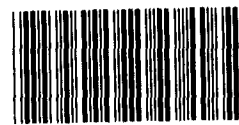


September 1990

RURAL DRUG ABUSE

Prevalence, Relation to Crime, and Programs



142336

212

**Program Evaluation and
Methodology Division**

B-240854

September 14, 1990

The Honorable David Pryor
The Honorable Max Baucus
The Honorable Thomas Harkin
The Honorable Dale Bumpers
The Honorable Kent Conrad
United States Senate

On March 19 and June 8, 1990, you asked us to examine the nature and extent of the drug crisis in rural parts of America. The request asked that we focus on the prevalence of substance abuse, its relationship with crime, and the effectiveness of program efforts to prevent or treat rural substance abuse. We were also asked to determine what data exist on these issues and, to the extent data are available, to collect, examine, and interpret them. Our main finding is that total substance abuse rates are about the same in rural and nonrural places.

Background

For some time now, the public has seen substance abuse as one of the most important problems facing the nation. In particular, the public is concerned that illegal drugs are responsible for violent crime and that the crime rate is rising. There appears to be broad support for government programs to combat substance abuse through education, treatment, and law enforcement (Shinn, 1990).

Public, scholarly, and policymaker attention has tended to focus on "high intensity" drug zones in large cities such as New York, Washington, D.C., Los Angeles, Miami, and Houston and along the U.S.-Mexico border. In contrast, much less attention has been paid to less-densely populated rural areas farther removed from the coasts or the country's southern border. For example, the only national survey report explicitly focusing on substance abuse in rural areas is over a decade old. That report concluded that for most illegal drugs, about two thirds as many rural as nonrural inhabitants would try drugs during their lifetimes. The report also noted that "The pattern of increases in rural drug abuse suggests that rural/nonrural prevalence differences are declining and will disappear entirely if current trends persist." (U.S. Department of Health and Human Services, 1981, p. 1) To our knowledge, no systematic assessment of these trends has been undertaken since then. Nor has much attention been given to describing the relationship between substance abuse and crime in rural areas or to reporting whether the effectiveness of prevention and treatment programs differs in these areas.

Analysis

We addressed three main questions:

1. What information exists on the extent of substance abuse in rural places?
2. What is known about the relationship between substance abuse and crime in rural places?
3. What data are available concerning the effectiveness of prevention and treatment programs in reducing rural substance abuse?

We defined substance abuse as involvement with illegal drugs, illegal use of drugs (such as alcohol or prescription medicine), or drug use linked to other criminal activity or needing treatment. For example, an individual involved with illegal drugs (such as cocaine, heroin, or marijuana) in any way is considered a substance abuser. But illegal use of legal drugs such as alcohol and prescription medicine also qualifies as substance abuse (as when a person drives while under the influence of alcohol, drinks while under age, or obtains prescription drugs under false pretenses). Substance abuse can also occur if a person commits such acts as domestic violence while under the influence or requires medical care for alcohol dependency or overdosing on inhalants. Note that alcohol is considered substance abuse in this report only when it is used illegally or when it causes problems for the user; data on legal, nonproblematic alcohol use by adults are not included in this report.

Findings

Our review of survey, arrest, and treatment data produced several findings concerning the nature and extent of substance abuse in rural places. The survey data for high school seniors is presented in table 1; arrest and treatment data are summarized in figure 1. (Additional data on the extent and nature of substance abuse are in appendix II.)

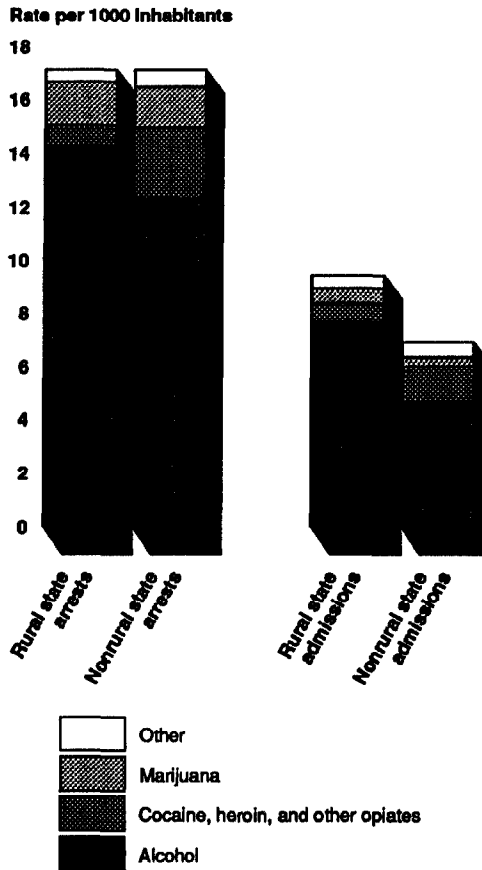
Table 1: Highlights of Selected Substance Use Prevalence for High School Seniors, Class of 1988

Frequency of use	Population density		
	Non-SMSA ^a	Medium SMSA ^a	Large SMSA ^a
Within lifetime			
Alcohol	91.3%	92.3%	92.2%
Marijuana	41.9	49.7	47.8
Cocaine	8.6	12.8	14.3
Inhalants	17.8	16.1	16.8
Stimulants	20.3	21.3	16.7
Sedatives	7.5	8.0	7.9
Tranquilizers	9.3	9.4	9.4
Hallucinogens	5.8	9.8	10.2
Heroin	1.2	1.2	1.0
Other opiates	7.9	9.3	8.1
Within past year			
Alcohol	83.9	85.7	86.1
Marijuana	29.0	34.7	34.3
Cocaine	5.3	8.5	9.3
Inhalants	7.5	6.0	6.5
Stimulants	11.3	11.9	8.8
Sedatives	3.5	3.8	3.6
Tranquilizers	4.5	5.0	4.7
Hallucinogens	3.5	6.0	6.5
Heroin	0.5	0.5	0.4
Other opiates	4.4	5.2	4.0
Within past 30 days			
Alcohol	63.8	64.1	63.8
Marijuana	14.3	19.3	19.4
Cocaine	2.1	3.8	4.2
Inhalants	3.4	2.4	2.0
Stimulants	4.8	5.1	3.5
Sedatives	1.5	1.6	1.0
Tranquilizers	1.4	1.7	1.3
Hallucinogens	1.4	2.6	2.2
Heroin	0.2	0.2	0.1
Other opiates	1.6	1.8	1.2
Daily within past 30 days			
Alcohol	4.5	4.5	3.5
Marijuana	1.4	3.4	2.6

^aSMSA: Standard metropolitan statistical area.

Source: L. D. Johnston, P. M. O'Malley, and J. G. Bachman, Drug Use, Drinking, and Smoking: National Survey Results from High School, College, and Young Adult Populations, 1975-1988 (Ann Arbor: University of Michigan, Institute for Social Research, for the U.S. Department of Health and Human Services, Public Health Service, Alcohol, Drug Abuse, and Mental Health Administration, National Institute on Drug Abuse, 1989), pp. 42, 44, 46, and 48.

Figure 1: Substance Abuse Treatments and Arrests, 1988



Source: Treatment admissions data in W. Butynski, D. Canova, and S. Jenson, State Resources and Services Related to Alcohol and Drug Abuse Problems, Fiscal Year 1988: An Analysis of State Alcohol and Drug Abuse Profile Data, a report for the National Institute on Alcohol Abuse and Alcoholism and the National Institute on Drug Abuse (Washington, D.C.: National Association of State Alcohol and Drug Abuse Directors, 1989), pp. 22 and 36; arrest data in U.S. Department of Justice, Crime in the United States, 1988 (Washington, D.C.: Federal Bureau of Investigation, 1989a); and U.S. Department of Justice, unpublished data, Federal Bureau of Investigation, 1990f.

These data show the following:

- Total substance abuse (alcohol abuse plus other drug abuse) rates in rural states are about as high as in nonrural states.
- Of all substances, alcohol is by far the most widely abused.
- What discriminates between rural and nonrural areas is that prevalence rates for some drugs (such as cocaine) appear to be lower in rural areas, while prevalence rates for other drugs (such as inhalants) may be higher.

The data from the high school senior survey (table 1) can be generalized to the 48 contiguous states. The arrest and treatment totals (figure 1), while not from a nationally representative sample, include the reports of 48 and 47 states, respectively.

Most research shows that the link between drugs and crime is strong. Heavy substance abusers are often criminals, and criminals are often substance abusers. The data collected by law enforcement agencies and prisons do not necessarily provide an accurate measure of the extent of drug-related crime, however. Arrest rates for substance abuse violations (figure 1) and the substance abuse rates of those in state prisons (table 2) are nonetheless the best measures available concerning drugs and crime in rural areas. (Additional data are in appendix III.)

Table 2: Substance Abuse Among Inmates Recently Admitted to Four State Corrections Systems

State	Alcohol abuse	Other drug abuse	Both alcohol and drug abuse	Total substance abuse
Arkansas	24%	20%	27%	71%
Iowa	21	10	44	75
Montana	17	13	61	91
North Dakota	28	^a	54	73

^aNot available.

Source: Unpublished 1990 data provided by Arkansas, Iowa, Montana, and North Dakota.

Despite the shortcomings of these data, our review allows us to draw three main conclusions:

- Rural areas have arrest rates for substance abuse violations that are as high as those in nonrural areas.
- Most prison inmates in rural states have abused alcohol, other drugs, or both.
- The prevalence of substance abuse among inmates completely overwhelms available treatment services.

A wide variety of programs seek to reduce substance abuse through prevention or treatment. We focused on three major federal programs that provide funds to the states for these purposes. (See appendix IV.) The Federal Drug Control and System Improvement Grant program, administered by the Bureau of Justice Assistance within the Department of Justice, distributes funds to state and local governments to apprehend, prosecute, adjudicate, incarcerate, and treat substance abuse offenders. The Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA)

within the U.S. Department of Health and Human Services provides states with funding for the development of prevention, treatment, and rehabilitative programs and activities to deal with alcohol and drug abuse. The Drug-Free Schools and Communities State and Local Grant Program, administered by the U.S. Department of Education, funds school and community efforts to reduce the incidence and prevalence of substance abuse.

Our review of the literature on program effectiveness indicates that only a few thorough evaluations have found particular programs to be effective, but almost no studies have focused on programs in the rural United States. Furthermore, we are unaware of any evaluations that compare the effectiveness of law enforcement, education, and treatment programs. Our findings on program effectiveness are therefore quite limited.

- Little information exists on the effectiveness of law enforcement in reducing drug abuse in either rural or nonrural areas. The rural states we visited do have plans to improve their ability to evaluate law enforcement programs, however.
- The evidence suggests that educational programs can modestly reduce drug abuse, although we found only a few evaluations of prevention program effectiveness in rural states.
- Some treatment programs appear to reduce drug abuse. However, studies of treatment effectiveness have rarely focused on rural areas. Currently, at least a few rural states have begun evaluating their own treatment programs.
- Over 80 percent of treatment admissions in rural states are for alcohol abuse. However, all states are required to devote at least 35 percent of their ADAMHA block grant funding to treatment programs for drugs other than alcohol. This implies that these funding allocation mandates may not meet rural needs.

We were nonetheless able to identify features of rural places that should be taken into account if law enforcement, treatment, and education programs are to be made more effective. Although we cannot draw definitive conclusions about program effectiveness, we are able to note that certain barriers must be overcome if rural areas are to be successful in reducing substance abuse. Rural programs can have greater per-client costs because of their “diseconomies of scale.” These areas may find it difficult to attract and hold trained and experienced staff. Clients must travel farther to reach programs and program staff must travel farther

to reach clients. The programs may lack acceptance by the community, community agencies, and the local school system.

The defining characteristic of rural areas is their low population density. This makes it difficult to have high program intensity: a rural community is unlikely to be able to afford drug program specialists. Rural police must handle the full range of law enforcement problems, rural teachers must perform a wide variety of educational services, and rural health care workers must provide a broad array of health services. Individuals in these jobs, no matter how dedicated, can hardly be expected to develop expertise in, or devote much time to, drug issues.

We believe that one way for rural places to compensate for the shortage of expertise is to pool resources and coordinate efforts. In this way, rural areas may be able to address collectively problems that would be too complex for any one community to resolve on its own.

At your request, we did not ask federal agencies to comment formally on this report. As agreed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution of it until 30 days from its date. We will then send copies to interested congressional committees and federal agencies, and we will make copies available to others upon request. Except as noted, our work was conducted in accordance with generally accepted government auditing standards.

If you have any questions or would like additional information, please call me at (202) 275-1854. Major contributors to this report are listed in appendix VIII.



Eleanor Chelimsky
Assistant Comptroller General

Contents

Letter		1
Appendix I		12
Objectives, Scope, and Methodology	Objectives Scope and Methodology	12 12
Appendix II		15
The Extent of Substance Abuse in Rural Places	Evidence Main Findings	15 24
Appendix III		25
Substance Abuse and Crime in Rural Places	Evidence Main Findings	25 35
Appendix IV		36
Programs to Prevent or Reduce Substance Abuse	Evidence Main Findings	36 47
Appendix V		49
Rural States		
Appendix VI		50
Supporting Tables		
Appendix VII		62
Request Letters		
Appendix VIII		65
Major Contributors to This Report		

Bibliography

66

Tables

Table 1: Highlights of Selected Substance Use Prevalence for High School Seniors, Class of 1988	3
Table 2: Substance Abuse Among Inmates Recently Admitted to Four State Corrections Systems	5
Table II.1: Lifetime Prevalence of 18 Types of Substances for High School Seniors, Class of 1988	17
Table II.2: Annual Prevalence of 18 Types of Substances for High School Seniors, Class of 1988	18
Table II.3: Thirty-Day Prevalence of 18 Types of Substances for High School Seniors, Class of 1988	19
Table II.4: Thirty-Day Prevalence of Daily Use of Three Substances for High School Seniors, Class of 1988	20
Table II.5: Alcohol and Other Drug Treatment Admissions and Arrests by Rural and Nonrural States and Counties, 1988	23
Table III.1: Drug Abuse Violation Arrests, 1988	29
Table III.2: Ratio of Drug Abuse Arrests to Arrests for Property or Violent Crimes, 1988	31
Table III.3: Substance Abuse Among Inmates Recently Admitted to Four State Corrections Systems	33
Table IV.1: Admission and Discharge Information for Clients Receiving Primary Substance Abuse Treatment in Iowa, 1988	41
Table IV.2: Follow-Up Information on Substance Abuse Clients at Admission and 6 Months After Discharge in Iowa, 1988	41
Table IV.3: Discharge and Follow-Up Information for Primary Chemical Dependency Clients in Montana, 1988	42
Table VI.1: Annual Prevalence of Use of 14 Types of Drugs Among Respondents of Modal Age 19-30, 1988	50
Table VI.2: Thirty-Day Prevalence of Use of 14 Types of Drugs Among Respondents of Modal Age 19-30, 1988	51
Table VI.3: Thirty-Day Prevalence of Use of Two Substances Among Respondents of Modal Age 19-30, 1988	52
Table VI.4: Lifetime Drug Use Prevalence Among High School Seniors in Iowa, Montana, North Dakota, and the United States, 1988	52

Table VI.5: Thirty-Day Drug Use Prevalence Among High School Seniors in Iowa, Montana, North Dakota, and the United States, 1988	53
Table VI.6: Alcohol and Other Drug Abuse Violation Arrests by State, 1988	54
Table VI.7: Treatment Admission Rates to State Alcohol and Drug Abuse Clinics	56
Table VI.8: Drug Treatment Admissions by Primary Drug (Other Than Alcohol) in Rural and Nonrural States, 1988	58
Table VI.9: Drug Abuse Violation Arrests by Type of Drug and Type of Offense, 1988	59
Table VI.10: Substance Abuse Among Inmates Admitted to the Montana State Prison December 1989 to June 1990	61

Figures

Figure 1: Substance Abuse Treatments and Arrests, 1988	4
Figure III.1: Substance Abuse Violation Arrests by Type of State, 1988	26
Figure III.2: Substance Abuse Violation Arrests by Type of County, 1988	27
Figure III.3: Substance Abuse Violation Arrests by Size of City, 1988	28

Abbreviations

ADAMHA	Alcohol, Drug Abuse, and Mental Health Administration
BJA	Bureau of Justice Assistance
DEA	Drug Enforcement Administration
DUF	Drug Use Forecasting
FBI	Federal Bureau of Investigation
GAO	U.S. General Accounting Office
NDATUS	National Drug and Alcoholism Treatment Unit Survey
NIBRS	National Incident-Based Reporting System
NIDA	National Institute on Drug Abuse
SADAP	State Alcohol and Drug Abuse Profile
SISCF	Survey of Inmates in State Correctional Facilities
SMSA	Standard metropolitan statistical area
STRIDE	System to Retrieve Information from Drug Evidence
TOPS	Treatment Outcome Prospective Study
T.O.W.	The Other Way
UCR	Uniform Crime Reports

Objectives, Scope, and Methodology

Objectives

The federal government has made the effort to curb drug abuse a high priority. To allocate resources effectively and fairly in combating drug abuse, the Congress needs accurate information concerning the nature and extent of drug use, drug-related crime, and program efforts to prevent or treat drug use. Our purpose in this report was to determine what data on these issues exist and, to the extent these data were available, to collect, examine, and interpret them. We addressed three main questions:

1. What information exists on the extent of substance abuse in rural places?
2. What is known about the relationship between substance abuse and crime in rural places?
3. What data are available concerning the effectiveness of prevention and treatment programs in reducing rural substance abuse?

Scope and Methodology

To answer these questions, we examined data from rural states and rural areas for two reasons. First, the requesters have introduced legislation using both concepts. Second, some data are available at the state level; some data are reported in rural and other categories. For the purposes of this study, a rural state is defined as 1 of 18 states with a population density of 50 persons or fewer per square mile. (These 18 states are listed in appendix V.) The definition of a rural area differs by data source. Rather than discard information that did not fit some single definition of rural area, we used whatever data were available to help support inferences drawn from the state-level sources or to illustrate exceptions to them.

We defined substance abuse as involvement with illegal drugs, illegal use of drugs (such as alcohol or prescription medicine), or drug use linked to other criminal activity or needing treatment. For example, an individual involved in any way with illegal drugs (such as cocaine, heroin, or marijuana) is considered a substance abuser. But illegal use of legal drugs such as alcohol and prescription medicine also qualifies as substance abuse when a person drives while under the influence of alcohol, drinks while under age, or obtains prescription drugs under false pretenses. Substance abuse can also occur if a person commits such

acts as domestic violence while under the influence or requires medical care for alcohol dependency or overdosing on inhalants.¹

Note that alcohol is included in substance abuse only when it is used illegally or when it causes problems for the user; data on legal, non-problematic alcohol use by adults are not included in this report. Because alcohol is by far the most widely abused substance in the United States, we often present alcohol-related data as a distinct category while aggregating all other drug abuse into a single category. This does not imply that alcohol abuse is different in kind from other drug abuse. The term “total substance abuse” means the combination of alcohol abuse and other drug abuse.

“Prevalence rate” is a key term for understanding substance abuse. The prevalence rate is the number of individuals in a population who have used a substance during a specified time divided by the number of individuals in the population at that specified time (Lilienfeld and Lilienfeld, 1980, p. 139). For example, the “lifetime” prevalence rate indicates the percentage of a population that uses the substance at any time during their lives; “annual” prevalence means the percentage of a population that has used the substance within the past year; “30-day” prevalence signifies the percentage having used the substance at least once during the most recent month; and “30-day daily use” prevalence measures the proportion of the population having taken the substance each day during the past month.

Substance abuse and crime are associated in three ways in this report. Substance abuse and crime are related if (1) possession or use of the drugs (such as cocaine) or engaging in certain activities in drug-induced conditions (such as public drunkenness) is a criminal offense by definition, (2) the crime is committed while the perpetrator is under the influence of a substance, or (3) the criminal has substance abuse problems, even if these problems have not been linked with a particular crime.

We used a variety of sources to answer each of the three evaluation questions. We collected and evaluated data from

1. national and state surveys, federal and state government studies, legislation, regulations, and other reports;

¹Tobacco is included in this report only when it is used by minors.

2. interviews with federal and state officials, including the alcohol and drug abuse directors or their representatives from rural states responsible for substance abuse issues;

3. interviews with agency personnel in sheriffs' offices, treatment centers, and school districts in Arkansas, Iowa, and Montana; and

4. interviews with other experts on substance abuse issues.

We reviewed relevant information from as far back as 1977, although the data we present were the most recent available at the time this study was conducted. Specific dates for the data sources used in the report, as well as their particular characteristics, are noted in the text. In general we used numerical data to calculate summary statistics (such as averages, rates, or percentages) for rural as well as nonrural states or areas. Where possible and appropriate, we conducted statistical tests to compare rural and nonrural places.

The Extent of Substance Abuse in Rural Places

Question 1: What information exists on the extent of substance abuse in rural places? Measuring the extent of illegal or stigmatizing activities is never easy. Therefore, accurately assessing how widespread substance problems are creates numerous challenges. In this section, we review the evidence from a number of sources. Because all the sources are imperfect, no one of them should be regarded as definitive. Together, however, they allow us to draw several conclusions about substance abuse in rural America. Our main sources were as follows:

- 1988 Household Survey (U.S. Department of Health and Human Services, 1989),
- 1988 High School Survey (Johnston, O'Malley, and Bachman, 1989),
- Drug Abuse in Rural America (U.S. Department of Health and Human Services, 1981),
- State Alcohol and Drug Abuse Profile (Butynski, Canova, and Jenson, 1989),
- Uniform Crime Reports (U.S. Department of Justice, 1989a).

Evidence

National Prevalence Surveys

Two national surveys attempt to determine the extent of alcohol and other drug use in the United States. The Household Survey, conducted nine times between 1971 and 1988, is designed to measure substance use in the general population, while the annual High School Survey attempts to gauge alcohol and other drug use prevalence among youths.¹

Only in 1979 did the household survey issue a separate report on drug use in rural areas (U.S. Department of Health and Human Services, 1981).² As noted earlier, a main finding of Drug Abuse in Rural America was that lifetime prevalence rates among rural inhabitants were approximately two thirds the corresponding nonrural prevalence rates. This was true for most classes of illegal drugs except heroin (for which

¹For brief summaries of these and other federal surveys and data sources on drugs, see Collins and Zawitz, 1990.

²This study defined "rural" as areas that are outside standard metropolitan statistical areas and have populations of fewer than 25,000 persons.

rural rates were much lower).³ The pattern of increases in rural drug abuse suggested that rural and nonrural prevalence differences were declining and would disappear entirely if existing trends persisted, however (U.S. Department of Health and Human Services, 1981, p. 1).

At the time of our study, we were not able to determine rural substance prevalence rates from the data published in the 1988 Household Survey. This survey could be used to estimate these rates, however, as its records contain census tract information.⁴ At least two factors nonetheless limit the accuracy of such estimations.⁵ Most importantly, the survey omits several groups that do not live in households but are known to have high rates of substance abuse: those living in correctional institutions, in health and mental institutions, in drug-treatment centers, or on military bases. Second, the survey's questionnaires were answered in the presence of family members and survey officials. Such survey methods may underestimate substance use, particularly as the stigma of using alcohol and other drugs increases (U.S. Congress, 1990a, p. vii). This may be a special problem if rural communities are less tolerant of drug use than larger cities.⁶

The 1988 High School Survey does compare alcohol and other drug use prevalence among a sample of high school seniors and young adults from rural (that is, "nonmetropolitan") areas, medium-sized metropolitan areas, and the 16 largest metropolitan areas in the country. In 1988, approximately 17,000 students from 132 schools around the country participated in the survey by filling out questionnaires in classrooms during school hours. The High School Survey suffers from the same two limitations as the Household Survey. The High School Survey does not include individuals known to have relatively high rates of substance abuse—school dropouts—and it relies on the honesty of self reports

³For example, across all age groups, the prevalence of lifetime experience with marijuana was 23 percent in rural areas and 33 percent in nonrural areas; cocaine, 6 percent and 10 percent; hallucinogens, 6 percent and 9 percent. Lifetime heroin prevalence in rural areas is not given for all age groups; among young adults, lifetime prevalence is 2 percent. Nonrural lifetime heroin prevalence was not given. (See U.S. Department of Health and Human Service, 1981, pp. 1 and 6.)

⁴The report entitled National Household Survey on Drug Abuse: Highlights 1988 (released in late July, 1990) does contain some data on substance abuse in nonmetropolitan areas (U.S. Department of Health and Human Services, 1990c).

⁵The National Institute on Drug Abuse (NIDA) recognizes these factors as limitations. (See U.S. Department of Health and Human Services, 1989, pp. 9-10.)

⁶To our knowledge, only one rural state—Utah—has conducted its own household survey (National Association of State Alcohol and Drug Abuse Directors, 1990a).

**Appendix II
The Extent of Substance Abuse in
Rural Places**

(Johnston, O'Malley, and Bachman 1989, pp. 23 and 334). Consequently, prevalence rates may be underestimated.

The 1988 High School Survey reports prevalence in lifetime, annual, 30-day, and 30-day daily-use prevalence rates. Prevalence rates for high school seniors for 18 substances in the three types of areas are presented in tables II.1 to II.4.

**Table II.1: Lifetime Prevalence of 18
Types of Substances for High School
Seniors, Class of 1988**

Substance	Population density		
	Non-SMSA	Medium SMSA	Large SMSA
Alcohol	91.3%	92.3%	92.2%
Cigarettes	68.7	66.9	63.3
Marijuana	41.9	49.7	47.8
Cocaine ^a	8.6	12.8	14.3
"Crack"	3.2	5.1	5.8
Other	9.0	13.1	13.7
Stimulants	20.3	21.3	16.7
Inhalants ^b	17.8	16.1	16.8
Amyl/butyl nitrites	2.9	3.2	3.5
Sedatives ^c	7.5	8.0	7.9
Barbiturates	6.6	7.0	6.3
Methaqualone	2.9	3.3	3.6
Tranquilizers ^c	9.3	9.4	9.4
Hallucinogens ^b	5.8	9.8	10.2
LSD	5.2	8.8	8.2
PCP	1.2	2.6	5.3
Heroin	1.2	1.2	1.0
Other opiates	7.9	9.3	8.1

^aAll surveys contained questions about cocaine use; questions about "crack" and "other cocaine" were listed on 40 and 20 percent of the surveys, respectively. (See Johnston, O'Malley, and Bachman, 1989, p. 31.)

^bUnadjusted for known underreporting of certain drugs. (See Johnston, O'Malley, and Bachman, 1989, p. 31.)

^cPrescription drugs are included only if they are taken for nonmedicinal purposes.

Source: L. D. Johnston, P. M. O'Malley, and J. G. Bachman, Drug Use, Drinking, and Smoking: National Survey Results from High School, College, and Young Adults Populations, 1975-1988 (Ann Arbor: University of Michigan, Institute for Social Research, for the U.S. Department of Health and Human Services, Public Health Service, Alcohol, Drug Abuse, and Mental Health Administration, National Institute on Drug Abuse, 1989), table 6, p. 42.

**Appendix II
The Extent of Substance Abuse in
Rural Places**

**Table II.2: Annual Prevalence of 18 Types
of Substances for High School Seniors,
Class of 1988**

Substance	Population density		
	Non-SMSA	Medium SMSA	Large SMSA
Alcohol	83.9%	85.7%	86.1%
Cigarettes	^a	^a	^a
Marijuana	29.0	34.7	34.3
Cocaine ^b	5.3	8.5	9.3
"Crack"	2.0	3.3	3.9
Other	4.5	7.8	9.8
Stimulants	11.3	11.9	8.8
Inhalants ^c	7.5	6.0	6.5
Amyl/butyl nitrites	2.1	1.4	1.9
Sedatives ^d	3.5	3.8	3.6
Barbiturates	3.2	3.4	2.8
Methaqualone	1.2	1.2	1.5
Tranquilizers ^d	4.5	5.0	4.7
Hallucinogens ^c	3.5	6.0	6.5
LSD	3.1	5.6	5.2
PCP	0.5	0.6	2.8
Heroin	0.5	0.5	0.4
Other opiates	4.4	5.2	4.0

^aNot available.

^bAll surveys contained questions about cocaine use; questions about "crack" and "other cocaine" were listed on 40 and 20 percent of the surveys, respectively. (See Johnston, O'Malley, and Bachman, 1989, p. 31.)

^cUnadjusted for known underreporting of certain drugs. (See Johnston, O'Malley, and Bachman, 1989, p. 31.)

^dPrescription drugs are included only if they are taken for nonmedicinal purposes.

Source: L. D. Johnston, P. M. O'Malley, and J. G. Bachman, *Drug Use, Drinking, and Smoking: National Survey Results from High School, College, and Young Adults Populations, 1975-1988* (Ann Arbor: University of Michigan, Institute for Social Research, for the U.S. Department of Health and Human Services, Public Health Service, Alcohol, Drug Abuse, and Mental Health Administration, National Institute on Drug Abuse, 1989), table 7, p. 44.

**Appendix II
The Extent of Substance Abuse in
Rural Places**

**Table II.3: Thirty-Day Prevalence of 18
Types of Substances for High School
Seniors, Class of 1988**

Substance	Population density		
	Non-SMSA	Medium SMSA	Large SMSA
Alcohol	63.8%	64.1%	63.8%
Cigarettes	31.4	28.3	26.9
Marijuana	14.3	19.3	19.4
Cocaine ^a	2.1	3.8	4.2
"Crack"	1.1	1.7	1.9
Other	2.2	3.5	3.4
Stimulants	4.8	5.1	3.5
Inhalants ^b	3.4	2.4	2.0
Amyl/butyl nitrites	0.9	0.5	0.7
Sedatives ^c	1.5	1.6	1.0
Barbiturates	1.3	1.4	0.9
Methaqualone	0.7	0.5	0.2
Tranquilizers ^c	1.4	1.7	1.3
Hallucinogens ^b	1.4	2.6	2.2
LSD	1.2	2.3	1.6
PCP	0.1	0.3	0.5
Heroin	0.2	0.2	0.1
Other opiates	1.6	1.8	1.2

^aAll surveys contained questions about cocaine use; questions about "crack" and "other cocaine" were listed on 40 and 20 percent of the surveys, respectively. (See Johnston, O'Malley, and Bachman, 1989, p. 31.)

^bUnadjusted for known underreporting of certain drugs. (See Johnston, O'Malley, and Bachman, 1989, p. 31.)

^cPrescription drugs are included only if they are taken for nonmedicinal purposes.

Source: L. D. Johnston, P. M. O'Malley, and J. G. Bachman, *Drug Use, Drinking, and Smoking: National Survey Results from High School, College, and Young Adults Populations, 1975-1988* (Ann Arbor: University of Michigan, Institute for Social Research, for the U.S. Department of Health and Human Services, Public Health Service, Alcohol, Drug Abuse, and Mental Health Administration, National Institute on Drug Abuse, 1989), table 8, p. 46.

**Appendix II
The Extent of Substance Abuse in
Rural Places**

Table II.4: Thirty-Day Prevalence of Daily Use of Three Substances for High School Seniors, Class of 1988^a

Substance	Population density		
	Non-SMSA	Medium SMSA	Large SMSA
Alcohol	4.5%	4.5%	3.5%
Marijuana	1.4	3.4	2.6
Cigarettes			
One or more	18.8	17.7	18.0
Half-pack or more	10.7	10.4	10.8
Number of students surveyed	4,200	7,000	4,400

^aThirty-day daily use prevalence rates were unavailable for other drugs.

Source: L. D. Johnston, P. M. O'Malley, and J. G. Bachman, Drug Use, Drinking, and Smoking: National Survey Results from High School, College, and Young Adults Populations, 1975-1988 (Ann Arbor: University of Michigan, Institute for Social Research, for the U.S. Department of Health and Human Services, Public Health Service, Alcohol, Drug Abuse, and Mental Health Administration, National Institute on Drug Abuse, 1989), table 9, p. 48.

These tables show the following:

- Alcohol is by far the most widely and commonly used substance. Over 90 percent of seniors in rural areas have used alcohol some time during their lives; over 80 percent have used it in the past year, over 60 percent in the past month. About 5 percent of rural seniors drink daily. No large differences separate rural, metropolitan, and large metropolitan areas.⁷
- Marijuana is well behind alcohol and cigarettes in extent and frequency of use. More than 40 percent of rural seniors have tried marijuana, almost 30 percent using it the previous year and over 14 percent the past month. One in a hundred rural seniors smokes marijuana daily.
- One of 11 rural seniors reports having tried cocaine, and 2 in 100 had used cocaine within 1 month of the survey.
- Students in rural areas have lifetime, annual, and 30-day prevalence rates for stimulants, inhalants, sedatives, and tranquilizers that are comparable to those of seniors in nonrural areas.
- PCP and heroin are rarely reported to be used in either rural or nonrural areas.

The authors of the 1988 High School Survey concluded that "In general, the differences in the use of most illicit drugs across these different sizes of community are small at the present time, reflecting how widely illicit drug use has diffused through the population." (Johnston, O'Malley, and Bachman, 1989, p. 47) Overall use of drugs other than alcohol was lowest in nonmetropolitan areas (34 percent annual prevalence) and

⁷The authors of the 1988 High School Survey do not report whether differences between rural, metropolitan, and large metropolitan areas are statistically significant, nor were we able to conduct statistical tests using their published data.

about equal in the medium-sized and largest metropolitan areas (39 percent and 41 percent, respectively). Annual prevalence rates of illicit drugs other than alcohol and marijuana show roughly the same ranking: 18 percent of seniors in the nonmetropolitan sample used illicit drugs in the past year, compared with 23 and 21 percent in medium and large metropolitan areas.

Data on drug use prevalence among young adults who previously participated in the school survey and live in nonmetropolitan areas are also contained in the High School Survey. Like the survey of high school seniors, the young adult survey found that for most illicit drugs, there is no association between community size and prevalence of use, which "may be a counter-intuitive finding for many." (Johnston, O'Malley, and Bachman, 1989, p. 180) Cocaine and marijuana use did have a slight positive relationship with community size. In general, the results of the young adult sample mirrored those of the high school seniors. (Tables VI.1 to VI.3 in appendix VI contain prevalence rates for each type of substance for the young adult survey.⁸)

Several of the rural states have conducted their own student alcohol and other drug use surveys.⁹ The surveys generally support the results of the High School Survey. The principal results of the school surveys in Iowa, Montana, and North Dakota are presented in tables VI.4 and VI.5 in appendix VI.¹⁰ Although Arkansas has not conducted a high school survey, schools from two locations within the state were included in the 1988 High School Survey.

Prevalence Data From Treatment and Criminal Justice Sources

Two other data sources provide evidence concerning the extent of health and legal problems caused by substance abuse. The State Alcohol and Drug Abuse Profile (SADAP) survey, conducted annually by the National Association of State Alcohol and Drug Abuse Directors since 1982, contains data on the number of patients admitted into state-funded alcohol and drug abuse clinics each year. The Federal Bureau of Investigation (FBI) Uniform Crime Reports (UCR) program collects data from state and local law enforcement agencies on the number of arrests

⁸We did not include data on the legal, nonproblematic use of alcohol by adults in these tables.

⁹We identified the following rural states as conducting their own student surveys: Alaska, Arizona, Colorado, Iowa, Kansas, Maine, North Dakota, South Dakota, Utah, and Wyoming.

¹⁰These surveys have much more detailed information concerning drug use, attitudes, and knowledge of the students in these states. (See Iowa, 1989b, pp. 6, 16, 19, and 24; Montana, 1990a, pp. 13-16; North Dakota, 1986.)

made for alcohol and drug abuse violations and also for the type of drugs involved. State alcohol and drug abuse treatment rates can be calculated from the SADAP data; UCR data allow state alcohol and other drug abuse arrest rates to be determined.

Neither data set is flawless. As we noted in an earlier study, problems exist with the “quality, completeness, and consistency” of the state criminal history systems used to gather data for UCR (U.S. General Accounting Office, 1990, p. 18). Particular difficulties arise in the use of arrest data to examine trends because of changes in reporting over time and differences across police departments in definitions and priorities. SADAP’s admissions data are also limited: for example, SADAP does not contain data from privately funded drug treatment programs.¹¹ Furthermore, inferences made from treatment and arrest data suffer similar weaknesses. Admissions data measure only the number of individuals beginning treatment and neither the number of those needing or completing it. Arrest data count only those caught committing substance abuse violations as their most serious offense, not the number of violations occurring.¹² Both data sets thus reflect the resources and activities of the public health and law enforcement agencies within the states as well as the behavior of the states’ populations. Finally, these data are not fully independent indicators of substance abuse problems; large percentages of those receiving treatment are referred to clinics by the criminal justice system.¹³

Nonetheless, treatment and arrest data present relevant indicators of drug problems because they reflect substance abuse severe enough to bring individuals into contact with health clinics and law enforcement agencies. That is, neither source measures much “casual” use, and therefore the data constitute useful estimates of core substance abuse problems in the states but do not allow conclusions to be drawn on the extent of that abuse. Information from both sources is summarized in table II.5. State-by-state data are found in tables VI.6 and VI.7 in appendix VI.

¹¹ Another survey, the National Drug and Alcoholism Treatment Unit Survey (NDATUS), does obtain data from privately funded programs to combine with SADAP information. Because NDATUS is a voluntary reporting program for treatment and prevention programs, however, its relationship to the universe of drug and alcohol abuse programs is not known. Many private substance abuse treatment programs do not report their data to NDATUS. (See Collins and Zawitz, 1990, p. 10.)

¹² For example, if a person arrested for bank robbery is found to possess crack, only the arrest for robbery is reported.

¹³ For example, over 20 percent of alcohol and 30 percent of drug treatment admissions in Arkansas during 1987 and 1988 were referred by the criminal justice system (Arkansas, 1989, p. 60).

**Appendix II
The Extent of Substance Abuse in
Rural Places**

Table II.5: Alcohol and Other Drug Treatment Admissions and Arrests by Rural and Nonrural States and Counties, 1988^a

	Alcohol ^b	Other drugs ^c	Total
Treatment admissions ^d			
Rural states	7.7	1.7	9.4
Nonrural states	4.7	2.2	6.9
Arrests ^e			
Rural states ^f	14.3	2.8	17.0
Nonrural states	12.3	4.8	17.1
Rural counties ^g	12.6	2.4	15.0
Nonrural counties	11.3	3.0	14.2

^aRate per 1,000 inhabitants.

^bArrests for alcohol include driving while under the influence, liquor law violations, and drunkenness.

^cTreatment data for other drugs include abuse of legal substances (such as over-the-counter products and tranquilizers); all arrests involve illegal use.

^dTreatment admissions include only programs that received some funds administered by the state alcohol and drug agency during the state's fiscal year 1988. Rural states that did not submit data included New Mexico and Wyoming; Washington was the only nonrural state that did not report these data.

^eArrest data based on agencies submitting 12 months complete data. Kentucky and Florida did not submit data.

^fIncludes the 18 states with population densities of 50 persons or fewer per square mile.

^gRural counties are outside SMSAs. Counties in SMSAs are designated suburban counties.

Source: Treatment data in W. Butynski, D. Canova, and S. Jenson, State Resources and Services Related to Alcohol and Drug Abuse Problems, Fiscal Year 1988: An Analysis of State Alcohol and Drug Abuse Profile Data, a report for the National Institute on Alcohol Abuse and Alcoholism and the National Institute on Drug Abuse (Washington, D.C.: National Association of State Alcohol and Drug Abuse Directors, 1989), pp. 22 and 36; arrest data in U.S. Department of Justice, Crime in the United States, 1988 (Washington, D.C.: Federal Bureau of Investigation, 1989a); and U.S. Department of Justice, unpublished data, Federal Bureau of Investigation, 1990f.

This table shows that rural states and counties have

- higher rates of treatment admissions and arrests involving alcohol,
- lower rates of treatment admissions and arrests for drugs other than alcohol, and
- total rates of treatment admissions and arrests for substance abuse (alcohol and other drug abuse) that are about as high as those in nonrural states.

Note that alcohol abuse accounts for the vast majority of treatment admissions and arrests in both rural and nonrural states.

Data are available through SADAP from most states on the primary drug other than alcohol abused by those admitted to drug treatment programs. (Admission rates for each drug are reported in appendix VI, table

VI.8.) The differences between rural and nonrural states are generally consistent with the prevalence rate evidence presented above. For example, rural states appear to have lower rates of admissions for cocaine and heroin abuse but higher rates for stimulants and inhalants.

Main Findings

Our review of survey, treatment, and arrest data has produced several consistent findings:

- Alcohol is by far the most widely abused drug in rural areas.
- Prevalence rates for some drugs (such as cocaine) appear to be lower in rural than nonrural areas. Prevalence rates for other drugs (such as inhalants) may be higher in rural areas than elsewhere.
- Total substance abuse (alcohol abuse plus other drug abuse) rates in rural states are about as high as in nonrural states.

Substance Abuse and Crime in Rural Places

Question 2: What is known about the relationship between substance abuse and crime in rural places? Most research shows that the link between drugs and crime is strong. Heavy substance abusers are often criminals, and criminals are often substance abusers.¹ It is nonetheless difficult to blame specific crimes on drug use or to say that drugs caused particular crimes. Unless the criminal is arrested and tested for drugs at the scene of the crime, self-reports are usually used to find out whether the culprit was under the influence of drugs at the time; self-reports may understate the link between drugs and crime. And because substance abusers are usually tangled in a web of deviant behavior, criminality may be just another symptom of the abuser's problems (Wish and Johnson, 1986, p. 63). Consequently, much of the information on substance abuse and crime involves drug law violations or the alcohol and drug use of individuals who have come in contact with the criminal justice system. In this section we examine the evidence concerning these issues.

Evidence

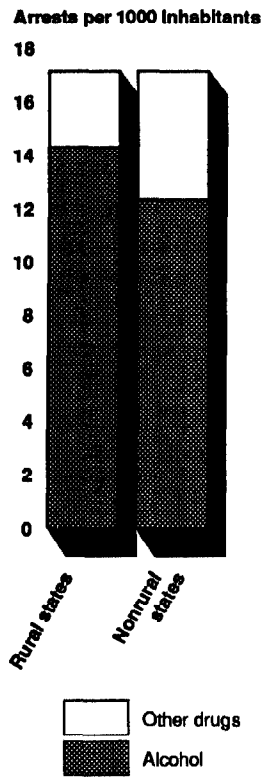
Substance Abuse Arrests, 1988

One measure of criminal activity involving substance abuse is the number of arrests for alcohol or other drug abuse violations. The Federal Bureau of Investigation, through its Uniform Crime Reporting program, collects data on four types of substance abuse arrests: three kinds of alcohol abuse violations (driving under the influence, liquor law violations, and drunkenness) and other drug violations. We calculated arrest rates for substance abuse violations for rural and nonrural areas and states; these rates are depicted in figures III.1 through III.3.² (State-by-state data are presented in appendix VI, table VI.6.)

¹Although drug users are by definition criminals because possession of drugs is illegal (except for alcohol users), the evidence shows that substance abuse is common among those apprehended for committing other crimes. (See Wish and Johnson, 1986; Speckart and Anglin, 1985.)

²The FBI published UCR data for 1989 in early August 1990.

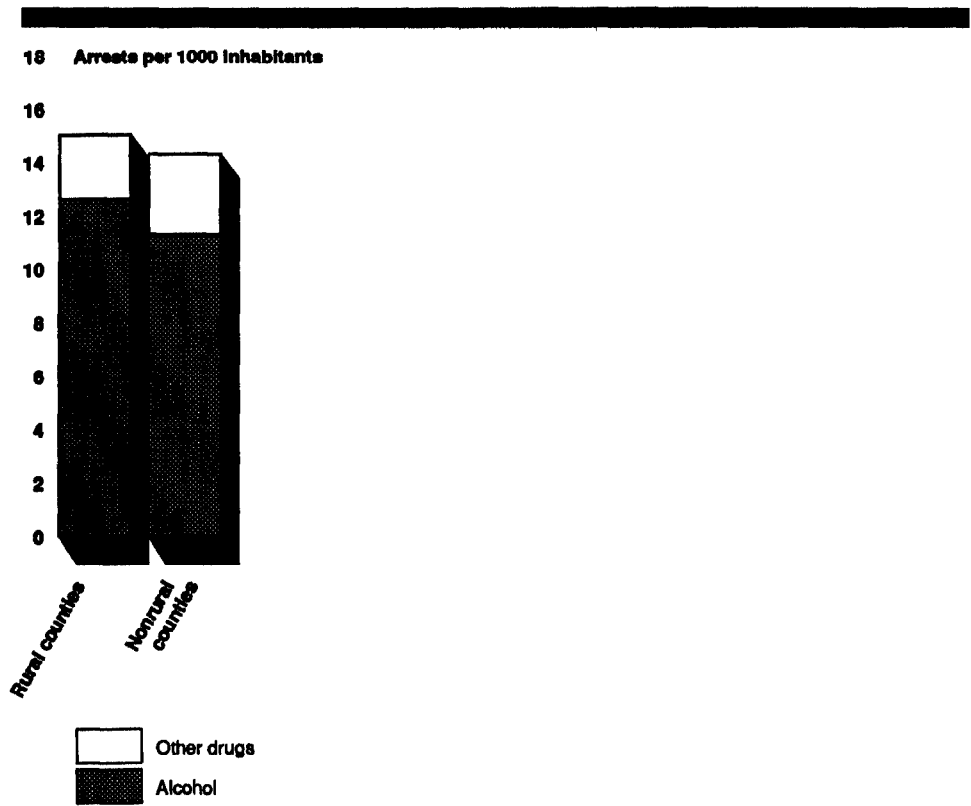
Figure III.1: Substance Abuse Violation
Arrests by Type of State, 1988



Source: Arrest data in U.S. Department of Justice, unpublished data, Federal Bureau of Investigation, 1990f.

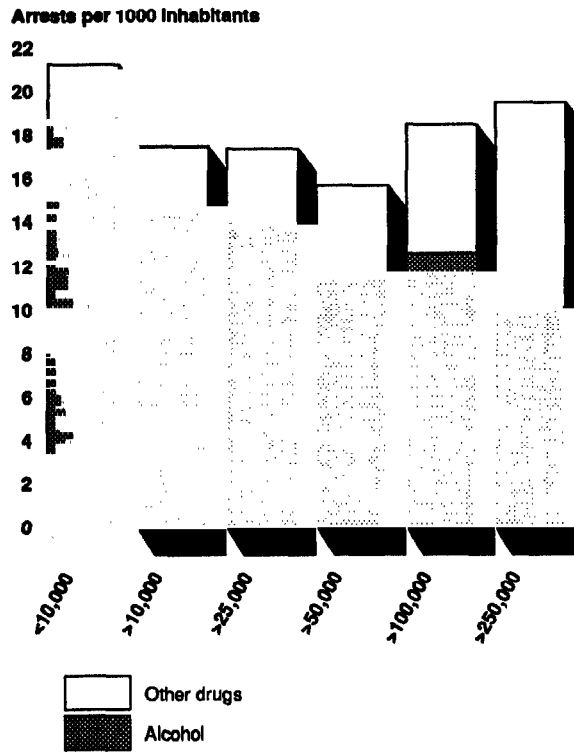
Appendix III
Substance Abuse and Crime in Rural Places

Figure III.2: Substance Abuse Violation
Arrests by Type of County, 1988



Source: Arrest data in U.S. Department of Justice, Crime in the United States, 1988 (Washington, D.C.: Federal Bureau of Investigation, 1989a).

Figure III.3: Substance Abuse Violation Arrests by Size of City, 1988



Source: Arrest data in U.S. Department of Justice, Crime in the United States, 1988 (Washington, D.C.: Federal Bureau of Investigation, 1989a).

These figures show that rural states, rural counties, and smaller towns have lower arrest rates involving illegal drugs but higher arrest rates involving a drug (alcohol) being used illegally than do nonrural states, suburban counties, and larger cities. Total arrest rates for substance abuse violations are as high in rural states, rural counties, and smaller towns as they are in nonrural states, suburban counties, and larger cities.

The FBI's UCR program also collects arrest data by the type of drug and type of offense (sales or manufacturing as contrasted with possession). Cocaine, opium, and their derivatives made up a significantly smaller percentage of arrests for drug abuse violations in rural states than in nonrural states in 1988. (See table III.1.) Most drug abuse arrests in rural states involved marijuana, and rural states had significantly larger percentages of their drug abuse arrests for marijuana or synthetic narcotics than did nonrural states. Overall about three quarters of drug

**Appendix III
Substance Abuse and Crime in Rural Places**

abuse violation arrests are for possession, with the remaining quarter for sales or manufacturing; rural and nonrural states had similar shares of drug abuse arrests for possession. (State-by-state data for drug arrests by type of drug and type of offense are included in appendix VI, table VI.9.)

Table III.1: Drug Abuse Violation Arrests, 1988^a

Area	Type of drug					Type of offense		
	Cocaine and opiates	Marijuana	Synthetic narcotics ^b	Other drugs	Total	Sales	Possession	Total
Rural states	20% ^c	63% ^c	6% ^c	10%	100% ^d	25%	75%	100% ^d
Nonrural states	39	49	3	9	100	27	73	100
United States	32	54	4	10	100	26	74	100

^aData based on agencies submitting 12 months of complete data. Kentucky and Florida did not submit data.

^bSynthetic narcotics include manufactured narcotics, such as Demerol and Methadone, that can cause "true" drug addiction.

^cDifference of means tests between rural and nonrural states significant at the 90-percent level.

^dRows may not add to 100 percent because of rounding.

Source: Arrest data in U.S. Department of Justice, unpublished data, 1990f.

Arrest rates, of course, do not directly measure criminal activity. First, not all criminals are arrested. Second, arrest rates may vary among areas having different population densities because of law enforcement priorities, resources, and intensity, even if crime rates are the same in each area. Lower arrest rates may mean either that fewer crimes were committed or that fewer resources were devoted to apprehending criminals. In the same way, higher arrest rates may mean that more arrests are being made while the true amount of crime has not varied.³

The data indicate that arrest rates for substance abuse violations are similar for rural and nonrural areas. But what about the substance abuse rates for those arrested for crimes other than drug violations? The Drug Use Forecasting (DUF) program is the largest study that does use urinalysis to detect illicit drug-taking by those arrested for serious crimes. (U.S. Department of Justice, 1990c). In 1988, DUF collected data

³Because arrest rates can also vary from year to year because of differences in reporting, legal changes (for example, if the legal drinking age is altered), data collection changes (if the number of reporting agencies shifts), and changes in law enforcement priorities or resources in addition to (or instead of) real changes in crime rates, we do not report arrest rate trends for alcohol and other drug abuse violations.

from over 10,000 males in 20 cities and females in 14 cities. The percentage of males testing positive for any drug at the time of arrest ranged from 54 percent to 83 percent; the range for females was from 44 percent to 81 percent. Because DUF data are not collected from any nationally or otherwise representative sample, they are not appropriate for making generalizations to all arrested in the nation or even to all arrested in the cities that DUF surveys (Adams, 1990). Unfortunately, DUF does not collect information from rural areas.

Some rural states do ask convicted felons entering state prisons whether they were under the influence of alcohol or other drugs at the time they committed the crime for which they were convicted. Of the felons entering Arkansas prisons in 1989 and completing a questionnaire, 57 percent indicated that they were under the influence of alcohol or other drugs when they committed the crime.⁴ Over half the individuals entering Montana's correction system between December 1989 and June 1990 reported that they used alcohol or other drugs during their offenses (Montana, 1990b).⁵

One special worry about illegal drugs is that abusers are likely to commit other violent and property crimes. We examined the relationship between violent and property crimes and illegal drugs by comparing arrest rates for each category. This comparison showed that the ratio of drug arrests to arrests for violent crime or property crimes is similar over areas of different population sizes.⁶ (See table III.2.)

⁴In 1989, 3,657 persons were admitted into the Arkansas corrections system. Approximately one third (1,189) of the inmates did not fill out the questionnaires concerning substance use; the other 2,468 prisoners did (Arkansas, 1990).

⁵Of studies funded by rural states, that of Kansas is the most thorough study that we found of substance abuse among the incoming corrections population (Scheurich and Hou, 1990).

⁶Violent crimes include murder, forcible rape, robbery, and aggravated assault; property crimes include burglary, larceny-theft, motor vehicle theft, and arson. The main exception to the stable pattern involves drug abuse and property crime arrests in the largest cities, where a greater proportion of arrests for property are reported.

Table III.2: Ratio of Drug Abuse Arrests to Arrests for Property or Violent Crimes, 1988

	Drugs/property	Drugs/violent crimes
Rural counties	0.66	1.97
Suburban counties	0.56	1.85
Towns and cities		
Less than 10,000	0.33	1.81
10,000-24,999	0.30	1.94
25,000-49,999	0.35	1.80
50,000-99,999	0.37	1.65
100,000-249,999	0.47	1.80
More than 250,000	0.75	1.88

Source: U.S. Department of Justice, *Crime in the United States, 1988* (Washington, D.C.: Federal Bureau of Investigation, 1989a).

In all but the largest cities, for every drug abuse violation arrest there were about three property crime arrests. In all areas, there were nearly two drug arrests for every arrest for violent crime. At least by this measure, drug abuse is not associated with greater levels of violent crimes, and it is only modestly associated with property crime in the more heavily populated areas compared to the more rural ones.

Drugs Seized by Law Enforcement

Neither the FBI's UCR program nor any other government program that we could identify has collected statistics on the amount or type of drugs seized by federal, state, and local law enforcement agencies across the country.⁷ The Drug Enforcement Administration (DEA), through the System to Retrieve Information from Drug Evidence (STRIDE), can provide detailed material about federal drug confiscations over the years. STRIDE includes data on the type, amount, price, purity, and location of drugs seized or bought by DEA. Unfortunately, STRIDE does not include much information on the state and local activities that constitute most of the country's drug control activities.⁸

⁷The FBI's National Incident-Based Reporting System (NIBRS), which will replace UCR over the next several years, will collect drug seizure data as well as a variety of other information concerning drugs. (See U.S. Department of Justice, 1988.)

⁸DEA's formal mandate to focus its enforcement activities in certain areas, such as high-volume heroin and cocaine dealers, also limits the scope of STRIDE (Collins and Zawitz, 1990, p. 12). See "A Drug Trafficking Report," 1988, for a graphic display of DEA drug seizure data for the 1988 fiscal year.

The Bureau of Justice Assistance within the U.S. Department of Justice does collect state-by-state data on drug "removals."⁹ These data do not necessarily represent all drugs seized by law enforcement agencies in the states, however. For example, in 1988, Arkansas's report to the bureau included only drug removals by the Arkansas State Police, Iowa submitted data from 194 state and local law enforcement agencies, Montana included only drugs seized by multijurisdictional drug task forces and other agencies, and North Dakota gathered data from 20 law enforcement agencies. As a result, it is not possible to use drug removals among the states as a valid measure of the severity of the drug problem.

The Corrections System

Large percentages of persons admitted to correctional institutions for serious crimes have abused alcohol or other drugs. In the Survey of Inmates in State Correctional Facilities (SISCF), a nationally representative study of almost 14,000 prison inmates conducted in 1986, almost 80 percent of the inmates reported drug use at some time in their lives. Forty-three percent of the inmates reported that they were using illegal drugs daily or nearly daily in the month before their current offense, while 35 percent reported that they were under the influence of drugs when they committed their current offense (Innes, 1989; see also U.S. Department of Justice, 1990e, p. 2). Methodological research indicates that the self-reports of drug users can be a reliable source of information on past drug use (Rouse, Kozel, and Richards, 1985). However, because respondents may seek to conceal or underreport their use of illicit drugs, self-reports should be considered conservative estimates of drug-related behavior unless other objective tests (such as urine exams) are given (U.S. Congress, 1990b).¹⁰

Despite its limitations, SISCF provides valuable information about the extent of drug use among persons convicted of crimes. Although the survey does not provide data that can be used to estimate drug prevalence for similar populations in rural areas, it does give baselines for comparison. The rural states we visited do conduct their own assessments of the substance abuse problems of individuals entering their prisons. A summary of the assessment data we obtained from these states is contained in table III.3. Although the assessments vary widely in form, scope, and method of administration, one finding is clear: In the

⁹"Removals" include drugs bought or seized by law enforcement agencies. These data are collected as part of each state's drug control strategy.

¹⁰Note, however, that the self reports of inmates in Montana showed rates of alcohol and other drug abuse comparable to those determined by other assessment methods. See appendix VI, table VI.10.

**Appendix III
Substance Abuse and Crime in Rural Places**

rural states of Arkansas, Iowa, Montana, and North Dakota, vast majorities (71 percent and above) of prison inmates have alcohol or other drug abuse problems.

Table III.3: Substance Abuse Among Inmates Recently Admitted to Four State Corrections Systems

State	Alcohol abuse	Other drug abuse	Alcohol and other drug abuse	Total substance abuse	No abuse	Total
Arkansas ^a						
Number	584	492	678	1,754	714	2,468
Percent	24%	20%	27%	71%	29%	100%
Iowa ^b						
Number	1,044	521	2,175	3,740	1,222	4,962
Percent	21%	10%	44%	75%	25%	100%
Montana ^c						
Number	58	45	212	315	31	346
Percent	17%	13%	61%	91%	9%	100%
North Dakota ^d						
Number	106	^e	298	404	151	555
Percent	28%	^e	54%	73%	27%	100%

^aIn 1989, 3,657 persons were admitted into the Arkansas corrections system. Approximately one third (1,189) of the inmates did not fill out the reports concerning substance use; these individuals have been omitted from the table.

^bIowa data for calendar year 1988.

^cMontana uses several different methods to assess the substance abuse problems of persons in the state prisons. (See table VI.10 in appendix VI for a presentation of these different assessments.) Montana data are from December 1989 to June 1990.

^dNorth Dakota does not record a separate category for other drug abuse and the categories of alcohol abuse and alcohol and other drug abuse overlap. Total substance abuse thus is not the sum of the first three columns. North Dakota data from June 1989 to June 1990.

^eNot available.

Source: Arkansas, unpublished data, Department of Corrections, Pine Bluff, July 2, 1990b; Iowa, Iowa Strategy for Drug Control and System Improvement, 1990, (Des Moines: Department of Public Health, Governor's Alliance on Substance Abuse, January 1990), table 8, p. 16; Montana, unpublished data, Chemical Dependency Program, Montana State Prison, Deer Lodge, July 1990; North Dakota, unpublished data, Department of Corrections, North Dakota State Prison, Bismarck, July 1990.

While many inmates are diagnosed, or report themselves, as having either alcohol or other drug problems, note that the largest segment of substance abusers typically have alcohol and other drug abuse problems. This suggests that it is a mistake to focus attention on the effect of any one drug on criminal activity.¹¹ If the criminal's "drug of

¹¹The National Drug Strategy concurs: "But while we must be vigilant about the emergence of new drugs such as 'ice,' the solution lies not so much in targeting particular substances as in focusing on drug use, no matter what the drug . . ." (White House, 1990, p. 19)

choice” is not readily available, it is likely that most drug-abusing criminals will use some other cheap or convenient substitute.

Data Quality and Needs

Several data gaps regarding substance abuse violations exist in the FBI’s current UCR program.¹² First, UCR uses a “hierarchy rule” in reporting arrests: if a person is arrested for committing multiple crimes, only the most serious crime is included in the report (U.S. Department of Justice, 1988). Unless a substance abuse violation is the most serious crime for which a person is arrested, the substance abuse violation does not show up in the UCR data.

Second, UCR does not collect data from the states on the amount of drugs seized during arrests. Third, UCR does not collect data concerning whether the arrested person was under the influence of alcohol or other drugs during the arrest.¹³ The FBI reports that it expects to fill these gaps with its National Incident-Based Reporting System (U.S. Department of Justice, 1988, pp. 13 and 19). At least 25 states will participate voluntarily in NIBRS by 1991. However, voluntary participation in crime data systems has not, in the past, tended to produce complete, consistent, or comparable data.

Assessments of the drug abuse problems of inmates vary widely in form, scope, and method of administration. We did not evaluate the quality of these assessments. It is apparent from the tables concerning Montana (table VI.10, appendix VI), moreover, that different assessment methods can provide different results even when administered to the same populations. Although there may be some advantages to having all states adopt a uniform assessment process, state officials did not report, nor do we believe, that state corrections systems were hindered in their work by their inability to correctly classify the substance abuse problems of their inmates.

Whether the substance abuse problems of each inmate are correctly and consistently classified is of little importance when the number of inmates identified as substance abusers vastly exceeds the number that are treated for substance abuse problems while incarcerated (U.S. Department of Justice, 1990e, p. 2). Arkansas is currently able to provide substance abuse counseling only to about 240 inmates at a time,

¹²For other problems with criminal statistics, see U.S. General Accounting Office, 1990.

¹³Unless the arrest was for driving while under the influence or drunkenness.

although approximately 70 percent (3,800) of the 5,400 prison population needs such counseling (Arkansas, 1989, p. 11). Iowa has determined that treatment resources for adult offenders, particularly “beds” allocated especially for treatment, are among its greatest needs (Iowa, 1990, p. 39). Montana placed prison treatment programs as the second highest priority in its drug strategy (Montana, n.d., p. 2). North Dakota also notes that its resource scarcity “results in severe restrictions imposed upon the number of inmates that can be included in treatment” (North Dakota, 1989, p. 38).

Main Findings

Despite the shortcomings of the available data on the relationship between drugs and crime in the rural United States, our review of these data allow us to draw three main conclusions:

- Rural areas have arrest rates for substance abuse violations that are as high as those in nonrural areas.
- Most prison inmates in rural states have abused alcohol, other drugs, or both.
- The prevalence of substance abuse among inmates completely overwhelms available treatment services.

Programs to Prevent or Reduce Substance Abuse

Question 3: What data are available concerning the effectiveness of prevention and treatment programs in reducing rural substance abuse? Measuring the effectiveness of law enforcement, treatment, and education programs in preventing or reducing substance abuse has been even more difficult than measuring the extent of substance abuse and drug-related crime. Good program evaluations are not easy to do, and their conclusions are often limited to particular situations. Factors that are easy to measure (funding, staff, enrollment, arrests) tell us little about the effectiveness of a program, while the important effects (reductions in the prevalence and problems of substance abuse) are harder to assess, link to specific program features, and generalize to other situations. In this section, we review the extent to which law enforcement, treatment, and education programs have been evaluated in the rural states.

Evidence

A variety of current or planned federal, state, and local programs in education, law enforcement, and treatment attempt to reduce substance abuse. While it is not easy to summarize these programs because of their number and diversity, the programs described below are three main federal programs that provide funds to states for their substance abuse efforts.¹ Each of these programs calls for the states to submit program reports. The law enforcement and treatment reports we reviewed give descriptions of current and proposed projects as well as performance or progress on existing initiatives; the education reports had not been published when our study was conducted. Examples of state substance abuse reports are

- Arkansas Drug Control Strategy (Arkansas, 1990a),
- Iowa Drug Control Strategy (Iowa, 1990),
- Montana Drug Control Strategy (Montana, n.d.a),
- North Dakota Drug Control Strategy (North Dakota, 1989),
- Arkansas Comprehensive Drug Plan (Arkansas, 1989),
- Iowa Comprehensive Drug Plan (Iowa, n.d.a),
- Montana Comprehensive Drug Plan (Montana, n.d.b),
- North Dakota Comprehensive Drug Plan (North Dakota, n.d.).

¹In an example of program diversity, Iowa had 61 state government programs related to substance abuse in fiscal year 1990. (See U.S. Congress, 1990a, pp. 9-17; Iowa, 1989b, pp. 1-15.) The law enforcement, treatment, and education programs described below were all included in the Anti-Drug Abuse Act of 1988 (Public Law 100-690).

Law Enforcement

The Federal Drug Control and System Improvement Grant program, administered by the Department of Justice's Bureau of Justice Assistance (BJA) distributes funds to state and local governments to apprehend, prosecute, adjudicate, incarcerate, and treat substance abuse offenders.² These BJA grants can be used to provide personnel, equipment, training, technical assistance, and information systems. Twenty-one programs, ranging from multijurisdictional task force programs to projects designed to improve the effectiveness of the court process, are approved for funding.³ Evaluation is one of the 21 authorized programs.⁴ In addition, each program funded through a BJA grant must contain an evaluation component unless given a waiver by the director of BJA.

Arkansas, Iowa, Montana, and North Dakota all contain evaluation programs as part of their drug control strategies, while Iowa and Montana have received program grants specifically for evaluation (Arkansas, 1990a, pp. 26-27; Iowa, 1990, pp. 69-71; Montana, n.d.a, p. 8; North Dakota, 1989, pp. 73-74).⁵ Funding for these evaluations was not available until fiscal year 1990; it is too early to report results.

Arkansas's 1990 drug control strategy directs that "Each program funded by the state shall contain an evaluation component" so that the administrators and policymakers can "assess the extent to which the activities funded have achieved the program's goals." To accomplish its program evaluation goals, Arkansas's drug control strategy calls for it to solicit grants to provide evaluation services (Arkansas, 1990a, pp. 26-27).

Iowa's 1990 drug control strategy describes several on-going or proposed evaluations funded by the BJA block grant. These evaluations concern state data collection efforts, substance abuse services for

²The BJA grants are authorized by the Anti-Drug Abuse Act of 1988. The Drug Enforcement Administration also attempts to reduce substance abuse through better law enforcement in the states. DEA agents and support personnel operate within the states in cooperation with state and local law enforcement authorities, and DEA provides funding for federal, state, and local task forces (White House, 1989, p. 120).

³These programs are listed in Public Law 100-690, 102 Stat. 4301, and 102 Stat. 4329-4431.

⁴Approved programs include "Drug control evaluation programs which state and local units of government may utilize to evaluate programs and projects directed at state drug control activities" (Public Law 100-690, 102 Stat. 4331). BJA has sponsored research and training conferences and issued publications focusing on evaluation research. See, for example, U.S. Department of Justice, 1989, 1990a, 1990b.

⁵For the 1990 fiscal year, \$50,000 and \$75,000 in program evaluation grants were approved for Iowa and Montana, respectively (U.S. Department of Justice, 1990a).

institutionalized juveniles, and the Substance Abuse Free Environment community program, among others (Iowa, 1990, pp. 69-70). The results of these evaluations were not yet available in July 1990.

Montana's 1990 drug control strategy determined that "program evaluation should be given a priority." (Montana, n.d.a, p. 8) The drug strategy task force that prepared the strategy has pledged to work with the Montana Board of Crime Control "to develop a viable evaluation program." Limited progress had been made toward this goal by July 1990, however.

North Dakota's drug control strategy provides a list of programs to be evaluated and notes that funded programs will be required to complete 6-month activity reports and annual project reports (North Dakota, 1989, p. 73).

That these states' drug control strategies recognize the need to evaluate is commendable, and their current lack of evaluation results is understandable. Further, the absence of law enforcement effectiveness studies is not unique to rural states. Although it is generally accepted by policymakers that law enforcement programs are both necessary and useful, still, the truth is that "little information exists on the types of enforcement strategies used . . . or the effectiveness of law enforcement" in reducing substance abuse (Collins and Zawitz, 1990, p. 12).⁶ We are not aware of any evaluations, whether conducted nationally or by the states, that demonstrate the efficacy of a law enforcement program in reducing the supply of, or demand for, illegal drugs.

This does not imply, of course, that law enforcement programs are ineffective. The problem is to measure the effect. The most common measures—number of arrests, amount of drugs seized, drug prices—have one failing in common: they can grow because law enforcement is becoming more effective or because there is a greater incentive to report or because the problem is getting worse, among other reasons. It is therefore difficult even to be sure of what the facts are, much less to assign causality.

In the absence of program evaluations that would allow them to better target their resources, law enforcement officials in Arkansas, Iowa, and Montana concur that rural law enforcement agencies need to pool

⁶Regarding policymaker views on the necessity and usefulness of law enforcement efforts, and efforts to improve these efforts, see White House, 1990, pp. 13-27; U.S. Congress, 1990c, pp. 33-64.

resources and coordinate efforts if they are to become more effective. The need for pooling resources and coordinating efforts is clearly displayed in these states' drug control strategies. As the Arkansas drug control strategy explains it,

"a great number of Arkansas counties are protected primarily through services provided by very small law enforcement agencies. Many rural areas within the state are unable to provide 24-hour protection, much less special drug control units. In order to compensate for this lack of manpower, multi-agency, multi-jurisdictional task forces need to be considered. These task forces could combine the manpower and equipment of several agencies in an effort to enhance law enforcement services." (Arkansas, 1990a, p. 5)

Greater cooperation among law enforcement units (through some form of "task force") is consequently given as one of the highest priorities in Arkansas as well as in the other rural states we visited. Arkansas, for example, gives "better cooperation among law enforcement agencies" its highest priority rating, noting that the "formation of multi-jurisdictional enforcement groups and multi-disciplinary groups has been identified as the most effective way to achieve such cooperation. The advantages of such units are well-known in drug law enforcement." (Arkansas, 1990a, p. 13) The drug control strategies for Iowa, Montana, and North Dakota also make law enforcement cooperation and coordination through task forces similarly high priorities (Iowa, 1990, p. 39; Montana, n.d.a, p. 5; North Dakota, 1989, p. 47).

One example of the need for pooling resources involves undercover activity. A common theme among the law enforcement personnel we interviewed was that undercover activity plays an integral role in fighting illegal drug abuse. In this view, unless undercover (that is, secret, nonuniformed) agents are active within the drug-abusing community, law enforcement agencies will be unable to gather the information needed to arrest and convict drug abusers. While we found no evidence indicating that rural areas were any different from metropolitan areas regarding the need for undercover activity, it may be more difficult to get undercover work done in rural areas, for two reasons. First, undercover work is difficult to do in rural areas, because "everyone knows everyone"; consequently, infiltrating the drug-using community can be done only slowly. Second, it is not easy to find people to do undercover work in rural areas. Having law enforcement agencies pool their undercover agents is one way to increase rural access to them.

Treatment

The Alcohol, Drug Abuse, and Mental Health Administration administers the ADAMHA block grant program. This program provides the states with funding for planning, establishing, maintaining, coordinating, and evaluating projects for the development of more effective prevention, treatment, and rehabilitative programs and activities to deal with alcohol and drug abuse. The ADAMHA block grant requires the states to spend at least 35 percent of the funds on alcohol services, 35 percent on other drug services, and 20 percent on prevention.⁷ Other funding mandates also exist.⁸ Arkansas, Iowa, and Montana each contain evaluation components as part of their comprehensive drug plans.

The Arkansas comprehensive drug plan indicates that “The State has established criteria [including ‘independent peer review’] to evaluate the effective performance” of programs funded by the ADAMHA block grant (Arkansas, 1989, p. 10). We were unable to find any effectiveness evaluations that had yet been performed on the basis of these criteria.

Iowa has recently completed an evaluation concerning the use and outcomes of its treatment programs (Krieg, 1989). This study is a useful first step in assessing the effect of treatment programs on substance abuse as well as other posttreatment outcomes (employment, income, criminal behavior). As the author admits, because the “data related to frequency of substance use at admission, discharge, and follow-up is unreliable . . . no correlations or conclusions can be made” yet about program effectiveness (Krieg, 1989, pp. 9-10).

The data from Iowa do suggest that while treatment is no “magic bullet” to the problems of substance abuse, certain gains may be possible. (See table IV.I.) Regarding the difficulty of treatment, note that almost one third (7,267 of 24,281) of those admitted to treatment programs had been admitted before. Of those who were discharged from the program a second time, over 40 percent had completed primary treatment the first time. Admittance to treatment, or even successful completion of a treatment program, is clearly no guarantee that substance abuse problems will go away.

⁷Alcohol and other drug-related prevention services may also be counted as alcohol and other drug services.

⁸Statutory set-asides have been established for special populations (for example, for programs designed for women) and designated programs (such as intravenous drug abuse treatment) (Public Law 100-690, 102 Stat. 4200).

**Appendix IV
Programs to Prevent or Reduce
Substance Abuse**

Table IV.1: Admission and Discharge Information for Clients Receiving Primary Substance Abuse Treatment in Iowa, 1988

	Number	Percent
Total admissions to treatment programs	24,281	100
Patients who are readmitted	7,267	30
Readmitted patients who were discharged	4,501	100
Completed first treatment	1,872	42
Left first treatment before completion	1,288	29
Unfit for first program	860	19
Referred to another program	274	6
Other	207	4

Source: M. Krieg, "Analysis of Utilization and Outcome in Iowa Substance Abuse Treatment Programs," in Annual Report of the State Drug Enforcement and Abuse Prevention Coordinator, 1989 (Des Moines: Iowa Department of Public Health, Division of Substance Abuse, October 1989), pp. 6-7.

The relatively small sample of discharged patients for whom follow-up data are available did have lower unemployment and arrest rates and higher rates of attendance in maintenance programs 6 months after treatment than they had experienced at the time of admission into the treatment program, however.⁹ (See table IV.2.)

Table IV.2: Follow-Up Information on Substance Abuse Clients at Admission and 6 Months After Discharge in Iowa, 1988

	Number	Percent
Successful contacts	331	100
At admission		
In maintenance programs ^a	152	46
Self-reported substance abuse	^b	^b
Unemployed	99	30
Arrested within last 12 months	209	63
6 Months after discharge		
In maintenance programs ^a	179	54
Self-reported substance abuse	^b	^b
Unemployed	50	15
Arrested within last 12 months	53	16

^aIncludes support groups as well as Alcoholics Anonymous and Narcotics Anonymous.

^bUnreliable data.

Source: M. Krieg, "Analysis of Utilization and Outcome in Iowa Substance Abuse Treatment Programs," in Annual Report of the State Drug Enforcement and Abuse Prevention Coordinator, 1989 (Des Moines: Iowa Department of Public Health, Division of Substance Abuse, October 1989), pp. 6-7.

⁹A second, smaller, preliminary study of the T.O.W. ("The Other Way") program has also been conducted in Iowa. This study compared the recidivism rates of 74 inmates successfully completing the T.O.W. program with 74 inmates who refused to enter the program, dropped out of it, or did not participate in it. The T.O.W. graduates had a 13-percent recidivism rate; the nonparticipants have had a 61-percent recidivism rate. Because it was only a preliminary study, no cause-and-effect conclusions are made (Iowa, 1989c).

The Montana comprehensive drug plan calls for annual on-site evaluations of treatment programs in order for them to receive state certification (Montana, n.d., pp. 15-16). One purpose of these evaluations is to collect treatment data to demonstrate program effectiveness. One measure of treatment effectiveness used in these evaluations is the number of patients reporting total abstinence 6 months after they have been discharged from primary treatment. Discharge and follow-up data for state-approved treatment programs in Montana in 1988 are summarized in table IV.3. Almost 80 percent of those contacted 6 months after they successfully completed primary treatment claimed to abstain totally from substance abuse. Because these abstinence rates are much higher than what might be expected from other studies, Montana questions the validity of these data.¹⁰

Table IV.3: Discharge and Follow-Up Information for Primary Chemical Dependency Clients in Montana, 1988

	Number	Percent
Individuals discharged from treatment	6,100	100
Completed treatment	3,668	60
Left treatment before completion	1,819	30
Referred to another program	388	6
Other	325	4
Follow-up attempts	2,154	100
Individuals contacted	1,542	72
Of those contacted		
Individuals in maintenance programs	865	56
Individuals reporting total abstinence	1,290	78

Source: Montana, Montana Comprehensive Chemical Dependency Plan (Helena: Department of Institutions, Treatment Service Division, Chemical Dependency Bureau, n.d.b), pp. 40f, 47f, 55f, 62f, and 68f.

North Dakota's comprehensive drug plan does not indicate that program evaluation is yet a program priority. Instead, research projects are directed to "verify the nature and scope of alcohol/drug use, and to determine the needs of the people of the state." (North Dakota, n.d., p. 3)

The paucity of data from treatment program evaluations does not distinguish the rural United States. Indeed, in a 1989 report of the National Association of State Alcohol and Drug Abuse Directors to the Office for

¹⁰Montana's Chemical Dependency Bureau states that it "is very concerned regarding the validity of [the] effectiveness data . . . This data appears invalid as [the improvement rate] is far above the national average." The bureau describes some weaknesses of the data and recommends improvements (Montana, 1989, p. 8).

Treatment Improvement that described the priorities of the state substance abuse agencies for technical assistance in support of the ADAMHA block grant, "evaluation of treatment" and "evaluation of prevention" were two of the top three priorities.¹¹ The office is currently developing, in coordination with the states, a uniform reporting plan that may assist the states in evaluating the effectiveness of their treatment programs (U.S. Department of Health and Human Services, 1990b).

While several national sources such as NDATUS and SADAP provide data on drug abuse treatment programs, the Treatment Outcome Prospective Study (TOPS) is the primary national study providing information on program effectiveness (Hubbard et al., 1989).¹² TOPS interviewed over 10,000 individuals undergoing treatment in 37 publicly funded drug abuse treatment programs in 10 cities during 1979, 1980, and 1981 about their drug and alcohol use and related problems, including their involvement in crime and the criminal justice system. Treated individuals were interviewed during and up to 5 years after treatment. The clinics in the study provided three types of treatment programs: methadone maintenance, residence, and outpatient drug-free care.

TOPS, the most comprehensive study of the effectiveness of drug abuse treatment ever undertaken, had at least four main conclusions. First, all three treatment programs reduced substance abuse among current abusers. Second, the longer an individual received treatment, the less substance abuse of all types of drugs the individual experienced. Third, drug abusers tended to reduce their criminal involvement if they received treatment. Fourth, substance abuse treatment within the criminal justice system was not less effective even though it may be coerced: "Criminal justice clients do as well or better than other clients in drug abuse treatment." (Hubbard et al., 1989, p. 133; see also U.S. Department of Justice, 1990e) However, the authors noted "There is no question that treatment works, but much more needs to be known about how and why treatment works."¹³

¹¹"Adolescent treatment" was the top priority. The office is required by law to provide technical assistance to state agencies receiving ADAMHA funding (U.S. Department of Health and Human Services, 1990a, p. 1).

¹²This study was sponsored by the National Institute on Drug Abuse (NIDA) with support from the National Institute of Justice. NIDA also publishes a series of research monographs on specific treatment issues. See for example, Rahdert and Grabowski, 1988; Ashery, 1985; Tims and Ludford, 1984. For a summary of treatment research, see National Association of State Alcohol and Drug Abuse Directors, 1990a.

¹³Quote from National Association of State Alcohol and Drug Abuse Directors, 1990, p. 14, attributed to the authors of the TOPS study.

In contrast to the relative scarcity of evaluations of drug treatment programs, a large number of studies have examined the effectiveness of alcohol treatment programs.¹⁴ A recent review of the literature cautioned that "As with any large and diverse body of information, the data admit differing interpretations," and that "There is no single treatment that is effective for all persons with alcohol problems." (Institute of Medicine, 1990, p. 147) Nevertheless, it tentatively concluded that "treating people with alcohol problems is an endeavor that can produce very positive results." (Institute of Medicine, 1990, p. 148)

Although little information exists on the effectiveness of drug programs in the rural United States, three reports have identified the main problems common to rural programs that might limit their effectiveness: Edwards and Egbert-Edwards, 1988; U.S. Department of Health, Education, and Welfare, 1977, 1978. It is true that many of the problems these reports list may not be unique to rural areas; however, several of the common elements of the reports bear repeating. Despite the fact that these reports were written a decade apart, the problems appear to have changed little during that time:

1. Funding: rural programs have greater per-client costs because of their "diseconomies of scale";
2. Lack of acceptance by community, community agencies, and the local school system;
3. Lack of trained and experienced staff;
4. Transportation: clients must travel further to reach programs and program staff must travel farther to reach clients.

We do not have reason to believe that residential care programs would be any less effective, or were any more difficult to implement, in rural states. The same cannot be said for outpatient care and "aftercare."¹⁵ Residential care is comparatively easy to administer, even in rural

¹⁴"One estimate is that more than 600 treatment outcome studies have been completed, about half of which have been completed in the 1980s; among these there have been approximately 200 comparative clinical trials, about two-thirds of which have employed random assignment." (Institute of Medicine, 1990, p. 147)

¹⁵"The fundamental goal of aftercare in drug abuse treatment is to prevent treated patients from returning to drug abuse . . . [A]ftercare has come to encompass efforts to ensure that the former client can successfully maintain a life free from drug dependence in the larger community following treatment." (Hawkins and Catalano, 1985, p. 917)

states, because the substance abuser must usually come to the treatment clinic for an extended stay. Outpatient care and aftercare, in contrast, are more difficult because the treatment must come closer to the abuser. Aftercare is thus almost by definition harder to provide in less densely populated areas. It is much easier to bring substance abusers 100 miles one time to attend a 28-day treatment program, for example, than it is to bring them 100 miles 28 times to attend an evening program. Providing outpatient and aftercare that is easily accessible to all rural America is a challenge. Pooling resources (through multicounty programs, for example) and coordinating efforts (through other health programs) may be ways to meet this challenge.

Monitoring the substance abuse behavior of those who have completed primary care programs is imperative for evaluating program effectiveness. In many cases, especially when substance abusers are voluntarily admitted to primary care programs, it may not be possible for the government to monitor subsequent drug use. But many substance abusers are placed in treatment as part of their criminal sentence. To the extent that society has a special interest in reducing substance abuse among criminals, routine monitoring could be made a condition of probation or parole. This information could be used to evaluate treatment effectiveness as well as identify ongoing substance abuse problems.

As we noted above, all states are required to devote at least 35 percent of their ADAMHA block grant funding to alcohol and 35 percent to other drug treatment programs. Yet the data we presented in tables II.5 and VI.7 show that over 80 percent of treatment admissions in rural states are for alcohol abuse. This implies that these funding allocation mandates may not meet rural needs.

Education

The main source of federal funding for substance abuse education has been the State and Local Grant Program authorized under the Drug-Free Schools and Communities Act and its amendments and administered by the U.S. Department of Education. Drug-Free School funding is to be used to help schools and communities reduce the incidence and prevalence of substance abuse. The program includes the development and expansion of prevention and intervention programs for students in grades K-12, comprehensive school programs for parents of students, and community and school collaborations. Each state is to submit a biennial report to the secretary of Education describing the extent of substance abuse problems in the state's schools, the types of drug-free school programs offered, and an "evaluation of the effectiveness of

State and local drug and alcohol abuse education and prevention programs.” (Public Law 101-226; 103 Stat. 1933) The states have not yet been required to submit this report.¹⁶

It is difficult to measure whether drug prevention programs are successful.¹⁷ A few evaluations of the effectiveness of their prevention efforts have been conducted in rural areas (Scheurich, n.d.; Utah, 1988; Sarvela and McClendon, 1987). We do not believe the scarcity of rural program evaluations is a big problem, however. Indeed, we question whether rural schools should be required to do such evaluations, although they may be encouraged to do so alone, in collaboration with other schools, or as a part of a state evaluation program. It may be a better use of federal resources for a few carefully designed studies to be done that include rural schools in the sample to confirm the general effectiveness of prevention programs.

Substance abuse prevention programs, especially those emphasizing “social-influence” and “community-based” approaches, may be effective in preventing or reducing substance abuse.¹⁸ Community-based methods are those “that mobilize all elements of a community in a coordinated plan of attack” against drug use.¹⁹ Social-influence programs attempt “to curb adolescent drug use by motivating young people to resist drugs and

¹⁶We were able to collect some preliminary information on the Drug-Free Schools and Communities programs in Iowa. For example, 427 of the 431 school districts in Iowa have received program funding, with 220 of 500 high schools using “peer helping” programs, 200 of 500 high schools using “student assistance” programs, 300 districts using “Quest” programs, and 80 districts having “support groups” (Iowa, n.d.b).

¹⁷To show that a prevention program is successful, the evaluator must demonstrate that something did not happen (that is, that drugs were not taken) because of the program. This is especially difficult when attempting to measure long-term success. We are currently conducting two forthcoming studies concerning the effectiveness of substance abuse education.

¹⁸For descriptions of both types of programs, see U.S. Department of Health and Human Services, 1988.

¹⁹The National Drug Control Strategy asserts that community-based approaches are “the most effective strategies for preventing drug use and keeping drugs out of schools and neighborhoods.” (White House, 1990, p. 41) Several research papers evaluating community-based efforts to prevent drug use were presented at a recent conference sponsored by BJA and National Institute of Justice; see the papers presented on the “Community Responses to Drug Abuse” panel (U.S. Department of Justice, 1990b). The report “Inventory of and Criteria for Funding Montana’s Youth-Oriented, Drug Prevention Programs” describes the elements “that would most likely be present within a successful program.” These elements emphasize community-wide involvement (Gold, Gold, and Carpino, n.d.).

helping them acquire the skills to do so.”²⁰ (Ellickson and Bell, 1990a, 1990b)

Our review of the data suggests that substance abuse problems are not very different in the country than they are in the city. Although the substances may be different, the problems are the same. To the extent that the causes for and prevalence of substance abuse are similar in rural and nonrural areas, substance abuse programs proven to be effective should work equally well in rural areas.

Main Findings

Only a few thorough evaluations have indicated that particular programs are effective, but almost no studies have focused on programs in rural America. Furthermore, we are unaware of any evaluations that compare the effectiveness of law enforcement, education, and treatment programs. Our findings on program effectiveness are thus quite limited.

- Little information exists on the effectiveness of law enforcement in reducing drug abuse either in rural or nonrural areas. Arkansas, Iowa, and Montana do have plans to improve their ability to evaluate law enforcement programs, however.
- The evidence that exists suggests that educational programs can modestly reduce drug abuse, although we found only a few evaluations of prevention program effectiveness in rural states.
- Some treatment programs appear to reduce drug abuse. However, studies of treatment effectiveness have rarely focused on rural areas. Currently, at least a few rural states have begun evaluating their own treatment programs.
- Over 80 percent of treatment admissions in rural states are for alcohol abuse. However, all states are required to devote at least 35 percent of their ADAMHA block grant funding to treatment programs for drugs other than alcohol. This implies that these funding allocation mandates may not meet rural needs.

We were nonetheless able to identify features of rural places that need to be taken into account if law enforcement, treatment, and education programs are to be made more effective. Although we cannot draw definitive conclusions about program effectiveness, we do note that certain barriers need to be overcome if rural programs are to be successful in

²⁰The evaluation of the social-influence program found in Ellickson and Bell (1990a, 1990b) did contain a couple of rural schools in the sample, but the authors did not analyze the influence of “ruralness” on program outcomes. Telephone conversation with Robert M. Bell, April 23, 1990.

reducing substance abuse. Rural programs can have greater per-client costs because of their "diseconomies of scale." These areas may find it difficult to attract and hold trained and experienced staff. Clients must travel farther to reach programs and program staff must travel farther to reach clients. The programs may lack acceptance by the community, community agencies, and the local school system.

The defining characteristic of rural states is their low population density. This makes it difficult to have high program intensity: a rural community is unlikely to be able to afford drug program specialists. Rural police must handle the full range of law enforcement problems, rural teachers must perform a wide variety of educational services, and rural health care workers must provide a broad array of health services. Individuals in these jobs, no matter how dedicated, can hardly be expected to develop expertise in, or devote much time to, drug issues.

We believe that one way to compensate for the shortage of expertise is to pool resources and coordinate efforts. In this way, rural areas may be able to address collectively problems that would be too complex for any one community to resolve on its own.

Rural States

Alaska
Arkansas
Arizona
Colorado
Idaho
Iowa
Kansas
Maine
Montana
Nebraska
Nevada
New Mexico
North Dakota
Oklahoma
Oregon
South Dakota
Utah
Wyoming¹

¹Vermont has also been included in proposed legislation as a "special needs rural area," but it does not have a population of 50 or fewer persons per square mile. Therefore data from Vermont are not included with data from other rural states in this report.

Supporting Tables

Table VI.1: Annual Prevalence of Use of 14 Types of Drugs Among Respondents of Modal Age 19-30, 1988

Drug	Population density ^a				
	Farm or country	Small town	Medium city	Large city	Very large city
Any illicit drug	27.0%	34.0%	38.7%	35.9%	39.1%
Marijuana	22.3	29.5	34.5	31.1	34.1
Nonmarijuana	15.4	20.2	23.5	20.8	23.7
Cocaine	8.5	12.9	15.3	13.9	17.1
Crack ^b	1.6	2.9	3.0	3.3	4.4
Inhalants ^c	1.1	1.8	1.7	1.8	1.4
Hallucinogens ^d	2.1	3.9	4.0	3.2	4.0
LSD	1.8	3.3	2.9	2.3	2.5
Heroin	0.1	0.2	0.3	0.2	0.2
Other opiates	2.3	2.5	2.6	2.7	2.8
Stimulants	6.5	7.3	8.5	6.2	5.5
Barbiturates	1.7	2.0	2.3	1.6	1.5
Methaqualone	0.4	0.5	0.6	0.5	0.6
Tranquilizers	4.2	4.2	5.3	3.7	3.8
Approximate number of respondents	990	2,300	1,800	1,600	1,100

^aA small town is defined as having less than 50,000 inhabitants, a medium city as 50,000-100,000, a large city as 100,000-500,000, and a very large city as having over 500,000 inhabitants.

^bForty percent of the questionnaires contained questions about this drug.

^cUnadjusted for known underreporting of certain drugs. Eighty percent of the questionnaires contained questions about this drug.

^dUnadjusted for known underreporting of certain drugs. PCP was asked about in 20 percent of the questionnaire forms; the prevalence estimate was omitted because of the small number of cases.

Source: L. D. Johnston, P. M. O'Malley, and J. G. Bachman, Drug Use, Drinking, and Smoking: National Survey Results from High School, College, and Young Adult Populations, 1975-1988 (Ann Arbor: University of Michigan, Institute for Social Research, for the U.S. Department of Health and Human Services, Public Health Service, Alcohol, Drug Abuse, and Mental Health Administration, National Institute on Drug Abuse, 1989), table 27, p. 181.

**Appendix VI
Supporting Tables**

Table VI.2: Thirty-Day Prevalence of Use of 14 Types of Drugs Among Respondents of Modal Age 19-30, 1988

Drug	Population density ^a				
	Farm or country	Small town	Medium city	Large city	Very large city
Any illicit drug	16.5%	19.5%	22.5%	19.2%	21.9%
Marijuana	13.7	17.0	19.8	16.8	18.7
Nonmarijuana	7.4	9.6	10.6	8.6	10.2
Cocaine	3.2	5.8	6.4	5.2	7.5
Crack ^b	0.7	1.6	1.2	1.4	1.0
Inhalants ^c	0.6	0.7	0.4	0.5	0.5
Hallucinogens ^d	0.5	1.2	1.1	0.8	0.9
LSD	0.4	1.0	0.7	0.6	0.8
Heroin	0.0	0.1	0.2	0.0	0.1
Other opiates	0.6	0.6	0.8	0.7	0.6
Stimulants	3.2	3.0	3.1	2.3	1.5
Barbiturates	0.7	0.8	0.6	0.6	0.6
Methaqualone	0.1	0.1	0.1	0.0	0.1
Tranquilizers	1.8	1.4	1.8	1.2	0.9
Approximate number of respondents	990	2,300	1,800	1,600	1,100

^aA small town is defined as having less than 50,000 inhabitants, a medium city as 50,000-100,000, a large city as 100,000-500,000, and a very large city as having over 500,000 inhabitants.

^bForty percent of the questionnaires contained questions about this drug.

^cUnadjusted for known underreporting of certain drugs. Eighty percent of the questionnaires contained questions about this drug.

^dUnadjusted for known underreporting of certain drugs. PCP was asked about in 20 percent of the questionnaire forms; the prevalence estimate was omitted because of the small number of cases.

Source: L. D. Johnston, P. M. O'Malley, and J. G. Bachman, *Drug Use, Drinking, and Smoking: National Survey Results from High School, College, and Young Adult Populations, 1975-1988* (Ann Arbor: University of Michigan, Institute for Social Research, for the U.S. Department of Health and Human Services, Public Health Service, Alcohol, Drug Abuse, and Mental Health Administration, National Institute on Drug Abuse, 1989), table 28, pp. 184-86.

Appendix VI
Supporting Tables

Table VI.3: Thirty-Day Prevalence of Use of Two Substances Among Respondents of Modal Age 19-30, 1988

Drug	Population density ^a				
	Farm or country	Small town	Medium city	Large city	Very large city
Marijuana daily	3.1%	3.6%	3.3%	3.0%	3.2%
Alcohol: 5+ drinks in a row in past 2 weeks	27.8	35.5	36.1	31.9	34.6

^aA small town is defined as having less than 50,000 inhabitants, a medium city as 50,000-100,000, a large city as 100,000-500,000, and a very large city as having over 500,000 inhabitants.

Source: L. D. Johnston, P. M. O'Malley, and J. G. Bachman, *Drug Use, Drinking, and Smoking: National Survey Results from High School, College, and Young Adult Populations, 1975-1988* (Ann Arbor: University of Michigan, Institute for Social Research, for the U.S. Department of Health and Human Services, Public Health Service, Alcohol, Drug Abuse, and Mental Health Administration, National Institute on Drug Abuse, 1989), table 29, p. 187.

Table VI.4: Lifetime Drug Use Prevalence Among High School Seniors in Iowa, Montana, North Dakota, and the United States, 1988^a

Drug	Iowa	Montana	North Dakota	United States
Alcohol	95%	95%	97%	92%
Cigarettes	66	61	68	66
Marijuana	40	36	44	47
Other drugs	19	^b	19	33

^aPrevalence data for individual drugs other than alcohol, cigarettes, and marijuana were not collected by the states.

^bNot available.

Source: Iowa, 1987-88 Iowa Study of Alcohol and Drug Attitudes and Behaviors Among Youth: Normative and Trend Data (Des Moines: Iowa Department of Education, Instruction and Curriculum Division, Substance Education Program, June 1989b), pp. 6, 16, 19, and 24; Montana, *Montana Adolescent Health Status* (Helena: Montana Coalition, the Montana Office of Public Instruction, and the Montana Department of Health and Environmental Sciences, March 1990a), pp. 13-16; North Dakota, *The 1986 Alcohol and Drug Survey of North Dakota Junior and Senior High Students* (Bismarck: Department of Human Services, Division of Alcoholism and Drug Abuse, November 1986), pp. 16, 46, 71, and 100; L. D. Johnston, P. M. O'Malley, and J. G. Bachman, *Drug Use, Drinking, and Smoking: National Survey Results from High School, College, and Young Adult Populations, 1975-1988* (Ann Arbor: University of Michigan, Institute for Social Research, for the U.S. Department of Health and Human Services, Public Health Service, Alcohol, Drug Abuse, and Mental Health Administration, National Institute on Drug Abuse, 1989), pp. 29-30.

**Appendix VI
Supporting Tables**

Table VI.5: Thirty-Day Drug Use Prevalence Among High School Seniors in Iowa, Montana, North Dakota, and the United States, 1988^a

Drug	Iowa	Montana	North Dakota	United States
Alcohol	50–70%	71%	79%	64%
Cigarettes	23	^b	19	29
Marijuana	17	^b	17	18
Other drugs	7	^b	7	^b

^aPrevalence data for individual drugs other than alcohol, cigarettes, and marijuana were not collected by the states.

^bNot available.

Source: Iowa, 1987-88 Iowa Study of Alcohol and Drug Attitudes and Behaviors Among Youth: Normative and Trend Data (Des Moines: Iowa Department of Education, Instruction and Curriculum Division, Substance Education Program, June 1989b), pp. 7, 16, 20, and 25; Montana, Montana Adolescent Health Status (Helena: Montana Coalition, the Montana Office of Public Instruction, and the Montana Department of Health and Environmental Sciences, March 1990a), pp. 13-16; North Dakota, The 1986 Alcohol and Drug Survey of North Dakota Junior and Senior High Students (Bismarck: Department of Human Services, Division of Alcoholism and Drug Abuse, November 1986), pp. 28, 55, 80, and 100; L. D. Johnston, P. M. O'Malley, and J. G. Bachman, Drug Use, Drinking, and Smoking: National Survey Results from High School, College, and Young Adult Populations, 1975-1988 (Ann Arbor: University of Michigan, Institute for Social Research, for the U.S. Department of Health and Human Services, Public Health Service, Alcohol, Drug Abuse, and Mental Health Administration, National Institute on Drug Abuse, 1989), pp. 35, 36, and 46.

Appendix VI
Supporting Tables

Table VI.6: Alcohol and Other Drug Abuse Violation Arrests by State, 1988^a

State	Alcohol ^b	Rank	Other drugs	Rank	Total	Rank
Rural						
New Mexico	20.28	2	4.44	8	24.72	3
Oklahoma	17.67	7	2.86	26	20.53	7
Wyoming	18.53	5	1.74	41	20.27	9
Nevada	12.16	26	7.72	3	19.88	10
Utah	16.18	11	3.04	24	19.21	11
Arkansas	16.54	10	2.34	33	18.88	12
Arizona	13.82	18	3.93	15	17.75	16
Colorado	14.06	16	2.77	27	16.83	18
Oregon	12.17	25	3.86	16	16.02	23
South Dakota	15.29	14	0.59	49	15.88	24
Nebraska	13.74	20	1.97	39	15.71	26
Idaho	13.75	19	1.87	40	15.63	27
Alaska	13.51	23	1.98	38	15.49	28
Iowa	13.53	22	0.88	47	14.41	30
Kansas	10.31	30	2.00	37	12.32	36
North Dakota	10.95	28	1.01	46	11.95	38
Maine	9.93	32	1.54	43	11.48	42
Montana	9.84	33	1.05	45	10.89	45
Nonrural						
California	19.03	4	7.70	4	26.73	1
Tennessee	21.44	1	3.45	22	24.89	2
Virginia	19.30	3	2.72	29	22.02	4
Mississippi	17.72	6	3.71	19	21.43	5
Texas	17.61	8	3.76	18	21.37	6
North Carolina	16.56	9	3.78	17	20.34	8
New Hampshire	15.72	12	2.42	31	18.14	13
South Carolina	13.71	21	4.12	12	17.83	14
Alabama	15.42	13	2.36	32	17.77	15
District of Columbia	0.27	49	16.80	1	17.06	17
Wisconsin	15.11	15	1.70	42	16.82	19
Maryland	9.58	35	7.23	7	16.81	20
Washington	12.68	24	3.62	20	16.30	21
Indiana	13.98	17	2.22	35	16.20	22
Georgia	11.50	27	4.33	11	15.82	25
Connecticut	7.20	44	7.24	5	14.44	29
New Jersey	5.78	45	7.23	6	13.01	31
Ohio	10.27	31	2.69	30	12.96	32
Michigan	9.79	34	3.12	23	12.91	33

(continued)

**Appendix VI
Supporting Tables**

State	Alcohol^b	Rank	Other drugs	Rank	Total	Rank
Missouri	9.35	37	3.03	25	12.38	34
Hawaii	8.86	38	3.47	21	12.33	35
Louisiana	8.05	41	3.94	14	11.99	37
Minnesota	10.45	29	1.49	44	11.94	39
New York	3.89	47	8.04	2	11.93	40
Massachusetts	7.30	42	4.36	10	11.66	41
Illinois	7.23	43	3.98	13	11.22	43
Pennsylvania	8.28	39	2.74	28	11.01	44
Vermont	8.24	40	2.05	36	10.29	46
West Virginia	9.57	36	0.60	48	10.16	47
Rhode Island	3.75	48	4.38	9	8.13	48
Delaware	5.21	46	2.31	34	7.52	49
Weighted (population) averages						
Rural states	14.25		2.76		17.01	
Nonrural states	12.28		4.80		17.08	
United States	12.57		4.50		17.07	
Unweighted (state) averages						
Rural states	14.01 ^c		2.53 ^c		16.55	
Nonrural states	11.06		4.21		15.27	
United States	12.14		3.60		15.74	

^aRate per 1,000 inhabitants. Data based on agencies submitting 12 months of complete data. Kentucky and Florida did not submit data.

^bAlcohol violations include driving while under the influence, liquor law violations, and drunkenness.

^cDifference of means tests between rural and nonrural states significant at the 90-percent level.

Source: U.S. Department of Justice, unpublished data, Federal Bureau of Investigation, 1990f.

**Appendix VI
Supporting Tables**

Table VI.7: Treatment Admission Rates to State Alcohol and Drug Abuse Clinics^a

State	Alcohol	Rank	Other drugs	Rank	Total	Rank
Rural						
Alaska	17.30	1	3.06	8	20.36	1
Colorado	15.56	2	1.24	35	16.79	5
Maine	13.71	4	2.31	16	16.02	6
Oregon	11.79	7	2.39	14	14.17	8
Nebraska	12.31	5	1.40	30	13.71	9
Montana	11.04	8	2.67	11	13.71	10
Nevada	8.92	12	1.54	28	10.46	13
South Dakota	5.77	21	4.04	4	9.81	16
Utah	6.80	16	1.33	33	8.13	19
Iowa	6.45	17	1.66	27	8.12	20
Idaho	4.93	25	1.92	23	6.85	25
Arizona	4.88	26	1.92	22	6.79	26
Kansas	4.24	29	1.33	32	5.57	33
North Dakota	2.56	40	2.60	12	5.16	35
Arkansas	3.03	36	1.22	37	4.25	38
Oklahoma	2.21	42	0.67	47	2.89	44
Nonrural						
District of Columbia	9.34	11	8.48	1	17.82	2
Wisconsin	14.91	3	2.58	13	17.48	3
Massachusetts	12.14	6	4.73	3	16.87	4
Rhode Island	11.02	9	3.48	6	14.50	7
New York	8.86	13	4.81	2	13.66	11
Minnesota	10.26	10	1.77	26	12.03	12
Virginia	8.32	14	2.14	19	10.46	14
South Carolina	8.06	15	1.86	24	9.93	15
Georgia	6.40	18	3.28	7	9.68	17
Delaware	6.10	19	2.71	10	8.81	18
Maryland	3.97	31	4.01	5	7.98	21
Vermont	5.40	22	2.33	15	7.73	22
Connecticut	5.11	23	2.08	21	7.18	23
West Virginia	5.86	20	1.08	42	6.94	24
Illinois	4.37	28	2.29	18	6.67	27
Florida	4.95	24	1.48	29	6.43	28
California	3.86	33	2.30	17	6.15	29
Michigan	4.02	30	2.09	20	6.11	30
Missouri	4.60	27	1.39	31	5.98	31
Pennsylvania	2.94	38	2.72	9	5.65	32
New Jersey	3.41	35	1.85	25	5.25	34

(continued)

**Appendix VI
Supporting Tables**

State	Alcohol	Rank	Other drugs	Rank	Total	Rank
Kentucky	3.87	32	1.28	34	5.15	36
New Hampshire	3.78	34	0.72	46	4.50	37
Mississippi	2.78	39	0.92	44	3.70	39
North Carolina	3.00	37	0.65	48	3.65	40
Indiana	2.30	41	1.12	40	3.41	41
Ohio	1.86	44	1.22	36	3.09	42
Louisiana	1.92	43	1.15	39	3.07	43
Hawaii	1.76	45	1.12	41	2.88	45
Tennessee	1.53	47	1.19	38	2.73	46
Alabama	1.63	46	1.08	43	2.71	47
Texas	0.64	48	0.74	45	1.37	48
Weighted (population) averages						
Rural states	7.72		1.67		9.39	
Nonrural states	4.74		2.19		6.92	
United States	5.11		2.12		7.23	
Unweighted (state) averages						
Rural states	8.22 ^b		1.96		10.17^b	
Nonrural states	5.28		2.21		7.49	
United States	6.26		2.12		8.38	

^aRate per 1,000 inhabitants. Data based on agencies submitting data. New Mexico, Washington, and Wyoming did not submit data.

^bDifference of means tests between rural and nonrural states significant at the 90-percent level.

Source: W. Butynski, D. Canova, and S. Jenson, State Resources and Services Related to Alcohol and Drug Abuse Problems, Fiscal Year 1988: An Analysis of State Alcohol and Drug Abuse Profile Data, a report for the National Institute on Alcohol Abuse and Alcoholism and the National Institute on Drug Abuse (Washington, D.C.: National Association of State Alcohol and Drug Abuse Directors, 1989), pp. 22 and 36.

Appendix VI
Supporting Tables

Table VI.8: Drug Treatment Admissions by Primary Drug (Other Than Alcohol) in Rural and Nonrural States, 1988^a

Drug	Rural states		Nonrural states	
	Rate	Percent	Rate	Percent
Marijuana	0.54	33	0.34	15
Cocaine	0.40	24	0.67	30
Stimulants				
Amphetamines	0.17	10	0.07	3
Inhalants	0.02	1	0.01	0
Sedatives				
Barbiturates	0.02	1	0.01	0
Other sedatives or hypnotics	0.02	1	0.01	1
Tranquilizers	0.02	2	0.02	1
PCP	0.01	0	0.04	2
Other hallucinogens	0.02	1	0.01	1
Heroin	0.21	13	0.55	25
Other opiates	0.05	3	0.08	3
All others	0.18	11	0.38	17
Total	1.65	100^b	2.20	100^b

^aRate per 1,000 inhabitants; percent of drug admissions. Excludes states that did not report admissions by primary drug abused. Rural states excluded are Kansas, Maine, New Mexico, North Dakota, and Wyoming. Excluded nonrural states are Georgia, North Carolina, Virginia, and Washington. Some states do not collect data for each drug.

^bColumns may not add to 100 because of rounding.

Source: W. Butynski, D. Canova, and S. Jenson, *State Resources and Services Related to Alcohol and Drug Abuse Problems, Fiscal Year 1988: An Analysis of State Alcohol and Drug Abuse Profile Data*, a report for the National Institute on Alcohol Abuse and Alcoholism and the National Institute on Drug Abuse (Washington, D.C.: National Association of State Alcohol and Drug Abuse Directors, 1989), p. 36.

**Appendix VI
Supporting Tables**

Table VI.9: Drug Abuse Violation Arrests by Type of Drug and Type of Offense, 1988*

State	Type of drug				Total ^c	Type of offense		
	Cocaine and opiates	Marijuana	Synthetic narcotics	Other drugs		Sales	Possession	Total ^c
Rural								
Oregon	36%	41%	2%	21%	100%	5%	95%	100%
Colorado	32	52	2	13	100	19	81	100
Arizona	29	51	3	17	100	17	83	100
Nevada	29	35	28	8	100	36	64	100
Utah	27	59	3	11	100	24	76	100
Oklahoma	26	57	10	7	100	28	72	100
Alaska	24	61	7	7	100	46	54	100
Kansas	20	63	7	11	100	25	75	100
New Mexico	19	68	8	5	100	31	69	100
Nebraska	18	72	1	8	100	17	83	100
Wyoming	18	73	7	3	100	36	64	100
Iowa	17	72	6	4	100	24	76	100
Maine	14	81	1	4	100	16	84	100
Idaho	14	79	6	1	100	21	79	100
Arkansas	14	78	5	4	100	27	73	100
South Dakota	13	77	6	4	100	26	74	100
Montana	8	38	2	52	100	14	86	100
North Dakota	6	82	5	6	100	38	62	100
Nonrural								
Pennsylvania	76	19	3	3	100	63	37	100
New York	71	24	1	4	100	41	59	100
District of Columbia	71	12	3	13	100	48	52	100
California	70	13	0	17	100	22	78	100
Delaware	60	39	0	2	100	24	76	100
New Jersey	60	36	1	3	100	27	73	100
Connecticut	54	26	15	6	100	28	72	100
Maryland	54	35	5	7	100	29	71	100
Massachusetts	52	41	3	4	100	22	78	100
Rhode Island	52	39	5	5	100	20	80	100
Georgia	45	29	0	26	100	40	60	100
Illinois	42	57	1	0	100	7	93	100
Washington	42	51	4	3	100	17	83	100
Louisiana	41	45	9	4	100	32	68	100
Virginia	41	49	4	5	100	26	74	100
Texas	35	48	11	6	100	16	84	100
South Carolina	34	63	0	4	100	36	64	100

(continued)

**Appendix VI
Supporting Tables**

State	Type of drug				Total ^c	Type of offense		
	Cocaine and opiates	Marijuana	Synthetic narcotics	Other drugs		Sales	Possession	Total ^c
Ohio	33	59	2	6	100	19	81	100
North Carolina	32	58	2	9	100	20	80	100
Wisconsin	28	64	2	6	100	33	67	100
Hawaii	26	69	1	3	100	17	83	100
New Hampshire	23	75	2	0	100	15	85	100
Mississippi	22	71	2	4	100	23	77	100
Michigan	21	23	1	55	100	59	41	100
West Virginia	21	74	3	2	100	39	61	100
Minnesota	21	58	4	17	100	28	72	100
Alabama	19	65	2	14	100	16	84	100
Indiana	16	71	3	10	100	20	80	100
Tennessee	16	74	7	4	100	30	70	100
Vermont	12	86	1	2	100	15	85	100
Missouri	8	41	4	46	100	12	88	100
Weighted (population) averages								
Rural	26	58	5	11	100	21	79	100
Nonrural	55	31	2	11	100	29	71	100
Total	53	34	3	11	100	28	72	100
Unweighted (state) averages								
Rural	20 ^b	63 ^b	6 ^b	10	100	25	75	100
Nonrural	39	49	3	9	100	27	73	100
Total	32	54	4	10	100	26	74	100

^aData based on agencies submitting 12 months of complete data. Kentucky and Florida did not submit data.

^bDifference of means tests between rural and nonrural states significant at the 90-percent level.

^cRows may not add to 100 because of rounding.

Source: U.S. Department of Justice, unpublished data, Federal Bureau of Investigation, 1990f.

**Appendix VI
Supporting Tables**

Table VI.10: Substance Abuse Among Inmates Admitted to the Montana State Prison December 1989 to June 1990^a

Assessment method	Alcohol abuse	Other drug abuse	Alcohol and other drug abuse	Total substance abuse	No abuse	Total
Committee ^b	58	45	212	315	31	346
Percent	17%	13%	61%	91%	9%	100%
MCMC ^c	39	49	172	260	77	337
Percent	12%	15%	51%	77%	23%	100%
Questionnaire ^d	206	130	^e	282	54	336
Percent	61%	39%		84%	16%	100%

^aA separate Minnesota Multiphasic Personality Inventory was conducted to determine the severity of the substance abuse addiction. This assessment found that 49 percent (168 of 342) were clinically addicted, 11 percent (34 of 342) were subclinically addicted, and 40 percent (137 of 342) had a tendency toward addiction.

^bCommittee = Montana State Prison Initial Classification Committee.

^cMCMC = Milan Clinical Multi-Axial Inventory.

^dQuestionnaire = self-reports of inmates. Self-reports do not include a separate category for drug and alcohol abuse.

^eNot available.

Source: Montana, unpublished data, Chemical Dependency Program, Montana State Prison, 1990.

Request Letters

DAVID PRYOR
ARKANSAS

RUSSELL SENATE OFFICE BUILDING
WASHINGTON, D.C. 20510
(202) 224-2353

ARKANSAS OFFICE
3030 FEDERAL BUILDING
LITTLE ROCK, ARKANSAS 72201
(501) 378-6336

United States Senate
WASHINGTON, D.C. 20510

COMMITTEE:
AGRICULTURE, NUTRITION, AND
FORESTRY
FINANCE
SPECIAL COMMITTEE ON AGING
SELECT COMMITTEE ON ETHICS

March 19, 1990

Honorable Charles Bowsher
Comptroller General
United States General Accounting Office
441 G Street, N.W.
Washington, D.C. 20548

Dear Mr. Bowsher:

The effects of drug-related crime have been felt throughout our country. Our states are no exception: Arkansas, Iowa, and Montana have experienced dramatic increases in illegal drug activity in recent years.

The sad fact is that the drug crisis has spread to even small towns and rural communities across America. The following examples underscore our point:

- In El Dorado, Arkansas, a town of 25,000, arrests for sale and possession of illegal drugs increased 97% in the first six months of last year over the same period in 1988. The El Dorado police chief attributes this mostly to the introduction of crack cocaine in the area.
- "Ice" - an extremely potent form of methamphetamine which, according to authorities, may become the deadliest drug of the 1990s - is available in Arkansas, Montana, and Iowa.
- In Iowa, the number of people admitted for cocaine treatment doubled in 1987, double again in 1988, and continues to escalate.
- In August 1989, the average waiting period at an Arkansas substance abuse treatment facility was more than three weeks.
- Law enforcement officers shut down a crack house in Helena, Montana, a city of approximately 24,000 people.
- The economic impact of substance abuse in Iowa is over \$700 million a year.

Arkansas, Montana, and Iowa have substantial rural populations, but are experiencing problems similar to those in large urban areas. We believe that other rural states may be suffering as a result of increases in drug-related crime, but we are unaware of any systematic examination of the drug problem in rural America.

Appendix VII
Request Letters

Honorable Charles Bowsher
March 19, 1990
Page 2

We request that the United States General Accounting Office examine what information exists on the nature and extent of the drug crisis in rural parts of America and synthesize available information. This could include examining several methodological issues, such as how the extent of the problem is or can be measured, the adequacy of data, and how well the effectiveness of different interdiction or treatment efforts are evaluated. A particularly important question will be ascertaining the proper allocation of treatment resources. This will help us as we prepare and pursue legislation addressing the problems we face in rural communities. Staff from your Program Evaluation and Methodolgy Division have successfully performed these and similar analyses on several other issues for us, and we look forward to working with them on this issue.

Results of your work would be most useful to us if received no later than September 15, 1990. If you have any questions about this request, please do not hesitate to contact us or any of our staff members, John Monahan (Senator Pryor, 224-5364), Maureen Driscoll (Senator Baucus, 224-2655), Ed Long (Senator Harkin, 224-224-3254), or Elizabeth Goss (Senator Bumpers, 224-224-4843).

Sincerely,


David Pryor


Max/Baucus


Thomas Harkin


Dale Bumpers

DP/jtm

KENT CONRAD
NORTH DAKOTA
202-224-2043

COMMITTEES
AGRICULTURE, NUTRITION,
AND FORESTRY
ENERGY AND NATURAL
RESOURCES
BUDGET

United States Senate

WASHINGTON, DC 20510

June 8, 1990

Mr. Charles A. Bowsher
Comptroller General
United States General Accounting Office
441 G Street, N.W.
Washington, DC 20548

Dear Mr. Bowsher:

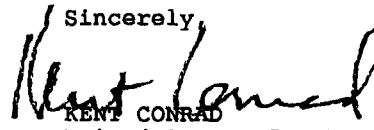
The effects of drug-related crime have been felt throughout our country. North Dakota is no exception. Law enforcement officials in my state have reported increases in violent crime and have expended a growing portion of their resources combatting the drug trade.

I've become aware that the General Accounting Office has been asked to examine the available information on the nature and extent of the drug crisis in rural America (request attached).

Because of the importance of this study, I would like to join the sponsors in their request.

If you have any questions, please feel free to contact me, or Liz Magill, of my staff.

Sincerely,



KENT CONRAD
United States Senator

KC:wmem
Enclosure

Major Contributors to This Report

Program Evaluation and Methodology Division

Michael J. Wargo, Director
James Solomon, Assistant Director
John Oppenheim, Assignment Manager
Sushil Sharma, Senior Advisor
Mark Rom, Project Manager

Bibliography

"A Drug Trafficking Report." Governing, October 1988, pp. 72-73.

Adams, E. H. "Background Comments on Hard Core Cocaine Addicts: Measuring and Fighting the Epidemic." National Institute on Drug Abuse, Division of Epidemiology and Prevention Research, Rockville, Maryland, 1990.

Arkansas. Comprehensive Plan for Alcohol and Drug Abuse Prevention Activities, 1989-90. Little Rock: Department of Human Services, Division of Alcohol and Drug Abuse Prevention, November 1989.

Arkansas. Statewide Strategy, Drug and Violent Crime Control, Anti-Drug Abuse Act of 1988, State and Local Assistance for Narcotics Control Program. Little Rock: Alcohol and Drug Abuse Coordinating Council, January 1990a.

Arkansas. Unpublished data. Department of Corrections, Pine Bluff, July 2, 1990b.

Ashery, R. S., ed. Progress in the Development of Cost-Effective Treatment for Drug Abusers. NIDA Research Monograph 58. Washington, D.C.: U.S. Government Printing Office, 1985.

Butynski, W., D. Canova, and S. Jenson. State Resources and Services Related to Alcohol and Drug Abuse Problems, Fiscal Year 1988: An Analysis of State Alcohol and Drug Abuse Profile Data. A report for the National Institute on Alcohol Abuse and Alcoholism and the National Institute on Drug Abuse. Washington, D.C.: National Association of State Alcohol and Drug Abuse Directors, 1989.

Collins, J. J., and M. W. Zawitz. Federal Drug Data for National Policy. Washington, D.C.: U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, April 1990.

Edwards, E. D., and M. Egbert-Edwards. "Prevention of Substance Abuse in Rural Communities: A Report of the Rural Programs Section of the O.S.A.P. Conference." Graduate School of Social Work, University of Utah, Salt Lake City, December 1988.

Ellickson, P. L., and R. M. Bell. "Drug Prevention in Junior High: A Multi-Site Longitudinal Test." Science, March 16, 1990a, pp. 1299-1305.

Ellickson, P. L., and R. M. Bell. Prospects for Preventing Drug Use Among Young Adolescents. Santa Monica: Rand Corporation, 1990b.

Gold, R. L., A. W. Gold, and P. Carpino. "Inventory of and Criteria for Funding Montana's Youth-Oriented, Drug Prevention Programs." Prepared for Montana Board of Crime Control by Social Research and Applications, Missoula, n.d.

Hawkins, J. D., and R. F. Catalano. "Aftercare in Drug Treatment." The International Journal of the Addictions, 20 (1985), 917-45.

Hubbard, R. L., et al. Drug Abuse Treatment: A National Study of Effectiveness. Chapel Hill: University of North Carolina Press, 1989.

Innes, C. A. "Drug Use and Crime: State Prison Inmate Survey, 1986." U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, Washington, D.C., July 1988.

Institute of Medicine. Broadening the Base of Treatment for Alcohol Problems. Washington, D.C.: National Academy Press, 1990.

Iowa. Annual Report of the State Drug Enforcement and Abuse Prevention Coordinator, 1989. Des Moines: 1989a.

Iowa. Iowa Comprehensive Plan for Substance Abuse, 1989-90. Des Moines: Department of Public Health, Division of Substance Abuse, n.d.a.

Iowa. Iowa Strategy for Drug Control and System Improvement, 1990. Des Moines: Department of Public Health, Governor's Alliance on Substance Abuse, January 1990.

Iowa. 1987-88 Iowa Study of Alcohol and Drug Attitudes and Behaviors Among Youth: Normative and Trend Data. Des Moines: Iowa Department of Education, Instruction and Curriculum Division, Substance Education Program, June 1989b.

Iowa. "Overview of Drug-Free Schools and Communities." Presentation to DFSC application writing workshop, Des Moines, n.d.b.

Iowa. "Recidivism - Alcohol and Drug Treatment Clarinda Correction Facility/T.O.W. Program." In Annual Report of the State Drug Enforcement and Abuse Prevention Coordinator, 1989. Des Moines: Department of Public Health, Division of Substance Abuse, 1989c.

Johnston, L. D., P. M. O'Malley, and J. G. Bachman. Drug Use, Drinking, and Smoking: National Survey Results from High School, College, and Young Adult Populations, 1975-1988. Ann Arbor: University of Michigan, Institute for Social Research for the U.S. Department of Health and Human Services, Alcohol, Drug Abuse, and Mental Health Administration, National Institute on Drug Abuse, 1989.

Krieg, M. "Analysis of Utilization and Outcome in Iowa Substance Abuse Treatment Programs." In Annual Report of the State Drug Enforcement and Abuse Prevention Coordinator, 1989. Des Moines: Iowa Department of Public Health, Division of Substance Abuse, 1989.

Lilienfeld, A. M., and D. E. Lilienfeld. Foundations of Epidemiology, 2nd ed. New York: Oxford University Press, 1980.

Montana. "Drug Strategy." Department of Institutions, Helena, n.d.a.

Montana. Montana Adolescent Health Status. Helena: Montana Coalition, the Montana Office of Public Instruction, and the Montana Department of Health and Environmental Sciences, March 1990a.

Montana. Montana Comprehensive Chemical Dependency Plan. Helena: Department of Institutions, Treatment Services Division, Chemical Dependency Bureau, n.d.b.

Montana. "Progress Report on FY 1989 Goals and Objectives." Department of Institutions, Treatment Services Division, Chemical Dependency Bureau, Helena, 1989.

Montana. Unpublished data. Montana State Prison, Chemical Dependency Program, Deer Lodge, June 19, 1990b.

National Association of State Alcohol and Drug Abuse Directors, Research and Technical Assistance Committee. State Alcohol and Drug Abuse Research. Washington, D.C.: 1990a.

National Association of State Alcohol and Drug Abuse Directors. Treatment Works: The Tragic Cost of Undervaluing Treatment in the "Drug War." Washington, D.C.: 1990b.

North Dakota. The 1986 Alcohol and Drug Survey of North Dakota Junior and Senior High Students. Bismarck: Department of Human Services, Division of Alcoholism and Drug Abuse, November 1986.

North Dakota. North Dakota 1989 Statewide Drug and Violent Crime Strategy. Bismarck: Office of the Attorney General, February 1989.

North Dakota. North Dakota Alcohol and Drug Abuse and Mental Health Services Block Grant Application. Bismarck: Department of Human Services, Division of Alcoholism and Drug Abuse, n.d.

Rahdert, E. R., and J. Grabowski, eds. Adolescent Drug Abuse: Analyses of Treatment Research. NIDA Research Monograph 77. Washington, D.C.: U.S. Government Printing Office, 1988.

Rouse, B. A., N. J. Kozel, and L. G. Richards. Self-Report Methods of Estimating Drug Use. NIDA Research Monograph 57. Washington, D.C.: U.S. Government Printing Office, 1985.

Sarvela, P. D., and E. J. McClendon. "An Impact Evaluation of a Rural Youth Drug Education Program." Journal of Drug Education, 17 (1987), 217-31.

Scheurich, J. "Evaluation of Alcohol and Drug Prevention Programs in Kansas Secondary Schools, 1987-1988." DCCCA Center, Lawrence, Kansas, n.d.

Scheurich, J., and L. Hou. "Evaluation of the Department of Corrections' Alcohol and Drug Treatment Programs." DCCCA Center, Lawrence, Kansas, January, 1990.

Shinn, R. Drug Abuse and Control: National Public Opinion Polls. Washington, D.C.: Congressional Research Service, February 23, 1990.

Speckart, G., and M. D. Anglin. "Narcotics and Crime: An Analysis of Existing Evidence for a Causal Relationship." Behavioral Sciences and the Law, 3:3 (1985), 259-82.

Tims, F. M., and J. P. Ludford, eds. Drug Abuse Treatment Evaluation: Strategies, Progress, and Prospects. NIDA Research Monograph 51. Washington, D.C.: U.S. Government Printing Office, 1984.

U.S. Congress. Fighting Drug Abuse: A National Strategy. Report prepared by the majority staffs of the Senate Judiciary Committee and the International Narcotics Control Caucus. Washington, D.C.: January, 1990c.

U.S. Congress. Administering Antidrug Programs in Iowa: Federal, State, and Local Coordination. Senate Hearing Before the Committee on Appropriations, 101st Cong., 2nd sess., S. Hrg. 101-505. Washington, D.C.: U.S. Government Printing Office, 1990a.

U.S. Congress. Hard-Core Cocaine Addicts: Measuring and Fighting the Epidemic. Staff report prepared for the use of the Committee on the Judiciary, U.S. Senate, 101st Cong., 2nd sess. Washington, D.C.: May 10, 1990b.

U.S. Department of Health, Education, and Welfare. "An Investigation of Selected Rural Drug Abuse Programs." Services research report. Alcohol, Drug Abuse, and Mental Health Administration, National Institute on Drug Abuse, Washington, D.C., March 1977.

U.S. Department of Health, Education, and Welfare. "Nonurban Drug Abuse Programs: A Descriptive Study." Services research report. Alcohol, Drug Abuse, and Mental Health Administration, National Institute on Drug Abuse, Washington, D.C., January 1978.

U.S. Department of Health and Human Services. "Block Grant Technical Assistance Plan and Status Report." Alcohol, Drug Abuse, and Mental Health Administration, Office for Treatment Improvement, Washington, D.C., June 1990a.

U.S. Department of Health and Human Services. Drug Abuse in Rural America. Treatment research report. Washington, D.C.: Alcohol, Drug Abuse, and Mental Health Administration, National Institute on Drug Abuse, 1981.

U.S. Department of Health and Human Services. National Household Survey on Drug Abuse: Highlights 1988. Washington, D.C.: Alcohol, Drug Abuse, and Mental Health Administration, National Institute on Drug Abuse, 1990c.

U.S. Department of Health and Human Services. National Household Survey on Drug Abuse: Population Estimates, 1988. Washington, D.C.: Alcohol, Drug Abuse, and Mental Health Administration, National Institute on Drug Abuse, 1989.

U.S. Department of Health and Human Services. Prevention Research Findings: 1988. Proceedings of the First National Conference on Prevention Research Findings: Implications for Alcohol and Other Drug Abuse Program Planning. OSAP Prevention Monograph 3. Washington, D.C.: Alcohol, Drug Abuse, and Mental Health Administration, 1988.

U.S. Department of Health and Human Services. "Substance Abuse Services Plan." Draft report. Alcohol, Drug Abuse, and Mental Health Administration, Office of Treatment Improvement, Washington, D.C., 1990b.

U.S. Department of Justice. "Attachment A, Narcotics Control Program, Fiscal Year 90 Funds." Bureau of Justice Assistance, Washington, D.C., 1990a.

U.S. Department of Justice, Federal Bureau of Investigation. Crime in the United States, 1988. Washington, D.C.: U.S. Government Printing Office, 1989a.

U.S. Department of Justice. Evaluating Drug Control and System Improvement Projects: Guidelines for Projects Supported by the Bureau of Justice Assistance. Washington, D.C.: National Institute of Justice, Office of Justice Programs, August 1989b.

U.S. Department of Justice. "Evaluating Drug Control Initiatives Conference Agenda." National Institute of Justice, Office of Justice Programs, Washington, D.C., 1990b.

U.S. Department of Justice. 1988 Drug Use Forecasting Annual Report. Washington, D.C.: National Institute of Justice, Office of Justice Programs, March 1990c.

U.S. Department of Justice. "Panel Briefs." National Institute of Justice, Office of Justice Programs, Washington, D.C., 1990d.

U.S. Department of Justice. "A Report of the Findings of a Survey of the Nation's Jails Regarding Jail Drug Treatment Programs." Draft report.

Office of Justice Programs, Bureau of Justice Assistance, Washington, D.C., May 1990e.

U.S. Department of Justice. Uniform Crime Reporting, National Incident-Based Reporting System, Vol. 1. Data Collection Guidelines. Washington, D.C.: Federal Bureau of Investigation, July 1988.

U.S. Department of Justice. Unpublished data. Federal Bureau of Investigation, Washington, D.C., 1990f.

U.S. General Accounting Office. "Comprehensive Drug Education for Young Adolescents." Program Evaluation and Methodology Division, Washington, D.C., forthcoming.

U.S. General Accounting Office. "The Department of Justice's Efforts to Compile State Crime Statistics." GAO/T-GGD-90-33. Statement of Lowell Dodge, Director, Administration of Justice Issues, General Government Division, before the Subcommittee on Criminal Justice, Committee on the Judiciary, U.S. House of Representatives, Washington, D.C., April 19, 1990.

U.S. General Accounting Office. "Impact of Drug Free Schools Program on Combating Drug Abuse." Human Resources Division, Washington, D.C., forthcoming.

Utah. "Main Findings Utah Household Survey on Substance Abuse." Prepared for the Utah Department of Social Services, Division of Substance Abuse by Dan Jones & Associates, Salt Lake City, 1989.

White House. National Drug Control Strategy. Washington, D.C.: U.S. Government Printing Office, September 1989.

White House. National Drug Control Strategy. Washington, D.C.: U.S. Government Printing Office, January 1990.

Wish, E. D., and B. D. Johnson. "The Impact of Substance Abuse on Criminal Careers," pp. 52-88. In Criminal Careers and "Career Criminals," A. Blumstein et al., eds. Washington, D.C.: National Academy Press, 1986.

Ordering Information

The first five copies of each GAO report are free. Additional copies are \$2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendent of Documents, when necessary. Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

**U.S. General Accounting Office
P.O. Box 6015
Gaithersburg, MD 20877**

Orders may also be placed by calling (202) 275-6241.

**United States
General Accounting Office
Washington, D.C. 20548**

**Official Business
Penalty for Private Use \$300**

**First-Class Mail
Postage & Fees Paid
GAO
Permit No. G100**
