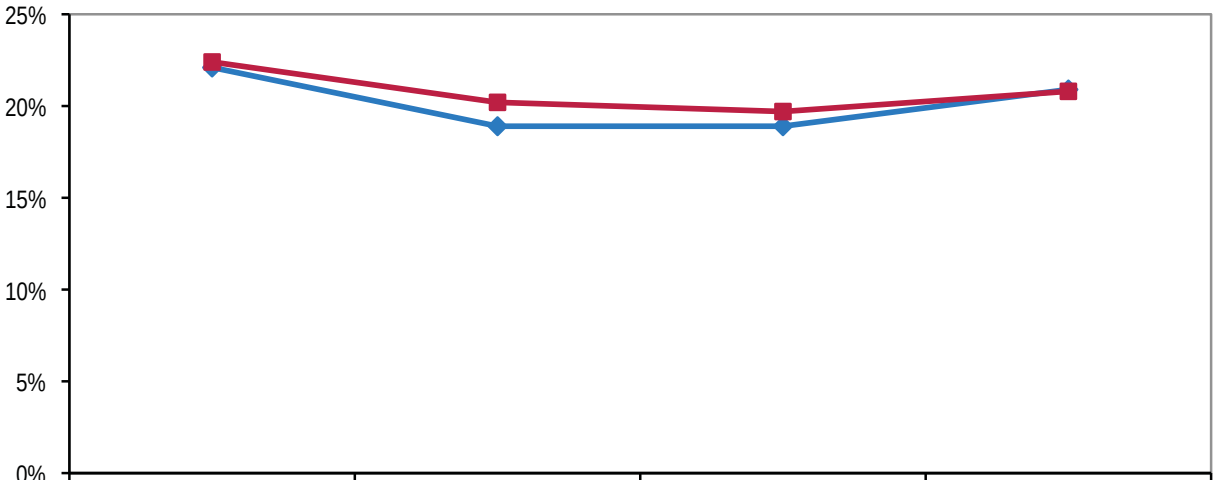
Youth Consumption Patterns

According to 2008 NSDUH findings, an estimated 5.8% (95% CI: 4.9–6.9) 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 5.5%. Patterns of current marijuana use among Indiana residents in that age group mirrored national rates, and remained constant from 2000 to 2008 (see Figure 5.2) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

Based on findings from the 2009 Youth Risk Behavior Surveillance System (YRBSS), 20.9% (95% CI: 17.3–24.9) of Indiana 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, n.d.). 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).

In 2009, current use increased with grade level and was significantly lower among 9th graders compared to students in grades 11 and 12. However, no statistically significant differences were observed by gender or race/ethnicity (see Table 5.2) (Centers for Disease Control and Prevention, n.d.).

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



	2003	2005	2007	2009
Indiana	22.1%	18.9%	18.9%	20.9%
U.S.	22.4%	20.2%	19.7%	20.8%

Source: Centers for Disease Control and Prevention, n.d.

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).

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) (Centers for Disease Control and Prevention, n.d.).

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) (Centers for Disease Control and Prevention, n.d.).

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, n.d.

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	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, n.d.

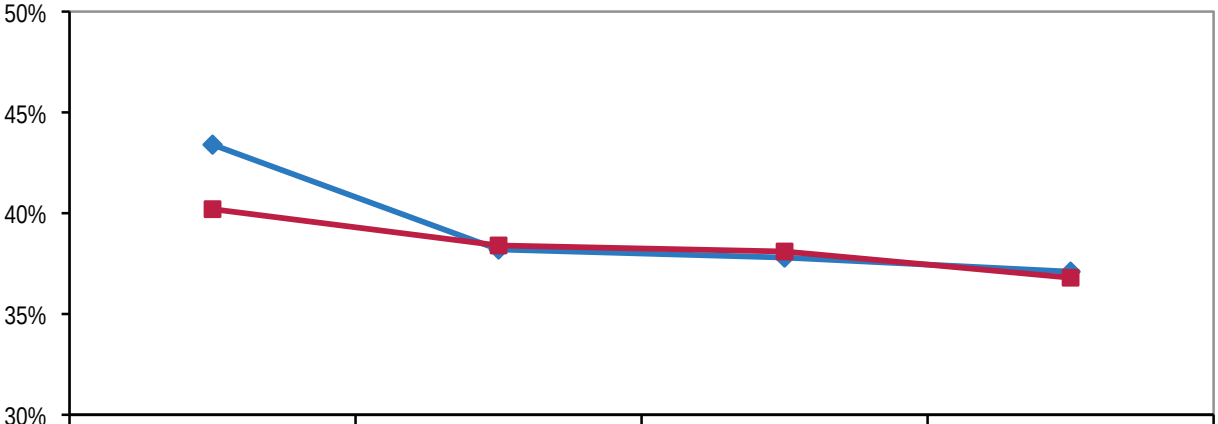
Reported lifetime use of marijuana among Indiana high school students was 37.1% (95% CI: 33.6–40.7) in 2009 (see Figure 5.8). Prevalence rates did not differ by gender or race/ethnicity; however, 9th grade students had a significantly lower rate than 11th and 12th graders (see Table 5.4) (Centers for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

Table 5.4 Percentage of Indiana and U.S. High School Students Who Have Used Marijuana Once or More during Their Life, by Grade, Gender, and Race (Youth Risk Behavior Surveillance System, 2009)

	Indiana		U.S.	
	Prevalence Rate	95% CI	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, n.d.

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



	2003	2005	2007	2009
Indiana	43.4%	38.2%	37.8%	37.1%
U.S.	40.2%	38.4%	38.1%	36.8%

Source: Centers for Disease Control and Prevention, n.d.

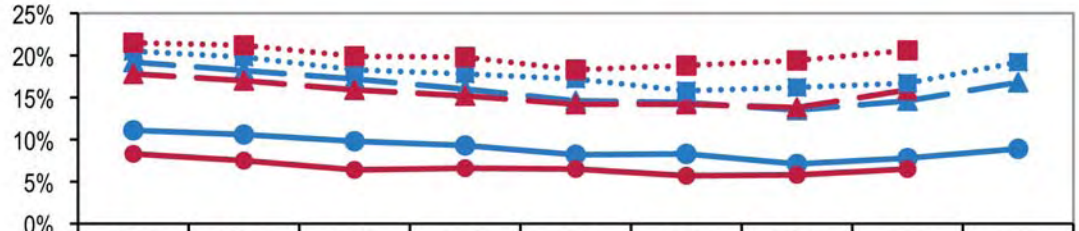
Results from the Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents (ATOD) survey (Indiana Prevention Resource Center, 2010) and the Monitoring the Future (MTF) survey (Inter-university Consortium for Political and Social Research, University of Michigan, n.d.) reveal that in 2009, current marijuana use seemed:

- higher among Indiana 8th graders than 8th graders nationally;
- lower among Indiana 10th graders compared to their national counterparts; and
- lower among Indiana 12th grade students than U.S. 12th graders (see Figure 5.9).

However, due to the lack of detail provided in the publicly available dataset, statistical significance could not be determined.

From 2002 until 2009, lifetime use among students in grades 8, 10, and 12 seemed to have declined both nationally and in Indiana (see Table 5.5). Again, due to the data format, statistical significance of the differences could not be determined. For lifetime and monthly marijuana use by Indiana region and grade level for 2010, see Appendix 5B, page 90.

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, 2002–2010, and Monitoring the Future Survey, 2002–2009)



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

Note: National data for 2010 are not yet available.
Source: Indiana Prevention Resource Center, 2010; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

Table 5.5 Percentage of Indiana and U.S. 8th, 10th, and 12th Grade Students Reporting Using Marijuana Once or More in Their Life, by Grade (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2002–2010, and Monitoring the Future Survey, 2002–2009)

Grade	Geography	2002	2003	2004	2005	2006	2007	2008	2009	2010
8th	Indiana	20.0%	19.1%	18.6%	17.6%	15.6%	16.1%	14.4%	15.0%	15.3%
	U.S.	19.2%	17.5%	16.3%	16.5%	15.7%	14.2%	14.6%	15.7%	N/A
10th	Indiana	36.9%	34.8%	33.5%	31.6%	30.1%	29.9%	28.3%	29.1%	30.9%
	U.S.	38.7%	36.4%	35.1%	34.1%	31.8%	31.0%	29.9%	32.3%	N/A
12th	Indiana	44.8%	42.3%	40.5%	40.1%	37.1%	36.5%	36.5%	36.8%	38.6%
	U.S.	47.8%	46.1%	45.7%	44.8%	42.3%	41.8%	42.6%	42.0%	N/A

Note: National data were unavailable for 2010.
Source: Indiana Prevention Resource Center, 2010; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

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 (Office of National Drug Control Policy, n.d.).

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

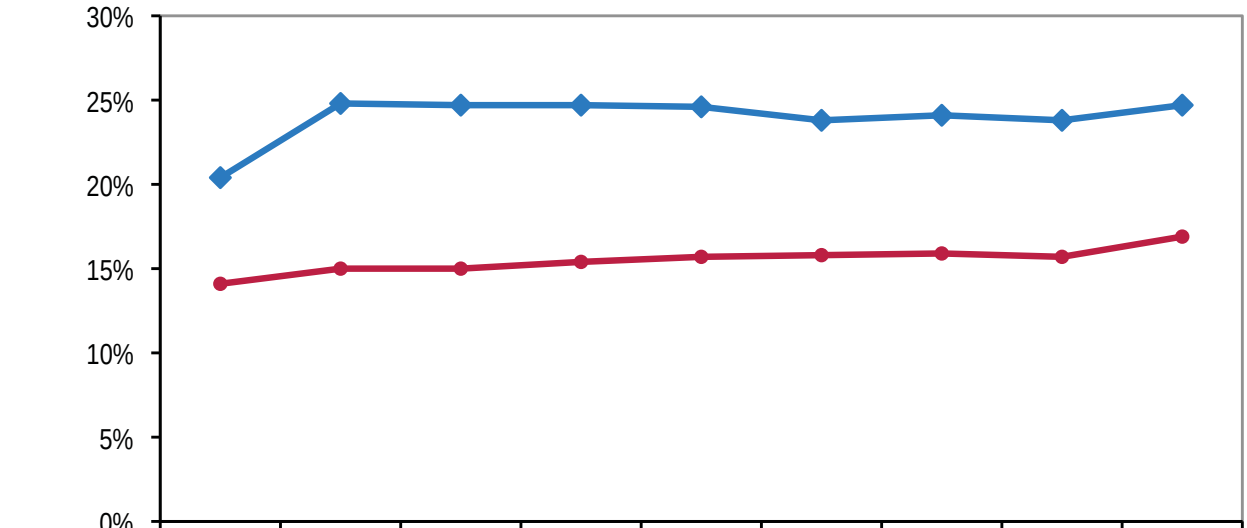
The Treatment Episode Data Set (TEDS) series indicates that at least for the past nine years, marijuana dependence[1] was more of a problem among the treatment population in Indiana than the treatment population in the rest of the nation. In 2008, marijuana dependence was indicated in nearly one-quarter of Indiana's treatment episodes, compared to 17% in the nation (see Figure 5.10) (Substance Abuse and Mental Health Data Archive, n.d.).

Significant differences for marijuana dependence were observed by gender, age, and race, as follows: (TEDS, 2008):

- More males (26.4%) than females (21.1%) reported marijuana dependency ($P < 0.001$) (see Figure 5.11).
- More blacks (35.0%) reported marijuana dependency than whites (22.4%) or persons from other races (27.0%) ($P < 0.001$) (see Figure 5.12).
- The percentage of adolescents (under age 18) reporting marijuana dependency was higher than any other age group ($P < 0.001$) (see Figure 5.13) (Substance Abuse and Mental Health Data Archive, n.d.).

For county-level information on marijuana dependence, see Appendix 5A, page 89.

Figure 5.10 Percentage of Indiana and U.S. Treatment Episodes with Marijuana Dependence Reported at Treatment Admission (Treatment Episode Data Set, 2000–2008)

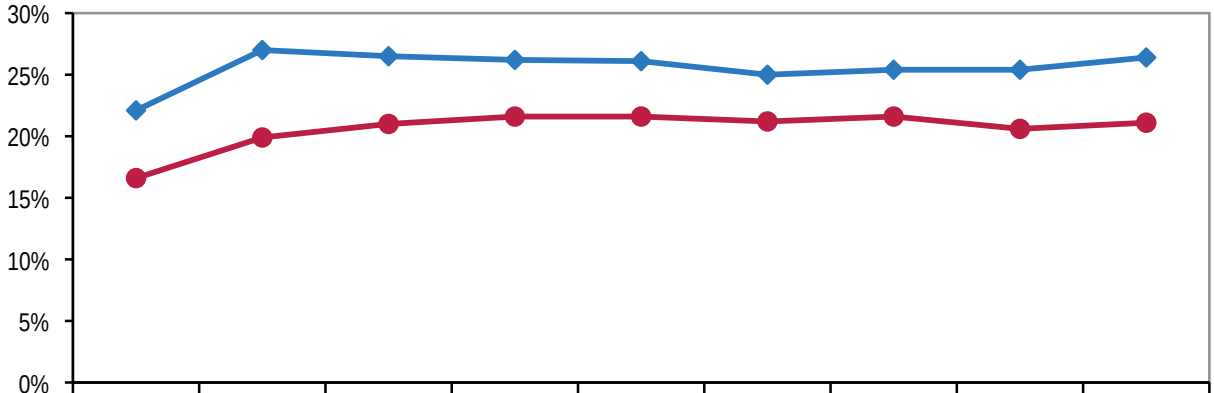


	2000	2001	2002	2003	2004	2005	2006	2007	2008
Indiana	20.4%	24.8%	24.7%	24.7%	24.6%	23.8%	24.1%	23.8%	24.7%
U.S.	14.1%	15.0%	15.0%	15.4%	15.7%	15.8%	15.9%	15.7%	16.9%

Source: Substance Abuse and Mental Health Data Archive, n.d.

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

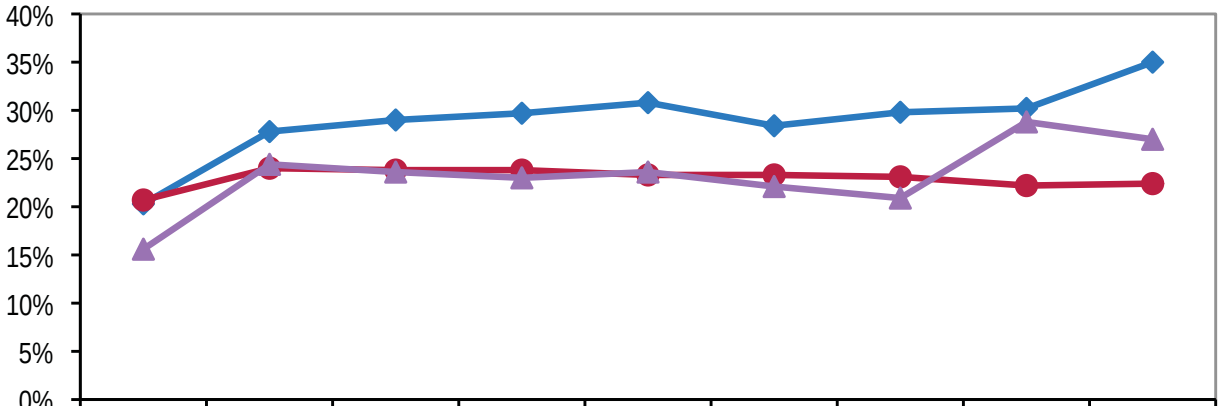
Figure 5.11 Percentage of Indiana Treatment Episodes with Marijuana Dependence Reported at Treatment Admission, by Gender (Treatment Episode Data Set, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Male	22.1%	27.0%	26.5%	26.2%	26.1%	25.0%	25.4%	25.4%	26.4%
Female	16.6%	19.9%	21.0%	21.6%	21.6%	21.2%	21.6%	20.6%	21.1%

Source: Substance Abuse and Mental Health Data Archive, n.d.

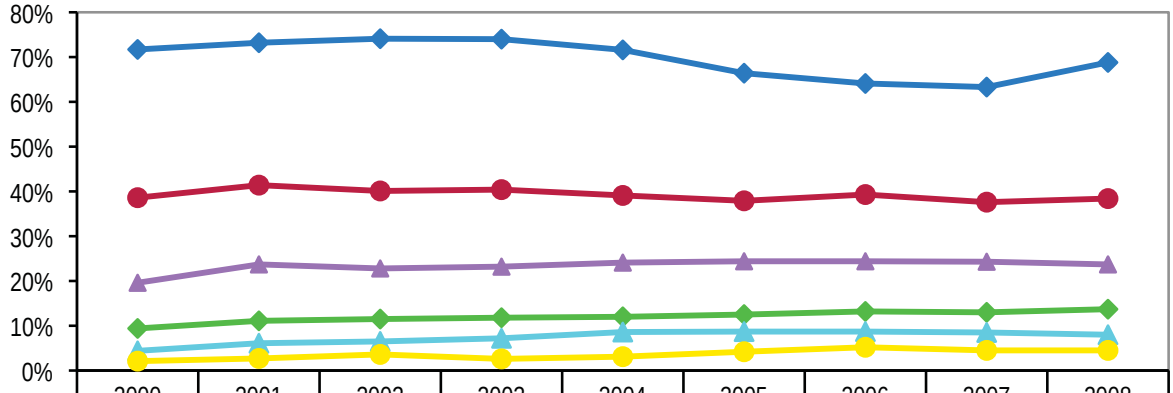
Figure 5.12 Percentage of Indiana Treatment Episodes in with Marijuana Dependence Reported at Treatment Admission, by Race (Treatment Episode Data Set, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Black	20.3%	27.8%	29.0%	29.7%	30.8%	28.4%	29.8%	30.2%	35.0%
White	20.7%	24.0%	23.8%	23.8%	23.3%	23.3%	23.1%	22.2%	22.4%
Other	15.6%	24.4%	23.6%	23.0%	23.6%	22.1%	20.9%	28.8%	27.0%

Source: Substance Abuse and Mental Health Data Archive, n.d.

Figure 5.13 Percentage of Indiana Treatment Episodes with Marijuana Dependence Reported at Treatment Admission, by Age Group (Treatment Episode Data Set, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
under 18	71.7%	73.2%	74.1%	74.0%	71.6%	66.4%	64.1%	63.3%	68.8%
18 to 24	38.6%	41.4%	40.1%	40.4%	39.1%	37.9%	39.3%	37.6%	38.4%
25 to 34	19.6%	23.7%	22.8%	23.2%	24.1%	24.4%	24.4%	24.3%	23.7%
35 to 44	9.4%	11.1%	11.5%	11.8%	12.0%	12.5%	13.2%	13.0%	13.7%
45 to 54	4.4%	6.1%	6.5%	7.2%	8.6%	8.7%	8.7%	8.5%	8.0%
55 and over	2.1%	2.7%	3.6%	2.6%	3.1%	4.2%	5.2%	4.5%	4.5%

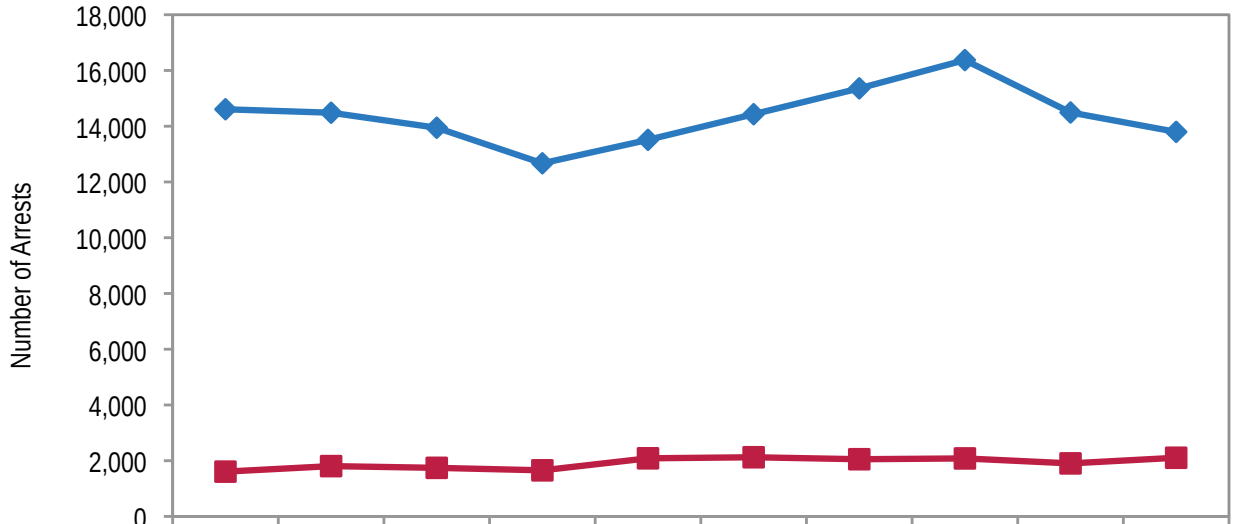
Source: Substance Abuse and Mental Health Data Archive, n.d.

Criminal Consequences

Marijuana abuse remains a significant problem within Indiana. Marijuana produced in Mexico is transported and distributed by Mexican organizations. Locally produced marijuana is cultivated throughout Indiana at indoor and outdoor grow sites. As a result of the U.S. Drug Enforcement Administration's Domestic Cannabis Eradication/Suppression Program, the Indiana State Police eradicated 25,000 plants growing wild in northern Indiana. In 2008, almost 847 kilograms, or 1,867 pounds, of marijuana were seized in Indiana (U.S. Drug Enforcement Administration, 2009).

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, n.d.). According to 2008 results, almost 14,000 arrests were made in Indiana for the possession of marijuana. This represents an arrest rate of 2.2 (95% CI: 2.1–2.2) per 1,000 population; which is slightly less than the U.S. rate of 2.3 (95% CI: 2.3–2.3). Additionally, over 2,000 Hoosiers were arrested for selling and manufacturing marijuana. Indiana's arrest rate for sale/manufacture of the substance was 0.3 per 1,000 population (95% CI: 0.3–0.3), comparable to the national rate of 0.3 per 1,000 population (95% CI: 0.3–0.3) (see Figures 5.14 and 5.15).

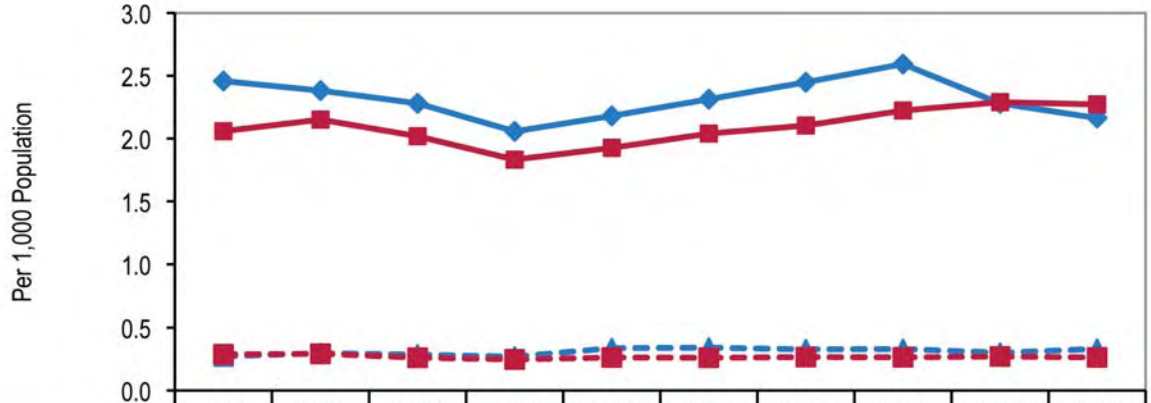
Figure 5.14 Number of Indiana Arrests for Marijuana Possession and Sale/Manufacture (Uniform Crime Reporting Program, 1999–2008)



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Possession	14,608	14,484	13,945	12,670	13,511	14,431	15,358	16,373	14,493	13,797
Sales	1,608	1,806	1,744	1,655	2,086	2,124	2,053	2,082	1,904	2,106

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

Figure 5.15 Indiana and U.S. Arrest Rates for Marijuana Possession and Sale/Manufacture per 1,000 Population (Uniform Crime Reporting Program, 1999–2008)



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Indiana Possession	2.5	2.4	2.3	2.1	2.2	2.3	2.4	2.6	2.3	2.2
U.S. Possession	2.1	2.2	2.0	1.8	1.9	2.0	2.1	2.2	2.3	2.3
Indiana Sales	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
U.S. Sales	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3

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

Maps 5.1 and 5.2 (pages 93 and 94) and Appendix 5C (page 91), 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 20.)

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, 2009)

	Treatment Episodes	Marijuana Use		Marijuana Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**
Adams	131	72	55.0%	26	19.8%
Allen	1,971	1,282	65.0%	589	29.9%
Bartholomew	327	151	46.2%	50	15.3%
Benton	20	13	65.0%	<5	N/A
Blackford	141	103	73.0%	49	34.8%
Boone	205	102	49.8%	48	23.4%
Brown	72	38	52.8%	15	20.8%
Carroll	83	51	61.4%	17	20.5%
Cass	144	71	49.3%	27	18.8%
Clark	512	217	42.4%	99	19.3%
Clay	199	108	54.3%	51	25.6%
Clinton	82	55	67.1%	22	26.8%
Crawford	53	23	43.4%	9	17.0%
Daviess	247	124	50.2%	47	19.0%
Dearborn	259	114	44.0%	54	20.8%
Decatur	77	36	46.8%	16	20.8%
DeKalb	221	103	46.6%	34	15.4%
Delaware	873	465	53.3%	183	21.0%
Dubois	261	104	39.8%	40	15.3%
Elkhart	893	525	58.8%	301	33.7%
Fayette	54	23	42.6%	<5	N/A
Floyd	168	72	42.9%	21	12.5%
Fountain	67	40	59.7%	24	35.8%
Franklin	36	13	36.1%	5	13.9%
Fulton	144	95	66.0%	35	24.3%
Gibson	118	65	55.1%	30	25.4%
Grant	481	317	65.9%	130	27.0%
Greene	170	82	48.2%	38	22.4%
Hamilton	698	469	67.2%	247	35.4%
Hancock	126	46	36.5%	28	22.2%
Harrison	53	24	45.3%	14	26.4%
Hendricks	314	123	39.2%	62	19.7%
Henry	118	41	34.7%	11	9.3%
Howard	666	370	55.6%	159	23.9%
Huntington	64	33	51.6%	17	26.6%
Jackson	147	84	57.1%	29	19.7%
Jasper	43	23	53.5%	8	18.6%
Jay	66	44	66.7%	23	34.8%
Jefferson	185	85	45.9%	42	22.7%
Jennings	147	71	48.3%	22	15.0%
Johnson	325	135	41.5%	55	16.9%
Knox	368	193	52.4%	77	20.9%
Kosciusko	213	122	57.3%	51	23.9%
LaGrange	167	107	64.1%	42	25.1%
Lake	2,554	1,136	44.5%	557	21.8%
LaPorte	633	282	44.5%	75	11.8%
Lawrence	372	167	44.9%	70	18.8%
Madison	895	566	63.2%	240	26.8%
Marion	4,339	1,981	45.7%	1,086	25.0%
Marshall	228	140	61.4%	54	23.7%
Martin	95	39	41.1%	17	17.9%
Miami	169	107	63.3%	52	30.8%
Monroe	1,376	633	46.0%	263	19.1%
Montgomery	188	92	48.9%	31	16.5%
Morgan	472	204	43.2%	104	22.0%
Newton	16	8	50.0%	<5	N/A
Noble	324	177	54.6%	88	27.2%
Ohio	14	5	35.7%	<5	N/A
Orange	83	28	33.7%	13	15.7%
Owen	267	143	53.6%	58	21.7%
Parke	119	66	55.5%	27	22.7%
Perry	149	75	50.3%	20	13.4%
Pike	42	17	40.5%	8	19.0%
Porter	477	188	39.4%	56	11.7%
Posey	162	77	47.5%	24	14.8%
Pulaski	43	20	46.5%	8	18.6%
Putnam	142	58	40.8%	29	20.4%
Randolph	82	37	45.1%	7	8.5%
Ripley	85	29	34.1%	8	9.4%
Rush	49	23	46.9%	9	18.4%
Saint Joseph	1,376	652	47.4%	179	13.0%
Scott	101	39	38.6%	15	14.9%
Shelby	107	56	52.3%	30	28.0%
Spencer	146	67	45.9%	19	13.0%
Starke	180	74	41.1%	25	13.9%
Steuben	115	62	53.9%	19	16.5%
Sullivan	99	50	50.5%	27	27.3%
Switzerland	55	20	36.4%	9	16.4%
Tippecanoe	473	297	62.8%	139	29.4%
Tipton	51	27	52.9%	11	21.6%
Union	25	8	32.0%	<5	N/A
Vanderburgh	1,664	1,026	61.7%	426	25.6%
Vermillion	136	51	37.5%	25	18.4%
Vigo	1,009	552	54.7%	295	29.2%
Wabash	181	94	51.9%	46	25.4%
Warren	23	15	65.2%	5	21.7%
Warrick	344	196	57.0%	80	23.3%
Washington	91	46	50.5%	20	22.0%
Wayne	384	166	43.2%	53	13.8%
Wells	141	95	67.4%	48	34.0%
White	163	110	67.5%	39	23.9%
Whitley	101	65	64.4%	19	18.8%
Indiana	**32,049**	**16,500**	**51.5%**	**7,296**	**22.8%**

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.

Source: Indiana Family and Social Services Administration, Revenue Enhancement and Data, 2010

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, 2010)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Lifetime	2.8	3.2	2.2	1.8	3.0	3.3	2.9	1.2	3.3
	Monthly	1.5	1.8	1.2	1.1	1.6	1.8	1.5	0.6	1.7
7th Grade	Lifetime	6.8	9.7	6.4	3.8	5.4	6.4	9.4	3.8	8.8
	Monthly	3.8	5.1	3.7	2.2	3.1	3.7	5.3	1.8	5.2
8th Grade	Lifetime	15.3	19.7	16.3	11.3	13.5	15.2	18.6	10.1	15.7
	Monthly	8.9	12.2	9.3	7.0	7.5	8.6	10.7	5.2	9.5
9th Grade	Lifetime	22.4	26.8	20.3	22.2	21.1	21.8	26.8	16.8	24.7
	Monthly	12.7	15.3	12.1	11.8	11.4	12.5	14.8	9.8	13.9
10th Grade	Lifetime	30.9	34.9	30.2	29.2	28.5	30.8	35.0	24.4	33.2
	Monthly	16.8	20.1	17.1	16.6	14.5	16.8	19.3	12.4	17.9
11th Grade	Lifetime	34.6	40.4	28.8	34.9	32.7	35.4	37.0	29.6	38.1
	Monthly	17.9	21.8	14.1	19.6	14.6	19.2	20.3	14.4	19.1
12th Grade	Lifetime	38.6	42.2	37.9	36.3	36.2	38.9	41.0	33.3	41.8
	Monthly	19.2	21.1	19.7	18.2	16.3	20.3	20.1	15.1	21.0

Source: Indiana Prevention Resource Center, 2010

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, 2008)

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Adams	32	0.95	7	*0.21
Allen	767	2.18	56	0.16
Bartholomew	205	2.74	19	*0.25
Benton	15	*1.72	2	*0.23
Blackford	26	2.01	10	*0.77
Boone	66	1.20	14	*0.25
Brown	12	*0.82	0	*0.00
Carroll	57	2.86	5	*0.25
Cass	64	1.64	12	*0.31
Clark	195	1.84	27	0.25
Clay	71	2.66	7	*0.26
Clinton	64	1.90	14	*0.41
Crawford	12	*1.11	3	*0.28
Daviess	72	2.40	8	*0.27
Dearborn	16	*0.32	62	1.24
Decatur	46	1.84	9	*0.36
DeKalb	95	2.26	13	*0.31
Delaware	150	1.31	8	*0.07
Dubois	47	1.14	7	*0.17
Elkhart	434	2.17	11	*0.05
Fayette	42	1.74	8	*0.33
Floyd	247	3.37	39	0.53
Fountain	23	1.35	5	*0.29
Franklin	1	*0.05	26	1.19
Fulton	34	1.68	7	*0.35
Gibson	26	0.79	5	*0.15
Grant	181	2.65	11	*0.16
Greene	48	1.47	4	*0.12
Hamilton	530	1.94	7	*0.03
Hancock	120	1.77	15	*0.22
Harrison	54	1.46	2	*0.05
Hendricks	273	1.97	47	0.34
Henry	66	1.40	24	0.51
Howard	217	2.60	5	*0.06
Huntington	47	1.25	1	*0.03
Jackson	114	2.70	10	*0.24
Jasper	36	1.11	13	*0.40
Jay	28	1.30	8	*0.37
Jefferson	58	1.77	12	*0.37
Jennings	2	*0.07	111	3.94
Johnson	393	2.83	32	0.23
Knox	22	0.58	38	1.01
Kosciusko	125	1.65	21	0.28
LaGrange	1	*0.03	0	*0.00
Lake	1,051	2.13	457	0.93
LaPorte	178	1.62	9	*0.08
Lawrence	87	1.89	3	*0.07
Madison	337	2.57	32	0.24
Marion	2,611	2.97	311	0.35

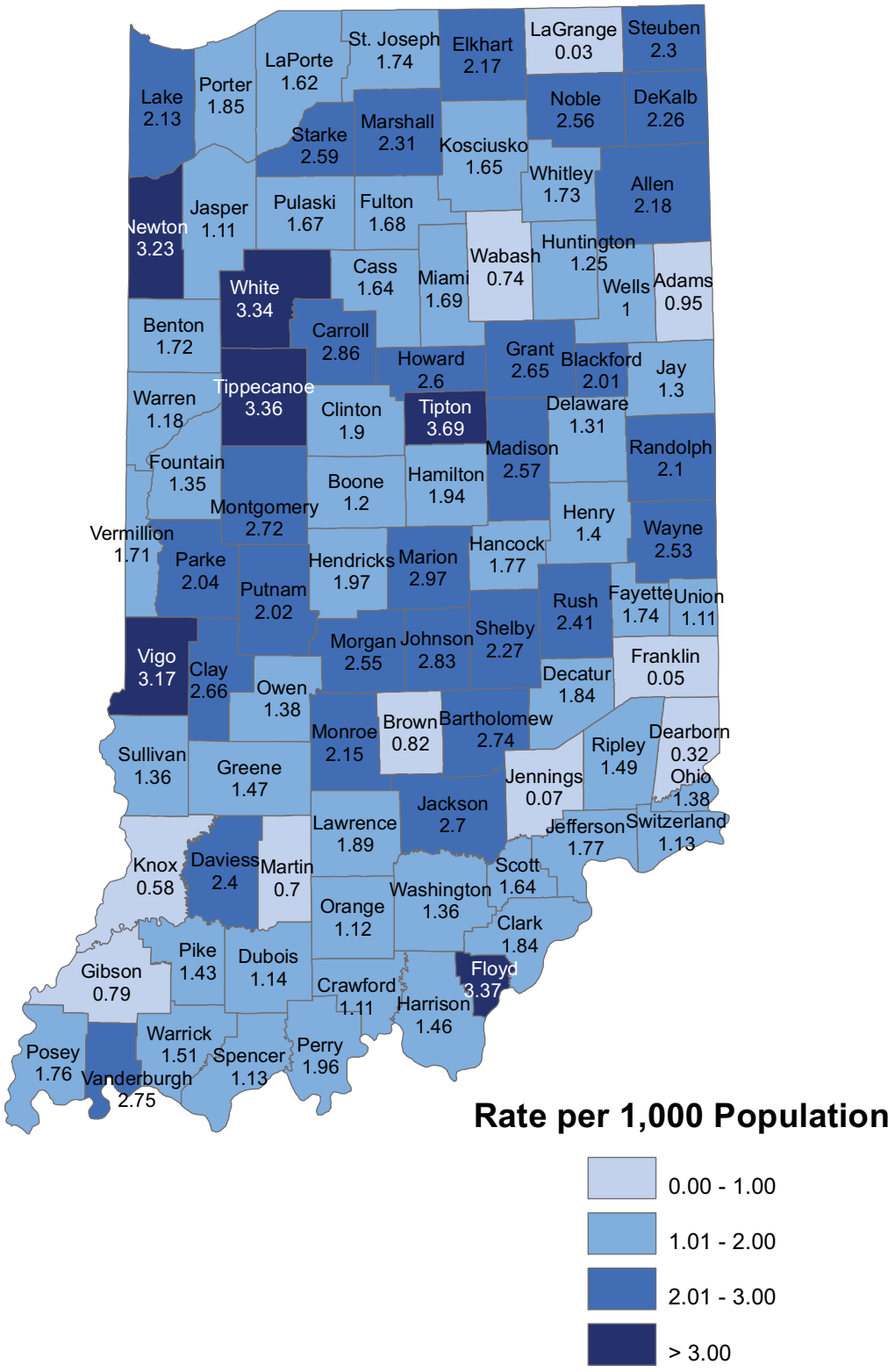
(continued on next page)

APPENDIX 5C *(Continued from previous page)*

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Marshall	108	2.31	4	*0.09
Martin	7	*0.70	2	*0.20
Miami	62	1.69	13	*0.35
Monroe	279	2.15	13	*0.10
Montgomery	103	2.72	11	*0.29
Morgan	179	2.55	75	1.07
Newton	45	3.23	1	*0.07
Noble	122	2.56	17	*0.36
Ohio	8	*1.38	1	*0.17
Orange	22	1.12	6	*0.31
Owen	31	1.38	3	*0.13
Parke	35	2.04	2	*0.12
Perry	37	1.96	7	*0.37
Pike	18	*1.43	4	*0.32
Porter	300	1.85	21	0.13
Posey	46	1.76	6	*0.23
Pulaski	23	1.67	3	*0.22
Putnam	75	2.02	19	*0.51
Randolph	54	2.10	8	*0.31
Ripley	43	1.49	10	*0.35
Rush	42	2.41	4	*0.23
Saint Joseph	464	1.74	33	0.12
Scott	39	1.64	6	*0.25
Shelby	100	2.27	16	*0.36
Spencer	23	1.13	6	*0.30
Starke	61	2.59	1	*0.04
Steuben	77	2.30	4	*0.12
Sullivan	29	1.36	10	*0.47
Switzerland	11	*1.13	3	*0.31
Tippecanoe	554	3.36	69	0.42
Tipton	59	3.69	6	*0.38
Union	8	*1.11	2	*0.28
Vanderburgh	480	2.75	76	0.44
Vermillion	28	1.71	2	*0.12
Vigo	332	3.17	20	0.19
Wabash	24	0.74	9	*0.28
Warren	10	*1.18	3	*0.35
Warrick	87	1.51	10	*0.17
Washington	38	1.36	3	*0.11
Wayne	172	2.53	32	0.47
Wells	28	1.00	4	*0.14
White	79	3.34	1	*0.04
Whitley	57	1.73	3	*0.09
Indiana	**13,797**	**2.16**	**2,106**	**0.33**

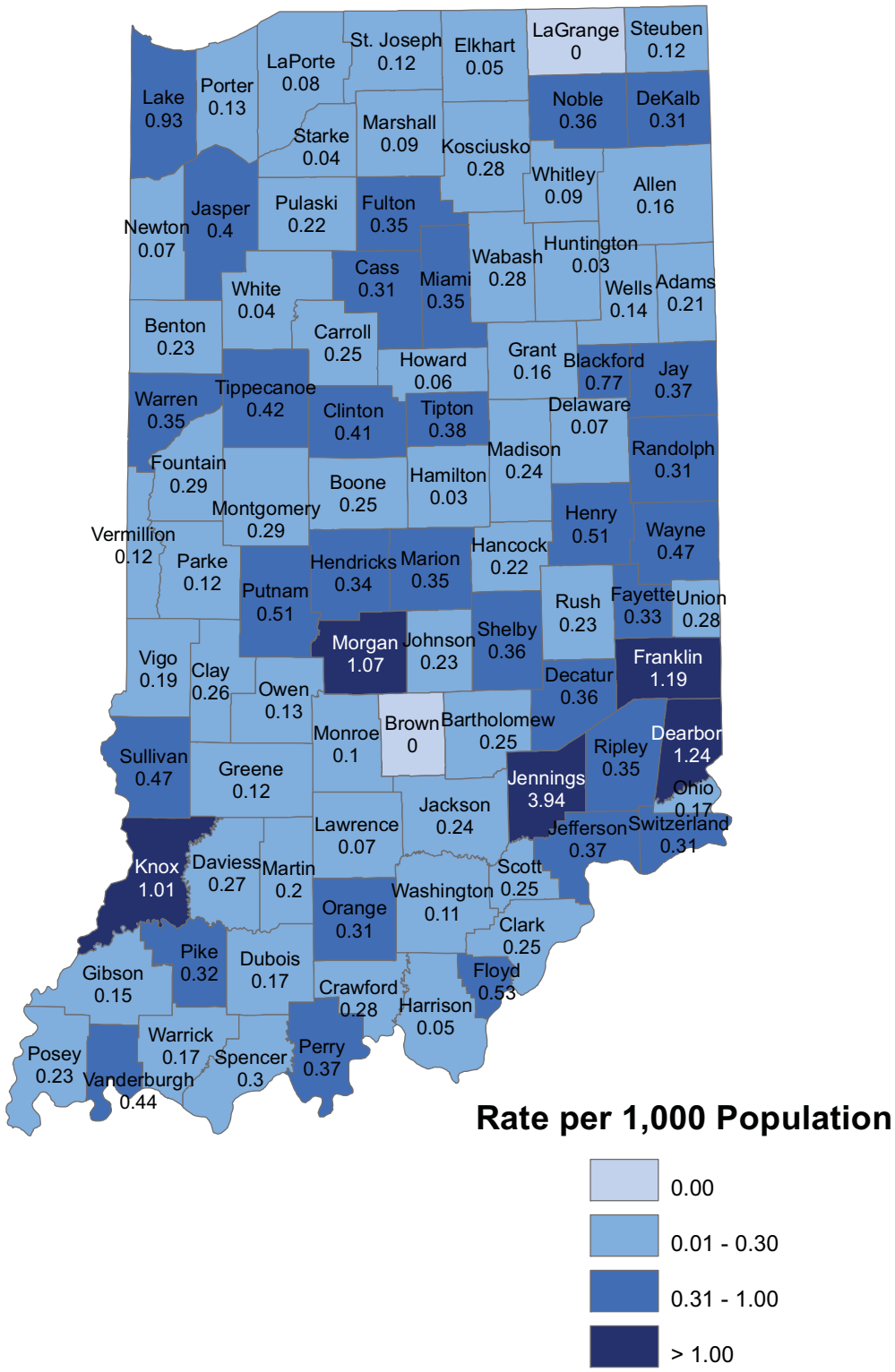
* Rates that are based on arrest numbers lower than 20 are unreliable.
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

Map 5.1 Marijuana Possession Arrest Rates in Indiana, by County (Uniform Crime Reporting Program, 2008)



Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 5C (pages 91-92) for additional information.
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

Map 5.2 Marijuana Sale/Manufacture Arrest Rates in Indiana, by County (Uniform Crime Reporting Program, 2008)



Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 5C (pages 91-92) for additional information.
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

REFERENCES, CHAPTER 5

Centers for Disease Control and Prevention. (n.d.). *Youth Risk Behavior Surveillance System.* Retrieved September 1, 2010, from http://www.cdc.gov/HealthyYouth/yrbs/index

Indiana Family and Social Services Administration, Revenue Enhancement and Data. (2010). *Substance abuse population by county, 2009.* Indianapolis, IN: Indiana Family and Social Services Administration.

Indiana Prevention Resource Center. (2010). *Alcohol, tobacco, and other drug use by Indiana children and adolescents.* Retrieved September 13, 2010, from http://www.drugs.indiana.edu/data-survey_monograph.html

Inter-university Consortium for Political and Social Research, University of Michigan. (n.d.). *Monitoring the Future.* Retrieved September 15, 2010, from http://www.monitoringthefuture.org/data/data.html

Lynskey, M., Heath, A., Bucholz, K., Slutske, W., Madden, P., Nelson, E., et al. (2003). Escalation of drug use in early-onset cannabis users vs co-twin controls. *JAMA, 289*(4), 427.

National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan. (n.d.). *Uniform Crime Reporting Program.* Available at http://www.icpsr.umich.edu/NACJD/

National Institute on Drug Abuse. (2009). *NIDA InfoFacts: Marijuana.* Retrieved September 30, 2010, from http://www.nida.nih.gov/Infofacts/marijuana.html

Office of National Drug Control Policy. (n.d.). *Marijuana*. Retrieved October 1, 2010, from http://www.whitehousedrugpolicy.gov/drugfact/marijuana/index.html

State Epidemiology and Outcomes Workgroup. (2008). *Indiana household survey on substance abuse.* Administered by the Survey Research Center at Indiana University-Purdue University Indianapolis.

Substance Abuse and Mental Health Data Archive. (n.d.). *Treatment Episode Data Set - Admissions (TEDS-A), 2008.* Available at http://webapp.icpsr.umich.edu/cocoon/SAMHDA/STUDY/24280.xml

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (n.d.). *National Survey on Drug Use and Health.* Retrieved September 15, 2010, from https://nsduhweb.rti.org/

U.S. Drug Enforcement Administration. (2009). *Indiana 2009.* Retrieved October 7, 2010, from http://www.usdoj.gov/dea/pubs/state_factsheets/indiana.html

6. Cocaine Use in Indiana: Consumption Patterns and Consequences

COCAINE CONSUMPTION

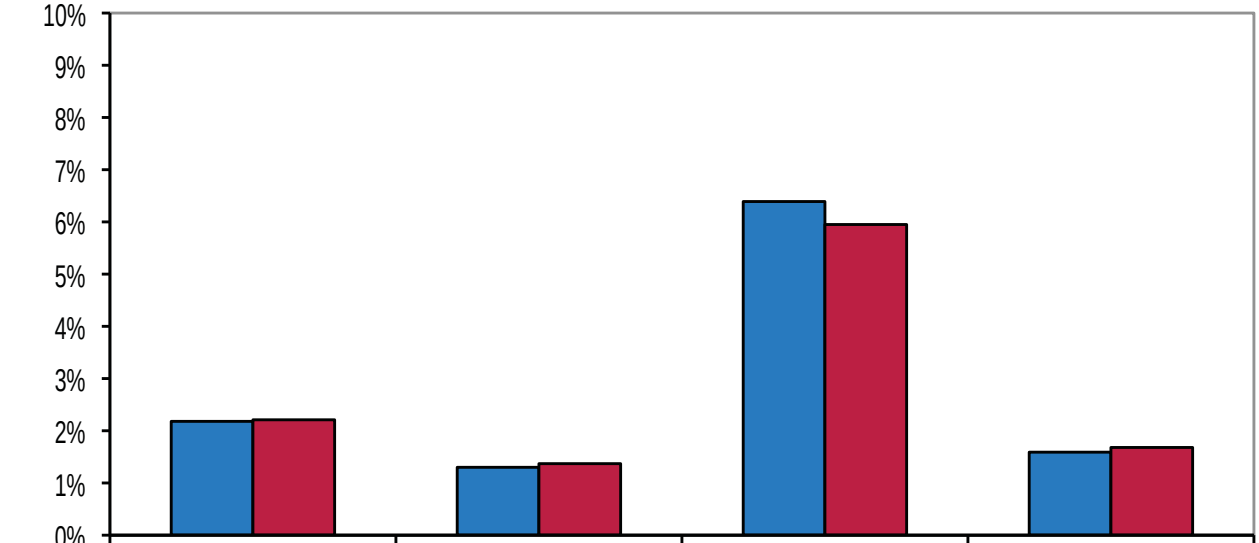
Cocaine is the most potent stimulant of natural origin. It can be snorted, smoked, or injected. When snorted, cocaine powder is inhaled through the nose where it is absorbed into the bloodstream through the nasal tissues. When injected, a needle is used to release the drug directly into the bloodstream.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

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 (Office of National Drug Control Policy, n.d).

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, n.d.). According to 2008 data, the most recent estimates available, 2.2% (95% Confidence Interval [CI]: 1.6–2.9) of Indiana's population ages 12 and older used cocaine in the past year, representing a rate similar to the nation's (2.2%). Past-year cocaine use was highest among Hoosiers ages 18 to 25, at 6.4% (95% CI: 4.9–8.2); the rate for U.S. residents in that age group was similar (6.0%) (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, 2008)



	Total	12 -17	18-25	26 and older
Indiana	2.2%	1.3%	6.4%	1.6%
U.S.	2.2%	1.4%	6.0%	1.7%

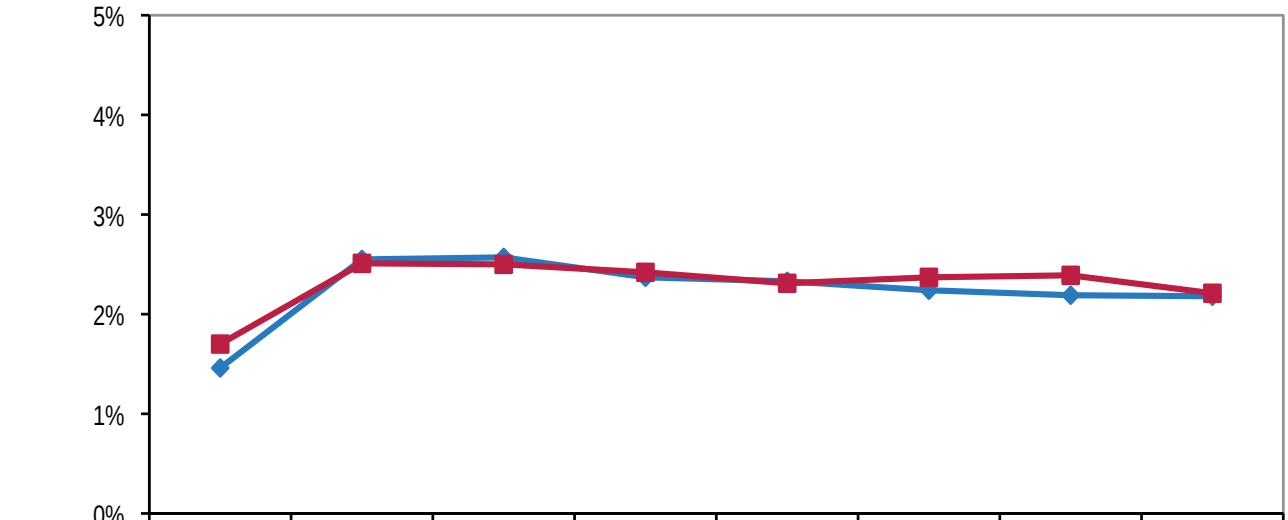
Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.

NSDUH data from 2001 through 2008 show that past-year cocaine use remained stable in Indiana from 1.5% (95% CI: 1.1–2.0) in 2001 to 2.2% (95% CI: 1.6–2.9) in 2008, mirroring national rates (see Figure 6.2).

Lifetime 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, n.d.).

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, 2001–2008)



	2001	2002	2003	2004	2005	2006	2007	2008
Indiana	1.5%	2.6%	2.6%	2.4%	2.3%	2.2%	2.2%	2.2%
U.S.	1.7%	2.5%	2.5%	2.4%	2.3%	2.4%	2.4%	2.2%

Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.

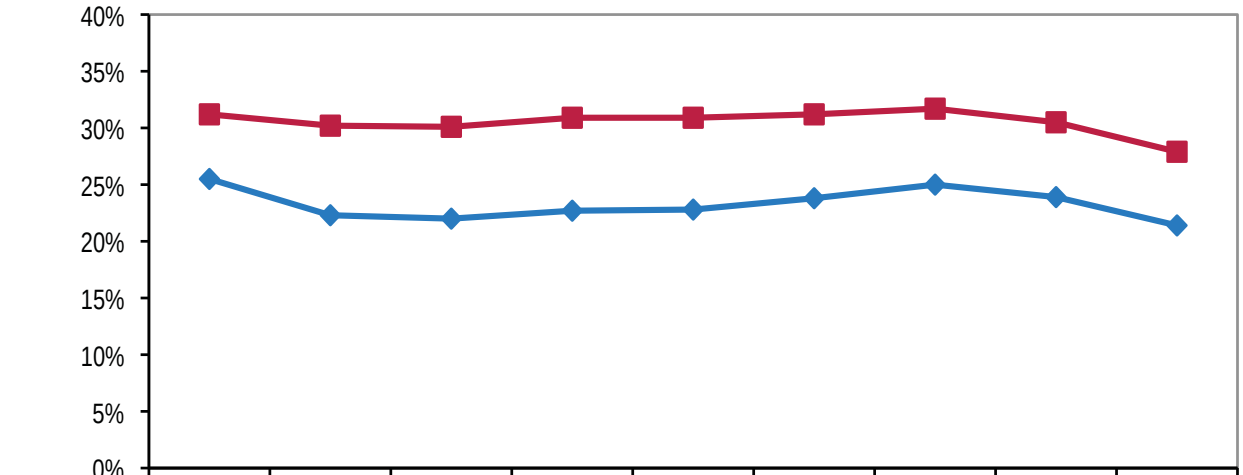
Adult Consumption Patterns

According to 2008 NSDUH estimates, past-year prevalence rates for cocaine use were highest among 18- to 25-year-olds; 6.4% (95% CI: 4.9–8.2) of Hoosiers in that age group have used cocaine in the past year. The rate for Indiana residents ages 26 and older was significantly lower (1.6%; 95% CI: 1.0–2.5) (see Figure 6.1). Indiana and U.S. rates were statistically the same.

The 2008 Treatment Episode Data Set (TEDS) shows that cocaine use was reported in 21.4% of treatment episodes in Indiana; the U.S. percentage was significantly higher at 27.9% ($P < 0.001$) (see Figure 6.3) (Substance Abuse and Mental Health Data Archive, n.d.).

[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.

Figure 6.3 Percentage of Indiana and U.S. Treatment Episodes with Cocaine Use Reported at Treatment Admission (Treatment Episode Data Set, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Indiana	25.5%	22.3%	22.0%	22.7%	22.8%	23.8%	25.0%	23.9%	21.4%
U.S.	31.2%	30.2%	30.1%	30.9%	30.9%	31.2%	31.7%	30.5%	27.9%

Source: Substance Abuse and Mental Health Data Archive, n.d.

Gender, age, and race differences in the Indiana treatment population were significant ($P < 0.001$). More women (26.6%) than men (18.9%) reported cocaine use; blacks displayed drastically higher rates (38.4%) than whites (17.8%) and other races (21.6%). The percentage of 35- to 44-year-olds (31.0%) using cocaine was greater than that of any other age group (see Table 6.1). (For county-level information on cocaine use, see Appendix 6A, page 105.)

Table 6.1 Percentage of Indiana Treatment Episodes with Cocaine Use Reported at Treatment Admission (Treatment Episode Data Set, 2008)

		Cocaine Use
Gender	Male	18.9%
	Female	26.6%
Race	White	17.8%
	Black	38.4%
	Other	21.6%
Age Group	Under 18	2.8%
	18-24	13.1%
	25-34	21.5%
	35-44	31.0%
	45-54	29.3%
	55 and over	18.1%
Total		**21.4%**

Source: Substance Abuse and Mental Health Data Archive, n.d.

Youth Consumption Patterns

Findings from the 2008 NSDUH survey show that 1.3% (95% CI: 0.9–1.9) of 12- to 17-year-old Hoosiers used cocaine in the past year (see Figure 6.1). The national rate was similar, at 1.4% (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

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, n.d.). 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).

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, and 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 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

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**

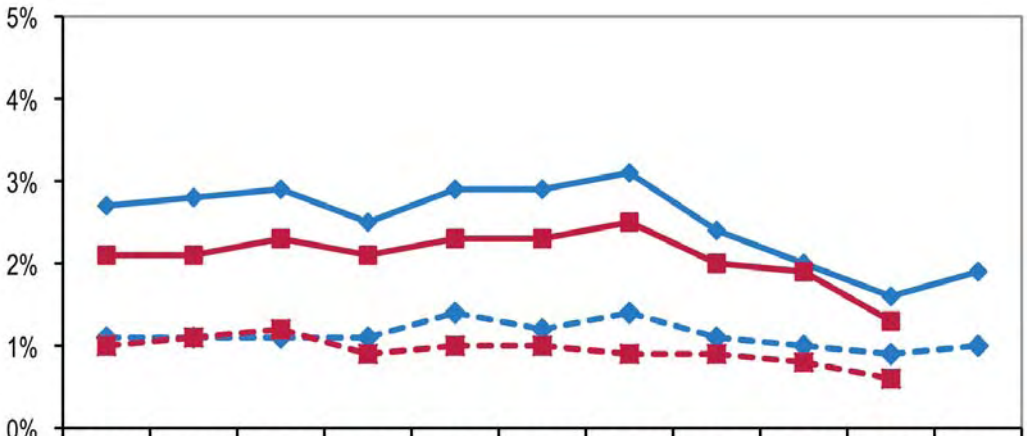
Source: Centers for Disease Control and Prevention, n.d.

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, n.d.).

According to the annual Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents (ATOD)[2] survey, rates of current cocaine use among 12th grade students decreased from 2.7% in 2000 to 1.9% in 2010, while current crack use remained fairly stable over the same time frame, at 1.1% and 1.0%, respectively (see Figure 6.4). Comparisons with the national Monitoring the Future survey imply that Indiana rates were slightly above U.S. rates (see Figure 6.4) (Indiana Prevention Resource Center, 2010; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.). For 2010 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, page 106.

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, 2000–2010, and Monitoring the Future Survey, 2000–2009)



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Indiana Cocaine	2.7%	2.8%	2.9%	2.5%	2.9%	2.9%	3.1%	2.4%	2.0%	1.6%	1.9%
U.S. Cocaine	2.1%	2.1%	2.3%	2.1%	2.3%	2.3%	2.5%	2.0%	1.9%	1.3%	
Indiana Crack	1.1%	1.1%	1.1%	1.1%	1.4%	1.2%	1.4%	1.1%	1.0%	0.9%	1.0%
U.S. Crack	1.0%	1.1%	1.2%	0.9%	1.0%	1.0%	0.9%	0.9%	0.8%	0.6%	

Note: Information for 2010 is not available yet at the national level.
Source: Indiana Prevention Resource Center, 2010; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

[2]The ATOD survey is based on a nonrandom convenience sample; therefore, results might not be representative of all Indiana students.

CONSEQUENCES

Health Consequences

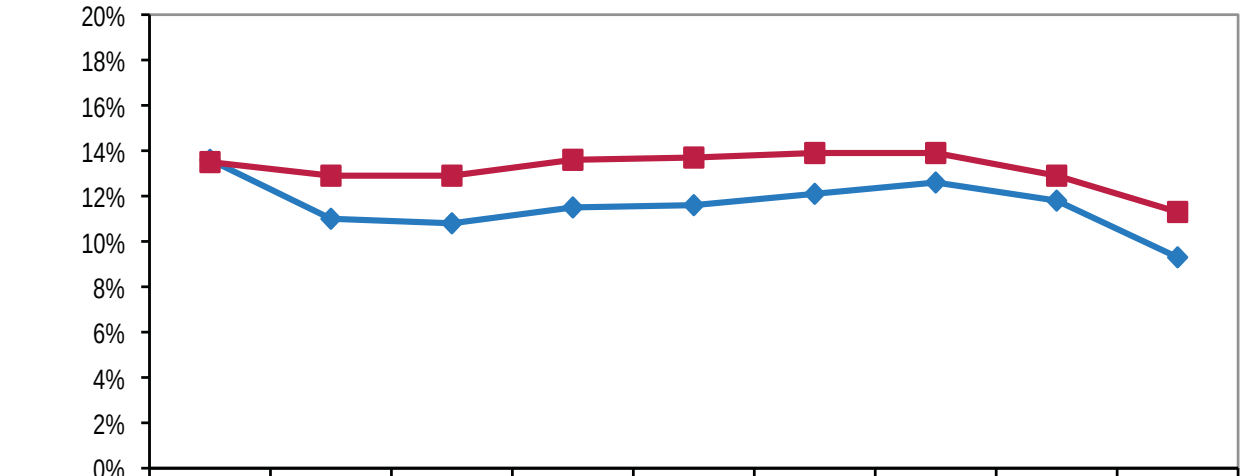
Cocaine is an addictive drug and powerful stimulant. The effects of cocaine depend on the amount of the drug taken and the route of administration. Taken in small amounts, it can make the user feel euphoric, energetic, talkative, and mentally alert; it might temporarily decrease the need for food and 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 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 (National Institute on Drug Abuse, 2010). Additionally, users who inject cocaine intravenously are at higher risk for acquiring and/or transmitting sexually transmitted diseases if needles or other injection equipment are shared (Office of National Drug Control Policy, n.d.).

Cocaine Dependence

Results from the Treatment Episode Data Set (TEDS) show that the percentage of treatment episodes for cocaine dependence[3] has been significantly lower in Indiana than the nation for the past eight years (2001 through 2008) ($P < 0.001$). Furthermore, the percentage

Figure 6.5 Percentage of Indiana and U.S. Treatment Episodes with Cocaine Dependence Reported at Treatment Admission (Treatment Episode Data Set, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Indiana	13.6%	11.0%	10.8%	11.5%	11.6%	12.1%	12.6%	11.8%	9.3%
U.S.	13.5%	12.9%	12.9%	13.6%	13.7%	13.9%	13.9%	12.9%	11.3%

Source: Substance Abuse and Mental Health Data Archive, n.d.

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

within Indiana decreased significantly from 13.6% in 2000 to 9.3% in 2008 ($P < 0.001$) (see Figure 6.5) (Substance Abuse and Mental Health Data Archive, n.d.).

According to 2008 TEDS data, gender, race, and age were associated with cocaine dependence in Indiana ($P < 0.001$). Higher rates were found among women (13.7%) than among men (7.1%); among blacks (21.6%) than among whites (6.8%) or other races (6.8%); and among 35- to 44-year-olds (14.9%) compared to other age groups (see Table 6.3) (Substance Abuse and Mental Health Data Archive, n.d.). (For county-level information, see Appendix 6A, page 105.)

Legal and Criminal Consequences

During fiscal year 2008, there were 5,889 federal offenders sentenced for powder cocaine-related charges and 6,168 sentenced for crack cocaine charges in U.S. Courts. Approximately 98.0% of the powder cocaine cases and 95.9% of the crack cocaine cases involved trafficking; only 0.5% of both powder and crack cocaine cases involved simple possession (Office of National Drug Control Policy, n.d.). In 2008, almost 44 kilograms, or 96 pounds, of cocaine were seized in Indiana by federal law enforcement agencies. This is less than half of the amount that was seized in the previous year (91 kilograms) (U.S. Drug Enforcement Administration, 2009).

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, n.d.). According to 2008 results, over 3,300 arrests were made in Indiana for possession of cocaine/opiates. However, Indiana's arrest rate, 0.5 (95% CI: 0.5–0.5) per 1,000 population, was below the nation's rate of 1.0 (95% CI: 1.0–1.0) per 1,000 population.

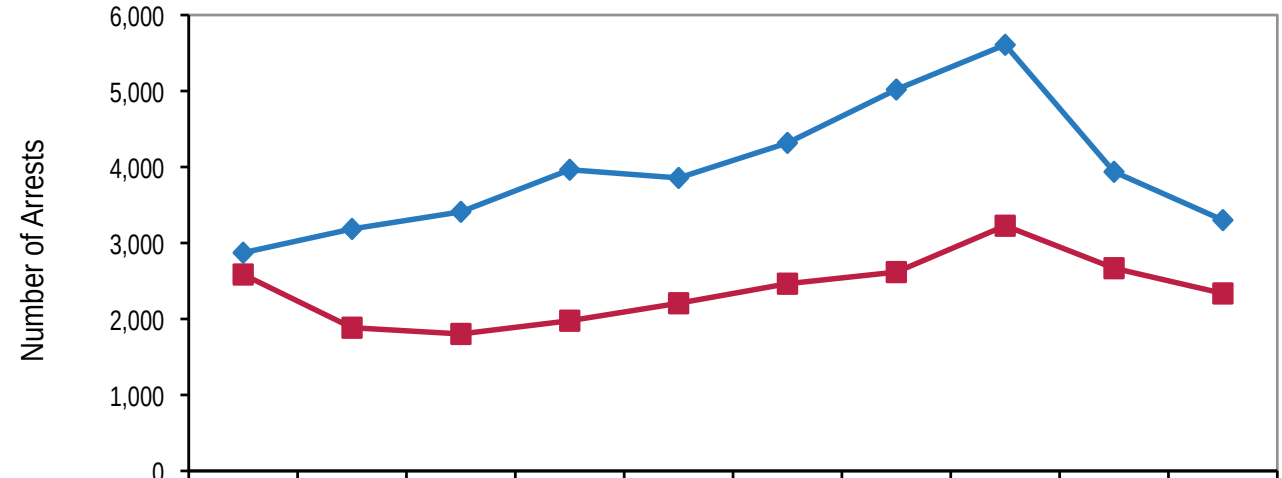
The number of arrests for sale and manufacture of cocaine/opiates in Indiana was over 2,300, representing an arrest rate of 0.4 per 1,000 population (95% CI: 0.4–0.4); comparable to the U.S. rate of 0.4 per 1,000 population (95% CI: 0.4–0.4) (see Figures 6.6 and 6.7). Maps 6.1 and 6.2 (pages 109-110) and Appendix 6C (pages 107-108) show Indiana's cocaine/opiates possession and sale/manufacture arrests by county for 2008.

Table 6.3 Percentage of Indiana Treatment Episodes with Cocaine Dependence Reported at Treatment Admission (Treatment Episode Data Set, 2008)

		Cocaine Dependence
Gender	Male	7.1%
	Female	13.7%
Race	White	6.8%
	Black	21.6%
	Other	6.8%
Age Group	Under 18	0.3%
	18-24	4.2%
	25-34	8.9%
	35-44	14.9%
	45-54	14.5%
	55 and over	9.2%
Total		**9.3%**

Source: Substance Abuse and Mental Health Data Archive, n.d.

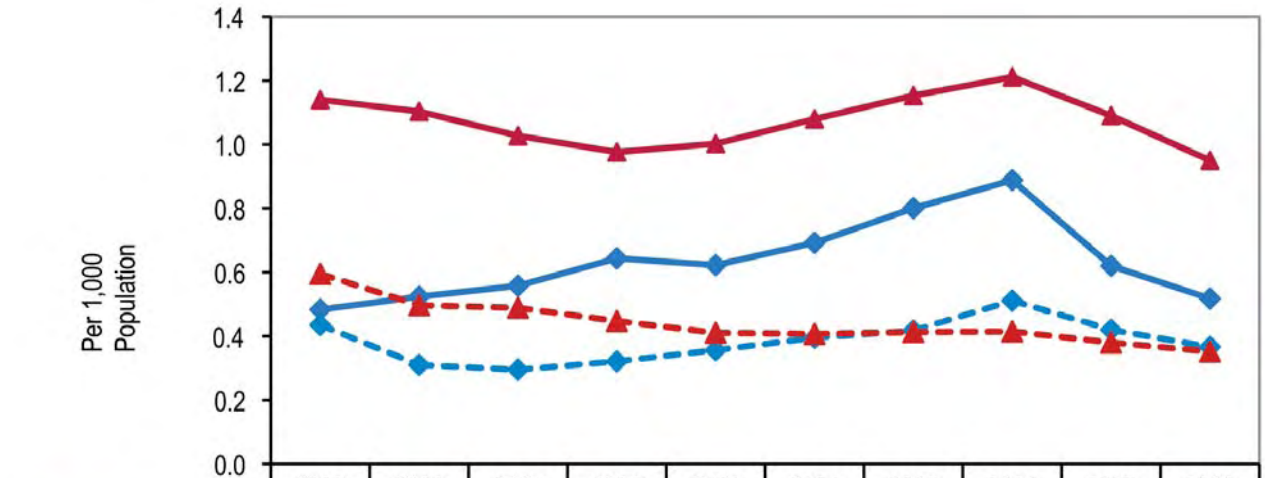
Figure 6.6 Number of Arrests for Cocaine and Opiates Possession and Sale/Manufacture in Indiana (Uniform Crime Reporting Program, 1999–2008)



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Possession	2,872	3,185	3,410	3,964	3,856	4,317	5,020	5,608	3,937	3,301
Sale	2,585	1,885	1,803	1,977	2,207	2,464	2,617	3,227	2,668	2,336

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

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, 1999–2008)



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
IN Possession	0.5	0.5	0.6	0.6	0.6	0.7	0.8	0.9	0.6	0.5
U.S. Possession	1.1	1.1	1.0	1.0	1.0	1.1	1.2	1.2	1.1	1.0
IN Sale	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.4	0.4
U.S. Sale	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4

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

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, 2009)

	Treatment Episodes	Cocaine Use		Cocaine Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**
Adams	131	23	17.6%	<5	N/A
Allen	1,971	551	28.0%	226	11.5%
Bartholomew	327	59	18.0%	24	7.3%
Benton	20	<5	N/A	<5	N/A
Blackford	141	26	18.4%	8	5.7%
Boone	205	28	13.7%	8	3.9%
Brown	72	6	8.3%	<5	N/A
Carroll	83	8	9.6%	<5	N/A
Cass	144	7	4.9%	<5	N/A
Clark	512	119	23.2%	55	10.7%
Clay	199	9	4.5%	<5	N/A
Clinton	82	12	14.6%	<5	N/A
Crawford	53	<5	N/A	<5	N/A
Daviess	247	19	7.7%	13	5.3%
Dearborn	259	21	8.1%	7	2.7%
Decatur	77	8	10.4%	<5	N/A
DeKalb	221	17	7.7%	7	3.2%
Delaware	873	217	24.9%	105	12.0%
Dubois	261	14	5.4%	<5	N/A
Elkhart	893	196	21.9%	97	10.9%
Fayette	54	<5	N/A	<5	N/A
Floyd	168	38	22.6%	22	13.1%
Fountain	67	12	17.9%	<5	N/A
Franklin	36	5	13.9%	<5	N/A
Fulton	144	9	6.3%	<5	N/A
Gibson	118	<5	N/A	<5	N/A
Grant	481	84	17.5%	24	5.0%
Greene	170	7	4.1%	<5	N/A
Hamilton	698	114	16.3%	26	3.7%
Hancock	126	19	15.1%	15	11.9%
Harrison	53	14	26.4%	<5	N/A
Hendricks	314	40	12.7%	17	5.4%
Henry	118	25	21.2%	11	9.3%
Howard	666	121	18.2%	52	7.8%
Huntington	64	<5	N/A	<5	N/A
Jackson	147	20	13.6%	7	4.8%
Jasper	43	7	16.3%	<5	N/A
Jay	66	7	10.6%	<5	N/A
Jefferson	185	36	19.5%	14	7.6%
Jennings	147	17	11.6%	6	4.1%
Johnson	325	40	12.3%	16	4.9%
Knox	368	9	2.4%	<5	N/A
Kosciusko	213	26	12.2%	7	3.3%
LaGrange	167	17	10.2%	<5	N/A
Lake	2,554	708	27.7%	285	11.2%
LaPorte	633	124	19.6%	42	6.6%
Lawrence	372	30	8.1%	10	2.7%
Madison	895	155	17.3%	51	5.7%
Marion	4,339	1,233	28.4%	591	13.6%
Marshall	228	38	16.7%	16	7.0%
Martin	95	<5	N/A	<5	N/A
Miami	169	19	11.2%	7	4.1%
Monroe	1,376	221	16.1%	107	7.8%
Montgomery	188	19	10.1%	<5	N/A
Morgan	472	40	8.5%	15	3.2%
Newton	16	5	31.3%	<5	N/A
Noble	324	31	9.6%	7	2.2%
Ohio	14	<5	N/A	<5	N/A
Orange	83	<5	N/A	<5	N/A
Owen	267	11	4.1%	6	2.2%
Parke	119	7	5.9%	<5	N/A
Perry	149	5	3.4%	<5	N/A
Pike	42	<5	N/A	<5	N/A
Porter	477	112	23.5%	44	9.2%
Posey	162	7	4.3%	<5	N/A
Pulaski	43	<5	N/A	<5	N/A
Putnam	142	<5	N/A	<5	N/A
Randolph	82	10	12.2%	<5	N/A
Ripley	85	7	8.2%	<5	N/A
Rush	49	<5	N/A	<5	N/A
Saint Joseph	1,376	720	52.3%	430	31.3%
Scott	101	18	17.8%	6	5.9%
Shelby	107	9	8.4%	<5	N/A
Spencer	146	11	7.5%	<5	N/A
Starke	180	26	14.4%	6	3.3%
Steuben	115	11	9.6%	<5	N/A
Sullivan	99	<5	N/A	<5	N/A
Switzerland	55	5	9.1%	<5	N/A
Tippecanoe	473	89	18.8%	32	6.8%
Tipton	51	5	9.8%	<5	N/A
Union	25	<5	N/A	<5	N/A
Vanderburgh	1,664	254	15.3%	115	6.9%
Vermillion	136	6	4.4%	<5	N/A
Vigo	1,009	90	8.9%	38	3.8%
Wabash	181	13	7.2%	5	2.8%
Warren	23	<5	N/A	<5	N/A
Warrick	344	24	7.0%	7	2.0%
Washington	91	14	15.4%	8	8.8%
Wayne	384	60	15.6%	24	6.3%
Wells	141	17	12.1%	<5	N/A
White	163	14	8.6%	<5	N/A
Whitley	101	11	10.9%	<5	N/A
Indiana	**32,049**	**6,229**	**19.4%**	**2,712**	**8.5%**

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, 2010

APPENDIX 6B - PART 1

Lifetime and Monthly Cocaine Use, by Region and Grade (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2010)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Lifetime	0.6	0.4	0.5	0.0	0.5	0.6	0.5	0.5	1.1
	Monthly	0.4	0.3	0.3	0.0	0.3	0.4	0.4	0.4	0.6
7th Grade	Lifetime	1.0	1.2	0.8	0.8	0.9	1.0	1.3	0.7	1.7
	Monthly	0.6	0.7	0.4	0.2	0.5	0.6	0.6	0.4	1.2
8th Grade	Lifetime	2.0	2.7	2.0	1.6	2.1	2.0	2.1	1.6	2.1
	Monthly	1.1	1.4	1.0	1.0	1.1	1.1	0.9	0.8	1.2
9th Grade	Lifetime	3.0	3.1	2.8	2.8	2.9	2.8	3.7	2.8	3.8
	Monthly	1.4	1.2	1.1	1.6	1.0	1.2	1.7	1.5	2.2
10th Grade	Lifetime	4.1	4.9	4.1	4.3	3.8	3.7	4.4	3.6	4.5
	Monthly	1.6	2.1	1.5	2.0	1.4	1.3	1.5	1.5	1.8
11th Grade	Lifetime	5.2	7.7	4.6	6.3	5.0	4.7	4.4	3.8	6.7
	Monthly	1.9	2.9	1.6	1.9	1.6	1.7	1.4	1.4	2.5
12th Grade	Lifetime	6.0	7.7	6.0	5.0	5.3	5.3	6.2	5.9	6.8
	Monthly	1.9	2.0	1.8	1.7	1.7	1.8	2.5	1.8	2.3

Source: Indiana Prevention Resource Center, 2010

APPENDIX 6B - PART 2

Lifetime and Monthly Crack Use, by Region and Grade (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2010)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Lifetime	0.6	0.6	0.6	0.0	0.5	0.7	0.6	0.4	1.1
	Monthly	0.4	0.3	0.3	0.0	0.4	0.4	0.3	0.4	0.6
7th Grade	Lifetime	1.0	1.4	0.7	0.6	0.8	0.8	0.8	0.8	1.7
	Monthly	0.6	0.7	0.4	0.2	0.6	0.5	0.5	0.3	1.3
8th Grade	Lifetime	1.7	2.1	1.6	1.0	1.7	1.8	1.8	1.2	1.6
	Monthly	0.9	1.1	1.1	0.5	0.8	1.0	0.9	0.9	0.9
9th Grade	Lifetime	2.2	2.1	1.9	1.5	2.1	2.2	2.4	1.9	2.7
	Monthly	1.1	1.1	0.7	1.2	0.8	1.0	1.6	1.1	1.4
10th Grade	Lifetime	2.3	2.5	2.4	2.7	2.2	2.2	2.4	2.4	2.5
	Monthly	1.1	1.3	0.9	1.2	1.1	0.9	1.1	1.0	1.3
11th Grade	Lifetime	2.7	3.5	2.3	3.5	2.8	2.7	2.5	2.0	2.9
	Monthly	1.1	1.6	0.6	1.3	1.2	1.1	1.2	0.9	1.5
12th Grade	Lifetime	2.7	3.1	2.4	2.3	2.3	2.7	3.0	2.6	2.7
	Monthly	1.0	1.2	0.9	0.8	0.8	1.2	1.5	1.0	0.9

Source: Indiana Prevention Resource Center, 2010

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, 2008)

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Adams	2	*0.06	3	*0.09
Allen	325	0.92	124	0.35
Bartholomew	58	0.78	17	*0.23
Benton	2	*0.23	2	*0.23
Blackford	1	*0.08	0	*0.00
Boone	8	*0.15	6	*0.11
Brown	0	*0.00	2	*0.14
Carroll	3	*0.15	5	*0.25
Cass	2	*0.05	12	*0.31
Clark	77	0.73	31	0.29
Clay	3	*0.11	0	*0.00
Clinton	8	*0.24	8	*0.24
Crawford	1	*0.09	2	*0.19
Daviess	5	*0.17	22	0.73
Dearborn	2	*0.04	3	*0.06
Decatur	6	*0.24	7	*0.28
DeKalb	9	*0.21	12	*0.29
Delaware	63	0.55	16	*0.14
Dubois	6	*0.14	4	*0.10
Elkhart	106	0.53	46	0.23
Fayette	2	*0.08	3	*0.12
Floyd	2	*0.03	82	1.12
Fountain	2	*0.12	3	*0.18
Franklin	0	*0.00	0	*0.00
Fulton	4	*0.20	5	*0.25
Gibson	4	*0.12	3	*0.09
Grant	28	0.41	36	0.53
Greene	4	*0.12	3	*0.09
Hamilton	22	0.08	80	0.29
Hancock	20	0.30	18	*0.27
Harrison	0	*0.00	1	*0.03
Hendricks	32	0.23	18	*0.13
Henry	9	*0.19	7	*0.15
Howard	74	0.89	84	1.01
Huntington	0	*0.00	3	*0.08
Jackson	2	*0.05	13	*0.31
Jasper	6	*0.18	10	*0.31
Jay	4	*0.19	3	*0.14
Jefferson	8	*0.24	8	*0.24
Jennings	1	*0.04	4	*0.14
Johnson	34	0.24	18	*0.13
Knox	15	*0.40	14	*0.37
Kosciusko	6	*0.08	13	*0.17
LaGrange	0	*0.00	0	*0.00
Lake	266	0.54	241	0.49
LaPorte	41	0.37	89	0.81
Lawrence	3	*0.07	10	*0.22
Madison	78	0.60	31	0.24
Marion	1,345	1.53	692	0.79

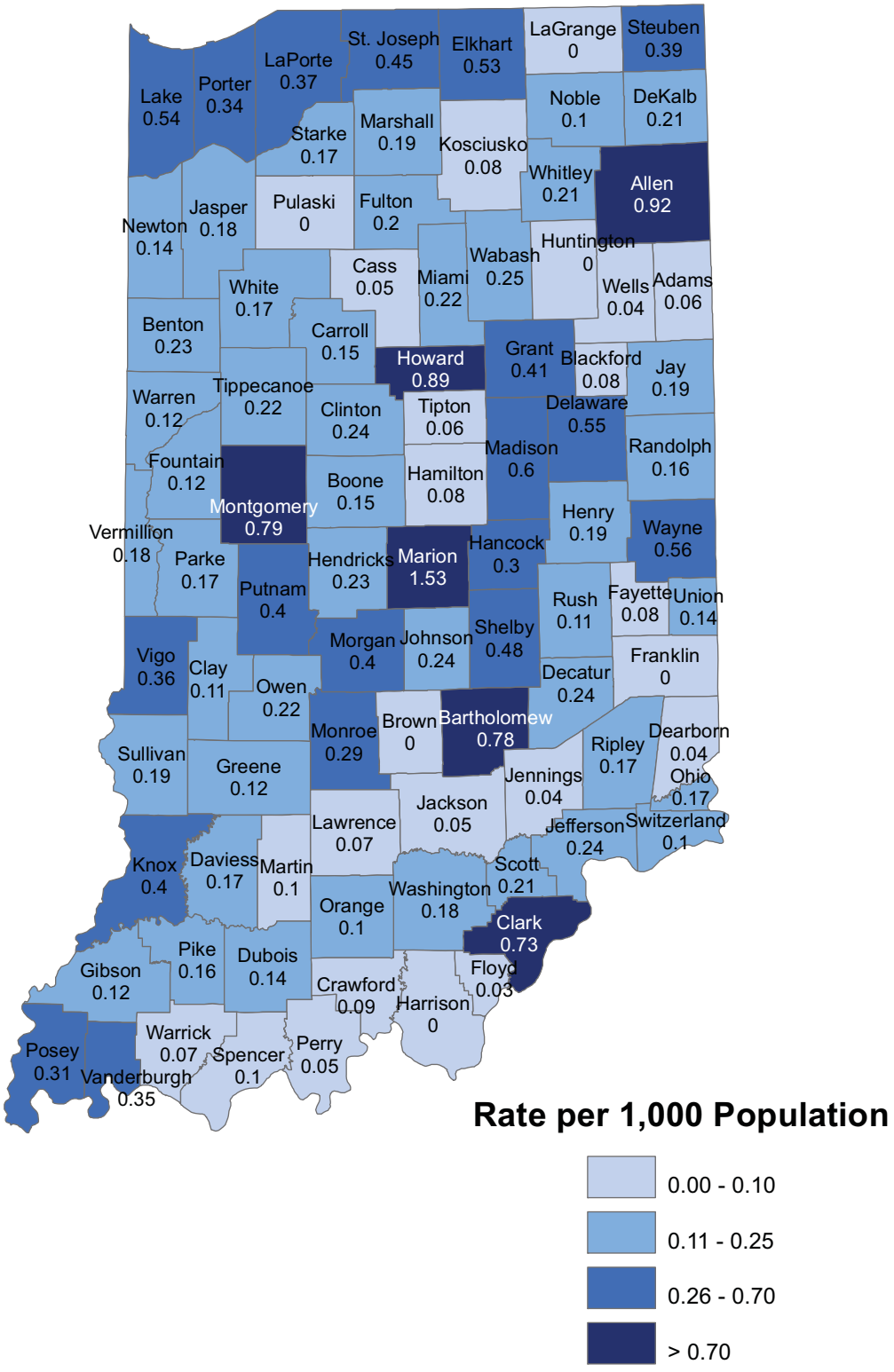
(continued on next page)

APPENDIX 6C *(Continued from previous page)*

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Marshall	9	*0.19	3	*0.06
Martin	1	*0.10	1	*0.10
Miami	8	*0.22	9	*0.25
Monroe	37	0.29	100	0.77
Montgomery	30	0.79	13	*0.34
Morgan	28	0.40	11	*0.16
Newton	2	*0.14	1	*0.07
Noble	5	*0.10	5	*0.10
Ohio	1	*0.17	1	*0.17
Orange	2	*0.10	3	*0.15
Owen	5	*0.22	5	*0.22
Parke	3	*0.17	2	*0.12
Perry	1	*0.05	7	*0.37
Pike	2	*0.16	3	*0.24
Porter	55	0.34	7	*0.04
Posey	8	*0.31	7	*0.27
Pulaski	0	*0.00	2	*0.15
Putnam	15	*0.40	15	*0.40
Randolph	4	*0.16	5	*0.19
Ripley	5	*0.17	6	*0.21
Rush	2	*0.11	2	*0.11
Saint Joseph	120	0.45	40	0.15
Scott	5	*0.21	4	*0.17
Shelby	21	0.48	15	*0.34
Spencer	2	*0.10	3	*0.15
Starke	4	*0.17	8	*0.34
Steuben	13	*0.39	15	*0.45
Sullivan	4	*0.19	4	*0.19
Switzerland	1	*0.10	2	*0.21
Tippecanoe	37	0.22	70	0.42
Tipton	1	*0.06	0	*0.00
Union	1	*0.14	1	*0.14
Vanderburgh	61	0.35	45	0.26
Vermillion	3	*0.18	3	*0.18
Vigo	38	0.36	33	0.32
Wabash	8	*0.25	8	*0.25
Warren	1	*0.12	1	*0.12
Warrick	4	*0.07	3	*0.05
Washington	5	*0.18	5	*0.18
Wayne	38	0.56	31	0.46
Wells	1	*0.04	17	*0.61
White	4	*0.17	0	*0.00
Whitley	7	*0.21	6	*0.18
Indiana	3,301	0.52	2,336	0.37

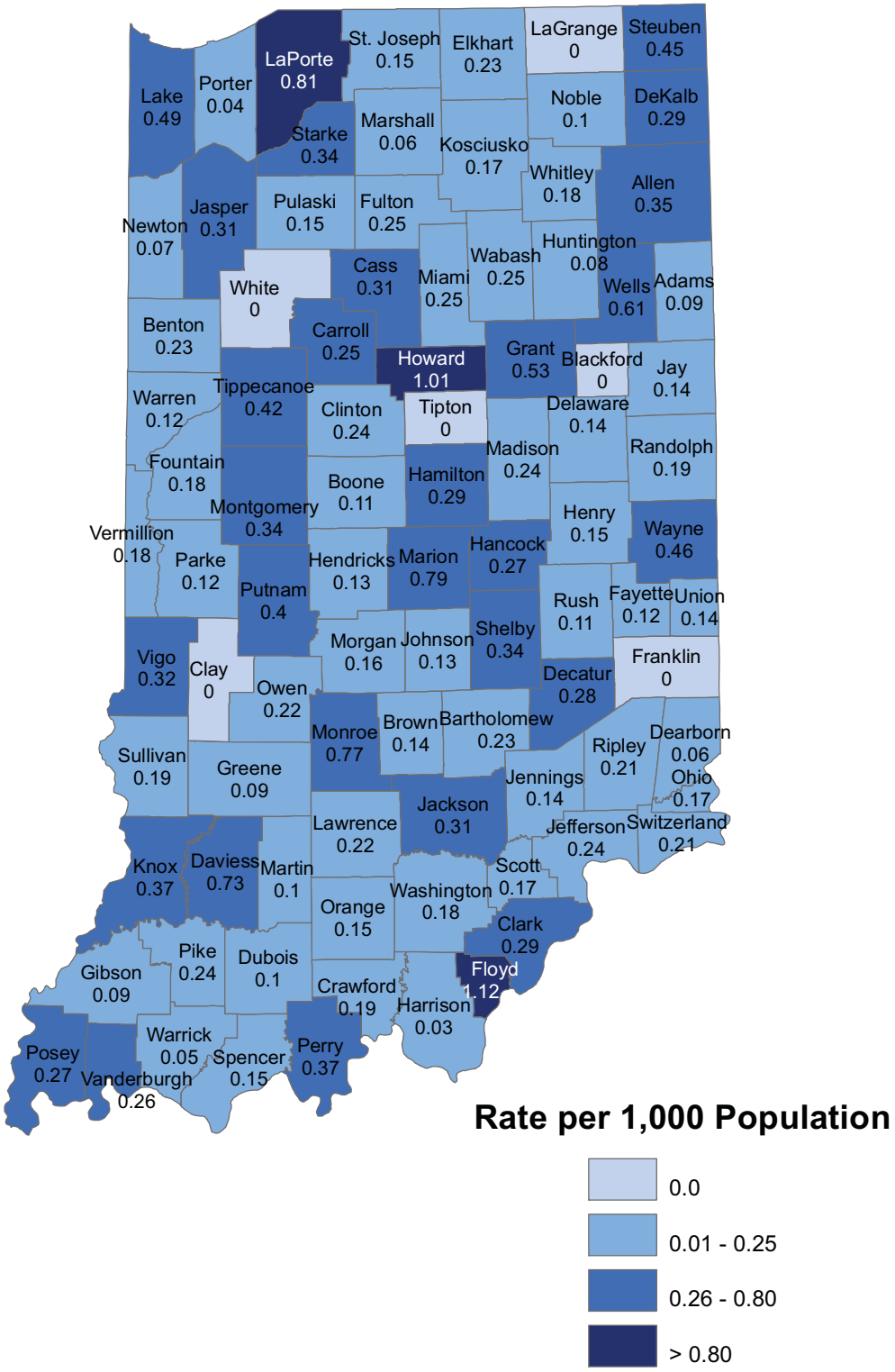
* Rates that are based on arrest numbers lower than 20 are unreliable.
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

Map 6.1 Cocaine/Opiate Possession Arrest Rates in Indiana, by County (Uniform Crime Reporting Program, 2008)



Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 6C (pages 107-108) for additional information.
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

Map 6.2 Cocaine/Opiate Sales Arrest Rates in Indiana, by County (Uniform Crime Reporting Program, 2008)



Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 6C (pages 107-108) for additional information.
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

REFERENCES, CHAPTER 6

Centers for Disease Control and Prevention. (n.d.). *Youth Risk Behavior Surveillance System.* Retrieved September 1, 2010, from http://www.cdc.gov/HealthyYouth/yrbs/index.htm

Indiana Family and Social Services Administration, Revenue Enhancement and Data. (2010). *Substance abuse population by county, 2009.* Indianapolis, IN: Indiana Family and Social Services Administration.

Indiana Prevention Resource Center. (2010). *Alcohol, tobacco, and other drug use by Indiana children and adolescents.* Retrieved September 13, 2010, from http://www.drugs.indiana.edu/data-survey_monograph.html

Inter-university Consortium for Political and Social Research, University of Michigan. (n.d.). Monitoring the Future. Retrieved September 15, 2010, from http://www.monitoringthefuture.org/data/data.html

National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan. (n.d.). *Uniform Crime Reporting Program.* Available at http://www.icpsr.umich.edu/NACJD/

National Institute on Drug Abuse. (2010). *Research report series: Cocaine abuse and addiction.* Retrieved October 7, 2010, from http://www.drugabuse.gov/PDF/RRCocaine.pdf

Office of National Drug Control Policy. (n.d.). *Cocaine*. Retrieved October 7, 2010, from http://www.whitehousedrugpolicy.gov/drugfact/cocaine

Substance Abuse and Mental Health Data Archive. (n.d.). *Treatment Episode Data Set - Admissions (TEDS-A), 2008.* Available at http://webapp.icpsr.umich.edu/cocoon/SAMHDA/STUDY/24280.xml

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (n.d.). *National Survey on Drug Use and Health.* Retrieved September 15, 2010, from https://nsduhweb.rti.org/

U.S. Drug Enforcement Administration. (2009). *Indiana 2009.* Retrieved October 7, 2010, from http://www.usdoj.gov/dea/pubs/state_factsheets/indiana.html

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 (National Institute on Drug Abuse, 2005). Heroin can be injected, smoked, or sniffed/snorted. The substance is typically sold as a white or brownish powder or as a black, sticky substance known on the streets as "black tar heroin." Heroin is also known by different names on the streets, including "smack," "junk," or "China White" (Office of National Drug Control Policy, n.d.).

General Consumption Patterns

Neither Indiana nor the United States has more than limited information on the overall use of heroin. According to the National Survey on Drug Use and Health (NSDUH), in 2009, 1.5% 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:

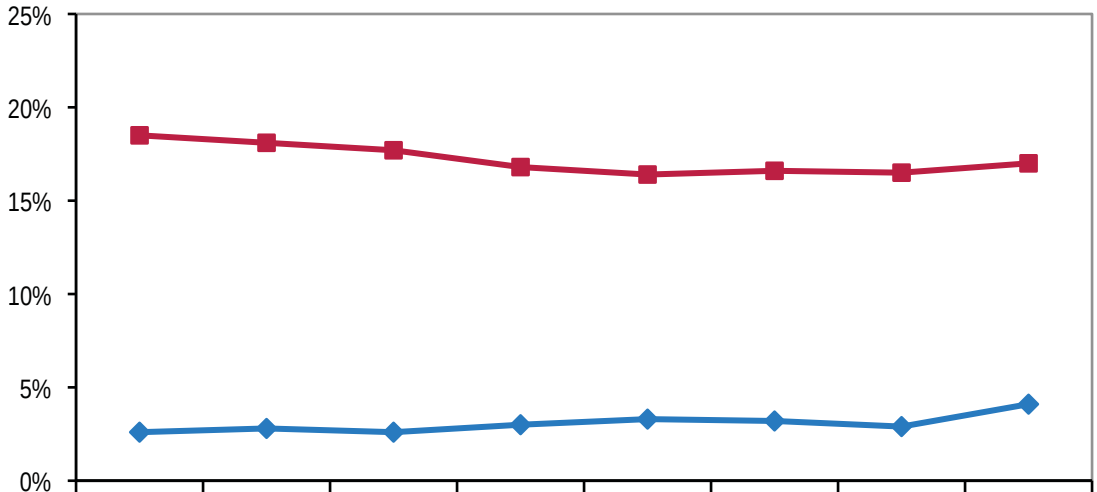
- lifetime use: 1.1% (approximately 54,000 residents)
- past year use: 0.2% (approximately 9,000 residents)
- current use: less than 0.1% (approximately 1,000 residents)

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

Adult Consumption Patterns

Heroin use prevalence in the general population is very low. Based on 2009 NSDUH results, current use was an estimated 0.2% among 18- to 25-year-old U.S. residents and 0.1% among those ages 26 and older (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.). Prevalence rates by age group were not available at the state level.

Figure 7.1 Percentage of Indiana and U.S. Treatment Episodes with Heroin Use Reported at Treatment Admission (Treatment Episode Data Set, 2001–2008)



	2001	2002	2003	2004	2005	2006	2007	2008
Indiana	2.6%	2.8%	2.6%	3.0%	3.3%	3.2%	2.9%	4.1%
U.S.	18.5%	18.1%	17.7%	16.8%	16.4%	16.6%	16.5%	17.0%

Source: Substance Abuse and Mental Health Data Archive, n.d.

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

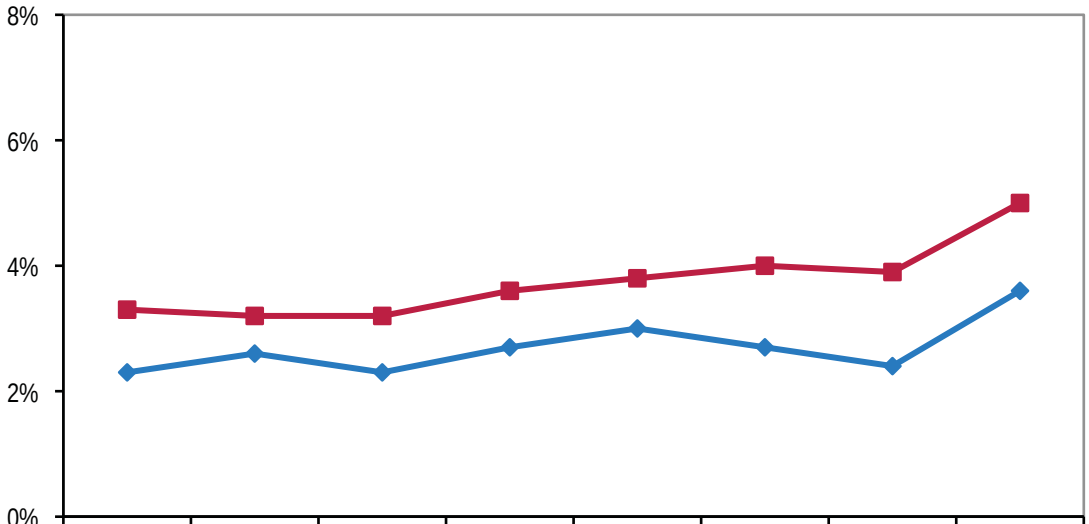
Data from the Treatment Episode Data Set (TEDS) spanning 2001 through 2008 show that the percentage of treatment episodes in which heroin use was reported at admission was significantly lower in Indiana than the United States ($P < 0.001$). In 2008, 4.1% of Hoosiers in treatment reported heroin use, as compared to 17.0% of Americans. Reported heroin use increased in Indiana from 2.6% in 2001 to 4.1% in 2008; the opposite was true for the nation, which showed a rate decrease from 18.5% to 17.0% during the same time period (see Figure 7.1) (Substance Abuse and Mental Health Data Archive, n.d.). For 2009 county-level information on treatment admissions with reported heroin use in Indiana, see Appendix 7A, page 122.

Reported heroin use differed significantly by gender, race, and age group among Indiana's treatment population ($P < 0.001$):

- **Gender**—From 2001 through 2008, 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 2008, except 2007) (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, in 2008, the percentage of Hoosiers ages 55 and older in treatment reporting heroin use dropped from its peak of 10.2% in 2005 to 5.2%. Also, 25- to 34-year-olds had the highest percentage of heroin use in 2008 (see Figure 7.4)

(Substance Abuse and Mental Health Data Archive, n.d.).

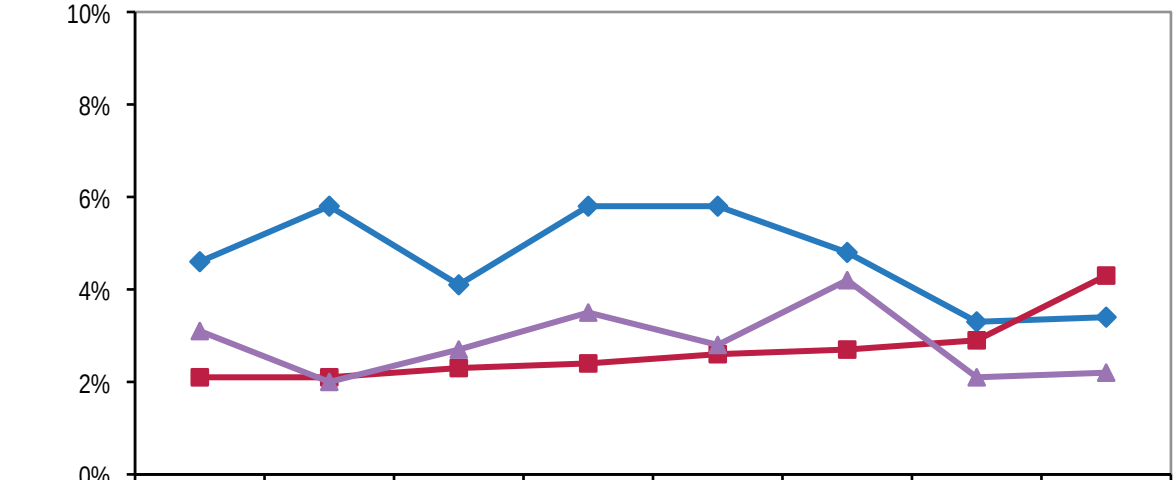
Figure 7.2 Percentage of Indiana Treatment Episodes with Heroin Use Reported at Treatment Admission, by Gender (Treatment Episode Data Set, 2001–2008)



	2001	2002	2003	2004	2005	2006	2007	2008
Male	2.3%	2.6%	2.3%	2.7%	3.0%	2.7%	2.4%	3.6%
Female	3.3%	3.2%	3.2%	3.6%	3.8%	4.0%	3.9%	5.0%

Source: Substance Abuse and Mental Health Data Archive, n.d.

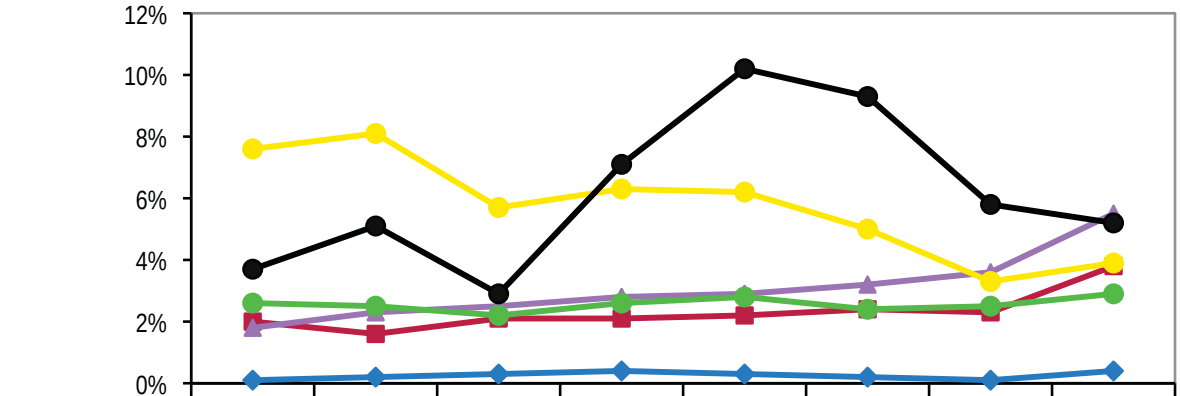
Figure 7.3 Percentage of Indiana Treatment Episodes with Heroin Use Reported at Treatment Admission, by Race (Treatment Episode Data Set, 2001–2008)



	2001	2002	2003	2004	2005	2006	2007	2008
Black	4.6%	5.8%	4.1%	5.8%	5.8%	4.8%	3.3%	3.4%
White	2.1%	2.1%	2.3%	2.4%	2.6%	2.7%	2.9%	4.3%
Other	3.1%	2.0%	2.7%	3.5%	2.8%	4.2%	2.1%	2.2%

Source: Substance Abuse and Mental Health Data Archive, n.d.

Figure 7.4 Percentage of Indiana Treatment Episodes with Heroin Use Reported at Treatment Admission, by Age Group (Treatment Episode Data Set, 2001–2008)



	2001	2002	2003	2004	2005	2006	2007	2008
Under 18	0.1%	0.2%	0.3%	0.4%	0.3%	0.2%	0.1%	0.4%
18 to 24	2.0%	1.6%	2.1%	2.1%	2.2%	2.4%	2.3%	3.8%
25 to 34	1.8%	2.3%	2.5%	2.8%	2.9%	3.2%	3.6%	5.5%
35 to 44	2.6%	2.5%	2.2%	2.6%	2.8%	2.4%	2.5%	2.9%
45 to 54	7.6%	8.1%	5.7%	6.3%	6.2%	5.0%	3.3%	3.9%
55 and over	3.7%	5.1%	2.9%	7.1%	10.2%	9.3%	5.8%	5.2%

Source: Substance Abuse and Mental Health Data Archive, n.d.

Youth Consumption Patterns

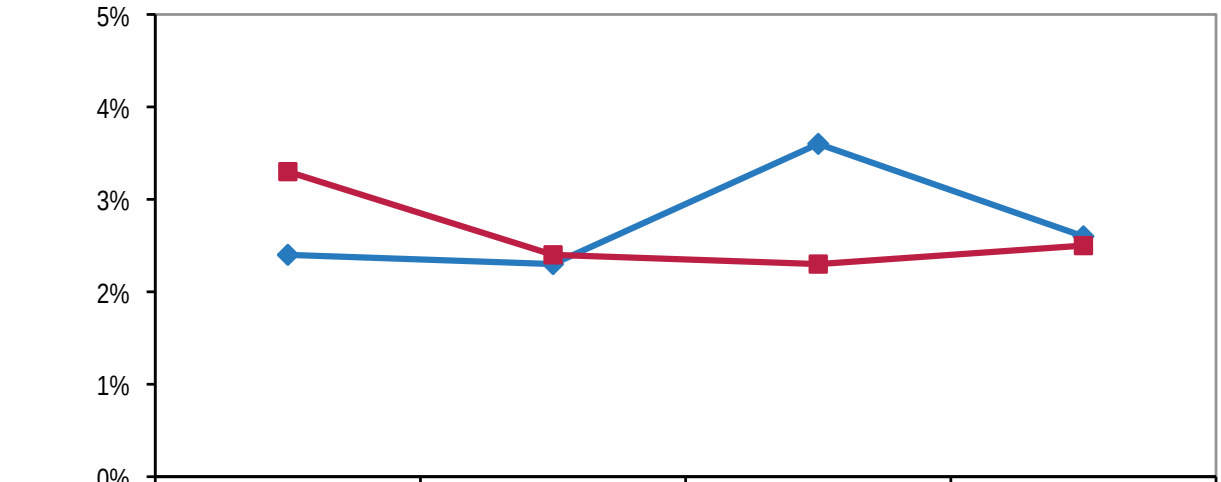
According to the 2009 Youth Risk Behavior Surveillance System (YRBSS), 2.6% (95% Confidence Interval [CI]: 1.9-3.6) of high school students (grades 9 through 12) in Indiana tried heroin at least once in their life. Indiana's rate was statistically similar to the national YRBSS rate (2.5%; 95% CI: 2.2-2.9)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

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) (Centers for Disease Control and Prevention, n.d.-b).

Based on results from the 2009 Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents (ATOD) survey, 2.4% of Hoosier 12th grade students reported lifetime use; 1.5% reported annual use; and 1.1% reported monthly (current) heroin use (Indiana Prevention Resource Center, 2010). National rates, as measured by the 2009 Monitoring the Future (MTF) survey, seemed lower for 12th grade students (lifetime use: 1.2%; annual use: 0.7%; monthly use: 0.4%), but because of the lack of detail provided in the publicly available data set, statistical significance could not be ascertained (Inter-university Consortium for Political and Social Research, University of Michigan, n.d.).

From 2001 through 2009, the percentage of 12th grade students reporting lifetime, annual, or monthly heroin use seemed slightly higher in Indiana than in the nation (see Figures 7.6 through 7.8). 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 (Indiana Prevention Resource Center, 2010). For lifetime and monthly use by Indiana region and grade, see Appendix 7B, page 123.

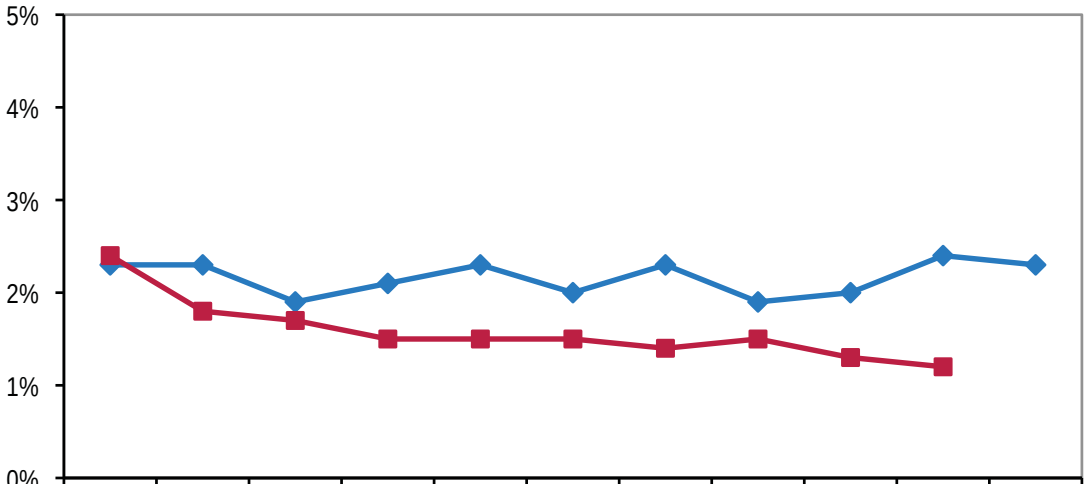
Figure 7.5 Percentage of Indiana and U.S. High School Students (Grades 9 through 12) Who Have Used Heroin at Least Once During their Lifetime (Youth Risk Behavior Surveillance System, 2003–2009)



	2003	2005	2007	2009
Indiana	2.4%	2.3%	3.6%	2.6%
U.S.	3.3%	2.4%	2.3%	2.5%

Source: Centers for Disease Control and Prevention, n.d.-b

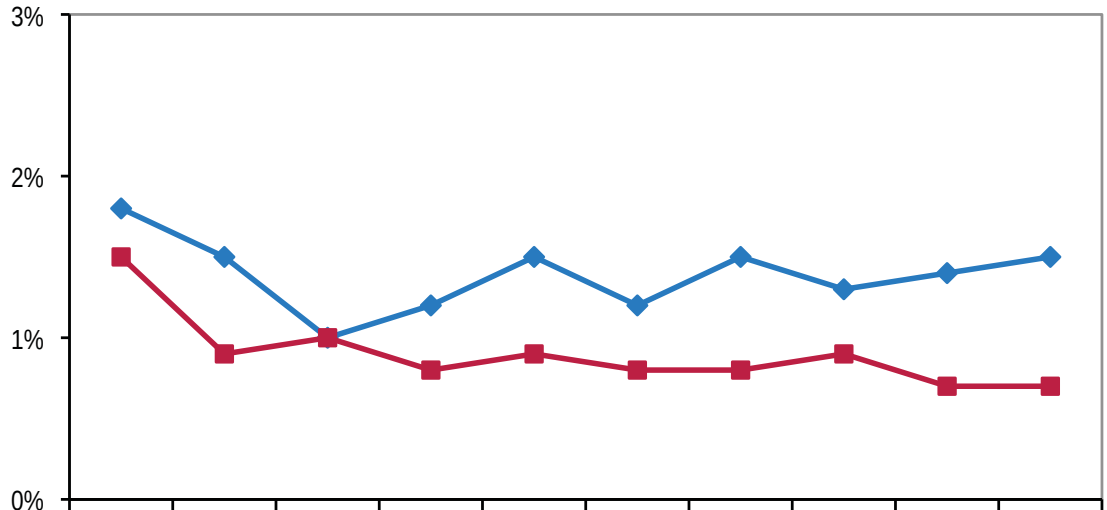
Figure 7.6 Percentage of Indiana and U.S. 12th Grade Students Reporting Lifetime Heroin Use (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2000–2010, and Monitoring the Future Survey, 2000–2009)



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Indiana	2.3%	2.3%	1.9%	2.1%	2.3%	2.0%	2.3%	1.9%	2.0%	2.4%	2.3%
U.S.	2.4%	1.8%	1.7%	1.5%	1.5%	1.5%	1.4%	1.5%	1.3%	1.2%	

Note: Information for 2010 is not available yet at the national level.
Source: Indiana Prevention Resource Center, 2010; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

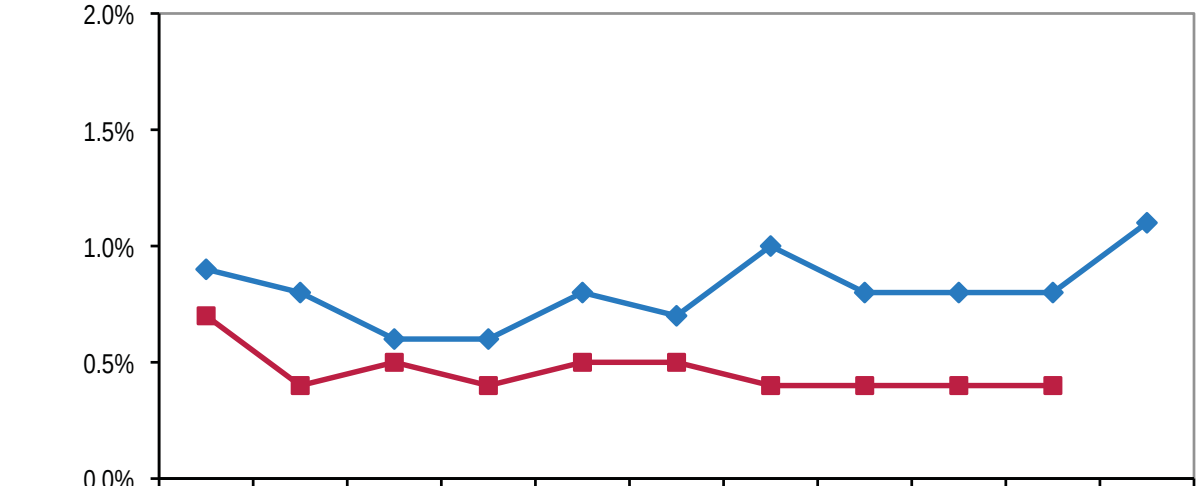
Figure 7.7 Percentage of Indiana and U.S. 12th Grade Students Reporting Annual Heroin Use (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey and Monitoring the Future Survey, 2000–2009)



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Indiana	1.8%	1.5%	1.0%	1.2%	1.5%	1.2%	1.5%	1.3%	1.4%	1.5%
U.S.	1.5%	0.9%	1.0%	0.8%	0.9%	0.8%	0.8%	0.9%	0.7%	0.7%

Source: Indiana Prevention Resource Center, 2010; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

Figure 7.8 Percentage of Indiana and U.S. 12th Grade Students Reporting Annual Heroin Use (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2000-2010, and Monitoring the Future Survey, 2000–2009)



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Indiana	0.9%	0.8%	0.6%	0.6%	0.8%	0.7%	1.0%	0.8%	0.8%	0.8%	1.1%
U.S.	0.7%	0.4%	0.5%	0.4%	0.5%	0.5%	0.4%	0.4%	0.4%	0.4%	

Note: Information for 2010 is not available yet at the national level.
Source: Indiana Prevention Resource Center, 2010; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

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). In addition, various types of pneumonia might surface in the user (Office of National Drug Control Policy, n.d.).

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 reports that nationwide, approximately 10% of all 2007 drug-related emergency room visits involved heroin (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2009).

Heroin Dependence

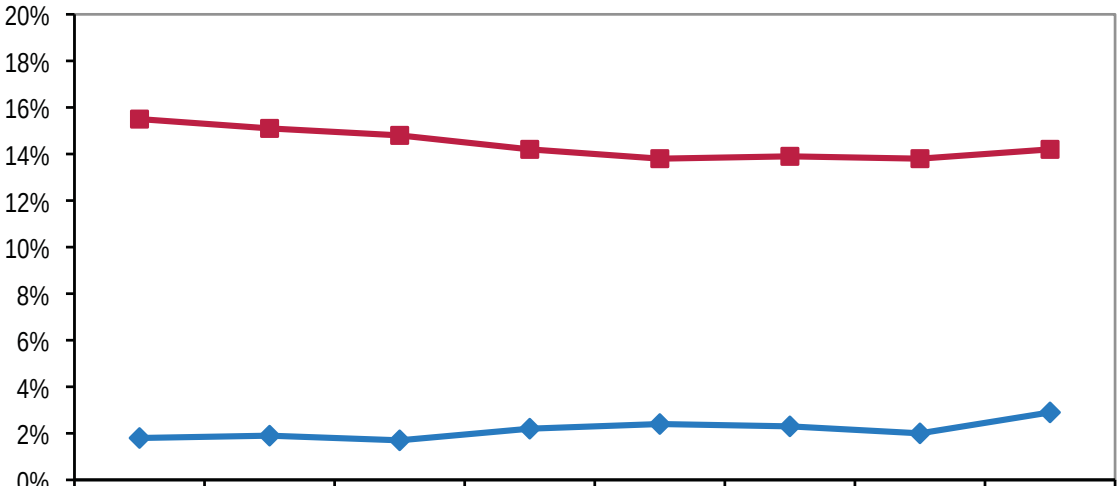
A comparison of data from the Treatment Episode Data Set (TEDS) from 2001 through 2008 shows that the percentage of drug treatment admissions for heroin dependence[2] has consistently been lower in Indiana than the rest of the United States ($P < 0.001$) (see Figure 7.9)

Significant differences in treatment admissions for heroin dependence were observed in Indiana by gender, race, and age group ($P < 0.01$):

- Gender: The percentage of women reporting heroin dependence was greater than the percentage of men, at 3.7% and 2.6% respectively (see Figure 7.10).
- Race: In 2008, for the first time since at least 2001, the percentage of whites within the treatment population with heroin dependence surpassed both the percentage of blacks and other races (see Figure 7.11).
- Age: Heroin dependence was reported almost exclusively by individuals 18 years of age or older. Highest percentages were found among patients ages 25 to 34 (4.0%) as well as those 55 and older (3.8%) (see Figure 7.12). (For county-level information on heroin dependence, see Appendix 7A, page 122.)

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

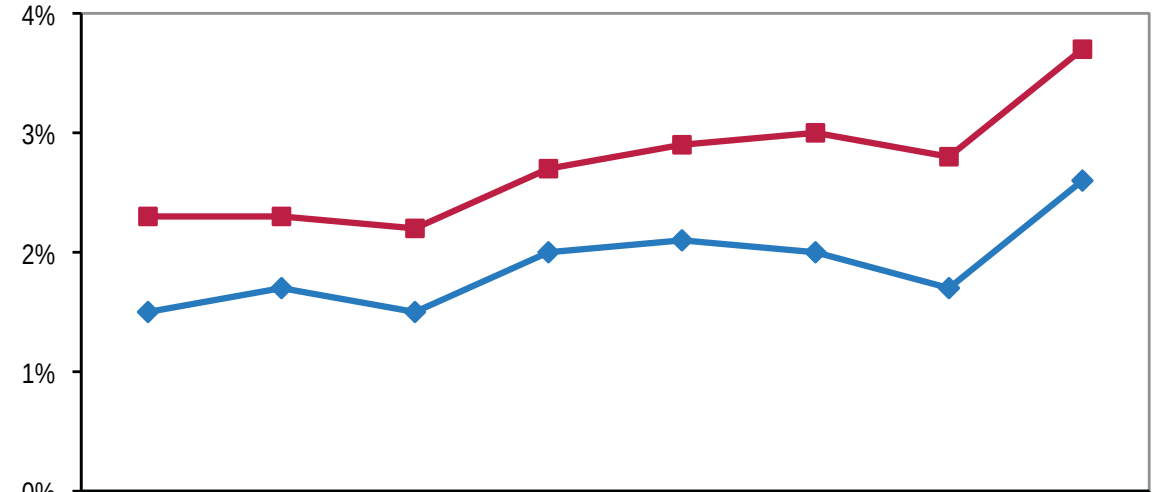
Figure 7.9 Percentage of Indiana and U.S. Treatment Episodes with Heroin Dependence Reported at Treatment Admission (Treatment Episode Data Set, 2001–2008)



	2001	2002	2003	2004	2005	2006	2007	2008
Indiana	1.8%	1.9%	1.7%	2.2%	2.4%	2.3%	2.0%	2.9%
U.S.	15.5%	15.1%	14.8%	14.2%	13.8%	13.9%	13.8%	14.2%

Source: Substance Abuse and Mental Health Data Archive, n.d.

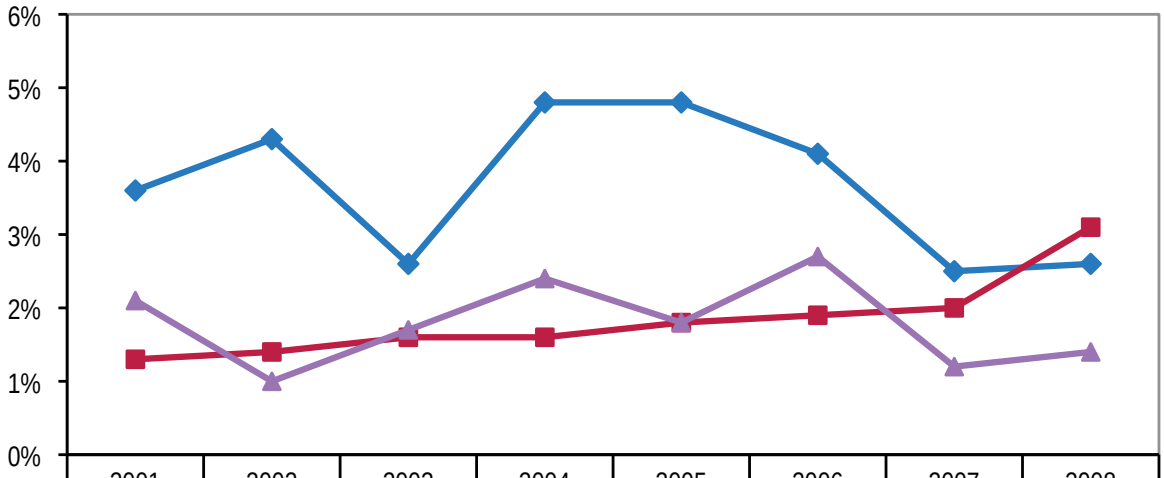
Figure 7.10 Percentage of Indiana Treatment Episodes with Heroin Dependence Reported at Treatment Admission, by Gender (Treatment Episode Data Set, 2001–2008)



	2001	2002	2003	2004	2005	2006	2007	2008
Male	1.5%	1.7%	1.5%	2.0%	2.1%	2.0%	1.7%	2.6%
Female	2.3%	2.3%	2.2%	2.7%	2.9%	3.0%	2.8%	3.7%

Source: Substance Abuse and Mental Health Data Archive, n.d.

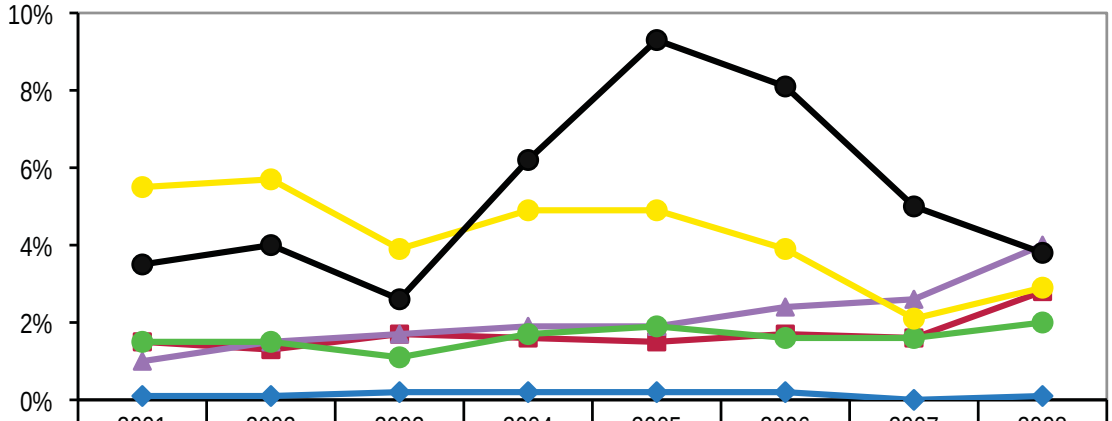
Figure 7.11 Percentage of Indiana Treatment Episodes with Heroin Dependence Reported at Treatment Admission, by Race (Treatment Episode Data Set, 2001–2008)



	2001	2002	2003	2004	2005	2006	2007	2008
Black	3.6%	4.3%	2.6%	4.8%	4.8%	4.1%	2.5%	2.6%
White	1.3%	1.4%	1.6%	1.6%	1.8%	1.9%	2.0%	3.1%
Other	2.1%	1.0%	1.7%	2.4%	1.8%	2.7%	1.2%	1.4%

Source: Substance Abuse and Mental Health Data Archive, n.d.

Figure 7.12 Percentage of Indiana Treatment Episodes with Heroin Dependence Reported at Treatment Admission, by Age Group (Treatment Episode Data Set, 2001–2008)



	2001	2002	2003	2004	2005	2006	2007	2008
Under 18	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.0%	0.1%
18 to 24	1.5%	1.3%	1.7%	1.6%	1.5%	1.7%	1.6%	2.8%
25 to 34	1.0%	1.5%	1.7%	1.9%	1.9%	2.4%	2.6%	4.0%
35 to 44	1.5%	1.5%	1.1%	1.7%	1.9%	1.6%	1.6%	2.0%
45 to 54	5.5%	5.7%	3.9%	4.9%	4.9%	3.9%	2.1%	2.9%
55 and over	3.5%	4.0%	2.6%	6.2%	9.3%	8.1%	5.0%	3.8%

Source: Substance Abuse and Mental Health Data Archive, n.d.

HIV/AIDS

One of the most serious consequences of heroin abuse is contraction of HIV from contaminated needles. In 2008, 367 new HIV infections and 146 new AIDS cases were reported in Indiana. Twelve of the new HIV infections and nine of the new AIDS cases were transmitted through injection drug use (IDU) alone. By the end of 2008, a total of 9,253 individuals were living in Indiana with HIV disease;[3] 781 (or 8.4%) of these cases were attributed to IDU (Indiana State Department of Health, n.d.). The Centers for Disease Control and Prevention (2010a) estimated that in Indiana 6.5 per 100,000 population were diagnosed with AIDS in 2008 (U.S.: 12.2 per 100,000 population) (Centers for Disease Control and Prevention, 2010a).

The age-adjusted 2006 HIV/AIDS mortality rate[4] in Indiana was 2.3 per 100,000 population (95% CI: 1.9–2.7), which was significantly lower than the U.S. rate of 4.0 per 100,000 population (95% CI: 3.9–4.1) (Centers for Disease Control and Prevention, n.d.a).

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, 2009, 2010b). The 2007 incidence rates per 100,000 for acute hepatitis in Indiana were 1.0 for HBV (U.S.: 1.5) and 0.2 for HCV (U.S.: 0.3) (Centers for Disease Control and Prevention, 2009).

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, 2010b).

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, 2010b). The 2006 age-adjusted mortality rate attributable to HBV and HCV[5] was 1.4 per 100,000 population (95% CI: 1.1–1.7) in Indiana, which was significantly lower than the national rate of 2.2 per 100,000 population (95% CI: 2.1–2.3) (Centers for Disease Control and Prevention, n.d.a).

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

According to the U.S. Drug Enforcement Administration (DEA), heroin does not present a major threat to Indiana as it is not readily available in central and southern Indiana. However, in both its brown powder or black tar forms, heroin can be found more easily in northern Indiana. In 2008, the DEA seized 11.4 kilograms, or 25.1 pounds, of heroin in Indiana. This is considerably less than the amount seized in the surrounding states of Ohio, Illinois, or Michigan (U.S. Drug Enforcement Administration, 2009).

The Uniform Crime Reporting (UCR) Program collects information on arrests for possession and sale/manufacture of opiates and cocaine combined (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.). According to the 2008 dataset, law enforcement made a total of 3,301 arrests for possession and 2,336 arrests for sale/manufacture of opiates and cocaine in Indiana in that year. This represents arrest rates of 0.5 per 1,000 population (95% CI: 0.5–0.5) and 0.4 per 1,000 population (95% CI: 0.4–0.4), respectively. For trend information and comparisons with the United States, refer to Chapter 6, Cocaine, on pages 97-112; for county-level data, see Maps 6.1 and 6.2 (pages 109 and 110) and Appendix 6C (pages 107-108).

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

APPENDIX 7A

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, 2009)

	Treatment Episodes	Heroin Use		Heroin Dependence	
County	Total	Number	%	Number	%
Adams	131	<5	N/A	<5	N/A
Allen	1,971	33	1.7%	16	0.8%
Bartholomew	327	6	1.8%	<5	N/A
Benton	20	<5	N/A	<5	N/A
Blackford	141	<5	N/A	<5	N/A
Boone	205	16	7.8%	13	6.3%
Brown	72	<5	N/A	<5	N/A
Carroll	83	<5	N/A	<5	N/A
Cass	144	<5	N/A	<5	N/A
Clark	512	20	3.9%	11	2.1%
Clay	199	<5	N/A	<5	N/A
Clinton	82	<5	N/A	<5	N/A
Crawford	53	<5	N/A	<5	N/A
Daviess	247	<5	N/A	<5	N/A
Dearborn	259	23	8.9%	19	7.3%
Decatur	77	<5	N/A	<5	N/A
DeKalb	221	8	3.6%	<5	N/A
Delaware	873	5	0.6%	<5	N/A
Dubois	261	<5	N/A	<5	N/A
Elkhart	893	10	1.1%	6	0.7%
Fayette	54	<5	N/A	<5	N/A
Floyd	168	6	3.6%	<5	N/A
Fountain	67	5	7.5%	5	7.5%
Franklin	36	<5	N/A	<5	N/A
Fulton	144	<5	N/A	<5	N/A
Gibson	118	<5	N/A	<5	N/A
Grant	481	<5	N/A	<5	N/A
Greene	170	<5	N/A	<5	N/A
Hamilton	698	22	3.2%	13	1.9%
Hancock	126	<5	N/A	<5	N/A
Harrison	53	<5	N/A	<5	N/A
Hendricks	314	17	5.4%	14	4.5%
Henry	118	<5	N/A	<5	N/A
Howard	666	9	1.4%	5	0.8%
Huntington	64	<5	N/A	<5	N/A
Jackson	147	8	5.4%	5	3.4%
Jasper	43	6	14.0%	6	14.0%
Jay	66	<5	N/A	<5	N/A
Jefferson	185	<5	N/A	<5	N/A
Jennings	147	<5	N/A	<5	N/A
Johnson	325	24	7.4%	20	6.2%
Knox	368	<5	N/A	<5	N/A
Kosciusko	213	<5	N/A	<5	N/A
LaGrange	167	<5	N/A	<5	N/A
Lake	2,554	375	14.7%	338	13.2%
LaPorte	633	61	9.6%	48	7.6%
Lawrence	372	7	1.9%	<5	N/A
Madison	895	8	0.9%	<5	N/A
Marion	4,339	400	9.2%	343	7.9%
Marshall	228	9	3.9%	8	3.5%
Martin	95	<5	N/A	<5	N/A
Miami	169	<5	N/A	<5	N/A
Monroe	1,376	56	4.1%	34	2.5%
Montgomery	188	19	10.1%	17	9.0%
Morgan	472	9	1.9%	9	1.9%
Newton	16	5	31.3%	<5	N/A
Noble	324	<5	N/A	<5	N/A
Ohio	14	<5	N/A	<5	N/A
Orange	83	<5	N/A	<5	N/A
Owen	267	5	1.9%	<5	N/A
Parke	119	<5	N/A	<5	N/A
Perry	149	<5	N/A	<5	N/A
Pike	42	<5	N/A	<5	N/A
Porter	477	89	18.7%	76	15.9%
Posey	162	<5	N/A	<5	N/A
Pulaski	43	<5	N/A	<5	N/A
Putnam	142	<5	N/A	<5	N/A
Randolph	82	5	6.1%	<5	N/A
Ripley	85	<5	N/A	<5	N/A
Rush	49	<5	N/A	<5	N/A
Saint Joseph	1,376	87	6.3%	58	4.2%
Scott	101	<5	N/A	<5	N/A
Shelby	107	14	13.1%	13	12.1%
Spencer	146	<5	N/A	<5	N/A
Starke	180	14	7.8%	9	5.0%
Steuben	115	<5	N/A	<5	N/A
Sullivan	99	<5	N/A	<5	N/A
Switzerland	55	<5	N/A	<5	N/A
Tippecanoe	473	23	4.9%	14	3.0%
Tipton	51	<5	N/A	<5	N/A
Union	25	<5	N/A	<5	N/A
Vanderburgh	1,664	11	0.7%	6	0.4%
Vermillion	136	<5	N/A	<5	N/A
Vigo	1,009	12	1.2%	7	0.7%
Wabash	181	18	9.9%	15	8.3%
Warren	23	<5	N/A	<5	N/A
Warrick	344	<5	N/A	<5	N/A
Washington	91	<5	N/A	<5	N/A
Wayne	384	53	13.8%	45	11.7%
Wells	141	<5	N/A	<5	N/A
White	163	<5	N/A	<5	N/A
Whitley	101	<5	N/A	<5	N/A
Indiana	**32,049**	**1,578**	**4.9%**	**1,247**	**3.9%**

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, 2010

APPENDIX 7B

Lifetime and Monthly Heroin Use Rates in Indiana, by Region and Grade (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2010)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Lifetime	0.5	0.4	0.4	0.2	0.3	0.6	0.3	0.2	0.9
	Monthly	0.3	0.3	0.2	0.0	0.3	0.3	0.2	0.2	0.5
7th Grade	Lifetime	0.8	1.2	0.5	0.6	0.7	0.7	0.7	0.6	1.4
	Monthly	0.4	0.6	0.2	0.0	0.5	0.3	0.4	0.4	1.0
8th Grade	Lifetime	1.3	1.6	1.1	1.2	1.2	1.3	1.6	0.7	1.3
	Monthly	0.7	0.9	0.7	0.6	0.7	0.7	0.5	0.5	0.7
9th Grade	Lifetime	1.8	1.8	1.6	1.8	2.0	1.6	2.4	1.3	2.0
	Monthly	0.9	1.0	0.7	1.2	0.9	0.8	0.9	0.7	1.1
10th Grade	Lifetime	1.8	2.0	1.5	2.3	1.7	1.8	2.1	1.9	2.0
	Monthly	0.9	1.1	0.5	1.3	0.9	0.8	0.8	0.9	1.0
11th Grade	Lifetime	2.3	3.5	2.0	1.9	1.9	2.3	2.4	1.7	2.7
	Monthly	1.1	1.6	0.8	1.1	0.9	1.1	1.1	1.0	1.1
12th Grade	Lifetime	2.3	2.8	2.0	1.8	2.0	2.4	3.2	2.0	2.0
	Monthly	1.1	1.6	1.0	0.5	0.8	1.2	1.4	0.9	1.0

Source: Indiana Prevention Resource Center, 2010

REFERENCES, CHAPTER 7

Centers for Disease Control and Prevention. (2009). *Surveillance for acute viral hepatitis — United States, 2007.* Retrieved September 16, 2010, from http://www.cdc.gov/mmwr/PDF/ss/ss5803.pdf

Centers for Disease Control and Prevention. (2010a). *HIV/AIDS surveillance report.* Retrieved September 23, 2010, from http://www.cdc.gov/hiv/topics/surveillance/resources/reports/index.htm#surveillance

Centers for Disease Control and Prevention. (2010b). *Viral hepatitis.* Retrieved September 23, 2010, from http://www.cdc.gov/hepatitis/index.htm

Centers for Disease Control and Prevention. (n.d.-a). *CDC Wonder.* Retrieved September 23, 2010, from http://wonder.cdc.gov/cmf-icd10.html

Centers for Disease Control and Prevention. (n.d.-b). *Youth Risk Behavior Surveillance System.* Retrieved September 1, 2010, from http://apps.nccd.cdc.gov/yrbss/

Darke, S., Williamson, A., Ross, J., & Teesson, M. (2005). Attempted suicide among heroin users: 12-month outcomes from the Australian Treatment Outcome Study (ATOS). *Drug and Alcohol Dependence, 78*(2), 177-186.

Gossop, M., Marsden, J., Stewart, D., Lehmann, P., Edwards, C., Wilson, A., & Segar, G. (1998). Substance use, health and social problems of service users at 54 drug treatment agencies. Intake data from the National Treatment Outcome Research Study. *The British Journal of Psychiatry 173*, 166-171.

Indiana Family and Social Services Administration, Revenue Enhancement and Data. (2010). *Substance abuse population by county, 2009.* Indianapolis, IN: Indiana Family and Social Services Administration.

Indiana Prevention Resource Center. (2010). *Alcohol, tobacco, and other drug use by Indiana children and adolescents.* Retrieved September 13, 2010, from http://www.drugs.indiana.edu/data-survey_monograph.html

Indiana State Department of Health. (n.d.). *HIV/STD spotlight reports – December 2009.* Retrieved September 9, 2010, from http://www.in.gov/isdh/24407.htm

Inter-university Consortium for Political and Social Research, University of Michigan. (n.d.). Monitoring the Future. Retrieved September 15, 2010, from http://www.monitoringthefuture.org/data/data.html

National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan. (n.d.). *Uniform Crime Reporting Program.* Available at http://www.icpsr.umich.edu/NACJD/

National Institute on Drug Abuse. (2005). *Research report series: Heroin abuse and addiction.* Retrieved September 23, 2010, from http://www.drugabuse.gov/PDF/RRHeroin.pdf

Office of National Drug Control Policy. (n.d.). *Heroin*. Retrieved September 23, 2010, from http://www.whitehousedrugpolicy.gov/drugfact/heroin/index.html

State Epidemiology and Outcomes Workgroup. (2008). *Indiana household survey on substance abuse.* Administered by the Survey Research Center at Indiana University-Purdue University Indianapolis.

Substance Abuse and Mental Health Data Archive. (n.d.). *Treatment Episode Data Set - Admissions (TEDS-A), 2008.* Available at http://webapp.icpsr.umich.edu/cocoon/SAMHDA/STUDY/24280.xml

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (2009). *Drug Abuse Warning Network, 2007: National estimates of drug-related emergency room visits.* Retrieved September 23, 2010, from http://dawninfo.samhsa.gov/files/ed2007/DAWN2k7ED.htm#Sect2

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (n.d.). *National Survey on Drug Use and Health.* Retrieved September 15, 2010, from https://nsduhweb.rti.org/

U.S. Drug Enforcement Administration. (2009). *Indiana 2009.* Retrieved October 7, 2010, from http://www.usdoj.gov/dea/pubs/state_factsheets/indiana.html

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.

The drug is easily made in clandestine laboratories with over-the-counter (OTC) ingredients. Meth's relative ease of manufacture and highly addictive potential are thought to contribute to its use across the nation. Meth is also known by different names on the streets, including "speed," "crystal," "crank," or "ice" (Office of National Drug Control Policy, n.d.).

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, n.d.). The latest prevalence estimates for the nation are based on results from the 2008 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:

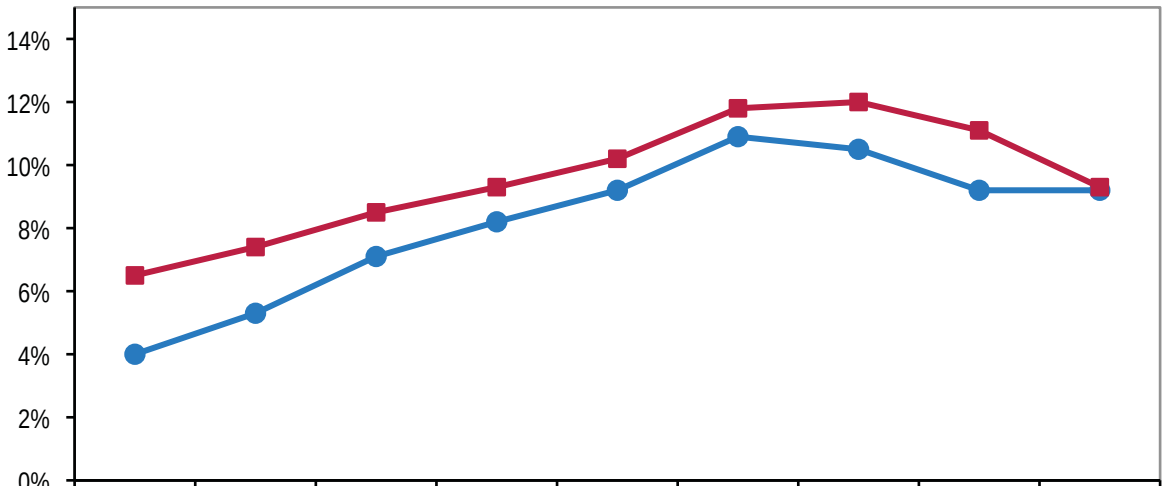
- 4.5% of Hoosiers (225,000 residents) used meth at least once in their life (U.S.: 5.0%).
- 0.8% of Hoosiers (40,000 residents) used meth in the past year (U.S.: 0.3%).
- 0.2% of Hoosiers (10,000 residents) used meth in the past month (U.S.: 0.1%)
  (Substance Abuse and Mental Health Services Administration,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

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 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, n.d.). 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, but the rate dropped to 9.2% in 2007 and remained the same in 2008. The percentage of treatment admissions with reported meth use was similar in Indiana and the United States (see Figure 8.1).

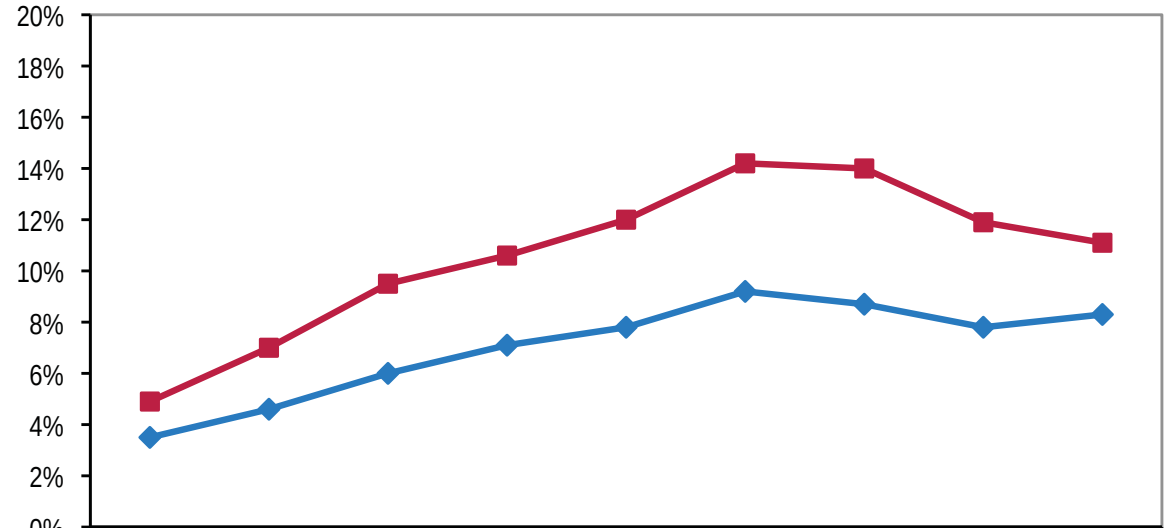
Figure 8.1 Percentage of Treatment Episodes with Meth Use Reported at Treatment Admission in Indiana and the United States (Treatment Episode Data Set, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Indiana	4.0%	5.3%	7.1%	8.2%	9.2%	10.9%	10.5%	9.2%	9.2%
U.S.	6.5%	7.4%	8.5%	9.3%	10.2%	11.8%	12.0%	11.1%	9.3%

Source: Substance Abuse and Mental Health Data Archive, n.d.

Figure 8.2 Percentage of Treatment Episodes with Meth Use Reported at Treatment Admission in Indiana, by Gender (Treatment Episode Data Set, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Male	3.5%	4.6%	6.0%	7.1%	7.8%	9.2%	8.7%	7.8%	8.3%
Female	4.9%	7.0%	9.5%	10.6%	12.0%	14.2%	14.0%	11.9%	11.1%

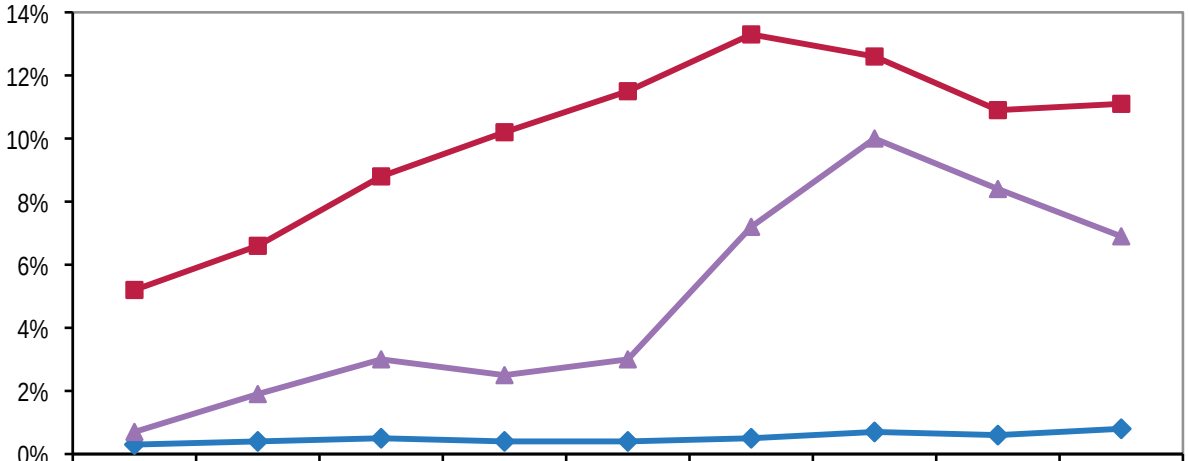
Source: Substance Abuse and Mental Health Data Archive, 2008

In Indiana, 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 greater than the percentage of male clients (see Figure 8.2).
- **Race**—Meth use was higher among white patients than black or other minority patients. Reported use for whites more than doubled from 5.2% in 2000 to 11.1% in 2008. Even though blacks consistently had the lowest percentage, reported use increased significantly from 0.3% to 0.8% during that time period; however, the greatest increase was found among other races, whose percentages rose from 0.7% to 6.9% (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, n.d.).

For county-level treatment data, see Appendix 8A, page 137.

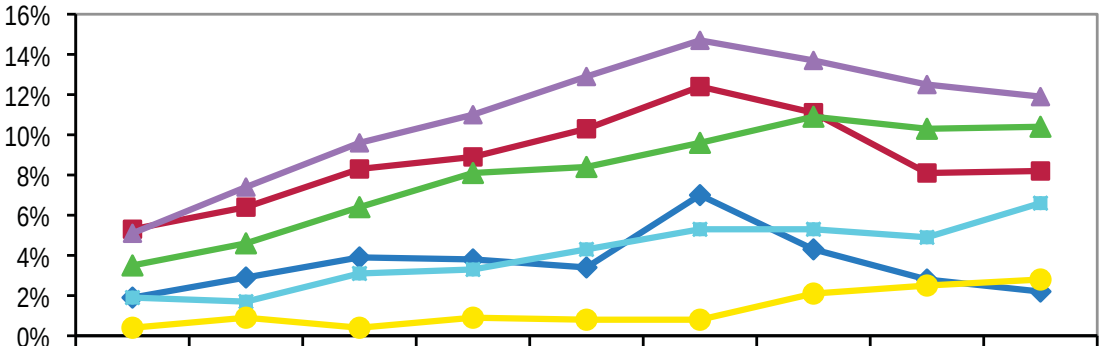
Figure 8.3 Percentage of Treatment Episodes with Meth Use Reported at Treatment Admission in Indiana, by Race (Treatment Episode Data Set, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Black	0.3%	0.4%	0.5%	0.4%	0.4%	0.5%	0.7%	0.6%	0.8%
White	5.2%	6.6%	8.8%	10.2%	11.5%	13.3%	12.6%	10.9%	11.1%
Other	0.7%	1.9%	3.0%	2.5%	3.0%	7.2%	10.0%	8.4%	6.9%

Source: Substance Abuse and Mental Health Data Archive, n.d.

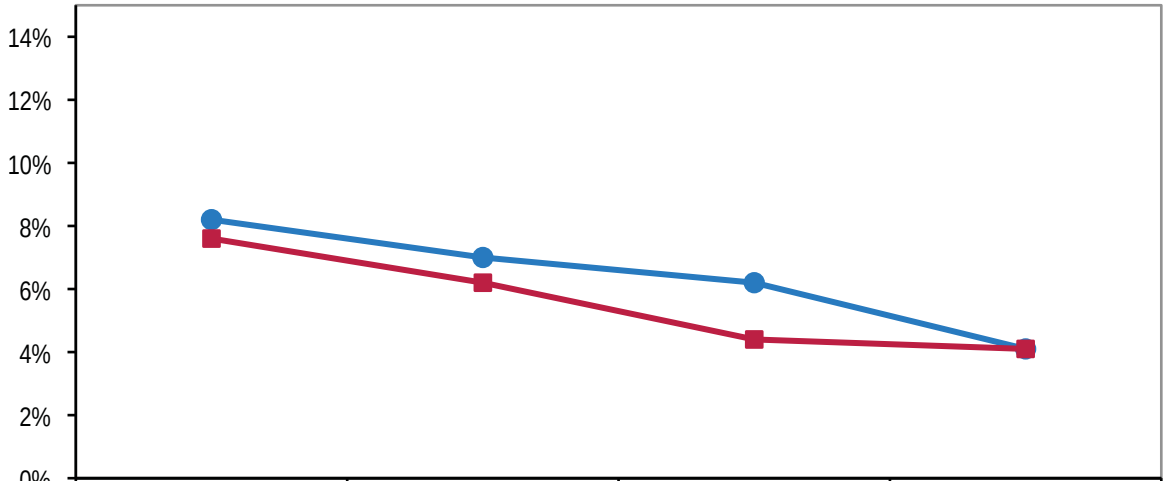
Figure 8.4 Percentage of Treatment Episodes with Meth Use Reported at Treatment Admission in Indiana, by Age Group (Treatment Episode Data Set, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Under 18	1.9%	2.9%	3.9%	3.8%	3.4%	7.0%	4.3%	2.8%	2.2%
18 to 24	5.3%	6.4%	8.3%	8.9%	10.3%	12.4%	11.1%	8.1%	8.2%
25 to 34	5.1%	7.4%	9.6%	11.0%	12.9%	14.7%	13.7%	12.5%	11.9%
35 to 44	3.5%	4.6%	6.4%	8.1%	8.4%	9.6%	10.9%	10.3%	10.4%
45 to 54	1.9%	1.7%	3.1%	3.3%	4.3%	5.3%	5.3%	4.9%	6.6%
55 and over	0.4%	0.9%	0.4%	0.9%	0.8%	0.8%	2.1%	2.5%	2.8%

Source: Substance Abuse and Mental Health Data Archive, n.d.

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)



	2003	2005	2007	2009
Indiana	8.2%	7.0%	6.2%	4.1%
U.S.	7.6%	6.2%	4.4%	4.1%

Source: Centers for Disease Control and Prevention, n.d.

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). Rate differences by gender, race, and grade level were not significant in Indiana (see Table 8.1) (Centers for Disease Control and Prevention, n.d.).

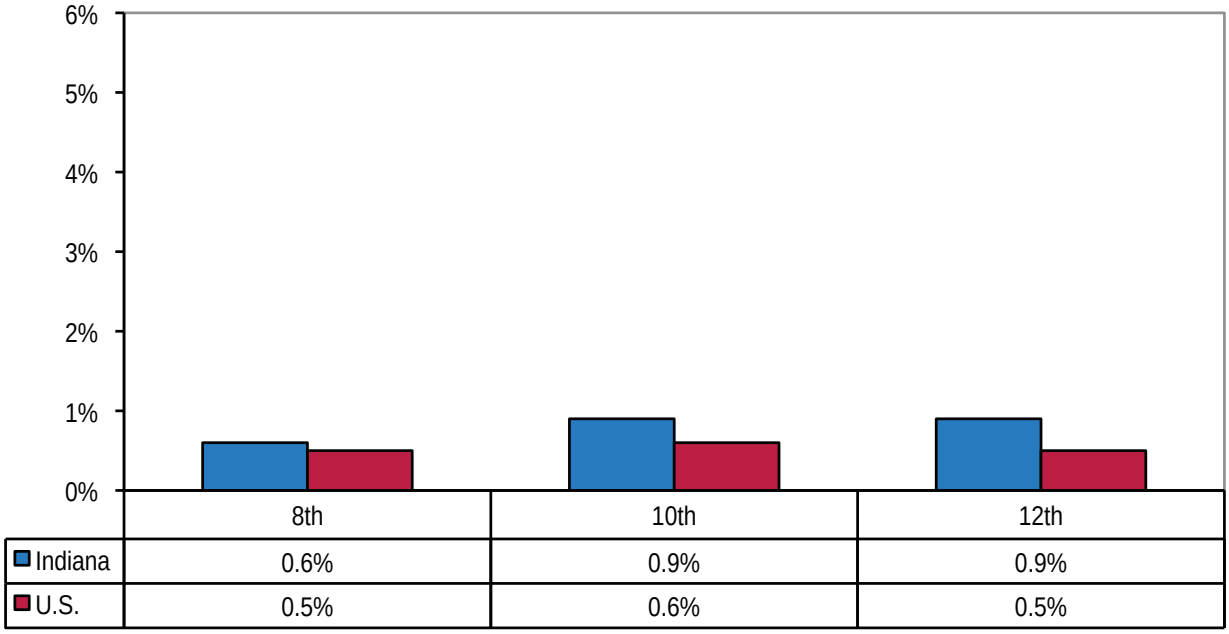
Two other surveys of young people that include questions about lifetime, annual, and current methamphetamine use are the Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents (ATOD) survey, conducted among Indiana students in grades 6 through 12 (Indiana Prevention Resource Center, 2010), 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, n.d.). Comparable results for 2009 are shown in Figure 8.6.

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.	
Gender	**Prevalence**	**95% CI**	**Prevalence**	**95% CI**
Male Students	4.8%	3.1-7.3	4.7%	4.0-5.5
Female Students	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, n.d.

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, 2009)

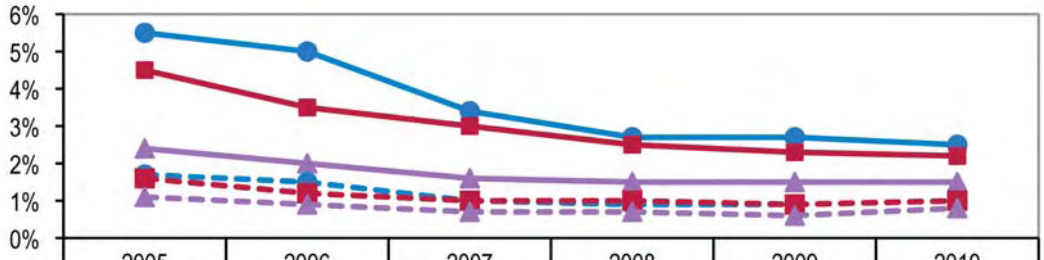


Source: Indiana Prevention Resource Center, 2010; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

MTF has tracked methamphetamine use for a number of years, but a meth question was first added to the ATOD survey in 2005; therefore, comparisons using these datasets are possible only for 2005 through the present. For grades 8, 10, and 12, Indiana's rates of current meth use seemed slightly higher than U.S. rates; however, due to the lack of detail provided in the publicly available datasets, statistical significance could not be determined.

In Indiana, rates of meth use (lifetime and monthly) in 8th, 10th, and 12th grade students seemed to have decreased from 2005 through 2010 (see Figure 8.7). For lifetime and monthly meth use in Indiana, by region and grade, see Appendix 8B, page 138.

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, 2005–2010)



	2005	2006	2007	2008	2009	2010
Lifetime 12th Grade	5.5%	5.0%	3.4%	2.7%	2.7%	2.5%
Lifetime 10th Grade	4.5%	3.5%	3.0%	2.5%	2.3%	2.2%
Lifetime 8th Grade	2.4%	2.0%	1.6%	1.5%	1.5%	1.5%
Monthly 12th Grade	1.7%	1.5%	1.0%	0.9%	0.9%	1.0%
Monthly 10th Grade	1.6%	1.2%	1.0%	1.0%	0.9%	1.0%
Monthly 8th Grade	1.1%	0.9%	0.7%	0.7%	0.6%	0.8%

Source: Indiana Prevention Resource Center, 2010

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 (Office of National Drug Control Policy, n.d.; National Institute on Drug Abuse, 2002, 2008).

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 (National Drug Intelligence Center, 2002).

Meth Dependence

As previously mentioned, meth is considered a highly addictive substance, and consumption can easily result in drug dependence.[1] 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, n.d.).

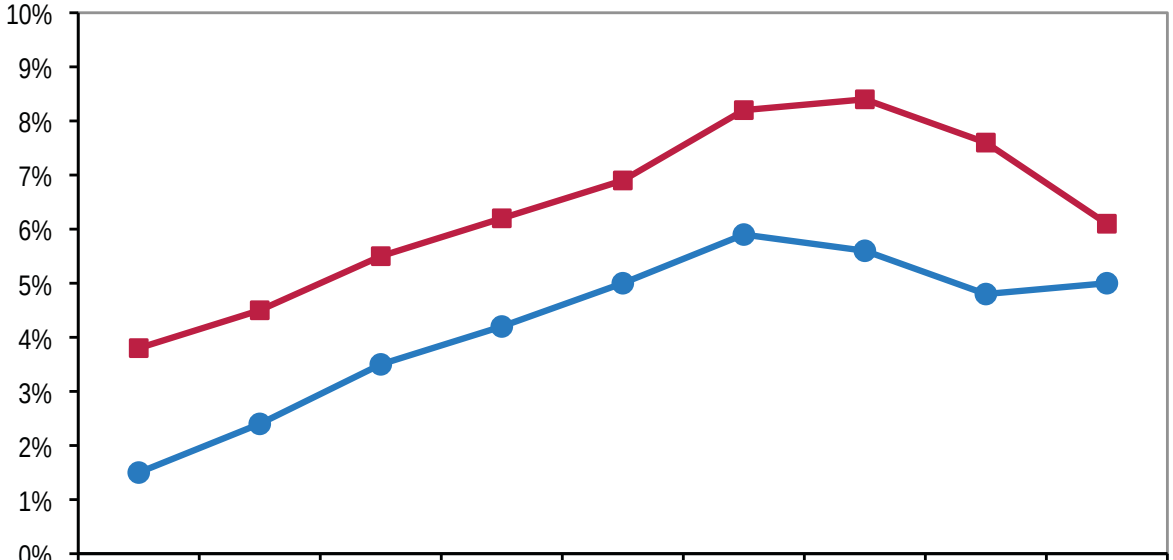
Between 2000 and 2008, the percentage of treatment admissions in Indiana in which meth dependence was indicated increased significantly from 1.5% to 5.0%, peaking at 5.9% in 2005 (see Figure 8.8).

According to the 2008 TEDS dataset, methamphetamine dependence in Indiana's treatment population differed significantly by gender, race, and age group, as follows:

- **Gender**—More women (6.6%) than men (4.2%) 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 (0.2%), respectively (see Figure 8.10).
- **Age**—Meth dependence was indicated primarily among patients ages 25 to 34 (6.6%); Hoosiers under the age of 18 had the lowest percentage (1.2%) (see Figure 8.11) (Substance Abuse and Mental Health Data Archive, n.d.).

For county-level treatment data, see Appendix 8A, page 137.

Figure 8.8 Percentage of Treatment Episodes with Meth Dependence Reported at Treatment Admission in Indiana and the United States (Treatment Episode Data Set, 2000–2008)

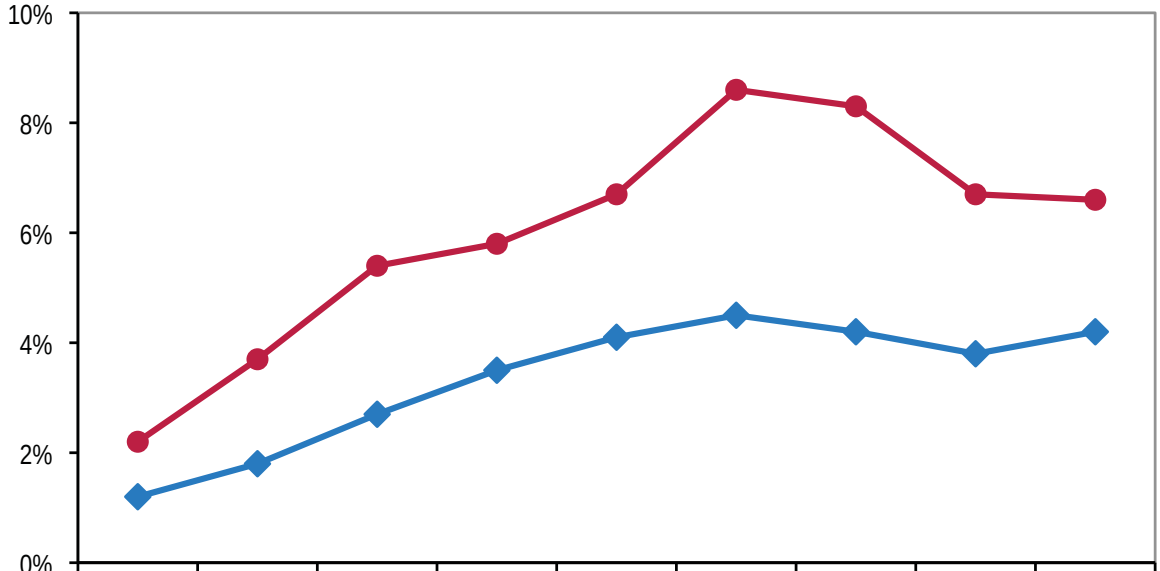


	2000	2001	2002	2003	2004	2005	2006	2007	2008
Indiana	1.5%	2.4%	3.5%	4.2%	5.0%	5.9%	5.6%	4.8%	5.0%
U.S.	3.8%	4.5%	5.5%	6.2%	6.9%	8.2%	8.4%	7.6%	6.1%

Source: Substance Abuse and Mental Health Data Archive, n.d.

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

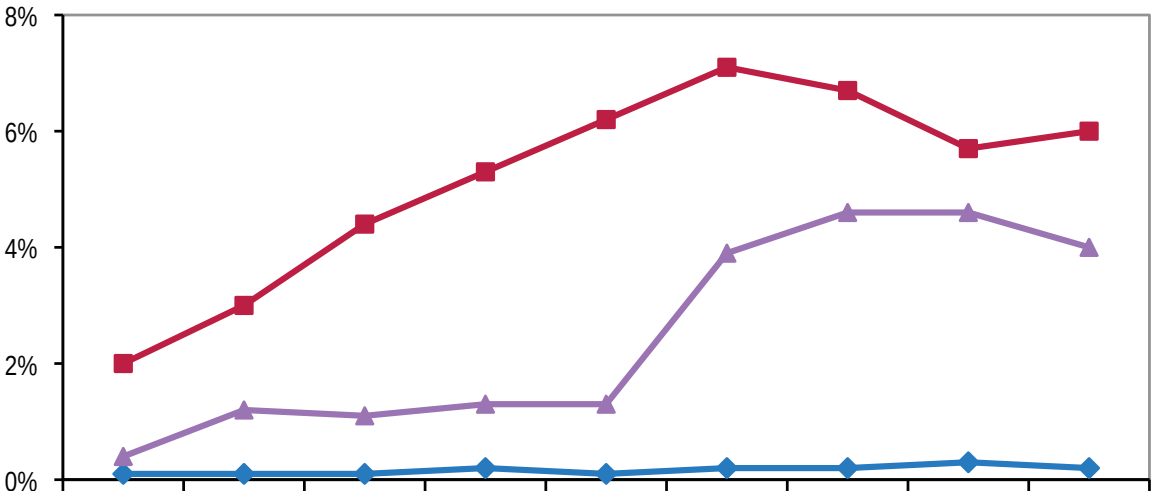
Figure 8.9 Percentage of Treatment Episodes with Meth Dependence Reported at Treatment Admission in Indiana, by Gender (Treatment Episode Data Set, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Male	1.2%	1.8%	2.7%	3.5%	4.1%	4.5%	4.2%	3.8%	4.2%
Female	2.2%	3.7%	5.4%	5.8%	6.7%	8.6%	8.3%	6.7%	6.6%

Source: Substance Abuse and Mental Health Data Archive, n.d.

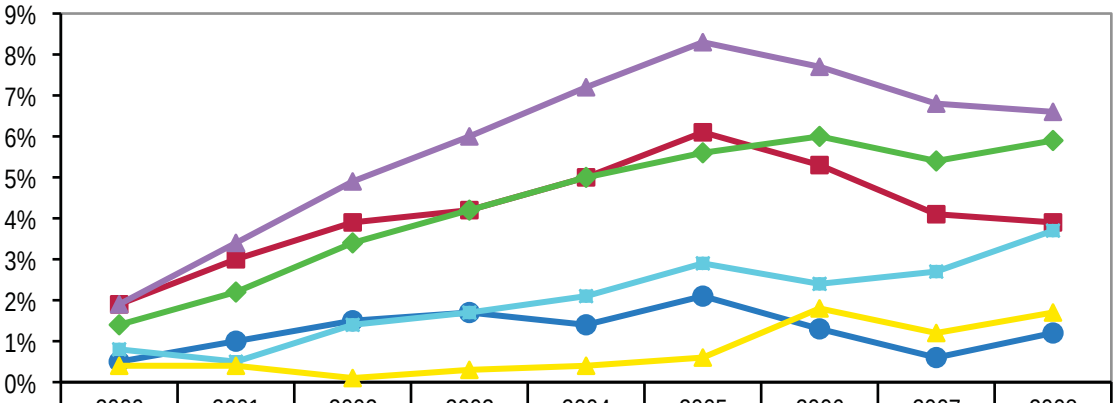
Figure 8.10 Percentage of Treatment Episodes with Meth Dependence Reported at Treatment Admission in Indiana, by Race (Treatment Episode Data Set, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Black	0.1%	0.1%	0.1%	0.2%	0.1%	0.2%	0.2%	0.3%	0.2%
White	2.0%	3.0%	4.4%	5.3%	6.2%	7.1%	6.7%	5.7%	6.0%
Other	0.4%	1.2%	1.1%	1.3%	1.3%	3.9%	4.6%	4.6%	4.0%

Source: Substance Abuse and Mental Health Data Archive, n.d.

Figure 8.11 Percentage of Treatment Episodes with Meth Dependence Reported at Treatment Admission in Indiana, by Age Group (Treatment Episode Data Set, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Under 18	0.5%	1.0%	1.5%	1.7%	1.4%	2.1%	1.3%	0.6%	1.2%
18 to 24	1.9%	3.0%	3.9%	4.2%	5.0%	6.1%	5.3%	4.1%	3.9%
25 to 34	1.9%	3.4%	4.9%	6.0%	7.2%	8.3%	7.7%	6.8%	6.6%
35 to 44	1.4%	2.2%	3.4%	4.2%	5.0%	5.6%	6.0%	5.4%	5.9%
45 to 54	0.8%	0.5%	1.4%	1.7%	2.1%	2.9%	2.4%	2.7%	3.7%
55 and over	0.4%	0.4%	0.1%	0.3%	0.4%	0.6%	1.8%	1.2%	1.7%

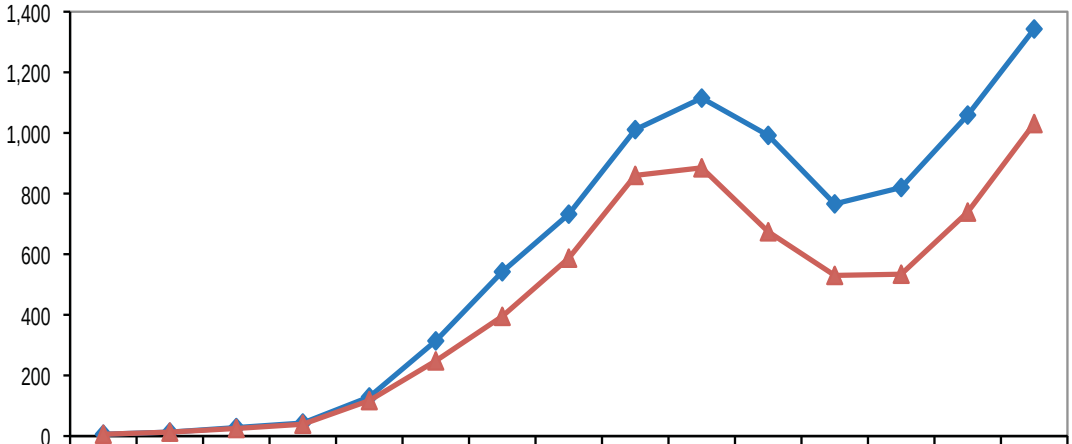
Source: Substance Abuse and Mental Health Data Archive, n.d.

Criminal Consequences

According to the U.S. Drug Enforcement Administration (DEA), Indiana has become an area of high drug trafficking and distribution. Methamphetamine manufactured in Mexico and the southwestern states is increasingly being transported into Indiana. In 2009, 9.7 kilograms (21.4 pounds) of meth were seized in the state. Meth labs in Indiana are typically "small, toxic laboratories, usually constructed in barns or residential homes," that produce higher purity (30% to 80%) meth, but do not generate large quantities for distribution (U.S. Drug Enforcement Administration, 2009).

From January 1 to December 31, 2009, the Indiana State Police (ISP) seized 1,343 clandestine methamphetamine labs and made 1,031 meth lab arrests in the state, which is the highest number of lab seizures and resulting arrests since 1995 (see Figure 8.12) (Indiana State Police, 2010). Map 8.1 (page 141) shows the number of meth labs seized by ISP in each county in 2009.

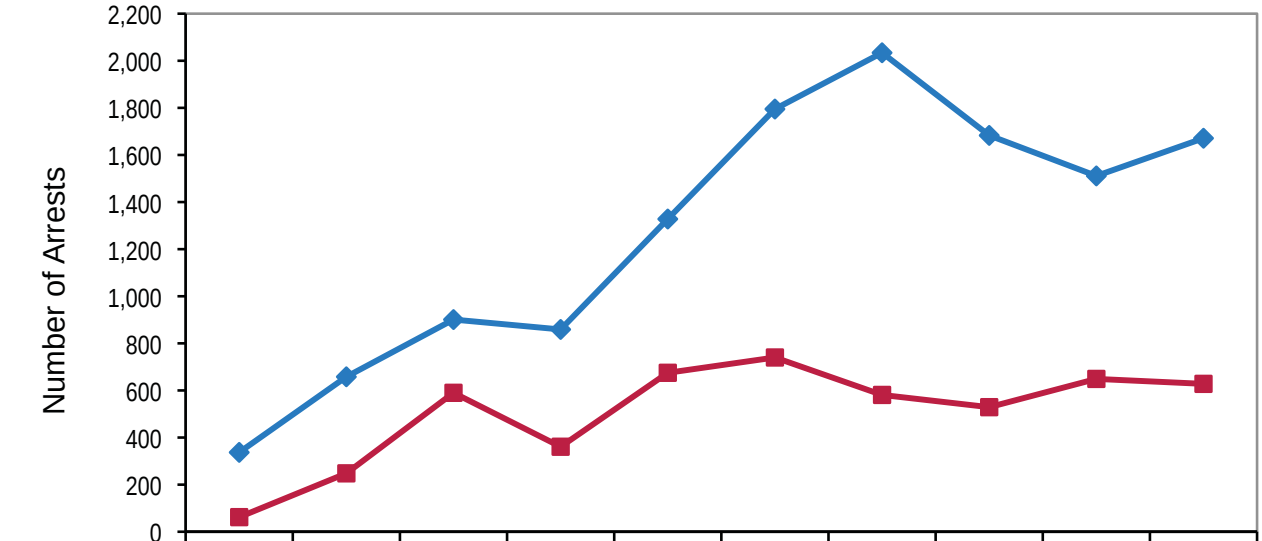
Figure 8.12 Number of Clandestine Methamphetamine Labs Seized and Number of Arrests Made at Methamphetamine Labs by the Indiana State Police (Indiana Meth Lab Statistics, 1995–2009)



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Number of Lab Seizures	6	13	28	43	129	314	542	732	1,011	1,115	992	766	820	1,059	1,343
Number of Arrests	6	13	25	39	117	248	395	587	860	885	674	530	534	739	1,031

Source: Indiana State Police, 2010

Figure 8.13 Number of Arrests for Synthetic Drug Possession and Sale/Manufacture in Indiana (Uniform Crime Reporting Program, 1999–2008)



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Possession	337	658	901	859	1,328	1,795	2,034	1,683	1,511	1,671
Sale	62	248	590	361	675	740	581	529	649	628

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

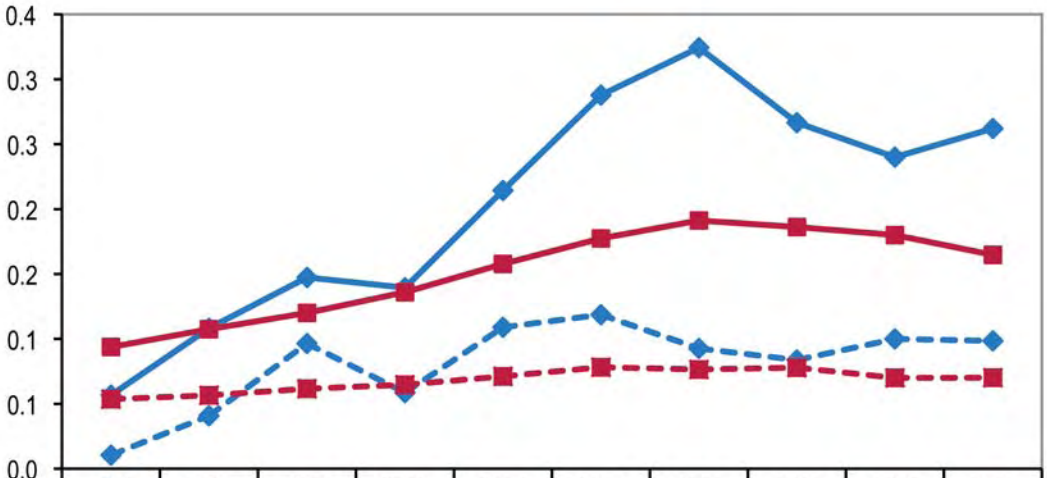
Meth is classified as a synthetic stimulant. The Uniform Crime Reporting (UCR) Program describes crimes associated with synthetic drug possession and sale (i.e., Part II offense data from the UCR). Substances defined as "synthetic" include a number of drugs in addition to methamphetamine, such as Demerol and methadone (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.). According to 2008 results, almost 1,700 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, 628 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 142 and 143), and Appendix 8C (pages 139-140) 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 20.)

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, 2008). 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 185 in 2009 (see Figure 8.15) (Indiana State Police, 2010).

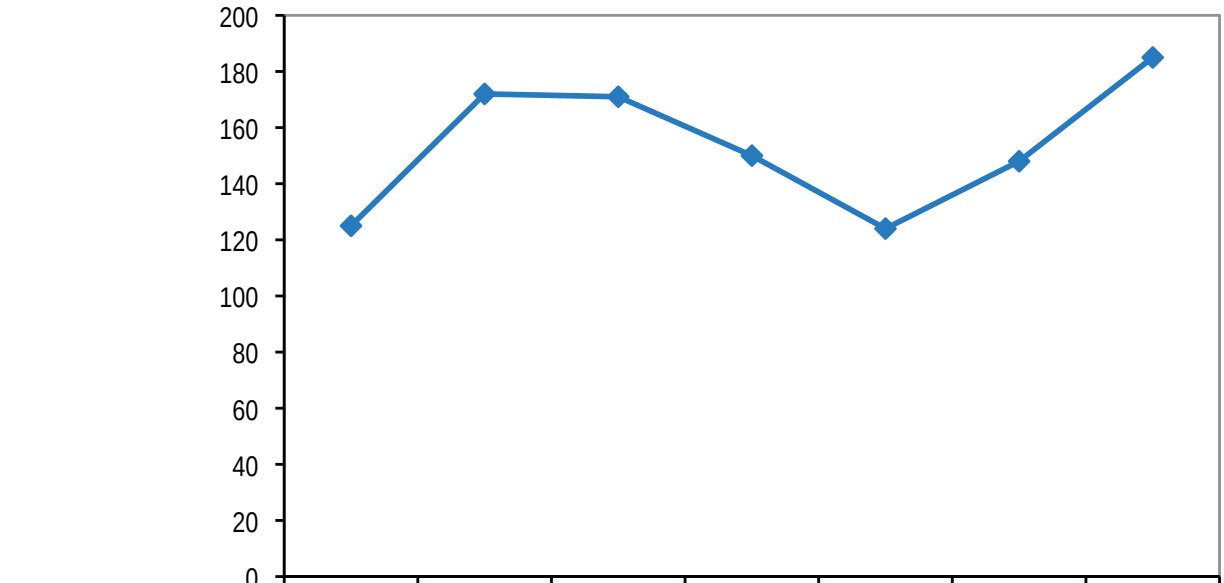
Figure 8.14 Arrest Rates for Synthetic Drug Possession and Sale/Manufacture per 1,000 Population, Indiana and United States (Uniform Crime Reporting Program, 1999–2008)



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
IN Possession	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.2	0.3
U.S. Possession	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
IN Sale	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
U.S. Sale	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

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

Figure 8.15 Number of Indiana Children Taken by the Indiana State Police from Methamphetamine Lab Homes (Indiana Meth Lab Statistics, 2003–2009)



	2003	2004	2005	2006	2007	2008	2009
Number of Children	125	172	171	150	124	148	185

Source: Indiana State Police, 2010

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, 2009)

	Treatment Episodes	Meth Use		Meth Dependence	
County	**Total**	**Number**	**%**	**Number**	**%**
Adams	131	<5	N/A	<5	N/A
Allen	1,971	40	2.0%	19	1.0%
Bartholomew	327	80	24.5%	61	18.7%
Benton	20	<5	N/A	<5	N/A
Blackford	141	<5	N/A	<5	N/A
Boone	205	8	3.9%	<5	N/A
Brown	72	6	8.3%	<5	N/A
Carroll	83	15	18.1%	<5	N/A
Cass	144	9	6.3%	<5	N/A
Clark	512	27	5.3%	15	2.9%
Clay	199	56	28.1%	23	11.6%
Clinton	82	<5	N/A	<5	N/A
Crawford	53	9	17.0%	<5	N/A
Daviess	247	77	31.2%	41	16.6%
Dearborn	259	6	2.3%	<5	N/A
Decatur	77	6	7.8%	<5	N/A
DeKalb	221	49	22.2%	33	14.9%
Delaware	873	6	0.7%	<5	N/A
Dubois	261	46	17.6%	17	6.5%
Elkhart	893	71	8.0%	42	4.7%
Fayette	54	<5	N/A	<5	N/A
Floyd	168	8	4.8%	<5	N/A
Fountain	67	11	16.4%	<5	N/A
Franklin	36	<5	N/A	<5	N/A
Fulton	144	17	11.8%	8	5.6%
Gibson	118	38	32.2%	25	21.2%
Grant	481	6	1.2%	<5	N/A
Greene	170	32	18.8%	15	8.8%
Hamilton	698	9	1.3%	<5	N/A
Hancock	126	<5	N/A	<5	N/A
Harrison	53	10	18.9%	6	11.3%
Hendricks	314	19	6.1%	13	4.1%
Henry	118	<5	N/A	<5	N/A
Howard	666	56	8.4%	32	4.8%
Huntington	64	<5	N/A	<5	N/A
Jackson	147	35	23.8%	20	13.6%
Jasper	43	<5	N/A	<5	N/A
Jay	66	8	12.1%	<5	N/A
Jefferson	185	15	8.1%	12	6.5%
Jennings	147	34	23.1%	18	12.2%
Johnson	325	13	4.0%	7	2.2%
Knox	368	124	33.7%	79	21.5%
Kosciusko	213	43	20.2%	25	11.7%
LaGrange	167	56	33.5%	31	18.6%
Lake	2,554	10	0.4%	<5	N/A
LaPorte	633	<5	N/A	<5	N/A
Lawrence	372	30	8.1%	22	5.9%
Madison	895	22	2.5%	7	0.8%
Marion	4,339	81	1.9%	32	0.7%
Marshall	228	39	17.1%	25	11.0%
Martin	95	25	26.3%	14	14.7%
Miami	169	19	11.2%	9	5.3%
Monroe	1,376	68	4.9%	48	3.5%
Montgomery	188	22	11.7%	10	5.3%
Morgan	472	50	10.6%	40	8.5%
Newton	16	<5	N/A	<5	N/A
Noble	324	116	35.8%	61	18.8%
Ohio	14	<5	N/A	<5	N/A
Orange	83	11	13.3%	5	6.0%
Owen	267	49	18.4%	36	13.5%
Parke	119	35	29.4%	24	20.2%
Perry	149	31	20.8%	12	8.1%
Pike	42	10	23.8%	6	14.3%
Porter	477	7	1.5%	6	1.3%
Posey	162	41	25.3%	20	12.3%
Pulaski	43	6	14.0%	<5	N/A
Putnam	142	14	9.9%	8	5.6%
Randolph	82	<5	N/A	<5	N/A
Ripley	85	5	5.9%	<5	N/A
Rush	49	<5	N/A	<5	N/A
Saint Joseph	1,376	48	3.5%	16	1.2%
Scott	101	16	15.8%	9	8.9%
Shelby	107	<5	N/A	<5	N/A
Spencer	146	40	27.4%	16	11.0%
Starke	180	15	8.3%	12	6.7%
Steuben	115	20	17.4%	9	7.8%
Sullivan	99	33	33.3%	18	18.2%
Switzerland	55	<5	N/A	<5	N/A
Tippecanoe	473	36	7.6%	12	2.5%
Tipton	51	<5	N/A	<5	N/A
Union	25	<5	N/A	<5	N/A
Vanderburgh	1,664	355	21.3%	176	10.6%
Vermillion	136	22	16.2%	15	11.0%
Vigo	1,009	382	37.9%	235	23.3%
Wabash	181	7	3.9%	<5	N/A
Warren	23	7	30.4%	<5	N/A
Warrick	344	119	34.6%	68	19.8%
Washington	91	8	8.8%	6	6.6%
Wayne	384	7	1.8%	<5	N/A
Wells	141	<5	N/A	<5	N/A
White	163	22	13.5%	11	6.7%
Whitley	101	8	7.9%	<5	N/A
Indiana	**32,049**	**2,924**	**9.1%**	**1,606**	**5.0%**

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, 2010

APPENDIX 8B

Percentage of Indiana Students Reporting Lifetime, Annual, and Monthly Methamphetamine Use, by Region and Grade (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2010)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Lifetime	0.5	0.4	0.6	0.2	0.5	0.5	0.5	0.2	0.9
	Monthly	0.3	0.3	0.4	0.0	0.3	0.4	0.3	0.3	0.5
7th Grade	Lifetime	0.9	1.3	0.6	0.2	0.7	0.7	0.9	0.7	1.6
	Monthly	0.5	0.7	0.2	0.0	0.4	0.4	0.6	0.3	1.2
8th Grade	Lifetime	1.5	2.1	1.3	1.7	1.5	1.5	1.4	1.3	1.5
	Monthly	0.8	1.1	0.7	0.6	0.8	0.7	0.8	0.5	0.8
9th Grade	Lifetime	2.0	1.8	1.8	1.6	2.4	1.8	2.4	2.0	2.4
	Monthly	0.9	1.0	0.7	0.9	0.9	0.7	1.0	1.1	1.2
10th Grade	Lifetime	2.2	2.2	2.0	2.5	2.2	2.2	1.9	2.6	2.3
	Monthly	1.0	1.2	1.0	1.7	1.0	0.9	0.6	1.3	1.0
11th Grade	Lifetime	2.6	3.2	2.4	3.3	2.4	2.1	2.5	2.2	3.4
	Monthly	1.2	1.4	0.9	1.1	0.9	1.0	1.4	1.2	1.7
12th Grade	Lifetime	2.5	2.7	2.4	2.9	2.3	2.3	2.8	2.8	2.5
	Monthly	1.0	1.1	1.1	0.8	1.0	1.1	1.3	0.9	0.9

Source: Indiana Prevention Resource Center, 2010

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, 2008)

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Adams	6	*0.18	2	*0.06
Allen	3	*0.01	10	*0.03
Bartholomew	159	2.13	21	0.28
Benton	2	*0.23	1	*0.11
Blackford	11	*0.85	3	*0.23
Boone	7	*0.13	1	*0.02
Brown	2	*0.14	0	*0.00
Carroll	4	*0.20	2	*0.10
Cass	5	*0.13	2	*0.05
Clark	65	0.61	32	0.30
Clay	22	0.83	12	*0.45
Clinton	7	*0.21	1	*0.03
Crawford	3	*0.28	1	*0.09
Daviess	25	0.83	5	*0.17
Dearborn	2	*0.04	1	*0.02
Decatur	8	*0.32	3	*0.12
DeKalb	9	*0.21	4	*0.10
Delaware	44	0.38	2	*0.02
Dubois	19	*0.46	4	*0.10
Elkhart	33	0.16	13	*0.06
Fayette	4	*0.17	1	*0.04
Floyd	12	*0.16	0	*0.00
Fountain	4	*0.23	1	*0.06
Franklin	0	*0.00	0	*0.00
Fulton	6	*0.30	2	*0.10
Gibson	24	0.73	16	*0.49
Grant	38	0.56	13	*0.19
Greene	5	*0.15	1	*0.03
Hamilton	82	0.30	2	*0.01
Hancock	18	*0.27	7	*0.10
Harrison	10	*0.27	1	*0.03
Hendricks	28	0.20	19	*0.14
Henry	7	*0.15	2	*0.04
Howard	1	*0.01	3	*0.04
Huntington	0	*0.00	0	*0.00
Jackson	22	0.52	8	*0.19
Jasper	5	*0.15	3	*0.09
Jay	4	*0.19	2	*0.09
Jefferson	10	*0.30	3	*0.09
Jennings	0	*0.00	12	*0.43
Johnson	4	*0.03	1	*0.01
Knox	10	*0.26	18	*0.48
Kosciusko	14	*0.18	8	*0.11
LaGrange	0	*0.00	0	*0.00
Lake	56	0.11	10	*0.02
LaPorte	12	*0.11	3	*0.03
Lawrence	13	*0.28	1	*0.02
Madison	31	0.24	7	*0.05
Marion	32	0.04	70	0.08

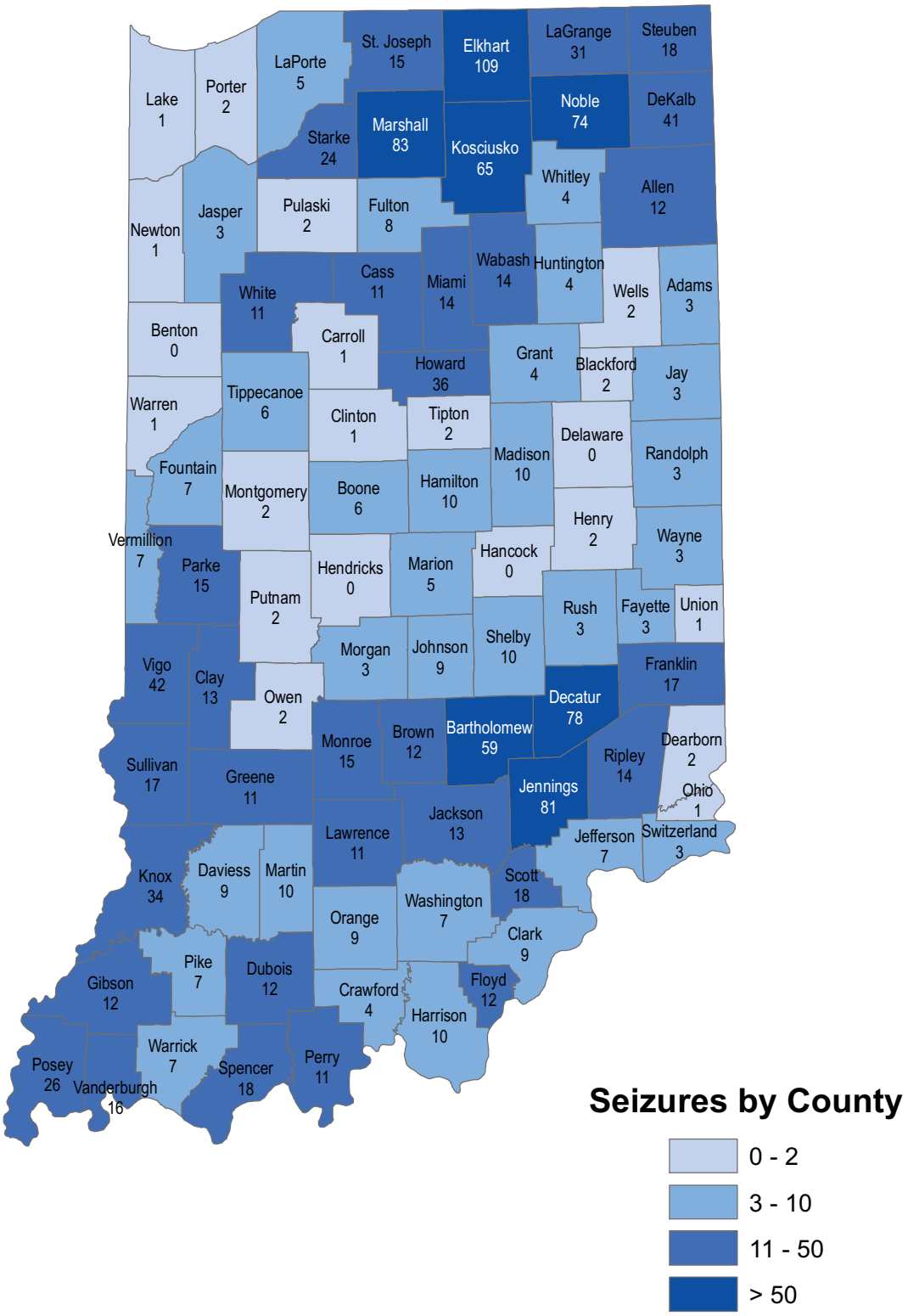
(continued on next page)

APPENDIX 8C *(Continued from previous page)*

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Marshall	33	0.70	1	*0.02
Martin	1	*0.10	0	*0.00
Miami	11	*0.30	4	*0.11
Monroe	18	*0.14	1	*0.01
Montgomery	6	*0.16	3	*0.08
Morgan	11	*0.16	5	*0.07
Newton	4	*0.29	2	*0.14
Noble	20	0.42	5	*0.10
Ohio	1	*0.17	1	*0.17
Orange	5	*0.25	2	*0.10
Owen	5	*0.22	2	*0.09
Parke	8	*0.47	7	*0.41
Perry	20	1.06	5	*0.26
Pike	3	*0.24	1	*0.08
Porter	21	0.13	10	*0.06
Posey	7	*0.27	3	*0.11
Pulaski	4	*0.29	1	*0.07
Putnam	31	0.84	9	*0.24
Randolph	7	*0.27	2	*0.08
Ripley	8	*0.28	3	*0.10
Rush	8	*0.46	1	*0.06
Saint Joseph	39	0.15	3	*0.01
Scott	21	0.88	5	*0.21
Shelby	12	*0.27	14	*0.32
Spencer	5	*0.25	2	*0.10
Starke	8	*0.34	1	*0.04
Steuben	3	*0.09	18	*0.54
Sullivan	3	*0.14	2	*0.09
Switzerland	2	*0.21	1	*0.10
Tippecanoe	113	0.68	16	*0.10
Tipton	3	*0.19	0	*0.00
Union	2	*0.28	1	*0.14
Vanderburgh	104	0.60	80	0.46
Vermillion	7	*0.43	1	*0.06
Vigo	149	1.42	31	0.30
Wabash	9	*0.28	6	*0.18
Warren	2	*0.24	1	*0.12
Warrick	47	0.82	30	0.52
Washington	5	*0.18	2	*0.07
Wayne	7	*0.10	10	*0.15
Wells	2	*0.07	0	*0.00
White	2	*0.08	0	*0.00
Whitley	6	*0.18	2	*0.06
Indiana	**1,671**	**0.26**	**628**	**0.10**

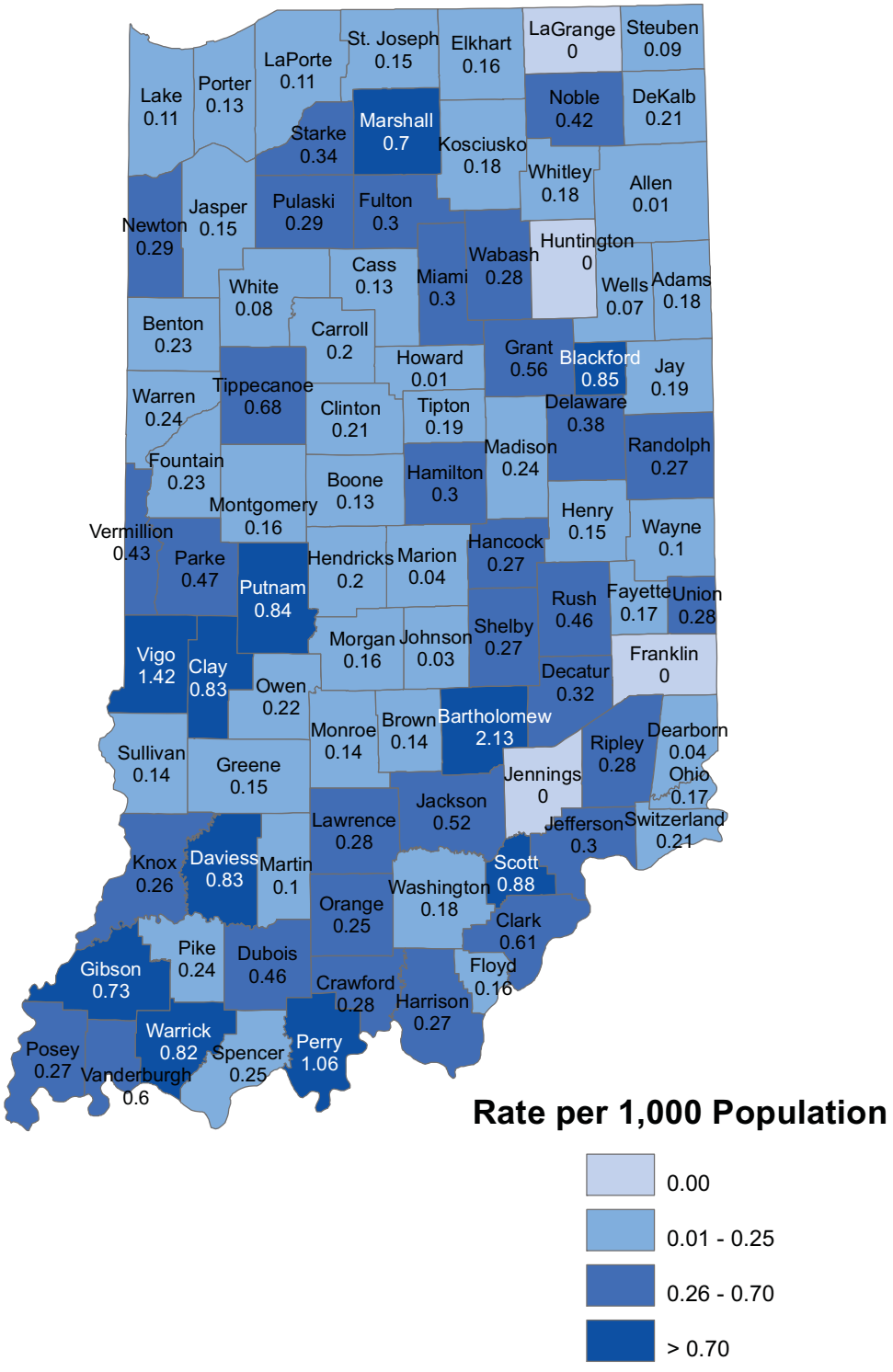
* Rates that are based on arrest numbers lower than 20 are unreliable.
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

Map 8.1 Number of Clandestine Methamphetamine Labs Seized by the Indiana State Police in Indiana, by County, (Indiana Lab Statistics, 2009)



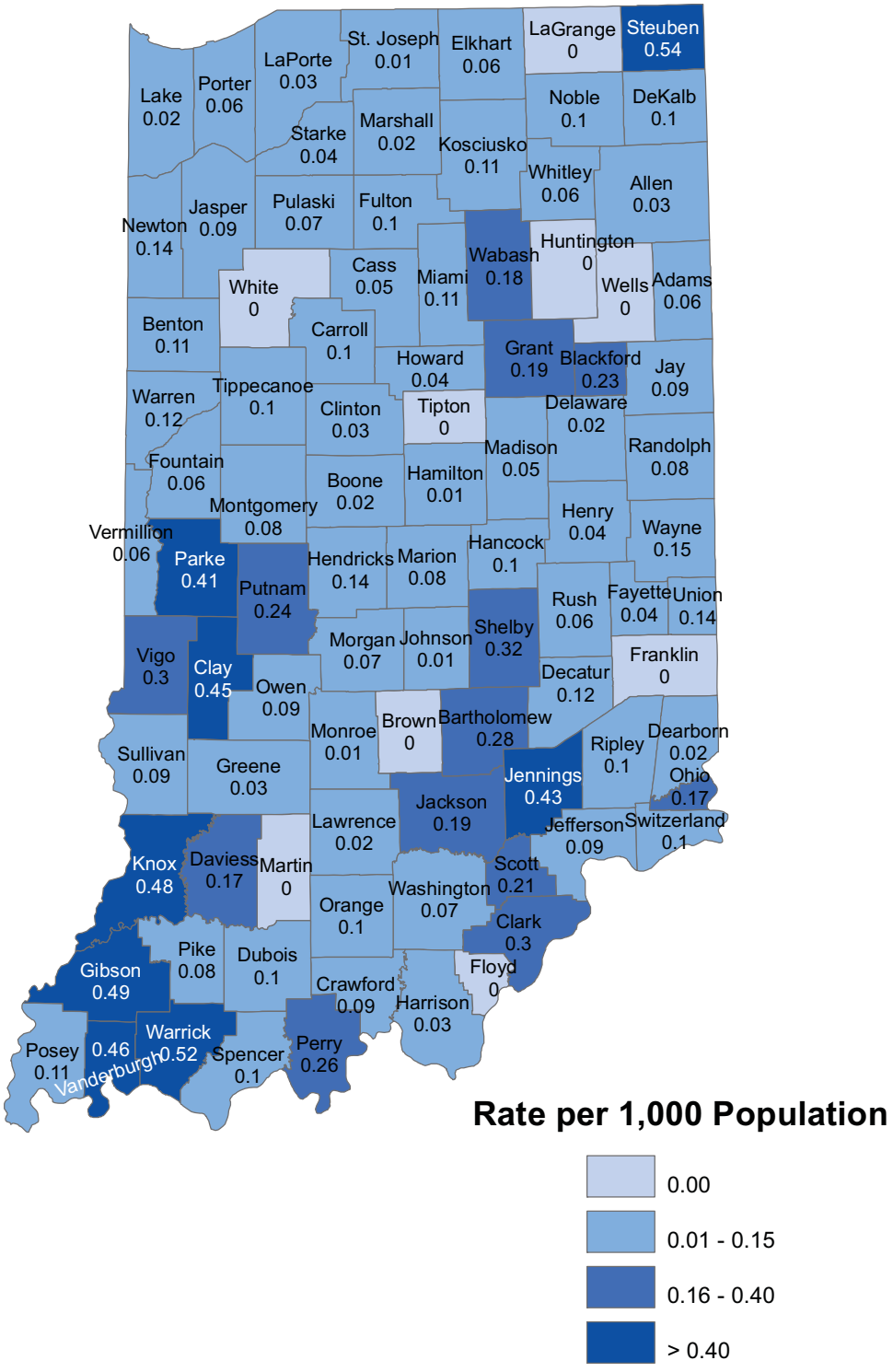
Source: Indiana State Police, 2010

Map 8.2 Arrest Rates for Synthetic Drug Possession, per 1,000 Population, in Indiana, by County (Uniform Crime Reporting Program, 2008)



Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 8C (pages 139-140) for additional information.
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

Map 8.3 Arrest Rates for Synthetic Drug Sale/Manufacture, per 1,000 Population, in Indiana, by County (Uniform Crime Reporting Program, 2008)



Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 8C (pages 139-140) for additional information.
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

REFERENCES, CHAPTER 8

Centers for Disease Control and Prevention. (n.d.). *Youth Risk Behavior Surveillance System.* Retrieved September 1, 2010, from http://www.cdc.gov/HealthyYouth/yrbs/index.htm

Indiana Family and Social Services Administration, Revenue Enhancement and Data. (2010). *Substance abuse population by county, 2009.* Indianapolis, IN: Indiana Family and Social Services Administration.

Indiana Prevention Resource Center. (2010). *Alcohol, tobacco, and other drug use by Indiana children and adolescents.* Retrieved September 13, 2010, from http://www.drugs.indiana.edu/data-survey_monograph.html

Indiana State Police. (2010). *2009 ISP lab stats.* Received February 3, 2010, from Niki Crawford, First Sergeant Commander, Methamphetamine Suppression Section, in an e-mail to the Indiana University Center for Health Policy.

Inter-university Consortium for Political and Social Research, University of Michigan. (n.d.). *Monitoring the Future.* Retrieved September 15, 2010, from http://www.monitoringthefuture.org/data/data.html

National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan. (n.d.). *Uniform Crime Reporting Program.* Available at http://www.icpsr.umich.edu/NACJD/

National Drug Intelligence Center. (2002). *Information bulletin: Children at risk.* Retrieved October 19, 2010, from http://www.usdoj.gov/ndic/pubs1/1466/1466p.pdf

National Institute on Drug Abuse. (2002). *Research report series: Methamphetamine abuse and addiction.* Retrieved October 19, 2010, from http://www.nida.nih.gov/ResearchReports/Methamph/Methamph.html

National Institute on Drug Abuse. (2008). *NIDA InfoFacts: Methamphetamine.* Retrieved October 19, 2010, from http://www.nida.nih.gov/pdf/infofacts/Methamphetamine08.pdf

Office of National Drug Control Policy. (n.d.). *Methamphetamine.* Retrieved October 19, 2010, from http://www.whitehousedrugpolicy.gov/drugfact/methamphetamine/

State Epidemiology and Outcomes Workgroup. (2008). *Indiana household survey on substance abuse.* Administered by the Survey Research Center at Indiana University-Purdue University Indianapolis.

Substance Abuse and Mental Health Data Archive. (n.d.). *Treatment Episode Data Set - Admissions (TEDS-A), 2008.* Available at http://webapp.icpsr.umich.edu/cocoon/SAMHDA/STUDY/24280.xml

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (n.d.). *National Survey on Drug Use and Health.* Retrieved September 15, 2010, from https://nsduhweb.rti.org/

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (2006). *The NSDUH Report: State estimates of past year methamphetamine use.* Retrieved October 19, 2010, from http://oas.samhsa.gov/2k6/stateMeth/stateMeth.htm

U.S. Drug Enforcement Administration. (2009). *Indiana 2009.* Retrieved October 7, 2010, from http://www.usdoj.gov/dea/pubs/state_factsheets/indiana.html

9. Prescription Drug Abuse in Indiana: Consumption Patterns and Consequences

Abuse of prescription drugs[1] is a serious and growing public health problem in the United States. According to the National Survey on Drug Use and Health (NSDUH), in 2009 almost 52 million Americans (20.6%) ages 12 years and older reported nonmedical use[2] 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, n.d.). 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 dextroamphetamine (Dexedrine® and Adderall®) and methylphenidate (Ritalin® and Concerta®) (National Institute on Drug Abuse, 2005; Office of National Drug Control Policy, n.d.).

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 2008, more than 11.6 million prescription drugs were dispensed in Indiana; most of these pharmaceuticals (11.5 million) were purchased by Indiana residents, while the rest were distributed to out-of-state consumers. The most widely dispensed prescription drug categories were opioids (53.2%), depressants of the central nervous system (30.9%) and stimulants (9.9%) (Indiana Board of Pharmacy, 2010).

The number and percentage of prescriptions dispensed in Indiana were tabulated by both gender and age group (information on race/ethnicity was not collected), and statistically significant differences were found (see Table 9.1):

Table 9.1 Percentage of Controlled Substance Prescriptions Dispensed in Indiana in 2008, by Gender and Age Group (INSPECT, 2008)

		Opioid Pain Relievers	CNS Depressants	Stimulants
Gender	Male	54.6%	25.7%	13.7%
	Female	52.3%	34.3%	7.4%
Age Group	Under 18	23.3%	5.7%	68.6%
	18 to 25	61.6%	17.6%	17.3%
	26 to 35	61.2%	27.1%	7.4%
	36 to 45	56.0%	32.1%	6.1%
	46 to 55	54.3%	34.6%	4.3%
	56 to 65	53.4%	35.9%	2.9%
	66 and over	52.4%	39.3%	1.1%
Total		**53.2%**	**30.9%**	**9.9%**

Source: Indiana Board of Pharmacy, 2010

[1]Throughout the report, the term "prescription drugs" refers to controlled substances (schedules II-V) that are being prescribed by a health-care 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 prescribed by a healthcare professional.
[3]Indiana rates are based on annual NSDUH averages from 2002 through 2004.

Gender—A higher percentage of males than females received opioids and stimulants, while the opposite was true regarding CNS depressants.

Age—Dispensation of opioids was highest in young adults ages 18 to 35; dispensation increased by age for CNS depressants and decreased by age for stimulants (Indiana Board of Pharmacy, 2010).

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 155-156.

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 9.2) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

Based on 2008 NSDUH results, an estimated 6.0% (95% Confidence Interval [CI]: 5.0–7.3) of the Indiana population ages 12 and older (or 315,000 residents) reported nonmedical use of pain relievers in the past year (U.S.: 4.9); the difference between Indiana and the nation was statistically significant.

During January 1, 2007, through June 30, 2008, close to 63 million dosage units of oxycodone (pain reliever) were purchased by retail registrants (pharmacies, hospitals, and practitioners) in Indiana. This represents a per capita rate of 9.9 dosage units for the 18-month period (U.S. Drug Enforcement Administration, 2008). For county-level rates, see Map 9.1, page 165.

Adult Consumption Patterns

According to 2008 NSDUH results, young people ages 18 through 25 had the highest rate of prescription pain medication abuse. Indiana's past-year usage rate of 14.2% (95% CI: 11.8–16.9), or 96,000 residents, was statistically similar to the nation's rate (12.1%) (see Figure 9.1).

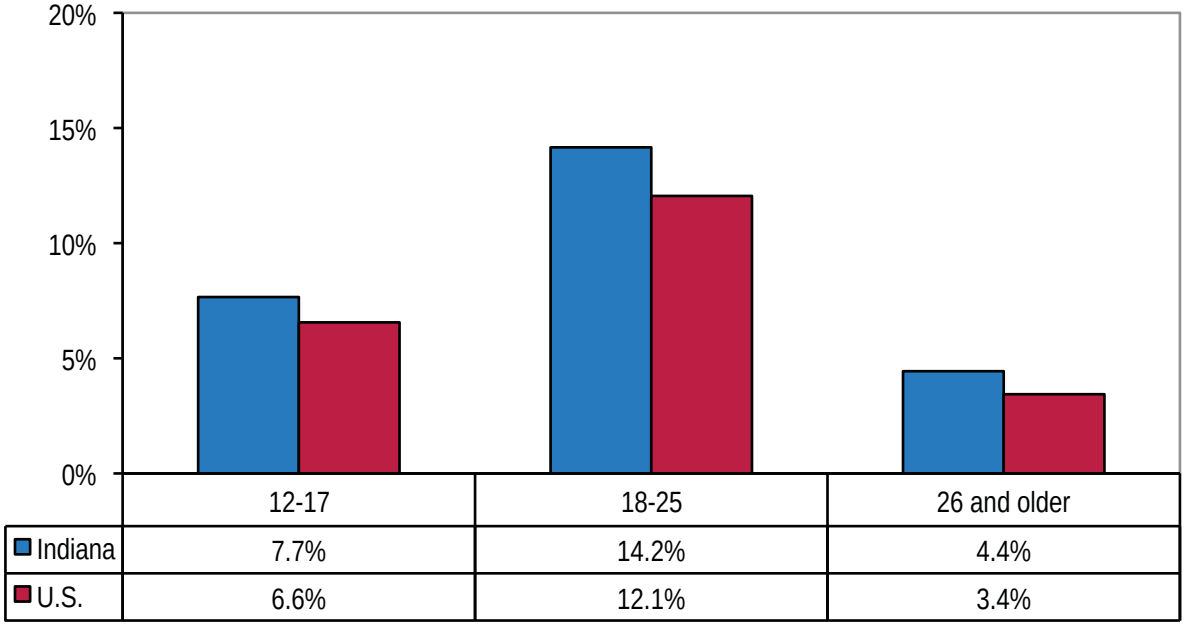
Table 9.2 Lifetime, Past-Year, and Past-Month Nonmedical Use of Psychotherapeutics, Indiana[4] and United States[5] (National Survey on Drug Use and Health)

	Lifetime Misuse		Past-Year Misuse		Past-Month Misuse	
	Indiana	U.S.	Indiana	U.S.	Indiana	U.S.
All Psychotherapeutics	20.7%	20.6%	7.6%	6.4%	2.7%	2.8%
Pain Relievers	15.0%	13.9%	6.1%	4.9%	2.0%	2.1%
OxyContin	2.5%	2.3%	0.8%	0.7%	0.3%	0.2%
Tranquilizers	9.1%	8.6%	2.8%	2.2%	0.8%	0.8%
Sedatives	3.9%	3.4%	0.4%	0.3%	0.1%	0.1%
Stimulants	8.3%	8.7%	1.7%	1.2%	0.8%	0.5%

Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.

[4]Indiana rates are based on annual NSDUH averages from 2002 through 2004.
[5]U.S. rates are based on 2009 NSDUH survey results.

Figure 9.1 Prevalence of Past-Year Pain Reliever Use in Indiana and the United States, by Age Group (National Survey on Drug Use and Health, 2008)



Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.

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 9.3). 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).

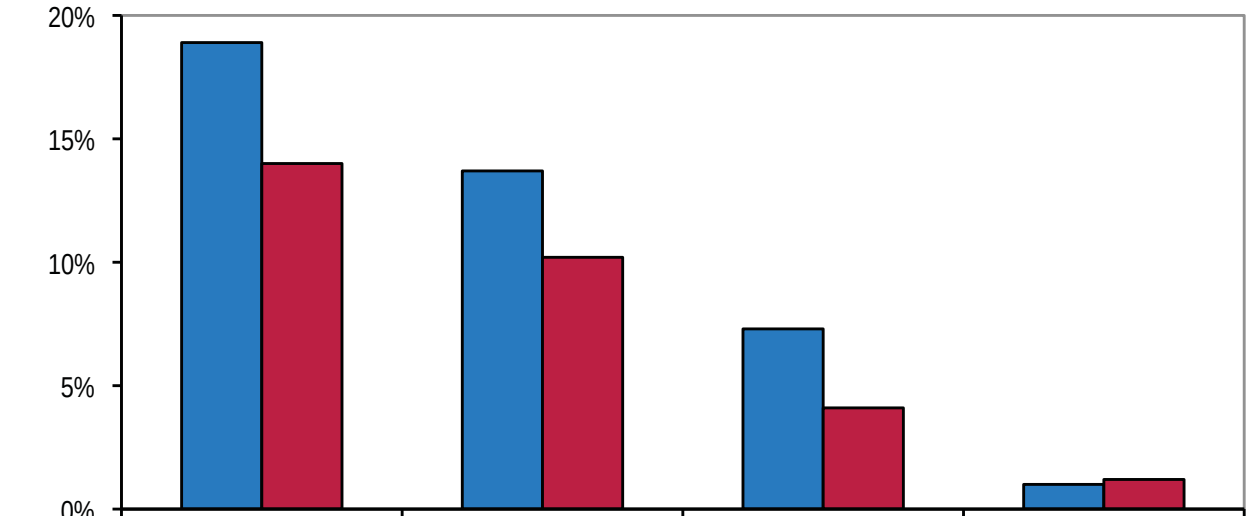
Table 9.3 Prevalence Estimates for Nonmedical Use of Prescription Medication among Adults in Indiana (Indiana Household Survey on Substance Abuse, 2008)

		Lifetime Use	Past-Year Use	Past-Month Use
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

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),[6] CNS depressants (sedatives and tranquilizers),[7] and stimulants[8] at the time of admission to substance abuse treatment (Substance Abuse and Mental Health Data Archive, n.d.). Overall reported use of these drug categories in 2008, when combined, was 18.9% in Indiana, which was significantly higher than the nation's rate of 14.0%. 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 9.2).

Figure 9.2 Percentage of Indiana and U.S. Treatment Episodes with Nonmedical Prescription Drug Use Reported at Treatment Admission, by Drug Category (Treatment Episode Data Set, 2008)



	All Prescription Drugs	Pain Relievers	Sedatives & Tranquilizers	Stimulants
Indiana	18.9%	13.7%	7.3%	1.0%
U.S.	14.0%	10.2%	4.1%	1.2%

Source: Substance Abuse and Mental Health Data Archive, n.d.

In Indiana, significant differences in reported prescription drug abuse were seen by gender, race, and age group (see Table 9.4) (Substance Abuse and Mental Health Data Archive, n.d.):

- **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.

[6]We used TEDS variables "nonprescription methadone" and "other opiates/synthetics" to define pain reliever use.
[7]We used TEDS variables "benzodiazepines," "other tranquilizers," "barbiturates," and "other sedatives/hypnotics" to define CNS depressant use.
[8]We used TEDS variables "other amphetamines" and "other stimulants" to define stimulant use.

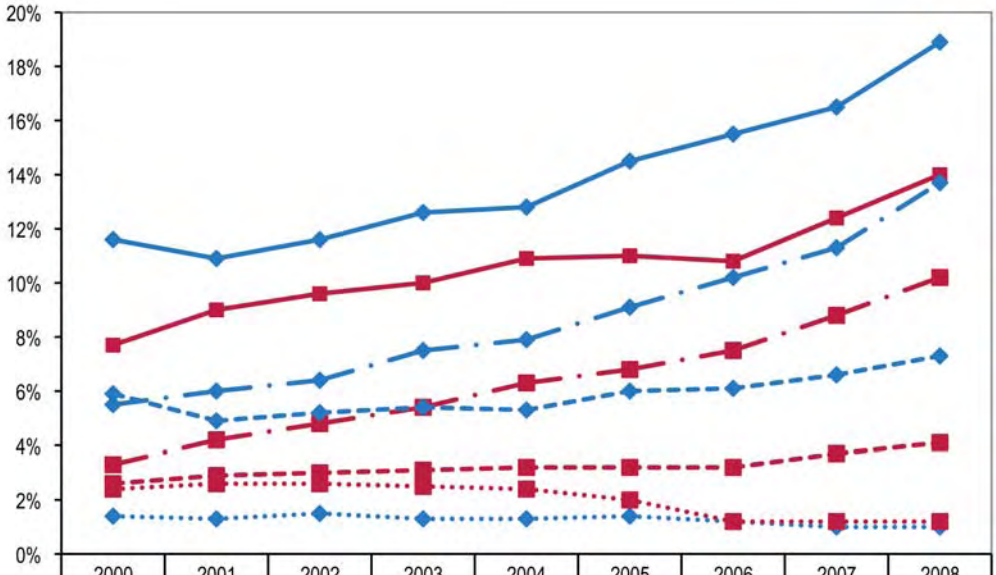
Table 9.4 Percentage of Indiana and U.S. Treatment Episodes with Nonmedical Prescription Drug Use Reported at Treatment Admission, by Drug Category, Gender, Race, and Age Group (Treatment Episode Data Set, 2008)

		All Prescription Drugs	Pain Relievers	Sedatives/Tranquilizers	Stimulants
Gender	Male	15.3%	11.0%	5.6%	0.8%
	Female	26.5%	19.3%	10.8%	1.4%
Race	White	22.5%	16.3%	8.6%	1.1%
	Black	4.6%	2.8%	1.7%	0.5%
	Other	11.5%	8.1%	4.7%	0.7%
Age Group	Under 18	14.2%	6.6%	7.2%	1.5%
	18-24	21.7%	14.6%	9.1%	1.2%
	25-34	23.7%	18.3%	8.3%	1.1%
	35-44	14.9%	11.0%	5.4%	0.8%
	45-54	12.0%	8.8%	5.0%	0.7%
	55 and over	8.7%	6.4%	3.1%	0.5%

Source: Substance Abuse and Mental Health Data Archive, n.d.

A review of TEDS data from 2000 through 2008 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 2008 (see Figure 9.3). For county-level information, see Appendix 9B, pages 157-160.

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, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
IN: Rx	11.6%	10.9%	11.6%	12.6%	12.8%	14.5%	15.5%	16.5%	18.9%
US: Rx	7.7%	9.0%	9.6%	10.0%	10.9%	11.0%	10.8%	12.4%	14.0%
IN: Pain Reliever	5.5%	6.0%	6.4%	7.5%	7.9%	9.1%	10.2%	11.3%	13.7%
US: Pain Reliever	3.3%	4.2%	4.8%	5.4%	6.3%	6.8%	7.5%	8.8%	10.2%
IN: Sedatives/Tranquilizers	5.9%	4.9%	5.2%	5.4%	5.3%	6.0%	6.1%	6.6%	7.3%
US: Sedatives/Tranquilizers	2.6%	2.9%	3.0%	3.1%	3.2%	3.2%	3.2%	3.7%	4.1%
IN: Stimulants	1.4%	1.3%	1.5%	1.3%	1.3%	1.4%	1.2%	1.0%	1.0%
US: Stimulants	2.4%	2.6%	2.6%	2.5%	2.4%	2.0%	1.2%	1.2%	1.2%

Source: Substance Abuse and Mental Health Data Archive, n.d.

Youth Consumption Patterns

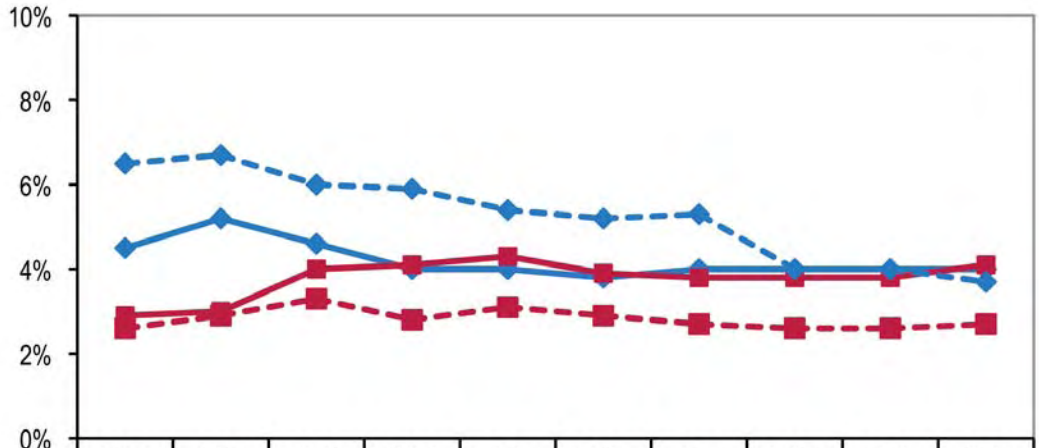
Estimates from the 2008 NSDUH suggest that 7.7% (95% CI: 6.3–9.3) of Indiana's youth ages 12 through 17 (approximately 41,000 residents) used prescription pain medications for nonmedical purposes in the past year. The national rate of prescription drug abuse by 12- to 17-year-olds was similar at 6.6% (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.)

A comparison of Indiana and U.S. consumption patterns in high school seniors from 2000 through 2009 shows that current use of tranquilizers in Indiana, even though on the decline, is still higher than in the nation. Past-month use of narcotics has been decreasing among Hoosier students since 2002 and is now similar to U.S. use (see Figure 9.4). However, due to the nature of the data, statistical significance of the results could not be ascertained.

For Indiana prevalence rates of nonmedical use (lifetime and current) of tranquilizers, prescription painkillers[9], and overall prescription drugs[10] among 12th grade students, see Table 9.5. (For regional prevalence rates, grades 6 through 12, see Appendix 9C, pages 161-162). 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 (Indiana Prevention Resource Center, 2010).

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 9.5).

Figure 9.4 Percentage of Indiana and U.S. 12th Grade Students Reporting Current Use of Narcotics and Tranquilizers (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey and Monitoring the Future Survey, 2000–2009)



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Indiana Narcotics	4.5%	5.2%	4.6%	4.0%	4.0%	3.8%	4.0%	4.0%	4.0%	4.0%
U.S. Narcotics	2.9%	3.0%	4.0%	4.1%	4.3%	3.9%	3.8%	3.8%	3.8%	4.1%
Indiana Tranquilizer	6.5%	6.7%	6.0%	5.9%	5.4%	5.2%	5.3%	4.0%	4.0%	3.7%
U.S. Tranquilizer	2.6%	2.9%	3.3%	2.8%	3.1%	2.9%	2.7%	2.6%	2.6%	2.7%

Source: Indiana Prevention Resource Center, 2010; Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

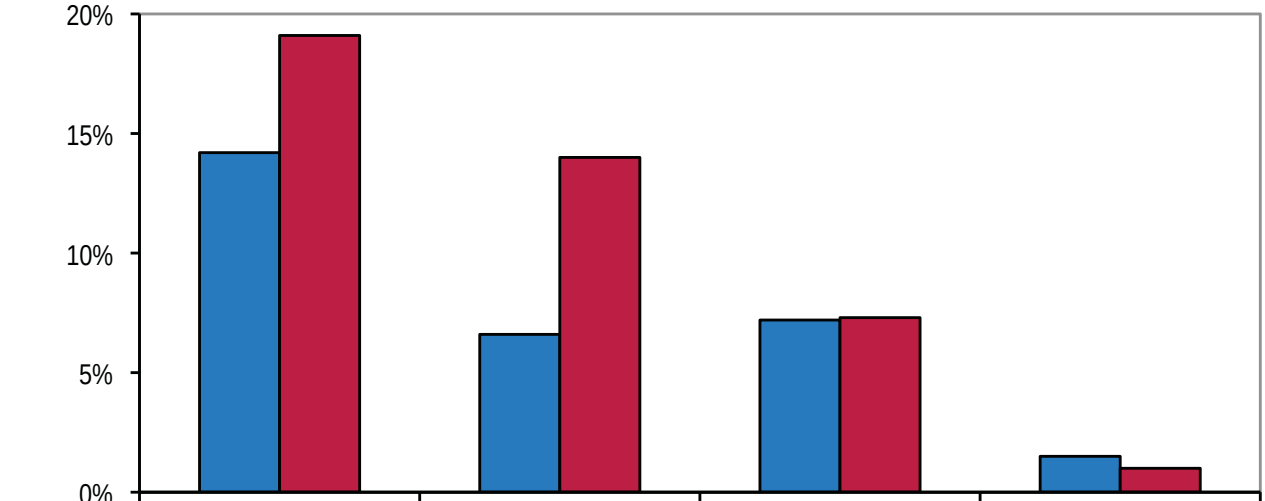
[9]Includes Vicodin®, Oxycontin®, and Percocet®.
[10]Includes Ritalin®, Adderall®, and Xanax®, but excludes painkillers.

Table 9.5 Percentage of Indiana 12th Grade Students Reporting Lifetime and Current Nonmedical Use of Tranquilizers, Prescription Painkillers, and Overall Prescription Drugs (Alcohol, Tobacco, and Other Drug Use by Indiana Children and Adolescents Survey, 2008–2010)

	Lifetime Use			Current Use		
	2008	2009	2010	2008	2009	2010
Tranquilizers	12.4%	12.0%	5.2%	4.0%	3.7%	1.8%
Prescription Painkillers	N/A	N/A	16.4%	N/A	N/A	6.3%
Prescription Drugs	11.8%	11.6%	14.6%	3.3%	3.1%	5.9%

Source: Indiana Prevention Resource Center, 2010

Figure 9.5 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, 2008)



	All Prescription Drugs	Pain Relievers	Sedatives & Tranquilizers	Stimulants
Under 18	14.2%	6.6%	7.2%	1.5%
Over 18	19.1%	14.0%	7.3%	1.0%

Source: Substance Abuse and Mental Health Data Archive, n.d.

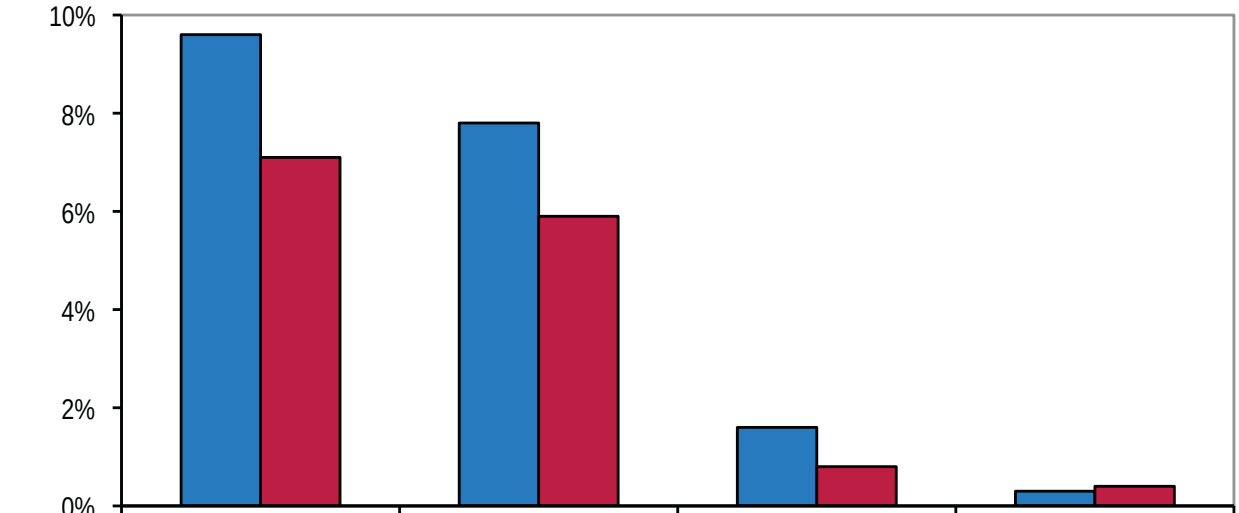
PRESCRIPTION DRUG ABUSE CONSEQUENCES

Prescription Drug Dependence

The most common consequences of prescription drug abuse are addiction and/or dependence.[11] One approach to determining whether prescription drug abuse is a growing problem both nationally and in Indiana is the TEDS dataset to track the percentage of admissions to substance abuse treatment centers that are due to pain relievers, sedatives/tranquilizers, and stimulants. In 2008, 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 9.6).

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

Figure 9.6 Percentage of Indiana and U.S. Treatment Episodes with Nonmedical Prescription Drug Dependence Reported at Treatment Admission, by Drug Category (Treatment Episode Data Set, 2008)



	All Prescription Drugs	Pain Relievers	Sedatives & Tranquilizers	Stimulants
Indiana	9.6%	7.8%	1.6%	0.3%
U.S.	7.1%	5.9%	0.8%	0.4%

Source: Substance Abuse and Mental Health Data Archive, n.d.

The percentage of treatment episodes in which prescription drug dependence was indicated varied significantly by gender, race, and age group in Indiana (see Table 9.6) (Substance Abuse and Mental Health Data Archive, n.d.):

- **Gender**—The percentage of females reporting dependence was higher than the percentage of males, across all prescription drug categories.
- **Race**—The lowest percentage of dependence was found in blacks across all prescription drug categories; the highest percentage of dependence occurred in whites, though differences in stimulant dependence were not significant.
- **Age group**—Significant differences by age category were only found for overall prescription drug dependence and pain reliever dependence.

For county-level information, see Appendix 9B, pages 157-160.

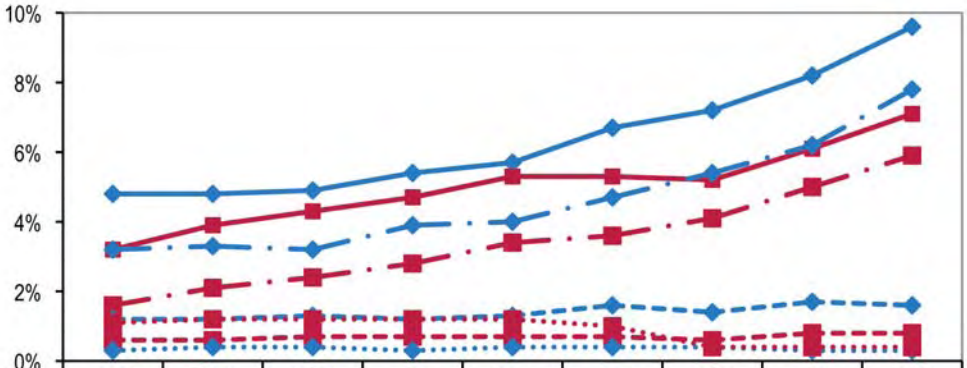
Table 9.6 Percentage of Indiana Treatment Episodes with Prescription Drug Dependence Reported at Treatment Admission, by Drug Category, Gender, Race, and Age Group (Treatment Episode Data Set, 2008)

		All Prescription Drugs	Pain Relievers	Sedatives/Tranquilizers	Stimulants
Gender	Male	7.1%	5.8%	1.1%	0.2%
	Female	14.8%	11.9%	2.5%	0.4%
Race	White	11.6%	9.4%	1.9%	0.3%
	Black	1.4%	1.0%	0.4%	0.1%
	Other	5.4%	4.5%	0.9%	0.1%
Age Group	Under 18	3.6%	1.8%	1.9%	0.0%
	18 to 24	10.0%	8.1%	1.7%	0.2%
	25 to 34	13.2%	11.2%	1.7%	0.3%
	35 to 44	7.7%	6.0%	1.3%	0.4%
	45 to 54	6.0%	4.5%	1.3%	0.2%
	55 and over	4.5%	3.3%	1.0%	0.2%

Source: Substance Abuse and Mental Health Data Archive, n.d.

A review of TEDS data from 2000 through 2008 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 9.7).

Figure 9.7 Percentage of Indiana and U.S. Treatment Episodes with Prescription Drug Dependence Reported at Treatment Admission, by Drug Category (Treatment Episode Data Set, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
IN: Rx	4.8%	4.8%	4.9%	5.4%	5.7%	6.7%	7.2%	8.2%	9.6%
U.S.: Rx	3.2%	3.9%	4.3%	4.7%	5.3%	5.3%	5.2%	6.1%	7.1%
IN: Pain Reliever	3.2%	3.3%	3.2%	3.9%	4.0%	4.7%	5.4%	6.2%	7.8%
U.S.: Pain Reliever	1.6%	2.1%	2.4%	2.8%	3.4%	3.6%	4.1%	5.0%	5.9%
IN: Sedatives/Tranquilizers	1.2%	1.2%	1.3%	1.2%	1.3%	1.6%	1.4%	1.7%	1.6%
U.S.: Sedatives/Tranquilizers	0.6%	0.6%	0.7%	0.7%	0.7%	0.7%	0.6%	0.8%	0.8%
IN: Stimulants	0.3%	0.4%	0.4%	0.3%	0.4%	0.4%	0.4%	0.3%	0.3%
U.S.: Stimulants	1.1%	1.2%	1.2%	1.2%	1.2%	1.0%	0.4%	0.4%	0.4%

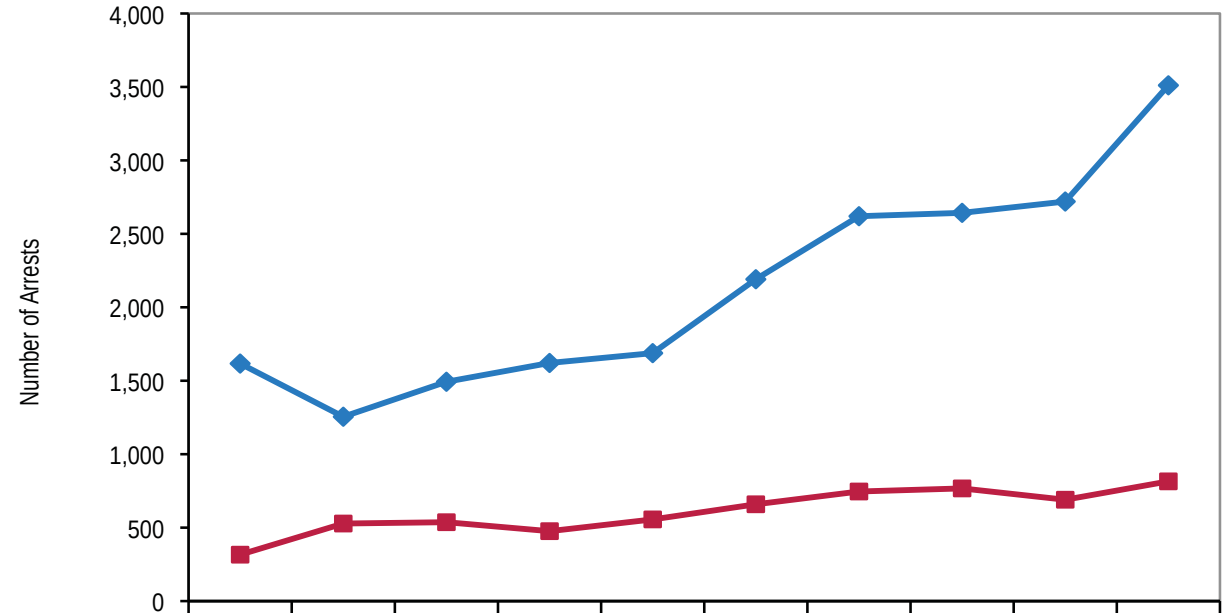
Source: Substance Abuse and Mental Health Data Archive, n.d.

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 (Office of National Drug Control Policy, n.d.).

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, n.d.). The “other drugs” category in the dataset refers to arrests involving barbiturates (sedatives) and Benzedrine (amphetamine/stimulant). In 2008, over 3,500 arrests were made for possession and over 800 arrests for sale/manufacture of “other drugs” in Indiana. This represents arrest rates of 0.6 (95% CI: 0.5–0.6) and 0.1 (95% CI: 0.1–0.1) per 1,000 population, respectively. The U.S. rates per 1,000 population were statistically higher for possession, 0.8 per 1,000 population (95% CI: 0.8–0.8), and similar for sale/manufacture of “other drugs”, 0.2 per 1,000 population (95% CI: 0.1–0.2) (see Figures 9.8 and 9.9) (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.). The distribution of arrest rates for possession and sale/manufacture in Indiana by county for 2008 is depicted on Maps 9.2 and 9.3, pages 166 and 167, and in Appendix 9D, pages 163-164.

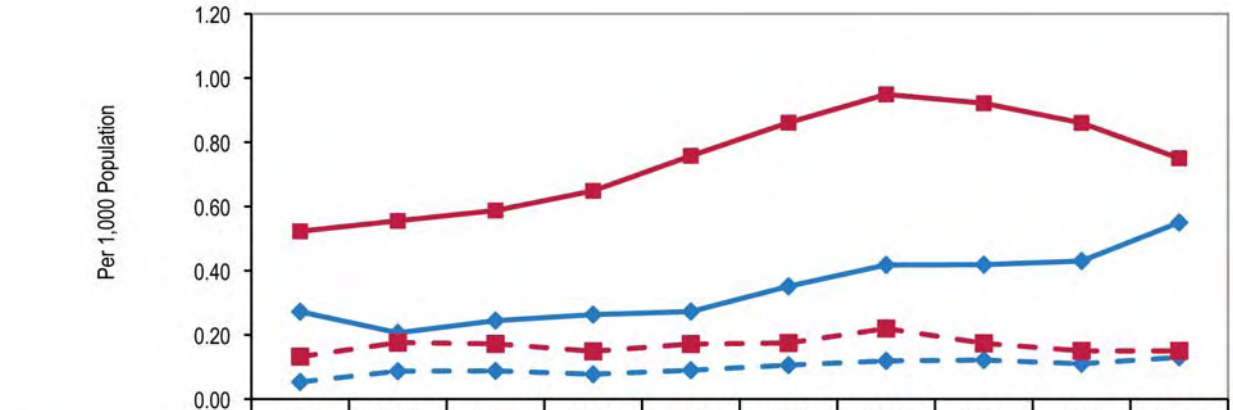
Figure 9.8 Number of Arrests for Possession and Sale/Manufacture of "Other Drugs" (Barbiturates and Benzedrine) in Indiana (Uniform Crime Reporting Program, 1999–2008)



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Possession	1,617	1,255	1,493	1,621	1,688	2,191	2,620	2,643	2,720	3,511
Sale	316	528	537	476	556	659	746	767	690	815

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

Figure 9.9 Arrest Rates, per 1,000 Population, for Possession and Sale/Manufacture of "Other Drugs" (Barbiturates and Benzedrine) in Indiana and the United States (Uniform Crime Reporting Program, 1999–2008)



	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Indiana Possession	0.3	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.6
U.S. Possession	0.5	0.6	0.6	0.6	0.8	0.9	0.9	0.9	0.9	0.8
Indiana Sale	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
U.S. Sale	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2

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

APPENDIX 9A

Number and Percentage of Prescriptions Dispensed in Indiana, by Prescription Type and by County (INSPECT Dataset, 2008)

County	Opioids	CNS Depressants	Stimulants	Total	County	Opioids	CNS Depressants	Stimulants	Total
Adams	21,659	12,444	3,439	37,542	Greene	38,549	25,822	6,349	70,720
	54.0%	31.1%	8.6%	93.7%		51.4%	34.4%	8.5%	94.3%
Allen	244,357	129,065	50,967	424,389	Hamilton	162,004	117,826	66,731	346,561
	53.5%	28.3%	11.2%	93.0%		43.2%	31.4%	17.8%	92.4%
Bartholomew	88,282	48,906	12,456	149,644	Hancock	69,641	39,468	16,032	125,141
	55.0%	30.5%	7.8%	93.3%		51.6%	29.3%	11.9%	92.8%
Benton	7,375	5,216	2,266	14,857	Harrison	42,596	20,958	5,957	69,511
	47.2%	33.4%	14.5%	95.1%		57.5%	28.3%	8.0%	93.8%
Blackford	18,154	8,465	2,437	29,056	Hendricks	104,985	64,563	21,399	190,947
	59.1%	27.6%	7.9%	94.6%		51.2%	31.5%	10.4%	93.1%
Boone	48,030	31,868	13,538	93,436	Henry	76,949	38,302	9,910	125,161
	47.5%	31.5%	13.4%	92.4%		58.2%	29.0%	7.5%	94.7%
Brown	21,178	11,865	2,652	35,695	Howard	110,940	65,390	16,540	192,870
	54.7%	30.7%	6.9%	92.3%		53.4%	31.5%	8.0%	92.9%
Carroll	13,068	9,782	2,342	25,192	Huntington	33,739	14,911	5,748	54,398
	49.1%	36.8%	8.8%	94.7%		57.6%	25.5%	9.8%	92.9%
Cass	33,423	21,107	7,476	62,006	Jackson	49,267	24,500	6,120	79,887
	50.7%	32.0%	11.3%	94.0%		56.3%	28.0%	7.0%	91.3%
Clark	146,015	85,935	18,959	250,909	Jasper	32,845	20,452	4,707	58,004
	55.0%	32.4%	7.1%	94.5%		54.2%	33.7%	7.8%	95.7%
Clay	25,869	17,333	3,553	46,755	Jay	23,993	12,928	3,606	40,527
	51.8%	34.7%	7.1%	93.6%		54.9%	29.6%	8.3%	92.8%
Clinton	38,705	24,306	5,454	68,465	Jefferson	43,897	27,797	5,388	77,082
	52.9%	33.2%	7.5%	93.6%		53.8%	34.1%	6.6%	94.5%
Crawford	11,505	5,127	1,532	18,164	Jennings	33,425	14,271	4,257	51,953
	59.8%	26.6%	8.0%	94.4%		59.8%	25.5%	7.6%	92.9%
Daviess	32,159	21,347	5,517	59,023	Johnson	143,844	87,942	23,900	255,686
	51.4%	34.1%	8.8%	94.3%		52.4%	32.0%	8.7%	93.1%
Dearborn	41,702	24,527	4,423	70,652	Knox	53,958	36,419	7,913	98,290
	56.0%	32.9%	5.9%	94.8%		51.3%	34.6%	7.5%	93.4%
Decatur	25,359	15,581	3,080	44,020	Kosciusko	62,464	29,050	10,971	102,485
	53.5%	32.9%	6.5%	92.9%		56.7%	26.4%	10.0%	93.1%
DeKalb	29,708	16,547	7,140	53,395	LaGrange	16,793	8,148	3,152	28,093
	52.4%	29.2%	12.6%	94.2%		55.7%	27.0%	10.5%	93.2%
Delaware	129,564	66,451	18,569	214,584	Lake	392,605	237,421	53,560	683,586
	57.1%	29.3%	8.2%	94.6%		54.7%	33.1%	7.5%	95.3%
Dubois	38,374	26,436	7,362	72,172	LaPorte	118,831	57,421	16,911	193,163
	50.0%	34.4%	9.6%	94.0%		58.7%	28.4%	8.4%	95.5%
Elkhart	142,152	72,167	48,944	263,263	Lawrence	67,047	42,087	11,915	121,049
	51.2%	26.0%	17.6%	94.8%		52.2%	32.8%	9.3%	94.3%
Fayette	39,561	24,424	7,571	71,556	Madison	193,769	113,200	32,257	339,226
	52.3%	32.3%	10.0%	94.6%		53.6%	31.3%	8.9%	93.8%
Floyd	91,654	55,707	14,079	161,440	Marion	787,835	415,020	150,490	1,353,345
	53.4%	32.4%	8.2%	94.0%		54.6%	28.8%	10.4%	93.8%
Fountain	21,473	13,835	2,868	38,176	Marshall	39,918	22,427	11,252	73,597
	53.3%	34.4%	7.1%	94.8%		51.1%	28.7%	14.4%	94.2%
Franklin	24,728	14,590	3,471	42,789	Martin	14,803	11,408	2,802	29,013
	54.5%	32.1%	7.6%	94.2%		48.4%	37.3%	9.2%	94.9%
Fulton	22,058	11,512	5,286	38,856	Miami	32,269	17,485	7,155	56,909
	52.9%	27.6%	12.7%	93.2%		53.2%	28.8%	11.8%	93.8%
Gibson	35,716	24,571	7,883	68,170	Monroe	99,411	69,699	21,407	190,517
	49.2%	33.9%	10.9%	94.0%		48.6%	34.1%	10.5%	93.2%
Grant	88,329	47,123	15,668	151,120	Montgomery	41,579	26,767	5,581	73,927
	55.2%	29.5%	9.8%	94.5%		52.7%	33.9%	7.1%	93.7%

(continued on next page)

APPENDIX 9A *(Continued from previous page)*

County	Opioids	CNS Depressants	Stimulants	Total	County	Opioids	CNS Depressants	Stimulants	Total
Morgan	95,148	48,716	12,904	156,768	Starke	31,837	16,213	4,216	52,266
	57.0%	29.2%	7.7%	93.9%		57.9%	29.5%	7.7%	95.1%
Newton	11,268	7,430	1,766	20,464	Steuben	25,299	13,397	4,591	43,287
	53.0%	35.0%	8.3%	96.3%		54.0%	28.6%	9.8%	92.4%
Noble	35,314	18,781	5,179	59,274	Sullivan	26,602	18,098	2,893	47,593
	55.9%	29.7%	8.2%	93.8%		52.9%	36.0%	5.7%	94.6%
Ohio	6,177	3,697	339	10,213	Switzerland	10,786	5,620	896	17,302
	57.1%	34.2%	3.1%	94.4%		59.2%	30.9%	4.9%	95.0%
Orange	30,912	19,615	4,898	55,425	Tippecanoe	110,941	79,241	27,999	218,181
	52.9%	33.5%	8.4%	94.8%		48.5%	34.6%	12.2%	95.3%
Owen	29,003	16,454	3,750	49,207	Tipton	17,538	9,973	3,064	30,575
	55.4%	31.4%	7.2%	94.0%		54.0%	30.7%	9.4%	94.1%
Parke	12,275	7,911	1,918	22,104	Union	5,971	3,626	1,500	11,097
	51.8%	33.4%	8.1%	93.3%		50.5%	30.7%	12.7%	93.9%
Perry	16,796	11,291	2,552	30,639	Vanderburgh	232,023	146,070	53,788	431,881
	50.4%	33.9%	7.7%	92.0%		50.9%	32.0%	11.8%	94.7%
Pike	17,526	12,509	3,642	33,677	Vermillion	16,765	10,036	1,937	28,738
	49.0%	35.0%	10.2%	94.2%		54.3%	32.5%	6.3%	93.1%
Porter	151,709	85,853	24,577	262,139	Vigo	113,245	78,661	17,719	209,625
	55.1%	31.2%	8.9%	95.2%		51.4%	35.7%	8.0%	95.1%
Posey	30,551	17,674	5,623	53,848	Wabash	32,886	16,151	5,484	54,521
	53.8%	31.1%	9.9%	94.8%		57.0%	28.0%	9.5%	94.5%
Pulaski	14,985	8,530	2,704	26,219	Warren	5,828	3,416	684	9,928
	54.7%	31.1%	9.9%	95.7%		54.6%	32.0%	6.4%	93.0%
Putnam	34,597	21,247	5,463	61,307	Warrick	59,620	39,943	17,058	116,621
	53.0%	32.5%	8.4%	93.9%		48.2%	32.3%	13.8%	94.3%
Randolph	28,096	13,283	4,345	45,724	Washington	30,619	17,069	3,980	51,668
	57.9%	27.4%	9.0%	94.3%		55.7%	31.1%	7.2%	94.0%
Ripley	22,605	12,996	2,511	38,112	Wayne	74,707	45,842	9,928	130,477
	55.6%	32.0%	6.2%	93.8%		54.1%	33.2%	7.2%	94.5%
Rush	20,499	11,297	3,726	35,522	Wells	20,483	10,198	3,610	34,291
	54.0%	29.8%	9.8%	93.6%		55.4%	27.6%	9.8%	92.8%
Saint Joseph	208,229	118,565	55,509	382,303	White	24,814	16,078	4,533	45,425
	51.3%	29.2%	13.7%	94.2%		52.3%	33.9%	9.6%	95.8%
Scott	41,322	26,386	4,296	72,004	Whitley	29,621	13,288	5,037	47,946
	53.2%	33.9%	5.5%	92.6%		56.8%	25.5%	9.7%	92.0%
Shelby	46,210	26,874	6,708	79,792					
	54.0%	31.4%	7.8%	93.2%					
Spencer	20,432	14,175	4,547	39,154	**Indiana**	**6,111,352**	**3,554,123**	**1,136,816**	**10,802,291**
	49.1%	34.1%	10.9%	94.1%		**53.2%**	**30.9%**	**9.9%**	**94.0%**

Source: Indiana Board of Pharmacy, 2010

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, 2009)

County	Treatment Episodes Total	All Rx Abuse Number	All Rx Abuse %	All Rx Dependence Number	All Rx Dependence %	Opioid Abuse Number	Opioid Abuse %	Opioid Dependence Number	Opioid Dependence %
Adams	131	12	9.2%	6	4.6%	12	9.2%	6	4.6%
Allen	1,971	138	7.0%	65	3.3%	101	5.1%	51	2.6%
Bartholomew	327	100	30.6%	54	16.5%	81	24.8%	43	13.1%
Benton	20	< 5	N/A	< 5	N/A	< 5	N/A	< 5	N/A
Blackford	141	29	20.6%	14	9.9%	25	17.7%	13	9.2%
Boone	205	45	22.0%	18	8.8%	36	17.6%	17	8.3%
Brown	72	13	18.1%	7	9.7%	10	13.9%	6	8.3%
Carroll	83	10	12.0%	< 5	N/A	< 5	N/A	< 5	N/A
Cass	144	22	15.3%	10	6.9%	11	7.6%	6	4.2%
Clark	512	204	39.8%	122	23.8%	173	33.8%	107	20.9%
Clay	199	22	11.1%	6	3.0%	11	5.5%	5	2.5%
Clinton	82	14	17.1%	< 5	N/A	8	9.8%	< 5	N/A
Crawford	53	10	18.9%	6	11.3%	10	18.9%	6	11.3%
Daviess	247	80	32.4%	45	18.2%	58	23.5%	34	13.8%
Dearborn	259	83	32.0%	45	17.4%	71	27.4%	43	16.6%
Decatur	77	21	27.3%	9	11.7%	12	15.6%	< 5	N/A
DeKalb	221	12	5.4%	6	2.7%	5	2.3%	< 5	N/A
Delaware	873	244	27.9%	145	16.6%	196	22.5%	130	14.9%
Dubois	261	47	18.0%	24	9.2%	27	10.3%	18	6.9%
Elkhart	893	42	4.7%	21	2.4%	37	4.1%	20	2.2%
Fayette	54	20	37.0%	14	25.9%	20	37.0%	14	25.9%
Floyd	168	73	43.5%	40	23.8%	59	35.1%	38	22.6%
Fountain	67	24	35.8%	11	16.4%	14	20.9%	8	11.9%
Franklin	36	11	30.6%	< 5	N/A	8	22.2%	< 5	N/A
Fulton	144	15	10.4%	< 5	N/A	10	6.9%	< 5	N/A
Gibson	118	18	15.3%	6	5.1%	11	9.3%	< 5	N/A
Grant	481	129	26.8%	64	13.3%	93	19.3%	53	11.0%
Greene	170	38	22.4%	22	12.9%	19	11.2%	14	8.2%
Hamilton	698	126	18.1%	51	7.3%	91	13.0%	45	6.4%
Hancock	126	18	14.3%	12	9.5%	14	11.1%	10	7.9%
Harrison	53	18	34.0%	6	11.3%	16	30.2%	5	9.4%
Hendricks	314	49	15.6%	33	10.5%	34	10.8%	23	7.3%
Henry	118	56	47.5%	42	35.6%	50	42.4%	38	32.2%
Howard	666	186	27.9%	105	15.8%	160	24.0%	94	14.1%
Huntington	64	15	23.4%	10	15.6%	12	18.8%	9	14.1%
Jackson	147	40	27.2%	20	13.6%	34	23.1%	18	12.2%
Jasper	43	11	25.6%	< 5	N/A	< 5	N/A	< 5	N/A
Jay	66	19	28.8%	14	21.2%	14	21.2%	11	16.7%
Jefferson	185	50	27.0%	31	16.8%	36	19.5%	25	13.5%
Jennings	147	44	29.9%	25	17.0%	34	23.1%	18	12.2%
Johnson	325	88	27.1%	46	14.2%	60	18.5%	37	11.4%
Knox	368	81	22.0%	38	10.3%	58	15.8%	26	7.1%
Kosciusko	213	31	14.6%	17	8.0%	27	12.7%	14	6.6%
LaGrange	167	11	6.6%	5	3.0%	< 5	N/A	< 5	N/A
Lake	2,554	294	11.5%	156	6.1%	226	8.8%	140	5.5%
LaPorte	633	78	12.3%	35	5.5%	65	10.3%	32	5.1%
Lawrence	372	118	31.7%	64	17.2%	81	21.8%	43	11.6%
Madison	895	266	29.7%	117	13.1%	158	17.7%	84	9.4%
Marion	4,339	793	18.3%	450	10.4%	578	13.3%	365	8.4%
Marshall	228	35	15.4%	17	7.5%	19	8.3%	12	5.3%
Martin	95	26	27.4%	13	13.7%	17	17.9%	9	9.5%
Miami	169	31	18.3%	10	5.9%	22	13.0%	6	3.6%

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

County	Treatment Episodes Total	All Rx Abuse Number	All Rx Abuse %	All Rx Dependence Number	All Rx Dependence %	Opioid Abuse Number	Opioid Abuse %	Opioid Dependence Number	Opioid Dependence %
Monroe	1,376	273	19.8%	180	13.1%	210	15.3%	138	10.0%
Montgomery	188	60	31.9%	35	18.6%	38	20.2%	22	11.7%
Morgan	472	86	18.2%	52	11.0%	61	12.9%	35	7.4%
Newton	16	< 5	N/A	< 5	N/A	< 5	N/A	< 5	N/A
Noble	324	27	8.3%	10	3.1%	18	5.6%	8	2.5%
Ohio	14	< 5	N/A	< 5	N/A	< 5	N/A	< 5	N/A
Orange	83	21	25.3%	15	18.1%	16	19.3%	11	13.3%
Owen	267	30	11.2%	12	4.5%	24	9.0%	11	4.1%
Parke	119	21	17.6%	9	7.6%	13	10.9%	8	6.7%
Perry	149	25	16.8%	7	4.7%	14	9.4%	6	4.0%
Pike	42	9	21.4%	6	14.3%	8	19.0%	< 5	N/A
Porter	477	116	24.3%	60	12.6%	88	18.4%	50	10.5%
Posey	162	34	21.0%	12	7.4%	21	13.0%	11	6.8%
Pulaski	43	10	23.3%	7	16.3%	7	16.3%	5	11.6%
Putnam	142	20	14.1%	11	7.7%	14	9.9%	9	6.3%
Randolph	82	18	22.0%	11	13.4%	16	19.5%	10	12.2%
Ripley	85	17	20.0%	11	12.9%	14	16.5%	10	11.8%
Rush	49	13	26.5%	9	18.4%	11	22.4%	8	16.3%
Saint Joseph	1,376	157	11.4%	61	4.4%	135	9.8%	57	4.1%
Scott	101	47	46.5%	32	31.7%	44	43.6%	30	29.7%
Shelby	107	19	17.8%	8	7.5%	11	10.3%	6	5.6%
Spencer	146	20	13.7%	9	6.2%	13	8.9%	6	4.1%
Starke	180	45	25.0%	33	18.3%	33	18.3%	20	11.1%
Steuben	115	9	7.8%	< 5	N/A	5	4.3%	< 5	N/A
Sullivan	99	25	25.3%	12	12.1%	17	17.2%	11	11.1%
Switzerland	55	15	27.3%	7	12.7%	13	23.6%	6	10.9%
Tippecanoe	473	101	21.4%	37	7.8%	57	12.1%	26	5.5%
Tipton	51	17	33.3%	13	25.5%	13	25.5%	9	17.6%
Union	25	5	20.0%	< 5	N/A	5	20.0%	< 5	N/A
Vanderburgh	1,664	395	23.7%	175	10.5%	260	15.6%	132	7.9%
Vermillion	136	24	17.6%	16	11.8%	16	11.8%	14	10.3%
Vigo	1,009	165	16.4%	70	6.9%	104	10.3%	52	5.2%
Wabash	181	44	24.3%	17	9.4%	29	16.0%	15	8.3%
Warren	23	7	30.4%	< 5	N/A	7	30.4%	< 5	N/A
Warrick	344	81	23.5%	33	9.6%	44	12.8%	25	7.3%
Washington	91	32	35.2%	17	18.7%	22	24.2%	12	13.2%
Wayne	384	120	31.3%	70	18.2%	99	25.8%	61	15.9%
Wells	141	25	17.7%	< 5	N/A	19	13.5%	< 5	N/A
White	163	39	23.9%	11	6.7%	14	8.6%	9	5.5%
Whitley	101	11	10.9%	7	6.9%	9	8.9%	6	5.9%
Indiana	**32,049**	**6,155**	**19.2%**	**3,190**	**10.0%**	**4,485**	**14.0%**	**2,581**	**8.1%**

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, 2010

APPENDIX 9B — PART 2

County	CNS Depressant Abuse Number	CNS Depressant Abuse %	CNS Depressant Dependence Number	CNS Depressant Dependence %	Stimulant Abuse Number	Stimulant Abuse %	Stimulant Dependence Number	Stimulant Dependence %
Adams	< 5	N/A	< 5	N/A	< 5	N/A	< 5	N/A
Allen	28	1.4%	11	0.6%	23	1.2%	< 5	N/A
Bartholomew	29	8.9%	6	1.8%	8	2.4%	5	1.5%
Benton	< 5	N/A	< 5	N/A	< 5	N/A	< 5	N/A
Blackford	7	5.0%	< 5	N/A	< 5	N/A	< 5	N/A
Boone	14	6.8%	< 5	N/A	< 5	N/A	< 5	N/A
Brown	< 5	N/A	< 5	N/A	< 5	N/A	< 5	N/A
Carroll	6	7.2%	< 5	N/A	< 5	N/A	< 5	N/A
Cass	10	6.9%	< 5	N/A	6	4.2%	< 5	N/A
Clark	67	13.1%	14	2.7%	6	1.2%	< 5	N/A
Clay	11	5.5%	< 5	N/A	< 5	N/A	< 5	N/A
Clinton	5	6.1%	< 5	N/A	< 5	N/A	< 5	N/A
Crawford	< 5	N/A	< 5	N/A	< 5	N/A	< 5	N/A
Daviess	30	12.1%	10	4.0%	< 5	N/A	< 5	N/A
Dearborn	26	10.0%	< 5	N/A	< 5	N/A	< 5	N/A
Decatur	9	11.7%	< 5	N/A	< 5	N/A	< 5	N/A
DeKalb	7	3.2%	< 5	N/A	< 5	N/A	< 5	N/A
Delaware	81	9.3%	14	1.6%	5	0.6%	< 5	N/A
Dubois	23	8.8%	6	2.3%	< 5	N/A	< 5	N/A
Elkhart	< 5	N/A	< 5	N/A	< 5	N/A	< 5	N/A
Fayette	5	9.3%	< 5	N/A	< 5	N/A	< 5	N/A
Floyd	28	16.7%	< 5	N/A	< 5	N/A	< 5	N/A
Fountain	13	19.4%	< 5	N/A	< 5	N/A	< 5	N/A
Franklin	5	13.9%	< 5	N/A	< 5	N/A	< 5	N/A
Fulton	5	3.5%	< 5	N/A	< 5	N/A	< 5	N/A
Gibson	10	8.5%	< 5	N/A	< 5	N/A	< 5	N/A
Grant	41	8.5%	8	1.7%	15	3.1%	< 5	N/A
Greene	17	10.0%	5	2.9%	< 5	N/A	< 5	N/A
Hamilton	38	5.4%	5	0.7%	9	1.3%	< 5	N/A
Hancock	< 5	N/A	< 5	N/A	< 5	N/A	< 5	N/A
Harrison	< 5	N/A	< 5	N/A	< 5	N/A	< 5	N/A
Hendricks	16	5.1%	8	2.5%	< 5	N/A	< 5	N/A
Henry	20	16.9%	< 5	N/A	< 5	N/A	< 5	N/A
Howard	68	10.2%	10	1.5%	< 5	N/A	< 5	N/A
Huntington	7	10.9%	< 5	N/A	< 5	N/A	< 5	N/A
Jackson	5	3.4%	< 5	N/A	< 5	N/A	< 5	N/A
Jasper	5	11.6%	< 5	N/A	< 5	N/A	< 5	N/A
Jay	6	9.1%	< 5	N/A	< 5	N/A	< 5	N/A
Jefferson	18	9.7%	5	2.7%	< 5	N/A	< 5	N/A
Jennings	13	8.8%	7	4.8%	< 5	N/A	< 5	N/A
Johnson	38	11.7%	8	2.5%	< 5	N/A	< 5	N/A
Knox	39	10.6%	10	2.7%	< 5	N/A	< 5	N/A
Kosciusko	6	2.8%	< 5	N/A	< 5	N/A	< 5	N/A
LaGrange	8	4.8%	< 5	N/A	< 5	N/A	< 5	N/A
Lake	93	3.6%	14	0.5%	8	0.3%	< 5	N/A
LaPorte	20	3.2%	< 5	N/A	< 5	N/A	< 5	N/A
Lawrence	47	12.6%	17	4.6%	5	1.3%	< 5	N/A
Madison	146	16.3%	32	3.6%	12	1.3%	< 5	N/A
Marion	310	7.1%	73	1.7%	32	0.7%	12	0.3%
Marshall	15	6.6%	< 5	N/A	< 5	N/A	< 5	N/A
Martin	11	11.6%	< 5	N/A	< 5	N/A	< 5	N/A
Miami	12	7.1%	< 5	N/A	< 5	N/A	< 5	N/A
Monroe	84	6.1%	35	2.5%	11	0.8%	7	0.5%
Montgomery	36	19.1%	13	6.9%	< 5	N/A	< 5	N/A

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

County	CNS Depressant Abuse Number	CNS Depressant Abuse %	CNS Depressant Dependence Number	CNS Depressant Dependence %	Stimulant Abuse Number	Stimulant Abuse %	Stimulant Dependence Number	Stimulant Dependence %
Morgan	33	7.0%	17	3.6%	< 5	N/A	< 5	N/A
Newton	< 5	N/A	< 5	N/A	< 5	N/A	< 5	N/A
Noble	7	2.2%	< 5	N/A	6	1.9%	< 5	N/A
Ohio	< 5	N/A	< 5	N/A	< 5	N/A	< 5	N/A
Orange	9	10.8%	< 5	N/A	< 5	N/A	< 5	N/A
Owen	5	1.9%	< 5	N/A	< 5	N/A	< 5	N/A
Parke	12	10.1%	< 5	N/A	< 5	N/A	< 5	N/A
Perry	13	8.7%	< 5	N/A	< 5	N/A	< 5	N/A
Pike	< 5	N/A	< 5	N/A	< 5	N/A	< 5	N/A
Porter	33	6.9%	9	1.9%	< 5	N/A	< 5	N/A
Posey	17	10.5%	< 5	N/A	< 5	N/A	< 5	N/A
Pulaski	< 5	N/A	< 5	N/A	< 5	N/A	< 5	N/A
Putnam	9	6.3%	< 5	N/A	< 5	N/A	< 5	N/A
Randolph	< 5	N/A	< 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	30	2.2%	< 5	N/A	17	1.2%	< 5	N/A
Scott	15	14.9%	< 5	N/A	< 5	N/A	< 5	N/A
Shelby	8	7.5%	< 5	N/A	< 5	N/A	< 5	N/A
Spencer	10	6.8%	< 5	N/A	< 5	N/A	< 5	N/A
Starke	24	13.3%	13	7.2%	< 5	N/A	< 5	N/A
Steuben	< 5	N/A	< 5	N/A	< 5	N/A	< 5	N/A
Sullivan	11	11.1%	< 5	N/A	< 5	N/A	< 5	N/A
Switzerland	< 5	N/A	< 5	N/A	< 5	N/A	< 5	N/A
Tippecanoe	63	13.3%	7	1.5%	12	2.5%	< 5	N/A
Tipton	5	9.8%	< 5	N/A	< 5	N/A	< 5	N/A
Union	< 5	N/A	< 5	N/A	< 5	N/A	< 5	N/A
Vanderburgh	196	11.8%	36	2.2%	20	1.2%	7	0.4%
Vermillion	11	8.1%	< 5	N/A	< 5	N/A	< 5	N/A
Vigo	75	7.4%	14	1.4%	7	0.7%	< 5	N/A
Wabash	17	9.4%	< 5	N/A	< 5	N/A	< 5	N/A
Warren	< 5	N/A	< 5	N/A	< 5	N/A	< 5	N/A
Warrick	42	12.2%	7	2.0%	8	2.3%	< 5	N/A
Washington	12	13.2%	< 5	N/A	< 5	N/A	< 5	N/A
Wayne	39	10.2%	9	2.3%	< 5	N/A	< 5	N/A
Wells	< 5	N/A	< 5	N/A	5	3.5%	< 5	N/A
White	20	12.3%	< 5	N/A	5	3.1%	< 5	N/A
Whitley	< 5	N/A	< 5	N/A	< 5	N/A	< 5	N/A
Indiana	**2,303**	**7.2%**	**515**	**1.6%**	**324**	**1.0%**	**94**	**0.3%**

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, 2010

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, 2010)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Lifetime	0.5	0.6	0.4	0.2	0.5	0.4	0.6	0.4	0.7
	Monthly	0.3	0.4	0.3	0.2	0.2	0.3	0.3	0.2	0.3
7th Grade	Lifetime	0.9	1.3	0.7	0.8	0.7	0.9	0.9	0.8	1.6
	Monthly	0.5	0.8	0.3	0.0	0.2	0.4	0.4	0.5	0.7
8th Grade	Lifetime	2.1	2.7	2.1	1.5	2.4	1.7	2.9	1.8	2.2
	Monthly	1.1	1.4	1.2	0.9	1.1	0.8	1.6	0.7	1.0
9th Grade	Lifetime	3.6	4.1	3.3	1.7	4.0	3.2	4.5	3.6	4.2
	Monthly	1.7	1.8	1.6	1.1	2.0	1.4	2.4	1.8	2.0
10th Grade	Lifetime	4.8	6.2	4.9	3.6	3.9	4.4	5.3	4.5	5.1
	Monthly	1.9	2.5	2.0	2.2	1.5	1.7	1.8	1.8	2.1
11th Grade	Lifetime	5.7	6.7	4.6	4.7	5.1	5.5	6.8	5.7	6.1
	Monthly	2.1	3.1	1.7	2.1	1.6	1.7	2.9	2.5	2.2
12th Grade	Lifetime	5.2	6.4	4.1	2.9	4.8	4.7	6.3	5.4	5.9
	Monthly	1.8	2.2	1.7	0.6	1.8	1.7	2.5	1.9	1.9

Source: Indiana Prevention Resource Center, 2010

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, 2010)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Lifetime	1.2	1.3	0.8	1.3	1.5	1.1	1.5	0.7	1.5
	Monthly	0.7	0.9	0.5	0.7	0.8	0.7	1.0	0.5	0.8
7th Grade	Lifetime	2.6	3.4	2.1	2.0	2.4	2.5	3.4	1.7	3.7
	Monthly	1.5	2.3	1.1	1.0	1.4	1.4	1.8	1.0	2.1
8th Grade	Lifetime	6.3	7.6	6.0	5.5	6.0	5.7	7.5	4.8	7.2
	Monthly	3.4	4.3	3.4	3.6	3.2	3.1	4.1	2.3	4.0
9th Grade	Lifetime	9.9	11.1	9.3	7.9	9.7	8.9	12.4	8.7	11.6
	Monthly	5.0	4.9	4.9	3.6	4.7	4.6	6.4	4.5	6.3
10th Grade	Lifetime	13.7	14.9	13.9	12.5	12.9	12.8	15.5	12.5	15.0
	Monthly	6.2	6.4	6.3	6.8	5.5	5.6	6.6	6.0	7.2
11th Grade	Lifetime	15.8	18.5	13.8	16.2	13.0	15.1	17.7	14.4	19.6
	Monthly	6.7	7.6	5.7	6.8	5.2	6.3	8.4	5.9	8.8
12th Grade	Lifetime	16.4	17.7	16.0	15.9	15.3	15.2	17.8	16.3	18.2
	Monthly	6.3	6.5	6.0	6.1	5.3	5.5	7.7	6.0	8.1

Note: Includes Vicodin®, Oxycontin®, and Percocet®.
Source: Indiana Prevention Resource Center, 2010

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, 2010)

		Indiana	Northwest	North Central	Northeast	West	Central	East	Southwest	Southeast
6th Grade	Lifetime	1.1	1.2	0.9	0.9	1.4	1.0	1.5	0.8	1.5
	Monthly	0.7	0.8	0.5	0.4	0.9	0.6	0.9	0.6	0.8
7th Grade	Lifetime	2.4	3.1	1.9	0.8	1.9	2.2	3.5	1.9	3.3
	Monthly	1.5	2.1	1.0	0.2	1.2	1.5	2.0	1.0	2.2
8th Grade	Lifetime	5.3	6.3	5.2	4.5	5.5	4.5	6.7	4.3	6.0
	Monthly	3.0	4.0	3.0	2.8	3.1	2.5	3.7	2.2	3.4
9th Grade	Lifetime	8.8	10.5	8.6	4.6	8.4	7.7	11.0	8.5	9.8
	Monthly	4.6	5.5	5.0	2.9	4.2	4.0	5.5	4.4	4.9
10th Grade	Lifetime	12.2	14.2	12.6	10.4	11.5	11.1	14.0	11.6	12.3
	Monthly	5.9	7.3	6.3	5.4	5.3	5.3	6.3	6.1	6.0
11th Grade	Lifetime	14.1	17.9	13.2	11.0	11.4	13.3	15.0	13.6	16.7
	Monthly	6.2	8.4	5.6	4.3	4.5	6.0	7.2	5.7	7.1
12th Grade	Lifetime	14.6	17.1	14.4	11.5	13.9	12.9	16.1	15.1	15.3
	Monthly	5.9	6.7	6.2	4.2	5.5	5.3	6.5	6.0	6.3

Note: Includes Ritalin®, Adderall®, and Xanax®, but excludes painkillers.
Source: Indiana Prevention Resource Center, 2010

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, 2008)

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Adams	9	*0.27	1	*0.03
Allen	201	0.57	58	0.17
Bartholomew	40	0.54	1	*0.01
Benton	3	*0.34	1	*0.11
Blackford	0	*0.00	0	*0.00
Boone	9	*0.16	2	*0.04
Brown	0	*0.00	0	*0.00
Carroll	21	1.05	0	*0.00
Cass	34	0.87	21	0.54
Clark	15	*0.14	3	*0.03
Clay	31	1.16	33	1.24
Clinton	9	*0.27	4	*0.12
Crawford	5	*0.46	1	*0.09
Daviess	16	*0.53	8	*0.27
Dearborn	3	*0.06	17	*0.34
Decatur	12	*0.48	2	*0.08
DeKalb	23	0.55	4	*0.10
Delaware	1	*0.01	9	*0.08
Dubois	10	*0.24	1	*0.02
Elkhart	18	*0.09	3	*0.01
Fayette	32	1.33	7	*0.29
Floyd	81	1.11	111	1.51
Fountain	7	*0.41	1	*0.06
Franklin	5	*0.23	2	*0.09
Fulton	10	*0.49	2	*0.10
Gibson	43	1.31	1	*0.03
Grant	3	*0.04	0	*0.00
Greene	11	*0.34	1	*0.03
Hamilton	4	*0.01	1	*0.00
Hancock	25	0.37	10	*0.15
Harrison	0	*0.00	0	*0.00
Hendricks	45	0.32	13	*0.09
Henry	10	*0.21	3	*0.06
Howard	95	1.14	9	*0.11
Huntington	20	0.53	1	*0.03
Jackson	8	*0.19	0	*0.00
Jasper	8	*0.25	9	*0.28
Jay	7	*0.32	1	*0.05
Jefferson	16	*0.49	3	*0.09
Jennings	0	*0.00	40	1.42
Johnson	93	0.67	34	0.24
Knox	31	0.82	22	0.58
Kosciusko	27	0.36	3	*0.04
LaGrange	0	*0.00	0	*0.00
Lake	380	0.77	53	0.11
LaPorte	6	*0.05	1	*0.01
Lawrence	19	*0.41	2	*0.04
Madison	94	0.72	19	*0.15
Marion	581	0.66	71	0.08

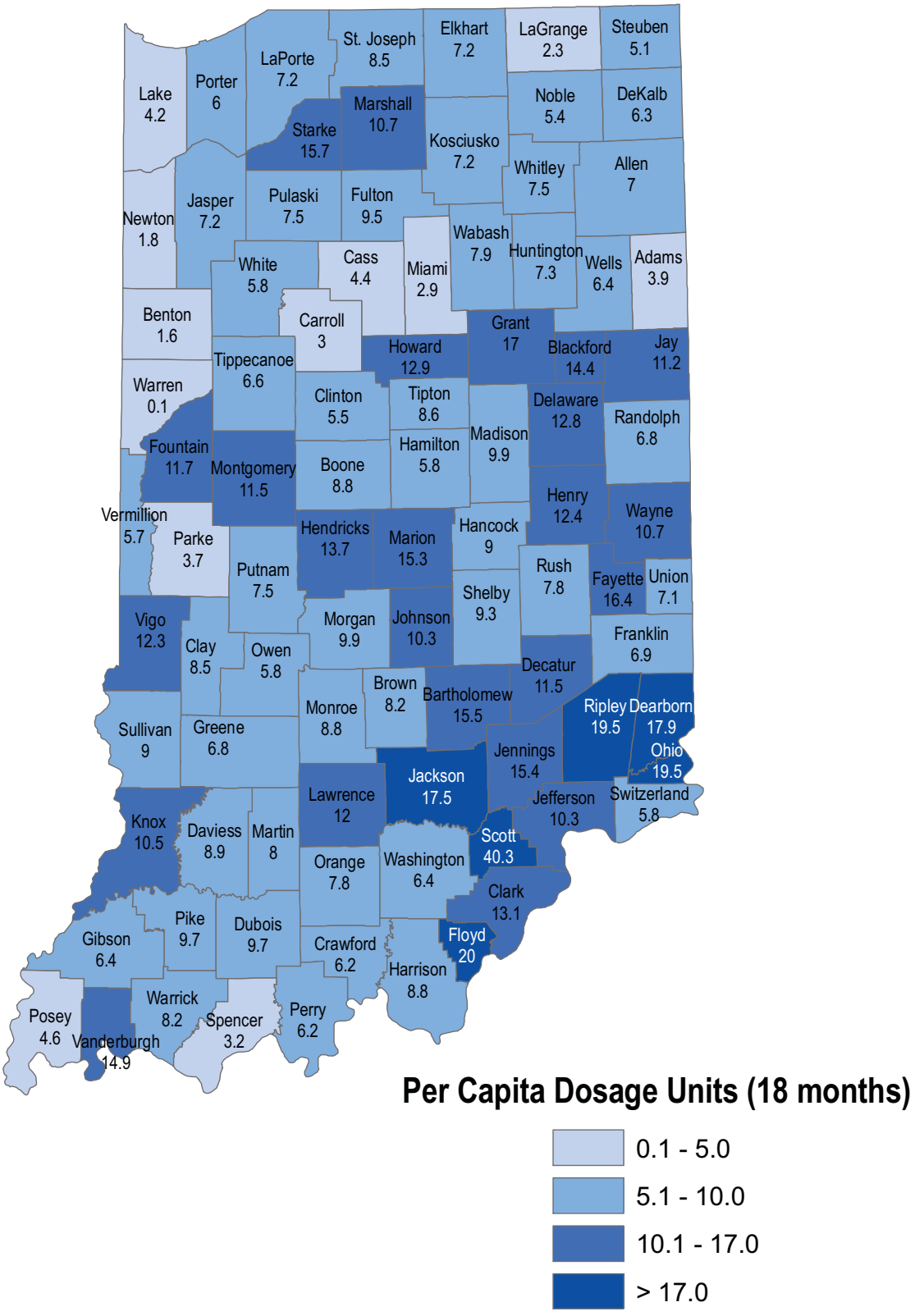
(continued on next page)

APPENDIX 9D *(Continued from previous page)*

County	Number of Arrests for Possession	Possession Arrest Rate	Number of Arrests for Sale	Sale Arrest Rate
Marshall	22	0.47	15	*0.32
Martin	1	*0.10	0	*0.00
Miami	18	*0.49	3	*0.08
Monroe	82	0.63	14	*0.11
Montgomery	42	1.11	1	*0.03
Morgan	73	1.04	14	*0.20
Newton	0	*0.00	0	*0.00
Noble	24	0.50	2	*0.04
Ohio	2	*0.35	1	*0.17
Orange	9	*0.46	1	*0.05
Owen	7	*0.31	3	*0.13
Parke	2	*0.12	0	*0.00
Perry	24	1.27	1	*0.05
Pike	6	*0.48	1	*0.08
Porter	26	0.16	14	*0.09
Posey	10	*0.38	4	*0.15
Pulaski	0	*0.00	0	*0.00
Putnam	12	*0.32	2	*0.05
Randolph	10	*0.39	2	*0.08
Ripley	14	*0.48	2	*0.07
Rush	7	*0.40	1	*0.06
Saint Joseph	87	0.33	11	*0.04
Scott	9	*0.38	1	*0.04
Shelby	12	*0.27	7	*0.16
Spencer	9	*0.44	1	*0.05
Starke	0	*0.00	2	*0.08
Steuben	146	4.37	8	*0.24
Sullivan	5	*0.23	2	*0.09
Switzerland	4	*0.41	1	*0.10
Tippecanoe	32	0.19	21	0.13
Tipton	7	*0.44	0	*0.00
Union	3	*0.42	0	*0.00
Vanderburgh	502	2.87	58	0.33
Vermillion	4	*0.24	2	*0.12
Vigo	133	1.27	7	*0.07
Wabash	7	*0.21	1	*0.03
Warren	4	*0.47	1	*0.12
Warrick	6	*0.10	5	*0.09
Washington	6	*0.21	3	*0.11
Wayne	8	*0.12	10	*0.15
Wells	2	*0.07	0	*0.00
White	6	*0.25	1	*0.04
Whitley	7	*0.21	3	*0.09
Indiana	**3,511**	**0.55**	**815**	**0.13**

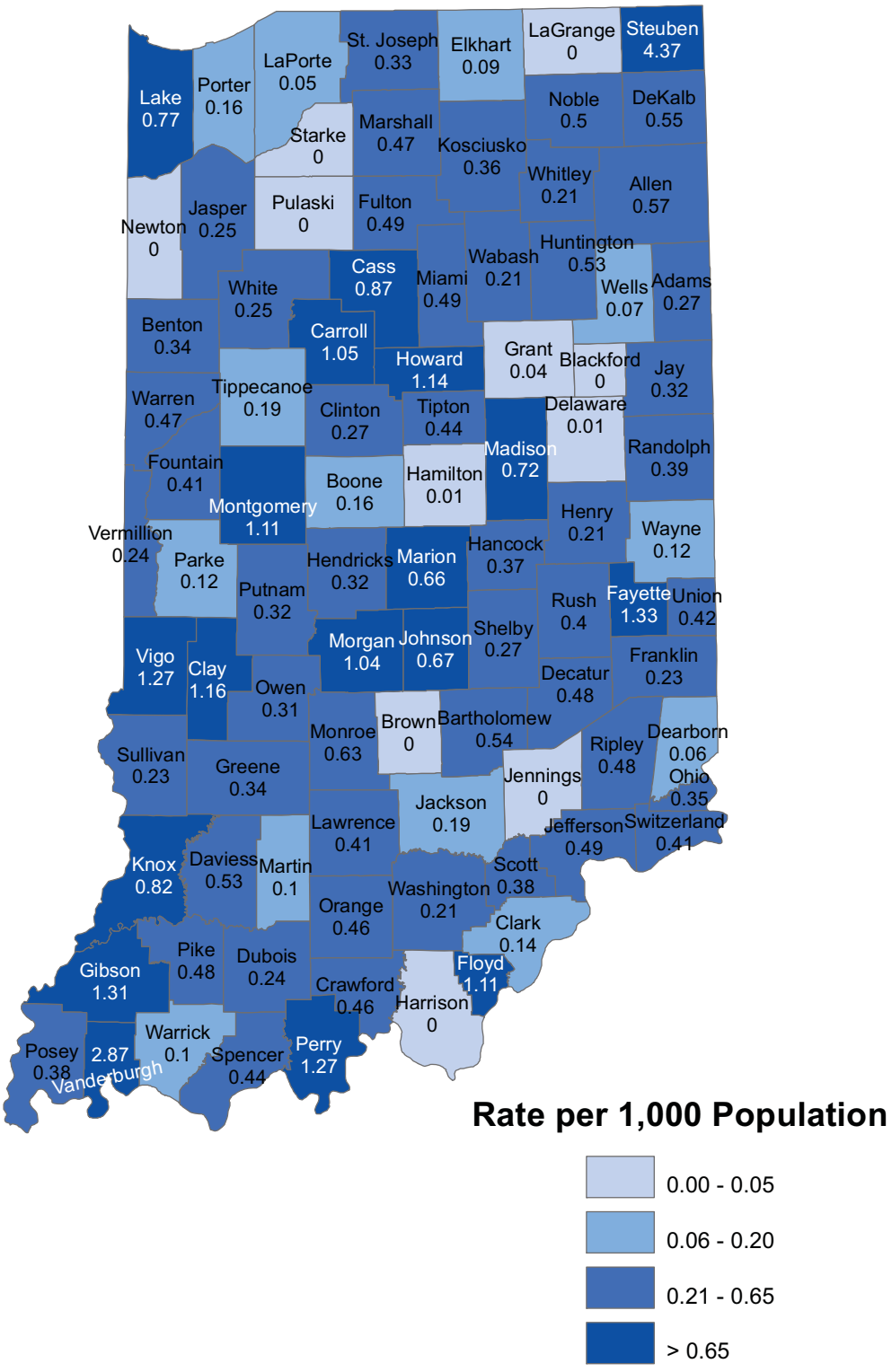
* Rates based on arrest numbers lower than 20 are unreliable.
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

Map 9.1 Oxycodone Distribution to Indiana Retail Registrants (Pharmacies, Hospitals, and Practitioners), by County, January 1, 2007 through June 30, 2008 (Oxycodone Purchases in Indiana, January 2007 through June 2008)



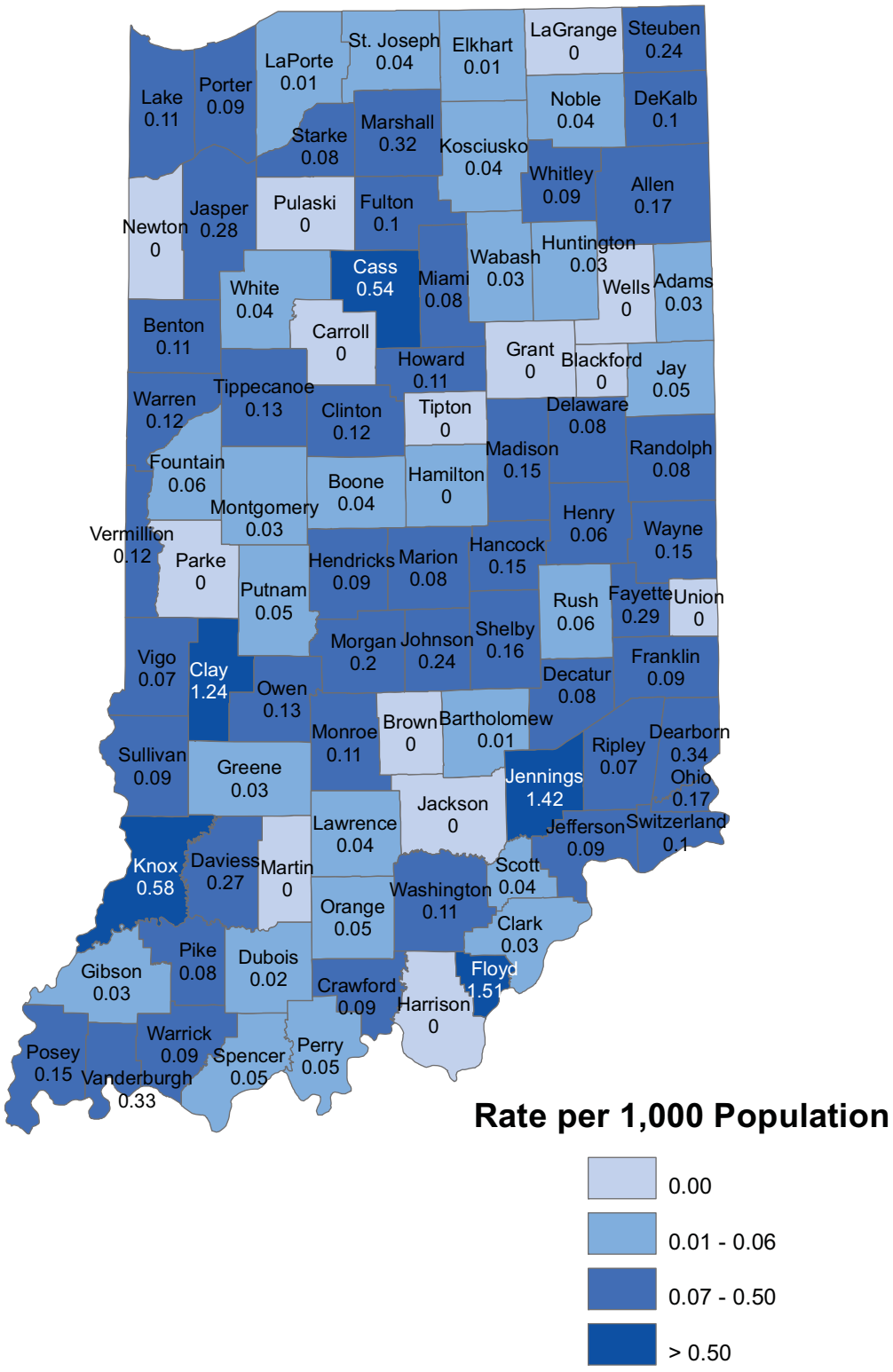
Source: U.S. Drug Enforcement Administration, 2008

Map 9.2 Arrest Rates, per 1,000 Population, for Possession of "Other Drugs" (Barbiturates and Benzedrine) in Indiana, by County (Uniform Crime Reporting Program, 2008)



Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 9D (pages163-164) for additional information.
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

Map 9.3 Arrest Rates, per 1,000 Population, for Sale/Manufacture of "Other Drugs" (Barbiturates and Benzedrine) in Indiana, by County (Uniform Crime Reporting Program, 2008)



Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 9D (pages 163-164) for additional information.
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

REFERENCES, CHAPTER 9

Indiana Board of Pharmacy. (2010). *2008 INSPECT dataset.* Received May 26, 2010, from Joshua Klatte, Program Director, INSPECT Prescription Monitoring Program, Indiana Board of Pharmacy.

Indiana Family and Social Services Administration, Revenue Enhancement and Data. (2010). *Substance abuse population by county, 2009.* Indianapolis, IN: Indiana Family and Social Services Administration.

Indiana Prevention Resource Center. (2010). *Alcohol, tobacco, and other drug use by Indiana children and adolescents.* Retrieved September 13, 2010 from http://www.drugs.indiana.edu/data-survey_monograph.html

Inter-university Consortium for Political and Social Research, University of Michigan. (n.d.). *Monitoring the Future.* Retrieved September 15, 2010, from http://www.monitoringthefuture.org/data/data.html

National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan. (n.d.). *Uniform Crime Reporting Program.* Retrieved September 18, 2009, from http://www.icpsr.umich.edu/NACJD/

National Institute on Drug Abuse. (2005). *Research report series: Prescription drugs abuse and addiction.* Retrieved November 24, 2009, from http://www.nida.nih.gov/ResearchReports/Prescription/Prescription.html

Office of National Drug Control Policy. (n.d.). *Prescription drugs.* Retrieved November 24, 2009, from http://www.whitehousedrugpolicy.gov/drugfact/prescrptn_drgs/index.html

State Epidemiology and Outcomes Workgroup. (2008). *Indiana household survey on substance abuse.* Administered by the Survey Research Center at Indiana University-Purdue University Indianapolis.

Substance Abuse and Mental Health Data Archive. (n.d.). *Treatment Episode Data Set - Admissions (TEDS-A), 2008.* Available at http://webapp.icpsr.umich.edu/cocoon/SAMHDA/STUDY/24280.xml

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (n.d.). *National Survey on Drug Use and Health.* Retrieved September 15, 2010, from https://nsduhweb.rti.org/

United States General Accounting Office. (2003). *Prescription drugs: OxyContin abuse and diversion and efforts to address the problem: Report to Congressional committees.* Washington, D.C.: United States General Accounting Office.

U.S. Drug Enforcement Administration. (2008). *Oxycodone purchases in Indiana, January 2007 through June 2008.* Received October 21, 2008, from Kristin Schumacher, Intelligence Research Specialist, in personal e-mail to IU Center for Health Policy.

10. Polysubstance Abuse and Co-Occurring Disorder in Indiana

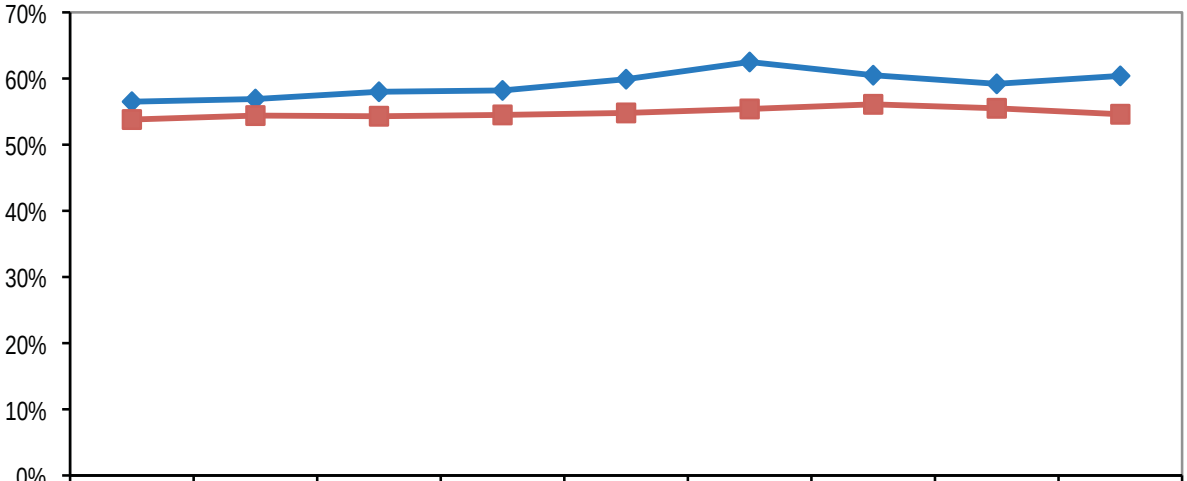
Polysubstance Abuse

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, n.d.). A review of the 2000 through 2008 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 2008 in Indiana, peaking at 62.5% in 2005 (see Figure 10.1). For county-level treatment data on individuals using two or more substances, see Appendix 10A, pages 181-182.

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, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Indiana	56.5%	56.9%	58.0%	58.2%	59.9%	62.5%	60.5%	59.2%	60.4%
U.S.	53.8%	54.4%	54.3%	54.5%	54.8%	55.4%	56.1%	55.5%	54.6%

Source: Substance Abuse and Mental Health Data Archive, n.d.

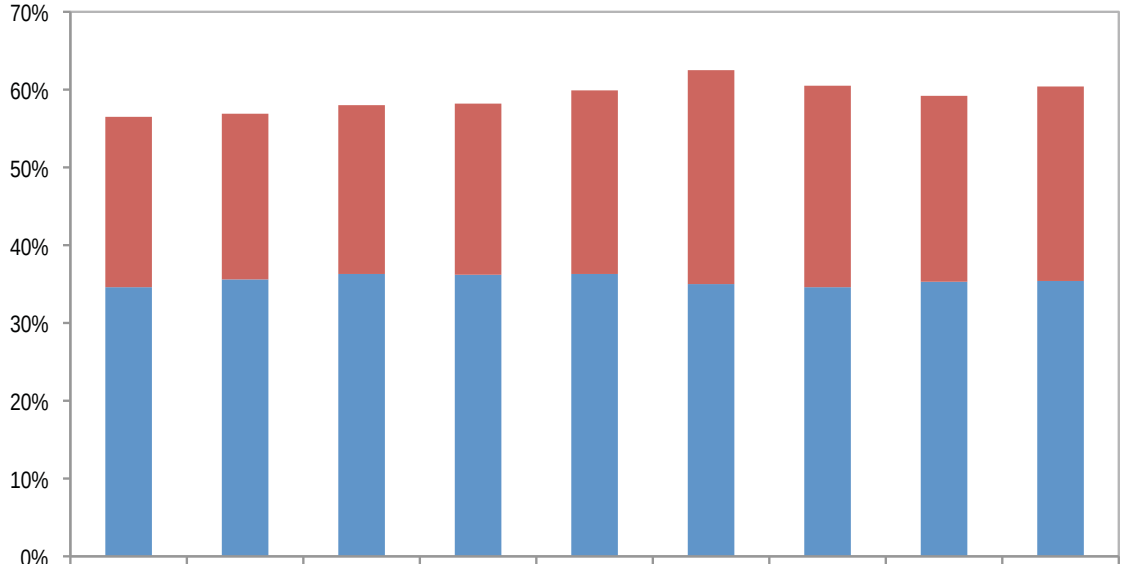
Among Indiana treatment episodes alone, about one-third reported use of two substances and more than one-fifth reported use of three substances (see Figure 10.2).

Demographic Characteristics of Polysubstance Users

Gender—From 2000 through 2008, 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 2008, 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).

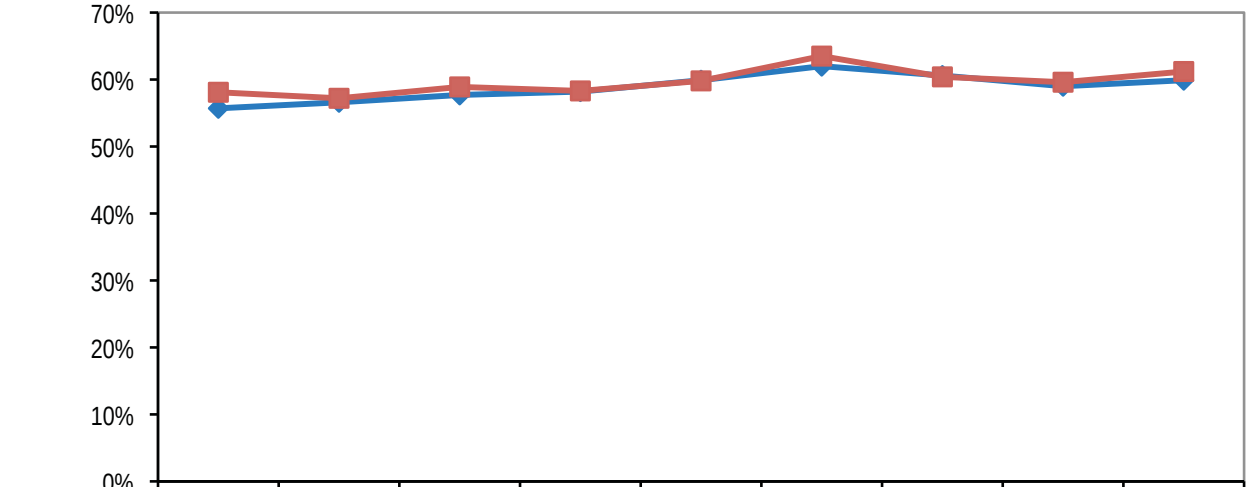
Figure 10.2 Percentage of Indiana Treatment Episodes with Use of Two and Three Substances Reported at Treatment Admission (Treatment Episode Data Set, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
3 Drugs Reported	21.9%	21.3%	21.7%	22.0%	23.6%	27.5%	25.9%	23.9%	25.0%
2 Drugs Reported	34.6%	35.6%	36.3%	36.2%	36.3%	35.0%	34.6%	35.3%	35.4%

Source: Substance Abuse and Mental Health Data Archive, n.d.

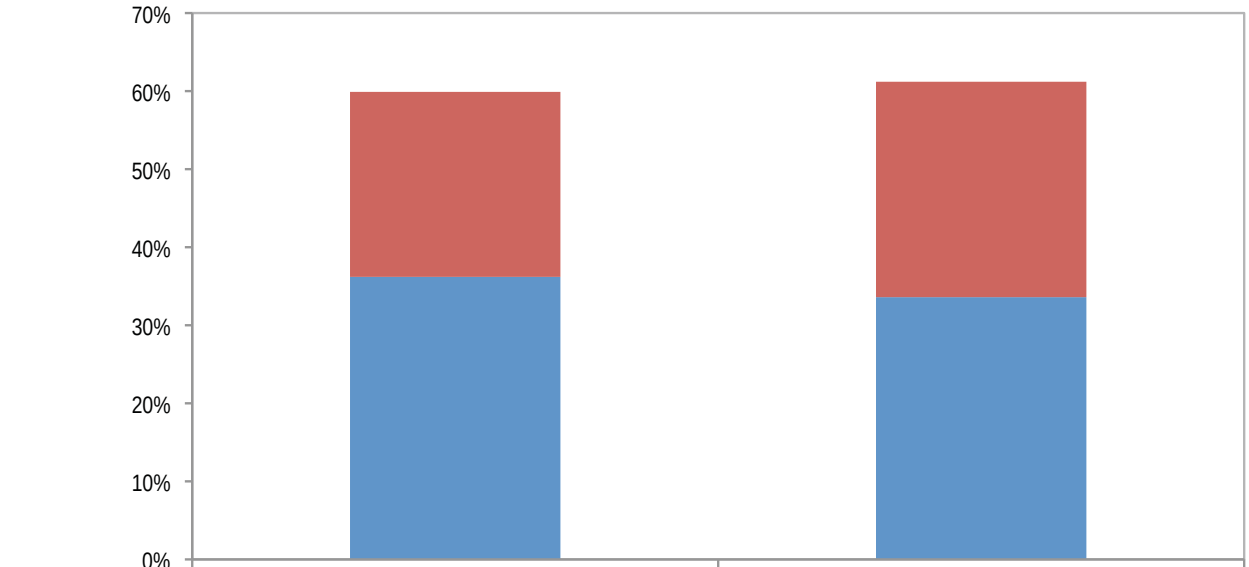
Figure 10.3 Percentage of Indiana Treatment Episodes with Polysubstance Abuse (Use of at Least Two Substances) Reported at Treatment Admission, by Gender (Treatment Episode Data Set, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Males	55.7%	56.6%	57.7%	58.2%	59.9%	62.0%	60.6%	59.0%	59.9%
Females	58.1%	57.2%	58.9%	58.3%	59.8%	63.5%	60.4%	59.6%	61.2%

Source: Substance Abuse and Mental Health Data Archive, n.d.

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, 2008)



	Males	Females
3 Drugs Reported	23.7%	27.6%
2 Drugs Reported	36.2%	33.6%

Source: Substance Abuse and Mental Health Data Archive, n.d.

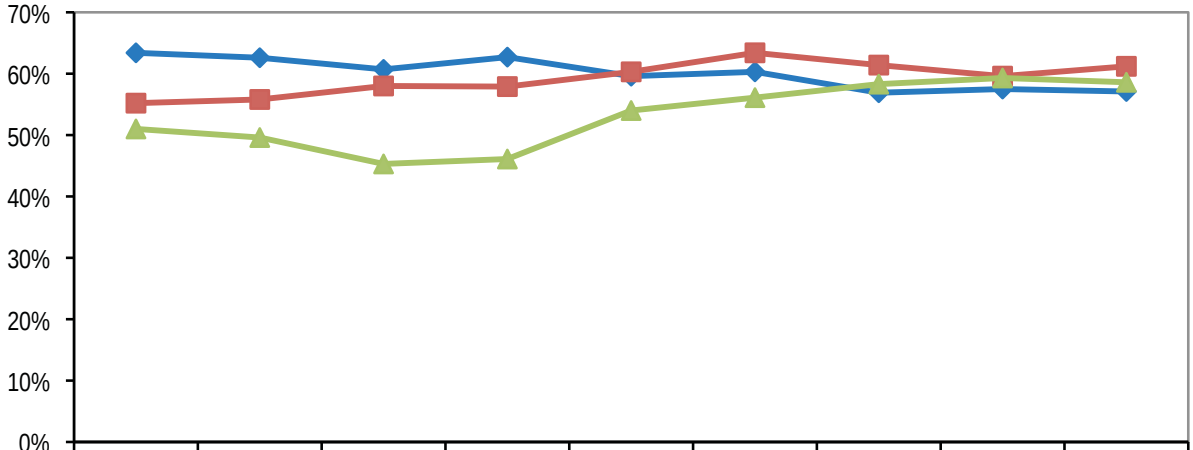
Race — The percentage of treatment episodes with polysubstance abuse reported at admission decreased for blacks from 63.4% in 2000 to 57.1% in 2008; however, it increased for whites (from 55.2% to 61.2%) and other races (from 51.0% to 58.6%) (see Figure 10.5).

In 2008, reported use of two substances was highest among the black treatment population (37.6%), while use of three substances was greatest among whites (26.3%) (see Figure 10.6).

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. Only about 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).

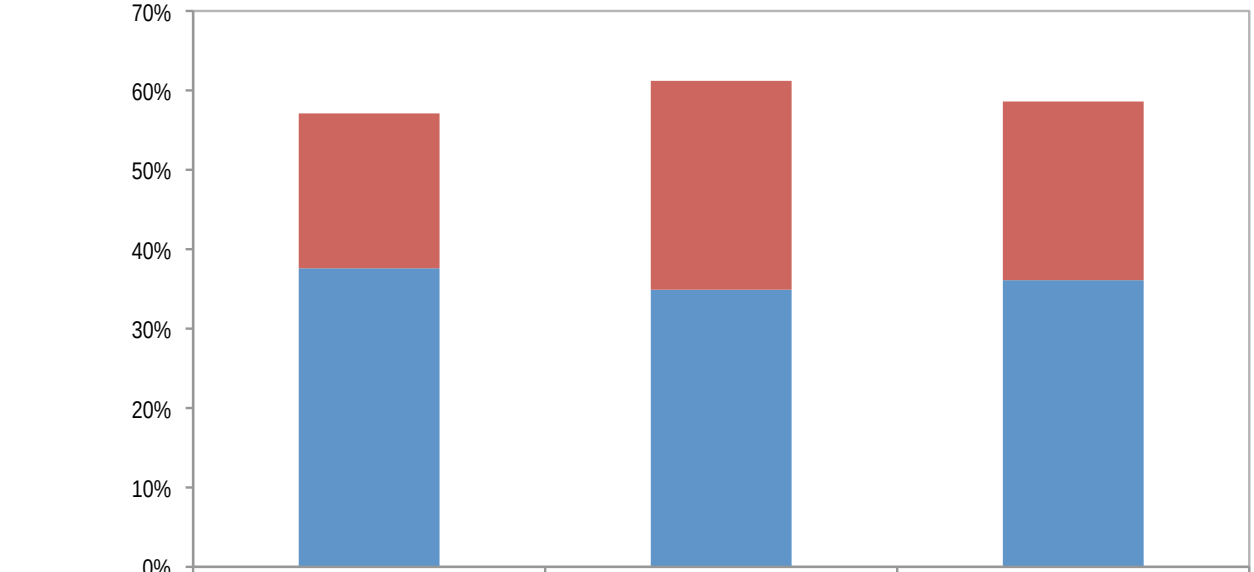
Figure 10.5 Percentage of Indiana Treatment Episodes with Polysubstance Abuse (Use of at Least Two Substances) Reported at Treatment Admission, by Race (Treatment Episode Data Set, 2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Black	63.4%	62.6%	60.7%	62.7%	59.6%	60.3%	56.9%	57.5%	57.1%
White	55.2%	55.8%	58.0%	57.9%	60.3%	63.4%	61.4%	59.6%	61.2%
Other	51.0%	49.6%	45.3%	46.1%	54.0%	56.1%	58.3%	59.3%	58.6%

Source: Substance Abuse and Mental Health Data Archive, n.d.

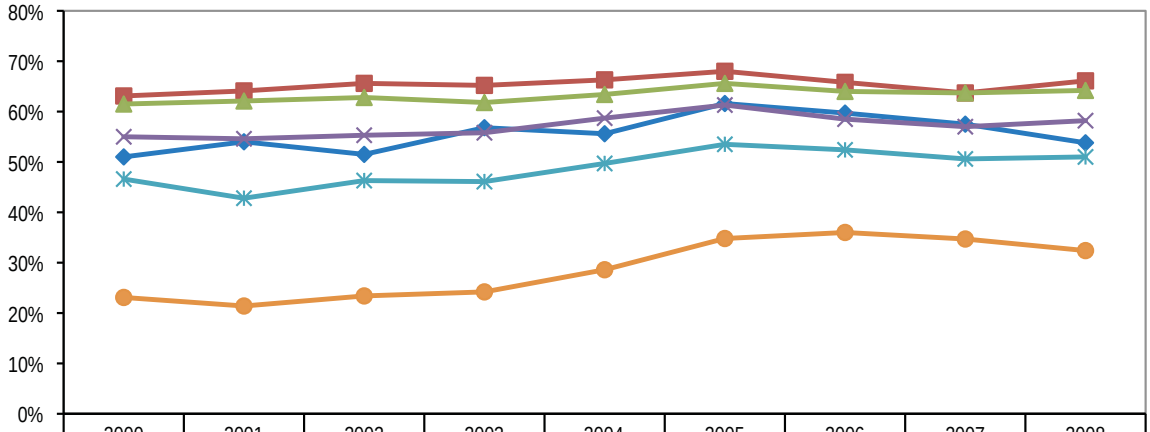
Figure 10.6 Percentage of Indiana Treatment Episodes with Use of Two and Three Substances Reported at Treatment Admission, by Race (Treatment Episode Data Set, 2008)



	Black	White	Other
3 Drugs Reported	19.5%	26.3%	22.5%
2 Drugs Reported	37.6%	34.9%	36.1%

Source: Substance Abuse and Mental Health Data Archive, n.d.

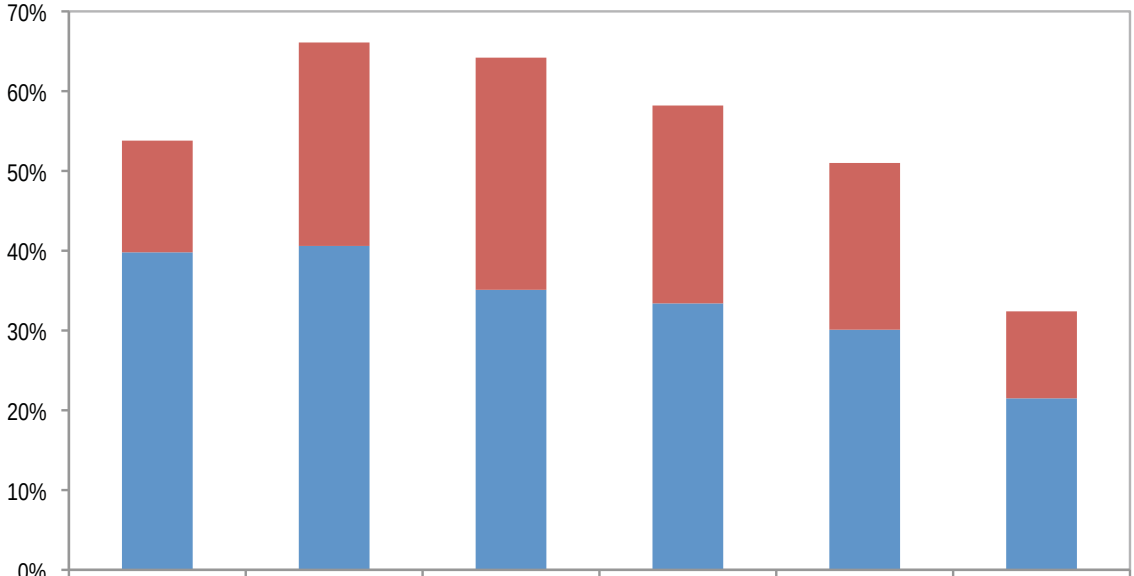
Figure 10.7 Percentage of Indiana Treatment Episodes with Polysubstance Abuse (Use of at Least Two Substances) Reported at Treatment Admission, by Age (Treatment Episode Data Set, 2000–2008)



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Under 18	51.0%	54.0%	51.5%	56.8%	55.6%	61.6%	59.7%	57.5%	53.8%
18 to 24	63.1%	64.1%	65.6%	65.2%	66.3%	68.0%	65.8%	63.7%	66.1%
25 to 34	61.5%	62.1%	62.8%	61.8%	63.4%	65.6%	64.0%	63.7%	64.2%
35 to 44	55.0%	54.6%	55.3%	55.8%	58.7%	61.3%	58.5%	57.0%	58.2%
45to 54	46.6%	42.8%	46.3%	46.1%	49.7%	53.5%	52.4%	50.6%	51.0%
55 and Over	23.1%	21.4%	23.4%	24.2%	28.6%	34.8%	36.0%	34.7%	32.4%

Source: Substance Abuse and Mental Health Data Archive, n.d.

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, 2008)



	Under 18	18 to 24	25 to 34	35 to 44	45to 54	55 and Over
3 Drugs Reported	14.0%	25.5%	29.1%	24.8%	20.9%	10.9%
2 Drugs Reported	39.8%	40.6%	35.1%	33.4%	30.1%	21.5%

Source: Substance Abuse and Mental Health Data Archive, n.d.

Polysubstance Abuse Clusters in Indiana

Statewide Analysis — We conducted a cluster analysis of 2008 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). Second, we used the results of the hierarchical cluster analysis to create "seed points" to serve as cluster centroids for follow-up K-Means cluster analyses, specifying 2 to 20 clusters. We selected this two-step method because it produces clusters that are more easily interpretable (Hair et al., 1995).

Then, to select the final classification solution, we compared the cubic clustering criteria (the expected value of the within sum of squares) with the face-validity of the set of drugs across the clusters (Hair et al., 1995). The results of the K-Means cluster analyses indicated that a 7-cluster solution best fit the available data.

Tables 10.1 and 10.2, pages 176-177, show the image and identity matrices for the 7-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, 100% used cocaine, 11% used opiates/synthetics, and so on.

In past versions of the report, a specific drug was considered part of a cluster if at least 50% of the individuals within the cluster used the drug. Due to the nature of the 2008 data, this report uses a cut-off point of 40% to place a specific drug within a cluster. This change in methodology only affected one cluster.

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 40% 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 40% 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 1 and 4. These clusters accounted for more than half of polysubstance users in the analysis (55.1%). Individuals in cluster 1 reported using a combination of alcohol and marijuana. Polysubstance users in cluster 4 reported using a combination of alcohol, cocaine, and marijuana. The remaining five clusters each accounted for 4.6% to 14.0% of polysubstance users.

Alcohol was the most commonly reported drug, appearing in six of the seven clusters. Marijuana was the second most commonly represented drug, occurring in five of the seven clusters. Cocaine was the third most frequently reported drug, and it was included in three of the seven clusters. Opiates/synthetic drugs, methamphetamine, benzodiazepines, and heroin, were each represented in one cluster. For detailed information on all seven clusters, see Table 10.3 (page 177).

Table 10.4 (page 178) breaks down the clusters by demographic characteristics. In terms of gender, men accounted for 50% or more of the individuals within all seven clusters. The difference in the percentages of men to women was smaller in clusters 2, 5, and 7, indicating that women may be more likely to use these combinations of drugs. Clusters 1, 3, and 6 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 3 and 4. These clusters were similar to one another in that both included cocaine. Whites represented more than 90% of the population in clusters 2, 6, and 7. These three clusters included opiates/synthetics, methamphetamine, and benzodiazepines.

Over 50% of polysubstance abusers within six of the seven 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 1 (alcohol and marijuana) and 7 (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 2009 county-level TEDS data set. Appendix 10B (pages 183-188) 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 81 of 92 counties.

Table 10.1 Image Matrix for Polysubstance Abuse Clusters (Treatment Episode Data Set, 2008)

Image Matrix	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Cluster 7
Drug							
alcohol	1.00	0.50	1.00	0.77	0.33	0.54	0.63
cocaine	0.00	0.14	1.00	1.00	0.42	0.12	0.07
marijuana	1.00	0.59	0.00	1.00	0.29	0.74	0.83
heroin	0.01	0.00	0.00	0.00	1.00	0.01	0.00
methadone	0.01	0.04	0.01	0.00	0.03	0.01	0.06
opiates/synthetics	0.00	1.00	0.11	0.00	0.32	0.12	0.00
pcp	0.00	0.00	0.00	0.00	0.00	0.00	0.00
hallucinogens	0.02	0.01	0.01	0.01	0.01	0.00	0.01
methamphetamine	0.00	0.01	0.08	0.00	0.04	1.00	0.00
amphetamines	0.01	0.01	0.01	0.01	0.01	0.01	0.05
stimulants	0.01	0.00	0.00	0.00	0.00	0.00	0.01
benzodiazepines	0.00	0.26	0.04	0.00	0.14	0.06	0.88
tranquilizers	0.00	0.01	0.00	0.00	0.01	0.00	0.00
barbiturates	0.00	0.00	0.00	0.00	0.01	0.00	0.01
sedatives/hypnotics	0.01	0.03	0.01	0.00	0.02	0.01	0.05
inhalants	0.00	0.00	0.00	0.00	0.00	0.00	0.01
over-the-counter	0.01	0.00	0.00	0.00	0.00	0.00	0.01
other drug	0.02	0.01	0.01	0.00	0.01	0.00	0.02

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, 0% used cocaine, 100% used marijuana, 1% used heroin and so on.
Source: Substance Abuse and Mental Health Data Archive, n.d.

Table 10.2 Identity Matrix for Polysubstance Abuse Clusters (Treatment Episode Data Set, 2008)

Image Matrix	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Cluster 7
alcohol	1	1	1	1	0	1	1
cocaine	0	0	1	1	1	0	0
marijuana	1	1	0	1	0	1	1
heroin	0	0	0	0	1	0	0
methadone	0	0	0	0	0	0	0
opiates/synthetics	0	1	0	0	0	0	0
pcp	0	0	0	0	0	0	0
hallucinogens	0	0	0	0	0	0	0
methamphetamine	0	0	0	0	0	1	0
amphetamines	0	0	0	0	0	0	0
stimulants	0	0	0	0	0	0	0
benzodiazepines	0	0	0	0	0	0	1
tranquilizers	0	0	0	0	0	0	0
barbiturates	0	0	0	0	0	0	0
sedatives/hypnotics	0	0	0	0	0	0	0
inhalants	0	0	0	0	0	0	0
over-the-counter	0	0	0	0	0	0	0
other drug	0	0	0	0	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 40% of people in a cluster used the drug, and a “0” indicates that less than 40% 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, n.d.

Table 10.3 Number and Percentage of Treatment Episodes within Each Cluster in Indiana (Treatment Episode Data Set, 2008)

Cluster	Number of Treatment Episodes Within Cluster	Percentage)
1 – alcohol/marijuana	4,403	38.2%
4 – alcohol/cocaine/marijuana	1,941	16.8%
2 – alcohol/marijuana/opiates-synthetics	1,615	14.0%
6 – alcohol/marijuana/methamphetamine	1,411	12.2%
3 – alcohol/cocaine	1,043	9.1%
5 – cocaine/heroin	584	5.1%
7 – alcohol/marijuana/benzodiazepines	527	4.6%

Source: Substance Abuse and Mental Health Data Archive, n.d.

Table 10.4 Demographic Characteristics of Polysubstance Abusers within Clusters (Treatment Episode Data Set, 2008)

	Cluster 1		Cluster 2		Cluster 3		Cluster 4	
	n = 4403	%	n = 1615	%	n = 1043	%	n = 1941	%
Gender								
Male	3,411	77.5	916	56.7	645	61.8	1,246	64.2
Female	992	22.5	699	43.3	398	38.2	695	35.8
Race								
White	3,442	78.2	1,501	92.9	660	63.3	1,213	62.5
Black	669	15.2	56	3.5	325	31.2	609	31.4
Other	292	6.6	58	3.6	58	5.5	119	6.1
Ethnicity								
Non-Hispanic	4,177	94.9	1,580	97.8	972	93.2	1,834	94.5
Hispanic	226	5.1	35	2.2	71	6.8	107	5.5
Age								
12-20	998	22.7	212	13.1	30	2.9	141	7.3
21-29	1,857	42.2	753	46.6	211	20.2	601	30.9
30-39	816	18.5	387	24.0	298	28.6	579	29.8
40-49	538	12.2	193	11.9	354	33.9	475	24.5
50 and Older	189	4.3	69	4.3	150	14.4	139	7.2
Unknown	5	0.1	1	0.1	0	0.0	6	0.3
Education								
Less than H.S.	1,630	37.0	552	34.2	323	31.0	732	37.7
H.S. Diploma	1,788	40.6	669	41.4	441	42.3	778	40.1
Above H.S.	782	17.8	223	13.8	241	23.1	354	18.2
Unknown	203	4.6	59	3.7	38	3.6	77	4.0

	Cluster 5		Cluster 6		Cluster 7	
	n = 584	%	n = 1411	%	n = 527	%
Gender						
Male	339	58.0	862	61.1	309	58.6
Female	245	42.0	549	38.9	218	41.4
Race						
White	492	84.2	1,337	94.8	482	91.5
Black	75	12.8	20	1.4	25	4.7
Other	17	3.0	54	3.8	20	3.8
Ethnicity						
Non-Hispanic	560	95.9	1,377	97.6	517	98.1
Hispanic	24	4.1	34	2.4	10	1.9
Age						
12-20	45	7.7	108	7.3	132	25.1
21-29	255	43.7	594	42.1	232	44.0
30-39	148	25.3	454	32.2	97	18.4
40-49	82	14.0	211	15.0	51	9.7
50 and Older	53	9.1	42	2.9	14	2.6
Unknown	1	0.2	2	0.1	1	0.2
Education						
Less than H.S.	155	26.5	552	39.1	235	44.6
H.S. Diploma	271	46.4	615	43.6	195	37.0
Above H.S.	148	25.4	212	15.0	69	13.1
Unknown	10	1.7	32	2.3	28	5.3

Source: Substance Abuse and Mental Health Data Archive, n.d.

Co-occurring Disorder (Comorbidity of Substance Abuse and Mental Illness)

The terms "co-occurring disorder" and "dual diagnosis" are frequently used to denote the co-occurrence of mental illness and substance abuse.

Mental Illness

Adults — According to findings from the 2007 National Survey on Drug Use and Health (NSDUH), 12.8% of Indiana adults (95% Confidence Interval [CI]: 11.2–14.6) experienced serious psychological distress in the past year; Indiana's prevalence rate was significantly higher than the U.S. rate (11.1%). Furthermore, 8.8% of adult Hoosiers (95% CI: 7.4–10.5) suffered from at least one major depressive episode in the past year (U.S.: 7.3%) (see Table 10.5) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

The Substance Abuse and Mental Health Services Administration (SAMHSA) defines severe mental illness (SMI) as any diagnosable mental disorder, using DSM-IV[1] criteria, that severely impacts functioning and significantly affects normal life activities (Substance Abuse and Mental Health Services Administration, 2002). In 2008, 5.4% of adult Hoosiers were estimated to be suffering from SMI, representing almost 250,000 individuals within the state (Indiana Family and Social Services Administration, Division of Mental Health and Addiction, n.d.).

Youth — In children and adolescents, the term serious emotional disturbance (SED) is used instead of SMI. Overall functioning of the individual with SED is measured by the Global Assessment of Functioning (GAF)[2] scale. Scores range from 0 to 100; lower scores translate into lower overall functioning (American Psychiatric Association, 1994). The estimated prevalence rates of SED in children ages 9 to 17 were 10.0% (GAF score lower than 60) and 6.0% (GAF score lower than 50). These rates translate into nearly 86,000 and over 51,000 Indiana children, respectively, in 2008 (Indiana Family and Social Services Administration, Division of Mental Health and Addiction, n.d.).

In 2008, 9.0% of 12- to 17-year-olds (95% CI: 7.5–10.8) had at least one major depressive episode in the past year, a rate similar to the nation's (8.2%) (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.).

The link between mental illness and suicide is strong; an estimated 90% of children and adolescents who commit suicide have a mental disorder (U.S. Department of Health and Human Services, 1999; U.S. Department of Health and Human Services, 2000). Based on results from the 2009 Youth Risk Behavior Surveillance System (YRBSS), 9.3% (95% CI: 7.2–11.9) of high school students in Indiana have attempted suicide at least once during the previous 12 months. Indiana's rate was significantly higher than the U.S. rate of 6.3% (95% CI: 5.7–7.0) (see Figure 10.9). No statistical differences were found by gender, grade level, or race (Centers for Disease Control and Prevention, n.d.).

Table 10.5 Prevalence Numbers and Percentages of Indiana Adults Experiencing Serious Psychological Distress and Having at Least One Major Depressive Episode in the Past Year, by Age Group (National Survey on Drug Use and Health, 2006–2007 Averages)[3]

Age Group	Serious Psychological Distress		Having at Least One Major Depressive Episode	
	Number	Percentage	Number	Percentage
18-25	140,000	20.3%	74,000	10.7%
26+	454,000	11.5%	336,000	8.5%
Total Adult Population (18+)	594,000	12.8%	410,000	8.8%

Source: Substance Abuse and Mental Health Services Administration, Office of Applied Studies, n.d.

[1] *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition; American Psychiatric Association, 1994.
[2] A GAF score of 60-51 in children indicates moderate symptoms OR any moderate difficulty in social, occupational, or school functioning, while a score of 50-41 indicates serious symptoms OR any serious impairment in social, occupational, or school functioning (United Way of Central Indiana, 2008).
[3] 2006-2007 averages for "serious psychological distress" and "having at least one major depressive episode" are the most recent data available at the state level due to question changes in NSDUH data collection. Additional and more recent findings will be included in a separate forthcoming report from the Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

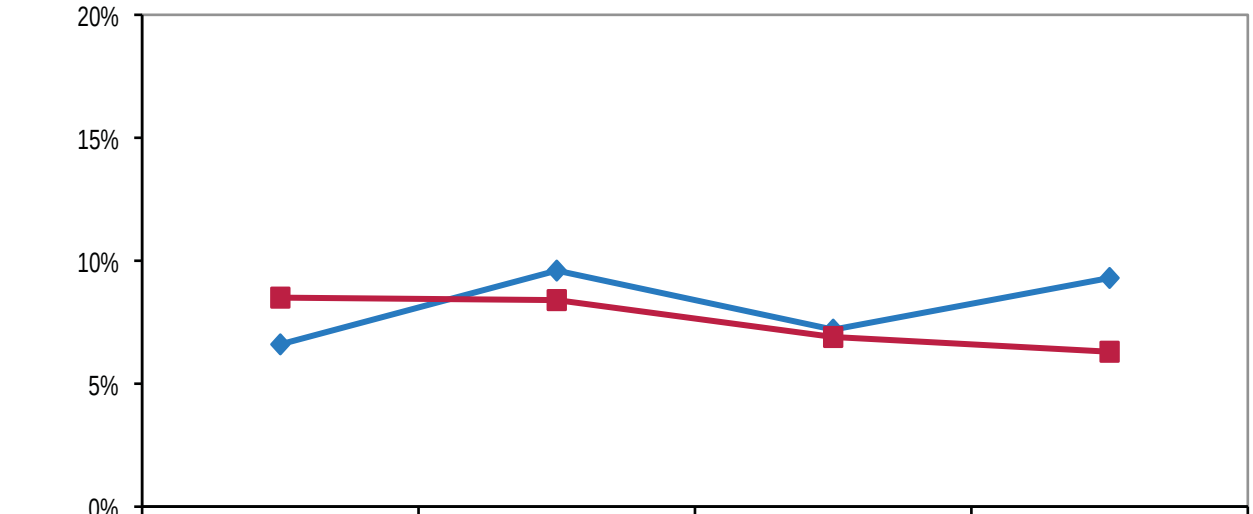
Co-occurring Disorder

Research has shown that co-occurring mental and substance abuse disorders are very common (National Alliance on Mental Illness, 2003):

- Of all people diagnosed with a mental illness, 29% also abuse alcohol and/or drugs.
- Of all people diagnosed with SMI, 50% abuse alcohol and/or drugs.
- Of all people who abuse alcohol, 37% have at least one SMI.
- Of all people who abuse drugs, 53% have at least one SMI.

In Indiana, an estimated 23.2% of adults with SMI also suffer from chronic addiction. This translates into over 57,000 Hoosiers with co-occurring disorder (Indiana Family and Social Services Administration, Division of Mental Health and Addiction, n.d.).

Figure 10.9 Percentages of Indiana and U.S. High School Students Who Have Attempted Suicide One or More Times in the Past Year (Youth Risk Behavior Surveillance System, 2003-2009)



	2003	2005	2007	2009
Indiana	6.6%	9.6%	7.2%	9.3%
U.S.	8.5%	8.4%	6.9%	6.3%

Source: Centers for Disease Control and Prevention, n.d.

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, 2009)

	Treatment Episodes	Use of 2 Substances		Use of 3 Substances		Polysubstance Abuse	
County	Total	Number	Percentage	Number	Percentage	Number	Percentage
Adams	131	42	32.1%	29	22.1%	71	54.2%
Allen	1,971	881	44.7%	442	22.4%	1,323	67.1%
Bartholomew	327	103	31.5%	103	31.5%	206	63.0%
Benton	20	7	35.0%	6	30.0%	13	65.0%
Blackford	141	63	44.7%	38	27.0%	101	71.6%
Boone	205	66	32.2%	43	21.0%	109	53.2%
Brown	72	24	33.3%	14	19.4%	38	52.8%
Carroll	83	39	47.0%	18	21.7%	57	68.7%
Cass	144	48	33.3%	24	16.7%	72	50.0%
Clark	512	137	26.8%	152	29.7%	289	56.4%
Clay	199	77	38.7%	39	19.6%	116	58.3%
Clinton	82	30	36.6%	26	31.7%	56	68.3%
Crawford	53	18	34.0%	10	18.9%	28	52.8%
Daviess	247	53	21.5%	82	33.2%	135	54.7%
Dearborn	259	88	34.0%	53	20.5%	141	54.4%
Decatur	77	27	35.1%	15	19.5%	42	54.5%
DeKalb	221	72	32.6%	39	17.6%	111	50.2%
Delaware	873	314	36.0%	223	25.5%	537	61.5%
DuBois	261	59	22.6%	59	22.6%	118	45.2%
Elkhart	893	368	41.2%	127	14.2%	495	55.4%
Fayette	54	13	24.1%	14	25.9%	27	50.0%
Floyd	168	29	17.3%	64	38.1%	93	55.4%
Fountain	67	28	41.8%	19	28.4%	47	70.1%
Franklin	36	11	30.6%	8	22.2%	19	52.8%
Fulton	144	75	52.1%	25	17.4%	100	69.4%
Gibson	118	49	41.5%	29	24.6%	78	66.1%
Grant	481	183	38.0%	144	29.9%	327	68.0%
Greene	170	52	30.6%	31	18.2%	83	48.8%
Hamilton	698	279	40.0%	188	26.9%	467	66.9%
Hancock	126	28	22.2%	8	6.3%	36	28.6%
Harrison	53	15	28.3%	20	37.7%	35	66.0%
Hendricks	314	70	22.3%	41	13.1%	111	35.4%
Henry	118	33	28.0%	33	28.0%	66	55.9%
Howard	666	205	30.8%	188	28.2%	393	59.0%
Huntington	64	23	35.9%	12	18.8%	35	54.7%
Jackson	147	47	32.0%	49	33.3%	96	65.3%
Jasper	43	20	46.5%	9	20.9%	29	67.4%
Jay	66	26	39.4%	18	27.3%	44	66.7%
Jefferson	185	47	25.4%	42	22.7%	89	48.1%
Jennings	147	40	27.2%	45	30.6%	85	57.8%
Johnson	325	90	27.7%	68	20.9%	158	48.6%
Knox	368	133	36.1%	82	22.3%	215	58.4%
Kosciusko	213	68	31.9%	64	30.0%	132	62.0%
LaGrange	167	60	35.9%	50	29.9%	110	65.9%
Lake	2,554	875	34.3%	474	18.6%	1,349	52.8%
LaPorte	633	198	31.3%	139	22.0%	337	53.2%

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APPENDIX 10A

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	Treatment Episodes	Use of 2 Substances		Use of 3 Substances		Polysubstance Abuse	
County	**Total**	**Number**	**Percentage**	**Number**	**Percentage**	**Number**	**Percentage**
Lawrence	372	114	30.6%	71	19.1%	185	49.7%
Madison	895	196	21.9%	376	42.0%	572	63.9%
Marion	4,339	1,267	29.2%	849	19.6%	2,116	48.8%
Marshall	228	71	31.1%	81	35.5%	152	66.7%
Martin	95	16	16.8%	23	24.2%	39	41.1%
Miami	169	65	38.5%	41	24.3%	106	62.7%
Monroe	1,376	501	36.4%	169	12.3%	670	48.7%
Montgomery	188	63	33.5%	52	27.7%	115	61.2%
Morgan	472	119	25.2%	66	14.0%	185	39.2%
Newton	16	9	56.3%	< 5	N/A	13	81.3%
Noble	324	127	39.2%	71	21.9%	198	61.1%
Ohio	14	5	35.7%	< 5	N/A	7	50.0%
Orange	83	21	25.3%	12	14.5%	33	39.8%
Owen	267	104	39.0%	28	10.5%	132	49.4%
Parke	119	37	31.1%	33	27.7%	70	58.8%
Perry	149	45	30.2%	45	30.2%	90	60.4%
Pike	42	10	23.8%	11	26.2%	21	50.0%
Porter	477	151	31.7%	134	28.1%	285	59.7%
Posey	162	47	29.0%	45	27.8%	92	56.8%
Pulaski	43	11	25.6%	11	25.6%	22	51.2%
Putnam	142	34	23.9%	11	7.7%	45	31.7%
Randolph	82	34	41.5%	12	14.6%	46	56.1%
Ripley	85	24	28.2%	9	10.6%	33	38.8%
Rush	49	19	38.8%	6	12.2%	25	51.0%
Saint Joseph	1,376	445	32.3%	503	36.6%	948	68.9%
Scott	101	25	24.8%	34	33.7%	59	58.4%
Shelby	107	46	43.0%	15	14.0%	61	57.0%
Spencer	146	28	19.2%	45	30.8%	73	50.0%
Starke	180	61	33.9%	38	21.1%	99	55.0%
Steuben	115	44	38.3%	25	21.7%	69	60.0%
Sullivan	99	31	31.3%	23	23.2%	54	54.5%
Switzerland	55	15	27.3%	11	20.0%	26	47.3%
Tippecanoe	473	178	37.6%	152	32.1%	330	69.8%
Tipton	51	16	31.4%	14	27.5%	30	58.8%
Union	25	5	20.0%	< 5	N/A	6	24.0%
Vanderburgh	1,664	565	34.0%	553	33.2%	1,118	67.2%
Vermillion	136	39	28.7%	18	13.2%	57	41.9%
Vigo	1,009	386	38.3%	214	21.2%	600	59.5%
Wabash	181	66	36.5%	34	18.8%	100	55.2%
Warren	23	9	39.1%	9	39.1%	18	78.3%
Warrick	344	107	31.1%	119	34.6%	226	65.7%
Washington	91	30	33.0%	24	26.4%	54	59.3%
Wayne	384	140	36.5%	78	20.3%	218	56.8%
Wells	141	62	44.0%	38	27.0%	100	70.9%
White	163	56	34.4%	59	36.2%	115	70.6%
Whitley	101	48	47.5%	19	18.8%	67	66.3%
Indiana	32,049	10,705	33.4%	7,594	23.7%	18,299	57.1%

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.
Source: Indiana Family and Social Services Administration, Revenue Enhancement and Data, 2010

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, 2009)

County	Cluster #	Cluster Composition	N	%
Adams				
	2	alcohol, marijuana	41	59.4
	1	alcohol, cocaine	19	27.5
	3	marijuana, opiates/ synthetics	9	13.0
	Total		69	100.0
Allen				
	1	alcohol, marijuana	679	55.2
	2	alcohol, marijuana, cocaine	269	21.9
	4	alcohol, cocaine	136	11.1
	3	cocaine, marijuana	76	6.2
	5	alcohol, marijuana, opiates/synthetics	70	5.7
	Total		1230	100.0
Bartholomew				
	1	alcohol, marijuana	61	32.1
	3	alcohol, methamphetamine	31	16.3
	5	marijuana, methamphetamine	27	14.2
	4	alcohol, cocaine, marijuana	22	11.6
	7	alcohol, opiates/ synthetics	19	10.0
	2	marijuana, opiates/ synthetics	16	8.4
	6	alcohol, marijuana, opiates/synthetics	14	7.4
	Total		190	100.0
Benton				
	1	alcohol, marijuana	12	100.0
	Total		12	100.0
Blackford				
	1	alcohol, marijuana	52	53.1
	2	alcohol, cocaine, marijuana	23	23.5
	3	alcohol, marijuana, opiates/synthetics	23	23.5
	Total		98	100.0
Boone				
	1	alcohol, marijuana	49	49.5
	3	marijuana, opiates/ other synthetics	31	31.3
	2	alcohol, cocaine, marijuana	19	19.2
	Total		98	100.0
Brown				
	1	alcohol, marijuana	49	49.5
	2	alcohol, opiates/other synthetics	7	20.6
	Total		34	100.0
Carroll				
	1	alcohol, marijuana	39	73.6
	2	alcohol, marijuana, methamphetamine	14	26.4
	Total		53	100.0
Cass				
	1	alcohol, marijuana	43	64.2
	3	alcohol, marijuana, opiates/other synthetics	15	22.4
	2	marijuana, methamphetamine	9	13.4
	Total		67	100.0

County	Cluster #	Cluster Composition	N	%
Clark				
	1	alcohol, marijuana	81	28.4
	4	alcohol, opiates/other synthetics	50	17.5
	5	alcohol, cocaine, marijuana	46	16.1
	2	opiates/other synthetics, benzodiazepines	43	15.1
	3	marijuana, opiates/ other synthetics	35	12.3
	6	alcohol, cocaine	30	10.5
	Total		285	100.0
Clay				
	1	alcohol, marijuana	58	51.8
	2	alcohol, marijuana, methamphetamine	21	18.8
	3	alcohol, methamphetamine	12	10.7
	4	marijuana, methamphetamine	12	10.7
	5	opiates/other synthetics, methamphetamine	9	8.0
	Total		112	100.0
Clinton				
	1	alcohol, marijuana	35	67.3
	2	alcohol, cocaine, marijuana	9	17.3
	3	alcohol, marijuana, opiates/other synthetics	8	15.4
	Total		52	100.0
Crawford				
	1	alcohol, marijuana	26	100.0
	Total		26	100.0
Daviess				
	4	alcohol, marijuana	34	28.8
	3	marijuana, methamphetamine	32	27.1
	1	alcohol, marijuana, methamphetamine	29	24.6
	2	alcohol, opiates/other synthetics	23	19.5
	Total		118	100.0
Dearborn				
	2	alcohol, marijuana	68	49.3
	3	alcohol, opiates/other synthetics	29	21.0
	1	marijuana, opiates/ other synthetics	26	18.8
	4	heroin, opiates/other synthetics	15	10.9
	Total		138	100.0
Decatur				
	3	alcohol, marijuana	39	100.0
	Total		39	100.0
DeKalb				
	1	alcohol, marijuana	58	57.4
	3	alcohol, methamphetamines	29	28.7
	2	cocaine, marijuana, methamphetamines	14	13.9
	Total		101	100.0

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APPENDIX 10B *(continued from previous page)*

County	Cluster #	Cluster Composition	N	%
Delaware				
	2	alcohol, marjiuana	190	36.8
	4	alcohol, cocaine, marijuana	102	19.8
	3	alcohol, marijuana, opiates/other synthetics	81	15.7
	6	alcohol, opiates/other synthetics	61	11.8
	1	alcohol, cocaine	49	9.5
	5	alcohol, marijuana, benzodiazepines	33	6.4
	Total		516	100.0
DuBois				
	1	alcohol, marijuana	58	52.7
	2	alcohol, methamphetamine	20	18.2
	4	marijuana, methamphetamine	18	16.4
	3	alcohol, marijuana, methamphetamine	14	12.7
	Total		110	100.0
Elkhart				
	1	alcohol, marijuana	258	54.7
	2	alcohol, cocaine, marijuana	100	21.2
	3	alcohol, cocaine	58	12.3
	4	marijuana, methamphetamine	56	11.9
	Total		472	100.0
Fayette				
	1	alcohol, marijuana	13	50.0
	2	marijuana, opiates/ other synthetics	13	50.0
	Total		26	100.0
Floyd				
	1	alcohol, cocaine, marijuana	33	36.3
	2	alcohol, marijuana, opiates/other synthetics	24	26.4
	3	alcohol, opiates/ other synthetics, benzodiazepines	20	22.0
	4	marijuana, benzodiazepines	14	15.4
	Total		91	100.0
Fountain				
	1	alcohol, marijuana	33	75.0
	2	methamphetamine, benzodiazepines	11	25.0
	Total		44	100.0
Franklin				
	1	alcohol, marijuana	7	38.9
	2	marijuana, opiates/ other synthetics	6	33.3
	3	alcohol, cocaine	5	27.8
	Total		18	100.0
Fulton				
	1	alcohol, marijuana	69	70.4
	2	alcohol, opiates/other synthetics	16	16.3
	3	alcohol, marijuana, methamphetamine	13	13.3
	Total		98	100.0
Gibson				
	1	alcohol, unknown	35	46.7
Gibson (cont.)	3	methamphetamine, marijuana, unknown	24	32.0
	2	alcohol, marijuana, methamphetamine	9	12.0
	4	alcohol, marijuana	7	9.3
	Total		75	100.0
Grant				
	3	alcohol, marijuana	170	53.8
	2	alcohol, marijuana, opiates/other synthetics	77	24.4
	1	alcohol, cocaine, marijuana	69	21.8
	Total		316	100.0
Greene				
	1	alcohol, marijuana	30	40.0
	4	alcohol, marijuana, methamphetamine	15	20.0
	5	alcohol, marijuana, benzodiazepines	11	14.7
	2	alcohol, methamphetamine	10	13.3
	3	marijuana, opiates/ other synthetics	9	12.0
	Total		75	100.0
Hamilton				
	1	alcohol, marijuana	252	59.9
	4	alcohol, cocaine, marijuana	73	17.3
	2	alcohol, marijuana, opiates/other synthetics	54	12.8
	3	cocaine, marijuana, opiates/other synthetics	42	10.0
	Total		421	100.0
Hancock				
	1	alcohol, marijuana	26	72.2
	2	alcohol, cocaine	10	27.8
	Total		36	100.0
Harrison				
	1	alcohol, marijuana	14	43.8
	2	marijuana, methamphetamine	10	31.2
	3	alcohol, cocaine, opiates/synthetics	8	25.0
	Total		32	100.0
Hendricks				
	2	alcohol, marijuana	53	50.5
	3	alcohol, cocaine, marijuana	29	27.6
	1	marijuana, opiates/ other synthetics	23	21.9
	Total		105	100.0
Henry				
	1	alcohol, marijuana	25	37.9
	3	alcohol, opiates/ other synthetics, benzodiazepines	22	33.3
	2	cocaine, opiates/other synthetics	19	28.8
	Total		66	100.0
Howard				
	1	alcohol, marijuana	135	37.1
	2	alcohol, cocaine, marijuana	63	17.3
	6	alcohol, marijuana, opiates/synthetics	41	11.3

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APPENDIX 10B *(continued from previous page)*

County	Cluster #	Cluster Composition	N	%
Howard (cont.)	5	alcohol, opiates/other synthetics	35	9.6
	4	marijuana, opiates/ synthetics, benzodiazepines	32	8.8
	7	cocaine, marijuana	31	8.5
	3	alcohol, marijuana, methamphetamine	27	7.4
	Total		364	100.0
Huntington				
	2	alcohol, marijuana	21	61.8
	1	marijuana, opiates/ synthetics	13	38.2
	Total		34	100.0
Jackson				
	2	alcohol, marijuana	40	44.9
	1	alcohol, marijuana, methamphetamine	28	31.5
	3	marijuana, opiates/ other synthetics	21	23.6
	Total		89	100.0
Jasper				
	1	alcohol, marijuana	18	62.1
	3	alcohol, cocaine	7	24.1
	2	marijuana, heroin, benzodiazepines	4	13.8
	Total		29	100.0
Jay				
	2	marijuana, benzodiazepines	32	72.7
	1	alcohol, marijuana	12	27.3
	Total		44	100.0
Jefferson				
	2	alcohol, marijuana	38	45.2
	1	alcohol, cocaine, marijuana	23	27.4
	3	marijuana, opiates/ synthetics	23	27.4
	Total		84	100.0
Jennings				
	2	alcohol, marijuana	33	39.8
	1	marijuana, opiates/ synthetics	26	31.3
	3	alcohol, marijuana, methamphetamine	24	28.9
	Total		83	100.0
Johnson				
	2	alcohol, marijuana	52	35.1
	3	alcohol, other opiates/ synthetics	22	14.9
	4	marijuana, opiates/ synthetics	21	14.2
	6	alcohol, cocaine, marijuana	20	13.5
	1	alcohol, marijuana, benzodiazepines	19	12.8
	5	cocaine, marijuana	14	9.5
	Total		148	100.0
Knox				
	3	alcohol, marijuana	75	37.7
	1	marijuana, alcohol, methamphetamine	48	24.1
	4	marijuana, opiates/ synthetics	39	19.6

County	Cluster #	Cluster Composition	N	%
Knox (cont.)	2	marijuana, methamphetamine	37	18.6
	Total		199	100.0
Kosciusko				
	1	alcohol, marijuana	60	46.5
	3	alcohol, marijuana, methamphetamine	26	20.2
	2	alcohol, marijuana, opiates/synthetics	15	11.6
	4	alcohol, methamphetamine	15	11.6
	5	alcohol, cocaine, marijuana	13	10.1
	Total		98	100.0
LaGrange				
	2	alcohol, marijuana	54	51.9
	1	alcohol, marijuana, methamphetamine	35	33.7
	3	marijuana, methamphetamine	15	14.4
	Total		104	100.0
Lake				
	2	alcohol, marijuana	518	41.0
	1	alcohol, cocaine	406	32.1
	3	cocaine, heroin	339	26.8
	Total		1263	100.0
LaPorte				
	1	alcohol, marijuana	148	46.8
	3	alcohol, cocaine, marijuana	84	26.6
	2	alcohol, opiates/ synthetics	45	14.2
	4	cocaine, heroin	39	12.3
	Total		316	100.0
Lawrence				
	2	alcohol, marijuana	70	39.3
	1	marijuana, opiates/ synthetics	30	16.9
	3	alcohol, cocaine, marijuana, methamphetamine	27	15.2
	4	alcohol, benzodiazepines	26	14.6
	5	alcohol, marijuana, opiates/synthetics	25	14.0
	Total		178	100.0
Madison				
	2	alcohol, marijuana	276	51.5
	4	alcohol, cocaine, marijuana	116	21.6
	3	opiates/synthetics, benzodiazepines	73	13.6
	1	alcohol, marijuana, benzodiazepines	71	13.2
	Total		536	100.0
Marion				
	1	alcohol, marijuana	620	31.0
	4	alcohol, cocaine, marijuana	313	15.7
	2	cocaine, alcohol	281	14.1
	6	alcohol, marijuana, opiates/synthetics	192	9.6
	3	cocaine, marijuana	131	6.6
	7	cocaine, heroin	123	6.2

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APPENDIX 10B *(continued from previous page)*

County	Cluster #	Cluster Composition	N	%
Marion (cont.)	5	heroin, opiates/ synthetics	113	5.7
	8	alcohol, benzodiazepines	80	4.0
	9	opiates/synthetics, benzodiazepines	77	3.9
	10	cocaine, opiates/ synthetics	70	3.5
	Total		2000	100.0
Marshall				
	1	alcohol, marijuana	54	37.2
	2	alcohol, marijuana, methamphetamine	26	17.9
	4	cocaine, alcohol, marijuana	23	15.9
	5	alcohol, marijuana	20	13.8
	3	alcohol, marijuana, unknown	15	10.3
	6	marijuana, opiates/ synthetics	7	4.8
	Total		145	100.0
Martin				
	1	methamphetamine, alcohol, marijuana	12	34.3
	2	alcohol, marijuana	11	31.4
	4	marijuana, opiates/ synthetics	8	22.9
	3	alcohol, opiates/ synthetics	4	11.4
	Total		35	100.0
Miami				
	1	alcohol, marijuana	100	100.0
	Total		100	100.0
Monroe				
	1	alcohol, marijuana	305	49.0
	2	alcohol, marijuana, cocaine	168	27.0
	3	marijuana, opiates/ synthetics	149	24.0
	Total		622	100.0
Montgomery				
	2	alcohol, marijuana	62	55.4
	1	marijuana, opiates/ synthetics	29	25.9
	3	marijuana/ methamphetamine	21	18.8
	Total		112	100.0
Morgan				
	1	alcohol, marijuana	78	43.8
	3	alcohol, marijuana, opiates/synthetics	32	18.0
	2	alcohol, marijuana, methamphetamine	30	16.9
	4	alcohol, cocaine, marijuana	23	12.9
	5	alcohol, benzodiazepines	15	8.4
	Total		178	100.0
Newton				
	1	alcohol, marijuana	12	100.0
	Total		12	100.0
Noble				
	5	alcohol, marijuana	69	35.6
	2	marijuana, methamphetamine	37	19.1
Noble (cont.)	1	alcohol, marijuana, methamphetamine	34	17.5
	3	alcohol, methamphetamine	29	14.9
	4	alcohol, cocaine	25	12.9
	Total		194	100.0
Ohio				
	2	alcohol, marijuana, opiates/synthetics	6	60.0%
	1	alcohol, marijuana	7	100.0
	Total		7	100.0
Orange				
	1	alcohol, marijuana	19	61.3
	2	opiates/synthetics, marijuana	12	38.7
	Total		31	100.0
Owen				
	2	alcohol, marijuana	64	53.8
	3	marijuana, methamphetamine	27	22.7
	1	marijuana, opiates/ synthetics	17	14.3
	4	alcohol, methamphetamine	11	9.2
	Total		119	100.0
Parke				
	1	alcohol, marijuana	24	36.9
	2	marijuana, methamphetamine	15	23.1
	3	alcohol, marijuana, methamphetamine	13	20.0
	4	alcohol, methamphetamine	13	20.0
	Total		65	100.0
Perry				
	1	alcohol, marijuana	48	54.5
	2	alcohol, methamphetamine, marijuana	18	20.5
	4	alcohol, methamphetamine	12	13.6
	3	marijuana, alcohol, benzodiazepines	10	11.4
	Total		88	100.0
Pike				
	2	alcohol, marijuana	11	52.4
	3	alcohol, marijuana, methamphetamine	6	28.6
	1	methamphetamine, opiates/synthetics	4	19.0
	Total		21	100.0
Porter				
	3	alcohol, marijuana	84	31.2
	2	alcohol, cocaine, marijuana	52	19.3
	4	alcohol, opiates/ synthetics	38	14.1
	1	alcohol, cocaine	35	13.0
	6	alcohol, marijuana, heroin	31	11.5
	5	heroin, opiates/ synthetics	29	10.8
	Total		269	100.0
Posey				
	1	alcohol, marijuana, unknown	41	47.7

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APPENDIX 10B *(continued from previous page)*

County	Cluster #	Cluster Composition	N	%
Posey (cont.)	2	marijuana, methamphetamine, alcohol	27	31.4
	3	marijuana, opiates/ synthetics	18	20.9
	Total		86	100.0
Pulaski				
	1	alcohol, marijuana	16	72.7
	2	marijuana, methamphetamine	6	27.3
	Total		22	100.0
Putnam				
	2	alcohol, marijuana	26	60.5
	1	marijuana, opiates/ synthetics	8	18.6
	4	opiates/synthetics, benzodiazepines	5	11.6
	3	alcohol, methamphetamine	4	9.3
	Total		43	100.0
Randolph				
	1	marijuana, unknown, alcohol	23	51.1
	3	alcohol, marijuana, opiates/synthetics	12	26.7
	2	alcohol, cocaine, marijuana	10	22.2
	Total		45	100.0
Ripley				
	1	alcohol, marijuana	16	48.5
	4	alcohol, cocaine, marijuana	7	21.2
	2	marijuana, opiates/ synthetics	5	15.2
	3	alcohol, opiates/ synthetics	5	15.2
	Total		33	100.0
Rush				
	1	alcohol, marijuana	16	64.0
	2	marijuana, opiates/ synthetics	9	36.0
	Total		25	100.0
Saint Joseph				
	1	alcohol, cocaine, marijuana	209	27.1
	6	alcohol, marijuana	148	19.2
	2	alcohol, cocaine	134	17.4
	3	cocaine, marijuana	104	13.5
	4	alcohol, unknown	91	11.8
	5	alcohol, opiates/ synthetics	84	10.9
	Total		770	100.0
Scott				
	1	alcohol, marijuana, opiates/synthetics	59	100.0
	Total		59	100.0
Shelby				
	1	alcohol, marijuana	36	59.0
	2	marijuana, benzodiazepines	13	21.3
	3	marijuana, heroin	12	19.7
	Total		61	100.0
Spencer				
	1	alcohol, marijuana, methamphetamine	21	30.4
	2	alcohol, marijuana	20	29.0
	5	alcohol, marijuana, opiates/synthetics	10	14.5
	3	marijuana, methamphetamine, benzodiazepines	9	13.0
	4	alcohol, cocaine, marijuana	9	13.0
	Total		69	100.0
Starke				
	1	alcohol, marijuana	39	44.3
	2	marijuana, opiates/ synthetics	27	30.7
	3	alcohol, cocaine	22	25.0
	Total		88	100.0
Steuben				
	1	alcohol, marijuana	43	62.3
	2	alcohol, marijuana, methamphetamine	18	26.1
	3	alcohol, marijuana, cocaine	8	11.6
	Total		69	100.0
Sullivan				
	1	alcohol, marijuana	43	62.3
	2	alcohol, marijuana, methamphetamine	18	26.1
	3	alcohol, marijuana, cocaine	8	11.6
	Total		52	100.0
Switzerland				
	1	alcohol, marijuana	17	68.0
	2	alcohol, cocaine	8	32.0
	Total		25	100.0
Tippecanoe				
	1	alcohol, marijuana	148	46.7
	5	marijuana, benzodiazepines	41	12.9
	2	cocaine, alcohol, marijuana	39	12.3
	3	alcohol, opiates/ synthetics	37	11.7
	4	cocaine, alcohol	27	8.5
	6	alcohol, marijuana, methamphetamine	25	7.9
	Total		317	100.0
Tipton				
	1	alcohol, marijuana	20	66.7
	2	opiates/synthetics, alcohol, marijuana	10	33.03
	Total		30	100.0
Union				
	1	alcohol, marijuana	5	100.0
	Total		5	100.0
Vanderburgh				
	1	alcohol, marijuana	325	31.3
	3	marijuana, methamphetamine	196	18.9
	4	alcohol, marijuana, methamphetamine	183	17.6
	2	alcohol, marijuana, opiates/synthetics	174	16.7
	5	alcohol, cocaine, marijuana	161	15.5
	Total		1039	100.0
Vermillion				
	1	alcohol, marijuana	21	42.9

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APPENDIX 10B *(continued from previous page)*

County	Cluster #	Cluster Composition	N	%
Vermillion (cont.)	3	alcohol, opiates/ synthetics	15	30.6
	2	alcohol, marijuana, methamphetamine	13	26.5
	Total		49	100.0
Vigo				
	2	alcohol, marijuana	154	27.9
	1	marijuana, methamphetamine	99	17.9
	4	alcohol, marijuana, methamphetamine	78	14.1
	5	alcohol, methamphetamine	69	12.5
	6	marijuana, methamphetamine, opiates/synthetics	62	11.2
	3	alcohol, cocaine, marijuana	55	10.0
	7	marijuana, benzodiazepines	35	6.3
	Total		552	100.0
Wabash				
	1	alcohol, marijuana	68	69.4
	2	heroin, opiates/ synthetics	30	30.6
	Total		98	100.0
Warren				
	1	alcohol, marijuana	10	58.8
	2	marijuana, opiates/ synthetics	7	41.2
	Total		17	100.0
Warrick				
	1	alcohol, marijuana, methamphetamine	61	29.6
	2	alcohol, marijuana	61	29.6
	5	marijuana, opiates/ synthetics	33	16.0
	4	alcohol, marijuana, benzodiazepines	26	12.6
	3	marijuana, methamphetamine	25	12.1
	Total		206	100.0
Washington				
	1	alcohol, marijuana	27	50.0
	4	alcohol, cocaine, marijuana	10	18.5
	2	benzodiazepines, marijuana	9	16.7
	3	marijuana, cocaine, opiates/synthetics	8	14.8
	Total		54	100.0
Wayne				
	3	alcohol, marijuana	76	37.1
	1	alcohol, opiates/ synthetics	75	36.6
	2	cocaine, alcohol, marijuana	54	26.3
	Total		205	100.0
Wells				
	2	alcohol, marijuana	61	65.6
	1	marijuana, opiates/ synthetics	18	19.4
	3	cocaine, marijuana, alcohol	14	15.1
	Total		93	100.0
White				
	1	alcohol, marijuana	52	47.7
	3	alcohol, marijuana, methamphetamine	20	18.3
	5	alcohol, marijuana, benzodiazepines	15	13.8
	2	marijuana, cocaine, alcohol	13	11.9
	4	alcohol, marijuana, opiates/synthetics	9	8.3
	Total		109	100.0
Whitley				
	1	alcohol, marijuana	42	65.6
	2	marijuana, methamphetamine	12	18.8
	3	alcohol, cocaine, marijuana	10	15.6
	Total		64	100.0

Note: Results from the county-level cluster analysis differ from the state-level findings.
Source: Indiana Family and Social Services Administration, Revenue Enhancement and Data, 2010

REFERENCES, CHAPTER 10

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders (DSM-IV)* (4th ed.). Washington, D.C.: American Psychiatric Association.

Centers for Disease Control and Prevention. (n.d.). *Youth Risk Behavior Surveillance System.* Retrieved September 1, 2010, from http://www.cdc.gov/HealthyYouth/yrbs/index.htm

Collins, R. L., Ellickson, P. L., & Bell, R. M. (1998). Simultaneous polydrug use among teens: Prevalence and predictors. *Journal of Substance Abuse, 10*(3), 233–253.

Hair, J. F., Jr., Anderson, R. E., Tatham, R. L., & Black, W. C. (1995). *Multivariate data analysis: With readings.* Upper Saddle River, NJ: Prentice-Hall, Inc.

Indiana Family and Social Services Administration, Division of Mental Health and Addiction. (n.d.). *Prevalence of illness reports.* Retrieved January 22, 2010, from http://www.in.gov/fssa/dmha/7368.htm

Indiana Family and Social Services Administration, Revenue Enhancement and Data. (2010). *Substance abuse population by county, 2009.* Indianapolis, IN: Indiana Family and Social Services Administration.

National Alliance on Mental Illness. (2003). *Dual diagnosis and integrated treatment of mental illness and substance abuse disorder.* Retrieved January 20, 2010, from http://www.nami.org/Template.cfm?Section=By_Illness&Template=/TaggedPage/TaggedPageDisplay.cfm&TPLID=54&ContentID=23049

Substance Abuse and Mental Health Services Administration. (2002). *The NHSDA report: Serious mental illness among adults.* Retrieved February 4, 2010, from http://www.oas.samhsa.gov/2k2/SMI/SMI.htm

Substance Abuse and Mental Health Data Archive. (n.d.). *Treatment Episode Data Set - Admissions (TEDS-A), 2008.* Available at http://webapp.icpsr.umich.edu/cocoon/SAMHDA/STUDY/24280.xml

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (n.d.). *National Survey on Drug Use and Health.* Retrieved September 15, 2010, from: https://nsduhweb.rti.org/

United Way of Central Indiana. (2008). *United Way of Central Indiana community assessment 2008.* Retrieved February 2, 2010, from http://www.uwci.org/upload/documents/CA_Chapter_05_Health.pdf

U.S. Department of Health and Human Services. (1999). *Mental health: A report of the Surgeon General.* Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health.

U.S. Department of Health and Human Services. (2000). *Healthy People 2010. With understanding and improving health and objectives for improving health* (2nd ed.). Washington, DC: U.S. Government Printing Office.

11. Indicators of Substance Abuse

To measure the severity of substance abuse at the county level, we identified proxy indicators[1] of 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 rate[2] 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.

Priority scores of zero do not necessarily imply that a community is not burdened by substance abuse, but that based on available data, the severity of the problem is lower than in 50 percent of Indiana counties.

The selection of substance abuse indicators was limited to datasets with county-level information, 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, n.d.) and the Indiana Automated Reporting Information Exchange System (ARIES) (Indiana State Police, 2010).

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 and a statistical algorithm is used to estimate the number of arrests in counties in which reporting was below 100 percent; see Appendix 11A, pages 198-199, 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. The indicators reflected data from the 2009 ARIES database (Indiana State Police, 2010) and the 2008 UCR program (National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.). The counties that scored in the top 10 and 25 percent based on the 10 alcohol indicators are shown in Table 11.1.

Here is an example to demonstrate how the alcohol priority score was computed for Marion County:

- Number of alcohol-related fatal auto accidents: 10 (this falls within the 90th percentile; therefore, 3 points)
- Rate of alcohol-related fatal auto accidents: 0.01 per 1,000 population (this is below the 50th percentile; therefore, 0 points)
- Number of alcohol-related crashes: 1,126 (this falls within the 90th percentile; therefore, 3 points)
- Rate of alcohol-related crashes: 1.26 per 1,000 population (this is below the 50th percentile; therefore, 0 points)

[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.

- Number of DUI arrests: 3,054 (this falls within the 90th percentile; therefore, 3 points)
- Rate of DUI arrests: 3.48 per 1,000 population (this is below the 50th percentile; therefore, 0 points)
- Number of arrests for public intoxication: 6,437 (this falls within the 90th percentile; therefore, 3 points)
- Rate of arrests for public intoxication: 7.33 per 1,000 population (this falls within the 90th percentile; therefore, 3 points)
- Number of arrests for liquor law violations: 783 (this falls within the 90th percentile; therefore, 3 points)
- Rate of arrests for liquor law violations: 0.89 per 1,000 population (this is below the 50th percentile; therefore, 0 points)

In Marion County the points add up to an alcohol priority score of 18, which falls within the 90th percentile of alcohol priority scores in Indiana. This means that 90 percent of counties have lower scores and Marion County ranks in the top 10 percent.

For a complete listing of counties by all alcohol abuse indicators, see Appendix 11B, pages 200-201.

Table 11.1 Counties with Alcohol Priority Scores in the Top 10 and 25 Percent (Automated Reporting Information Exchange System, 2009; Uniform Crime Reporting Program, 2008)

Top 10%	Alcohol Priority Score	Top 11-25%	Alcohol Priority Score
LaPorte	27	Monroe	17
Tippecanoe	25	Elkhart	16
Lake	24	Floyd	16
Vigo	23	Bartholomew	15
Vanderburgh	22	Delaware	15
Allen	21	Johnson	15
Clark	20	Hamilton	14
Madison	19	Clinton	13
Wayne	19	Kosciusko	13
Cass	18	White	13
Marion	18	Daviess	12
Porter	18	Howard	12
		Steuben	12

Note: Alcohol priority scores ranged from 0 to 27, with higher scores indicating a more severe problem.
Source: Indiana State Police, 2010; National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

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 whose priority scores were 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 202-203.

Table 11.2 Counties with Cocaine Priority Scores in the Top 10 and 25 Percent (Uniform Crime Reporting Program, 2008)

Top 10%	Cocaine Priority Score	Top 11-25%	Cocaine Priority Score
Howard	12	Bartholomew	8
Lake	12	Delaware	8
Marion	12	Montgomery	8
Allen	11	Tippecanoe	8
LaPorte	10	Vanderburgh	8
Wayne	10	Vigo	8
Clark	9	Saint Joseph	7
Elkhart	9	Shelby	7
Grant	9	Daviess	6
Madison	9	Floyd	6
Monroe	9	Hamilton	6
		Hancock	6
		Knox	6
		Putnam	6
		Steuben	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, n.d.

Table 11.3 Counties with Methamphetamine Priority Scores in the Top 10 and 25 Percent (Uniform Crime Reporting Program, 2008)

Top 10%	Meth Priority Score	Top 11-25%	Meth Priority Score
Vigo	12	Blackford	7
Warrick	12	Hendricks	7
Bartholomew	11	Shelby	7
Clark	11	Delaware	6
Gibson	11	Noble	6
Vanderburgh	11	Steuben	6
Clay	10	Dubois	5
Putnam	9	Hamilton	5
Tippecanoe	9	Hancock	5
Daviess	8	Jennings	5
Grant	8	Lake	5
Jackson	8	Madison	5
Knox	8	Marion	5
Parke	8	Wabash	5
Perry	8		
Scott	8		

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, n.d.

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)

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 show the counties that are 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 204-205.

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).

We identified additional variables from the 2008 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 206-207; for a map of drug arrest rates, see Map 11.1 on page 209.

Table 11.4 Counties with Marijuana Priority Scores in the Top 10 and 25 Percent (Uniform Crime Reporting Program, 2008)

Top 10%	Marijuana Priority Score	Top 11-25%	Marijuana Priority Score
Floyd	11	Clark	6
Tippecanoe	11	Dearborn	6
Vanderburgh	11	Henry	6
Lake	10	Jennings	6
Marion	10	Noble	6
Morgan	10	Tipton	6
Johnson	8	Blackford	5
Wayne	8	Clinton	5
Allen	7	Daviess	5
Bartholomew	7	Elkhart	5
Hendricks	7	Franklin	5
Madison	7	Grant	5
Putnam	7	Jefferson	5
Vigo	7	Knox	5
		Montgomery	5
		Porter	5
		Saint Joseph	5
		Shelby	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, n.d.

[3]Barbiturates (central nervous system depressants) and Benzedrine (amphetamine/stimulant) are types of prescription drugs that are frequently used nonmedically for recreational purposes.

Table 11.5 Counties with Prescription Drug (Rx) Priority Scores in the Top 10 and 25 Percent (Uniform Crime Reporting Program, 2008)

Top 10%	Rx Priority Score	Top 11-25%	Rx Priority Score
Vanderburgh	12	Morgan	8
Clay	11	Marshall	7
Floyd	11	Monroe	7
Allen	10	Tippecanoe	7
Cass	10	Vigo	7
Johnson	10	Daviess	6
Knox	10	Hancock	6
Fayette	9	Jennings	6
Howard	9	Dearborn	5
Lake	9	DeKalb	5
Madison	9	Gibson	5
Marion	9	Hendricks	5
Steuben	9	Jasper	5
		Montgomery	5
		Porter	5
		Posey	5
		Saint Joseph	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, n.d.

Table 11.6 Counties with Drug Arrest Priority Scores in the Top 10 and 25 Percent (Uniform Crime Reporting Program, 2008)

Top 10%	Drug Arrests Priority Score	Top 11-25%	Drug Arrests Priority Score
Marion	6	Clark	3
Vanderburgh	6	Daviess	3
Vigo	6	DeKalb	3
Bartholomew	5	Elkhart	3
Floyd	5	Hamilton	3
Howard	5	Hendricks	3
Lake	5	Jackson	3
Madison	5	Johnson	3
Tippecanoe	5	Marshall	3
Allen	4	Monroe	3
Clay	4	Noble	3
Grant	4	Putnam	3
Jennings	4	Saint Joseph	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, n.d.

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, 2008)

Top 10%	Property Crime Priority Score	Top 11-25%	Property Crime Priority Score
Floyd	6	Bartholomew	4
Lake	6	Fayette	4
Marion	6	Jay	4
Vanderburgh	6	Kosciusko	4
Allen	5	Madison	4
Clark	5	Porter	4
Elkhart	5	Vigo	4
Grant	5	Cass	3
Johnson	5	Delaware	3
LaPorte	5	Hendricks	3
Saint Joseph	5	Howard	3
Tippecanoe	5	Scott	3
Wayne	5	Starke	3
		Steuben	3
		Howard	3
		Jay	3
		Monroe	3
		Porter	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, n.d.

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, and Ringwalt, 1997; Windle, 1988). Therefore, we selected runaway arrests from the 2008 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 208, 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, 2008)

Top 10%	Runaway Priority Score	Top 11-25%	Runaway Priority Score
Bartholomew	6	Brown	4
Elkhart	6	Henry	4
Howard	6	Lake	4
LaPorte	6	Monroe	4
Madison	6	Noble	4
Saint Joseph	6	Shelby	4
Vigo	6	Wayne	4
Allen	5	Clark	3
Grant	5	Fayette	3
Jackson	5	Jefferson	3
Tippecanoe	5	Johnson	3
		Scott	3
		Steuben	3
		Whitley	3

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, n.d.

APPENDIX 11A

Annual Coverage Indicator for Uniform Crime Reporting Program, with County Population Estimates (Uniform Crime Reporting Program, 2008)

County	Coverage Indicator %	Total County Population	Juvenile County Population (0-17 years)
Adams	40.8	33,627	10,147
Allen	100.0	351,429	94,318
Bartholomew	100.0	74,737	19,106
Benton	0.0	8,734	2,187
Blackford	100.0	12,950	2,908
Boone	70.8	55,162	14,421
Brown	100.0	14,622	2,758
Carroll	98.8	19,955	4,550
Cass	47.8	38,953	9,757
Clark	82.3	106,055	25,813
Clay	100.0	26,643	6,404
Clinton	25.9	33,753	8,848
Crawford	0.0	10,775	2,433
Daviess	62.2	30,043	8,442
Dearborn	78.1	50,173	12,241
Decatur	0.0	24,994	6,485
DeKalb	36.0	41,948	10,821
Delaware	100.0	114,936	23,390
Dubois	48.7	41,395	10,238
Elkhart	100.0	200,057	56,365
Fayette	57.4	24,102	5,614
Floyd	100.0	73,294	17,462
Fountain	17.7	17,039	3,992
Franklin	91.7	21,870	5,767
Fulton	0.0	20,266	4,823
Gibson	74.1	32,762	7,612
Grant	100.0	68,269	14,715
Greene	75.2	32,609	7,419
Hamilton	100.0	273,070	79,486
Hancock	0.0	67,732	16,866
Harrison	100.0	37,085	8,577
Hendricks	47.6	138,661	35,734
Henry	61.2	46,996	10,320
Howard	100.0	83,576	20,222
Huntington	100.0	37,676	8,741
Jackson	72.8	42,257	10,406
Jasper	19.2	32,527	8,144
Jay	28.5	21,599	5,542
Jefferson	0.0	32,808	7,280
Jennings	100.0	28,142	7,292
Johnson	95.5	139,003	35,725
Knox	87.8	37,774	8,036
Kosciusko	23.4	75,950	19,807
LaGrange	100.0	37,278	11,889
Lake	77.0	492,759	127,626
LaPorte	92.9	109,674	25,448
Lawrence	90.0	46,018	10,379
Madison	56.9	131,001	29,819

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County	Coverage Indicator %	Total County Population	Juvenile County Population (0-17 years)
Marion	100.0	878,263	236,434
Marshall	44.8	46,854	12,079
Martin	74.1	10,015	2,258
Miami	0.0	36,679	8,009
Monroe	100.0	129,586	22,931
Montgomery	39.7	37,893	8,948
Morgan	33.5	70,213	17,322
Newton	100.0	13,940	3,040
Noble	34.3	47,633	12,742
Ohio	0.0	5,785	1,287
Orange	0.0	19,631	4,682
Owen	0.0	22,451	4,954
Parke	100.0	17,152	3,521
Perry	39.8	18,909	3,886
Pike	0.0	12,571	2,807
Porter	91.0	162,240	38,139
Posey	0.0	26,148	5,791
Pulaski	100.0	13,775	3,193
Putnam	73.0	37,105	7,810
Randolph	17.8	25,659	5,933
Ripley	0.0	28,903	7,154
Rush	35.0	17,396	4,173
Saint Joseph	99.8	265,955	67,369
Scott	25.0	23,746	5,724
Shelby	58.1	44,053	10,584
Spencer	0.0	20,312	4,576
Starke	87.9	23,531	5,694
Steuben	100.0	33,446	7,867
Sullivan	21.0	21,306	4,422
Switzerland	0.0	9,755	2,228
Tippecanoe	100.0	165,113	35,280
Tipton	100.0	15,992	3,559
Union	0.0	7,182	1,674
Vanderburgh	100.0	174,628	40,419
Vermillion	29.4	16,364	3,619
Vigo	57.3	104,748	23,217
Wabash	50.8	32,650	7,043
Warren	0.0	8,482	1,937
Warrick	100.0	57,654	13,801
Washington	23.4	27,986	6,646
Wayne	97.1	67,880	15,372
Wells	100.0	27,951	6,663
White	100.0	23,634	5,625
Whitley	30.9	32,885	7,894
Indiana		**6,376,792**	**1,584,681**

Note: The Coverage Indicator represents the proportion of county data that is not imputed for a given year. The indicator ranges from 0.00% (indicating that all data in the county are based on estimates) to 100.00% (indicating complete reporting; no computation).
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

APPENDIX 11B

Alcohol Abuse Indicators and Priority Scores by County, All Rates per 1,000 Population (Automated Reporting Information Exchange System, 2009; Uniform Crime Reporting Program, 2008)

	Alcohol-Related Collisions		Alcohol-Related Fatal Collisions		DUI		Public Intoxication		Liquor Law Violations		Alcohol Priority Score
County	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	
Adams	27	0.79	0	*0.00	134	3.98	55	1.64	108	3.21	1
Allen	597	1.69	14	*0.04	2,161	6.15	956	2.72	299	0.85	21
Bartholomew	89	1.17	1	*0.01	398	5.33	326	4.36	279	3.73	15
Benton	11	*1.28	0	*0.00	40	4.58	17	*1.95	24	2.75	2
Blackford	8	*0.61	0	*0.00	47	3.63	38	2.93	25	1.93	1
Boone	67	1.19	1	*0.02	255	4.62	115	2.08	200	3.63	10
Brown	22	1.51	1	*0.07	51	3.49	6	*0.41	25	1.71	4
Carroll	30	1.52	1	*0.05	143	7.17	49	2.46	107	5.36	11
Cass	67	1.72	2	*0.05	165	4.24	273	7.01	233	5.98	18
Clark	177	1.63	3	*0.03	879	8.29	465	4.38	240	2.26	20
Clay	41	1.55	0	*0.00	107	4.02	88	3.30	30	1.13	4
Clinton	59	1.72	3	*0.09	131	3.88	79	2.34	195	5.78	13
Crawford	26	2.47	1	*0.09	42	3.90	18	*1.67	20	1.86	7
Daviess	36	1.18	1	*0.03	216	7.19	110	3.66	118	3.93	12
Dearborn	98	1.94	4	*0.08	116	2.31	73	1.45	66	1.32	11
Decatur	30	1.20	1	*0.04	123	4.92	75	3.00	89	3.56	6
DeKalb	61	1.45	1	*0.02	233	5.55	112	2.67	127	3.03	11
Delaware	199	1.73	2	*0.02	728	6.33	294	2.56	153	1.33	15
Dubois	40	0.97	2	*0.05	175	4.23	78	1.88	111	2.68	6
Elkhart	204	1.02	7	*0.03	1,036	5.18	395	1.97	713	3.56	16
Fayette	36	1.49	0	*0.00	87	3.61	17	*0.71	172	7.14	5
Floyd	136	1.83	0	*0.00	621	8.47	304	4.15	189	2.58	16
Fountain	22	1.31	1	*0.06	87	5.11	41	2.41	41	2.41	6
Franklin	24	1.04	0	*0.00	1	*0.05	0	*0.00	68	3.11	1
Fulton	26	1.28	1	*0.05	94	4.64	54	2.66	64	3.16	6
Gibson	46	1.40	0	*0.00	151	4.61	42	1.28	61	1.86	4
Grant	72	1.05	1	*0.01	305	4.47	195	2.86	114	1.67	8
Greene	38	1.17	2	*0.06	115	3.53	50	1.53	69	2.12	4
Hamilton	225	0.81	4	*0.01	1,171	4.29	198	0.73	707	2.59	14
Hancock	82	1.20	1	*0.01	312	4.61	141	2.08	197	2.91	8
Harrison	40	1.06	1	*0.03	147	3.96	15	*0.40	18	*0.49	3
Hendricks	144	1.02	2	*0.01	525	3.79	238	1.72	294	2.12	10
Henry	40	0.84	0	*0.00	180	3.83	119	2.53	162	3.45	5
Howard	110	1.33	2	*0.02	318	3.80	215	2.57	166	1.99	12
Huntington	31	0.82	0	*0.00	184	4.88	30	0.80	98	2.60	2
Jackson	59	1.39	0	*0.00	185	4.38	153	3.62	157	3.72	10
Jasper	61	1.86	1	*0.03	133	4.09	37	1.14	66	2.03	6
Jay	25	1.18	1	*0.05	106	4.91	92	4.26	68	3.15	8
Jefferson	65	1.97	0	*0.00	158	4.82	95	2.90	112	3.41	10
Jennings	31	1.11	1	*0.04	112	3.98	83	2.95	65	2.31	5
Johnson	155	1.10	3	*0.02	679	4.88	214	1.54	609	4.38	15
Knox	50	1.32	1	*0.03	101	2.67	62	1.64	303	8.02	9
Kosciusko	90	1.18	3	*0.04	394	5.19	252	3.32	184	2.42	13
LaGrange	47	1.26	3	*0.08	109	2.92	43	1.15	137	3.68	9
Lake	831	1.68	14	*0.03	3,305	6.71	2,533	5.14	1,542	3.13	24
LaPorte	200	1.80	9	*0.08	921	8.40	441	4.02	531	4.84	27
Lawrence	51	1.11	1	*0.02	196	4.26	173	3.76	96	2.09	7
Madison	219	1.67	2	*0.02	555	4.24	690	5.27	359	2.74	19
Marion	1,126	1.26	10	*0.01	3,054	3.48	6,437	7.33	783	0.89	18
Marshall	45	0.96	1	*0.02	320	6.83	155	3.31	150	3.20	11
Martin	13	*1.31	0	*0.00	26	2.60	17	*1.70	22	2.20	1
Miami	44	1.22	1	*0.03	173	4.72	100	2.73	118	3.22	9

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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	
Monroe	206	1.58	0	*0.00	532	4.11	692	5.34	1,021	7.88	17
Montgomery	32	0.85	1	*0.03	225	5.94	126	3.33	133	3.51	9
Morgan	69	0.97	2	*0.03	297	4.23	47	0.67	383	5.45	10
Newton	21	1.53	0	*0.00	99	7.10	49	3.52	7	*0.50	5
Noble	55	1.15	0	*0.00	259	5.44	90	1.89	132	2.77	7
Ohio	16	*2.71	0	*0.00	23	3.98	6	*1.04	10	*1.73	3
Orange	38	1.94	0	*0.00	76	3.87	32	1.63	37	1.88	3
Owen	19	*0.85	0	*0.00	89	3.96	22	0.98	40	1.78	0
Parke	29	1.72	2	*0.12	91	5.31	36	2.10	17	*0.99	9
Perry	32	1.70	0	*0.00	117	6.19	62	3.28	101	5.34	8
Pike	16	*1.31	2	*0.16	55	4.38	29	2.31	33	2.63	7
Porter	224	1.37	5	*0.03	852	5.25	356	2.19	578	3.56	18
Posey	44	1.69	0	*0.00	120	4.59	53	2.03	75	2.87	5
Pulaski	17	*1.25	0	*0.00	27	1.96	30	2.18	14	*1.02	0
Putnam	32	0.87	1	*0.03	285	7.68	145	3.91	104	2.80	10
Randolph	27	1.05	0	*0.00	116	4.52	78	3.04	97	3.78	4
Ripley	45	1.64	1	*0.04	128	4.43	68	2.35	80	2.77	8
Rush	19	*1.11	0	*0.00	85	4.89	35	2.01	69	3.97	3
Saint Joseph	338	1.26	2	*0.01	839	3.15	156	0.59	383	1.44	10
Scott	25	1.06	0	*0.00	100	4.21	104	4.38	74	3.12	4
Shelby	66	1.48	0	*0.00	256	5.81	140	3.18	188	4.27	11
Spencer	32	1.60	1	*0.05	79	3.89	33	1.62	38	1.87	4
Starke	36	1.53	2	*0.08	88	3.74	87	3.70	100	4.25	11
Steuben	64	1.91	1	*0.03	167	4.99	36	1.08	171	5.11	12
Sullivan	28	1.32	2	*0.09	85	3.99	72	3.38	36	1.69	7
Switzerland	14	*1.45	0	*0.00	38	3.90	16	*1.64	18	*1.85	1
Tippecanoe	336	2.00	3	*0.02	884	5.35	772	4.68	652	3.95	25
Tipton	13	*0.82	0	*0.00	64	4.00	20	1.25	11	*0.69	0
Union	7	*0.99	2	*0.28	28	3.90	12	*1.67	14	*1.95	5
Vanderburgh	306	1.74	4	*0.02	1,281	7.34	859	4.92	182	1.04	22
Vermillion	26	1.61	1	*0.06	52	3.18	93	5.68	41	2.51	8
Vigo	209	1.97	2	*0.02	751	7.17	437	4.17	474	4.53	23
Wabash	32	0.98	3	*0.09	131	4.01	87	2.66	113	3.46	9
Warren	7	*0.82	0	*0.00	33	3.89	14	*1.65	16	*1.89	0
Warrick	68	1.16	1	*0.02	131	2.27	61	1.06	114	1.98	4
Washington	33	1.19	1	*0.04	226	8.08	41	1.47	57	2.04	7
Wayne	116	1.72	5	*0.07	321	4.73	482	7.10	177	2.61	19
Wells	17	*0.62	0	*0.00	52	1.86	56	2.00	112	4.01	3
White	34	1.45	1	*0.04	238	10.07	119	5.04	76	3.22	13
Whitley	33	1.00	1	*0.03	122	3.71	34	1.03	88	2.68	2
Indiana	8,855	1.38	157	0.02	31,447	4.93	22,545	3.54	16,950	2.66	
Min	7	0.61	0	0.00	1	0.05	0	0.00	7	0.49	0
Max	1,126	2.71	14	0.28	3,305	10.07	6,437	7.33	1,542	8.02	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, 2010; National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

APPENDIX 11C

Cocaine and Methamphetamine Abuse Indicators and Priority Scores by County, All Rates per 1,000 Population (Uniform Crime Reporting Program, 2008)

County	Cocaine Possession		Cocaine Sale		Cocaine Priority Score	Meth Possession		Meth Sale		Meth Priority Score
	Number	Rate	Number	Rate		Number	Rate	Number	Rate	
Adams	2	*0.06	3	*0.09	0	6	*0.18	2	*0.06	1
Allen	325	0.92	124	0.35	11	3	*0.01	10	*0.03	2
Bartholomew	58	0.78	17	*0.23	8	159	2.13	21	0.28	11
Benton	2	*0.23	2	*0.23	2	2	*0.23	1	*0.11	1
Blackford	1	*0.08	0	*0.00	0	11	*0.85	3	*0.23	7
Boone	8	*0.15	6	*0.11	1	7	*0.13	1	*0.02	0
Brown	0	*0.00	2	*0.14	0	2	*0.14	0	*0.00	0
Carroll	3	*0.15	5	*0.25	1	4	*0.20	2	*0.10	2
Cass	2	*0.05	12	*0.31	3	5	*0.13	2	*0.05	1
Clark	77	0.73	31	0.29	9	65	0.61	32	0.30	11
Clay	3	*0.11	0	*0.00	0	22	0.83	12	*0.45	10
Clinton	8	*0.24	8	*0.24	4	7	*0.21	1	*0.03	0
Crawford	1	*0.09	2	*0.19	1	3	*0.28	1	*0.09	2
Daviess	5	*0.17	22	0.73	6	25	0.83	5	*0.17	8
Dearborn	2	*0.04	3	*0.06	0	2	*0.04	1	*0.02	0
Decatur	6	*0.24	7	*0.28	4	8	*0.32	3	*0.12	4
DeKalb	9	*0.21	12	*0.29	4	9	*0.21	4	*0.10	3
Delaware	63	0.55	16	*0.14	8	44	0.38	2	*0.02	6
Dubois	6	*0.14	4	*0.10	1	19	*0.46	4	*0.10	5
Elkhart	106	0.53	46	0.23	9	33	0.16	13	*0.06	4
Fayette	2	*0.08	3	*0.12	0	4	*0.17	1	*0.04	0
Floyd	2	*0.03	82	1.12	6	12	*0.16	0	*0.00	1
Fountain	2	*0.12	3	*0.18	0	4	*0.23	1	*0.06	0
Franklin	0	*0.00	0	*0.00	0	0	*0.00	0	*0.00	0
Fulton	4	*0.20	5	*0.25	2	6	*0.30	2	*0.10	3
Gibson	4	*0.12	3	*0.09	0	24	0.73	16	*0.49	11
Grant	28	0.41	36	0.53	9	38	0.56	13	*0.19	8
Greene	4	*0.12	3	*0.09	0	5	*0.15	1	*0.03	0
Hamilton	22	0.08	80	0.29	6	82	0.30	2	*0.01	5
Hancock	20	0.30	18	*0.27	6	18	*0.27	7	*0.10	5
Harrison	0	*0.00	1	*0.03	0	10	*0.27	1	*0.03	2
Hendricks	32	0.23	18	*0.13	5	28	0.20	19	*0.14	7
Henry	9	*0.19	7	*0.15	3	7	*0.15	2	*0.04	1
Howard	74	0.89	84	1.01	12	1	*0.01	3	*0.04	1
Huntington	0	*0.00	3	*0.08	0	0	*0.00	0	*0.00	0
Jackson	2	*0.05	13	*0.31	3	22	0.52	8	*0.19	8
Jasper	6	*0.18	10	*0.31	5	5	*0.15	3	*0.09	2
Jay	4	*0.19	3	*0.14	1	4	*0.19	2	*0.09	2
Jefferson	8	*0.24	8	*0.24	4	10	*0.30	3	*0.09	4
Jennings	1	*0.04	4	*0.14	0	0	*0.00	12	*0.43	5
Johnson	34	0.24	18	*0.13	5	4	*0.03	1	*0.01	0
Knox	15	*0.40	14	*0.37	6	10	*0.26	18	*0.48	8
Kosciusko	6	*0.08	13	*0.17	2	14	*0.18	8	*0.11	4
LaGrange	0	*0.00	0	*0.00	0	0	*0.00	0	*0.00	0
Lake	266	0.54	241	0.49	12	56	0.11	10	*0.02	5
LaPorte	41	0.37	89	0.81	10	12	*0.11	3	*0.03	2
Lawrence	3	*0.07	10	*0.22	2	13	*0.28	1	*0.02	2
Madison	78	0.60	31	0.24	9	31	0.24	7	*0.05	5
Marion	1,345	1.53	692	0.79	12	32	0.04	70	0.08	5
Marshall	9	*0.19	3	*0.06	2	33	0.70	1	*0.02	4
Martin	1	*0.10	1	*0.10	0	1	*0.10	0	*0.00	0
Miami	8	*0.22	9	*0.25	4	11	*0.30	4	*0.11	4
Monroe	37	0.29	100	0.77	9	18	*0.14	1	*0.01	1

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APPENDIX 11C *(Continued from previous page)*

County	Cocaine Possession Number	Cocaine Possession Rate	Cocaine Sale Number	Cocaine Sale Rate	Cocaine Priority Score	Meth Possession Number	Meth Possession Rate	Meth Sale Number	Meth Sale Rate	Meth Priority Score
Montgomery	30	0.79	13	*0.34	8	6	*0.16	3	*0.08	1
Morgan	28	0.40	11	*0.16	5	11	*0.16	5	*0.07	2
Newton	2	*0.14	1	*0.07	0	4	*0.29	2	*0.14	4
Noble	5	*0.10	5	*0.10	1	20	0.42	5	*0.10	6
Ohio	1	*0.17	1	*0.17	0	1	*0.17	1	*0.17	2
Orange	2	*0.10	3	*0.15	0	5	*0.25	2	*0.10	3
Owen	5	*0.22	5	*0.22	3	5	*0.22	2	*0.09	2
Parke	3	*0.17	2	*0.12	0	8	*0.47	7	*0.41	8
Perry	1	*0.05	7	*0.37	3	20	1.06	5	*0.26	8
Pike	2	*0.16	3	*0.24	1	3	*0.24	1	*0.08	1
Porter	55	0.34	7	*0.04	5	21	0.13	10	*0.06	4
Posey	8	*0.31	7	*0.27	5	7	*0.27	3	*0.11	3
Pulaski	0	*0.00	2	*0.15	0	4	*0.29	1	*0.07	1
Putnam	15	*0.40	15	*0.40	6	31	0.84	9	*0.24	9
Randolph	4	*0.16	5	*0.19	1	7	*0.27	2	*0.08	2
Ripley	5	*0.17	6	*0.21	2	8	*0.28	3	*0.10	4
Rush	2	*0.11	2	*0.11	0	8	*0.46	1	*0.06	3
Saint Joseph	120	0.45	40	0.15	7	39	0.15	3	*0.01	4
Scott	5	*0.21	4	*0.17	2	21	0.88	5	*0.21	8
Shelby	21	0.48	15	*0.34	7	12	*0.27	14	*0.32	7
Spencer	2	*0.10	3	*0.15	0	5	*0.25	2	*0.10	3
Starke	4	*0.17	8	*0.34	3	8	*0.34	1	*0.04	3
Steuben	13	*0.39	15	*0.45	6	3	*0.09	18	*0.54	6
Sullivan	4	*0.19	4	*0.19	2	3	*0.14	2	*0.09	2
Switzerland	1	*0.10	2	*0.21	1	2	*0.21	1	*0.10	1
Tippecanoe	37	0.22	70	0.42	8	113	0.68	16	*0.10	9
Tipton	1	*0.06	0	*0.00	0	3	*0.19	0	*0.00	0
Union	1	*0.14	1	*0.14	0	2	*0.28	1	*0.14	3
Vanderburgh	61	0.35	45	0.26	8	104	0.60	80	0.46	11
Vermillion	3	*0.18	3	*0.18	1	7	*0.43	1	*0.06	2
Vigo	38	0.36	33	0.32	8	149	1.42	31	0.30	12
Wabash	8	*0.25	8	*0.25	4	9	*0.28	6	*0.18	5
Warren	1	*0.12	1	*0.12	0	2	*0.24	1	*0.12	2
Warrick	4	*0.07	3	*0.05	0	47	0.82	30	0.52	12
Washington	5	*0.18	5	*0.18	2	5	*0.18	2	*0.07	1
Wayne	38	0.56	31	0.46	10	7	*0.10	10	*0.15	4
Wells	1	*0.04	17	*0.61	5	2	*0.07	0	*0.00	0
White	4	*0.17	0	*0.00	0	2	*0.08	0	*0.00	0
Whitley	7	*0.21	6	*0.18	2	6	*0.18	2	*0.06	1
Indiana	3,301	0.52	2,336	0.37		1,671	0.26	628	0.10	
Min	0	0.00	0	0.00	0	0	0.00	0	0.00	0
Max	1,345	1.53	692	1.12	12	159	2.13	80	0.54	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, n.d.

APPENDIX 11D

Marijuana and Prescription Drug Abuse Indicators and Priority Scores by County, All Rates per 1,000 Population (Uniform Crime Reporting Program, 2008)

County	Marijuana Possession		Marijuana Sale		Marijuana Priority Score	Prescription Drug Possession		Prescription Drug Sale		Presc. Drug Priority Score
	Number	Rate	Number	Rate		Number	Rate	Number	Rate	
Adams	32	0.95	7	*0.21	0	9	*0.27	1	*0.03	0
Allen	767	2.18	56	0.16	7	201	0.57	58	0.17	10
Bartholomew	205	2.74	19	*0.25	7	40	0.54	1	*0.01	4
Benton	15	*1.72	2	*0.23	0	3	*0.34	1	*0.11	1
Blackford	26	2.01	10	*0.77	5	0	*0.00	0	*0.00	0
Boone	66	1.20	14	*0.25	3	9	*0.16	2	*0.04	1
Brown	12	*0.82	0	*0.00	0	0	*0.00	0	*0.00	0
Carroll	57	2.86	5	*0.25	4	21	1.05	0	*0.00	3
Cass	64	1.64	12	*0.31	3	34	0.87	21	0.54	10
Clark	195	1.84	27	0.25	6	15	*0.14	3	*0.03	2
Clay	71	2.66	7	*0.26	4	31	1.16	33	1.24	11
Clinton	64	1.90	14	*0.41	5	9	*0.27	4	*0.12	3
Crawford	12	*1.11	3	*0.28	1	5	*0.46	1	*0.09	2
Daviess	72	2.40	8	*0.27	5	16	*0.53	8	*0.27	6
Dearborn	16	*0.32	62	1.24	6	3	*0.06	17	*0.34	5
Decatur	46	1.84	9	*0.36	4	12	*0.48	2	*0.08	4
DeKalb	95	2.26	13	*0.31	4	23	0.55	4	*0.10	5
Delaware	150	1.31	8	*0.07	3	1	*0.01	9	*0.08	3
Dubois	47	1.14	7	*0.17	0	10	*0.24	1	*0.02	1
Elkhart	434	2.17	11	*0.05	5	18	*0.09	3	*0.01	2
Fayette	42	1.74	8	*0.33	2	32	1.33	7	*0.29	9
Floyd	247	3.37	39	0.53	11	81	1.11	111	1.51	11
Fountain	23	1.35	5	*0.29	1	7	*0.41	1	*0.06	1
Franklin	1	*0.05	26	1.19	5	5	*0.23	2	*0.09	2
Fulton	34	1.68	7	*0.35	1	10	*0.49	2	*0.10	4
Gibson	26	0.79	5	*0.15	0	43	1.31	1	*0.03	5
Grant	181	2.65	11	*0.16	5	3	*0.04	0	*0.00	0
Greene	48	1.47	4	*0.12	0	11	*0.34	1	*0.03	1
Hamilton	530	1.94	7	*0.03	4	4	*0.01	1	*0.00	0
Hancock	120	1.77	15	*0.22	3	25	0.37	10	*0.15	6
Harrison	54	1.46	2	*0.05	0	0	*0.00	0	*0.00	0
Hendricks	273	1.97	47	0.34	7	45	0.32	13	*0.09	5
Henry	66	1.40	24	0.51	6	10	*0.21	3	*0.06	2
Howard	217	2.60	5	*0.06	4	95	1.14	9	*0.11	9
Huntington	47	1.25	1	*0.03	0	20	0.53	1	*0.03	3
Jackson	114	2.70	10	*0.24	4	8	*0.19	0	*0.00	0
Jasper	36	1.11	13	*0.40	3	8	*0.25	9	*0.28	5
Jay	28	1.30	8	*0.37	3	7	*0.32	1	*0.05	0
Jefferson	58	1.77	12	*0.37	5	16	*0.49	3	*0.09	4
Jennings	2	*0.07	111	3.94	6	0	*0.00	40	1.42	6
Johnson	393	2.83	32	0.23	8	93	0.67	34	0.24	10
Knox	22	0.58	38	1.01	5	31	0.82	22	0.58	10
Kosciusko	125	1.65	21	0.28	4	27	0.36	3	*0.04	4
LaGrange	1	*0.03	0	*0.00	0	0	*0.00	0	*0.00	0
Lake	1,051	2.13	457	0.93	10	380	0.77	53	0.11	9
LaPorte	178	1.62	9	*0.08	3	6	*0.05	1	*0.01	0
Lawrence	87	1.89	3	*0.07	2	19	*0.41	2	*0.04	3
Madison	337	2.57	32	0.24	7	94	0.72	19	*0.15	9
Marion	2,611	2.97	311	0.35	10	581	0.66	71	0.08	9
Marshall	108	2.31	4	*0.09	2	22	0.47	15	*0.32	7
Martin	7	*0.70	2	*0.20	0	1	*0.10	0	*0.00	0
Miami	62	1.69	13	*0.35	3	18	*0.49	3	*0.08	4
Monroe	279	2.15	13	*0.10	4	82	0.63	14	*0.11	7

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APPENDIX 11D *(Continued from previous page)*

County	Marijuana Possession Number	Marijuana Possession Rate	Marijuana Sale Number	Marijuana Sale Rate	Marijuana Priority Score	Prescription Drug Possession Number	Prescription Drug Possession Rate	Prescription Drug Sale Number	Prescription Drug Sale Rate	Presc. Drug Priority Score
Montgomery	103	2.72	11	*0.29	5	42	1.11	1	*0.03	5
Morgan	179	2.55	75	1.07	10	73	1.04	14	*0.20	8
Newton	45	3.23	1	*0.07	3	0	*0.00	0	*0.00	0
Noble	122	2.56	17	*0.36	6	24	0.50	2	*0.04	3
Ohio	8	*1.38	1	*0.17	0	2	*0.35	1	*0.17	2
Orange	22	1.12	6	*0.31	1	9	*0.46	1	*0.05	1
Owen	31	1.38	3	*0.13	0	7	*0.31	3	*0.13	3
Parke	35	2.04	2	*0.12	1	2	*0.12	0	*0.00	0
Perry	37	1.96	7	*0.37	3	24	1.27	1	*0.05	4
Pike	18	*1.43	4	*0.32	1	6	*0.48	1	*0.08	2
Porter	300	1.85	21	0.13	5	26	0.16	14	*0.09	5
Posey	46	1.76	6	*0.23	1	10	*0.38	4	*0.15	5
Pulaski	23	1.67	3	*0.22	0	0	*0.00	0	*0.00	0
Putnam	75	2.02	19	*0.51	7	12	*0.32	2	*0.05	2
Randolph	54	2.10	8	*0.31	3	10	*0.39	2	*0.08	4
Ripley	43	1.49	10	*0.35	2	14	*0.48	2	*0.07	3
Rush	42	2.41	4	*0.23	2	7	*0.40	1	*0.06	1
Saint Joseph	464	1.74	33	0.12	5	87	0.33	11	*0.04	5
Scott	39	1.64	6	*0.25	1	9	*0.38	1	*0.04	1
Shelby	100	2.27	16	*0.36	5	12	*0.27	7	*0.16	4
Spencer	23	1.13	6	*0.30	1	9	*0.44	1	*0.05	1
Starke	61	2.59	1	*0.04	3	0	*0.00	2	*0.08	2
Steuben	77	2.30	4	*0.12	2	146	4.37	8	*0.24	9
Sullivan	29	1.36	10	*0.47	3	5	*0.23	2	*0.09	2
Switzerland	11	*1.13	3	*0.31	1	4	*0.41	1	*0.10	2
Tippecanoe	554	3.36	69	0.42	11	32	0.19	21	0.13	7
Tipton	59	3.69	6	*0.38	6	7	*0.44	0	*0.00	1
Union	8	*1.11	2	*0.28	1	3	*0.42	0	*0.00	1
Vanderburgh	480	2.75	76	0.44	11	502	2.87	58	0.33	12
Vermillion	28	1.71	2	*0.12	0	4	*0.24	2	*0.12	3
Vigo	332	3.17	20	0.19	7	133	1.27	7	*0.07	7
Wabash	24	0.74	9	*0.28	2	7	*0.21	1	*0.03	0
Warren	10	*1.18	3	*0.35	1	4	*0.47	1	*0.12	3
Warrick	87	1.51	10	*0.17	2	6	*0.10	5	*0.09	2
Washington	38	1.36	3	*0.11	0	6	*0.21	3	*0.11	2
Wayne	172	2.53	32	0.47	8	8	*0.12	10	*0.15	4
Wells	28	1.00	4	*0.14	0	2	*0.07	0	*0.00	0
White	79	3.34	1	*0.04	4	6	*0.25	1	*0.04	0
Whitley	57	1.73	3	*0.09	0	7	*0.21	3	*0.09	2
Indiana	13,797	2.16	2,106	0.33		3,511	0.55	815	0.13	
Min	1	0.03	0	0.00	0	0	0.00	0	0.00	0
Max	2,611	3.69	457	3.94	11	581	4.37	111	1.51	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 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, n.d.

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, 2008)

County	Total Drug Violations		Total Drug Priority Score	Property Crime		Property Crime Priority Score
	Number	Rate		Number	Rate	
Adams	73	2.17	0	105	3.12	0
Allen	1,545	4.40	4	2,280	6.49	5
Bartholomew	521	6.97	5	518	6.93	4
Benton	30	3.43	0	36	4.12	0
Blackford	51	3.94	1	59	4.56	1
Boone	127	2.30	1	160	2.90	1
Brown	17	*1.16	0	21	1.44	0
Carroll	97	4.86	2	63	3.16	0
Cass	161	4.13	2	249	6.39	3
Clark	445	4.20	3	798	7.52	5
Clay	179	6.72	4	118	4.43	1
Clinton	116	3.44	1	149	4.41	2
Crawford	32	2.97	0	30	2.78	0
Daviess	163	5.43	3	174	5.79	2
Dearborn	106	2.11	0	72	1.44	0
Decatur	100	4.00	1	124	4.96	1
DeKalb	195	4.65	3	162	3.86	1
Delaware	294	2.56	2	524	4.56	3
Dubois	107	2.58	0	227	5.48	2
Elkhart	665	3.32	3	1,217	6.08	5
Fayette	102	4.23	1	197	8.17	4
Floyd	598	8.16	5	959	13.08	6
Fountain	50	2.93	0	64	3.76	0
Franklin	35	1.60	0	14	*0.64	0
Fulton	76	3.75	1	89	4.39	1
Gibson	122	3.72	2	145	4.43	2
Grant	311	4.56	4	585	8.57	5
Greene	77	2.36	0	95	2.91	0
Hamilton	730	2.67	3	529	1.94	2
Hancock	235	3.47	1	288	4.25	2
Harrison	68	1.83	0	88	2.37	0
Hendricks	486	3.50	3	612	4.41	3
Henry	140	2.98	1	188	4.00	1
Howard	489	5.85	5	454	5.43	3
Huntington	72	1.91	0	126	3.34	0
Jackson	197	4.66	3	112	2.65	0
Jasper	91	2.80	0	120	3.69	0
Jay	63	2.92	0	189	8.75	4
Jefferson	128	3.90	2	156	4.75	2
Jennings	170	6.04	4	55	1.95	0
Johnson	616	4.43	3	964	6.94	5
Knox	170	4.50	2	64	1.69	0
Kosciusko	240	3.16	1	448	5.90	4
LaGrange	97	2.60	0	47	1.26	0
Lake	2,525	5.12	5	3,765	7.64	6
LaPorte	339	3.09	2	793	7.23	5
Lawrence	138	3.00	1	141	3.06	1
Madison	636	4.85	5	856	6.53	4
Marion	5,712	6.50	6	8,083	9.20	6
Marshall	219	4.67	3	214	4.57	2
Martin	15	*1.50	0	24	2.40	0
Miami	139	3.79	2	166	4.53	2

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APPENDIX 11E *(Continued from previous page)*

County	Total Drug Violations		Total Drug Priority Score	Property Crime		Property Crime Priority Score
	Number	Rate		Number	Rate	
Monroe	546	4.21	3	521	4.02	2
Montgomery	218	5.75	4	102	2.69	0
Morgan	396	5.64	4	355	5.06	2
Newton	55	3.95	1	25	1.79	0
Noble	218	4.58	3	256	5.37	2
Ohio	16	*2.77	0	16	*2.77	0
Orange	58	2.95	0	54	2.75	0
Owen	61	2.72	0	63	2.81	0
Parke	60	3.50	1	50	2.92	0
Perry	106	5.61	2	99	5.24	1
Pike	43	3.42	0	47	3.74	0
Porter	456	2.81	2	901	5.55	4
Posey	90	3.44	0	110	4.21	0
Pulaski	33	2.40	0	32	2.32	0
Putnam	178	4.80	3	169	4.55	2
Randolph	98	3.82	1	111	4.33	1
Ripley	101	3.49	0	113	3.91	0
Rush	71	4.08	1	61	3.51	0
Saint Joseph	798	3.00	3	1,810	6.81	5
Scott	96	4.04	1	154	6.49	3
Shelby	196	4.45	2	206	4.68	2
Spencer	60	2.95	0	56	2.76	0
Starke	107	4.55	1	140	5.95	3
Steuben	284	8.49	4	238	7.12	3
Sullivan	60	2.82	0	56	2.63	0
Switzerland	29	2.97	0	27	2.77	0
Tippecanoe	913	5.53	5	1,124	6.81	5
Tipton	77	4.81	2	30	1.88	0
Union	21	2.92	0	20	2.78	0
Vanderburgh	1,484	8.50	6	1,301	7.45	6
Vermillion	51	3.12	0	40	2.44	0
Vigo	745	7.11	6	707	6.75	4
Wabash	78	2.39	0	84	2.57	0
Warren	25	2.95	0	23	2.71	0
Warrick	192	3.33	1	132	2.29	1
Washington	68	2.43	0	68	2.43	0
Wayne	309	4.55	3	505	7.44	5
Wells	54	1.93	0	106	3.79	0
White	93	3.94	1	103	4.36	1
Whitley	92	2.80	0	128	3.89	0
Indiana	28,746	4.51		37,859	5.94	
Min	15	1.16	0	14	0.64	0
Max	5,712	8.50	6	8,083	13.08	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, n.d.

APPENDIX 11F

Youth Substance Use Indicator (Juvenile Runaway Arrests) and Priority Scores by County, All Rates per 1,000 Population (Uniform Crime Reporting Program, 2008)

	Runaways		
County	Number	Rate	Runaway Priority Score
Adams	8	*0.79	0
Allen	246	2.61	5
Bartholomew	144	7.54	6
Benton	5	*2.29	1
Blackford	0	*0.00	0
Boone	18	*1.25	1
Brown	14	*5.08	4
Carroll	0	*0.00	0
Cass	22	2.25	2
Clark	64	2.48	3
Clay	16	*2.50	2
Clinton	17	*1.92	2
Crawford	3	*1.23	0
Daviess	15	*1.78	2
Dearborn	5	*0.41	0
Decatur	15	*2.31	2
DeKalb	19	*1.76	2
Delaware	13	*0.56	0
Dubois	10	*0.98	0
Elkhart	294	5.22	6
Fayette	27	4.81	3
Floyd	23	1.32	1
Fountain	6	*1.50	0
Franklin	0	*0.00	0
Fulton	11	*2.28	1
Gibson	9	*1.18	0
Grant	96	6.52	5
Greene	8	*1.08	0
Hamilton	135	1.70	2
Hancock	39	2.31	2
Harrison	14	*1.63	1
Hendricks	30	0.84	1
Henry	52	5.04	4
Howard	138	6.82	6
Huntington	12	*1.37	0
Jackson	67	6.44	5
Jasper	11	*1.35	0
Jay	7	*1.26	0
Jefferson	19	*2.61	3
Jennings	0	*0.00	0
Johnson	93	2.60	3
Knox	20	2.49	2
Kosciusko	34	1.72	2
LaGrange	0	*0.00	0
Lake	304	2.38	4
LaPorte	236	9.27	6
Lawrence	15	*1.45	1
Madison	277	9.29	6

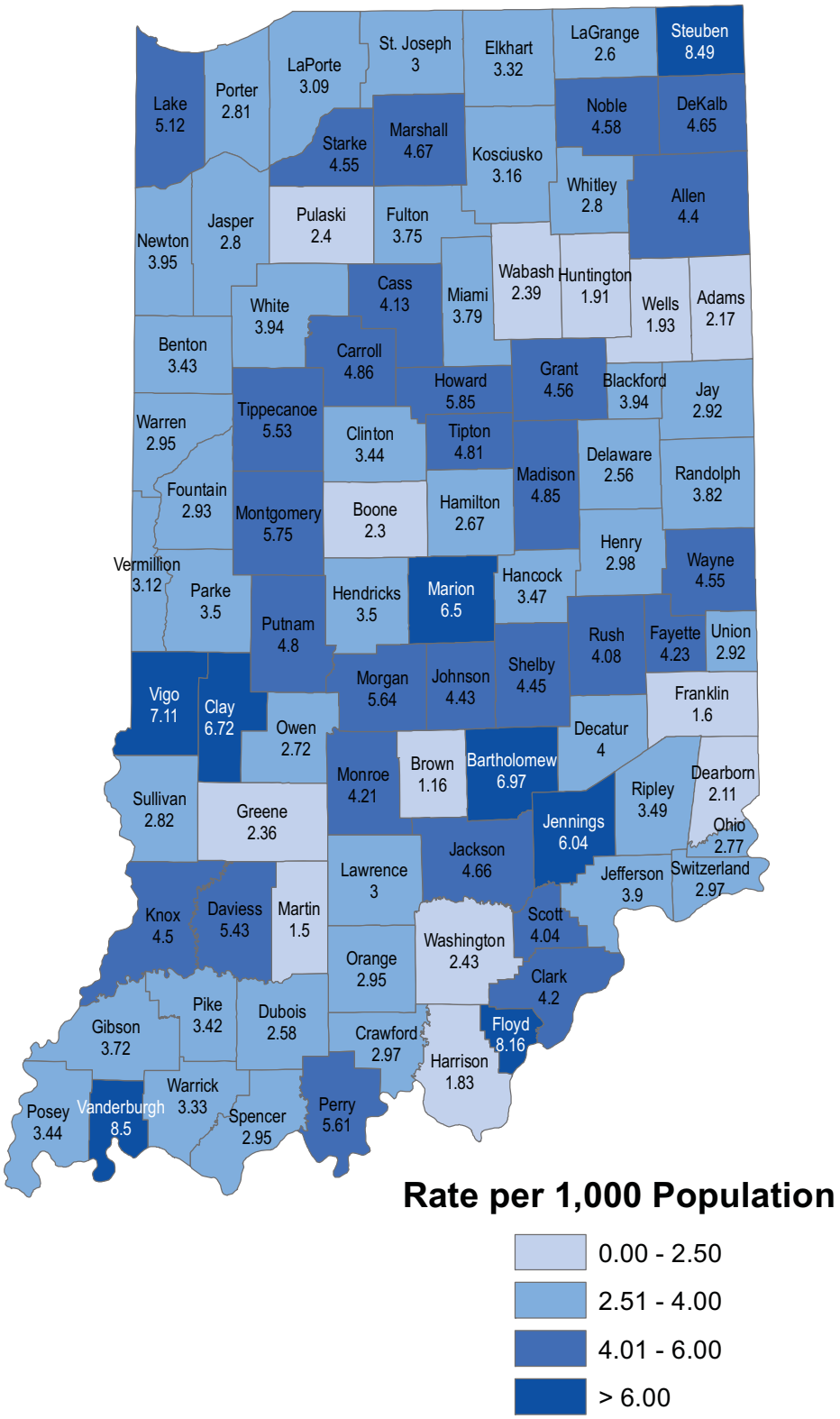
	Runaways		
County	Number	Rate	Runaway Priority Score
Marion	53	0.22	2
Marshall	12	*0.99	0
Martin	3	*1.33	0
Miami	20	2.50	2
Monroe	102	4.45	4
Montgomery	10	*1.12	0
Morgan	21	1.21	1
Newton	2	*0.66	0
Noble	41	3.22	4
Ohio	2	*1.55	0
Orange	6	*1.28	0
Owen	9	*1.82	1
Parke	0	*0.00	0
Perry	9	*2.32	1
Pike	6	*2.14	1
Porter	44	1.15	2
Posey	15	*2.59	2
Pulaski	5	*1.57	0
Putnam	11	*1.41	0
Randolph	13	*2.19	1
Ripley	13	*1.82	1
Rush	12	*2.88	2
Saint Joseph	478	7.10	6
Scott	15	*2.62	3
Shelby	41	3.87	4
Spencer	6	*1.31	0
Starke	9	*1.58	0
Steuben	21	2.67	3
Sullivan	9	*2.04	1
Switzerland	3	*1.35	0
Tippecanoe	178	5.05	5
Tipton	0	*0.00	0
Union	2	*1.19	0
Vanderburgh	67	1.66	2
Vermillion	13	*3.59	2
Vigo	185	7.97	6
Wabash	5	*0.71	0
Warren	3	*1.55	0
Warrick	6	*0.43	0
Washington	9	*1.35	0
Wayne	45	2.93	4
Wells	7	*1.05	0
White	7	*1.24	0
Whitley	27	3.42	3
Indiana	**4,156**	**2.62**	
Min	0	0.00	0
Max	478	9.29	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, n.d.

Map 11.1 Total Drug Possession and Sale/Manufacture Arrest Rates, per 1,000 Population, in Indiana, by County (Uniform Crime Reporting Program, 2008)



Note: Rates based on arrest numbers lower than 20 are unreliable. Please refer to Appendix 11E (pages 206-207) for additional information.
Source: National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan, n.d.

REFERENCES, CHAPTER 11

Greene, J., Ennett, S., & Ringwalt, C. (1997). Substance use among runaway and homeless youth in three national samples. *American Journal of Public Health, 87*(2), 229–235.

Indiana State Police. (2010). *Automated Reporting Information Exchange System (ARIES), Vehicle Crash Records System.* Database maintained by the Indiana State Police and made available to the Center for Criminal Justice Research, Public Policy Institute, School of Public and Environmental Affairs, Indiana University–Purdue University Indianapolis (March 1, 2010).

National Archive of Criminal Justice Data, Inter-university Consortium for Political and Social Research, University of Michigan. (n.d.). *Uniform Crime Reporting Program.* Available at http://www.icpsr.umich.edu/NACJD/

U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics. (1994). *Fact sheet: Drug-related crime.* Retrieved November 16, 2009, from http://www.ojp.usdoj.gov/bjs/pub/pdf/drrc.pdf

Windle, M. (1988). Substance use and abuse among adolescent runaways: A four-year follow-up study. *Journal of Youth and Adolescence, 18*(4), 331–344.

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 1993-2010	http://www.drugs.indiana.edu/data-survey_monograph.html or contact drugprc@indiana.edu	Indiana and regions; County-level possibly on request	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 1995-2009	http://apps.nccd.cdc.gov/brfss/ Indiana specific reports from ISDH at http://www.in.gov/isdh/22860.htm	U.S. and states	Adults 18 and older
Behavioral Risk Factor Surveillance System: Selected Metropolitan/Micropolitan Area Risk Trends (BRFSS SMART)	CDC	Annual 2002-2009	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/Indiana Hospital & Health Association	Annual 1999-2009	ISDH at http://www.in.gov/isdh/20624.htm or on request	Indiana and counties	General population
Indiana Adult Tobacco Survey (IATS)	ITPC	Bi-annual 2002-2010	Reports at http://www.in.gov/itpc/ or data on request from ITPC	Indiana	Adults
Indiana Clandestine Meth Lab Seizures	ISP	Annual 1995-2009	Data on request from ISP	Indiana and counties	General population
Indiana Youth Tobacco Survey (IYTS)	ITPC	Bi-annual 2000-2008	http://www.in.gov/itpc/ or data on request from ITPC	Indiana	6th – 12th grade students in Indiana
Monitoring the Future (MTF) Survey	NIDA	Annual 1999-2009	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 1999-2007	ISDH at http://www.in.gov/isdh/19096.htm or on request	Indiana and counties	General population

APPENDIX I *(continued)*

Data Set	Source	Years	How to Access	Coverage	Target
Mortality data (e.g., alcohol-, smoking-, and drug-related mortality)	CDC	Annual 1999-2007	CDC WONDER at 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 2000-2009	http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/index.htm	U.S.	6th – 12th grade students
Newborn Screening Program/Meconium Screening Program	ISDH	Annual	On request from ISDH (see http://www.in.gov/isdh/20215.htm)	Indiana and counties	Infants
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 IDOE	Annual	http://dew4.doe.state.in.us/htbin/sas1.sh or on request	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/sammec/index.asp	U.S. and states	General population
State Emergency Department Database (SEDD)	AHRQ/ISDH	Annual	Report on request from ISDH	Indiana and counties	General population
Treatment Episode Data Set (TEDS)	SAMHSA	Annual 1992-2008	http://webapp.icpsr.umich.edu/cocoon/SAMHDA-SERIES/00056.xml	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	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	http://apps.nccd.cdc.gov/yrbss/ Indiana-specific reports from ISDH at http://www.in.gov/isdh/20627.htm	U.S. and states	High school students

APPENDIX I *(continued)*
Data Packages and Reports

Data Package	Source	How to Access	Coverage	Target
Traffic Safety Reports	ICJI/ISP	http://www.in.gov/cji/2572.htm	Indiana and counties	General population
Indiana Alcohol and Other Drugs County Level Epidemiological Indicators (CLEI)	IPRC	Access to various data sources http://www.sis.indiana.edu/	Indiana and counties	Youth and general population
Prev-Stat County Profiles	IPRC	County profiles can be accessed at http://www.drugs.indiana.edu/data-prevstate_pubs.html	Indiana counties	General population
State Epidemiological Data System (SEDS)	HHS/CSAP	A "data packet" can be downloaded containing various datasets http://www.epidcc.samhsa.gov/	U.S. and states	General population

"Data Packages" are websites that contain a variety of data sources.

Abbreviations used: AHRQ = Agency for Healthcare Research and Quality; ARIES = Automated Reporting Information Exchange System; CDC = Centers for Disease Control and Prevention; CLEI = County-level Epidemiological Indicators (previously SIS, or Social Indicator System); CSAP = Center for Substance Abuse Prevention; DOE = Department of Education; FBI = Federal Bureau of Investigation; HHS = Department of Health and Human Services; ICJI = Indiana Criminal Justice Institute; 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; ITPC = Indiana Tobacco Prevention and Cessation Agency; NHTSA = National Highway Traffic Safety Administration; NIDA = National Institute on Drug Abuse; SAMHSA = Substance Abuse and Mental Health Services Administration; SEDS = State Epidemiological Data System.

MARIJUANA COCAINE PRESCRIPTION DRUGS

The Consumption and Consequences of Alcohol, Tobacco, and Drugs in Indiana: A State Epidemiological Profile 2010

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

TOBACCO HEROIN METHAMPHETAMINE ALCOHOL

Our Vision

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

Our Mission

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

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