

A State-Based Model of Prevention: Indiana's Example

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Public health officials in the United States have battled alcohol, tobacco, and other drug (ATOD) use among adolescents for the past few decades, but only in 2002 did they begin to see a decline in rates of use. ATOD use and abuse are associated with numerous problems, including criminal behavior and increased adolescent morbidity and mortality rates. Researchers have sought to identify best-practice procedures for ATOD prevention; the state of Indiana has a strong ATOD prevention system in place that has the potential to serve as a model for other U.S. localities because of its best-practice approach to public health services. This article outlines the activities of the Indiana Prevention Resource Center to provide an example to strengthen public health professionals' ability to prevent ATOD use and abuse and to provide for a healthy adolescent population.

Keywords: *substance abuse; best practice; ATOD; adolescent drug use*

Public health researchers in the field of adolescent alcohol, tobacco, and other drug (ATOD) use and abuse reported alarming information in the early 1990s, when the numbers of adolescents and children affected by substance abuse began to climb rapidly in the United States (Nelson et al., 2001). Costs related to this trend included increased levels of morbidity and mortality from overdose, violence, and the spread of sexually transmitted diseases (Pumariega, Rodriguez, & Kilgus, 2004). One study reports that in 1994 alone, the estimated cost of adolescent ATOD use was between \$10 billion and \$20 billion (Weinrich & Hardin, 1997). Only in 2002 did the Monitoring the Future (MTF) study, one of

the leading national surveys of adolescent ATOD use and abuse, report the beginning of a decline in use that has continued through 2004 (Johnston, O'Malley, Bachman, & Schulenberg, 2005). However, levels of adolescent ATOD use and abuse remain high enough that prevention, which is a best-practice response to this phenomenon (Volkow, 2003), still needs to be a primary focus (Schiffman, 2004).

Although public funding for adolescent ATOD-use prevention has increased at the state, federal, and non-profit levels (August et al., 2004), the primary sources of information used to inform practice are national surveys, emergency room reports, regional school studies, and other localized methods of data collection (Pumariega et al., 2004). Although some states, such as Maryland and Indiana, employ comprehensive, local surveys to guide prevention decisions, others rely on external national- and state-level sources of data, such as the Youth Risk Behavior Survey (YRBS). It is important that states research adolescent ATOD use and abuse at the local level because targeted data has the potential to be more effective in informing prevention efforts.

Since 1991, the Indiana Prevention Resource Center (IPRC) has coordinated the administration of a survey among 6th- through 12th-grade students (students in 5th grade were also surveyed from 1991 to 1993) in the state of Indiana. A survey that can target localities can assist prevention efforts by providing accurate and relevant prevention data (Biglan, Mrazek, Carmine, & Flay, 2003). The IPRC also provides comprehensive primary prevention services including after-school program coordination, grants assistance, data collection and reporting, localized statistical profile reports (PREV-STAT™), information on specific drugs, local prevalence data, library services, and a comprehensive Web site (IPRC, 2005). These services

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function synergistically to strengthen the IPRC's ability to address ATOD prevention at the local level.

Accurate information regarding adolescent ATOD use and abuse is difficult to obtain (Nelson et al., 2001). The best approaches to prevention programming merge research with the day-to-day functions and activities of community practitioners (Volkow, 2003). Furthermore, these methods use specific strategies that combine efficacy and effectiveness in practice (Bero et al., 1998). To this end, the IPRC employs not only prevention professionals but also information specialists, researchers, and graduate students to vertically integrate primary prevention outreach methods across Indiana. The collaborative services offered by the IPRC may serve as a functional model to other organizations wishing to implement best-practice approaches.

► BREAKDOWN OF SERVICES

Factlines and Prevention-L

The IPRC strives to bridge the gap between theory and application by offering a variety of services to practitioners, including an online discussion list (Prevention-L) and drug-related pamphlets designed for educators. These services use data from the state survey (discussed in the next section) to produce relevant information for local prevention professionals. One of these services, the drug-related pamphlets called "Factlines," are print-based and online publications that focus on one drug in detail, a scientifically sound approach to this type of prevention literature (Johnston et al., 2005). These documents can be used to teach parents, educators, and other prevention professionals about various drugs of abuse to improve community members' awareness of adolescent ATOD issues, which is known to be a protective asset (Scales, Leffert, & Vraa, 2003).

Prevention-L is an e-mail-based system of information transfer among prevention professionals. As of June 2006, there were approximately 466 members. A

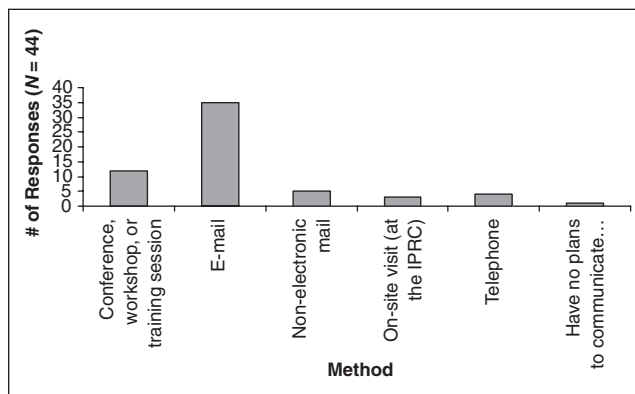


FIGURE 1 Preferred Method of Communication With the Indiana Prevention Resource Center (IPRC)

SOURCE: Indiana Prevention Resource Center (2005).

voluntary self-reported, user-satisfaction survey administered by IPRC officials at two public health conferences in 2005 found that 79.5% of participants preferred e-mail as a method of communication (respondents were able to choose more than one option; see Figure 1).

The ATOD Survey

In 2005, the IPRC's statewide ATOD survey was completed by 149,038 Indiana students in grades 6 through 12, producing 136,782 useable surveys (Jun et al., 2005). Although the survey content has been updated several times since its inception in 1991—most recently in 2005 to add questions about methamphetamine use and gambling and to remove questions about methcathinone use—its overall format has remained consistent. Participants are asked a series of closed-ended questions, "including three demographic questions, a 10-digit school code that provides demographic information, and a series of Likert-type items, arranged in subscales, to measure" the following: prevalence of ATOD use, "adverse consequences of ATOD use experienced by the respondent," and other items related to prevalence and respondent perceptions, such as perception of peer approval/disapproval of ATOD use (Jones-McKyer et al., 2004; Jun et al., 2005). The survey provides data that inform broad-scale ATOD prevention efforts in Indiana. It can also be used to compare national data with data from Indiana (see Figure 2).

Because the ATOD survey is developed and analyzed in-house, it also allows the IPRC to respond to changes in state-level data as soon as the data has been processed. For example, the 2003 and 2004 prevalence data for inhalant use among Indiana youth indicated an increasing trend that was especially noticeable among 6th- and

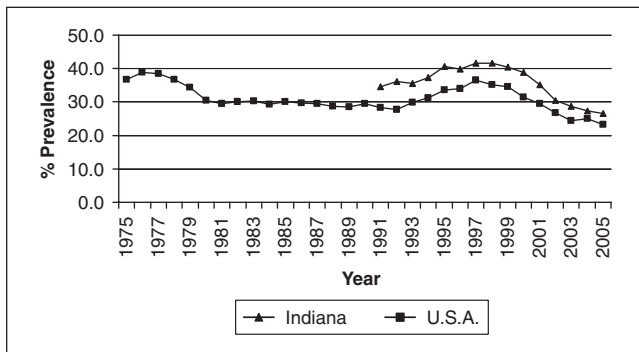


FIGURE 2 Trend of Monthly Cigarette Use by Indiana and U.S. Youth, 1975-2005

SOURCE: Indiana Prevention Resource Center (2005).

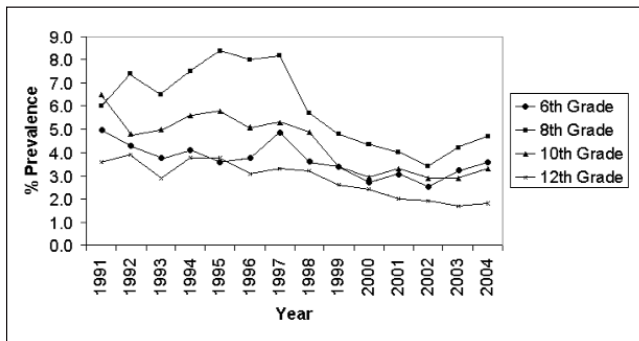


FIGURE 3 Trend of Monthly Inhalant Use Among Indiana Students, 1991-2004

SOURCE: Indiana Prevention Resource Center (2004).

8th-grade students (see Figure 3). At that time, the IPRC was also involved in the production of a series of “Factlines,” but the list of topics did not originally include inhalants. Responding to the survey and trend data, IPRC researchers developed, released, and distributed a “Factline” on inhalants in the summer of 2004, soon after analyzing the data (Agle & Smith, 2004).

In addition, localized ATOD prevention efforts are guided by these data, which are more relevant to planning efforts than the national sets because they reflect local trends. Any school corporation that requests a local report will receive a data set specific to that corporation, including lists of statistically significant differences, both positive and negative, between that corporation’s data and the state-level data. Table 1 demonstrates how the comparison information is provided in a local report

(local reports also provide comparison data for “annual” and “lifetime” categories, as well as a textual summary and the raw data for that school corporation). Organizations have used local survey data to secure funding through grants, and the IPRC provides workshops on data interpretation for officials who wish to better understand the survey results.

Afternoons R.O.C.K. in Indiana

Aside from the annual state survey, the most prominent aspect of the IPRC’s services is its technical oversight of the Afternoons R.O.C.K. in Indiana program. Prior studies have demonstrated that evidence- and/or science-based prevention programs, particularly those that focus on social influences, are effective in reducing ATOD use and abuse rates among adolescents (August et al., 2004; Mathias, 2003; Sussman, Dent, & Stacy, 2002). In 1997, a coalition of organizations in Indiana established an after-school program for youth (Afternoons R.O.C.K. in Indiana) that operates during the 3 hours following dismissal from school when “youth are most vulnerable to engaging in negative and risky behaviors” (Alter, Jun, & Jones-McKyer, 2004; Bailey, 1998; Fox & Newman, 1997). These programs are designed to increase protective factors while decreasing risk factors during that time frame (Alter et al., 2004).

Members of the IPRC staff are credentialed in a variety of social and scientific fields, ranging from sociology to pharmacology and public health. As technical assistants to Afternoons R.O.C.K. in Indiana, the IPRC staff is able to provide a transdisciplinary perspective to the program, a technique suggested to bridge the gap between efficacy and effectiveness in prevention programs (August et al., 2004). In other words, rather than focusing solely on the procedures of a specific discipline, the IPRC provides a perspective influenced by multiple fields. Since 1997, Indiana has seen a decreasing trend of adolescent ATOD use rates (Jones-McKyer et al., 2004). This trend began to appear in the years following the initiation of the Afternoons R.O.C.K. in Indiana program (Alter et al., 2004).

Other Services

Other specific examples of the IPRC’s unique approach to research and practice include its in-house grant-writing assistance program, which supports Indiana public health organizations, schools, coalitions, and other agencies in efforts to secure funding, often with the data produced by the statewide survey. In fiscal year 2004 alone, the prevalence data from the statewide survey was used to support applications to the Substance Abuse and Mental Health

TABLE 1
Significant Differences Between Local and State Drug Use Rates, 2005: School Corporation A

Drug	Daily						Monthly							
	6th	7th	8th	9th	10th	11th	12th	6th	7th	8th	9th	10th	11th	12th
Cigarettes	-2.8	-5.4	-6.7	-5.3	-8.6	-10.0	-12.0	-4.0	-4.5	-6.3	-5.0	-7.6	-14.4	-19.8
Half-pack-plus a day	—	—	—	—	—	-2.5	-2.3	—	—	—	—	—	—	—
Cigars	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pipe	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smokeless tobacco	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol	2.4	2.3	4.5	7.1	6.0	8.9	12.3	4.6	9.6	12.1	12.3	11.7	13.0	15.4
Binge drinking	—	—	—	2.3	—	5.4	4.8	—	—	—	—	—	4.5	6.6
Marijuana	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cocaine	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Crack	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Inhalants	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Amphetamines	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methamphetamines	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ritalin	—	—	—	—	—	—	—	0.8	—	—	1.0	—	—	1.7
Tranquilizers	—	—	—	—	—	—	—	—	—	—	—	—	-2.2	-2.4
Narcotics	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Psychedelics	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LSD	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Others	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Heroin	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	-0.8
Injected drugs	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MDMA	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rohypnol	—	—	—	—	—	—	—	—	—	—	—	—	—	-0.2
GHB	—	—	—	—	—	—	—	—	—	—	—	—	—	-0.3

NOTE: Numerical values represent the magnitude of the difference between local and state rates where differences are statistically significant ($p < .05$). Negative values indicate that local rates are lower than state rates. Blank spaces indicate that statistical comparisons could not be made because of local prevalence rates of 0%. Em dashes (—) indicate that differences between local and state rates are not statistically significant. MDMA = methylenedioxy methamphetamine (or Ecstasy); GHB = gamma hydroxybutyrate.

Services Administration (SAMHSA), which awarded \$1.5 million in Drug-Free Communities grants to 16 communities across Indiana. IPRC staff also had key roles in developing Indiana's successful proposal to SAMHSA for a \$11,660,000 Strategic Prevention Framework State Incentive Grant (SPF-SIG) in 2005. This service is supplemented by the IPRC librarians, who provide technical research services and PREV-STAT™ analysis, both in person and over the phone, to any state organization or state resident who requests it. The PREV-STAT™ analysis is especially significant because it uses geofigureic information systems technology to provide relevant local data to communities.

Finally, the IPRC complex houses the Tobacco Retailer Inspection Program (TRIP), a primary prevention initiative designed to enforce retailer compliance with tobacco sale laws. If adolescents are unable to purchase cigarettes in stores, then the prevalence of use will more than likely decrease (Cummings, Hyland, Perla, & Giovino, 2003). This collaboration further enhances the IPRC's ability to provide comprehensive prevention services based on best-practice approaches across Indiana.

Primary Prevention in Context

A secondary benefit of primary prevention is a reduction of costs associated with avoided treatment. Treatment costs are often understudied and can vary significantly. For example, the average cost of a single episode of outpatient treatment for marijuana, one of the more prevalent drugs of abuse among U.S. adolescents (Johnston et al., 2005), can range from \$837 to \$3,334 (French et al., 2002).

The U.S. Department of Justice reports that approximately 30,000 rural Indiana residents required publicly funded substance-abuse treatment in 1998 alone (National Drug Intelligence Center, 2001). Given the fact that each dollar spent on prevention saves between \$2.40 and \$19.64 in treatment costs (Swisher, Scherer, & Yin, 2004), these data suggest that Afternoons R.O.C.K. in Indiana is not only preventing the immediate human cost of adolescent ATOD use and abuse, but it is also saving the state a significant amount of money that would be otherwise spent on treatment of the resulting addictions and comorbid disorders and behaviors.

► SUMMARY

Funded by the Substance Abuse Prevention and Treatment block grant from the Division of Mental Health and Addiction and administered through the Department of Applied Health Science at Indiana University,

Bloomington, the IPRC is a functioning model of bridging the gap between research and practice. The fact that the IPRC is able to conduct and maintain the data set for a statewide survey while keeping prevention professionals across the state informed about new innovations in the field, conducting administrative duties for after-school primary prevention programs, and developing educational materials for other public health workers all within an evidence-based and best-practice-based framework demonstrates that such an approach to prevention is realistic and achievable. The IPRC maintains a voluntary-admission database of clients; as of June 2006, the database contains 5,334 people. The magnitude of that number suggests the widespread nature of the IPRC's prevention initiatives.

In addition, the IPRC supports the Imagine Indiana Together substance abuse prevention framework (Governor's Advisory Panel, 2004) and the Future of Public Health in Indiana Community Health Improvement Plan (Indiana Medicine and Public Health Initiative Partners, 2004). The decline in adolescent ATOD use and abuse rates that has been reported in the past few years (Johnston et al., 2005) lends inductive credence to the strength of the prevention systems that have been put in place across the country. It is the hope of these authors that a description of the IPRC's services will further strengthen this system.

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