Crimes of Indiscretion:
Marijuana Arrests in the United States

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Bureau of Justice Statistics
http://www.ojp.usdoj.gov/bjs/

Bureau of Justice Statistics, Criminal Justice Expenditure and Employment Extracts Program (CJEE), Justice Expenditure and Employment Extracts 2000 (12/19/03) Justice Expenditure and Employment Extracts **http://www.ojp.usdoj.gov/bjs/eande.htm.** See also: Justice Expenditure and Employment in the United States, 2001. **http://www.ojp.usdoj.gov/bjs/abstract/jeeus01.htm.**

DAWN
Drug Abuse Warning Network
[Emergency Department Episodes and Mentions]
http://dawninfo.samhsa.gov/old_dawn/
http://dawninfo.samhsa.gov/

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. Emergency Department Trends From the Drug Abuse Warning Network, Final Estimates 1988 - 1991, 1992-2001, DAWN Series: D-24, DHHS Publication No. (SMA) 03-3780, Rockville, MD, 2003.

DEA
Drug Enforcement Administration
http://www.dea.gov
http://www.dea.gov/pubs/intel.htm

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http://www.dea.gov/pubs/intel/99024/99024.html

Drug Enforcement Administration, (2003). Illegal Drug Price and Purity Report, April 2003. **http://www.dea.gov/pubs/intel/02058/02058.html**

MTF
Monitoring the Future
http://www.monitoringthefuture.org

Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2003). Monitoring the Future national survey results on drug use, 1975-2002. Volume I: Secondary school students (NIH Publication No. 03-5375). Bethesda, MD: National Institute on Drug Abuse, 520 pp. **http://www.monitoringthefuture.org/pubs/monographs/vol1_2002.pdf**

NDIC
National Drug Intelligence Center
http://www.usdoj.gov/ndic/index.htm
http://www.usdoj.gov/ndic/products.htm

National Drug Intelligence Center. National Drug Threat Assessment 2004. Product No. 2004-Q0317-002. April 2004
http://www.usdoj.gov/ndic/pubs8/8731/index.htm
http://www.usdoj.gov/ndic/pubs8/8731/marijuana.htm

NORML
National Organization for the Reform of Marijuana Laws
http://www.norml.org

National Organization for the Reform of Marijuana Laws. State by State Marijuana Laws.
http://www.norml.org/index.cfm?Group_ID=4516

NSDUH
National Survey on Drug Use and Health
http://www.oas.samhsa.gov/nhsda.htm

U.S. Dept. of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies. NATIONAL SURVEY ON DRUG USE AND HEALTH, 2002 [Computer file]. 2nd ICPSR

version. Research Triangle Park, NC: Research Triangle Institute [producer], 2004. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2004.

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ONDCP
Office of National Drug Control Policy

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http://www.whitehousedrugpolicy.gov/publications/pdf/price_illicit.pdf

Office of National Drug Control Programs. National Drug Control Strategy - 2000. Washington, D.C.: Office of National Drug Control Programs

Office of National Drug Control Programs. National Drug Control Strategy - 1998. Washington, D.C.: Office of National Drug Control Programs

TEDS
Treatment Episode Data Set

http://www.oas.samhsa.gov/dasis.htm#teds2

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. Treatment Episode Data Set (TEDS). Highlights-2002. National Admissions to Substance Abuse Treatment Services, DASIS Series: S-22, DHHS Publication No. (SMA) 04-3946, Rockville, MD, 2004.

UCR
Uniform Crime Reports

http://www.fbi.gov/ucr/ucr.htm
http://www.icpsr.umich.edu/
http://fisher.lib.virginia.edu/collections/stats/crime/

(a) National Level Data

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http://www.fbi.gov/ucr/ucr.htm

(b) County Level Arrest Data - computer file

U.S. Dept. of Justice, Federal Bureau of Investigation. UNIFORM CRIME REPORTING PROGRAM DATA [UNITED STATES]: COUNTY-LEVEL DETAILED ARREST AND OFFENSE DATA, 1996-2002 [Computer file]. ICPSR ed. Ann Arbor, MI: Inter-university Consortium for Political and

Social Research [producer and distributor], 1997-2004

Inter-university Consortium for Political and Social Research
http://www.icpsr.umich.edu/

(c) County Level Arrest Data - web server

Fisher Library, University of Virginia
http://fisher.lib.virginia.edu/collections/stats/crime/

(d) Local Agency Level Arrest and Demographic Data - computer file

U.S. Dept. of Justice, Federal Bureau of Investigation. UNIFORM CRIME REPORTING PROGRAM DATA [UNITED STATES]: ARRESTS BY AGE, SEX, AND RACE, 2000-2002 [Computer file]. Compiled by the U.S. Dept. of Justice, Federal Bureau of Investigation. ICPSR ed. Ann Arbor, MI: Interuniversity Consortium for Political and Social Research [producer and distributor], 2001-2003.

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USCB
United States Census Bureau

http://www.census.gov
http://www.census.gov/popest/datasets.html

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National Research Council. (2001) Manski, Charles F., John V. Pepper, and Carol V. Petrie (eds.) Informing America's Policy on Illegal Drugs. Washington, D.C.:
National Academies Press. **http://www.nap.edu/**

Calculation of Race Specific Arrest Rates at the County, State, and National Level

1. County-level Totals and Arrest Rates. Local agency data from the UCR Age, Sex, and Race file are combined to produce county-level totals and arrest rates for the overall population. While the agency-level file provides data on the number of blacks arrested by each agency, for example, it does not provide data on the local black population. However calculation of the arrest rate for blacks can take place at the county level through the use of Census Bureau data on county-level populations. The example below details the agency level data for Prince George's County, Maryland for marijuana possession arrests in 2002.

Local Agency Name	Coverage Population	Arrests	Arrest Rate	Arrests (Blacks)	Pct of Arrests (Blacks)
Berwyn Heights	3,032	0	0.00	0	0
Bladensburg	7,895	4	50.66	2	50.00%
Bowie State University	-	1	-	1	100.00%
Capitol Heights	4,264	3	70.36	3	100.00%
Cheverly	6,630	3	45.25	3	100.00%
Cottage City	1,170	0	0.00	0	0
District Heights	6,140	2	32.57	2	100.00%
Edmonston	988	9	910.93	2	22.22%
Fairmount Heights	1,555	2	128.62	2	100.00%
Glenarden	6,511	1	15.36	1	100.00%
Greenbelt	22,111	44	199.00	33	75.00%
Hyattsville	15,182	39	256.88	32	82.05%
Landover Hills	1,581	0	0.00	0	0
Laurel	20,570	28	136.12	16	57.14%
Morningside	1,335	12	898.88	10	83.33%
Mount Rainier	8,758	7	79.93	7	100.00%
Nat Cap Park Police	-	12	-	11	91.67%
Prince George's County Pd	701,275	589	83.99	508	86.25%
Prince George's State Police	0	91		65	71.43%
Riverdale Park	6,894	6	87.03	3	50.00%
Seat Pleasant	5,034	2	39.73	2	100.00%
Univ Of Md:College Park	-	103	-	13	12.62%
University Park	2,389	0	0.00	0	0
Prince George's County	**823,314**	**958**	**116.36**	**716**	**74.74%**

2. State, and National Level Totals and Arrest Rates. County level data are combined to produce state, and national-level totals of coverage populations and arrests by offense, providing a basis for calculating the arrest rate for the overall coverage population. This example provides 2002 data on marijuana possession arrests for Prince Georges County MD, the state of Maryland, and the United States.

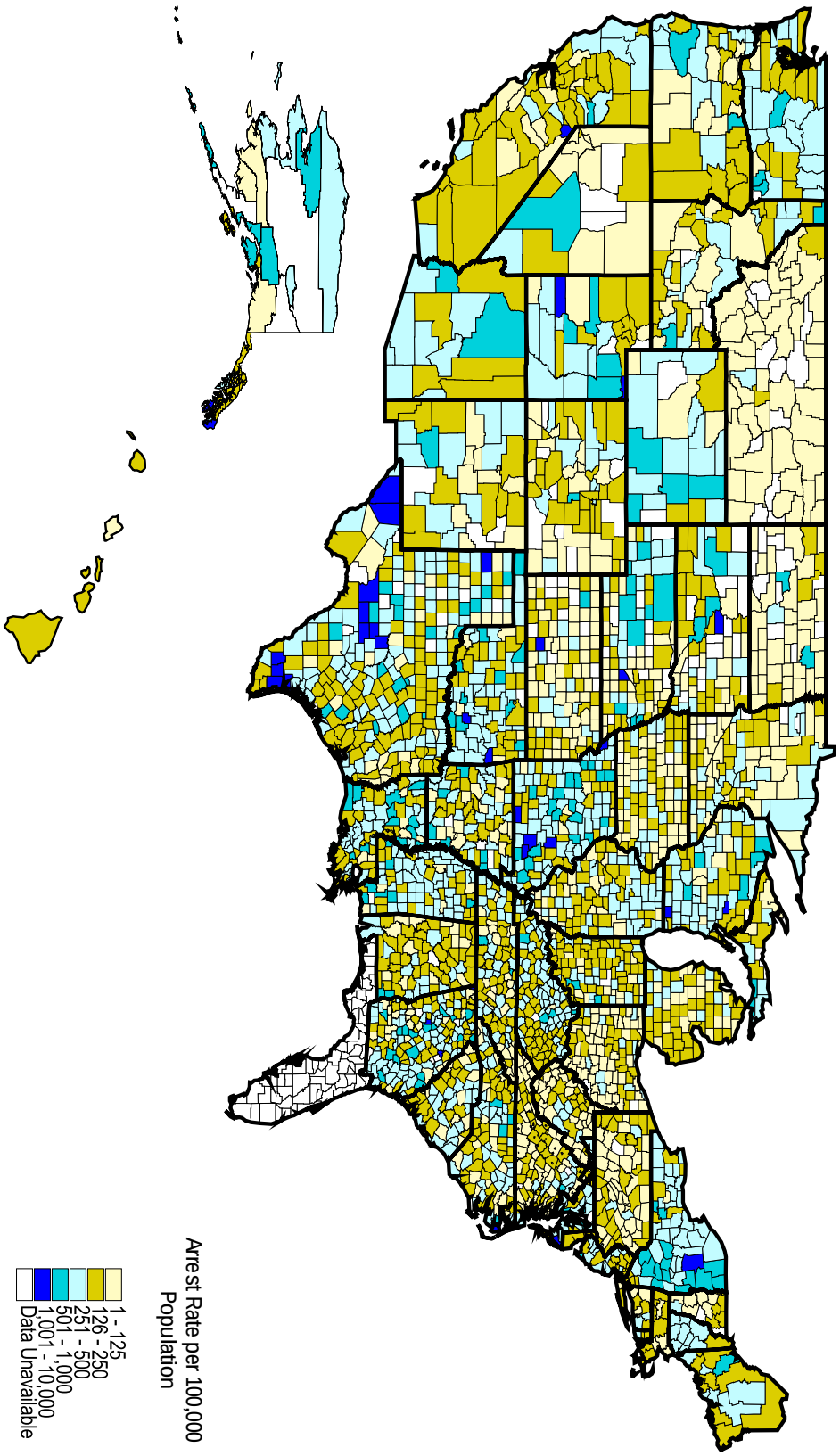
Region	Coverage Population	Arrests	Arrest Rate	Arrests (Blacks)	Pct of Arrests (Blacks)
Prince George's County, MD	823,314	958	116.36	716	74.74%
Maryland	5,455,391	16,711	306.32	7,976	47.73%
United States	242,103,600	485,513	200.54	127,582	26.28%

3. Demographic-based Arrest Rates. In the examples below the coverage population for Blacks in each region is estimated using Census data on the overall Black population of the region. Since Blacks comprise 65% of the population of Prince George's County this report estimates that Blacks comprise 65% of the coverage population reported in the UCR data for Prince George's County. Estimation of the Black population within the overall coverage population provides a basis for calculating the arrest rates for Blacks in the region. In the example below the same process is used to calculate the arrest rate for Blacks for Maryland and the United States.

	Census Population	Census Population (Black)	Population Pct (Black)	Coverage Population (Black)	Arrest Rate (Black)
Prince George's County, MD	833,084	536,888	64.45%	530,592	134.94
Maryland	5,458,137	1,536,785	28.16%	1,536,012	519.27
United States	288,368,704	36745976	12.74%	30850550	413.55

4. Coverage Indicators. A comparison of the coverage population of the reporting local agencies and the overall census population produces a coverage indicator indicating the extent the reported data represents a particular region and its diversity.

	UCR Population	Census Population	UCR Coverage Pct
Prince George's County, MD	823,314	833,084	98.83%
Maryland	5,455,391	5,458,137	99.95%
United States	242,103,600	288,368,704	83.96%


United States Marijuana Arrest Rates, by County (2002)
Source: Uniform Crime Reports, County File (2002)
Arrest Rate per 100,000 Population
1 - 125
126 - 250
251 - 500
501 - 1,000
1,001 - 10,000
Data Unavailable

Introduction

Federal laws and policies to control the effects of the use and sale of marijuana are a failure.

Marijuana arrests doubled throughout the 1990s with no discernable impact on use, safety, or availability. Indeed many key indicators portray a situation getting worse rather than stabilization or improvement. Use has increased, potency has been on the rise, availability has improved, and prices are down. The public costs of marijuana arrests have increased as these offenses occupy more and more of police time and resources. The private costs of these policies have escalated as well with some 700,000 people arrested annually. The social costs, though, also include demographic impacts and their effect on society. Marijuana possession and sales arrests disproportionately impact young males between the ages of 15 and 24 as well as black adults, an impact that has likely intensified as marijuana arrests have increased. These disproportionate impacts nurture alienation from the rule of law, a social cost that should not be trivialized.

The fiscal and social costs of marijuana arrests have long been a burden to state and local governments. Many states and municipalities have created significant exceptions to criminal penalties for offenses involving small amounts of marijuana, particularly possession for personal use.

However an examination of the characteristics of marijuana purchases and the demographic characteristics of drug sellers indicate the extent these local policy decisions have influenced the market for and the availability of marijuana. One especially revealing piece of data is an estimate by the National Survey on Drug Use and Health (NSDUH) that there were over 1 million drug sellers in 2002 under the age of 18 – an obvious factor in the continued availability of marijuana to teenagers and adolescents.

Marijuana policy is one in which federal responsibilities are delegated to the states and neither are held accountable for the results. Federal marijuana policy is to prohibit manufacture, distribution, supply, and use of marijuana except for approved research projects. Federal policy relies on state and local law enforcement to deter and prevent marijuana sales to and use by consumers, however states and municipalities can not afford to fully enforce this federal mandate. Federal dependence on local police agencies guarantees inconsistent enforcement of marijuana laws throughout the country, insufficient to accomplish the policy objective of achieving effective control of the marijuana market. Such control continues to elude federal, state, and local authorities and has for the last generation.

Policy analysis is about results. Does a policy produce its intended result and who does it affect? The role of mathematics in policy analysis is the same as it is in science. The purpose of numbers is to provide measurement, of course, but their real function is to provide certainty. There is a considerable amount of data available in the field of drug policy, particularly with respect to marijuana use and the enforcement of marijuana laws in the United States. There is ample data available to review the performance of marijuana policy over the last few decades. Marijuana arrests increased dramatically in the 1990s. Did this policy produce its intended results of reducing the

social cost of marijuana use?

Marijuana laws and more importantly marijuana arrests are instruments of policy. They are used by policy makers at various levels of government in attempts to achieve specific objectives.

The relative harshness of state penalties for marijuana possession and sales is subject to the discretion of state legislatures. The level of enforcement of arrests for marijuana possession and/or sales is subject to the discretion of police and prosecutors. The use of discretion in enforcing marijuana prohibition is not arbitrary, but instead reflects deliberate policy decisions by policy makers.

The policy may be as simple as sending a message to youngsters that marijuana use will not be tolerated, or it may involve a more sophisticated strategy to disrupt local drug markets by increasing arrests for both possession and sales in particular areas of a city. Nonetheless, marijuana arrests have costs and benefits just like any other instrument used to achieve public policy objectives.

Marijuana arrests emerged as a significant law enforcement activity between 1965 and 1970. According to the National Commission on Marihuana and Drug Abuse:

> Arrests, prosecutions, convictions and sentences of imprisonment all increased at both the federal and state levels. Marihuana [sic] arrests by the U.S. Bureau of Customs increased approximately 362% from fiscal year 1965 to 1970. Arrests by the Bureau of Narcotics and Dangerous Drugs, an agency which concerns itself primarily with sale, rose 80% from 1965 to 1968. Because major responsibility for enforcing the possession laws lies at the state level, state arrests rose dramatically (1,000%) during the five years from 1965 to 1970. [1]

Most marijuana arrests were accidental in nature, according to the Commission:

> There was little formal investigative effort to seek out violators of the possession laws [by 1971]. Instead, 69% of all marihuana arrests arose from spontaneous or accidental situations where there had been no investigation at all. Well over half of these spontaneous arrests occurred when police stopped an automobile and saw or smelled marihuana. The remaining spontaneous arrests occurred when police stopped persons on the street or in a park and discovered marihuana. [2]

This 1972 Commission concluded that:

> The salient feature of the present law has become the threat of arrest for indiscretion. The high percentage of cases which, after arrest, are disposed of by dismissal or informal diversion attests to the ambivalence of police officials, prosecutors and judges about the appropriateness of existing law. Anyone processed through the entire system does run a risk of incarceration, especially when the individual had a prior record and the offense was sale or possession of a significant amount. [3]

[1] National Commission on Marihuana and Drug Abuse. (1972) Marijuana: A Signal of Misunderstanding. Washington, D.C.: Government Printing Office. [Reprinted as a Signet Special. New York: New American Library.] http://www.druglibrary.org/schaffer/Library/studies/nc/ncmenu.htm
[2] ibid
[3] ibid

During the 1990s marijuana arrests increased substantially, representing a change in the use of marijuana law enforcement as a policy instrument. An increase in arrests logically suggests an increase in the costs of arrests, in terms of both their fiscal and social costs.

The fiscal costs are fairly obvious. More arrests means that police, magistrates, jail guards, prosecutors, judges, and the rest of the criminal justice system have more cases and reports to file, track, update and otherwise occupy their time, all paid for by the general public.

Arrests also have impacts on individual lives beyond the fiscal cost to the public at large. Marijuana arrests make criminals out of otherwise law-abiding citizens. Indeed the primary consequence of marijuana arrests is the introduction of hundreds of thousands of young people into the criminal justice system.

The substantial increase in marijuana arrests in recent years has increased both the fiscal and social costs. However these costs must be measured against any benefits that have resulted from this change in policy.

Marijuana arrests are instruments of a supply-reduction policy with costs and benefits. For example, according to the 2004 National Drug Control Strategy Report:

> The drug trade is a profit-making business, one whose necessary balance of costs and rewards can be disrupted, damaged, and even destroyed. The main reason supply reduction matters to drug policy is that it makes drugs more expensive, less potent, and less available. Price, potency, and availability are significant drivers of both addicted use and casual use. [4]

This report will document the increase in arrests, evaluate its potential benefits, and clarify its costs in terms of target populations. Among the benefits to be examined will be the impact marijuana laws have on several widely watched policy indicators monitoring such things as use, potency, and price.

Arrests are the ultimate form of supply reduction. As the National Drug Strategy Report suggests, if arrests go up substantially then other key indicators should go down. This can be portrayed and investigated graphically. The relationships between arrest rates and these indicators can also be investigated statistically. This analytical approach will be discussed and applied to the available data at the end of section 2.

The Uniform Crime Reports (UCR) Program of the Federal Bureau of Investigation (FBI) collects data on arrests from local police departments, including data on the offense and the age, sex, and race of the individual arrested. UCR data also includes the coverage population for the reporting police agency. This local agency data can be summarized at the county, state, and national level.

The Census Bureau publishes annual population estimates, also by age, sex and race. This data is also available at the county, state, and national level. The National Survey on Drug Use and Health (NSDUH) is conducted by the Substance Abuse and Mental Health Services Administration (SAMHSA) of the Department of Health and Human Services (HHS). NSDUH collects national data on a wide range of topics including drug use and sales as well as the age, sex, and race of the individual responding to the survey, as well as data on

[4] Office of National Drug Control Programs. National Drug Control Strategy – 2004. Washington, D.C.: Office of National Drug Control Programs. Page 31.

the prevalence of marijuana use at the state level.

The UCR data provides the population for the police agency's coverage area. But while data is available on the number of arrests according to different demographic characteristics, the population sizes of these sub-groups is not. Census data, though, provides a basis for estimating the sizes of subpopulations in UCR coverage areas on a county, state, and national basis. Census data indicates the composition of a county on both a real and percentage basis. The percentage breakdown of a local region by age, sex, or race can be used to determine the sizes of these sub-groups in the corresponding collection of police agency coverage areas in the same county. Thus arrest rates for the entire population can be calculated using the UCR coverage population data and arrest rates for various sub-populations can be calculated using these coverage populations and sub-population percentages derived from the US Census data.

While UCR and Census data can be combined on the basis of similar regions, UCR and NSDUH data can also be combined on the basis of similar demographic sub-populations. NSDUH provides estimates of the number of annual marijuana users by age and sex. This NSDUH data can be combined with data on the number of arrests by age and sex to calculate arrest rates based on the number of users of a particular age and sex. Arrest rates based on the number of users by race are also obtainable. Similar rates can be calculated using data on the number of drug sellers.

These three primary data sets are used in other ways. One important approach will be to compare the composition of the group of people arrested for marijuana offenses with the composition of both the group of people who use marijuana, for example, and the general population. Sub-groups in which marijuana use is more popular than the general population will have greater representation in the group of users then in the general population. Also, sub-groups that are arrested more often than others will have greater representation in the group of people arrested than in the group of users or in the general population. The UCR data can also be used to examine trends over time in arrests and arrest rates at the national, state, and local levels. The NSDUH data characterizes both the population of marijuana users and sellers as well as provides data on the characteristics of marijuana purchases.

Three forms of UCR program data will be used. The master file provides raw local agency level data on the age, sex, and race of arrests. The county file includes estimates of arrests for many areas with incomplete agency level reporting. The annual report Crime in the United States (CIUS) provides a national estimate for arrests. The CIUS data will be used to review national trends in arrests and arrest rates over time. The master file data will be used to examine the extent of arrests for marijuana possession and sales in population sub-groups, as well as marijuana arrest rates at the local level. The county file will be used to provide multi-year summaries of arrests and arrest rates at various regional levels. Arrest rates from each of these UCR sources will reflect the differences in the original files.

The National Drug Intelligence Center (NDIC) is part of the U.S. Department of Justice and a member of the U.S. intelligence community. NDIC was established in 2000 as the principle center for strategic drug counter drug intelligence. Excerpts from NDIC's 2004 National Drug Threat Assessment will be presented in relevant sections of this report in order to provide the reader with a balanced perspective on the characterization

of recent trends in important indicators. [5]

Section 1 will present NSDUH data on the demographics of marijuana use, the characteristics of marijuana purchases, and the demographics of drug selling. This data describes the behavior and economic decisions of the individuals national policy seeks to influence and is essential to evaluating its success of failure. Table 1 summarizes data on the number of marijuana users and drug sellers in each of selected age groups. Not only do a million under-18-year-olds sell drugs, presumably to members of their own age group as well as to younger customers, but Table 1 also indicates that there is a drug seller between the ages of 13 and 17 for every 3.6 marijuana users between the ages of 13 and 17, the highest ratio of any age group reviewed.

National trends in marijuana arrests, arrest rates, and annual marijuana use will be examined in section 2. The CIUS trend data will be compared to trends in other important indicators used to evaluate policy at the federal level. This evaluation of marijuana arrests as a tool of national policy will be presented in Section 2. These comparisons will initially take the form of two-scale graphs, followed up with an examination of correlation coefficients that describe performance and provide a basis for both comparison and policy evaluation. The doubling of marijuana arrests has produced the opposite of the intended effect in every major indicator considered. For example an increase in arrests should produce a reduction in use and the availability of marijuana, however during the 1990s both the use and availability of marijuana increased.

Section 3 of this report will present data on marijuana possession arrests, annual marijuana use, a comparison of population, use, and arrest composition percentages, arrest rates per 100,000 annual users, and arrest rates per 100,000 general population. Five year age groups for both males and females will define age/sex categories. Adult and juvenile categories will sub-divide race categories of White, Black, Indian (Native American), and Asian. Single year age categories for males and females from age 15 to age 24 will also be examined. The primary results of this review are presented in Table 2 in which selected demographic groups are

[5] The web site for the National Drug Intelligence Center (NDIC) is: http://www.usdoj.gov/ndic/index.htm

Table 1. Marijuana Users and Sellers by Sex and Age

	Male Users	Male Seller	Female Users	Female Sellers	Total Users	Total Sellers	Ratio Users: Sellers
Age 13 to 17	2,006,283	749,202	1,846,898	317,080	3,853,181	1,066,281	3.6
Age 18 to 20	2,344,643	688,760	1,783,852	228,667	4,128,495	917,427	4.5
Age 21 to 23	2,045,535	496,792	1,520,428	163,764	3,565,963	660,556	5.4
Age 24 to 34	4,144,004	809,236	2,367,727	233,658	6,511,731	1,042,894	6.2
Age 35 to 49	3,942,623	416,568	2,201,012	127,139	6,143,635	543,707	11.3
Age 50+	1,079,697	168,807	599,726	193,626	1,679,423	362,432	4.6
Total	15,562,785	3,329,364	10,319,643	1,263,933	25,882,428	4,593,297	5.6

Source: National Survey on Drug Use and Health, 2002.

ranked according to the arrest rate for marijuana possession per 100,000 annual users. This rate controls for differences in the prevalence of marijuana use in different demographic use. For example adult blacks are 8.8% of the general population, 11.9% of annual marijuana users, and 23.1% of marijuana possession arrests. The arrest rate per 100,000 population for adult blacks is 524 per 100,000 compared to 200 for the general population using. The arrest rate per 100,000 marijuana users for adult blacks is 4,576 compared to 2,685 for the general population. This is the basis for the conclusion that marijuana law enforcement impacts adult blacks disproportionately. Some of the key findings of this report are summarized in Table 2, which indicates that marijuana law enforcement has its strongest impact on young males and black adults while its weakest impact is on females, whites, and older males.

Marijuana sales arrests will be examined in Section 4. Marijuana sales arrests, a comparison of population, sellers, and arrest composition percentages, arrest rates per 100,000 sellers, and arrest rates per 100,000 general population will be reviewed. Age, sex, and race sub-populations will also be examined.

The penalties and levels of enforcement in different states and local jurisdictions will be compared in Section 5. Data on penalties for marijuana possession and sales at the state level were obtained from the National Organization for the Reform of Marijuana Laws (NORML). Penalties for marijuana possession and sales will be based on one ounce quantities, and maximum penalties will be used for comparisons. Special attention will be paid to the degree of variation in arrests rates among U.S. counties with similar population sizes; the standard deviation from the average rate per population group will be considered. Appendix 1 contains data on the cost of marijuana arrests, an estimate based marijuana arrests as a percentage of all arrests and total law enforcement costs. Appendix 2 contains tables listing the

Table 2. Marijuana Possession Arrests Among Selected Groups

	Percentage of Population	Percentage of Annual Users	Percentage of Possession Arrests	Arrest Rate per 100,000 Population	Arrest Rate per 100,000 Annual Users
Male Age 18	0.72%	3.13%	8.12%	2,252.08	6,140.11
Black Juvenile	3.94%	1.68%	3.31%	167.95	4,660.88
Black	12.74%	13.58%	26.32%	413.55	4,586.62
Black Adult	8.80%	11.91%	23.01%	523.56	4,576.15
Male Age 21	0.74%	3.07%	5.59%	1,522.02	4,310.23
Male	49.12%	60.11%	85.53%	349.15	3,368.13
White Juvenile	19.36%	10.55%	15.24%	185.82	3,420.39
Everyone	100.00%	100.00%	100.00%	200.54	2,367.22
White	80.68%	72.02%	15.24%	179.04	2,371.28
White Adult	61.31%	61.48%	56.91%	157.58	2,191.28
Males Age 35 to 49	11.40%	15.20%	11.01%	1,355.70	1,714.37
Female	50.88%	39.89%	14.47%	57.04	858.75

Sources: United States Census Bureau Population Estimates—State Characteristics [Aggregated] (2002); National Survey on Drug Use and Health (2002); Uniform Crime Reports, Arrests by Age, Sex and Race (2002).

counties and local agencies with the highest marijuana arrest rates for each of 9 population size categories. (Missing data from states that do not report to the UCR program prevent these lists from providing comprehensive rankings.) Appendix 4 lists the minimum penalty for marijuana possession at the state level.

A framework for policy analysis is provided in the final section of this report. Section 6 introduces some fundamental aspects of cost-benefit analysis for evaluating drug control system originally presented by John Kaplan in 1972. Kaplan describes an analytical approach that compares the ability of a control system to increase the benefits available from a drug while reducing the harm of the drug as well as the fiscal and social cost of the control system. Kaplan participated in a 1982 analysis of marijuana policy by the National Research Council (NRC) that is introduced in section 6 in order to provide a context for assessing the data presented in this report.

The original 1982 NRC analysis is provided in Appendix 5. The NRC analysis included a review of recent research findings on marijuana and health at that time and concluded that the effects of marijuana use were not dangerous enough to over-ride other policy considerations. The NRC committee recommended further study and debate over replacing the current prohibition policy with a regulatory approach. Appendix 6 contains a contemporary review of research findings on marijuana and health that supports renewing the basic recommendation of the NRC report.

Marijuana prohibition was ineffective as a drug control policy in the 1960s. Marijuana prohibition was ineffective in the 1970s. Marijuana prohibition was ineffective in the 1980s. Throughout these three decades marijuana use became and remained widespread throughout American society. Marijuana arrests were doubled in the 1990s and marijuana prohibition has remained just as ineffective as ever. Based on the data presented in this report and predicated on a well-established framework for analysis, this report recommends serious national debate over replacing the current prohibition policy of marijuana control with a regulatory policy that provides legal access to marijuana for adults and removes the profit incentive for sales among teenage users.

1. Marijuana Use, Purchases, and Sales

The Demographics of Marijuana Use This part describes the population of people who use marijuana on an annual basis. One half of annual marijuana users are under the age of 26. Males account for 60% of annual marijuana users. Whites account for 72% of annual marijuana users and blacks account for 13%.

Characteristics of Marijuana Purchases This part summarizes NSDUH data on how users acquire marijuana. According to this data 40% of users obtain and provide marijuana for their own use and the use of the other 60% of marijuana users. Marijuana is purchased from friends in small quantities, and as age increases marijuana is increasingly purchased in private places. NSDUH data indicates that 25.7 million annual marijuana users rely on 4.6 million marijuana sellers, 45% of who only sell marijuana a couple of times a year. Most marijuana sales are small transactions within a small circle of friends. On average, every county in the country has over 1,400 sellers of illicit drugs.

The Demographics of Drug Selling This part describes the population of people who sell drugs on an annual basis. Nearly one-fourth (23%) of drug sellers are under the age of 18; there are over 1 million minors selling drugs, most likely to other minors. Males account for 75% of drug sellers under the age of 18.

The Demographics of Marijuana Use

The 2002 National Survey on Drug Use and Health (NSDUH) was significantly improved over prior national drug use surveys. The 2002 survey utilized new methods to encourage respondents to complete the survey.

The 2001 National Household Survey (NHSDA, the predecessor of NSDUH) produced an estimate of 21.1 million annual marijuana users, an increase from 18.6 million in 2000. The 2002 NSDUH survey produced an estimate of 25.7 million annual marijuana users, which was later revised to 25.9 million. (See Tables 3, 4.) Because of improvements and modifications to the survey this figure can not be easily compared with earlier estimates. Marijuana use did not jump from 21.1 million in 2001 to 25.7 million in 2002. Indeed, it is more reasonable to conclude that marijuana use was significantly higher in prior years than indicated by NHSDA data.

According to NSDUH, 50% of annual marijuana users are under the age of 26, males account for 60% of users and 28% of users under the age of 26. Female users account for 23% of the under 26 users and

Table 3. Monthly, Annual, and Lifetime Marijuana Use by Age Group (2002)

	Monthly Use Estimate (1000's)	Annual Use Estimate (1000's)	Lifetime Use Estimate (1000's)
All			
Age 12 to 17	2,023	3,905	5,104
Age 18 to 25	5,376	9,238	16,680
Age 26+	7,185	12,612	73,162
Age 18+	12,561	21,850	89,842
Total (Age 12 and Older)	14,584	25,755	94,996
Males			
Age 12 to 17	1,152	2,064	2,714
Age 18 to 25	3,262	5,251	8,723
Age 26+	4,788	8,184	39,752
Age 18+	8,050	13,435	48,475
Total (Age 12 and Older)	9,202	15,499	51,189
Females			
Age 12 to 17	871	1,841	2,391
Age 18 to 25	2,133	3,987	7,957
Age 26+	2,378	4,428	33,409
Age 18+	4,511	8,415	41,366
Total (Age 12 and Older)	5,382	10,256	43,757

Source: National Survey on Drug Use and Health (2002).

Figure 1. Annual Marijuana Users Age 12 to 20, by Sex (2002)

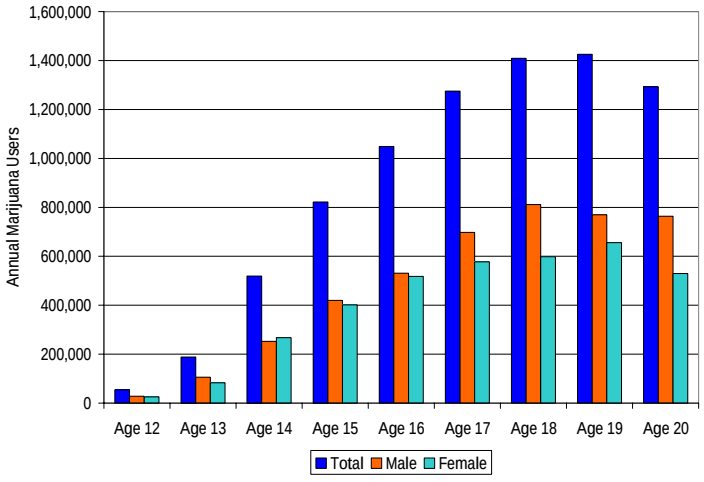


Table 4. Annual Marijuana Use by Age, Race, and Selected Age Categories (2002)

Total	White	Black	Indian	Pacific	Asian	Multi-Racial	Hispanic	Total
Age 12	39,606	4,279	1,672	190	0	0	7,914	53,661
Age 13	111,247	21,603	3,714	0	4,646	3,022	44,095	188,327
Age 14	360,652	43,516	7,870	78	2,861	12,440	91,676	519,093
Age 15	578,280	87,487	9,143	3,151	7,980	11,662	124,099	821,802
Age 16	721,450	129,803	18,829	1,293	28,179	15,401	133,993	1,048,946
Age 17	924,394	148,928	7,658	1,137	7,519	24,556	160,821	1,275,012
Age 18	985,509	145,450	15,542	14,251	39,843	30,262	178,910	1,409,766
Age 19	1,047,104	150,643	17,160	1,301	33,385	38,405	137,588	1,425,586
Age 20	924,019	152,751	6,537	934	41,486	25,429	141,987	1,293,143
Age 21	955,343	174,369	18,252	12,865	17,912	28,194	202,004	1,408,939
Age 22 to 23	1,481,980	263,575	25,285	13,614	44,780	36,630	291,159	2,157,023
Age 24 to 25	1,073,446	201,128	7,007	3,715	38,985	24,091	178,064	1,526,435
Age 25 to 29	1,724,690	463,840	10,376	4,319	14,594	18,702	280,872	2,517,392
Age 30 to 34	1,708,742	347,314	9,706	12,465	57,027	37,424	295,228	2,467,904
Age 35 to 49	4,665,592	993,564	28,839	0	20,940	83,257	351,442	6,143,634
Age 50 to 64	1,260,621	182,597	23,280	3,328	0	0	8,198	1,478,022
Age 65 and +	117,409	12,552	0	0	0	71,440	0	201,401
All Age	18,680,083	3,523,397	210,866	72,639	360,137	460,915	2,628,050	25,936,087
Young Males	**White**	**Black**	**Indian**	**Pacific**	**Asian**	**Multi-Racial**	**Hispanic**	**Total**
Age 12	20,012	2,697	0	0	0	0	5,551	28,260
Age 13	49,563	12,154	2,346	0	4,646	2,750	34,012	105,471
Age 14	163,630	20,289	3,839	0	0	6,053	58,212	252,023
Age 15	309,408	34,248	6,824	2,653	2,943	9,254	54,906	420,236
Age 16	369,033	78,341	4,203	766	9,160	4,974	64,562	531,038
Age 17	506,110	89,438	2,643	172	3,864	7,672	87,617	697,515
Age 18	570,488	88,346	7,476	12,125	18,546	22,480	92,093	811,555
Age 19	545,669	82,301	3,764	829	19,286	18,075	99,727	769,652
Age 20	517,451	91,246	4,846	0	23,235	20,017	106,640	763,436
All Males	11,100,019	2,287,570	114,876	53,246	151,867	307,765	1,575,700	15,591,043
Young Females	**White**	**Black**	**Indian**	**Pacific**	**Asian**	**Multi-Racial**	**Hispanic**	**Total**
Age 12	19,594	1,583	1,672	190	0	0	2,363	25,401
Age 13	61,685	9,448	1,367	0	0	272	10,083	82,856
Age 14	197,022	23,227	4,030	78	2,861	6,387	33,464	267,070
Age 15	268,872	53,239	2,319	498	5,037	2,409	69,193	401,567
Age 16	352,417	51,462	14,626	527	19,018	10,427	69,431	517,908
Age 17	418,285	59,490	5,015	965	3,655	16,884	73,204	577,497
Age 18	415,021	57,103	8,065	2,125	21,296	7,782	86,818	598,211
Age 19	501,434	68,342	13,396	472	14,099	20,329	37,861	655,934
Age 20	406,568	61,505	1,691	934	18,250	5,411	35,347	529,707
All Females	7,580,064	1,235,827	95,990	19,393	208,270	153,150	1,052,350	10,345,044

Source: National Survey on Drug Use and Health (2002).

17% of the over 25 users. Overall a considerable number of annual marijuana users are young (under age 26), and/or white, and/or male. Figure 1 shows the numbers of annual marijuana users for each age under 21 and Figure 2 indicates the population estimates for age 21 and older age groups.

Whites account for 72% of annual marijuana users and blacks account for 13.6%. (See Table 5.) However, while blacks account for 13.6% of annual marijuana users they also account for 26% of marijuana possession arrests. (See Table 27.) Comparisons of use, arrest, and population data are discussed in further detail in section 3.

The conventional categories used by NSDUH or reporting on marijuana use are Ages 12-17, Ages 18-25, and Ages 26 and above. Another conventional approach is to utilize five year categories, such as Ages 15-19, Ages 20-24, etc. These categories mask an important trend that is revealed by examining the 15 to 24 age group in smallest increments allowed by the original raw data. (See Table 3, Figure 1.)

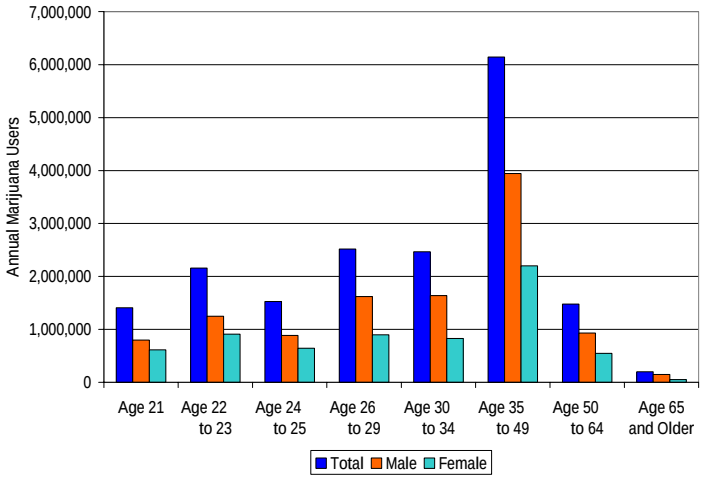
Representation in the population of annual marijuana users increases year to year

Table 5. Annual Marijuana Users (2002)

	Male	Female	Total
Age 13 to 14	1.38%	1.35%	2.73%
Age 15	1.62%	1.55%	3.17%
Age 16	2.05%	2.00%	4.04%
Age 17	2.69%	2.23%	4.92%
Age 18	3.13%	2.31%	5.44%
Age 19	2.97%	2.53%	5.50%
Age 20	2.94%	2.04%	4.99%
Age 21	3.07%	2.36%	5.43%
Age 22 to 23	4.82%	3.50%	8.32%
Age 24 to 29	9.66%	5.93%	15.59%
Age 30 to 34	6.32%	3.20%	9.52%
Age 35 to 49	15.20%	8.49%	23.69%
Age 50 to 64	3.59%	2.11%	5.70%
Age 65 +	0.58%	0.20%	0.78%
All Ages	60.11%	39.89%	100.00%
	Juvenile	**Adult**	**All**
White	10.55%	61.48%	72.02%
Black	1.68%	11.91%	13.58%
Indian	0.19%	0.62%	0.81%
Asian	0.20%	1.19%	1.67%
All Races	12.64%	75.45%	100.00%

Source: National Survey on Drug Use and Health (2002). Race percentages do not add up to 100 because of additional racial groups not listed.

Figure 2. Annual Marijuana Users Age 21 and Older, by Sex (2002)



National Drug Threat Assessment: Adult Marijuana Use

Demand for marijuana is at high levels throughout the United States. More than 25 million persons aged 12 or older reported using marijuana in the past year, according to 2002 NSDUH data, representing 11.0 percent of the U.S. population over the age of 12. NSDUH data further show that percentages are high across various demographics as well. Among three primary age groups, rates of past year marijuana use were higher for those aged 12 to 17 (15.8%) and 18 to 25 (29.8%) than those 26 or older (7.0%). Past year use was higher for males (13.6%) than females (8.4%) and higher for non-Hispanics (11.2%) than Hispanics (9.0%).

National-level prevalence studies suggest that among adult users, marijuana use is highest among younger adults. [Data from the Monitoring the Future Study], for example, show that rates of past year marijuana use for college students aged 19 to 22 were 35.6 and 34.7 percent in 2001 and 2002, respectively. In those same years, rates for young adults aged 19 to 28 were 29.2 and 29.3 percent. The most recent data from NSDUH show that 33.4 percent of adults aged 18 to 20 and 27.4 percent of those aged 21 to 25 reported past year marijuana use in 2002, compared with 14.2 percent of adults aged 26 to 34 and 5.3 percent of those 35 and older.

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to age 18 and 19, where it peaks before diminishing for the mid-twenties and older groups. (See Tables 4, 5.) Marijuana use for these individual year age groups will be combined with population and arrest data in subsequent sections for more detailed analysis.

The use of marijuana is more prevalent among people under the age of 25, and this age group also provides a significant share of people arrested for marijuana possession. But the significant group to examine is age 16 to age 21. The prominent representation of the 16 and 17 year olds in arrest and usage data is obscured when it is averaged in with the lower use of 13 to 15 year olds. The prominent representation of 18 to 21 year olds is diluted by being averaged in with the lower representation of 22 to 25 year olds. This statistical artifact suggests that marijuana use and arrests peak somewhere between ages 20 and 24, squarely in adulthood. Instead the year-by-year examination tables 4 and 4 and the comparisons in subsequent sections demonstrate that the prevalence of marijuana use and arrests peak at younger age levels.

The brunt of marijuana law enforcement falls on both adolescents and the youngest adults — on teenagers rather than on young adults approaching their mid-twenties. Demographic data on arrests confirms that marijuana use is more popular among these age groups. A question for further investigation is whether or not these greater usage levels explain greater arrest levels.

Characteristics of Marijuana Purchases

Sources for Marijuana Purchases

According to data from the 2002 NSDUH , while 39% of marijuana users buy marijuana, 56% of them got it for free or it was shared with them. (See Table 6.) Through age 49, as marijuana users age more of them buy marijuana and less share with their friends or receive it for free. Giving or sharing marijuana with someone is a felony distribution offense under the laws of most states, yet this is a common practice among marijuana users.

An important characteristic of marijuana consumption is that 40% of users obtain and provide marijuana for the other 60%. While criminal laws may establish some constraints on the number of suppliers and the level of availability they have also established an environment in which 60% of marijuana users rely on and encourage the other 40% of users to commit minor, but nonetheless, felony criminal offenses.

People buy marijuana from friends (73%) rather than strangers (14%). (See Table 7.) The proportion of users who buy marijuana from a stranger is more prominent among younger users, growing from 13% among teens to over 18% among 21 to 23 year olds before reducing as age increases. Young users are less likely to get marijuana from family members than older users; at age 24 this proportion increases from about 2.3% to between 5% and 6% of older age groups.

Table 6. Acquisition of Marijuana, by Age Group

	Age 13 to 17	Age 18 to 20	Age 21 to 23	Age 24 to 34	Age 35 to 49	Age 50+	Total
Bought It	31.43%	38.02%	40.28%	39.44%	43.61%	35.83%	38.88%
Traded for it	1.72%	0.92%	1.19%	1.14%	1.65%	0.57%	1.29%
Got it free/ shared	60.84%	58.11%	56.96%	57.10%	49.26%	57.87%	55.94%
Grew it	0.70%	0.52%	0.43%	0.28%	0.93%	1.74%	0.65%
Method Unspecified	5.30%	2.43%	1.14%	2.04%	4.54%	3.99%	3.24%

Source: National Survey on Drug Use and Health (2002).

Table 7. Source of Marijuana, by Age Group

	Age 13 to 17	Age 18 to 20	Age 21 to 23	Age 24 to 34	Age 35 to 49	Age 50+	Total
Friend	72.34%	75.22%	75.11%	72.25%	73.57%	70.74%	73.30%
Relative or Family Member	2.38%	2.31%	2.28%	5.01%	6.60%	6.17%	4.25%
Someone Just Met/ Did not Know	13.16%	16.68%	18.59%	16.44%	10.29%	7.37%	14.29%
Source Unspecified	12.12%	5.80%	4.03%	6.30%	9.54%	15.71%	8.16%

Source: National Survey on Drug Use and Health (2002).

An important distinction between teenagers and adults is established in where they buy marijuana - the location of their last marijuana purchase. The age group 13 to 17 is the most likely (22%) to buy marijuana outside in a public place; this proportion drops with age to 5% for users age 50 and over. (See Table 8.) Overall 52% bought marijuana inside a home, apartment, or dormitory. This proportion increased from a low of 33% among 13 to 17 year olds to 61% for age 21 to age 24.

The most common sources and locations used for acquiring marijuana place limits on the impact of law enforcement on the retail marijuana trade. Police have four basic tactics for making marijuana sales arrests. The first is luck, in which in the course of their normal duties police come across someone engaged in commercial activity. Otherwise police rely on sweeps of public drug markets, the use of undercover police officers posing as marijuana sellers, and pressuring people arrested for other offenses to inform on any marijuana sellers they know. However, only 15% of marijuana users make purchases in public areas susceptible to police disruption, and only 15% buy marijuana from strangers or people they've just met - such as undercover law enforcement officers. Only 12.42% of marijuana buyers resell marijuana. (See Table 9.) This is also a practice that declines with age. While 20% of 13 to 17 year olds resell

Table 8. Location of Last Marijuana Purchase, by Age Group

	Age 13 to 17	Age 18 to 20	Age 21 to 23	Age 24 to 34	Age 35 to 49	Age 50+	Total
Inside a Public Building	4.31%	4.87%	3.85%	3.85%	5.15%	9.21%	5.13%
Outside in a Public Area	22.24%	17.51%	14.34%	14.34%	13.47%	5.18%	15.07%
Inside School	8.00%	1.51%	0.59%	0.59%	0.00%	0.00%	1.52%
Outside on School Property	3.26%	1.04%	0.63%	0.63%	0.42%	0.00%	0.92%
Inside Home, Apt,Dorm	32.98%	52.23%	60.94%	60.94%	56.74%	52.66%	52.56%
Some Other Place	17.42%	16.37%	15.54%	15.54%	15.35%	17.24%	16.74%
Location Unspecified	11.79%	6.48%	4.11%	4.11%	8.87%	15.71%	8.06%

Source: National Survey on Drug Use and Health (2002).

Table 9. Marijuana Buyers Who Resell

	Age 13 to 17	Age 18 to 20	Age 21 to 23	Age 24 to 34	Age 35 to 49	Age 50+	Total
Yes	20.06%	12.55%	9.84%	7.13%	6.29%	4.76%	12.42%
No	79.94%	87.45%	90.16%	92.87%	93.71%	95.24%	87.58%

Source: National Survey on Drug Use and Health (2002).

marijuana only 10% of 21 to 23 year olds do so. Among users 50 and older only about 5% resell marijuana. Instead marijuana buyers indulge their friends by sharing or giving marijuana away. (See Table 10.)

Friends are the source of free marijuana for 75% of users, and another 11% who get free marijuana get it from family or relatives. These transactions also tend to take place inside a home, apartment or dormitory (62%) rather than in public areas (9%) or in schools (1.2%). Consequently it is no surprise that 75% of marijuana buyers give some away or otherwise share it with their friends, though this trend decreases with age from near 80% in the 13 to 17 age group to near 48% in the 50 plus age group.

Availability

An earlier section presented data on the availability of marijuana to high school seniors. Data from the 2002 NSDUH provides similar results - 79% of those 18 to 20 find marijuana is fairly or very easy to get. (See Table 11.) Overall only 56% of Americans find marijuana fairly or very easy to get, but this figured is skewed by the age 50 and older group in which only 41% find marijuana very available. Despite intensified possession arrest rates concentrated among the 18 to 20 age group, the group still experiences the greatest access to marijuana. Nonetheless current marijuana control policies appear to have succeeded only in reducing the availability of marijuana of Americans age 50 and older.

Small Quantities Determine the Market

Another distinguishing characteristic of marijuana purchases is the small quantity involved in most transactions. Easy availability allows for convenient re-supply and also minimizes the legal risk of possessing larger amounts of marijuana, which often carry the risk of prosecution for possession with intent to distribute.

Table 10. Percent of Marijuana Buyers Who Give It Away

	Age 13 to 17	Age 18 to 20	Age 21 to 23	Age 24 to 34	Age 35 to 49	Age 50+	Total
Yes	79.66%	77.74%	76.32%	72.99%	62.70%	47.62%	75.63%
No	20.34%	22.26%	23.68%	27.01%	37.30%	52.38%	24.37%

Source: National Survey on Drug Use and Health (2002).

Table 11. Availability of Marijuana, by Age Group

	Age 13 to 17	Age 18 to 20	Age 21 to 23	Age 24 to 34	Age 35 to 49	Age 50+	Total
Difficult to get	37.27%	20.21%	22.31%	30.77%	37.29%	52.02%	40.12%
Fairly or Very Easy	60.74%	78.69%	76.47%	66.75%	59.42%	40.63%	55.69%

Source: National Survey on Drug Use and Health (2002).

Almost 2/3 of marijuana purchases consist of less than 1 ounce and 40% of purchases are less than 1/3 ounce (less than 9.5 grams). (See Table 12.) The youngest group, age 13 to 17, was the most likely to purchase the smallest amount of marijuana.

About 30% of those 18 or older purchased between 1 and 5 ounces. While only a small percentage of buyers purchase more than 5 ounces at a time, excluding the 50 and older group, this practice was most prevalent in the youngest buyers.

Cost of Marijuana, Sinsemilla Purchases

The amount of money paid for marijuana during the last purchase confirms the small amounts involved in most transactions—60% paid less than $51 on their last purchase, and 75% paid less than $101. (See Table 13.)

While the price of marijuana varies with potency, market conditions, and region of the country, these figures are consistent with purchases of marijuana at a price of $250 per ounce, with 60% buying less than a quarter ounce or less and 75% buying less than a half ounce.

The amount paid for the last purchase of marijuana also increases with age. The age group percentage of people who paid from $101 to $150.99 on their last purchase, for example, increases from 2% of the 13 to 17 age group to 4% for the 24 to 34 age group to close to 10% for the 50 and older age group.

People who buy marijuana tend to buy it from friends in private places, and these people tend to share marijuana with their friends rather than re-sell it. Users find marijuana easy to get and tend to buy small amounts. Law enforcement does affect the supply and demand for marijuana, but not in its intended ways. All of these characteristics of marijuana purchases are influenced by criminal penalties for marijuana possession

Table 12. Amount of Marijuana Bought During Last Purchase

	Age 13 to 17	Age 18 to 20	Age 21 to 23	Age 24 to 34	Age 35 to 49	Age 50+	Total
1/8 to 1/4 ounce	32.70%	27.58%	27.49%	22.70%	19.19%	20.00%	26.80%
1/4 to 1/3 ounce	11.99%	13.65%	12.03%	17.76%	19.77%	10.00%	14.39%
1/3 to 1/2 ounce	10.35%	4.46%	4.12%	6.25%	5.81%	20.00%	6.53%
1/2 to 1 ounce	15.26%	17.83%	21.65%	23.36%	24.42%	10.00%	19.67%
1 to 5 ounces	22.62%	30.08%	30.24%	24.67%	29.65%	30.00%	27.19%
5 to 10 ounces	4.09%	4.74%	1.37%	2.63%	1.16%	10.00%	3.17%
10 to 16 ounces	3.00%	1.67%	3.09%	2.63%	0.00%	0.00%	2.24%

Source: National Survey on Drug Use and Health (2002).

Table 13. Amount Paid for Marijuana During Last Purchase

	Age 13 to 17	Age 18 to 20	Age 21 to 23	Age 24 to 34	Age 35 to 49	Age 50+	Total
Less than $5.00	6.28%	4.03%	2.72%	3.43%	2.66%	4.88%	4.12%
$5.00 to $10.99	28.41%	17.51%	14.53%	11.99%	8.23%	9.76%	17.86%
$11.00 to $20.99	25.42%	22.54%	19.80%	17.67%	11.38%	12.20%	20.82%
$21.00 to $50.99	25.19%	33.93%	40.15%	39.51%	39.23%	34.15%	34.44%
$51.00 to $100.99	8.19%	11.15%	13.44%	16.27%	19.85%	14.63%	12.56%
$101.00 to $150.99	2.14%	3.80%	3.36%	4.18%	5.81%	9.76%	3.55%
$151.00 to $200.99	1.61%	1.08%	1.27%	2.25%	5.33%	4.88%	1.84%
$201.00 to $250.99	0.31%	1.32%	0.73%	1.18%	2.42%	0.00%	0.98%
$251.00 to $300.99	0.69%	0.85%	0.54%	0.75%	0.00%	2.44%	0.67%
$301.00 to $500.99	0.38%	1.70%	1.82%	1.50%	3.39%	4.88%	1.51%
$501.00 to $1000.99	0.77%	0.93%	0.73%	0.43%	0.97%	0.00%	0.77%
More than $1000.99	0.61%	1.16%	0.91%	0.86%	0.73%	2.44%	0.88%

Source: National Survey on Drug Use and Health (2002).

Table 14. Number of Times Drugs Sold in Last Year

	Age 13 to 17	Age 18 to 20	Age 21 to 23	Age 24 to 34	Age 35 to 49	Age 50+	Total
1 or 2 times	53.52%	42.22%	42.30%	46.63%	42.70%	58.99%	45.33%
3 to 5 times	15.14%	17.92%	17.82%	19.51%	22.37%	15.56%	18.82%
6 to 9 times	8.40%	6.60%	9.56%	7.93%	13.44%	9.75%	8.93%
10 or more times	22.94%	33.26%	30.32%	25.93%	21.48%	15.69%	26.92%

Source: National Survey on Drug Use and Health (2002).

and distribution. Law enforcement shapes the market but does not provide any effective means of drug control.

The easy availability of marijuana in small amounts within private social networks requires a large number of sellers. The 2002 NSDUH estimate is that 25,755,000 people use marijuana annually in the United States. Of these 25.7 million people, an estimated 3,600,000 (14%) also sold illegal drugs. In addition 1 million people who did not use marijuana also sold drugs during the year, bringing the total estimate of drug sellers to 4,612,059.

NSDUH data does not indicate what drugs these individuals sold. This report assumes they all sold marijuana for the following reasons. Marijuana is the most commonly used illegal drug in the United States. The NSDUH used to be referred to as the "Household Survey" and does not provide 100% coverage of every aspect of US society.

Because of the nature of NSDUH these data represent a minimum estimate of drug sales, especially by minors. Nearly 2/3 of the sellers estimated by the NSDUH sold drugs 5 times or less in the last year, and 45% of them only sold drugs 1 or 2 times at all. (See Table 14.) Depending on the age group about 1/3 of these sellers are persistent merchants; overall 27% have sold drugs 10 or more times during the year. These figures are consistent with the characteristics of marijuana purchases reported above, such as reliance on

National Drug Threat Assessment: Marijuana Distribution

Marijuana distribution is commonplace in cities and smaller towns and communities across the country, and the domestic marijuana market overall is strong and stable. Throughout the United States a wide range of organizations, groups, gangs, and independent dealers transport—and distribute—marijuana. Often the distinction between transporter and distributor is blurred. Many distributors travel from their home communities to primary markets, such as Houston and Phoenix, to markets on heavily trafficked routes, such as Kansas City and Oklahoma City, or to domestic sources such as California and Kentucky to purchase marijuana that they then transport to and distribute in their local areas.

Mexican [Drug Trafficking Organizations] and criminal groups control the transportation and wholesale distribution of most foreign-produced marijuana and the marijuana they produce in the United States; however, their influence becomes diluted at lower levels, where distributors typically reflect the demographic makeup of the local area. Domestic cannabis cultivators are the primary wholesale, midlevel, and retail distributors of the marijuana they produce. Other marijuana distributors include local independent dealers and organized groups such as street gangs and [Organized Motorcycle Gangs]. [National Drug Threat Survey] 2003 data indicate that 32.9 percent of state and local law enforcement agencies nationwide report that the level of street gang involvement in marijuana distribution is high or moderate, while 14.1 percent report high or moderate involvement of [Organized Motorcycle Gangs]. Marijuana distributors most often range in age from those in their teens to those in their fifties. Marijuana distributors are more often male than female, and they are of diverse origin or race.

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distribution based on networks of friends and easy access to small amounts of marijuana.

These figures indicate that 26 million annual marijuana users rely on 4.6 million marijuana sellers, 45% of whom only sell drugs a couple of time a year. Each of these sellers, on average, accounts for supplying between 4 and 5 people each. Most marijuana sales are small transactions within small circles of friends.

Recognizing the above distribution models law enforcement has long recognized this and frequently emphasizes their strategy of targeting large suppliers of marijuana and other drugs in order to disrupt supply to these smaller networks. Between the 14% of marijuana users who sell marijuana (and/or other drugs), the million non-users who also sell marijuana (and/or other drugs), and the 40% of marijuana users who share marijuana with friends, the overall supply of marijuana in the United States is far too diversified to be controlled by law enforcement, especially considering law enforcement's limited access to essentially private locations where marijuana is bought and sold.

Another indication of the extent of marijuana sales activity is to compare the number of sellers indicated by NSDUH and the number of counties in the United States. An estimated 4.6 million sellers service 3,141 counties, an average of 1,468 potential sources for marijuana in every county in the country.

The 36% of sellers who have sold marijuana (and/or other drugs) more than 5 times a year are comparable to employees of a distribution and sales network. On this basis the nearly 26 million marijuana consumers support a distribution network of 1.6 million people. By comparison distilled spirits are enjoyed by 100 million consumers who support a manufacturing, distribution, and sales network of over 1.3 million people (and supplies over $28 billion in wages and $95 billion in economic activity.) [6] There are enough people involved in the marijuana trade in the United States to create sufficient redundancies and alternative supply systems to maintain easy availability despite law enforcement's best efforts.

The Demographics of Drug Selling

The scope and extent of the social networks utilized to supply marijuana in the United States are indicated by the demographic characteristics of the 4,612,059 drug sellers estimated by the NSDUH. (See Table 15.) There are over a million sellers in the 13 to 17 age group, another one and a half million college-age sellers, and another million between the ages of 24 and 34. (See Table 15, Figure 3.). While three-fourths of drug sellers are white, selling drugs is prevalent in all demographic groups.

The existence of over 1 million drug sellers under the age of 18 is the primary reason marijuana and other drugs are available to teens and younger children. The NSDUH estimate of 25,936,000 annual marijuana users includes 53,661 twelve-year old users. NSDUH data indicates that 32% of 12 year old marijuana users bought their marijuana, while another 40% got it free or through a friend sharing it with them. While 45% of 12 year olds acquired their marijuana in an unspecified location, another 35% acquired marijuana outside in a public area.

There are an estimated 3.9 million annual users of marijuana under the age of 18. It seems likely that the primary sources of marijuana and/or other drugs for these 53,661 twelve-year olds, as well as the other 3.9

[6] The Distilled Spirits Council of the United States. Their web site is:
http://www.discus.org/about/background.htm

million adolescents using marijuana, are these 1,066,281 drug sellers between the ages of 13 and 17, some 750,000 teenage boys and 317,000 teenage girls.

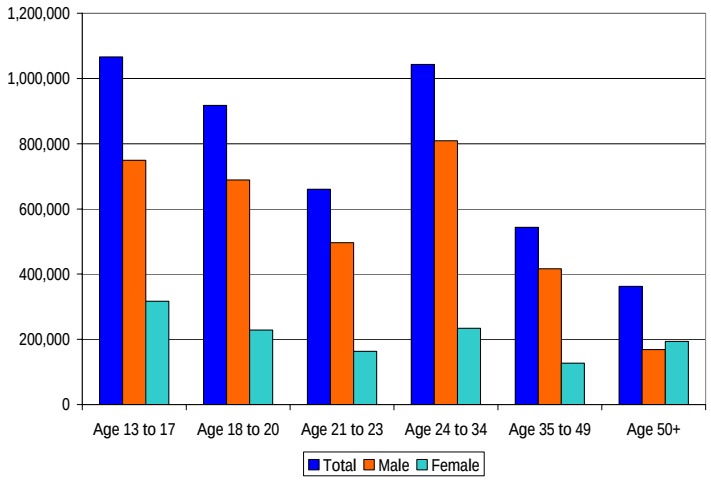
The demographic aspects of marijuana sales arrests are equally as important as those for marijuana possession for two reasons. First of all, law enforcement similarly targets particular groups for arrest for marijuana sales offenses just as with marijuana possession offenses. This is not a question of personal responsibility but policy analysis. The creation of over a million adolescent felony offenders per year, for example, is a policy outcome that can not be overlooked. The second reason the demographics of marijuana sales arrests are important is because it is these demographic characteristics, rather than law enforcement, that control access to marijuana and its general public availability. This problem is both particularly acute and under-reported with respect to teenage drug sales.

Table 15. NSDUH Survey Estimates of Individuals Who Have Sold Illegal Drugs in the Last Year (2002)

	Male	Female	Total
Age 13 to 17	749,202	317,080	1,066,281
Age 18 to 20	688,760	228,667	917,427
Age 21 to 23	496,792	163,764	660,556
Age 24 to 34	809,236	233,658	1,042,894
Age 35 to 49	416,568	127,139	543,707
Age 50+	168,807	193,626	362,432
Total	3,329,364	1,263,933	4,593,297
	Adult	**Juvenile**	**Total**
White	2,416,601	757,194	3,173,796
Black	672,934	136,570	809,505
Indian	24,424	16,125	40,549
Hawaiian-Pacific	14,864	51,049	65,913
Asian	51,049	5,553	56,602
Other	42,895	16,627	59,522
Hispanic	304,249	148,510	452,759
Total	3,527,016	1,085,043	4,612,059

Source: National Survey on Drug Use and Health (2002).

Figure 3. Marijuana Sellers, by Age Group (2002)



2. Marijuana Arrests and National Trends

Recent Marijuana Arrest Trends Total marijuana arrests increased 155% during the 1990s, from 287,850 in 1991 to 734,498 in 2000. The arrest rate increased 129% from 113 per 100,000 population in 1991 to 260 in 2000. In 2002 the marijuana arrest rate was 241, and in 2003 it increased to 259.

Arrests and Marijuana Use Marijuana use declined from 29.9 million annual users in 1979 to 16.3 million in 1992. During the period of increasing marijuana arrests in the 1990s annual use estimates grew from 1992 levels to 21 million annual users in 2001. Improvements in survey techniques contributed to a 2002 estimate of 259 million annual marijuana users. Arrest Rates for annual users doubled in the 1990s. During the 1990s marijuana arrests increased from 1,496 arrests per 100,000 annual users in 1991 (about 1.6%) to 3,435 arrests per 100,000 annual users in 2001 (about 3.4%).

Introduction Arresting people for marijuana-related offenses is a clearly defined policy with widely understood objectives. It is a policy that has been in effect for over 30 years with a dramatic enhancement in enforcement over the last 10 years. Numerous indicators are available for policy evaluation.

High School Marijuana Use Annual use of marijuana among high school seniors dropped from 51% in 1979 to 24% in 1991. While arrests increased during the 1990s annual marijuana use by high school seniors increased to 38% in 1997 before dropping to about 37% in the years 1998 to 2001, and 34.9% in 2003. Monthly use by this group also increased from 14% in 1991 to 22% in 2001.

Risk Perception by High School Seniors The percentage of seniors who agreed there were great risks to regular marijuana use decreased from 77% in 1991 to 55% in 2003.

Marijuana Availability to High School Seniors The percentage of seniors who reported that marijuana was easy to acquire increased from 83% in 1991 to 87% in 2003

New Marijuana Users During the late 1960s and 1970s the number of new marijuana users increased along with the arrest rate. During the 1980s the number of new users diminished each year, and the arrest rate dropped throughout the decade. In the 1990s the number of new users of all ages rose sharply. While the arrest rate soared in the 1990s the mean age of first use of marijuana was 17.2 in both 1993 and 2002.

Drug Treatment Admissions Drug treatment admissions for marijuana increased from 141,000 in 1995 to 283,000 in 2001, an increase of 100%. During this period referrals from the criminal justice system for marijuana treatment increased from 49.3% in 1995 to 58.1% of all admissions in 2002. During this same period all other referrals declined. The number of criminal justice system diversions to drug treatment increased 136% from 1995 to 2002.

Emergency Department Mentions Marijuana mentions in Emergency Room Departments have increased from 45,259 in 1995 to 118,472 in 2002, an increase of 162%. In 2002 only 28% of marijuana mentions involved marijuana alone, accounting for only 2.7% of all mentions.

Marijuana Potency According to government

reports commercial grade marijuana has maintained an average potency of 4.5%. Higher quality sinsemilla increased from 5.8% in 1993 to 13.4% in 1999 before declining to about 9% in 2001.

Marijuana Prices According to the System to Retrieve Information on Drug Evidence (STRIDE) program index for a street purchase of marijuana has dropped from $14.07 per gram in 1990 to $8.80 per gram in 2000, after peaking in 1991 at $23.35. The STRIDE index is based on the estimated price of a pure gram of THC, the active ingredient in marijuana, derived from price reports of marijuana of various potencies. STRIDE reports an annual price index for each of four levels of marijuana sales, and at all four levels the price fell during the 1990s.

Discussion Increased arrest rates are not associated with reduced marijuana use, reduced marijuana availability, a reduction in the number of new users, reduced treatment admissions, reduced emergency room mentions, any reduction in marijuana potency, or any increases in the price of marijuana. Arrests are an ineffective policy tool because they do not achieve important policy objectives.

Recent Marijuana Arrest Trends

Marijuana arrests have increased significantly and are now at their highest levels ever. Total marijuana arrests in the United States increased 155% from 287,850 in 1991 to 734,498 in 2000. (See Table 17, Figure 4.) From 1972 to 1991 marijuana arrests averaged about 400,000 per year. However from 1992 to 2002 marijuana arrests have averaged just over 600,000 per year. From 1991 to 1997 total arrests increased an average of 23% per year. During the six years since then arrests have averaged over 700,000 per year, representing a historic change from the early seventies to the late nineties.

In 2003 there were an estimated 755,186 arrests for marijuana-related offenses (possession and sales). Despite slight dips in arrests immediately following the September 11, 2001 terrorist attacks, marijuana arrests have continued to increase, albeit at a slower rate, during the last several years.

These arrest trends are the results of corresponding changes in the arrest rate for marijuana related offenses. From 1991 to 2000 the arrest rate for marijuana offenses increased 129% from 113 per 100,000 to 260. From 1972 to 1991 the average marijuana arrest rate was 173. The arrest rate increased an average of over 20% per year from 1991 to 1997. During the last five years from 1998 to 2002 the average marijuana arrest rate was just over 250, a historic change from the 1972 to 1991 era average of 173 arrests per 100,000 population. In 2002 the marijuana arrest rate was 241, and in 2003 it increased to 259.

The increase in marijuana arrest rates occurred ten years after a similar increase in the arrest rate for other drug offenses. (See Table 17, Figure 5.) The arrest rate for other

Figure 4. Marijuana Arrests (1965-2003)

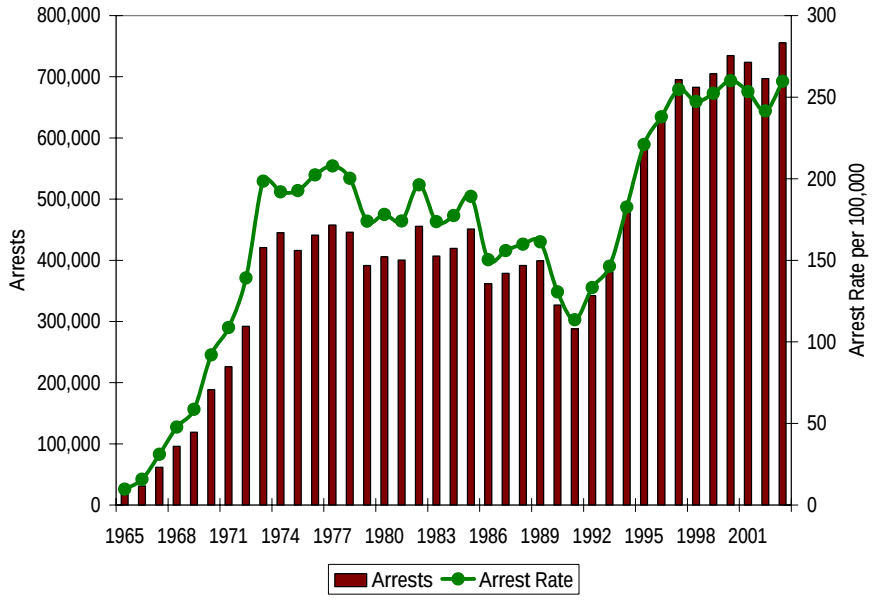
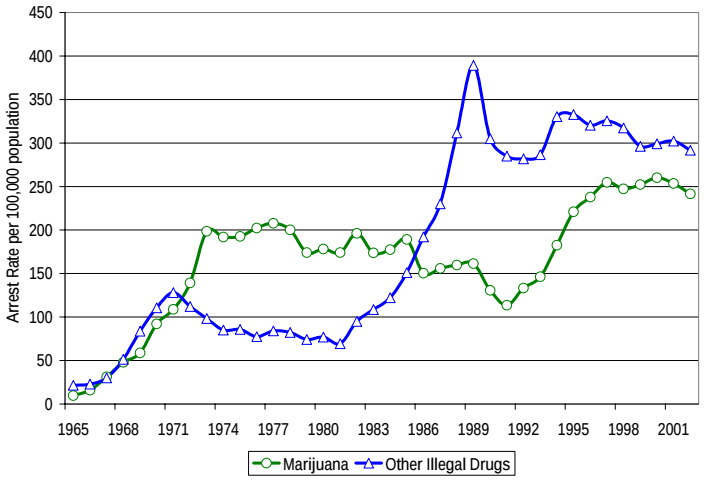


Figure 5. Drug Arrest Rates (1965-2002)

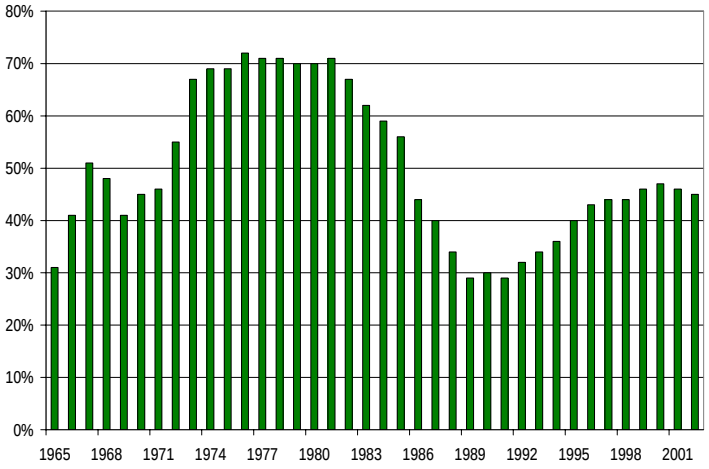


drug offenses rose from 69 per 100,000 in 1981 to 389 in 1989 before settling into an average of 310 for the last ten years of data, from 1993 to 2002. The increase in other drug-related arrests coincided with the emergence and spread of crack cocaine as a major drug control and public health problem.

The initial growth in the arrest rate for marijuana offenses peaked at 207 per 100,000 in 1977. After that marijuana arrest rates fell throughout the 1980s. After hovering near or just below 200 in the 1970s marijuana arrest rates fell from 196 in 1982 to 113 in 1991, accompanied by a reduction in total arrests from 457,000 in 1977 to 288,000 in 1991.

From 1965 to 1975 the increase in marijuana arrests contributed to an overall increase in all drug-related arrests; marijuana

Figure 6. Marijuana as Pct. of All Drug Arrests (1965-2002)



arrests as a percentage of all arrests grew during this period from 31% in 1965 to 69% in 1975. (See Table 17, Figure 6.) During the 1980s this percentage fell from 71% in 1981 to 29% in 1991. Since then marijuana has increased as a percentage of all drug arrests, averaging 46% in the last five years ending in 2002. The increase in marijuana arrests is not due to increases in all drug arrests. (If so, marijuana as a percentage of all drug arrests would remain constant.)

Arrests and Marijuana Use

Marijuana use is measured by national surveys conducted by the Department of Health and Human Services (HHS). Annual use is characterized by acknowledgement of use within the last year by survey respondents. During the 1980s the number of annual users steadily declined. (See Table 18, Figure 7.) The number of annual users fell from 29.9 million in 1979 to 16.3 million in 1992, and then began to increase by small increments during the rest of the 1990s reaching 21 million in 2001. In 2002 HHS utilized an improved survey to estimate that there were actually 25.7 million annual users. In the 1980s decreasing marijuana arrest rates were accompanied by decreasing levels of

National Drug Threat Assessment: Marijuana 2004

Marijuana will remain widely available and used in the United States, and the domestic market for marijuana will remain stable. Reporting from federal, state, and local law enforcement agencies, as well as investigation, arrest, and seizure data, indicates that overall availability is stable, and national-level substance abuse indicators suggest that current high levels of demand for the drug will not soon diminish. Furthermore, the transportation of marijuana from foreign and domestic sources and the subsequent distribution and sale of marijuana in U.S. drug markets are likely to continue with great regularity, fueled by both high demand and steady supplies.

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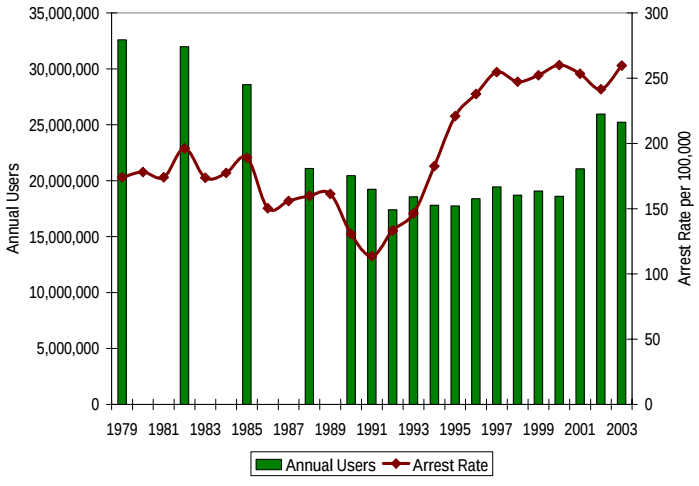
Figure 7. Marijuana Arrest Rates and Annual Use

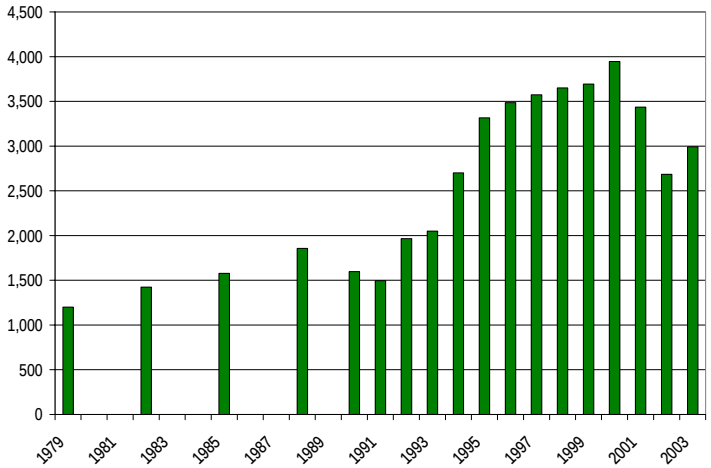


marijuana use. In the 1990s marijuana use increased at a modest pace despite the steadying increasing arrest rate.

Increased usage, though, is not responsible for increases in marijuana arrest rates. Arrest and usage estimates can be combined to produce arrest rates per 100,000 annual users. (See Table 18, Figure 8.) From 1979 to 1988 the arrest rate per 100,000 users steadily increased: 1,201 in 1979, 1,424 in 1982, 1,578 in 1985, and 1,856 in 1988. After a brief lull the rate began to increase again in 1992, increasing from 1,967 in 1992 to 3,435 in 2001. The arrest rate per 100,000 users has averaged 3,660 during the five years ending in 2001. The figures for 2002 and 2003 are lower because new survey techniques significantly increased the estimate of annual marijuana users, consequently lowering the arrest rate per 100,000 users. Nonetheless, this rate increased 11.5% from 2002 to 2003. As an instrument of policy, law enforcement has gone from arresting 1.5% of marijuana users in 1992 to arresting 3% of users in 2002, an increase of 100%.

The increase in the overall marijuana arrest rate indicates that the change is not due to population changes. Changes in all drug arrests do not explain increases in marijuana arrest rates. Increases in the arrest rate per 100,000 annual users suggest that increases in use do not explain increases in marijuana arrest rates. An alternative and likely explanation for increases in marijuana arrest rates is that policy makers and law enforcement decided to increase marijuana arrests.

Figure 8. Marijuana Arrest Rate per 100,000 Annual Users



Marijuana Arrests: Analysis of Benefits

Has the doubling of marijuana arrests produced measurable benefits? Arrests for marijuana offenses are supported by policy makers and the public because, in theory, the illegality of marijuana 'sends a message' that helps minimize teenage use of marijuana and other illegal drugs. Arresting people for marijuana-related offenses is a clearly defined policy with widely understood objectives. It is a policy that has been in effect for over 30 years with a dramatic change in application over the last 10 years, and a policy for which there are numerous indicators available for performance evaluation. Can the increase in marijuana arrests be associated with beneficial changes in any of the widely accepted indicators of drug policy performance?

The Monitoring the Future Study conducted by the University of Michigan provides annual data on drug use, availability, and risk perception according to high school seniors. Changes in the perception of great risk associated with regular marijuana use are strongly and negatively correlated with changes in monthly marijuana use. (See Figure 9.) This relationship was once a standard exhibit used to support contemporary national drug policy. [7] The argument behind this approach is that marijuana use drops when society is vigilant about projecting a consistent anti-marijuana message. According to this argument, increases in marijuana use are due to a lack of vigilance by social leaders and an excess of pro-marijuana messages in the media.

During the last several years, though, both use and risk perception by high school seniors have dropped. Otherwise these data provide evidence that associates a trend (increasing perception of great risk) with a specific outcome (reductions in monthly use.) Can the same initial conclusion be reached regarding arrests and other important indicators?

[7] For example, see Office of National Drug Control Strategy (ONDCP), The National Drug Control Strategy, 1998. Washington, D.C.: ONDCP. Figure 2-2, pg 6; ONDCP, National Drug Control Strategy, Annual Report 2000. Washington, D.C.: ONDCP. Pg 9.

Figure 9. Monthly Use and Perception of Great Risk (1975-2002)

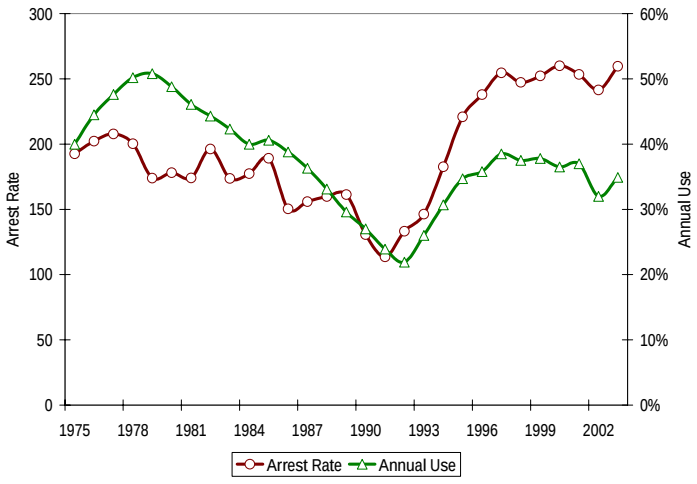
High School Senior Marijuana Use

Annual use by 12th graders dropped during the 1980s while the arrest rate, while fluctuating, dropped over the decade. (See Table 19, Figure 10.) In 1979, 51% of high school seniors had used marijuana in the last year; this figure dropped to only 22% in 1992. Annual use increased in the early 1990s while the arrest rate was increasing dramatically; by 1996 the percentage has increased to 36%, which has been the average for the 5 years ending in 2002.

In 1991 23.9% of high school seniors reported using marijuana in the last year. By 2003 the prevalence of annual marijuana use among 12th graders had increased to 34.9%. A decrease in the arrest rate did not produce an increase in use. An increase in the arrest rate did not produce a decrease in use. The same relationship describes changes in national marijuana arrest rate with changes in monthly marijuana use by high school seniors. (See Table 19, Figure 11.) Monthly use, along with the arrest rate, plummeted during the 1980s; then in the 1990s monthly use and arrests began to rise.

There is no evidence that increasing arrest rates produces a reduction in use or that decreasing marijuana arrests will lead to an increase in use.

Figure 10. Marijuana Arrest Rate and Annual Use of Marijuana by 12th Graders



National Drug Threat Assessment: Adolescent Marijuana Use

Data regarding past year adolescent use of marijuana are relatively high compared with rates of use for other major drugs of abuse; however, some indicators show downward trends. According to MTF data, rates of past year marijuana use in 2002 and 2003 decreased significantly for eighth graders, from 14.6 percent to 12.8 percent. Past year use among tenth and twelfth graders also trended downward, but the changes were not significant. Rates of past year marijuana use in 2002 and 2003 were 30.3 and 28.2 percent for tenth graders and 36.2 and 34.9 percent for twelfth graders. NSDUH 2002 data show that the rates of past year marijuana use for adolescents aged 12 to 13, 14 to 15, and 16 to 17 were 3.1, 15.7, and 29.0 percent, respectively.

[Parents Resource for Information and Drug Education (PRIDE)] data reveal overall increases in student marijuana use between the 2001-2002 and 2002-2003 school years, when past year use increased significantly for both senior high (29.4% to 30.0%) and junior high students (8.3% to 11.7%). For twelfth graders, however, past year marijuana use was relatively stable in those school years at 35.7 and 35.5 percent, respectively, thus continuing the lowest annual rate of marijuana use indicated by PRIDE for twelfth graders since the 1994-1995 school year.

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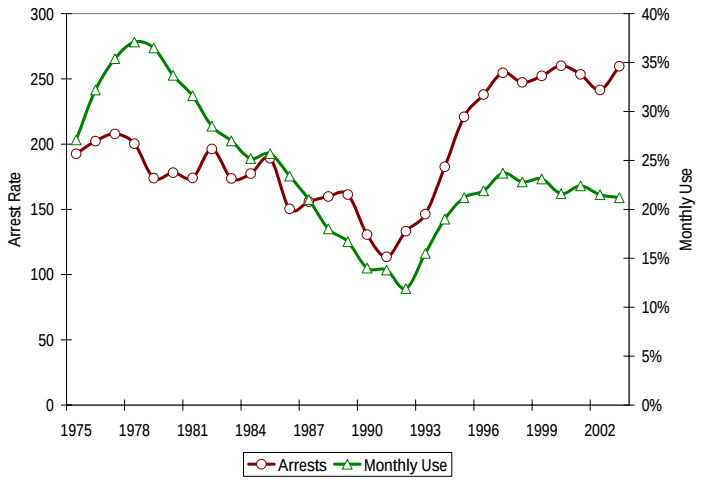
Figure 11. Marijuana Arrest Rate and Monthly Marijuana Use by 12th Graders



Risk Perception by High School Seniors

The 'message' paradigm suggests that increases in arrests would contribute to an increase in the perception of great risk high school seniors associate with regular marijuana use. One of the arguments against marijuana law reform is that weakening legal sanctions signals a reassessment of the risk associated with marijuana use by teens. However, perception of great risk increased while arrest rates declined in the 1980; arrests increased during the 1990s while perception of great risk decreased. (See Table 19, Figure 12.) Regular marijuana use was regarded with great risk by 76.6% of high school seniors in 1991. After the increase in arrest rates during the 1990s regular marijuana use was regarded with great risk by 54.9% of high school seniors in 2003. There is no evidence that increasing marijuana arrests results in an increase in 12th graders' perception of great risk in regular marijuana use.

National Drug Threat Assessment: Risk Perception

[I]ncreases or relative stability in the perception of risk or harm associated with marijuana use suggest that use may continue a downward trend in the near term, particularly among young people. For example, the rate of perceived harmfulness in smoking marijuana regularly increased significantly from 2002 to 2003 for eighth (71.7% and 74.2%) and tenth graders (60.8% and 63.9%), according to [the Monitoring the Future survey (MTF)], and was relatively stable during those years for twelfth graders. In addition, [Partnership Attitude Tracking Study (PATS)] data indicate that the percentage of teens aged 12 to 17 reporting that they believe there is great risk in using marijuana regularly fluctuated between 58 and 60 percent from 2000 to 2002.

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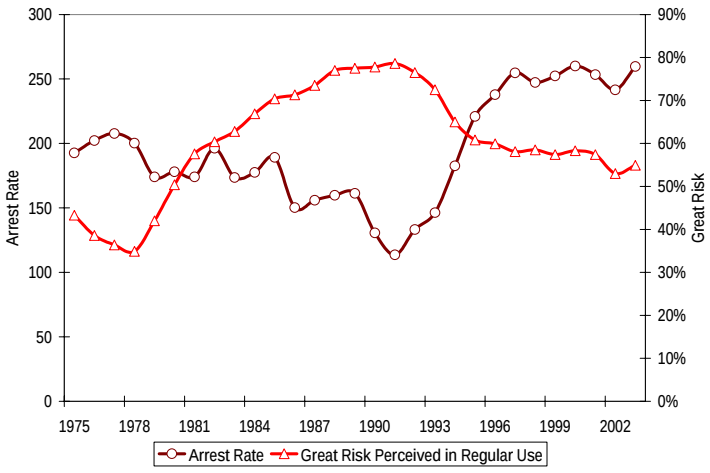
Figure 12. Marijuana Arrest Rate and Perception of Great Risk by 12th Graders



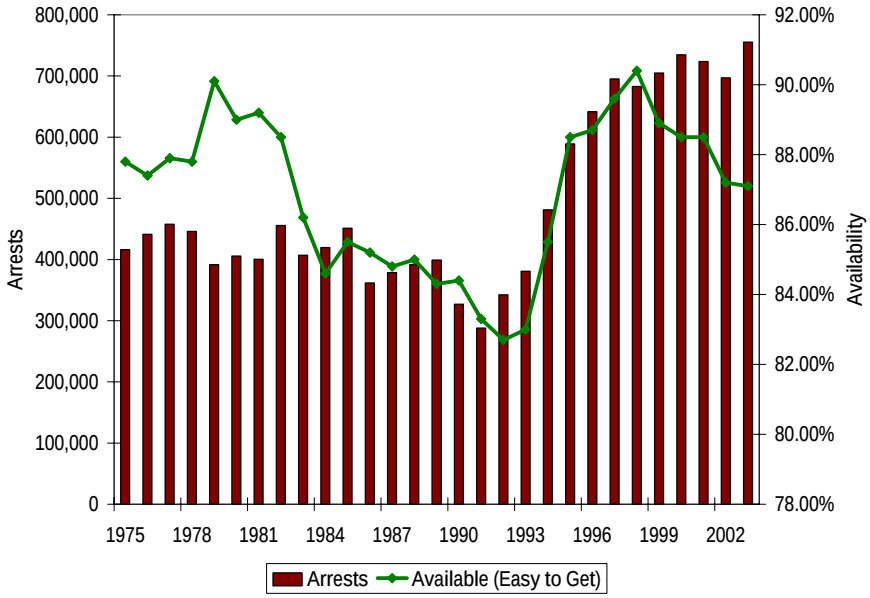
Marijuana Availability to High School Seniors

The consistency and term of the Monitoring the Future Survey makes it an excellent indicator of the availability of drugs. The survey asks students to evaluate the ease at which they could obtain various illegal drugs. During the period 1975 to 2003 between 83% and 90% of high school seniors responded that marijuana was easy for them to obtain. (See Table 19, Figure 13.)

In 1981 marijuana was easy to get for 89.2% of high school seniors, by 1991 this indicator had fallen slightly to 83.6%. In 2001 availability for 12th graders was up to 88.5% and in 2003 it was down slightly to 87.1%. Figure 13 suggests that from 1985 to 1998 small changes in availability responses correspond to significant changes in the national arrest rate.

Availability fell from 88% to 83% while the arrest rate declined in the 1980s, and rose to 90% in the 1990s while the arrest rate increased. It may well be that, as with use, perceptions of increased availability of marijuana cause an increase in law enforcement activity and an increase in the overall arrest rate. At best, though, 4 out of high school seniors find marijuana easy to get under current drug control policies. However a decline in arrests did not result in an increase in availability and an increase in arrests has not resulted in a decrease in availability.

Figure 13. Marijuana Arrests and Availability to 12th Grades (1975-2003)



National Drug Threat Assessment: Availability

Marijuana is widely available throughout the United States, and this availability is relatively stable overall. Except for one Pulse Check source (Chicago) describing marijuana as somewhat available, every DEA Field Division, HIDTA [High Intensity Drug Trafficking Area] , and other Pulse Check source reports that marijuana is readily, widely, or commonly available. Most reporting also indicates that availability is stable. Specific mention of increasing marijuana availability is included in reporting from just one DEA Field Division (Detroit), four HIDTAs (Lake County, Midwest, Milwaukee, and Oregon), and two Pulse Check sources (Boston and Denver) while only one Pulse Check source (Philadelphia) reports a decline in availability.

An estimate of the marijuana available in the United States is not definitive, in large part because of limitations in eradication and seizure data, the unknown extent of indoor cultivation, and unsubstantiated or outdated crop estimates. In attempting to determine how much marijuana was available in the United States in 2001, the interagency Marijuana Availability Working Group established a range of 10,000 to 24,000 metric tons. This is a developmental estimate derived from analysis of limited data and thus contains a high degree of uncertainty.

According to NDTS data, 98.2 percent of state and local law enforcement agencies nationwide described marijuana availability as high or moderate; 96.9 percent described it as such in 2002. The proportions of agencies reporting high or moderate availability in 2003 ranged narrowly across the six regions from a low of 97.2 percent (Northeast/Mid-Atlantic) to a high of 99.0 percent (Great Lakes).

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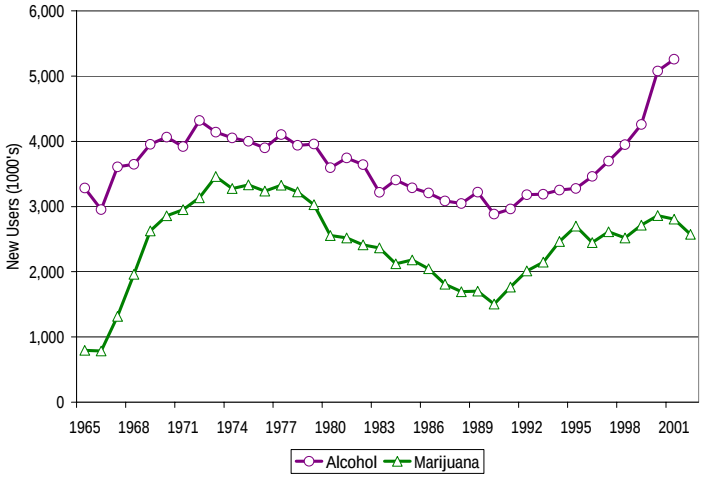
New Marijuana Users

One widely recognized objective of federal and state policymakers is to raise the average or mean age of first use above the age of 18; teens who do not use alcohol, marijuana, or tobacco are less likely to have drug problems as adults than teens who began using these substances during their teenage years. The National Survey on Drug Use and Health (NSDUH) and its predecessor, the National Household Survey on Drug Use provide data on the number of new drug users each year. The first use of marijuana (among all age groups) has generally followed the same trends as the first use of alcohol. (See Table 20, Figure 14.) This changed in the late 1990s when the number of alcohol initiates increased while the number of new marijuana users stabilized.

The relative size of the population of new marijuana users to the larger population of new alcohol users each year can be expressed as a percentage. This percentage is an indicator of overlap between the two populations, which interestingly enough, also correlates with changes in the arrest rate for marijuana over the years. In the 1980s marijuana initiates as a percentage of alcohol initiates dropped as did marijuana arrest rates. (See Table 20, Figure 15.) In the mid 1990s this percentage increased, as did the arrest rate. However in the late 1990s this percentage dropped steadily while arrest rates continued to increase.

One of the most important trends in Table 20 is the change in the composition of the new marijuana users from predominantly adults to predominantly juveniles. In 1966 there were 268,000 new users of marijuana under the age of 18 compared to 517,000 age 18 or older, a ratio of .52 : 1, with adult new users at twice the level of those under 18. By 1973 the two groups were supplying equal numbers of new users, a ratio of 1 : 1 produced by 1.7 million new users under the age of 18 and 1.7 million new users age 18 and over. Despite some fluctuations in the early 1980s the ratio climbed from 1.48 : 1 in1978 to 1.79 : 1 in 1988 when there were nearly 1.1 million new users under the age of 18 and 608,000 new marijuana users age 18 and over. During the 1990s the number of

Figure 14. New Users of Alcohol and Marijuana, All Ages (1965 - 2002)



new users under the age of 18 rose from 1.3 million in 1993 to 1.7 million in 2002. By 1998 the number of new users under the age of 18 was twice the number of new users age 18 and over, a ratio of 2 : 1 produced by 1.7 million under 18 users and 816,000 new users 18 and over.

NSDUH also provides data on the number of individuals under the age of 18 who have sold drugs in 2002. (See Table 15.) The 2002 estimate of drug sellers between the age of 13 and 17 is 1,066,261; the 2002 estimate for the number of new marijuana users under the age of 18 is 1,763,000. NSDUH data suggests that a lot of the drug selling represented by the survey results consists of casual transactions between friends; the universe of young drug sellers is likely much larger. Assuming that each drug seller is not a new user, each drug seller indicated by the NSDUH data represents 1.7 new users in the same age group. This data suggests that reducing the number of drug sellers under the age of 18 can contribute to a reduction in the number of new marijuana users.

The relationship between marijuana arrest rates and new marijuana users, regardless of age, is similar to the

Figure 16. Marijuana Arrest Rates and New Users, All Ages (1965-2002)

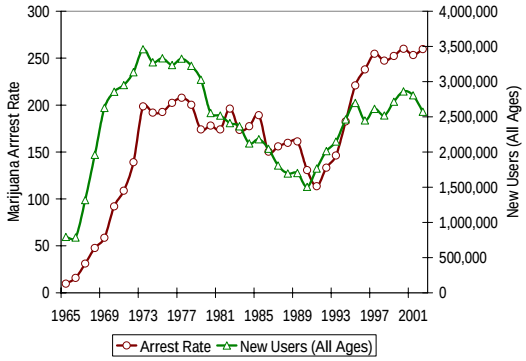


Figure 17. Marijuana Arrest Rates and New Users, Under 18 (1965-2002)

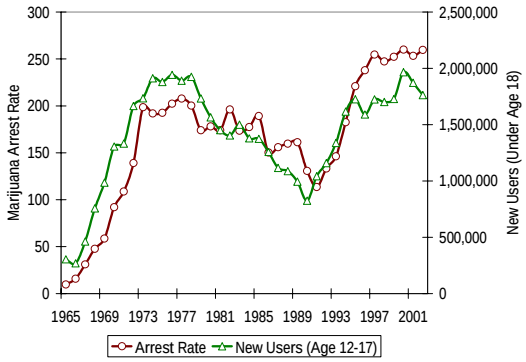


Figure 15. Marijuana Arrest Rates and the Overlap between Alcohol and Marijuana Initiation

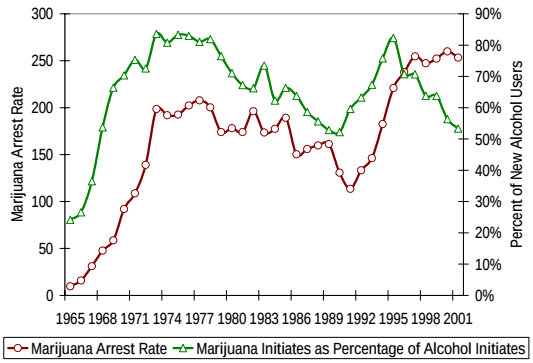
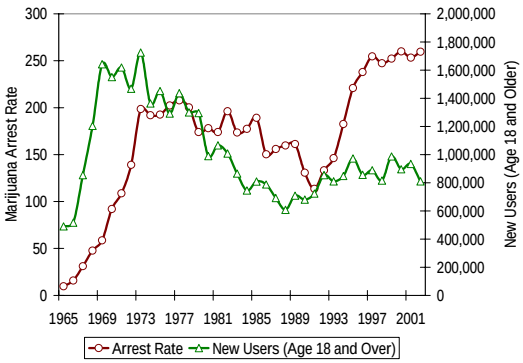


Figure 18. Marijuana Arrest Rate and New Users, 18 and Over (1965-2002)



relationship illustrated above between arrest rates and marijuana use in general. During the late 1960s and the 1970s, the numbers of new users increased as did the arrest rate for marijuana offenses. (See Table 20, Figure 16.) During the 1980s the numbers of new users each year diminished, as did the arrest rate. In the 1990s the numbers of new users of all ages and the number of new users age 12-17 rose sharply as did the arrest rates (See Table 20, Figure 17). However the annual number of new users age 18-26 did not increase but instead stabilized. (See Table 20, Figure 18.)

The age of first marijuana use fluctuates a great deal more than the other indicators considered above. However it has generally fallen from 18.7 in 1965 to 17.2 in 2000, hitting a low of 16.8 in 1995. (See Table 20, Figure 19.) During the 1980s there is an apparent association between a falling arrest rate and the declining age of first use. When the arrest rate soared the mean age of first use of marijuana fluctuated during the 90s however it was 17.2 in 1993 and was the same, 17.2, in 2002.

Increases in the arrest rate in both the late 1960s and the 1990s are not associated with a reduction in new marijuana users. Decreases in the arrest rate are not associated with increases in the number of new marijuana users. There is no evidence that increasing the arrest rate for marijuana has been a deterrent to new users.

National Drug Threat Assessment: New Users

An estimated 2.6 million persons used marijuana for the first time in 2001, the latest year for which NSDUH incidence data are available, and the number of marijuana initiates has been similar since 1995. Such consistently large numbers of new users over time suggest that current high levels of marijuana use will not greatly diminish.

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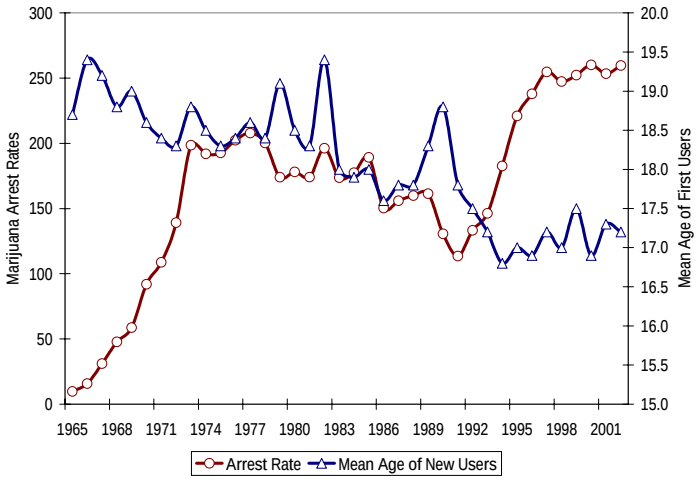
Figure 19. Marijuana Arrest Rates and Mean Age of New Users (1965-2002)



Drug Treatment Admissions

The Treatment Episodes Data Set or TEDS report provides annual data on admissions to drug treatment facilities. Admissions in which marijuana was listed as the primary drug problem rose from 141,000 in 1995 to 283,000 in 2001, an increase of 100%. (See Table 21, Figure 20.)

There is an established relationship between arrests and drug treatment admissions. Frequently, admission to a drug treatment program is used as a sentencing alternative, and many drug treatment admissions are the result of court orders. Indeed many states have introduced special "drug courts" that both expedite handling of drug related cases and seek to increase the use of diversion into a treatment program as a sentencing option. In 1995 criminal justice system referrals accounted for 49.3% of drug treatment admissions for marijuana. (See Table 22.) In 2002 justice system referrals accounted for 58.1% of marijuana admissions. The percentage of marijuana arrests ultimately referred to drug treatment programs has also steadily increased during the 7 years ending in 2001. In 1995 close to 12% of all marijuana arrests were diverted to drug treatment; in 2002 over 23% of arrests were eventually referred to drug treatment by the criminal justice system. (See Figure 21.)

During this period all other referrals to drug treatment for marijuana-related problems declined. (See Table 22.) Individual based referrals fell from 20% to 16.6%. Referrals from substance care providers fell from 7.7% to 5.4%. Referrals from other health care providers dropped from 6.1% to 4.7%. Referrals from educational institutions fell from 6% to 4.2%. Referrals from Employee Assistance Programs dropped from 2.1% to 1.2%. These reductions are due in part to the increased admissions due to criminal justice system referrals. Why haven't referrals from these trained professionals also increased along with criminal justice system referrals? It appears that increasing drug treatment referrals for

Figure 20. Marijuana Arrests and Treatment Admissions (1995 - 2002)

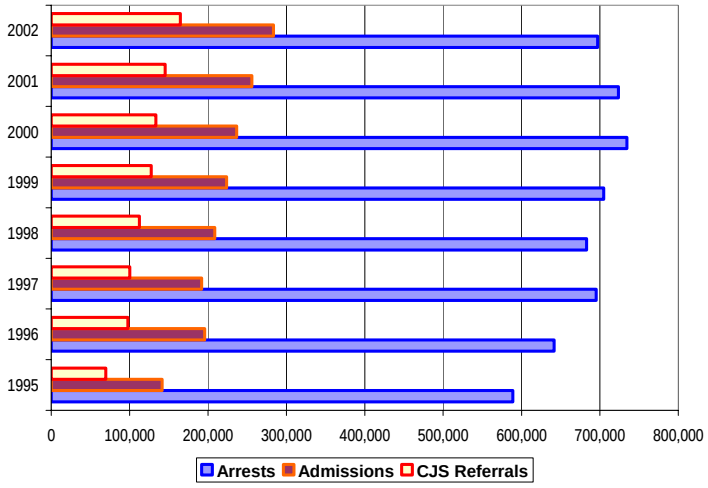
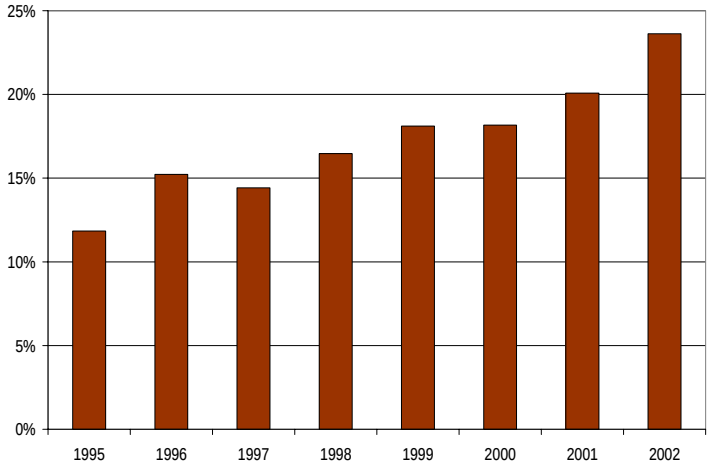


Figure 21. Treatment Diversions as a Percentage of Arrests (1995 - 2002)



marijuana offenses is a priority for law enforcement and the criminal justice system but not for drug treatment professionals.

From 1995 to 2002 arrests increased 18%, drug treatment admissions for marijuana increased 100%, and diversions from the criminal justice system for marijuana-related treatment increased 136%. Increased marijuana arrests have not reduced the number of drug treatment admissions for marijuana related problems, and in fact has increased them.

National Drug Threat Assessment: Drug Treatment Admissions

The number of admissions to publicly funded treatment facilities reporting marijuana as a primary substance increased from 231,358 in 1999 to 236,638 in 2000, accounting for approximately 14 and 15 percent, respectively, of total treatment admissions in those years. As has been typical in previous years, most marijuana-related admissions in 2000 involved male (75.9%) and white patients (56.6%), and marijuana accounted for most treatment admissions of patients aged 15 to 19 (53.4%) and those under 15 (54.3%). Again reflecting no notable change from previous years, most admissions reporting marijuana as a primary substance reported also abusing other substances (66.8%), and most were referred to treatment through the criminal justice system (56.4%).

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Emergency Department Mentions

The Drug Abuse Warning Network (DAWN) program tracks the incidence of emergency room visits associated with illegal and illicitly used drugs. The DAWN program is based on data from metropolitan area hospital emergency rooms. DAWN data consists of episodes or visits to the emergency room and mentions of individual drugs. A single episode can involve up to 4 drug mentions. Four out of five drug mentions involve seven categories of drugs, including alcohol and marijuana.

According to the most recent DAWN report:

> Eight out of every 10 ED [Emergency Department] drug mentions (81%) come from only 7 categories: alcohol-in-combination, cocaine, heroin, marijuana, benzodiazepines, antidepressants, and analgesics. In 2002, alcohol-in-combination was a factor in 31 percent of ED drug episodes (207,395 mentions), cocaine in 30 percent (199,198), marijuana in 18 percent (119,472), and heroin in 14 percent (93,519). Collectively, the benzodiazepines, antidepressants, and analgesics constituted 359,266 ED mentions in 2002, or nearly 30 percent of total ED drug mentions. [8]

Marijuana mentions have increased from 45,259 in 1995 to 118,472 in 2001, an increase of 162%. (See Table 23, Figure 22.) During this same period overall episodes increased by 31% and total mentions increased by 36%. Cocaine mentions increased by 47% in this period while heroin mentions increased 34%.

In 2002 only 27.8% of marijuana mentions involved single drug episodes where marijuana use alone was responsible or related to the emergency room visit. (See Table 23, Figure 23.) Nearly three-fourths of all marijuana ED mentions involve multiple drugs and are not necessarily an indication of medical problems or accidents related to

[8] Office of Applied Studies, Substance Abuse and Mental Health Services Administration. Drug Abuse Warning Network Report , 2002.

Figure 22. Emergency Department Drug Mentions (1988-2002)

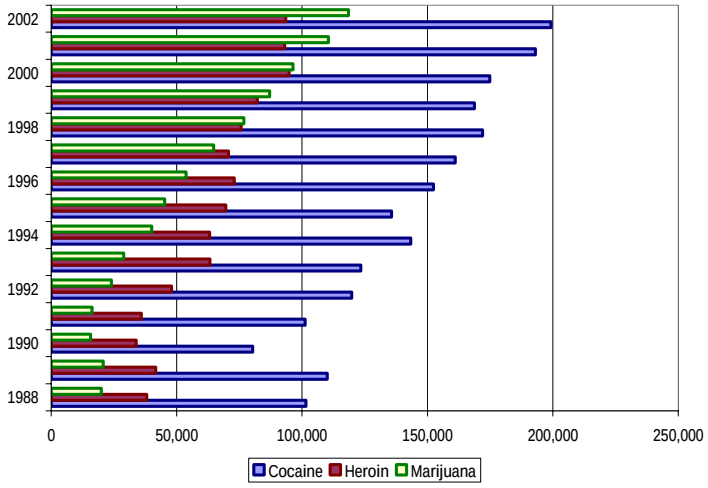


Figure 23. Single Drug Episode Percentage of Marijuana ED Mentions

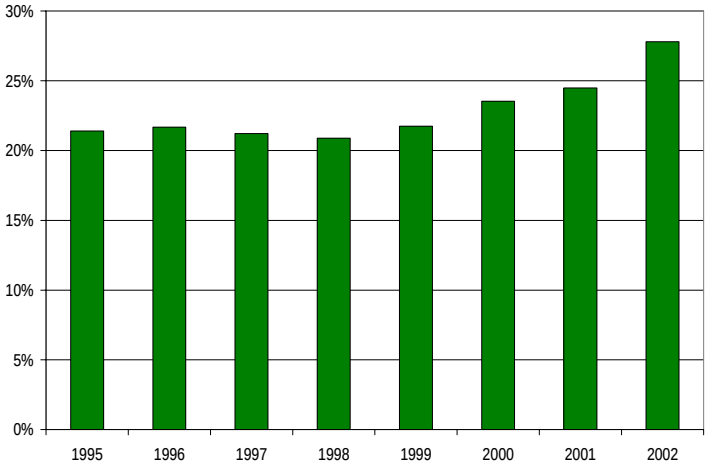


Figure 24. Marijuana Arrest Rate and Total ED Mentions (1988-2002)

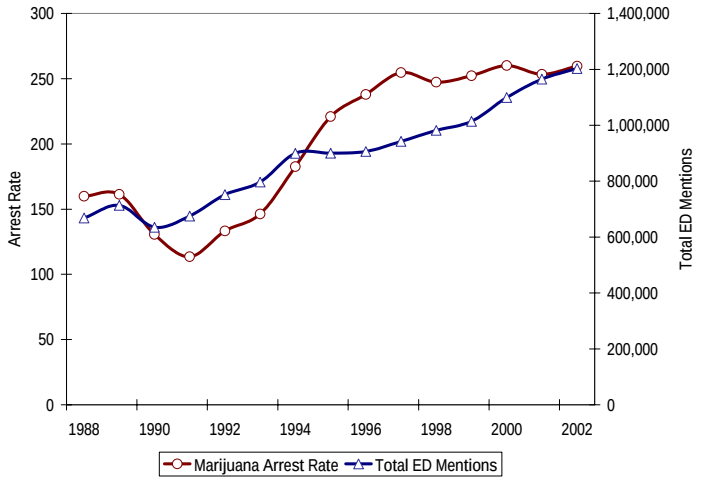
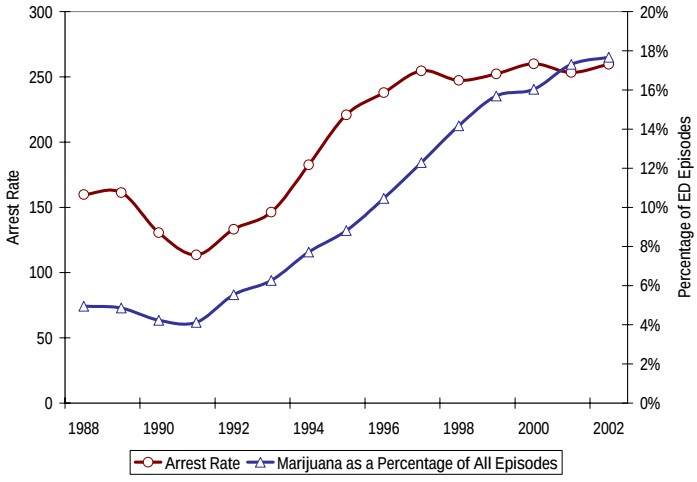


Figure 25. Marijuana Arrest Rates and Marijuana as a Percentage of All ED Episodes (1988-2001)



marijuana use. This is an increase from an average of 21% for the years 1995 through 1999. These marijuana only mentions accounted for only 2.7% of all ED drug mentions in 2002 (compared to marijuana being mentioned alone or along with other drugs in 9.8% of all emergency department drug mentions).

There were over 100 million visits to emergency departments in 2001. [9] The 110,512 visits in 2001 that included mentions of marijuana use accounted for only .11% of all emergency room visits. The 27,602 emergency room visits that involved mentions of only marijuana use and no other drugs were responsible for .0269% of all emergency room visits in 2001. Marijuana-only mentions comprise about one quarter of one tenth of one percent of all emergency room visits.

The increase in ED mentions parallels the increase in the arrest rate for marijuana. (See Figures 24 and 25.) From 1988 to 1991 both the arrest rate for marijuana offenses and mentions as a percentage of all emergency department episodes decreased, and from 1992 to 1997 both indicators soared. After 1997 the arrest rate for marijuana leveled off while marijuana continued to increase as a percentage of total episodes. Increased arrests have not reduced emergency department mentions of marijuana. Nonetheless marijuana related visits to hospital emergency departments are not an indication of serious public health problems resulting from marijuana use. Marijuana related visits, from use with alcohol and/or other drugs, or from marijuana use alone, while increasing, are not a significant burden to the public health system for emergency care in the United States.

National Drug Threat Assessment: Emergency Department Data

The consequences of marijuana use as evidenced in ED visits and treatment admissions continue to rise; however, increases in recent years have not been significant. The estimated number of ED mentions for marijuana increased from 110,512 in 2001 to 119,472 in 2002, accounting for less than 10 percent of all ED drug mentions in both years. In three DAWN cities marijuana mentions increased significantly between 2001 and 2002: Newark, Miami, and Baltimore. Mentions decreased significantly in four others: Dallas, San Francisco, Chicago, and Seattle. San Francisco and Seattle had been sites of significant increases the previous 2 years. In 2002 the rate of marijuana-related ED mentions per 100,000 population was 47 nationwide. DAWN cities with the highest rates were Philadelphia (150 per 100,000), Detroit (146), and St. Louis (124). Philadelphia and Detroit have had the highest rates of marijuana mentions since 1998.

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[9] ibid

Marijuana Potency

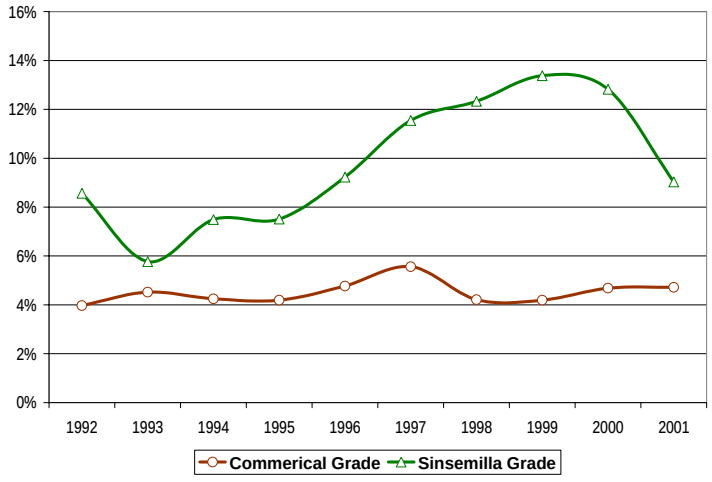
Government data on marijuana potency is based on the analysis of samples forwarded by police to a federal potency testing program. Commercial and sinsemilla marijuana are analyzed. Commercial grade marijuana tends to be imported from Colombia or Mexico and has had an average potency during the ten years from 1992 to 2001 of 4.5% THC (the active ingredient in marijuana.) (See Table 24, Figure 26.) Sinsemilla is high quality seedless marijuana. In addition to higher THC content sinsemilla has fewer or no seeds, providing more consumable product than commercial marijuana. For example a 1992 DEA report notes that the components of non-sinsemilla cannabis are 18% bud, 16% leaf, 43% stems and branches and 23% seed. The components of sinsemilla are 26% bud, 30% leaf, and 42% stems and branches. [10] Sinsemilla has had an average potency of 9.8% THC during the years 1992 to 2001.

[10] Drug Enforcement Administration. "1992 Domestic Cannabis Eradication/Suppression Program" Washington, D.C.:DEA. December, 1992.

The potency of commercial grade marijuana has remained fairly consistent during the 1990s. The potency of sinsemilla, though, increased significantly from 5.8% in 1993 to 13.4% in 1999. This increase in the potency of sinsemilla parallels the increase in several other indicators - availability to high school seniors, annual use by high school seniors, marijuana mentions in ED episodes, drug treatment admissions. The increase in marijuana arrest rates tracks closely with the increase in the potency of sinsemilla (See Figure 27.)

Because of its high price it is unlikely many high school students can afford to purchase sinsemilla marijuana. Potency increases in high grade marijuana are a result of prohibition; they represent the response of growers to maximize profits while minimizing risks. Despite a drop in the potency of sinsemilla in 2000 and 2001 there is no evidence that increasing arrest rates can lower the potency of marijuana. While marijuana arrest rates increased, the potency of commercial grade remained relatively constant and the potency of sinsemilla increased substantially.

Figure 26. Marijuana Potency (1992 - 2001)



National Drug Threat Assessment: Marijuana Potency

Commercial-grade marijuana, which includes buds, leaves, stems, and seeds from male and female plants, is the most prevalent type available. It is produced to a significant extent throughout the United States; however. . . commercial-grade marijuana produced in Mexico is more widespread in U.S. drug markets. Sinsemilla follows commercial-grade marijuana, regardless of source area, in prevalence. Higher in potency than commercial-grade marijuana because it includes only the buds and flowering tops from unpollinated female plants, most of the sinsemilla available in the United States is produced domestically and in Canada. Production of sinsemilla may also occur in Mexico. . .

Marijuana potency continues to rise overall. Reporting from the Potency Monitoring Project indicates that the average THC content in submitted samples of commercial-grade marijuana was 5.03 percent in 2001 and 5.14 percent in 2002. In those same years, the average THC content in submitted samples of sinsemilla was 9.60 and 11.42 percent, respectively. Rising marijuana potency is perhaps more a factor of the demand for better quality marijuana, however, than a reflection of marijuana's widespread availability. . .

Demand for high potency marijuana in particular also will continue, possibly fueling increased indoor cultivation. . . Nonetheless, the rising prevalence of high potency marijuana and law enforcement reports of increased indoor cultivation in many areas of the United States are suggestive of increases in both the demand for and production of high potency marijuana. Some cultivators and distributors will fill demand for better quality marijuana by producing more--and more potent--marijuana. Some users, too, unwilling to pay a distributor, likely will begin cultivating on their own. A wealth of information on cannabis cultivation already exists in magazine articles, in books, and on Internet web sites that offer advice and techniques as well as advertise seeds for sale.

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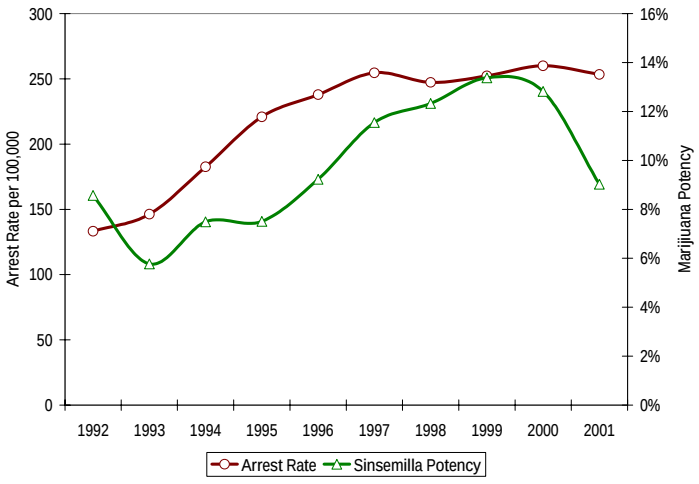
Figure 27. Marijuana Arrest Rates and Sinsemilla Potency (1992-2001)



Marijuana Prices

Price data on marijuana is collected by the STRIDE program, the System To Retrieve Information on Drug Evidence, which relies on data from purchases and seizures related to criminal investigations. [11] The STRIDE data controls for quality differences by using the price of a pure gram of THC, the psychoactive ingredient in marijuana, as the index figure. The STRIDE data is also reported for four categories of commerce defined by the number of pure grams involved. A "street purchaser", for example, is categorized by purchases of less than 10 pure grams while a "large user" is characterized by purchase of 10 to 100 pure grams. (For example, the purchase of 200 grams of marijuana (7 ounces) with a THC content of 5% would be a purchase equal to 10 grams of pure THC.)

STRIDE data is widely used in the study of price trends, the construction of

[11] System To Retrieve Information on Drug Evidence (STRIDE). Data prepared by: ABT Associates, Inc. 3/2/01 and published by Office of National Drug Control Programs, The Price of Illicit Drugs: 1981 through the Second Quarter of 2000. Washington, DC. October, 2001. pg 46.

National Drug Threat Assessment: Marijuana Prices

Marijuana prices, an indication of marijuana's steady availability, have been stable for several years, although prices range considerably from market to market depending on the type and potency available, quantity purchased, purchase frequency, buyer-seller relationship, and proximity to source. A typical national price range, according to DEA reporting, is $300 to $1,200 per pound for commercial-grade marijuana and $600 to $6,000 per pound for sinsemilla. Current retail prices reported for both commercial-grade and sinsemilla range from $5 to $50 per gram and $2 to $5 per joint, although there are reports of prices as high as $100 per gram and $20 per joint, most likely for sinsemilla.

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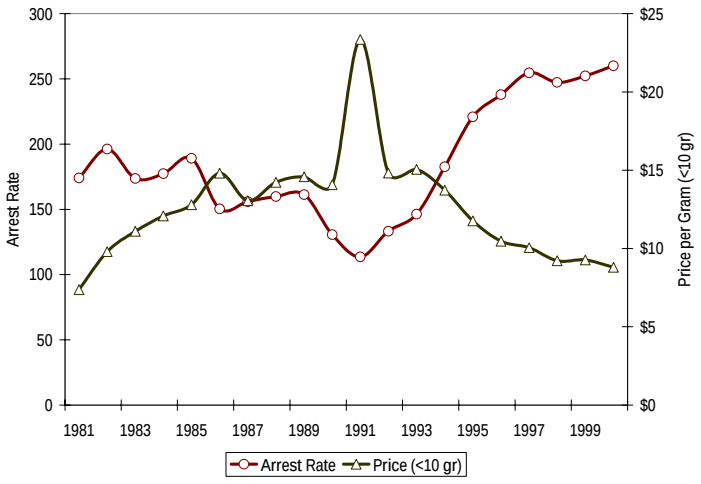
Figure 28. Marijuana Arrest Rates and Price of Marijuana (<10 pure grams)



expenditure estimates, and in analytical studies. A National Research Council review of data used in drug policy analysis is very critical of the reliability of STRIDE data. The data was collected as part of police investigations and not in conformity to standard methods of data collection, the data is unlikely representative of the prices paid by most consumers, and therefore "the STRIDE price data are of questionable reliability." Even so for the STRIDE data must still be accepted as valid in some discussions, particularly those involving particularly dramatic trends such as a very large spike in the price of cocaine between mid-1989 and mid-1990. [12] The steady drop in the STRIDE data for the price of marijuana during a period of rising marijuana arrest rates is another case in which the STRIDE data provides, at least, an indication of a trend that warrants further investigation.

According to the STRIDE data the "street purchaser" price of marijuana spiked in 1991, the turning point year for the marijuana arrest rate. (See Table 25, Figure 28.) Regardless of this 1991 exception, the price of marijuana at this level exhibits the opposite trend from the arrest rate.

The price of marijuana rose during the 1980s while the arrest rate was falling. The price of marijuana has fallen at all purchase levels during the 1990s while the arrest rate has increased dramatically. (See Table 25, Figures 28, 29, 30, and 31.) Increasing marijuana arrests has not reduced the price of marijuana.

[12] National Research Council. (2001) Manski, Charles F., John V. Pepper, and Carol V. Petrie (eds.) Informing America's Policy on Illegal Drugs. Washington, D.C.: National Academy Press. Pgs. 107, 147.

Figure 29. Marijuana Arrest Rates and Price of Marijuana (10 to 100 pure grams)

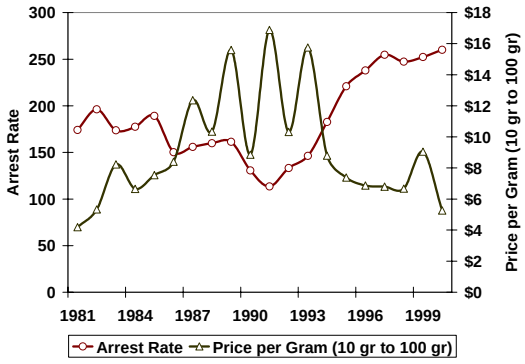


Figure 30. Marijuana Arrest Rates and Price of Marijuana (100 to 1000 pure grams)

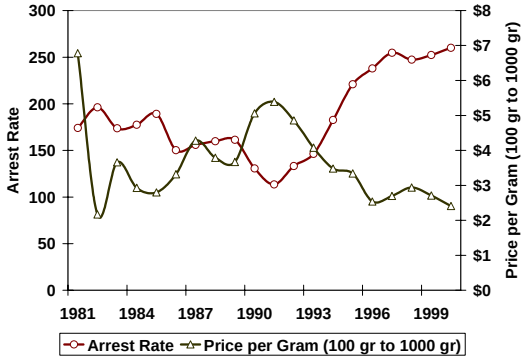
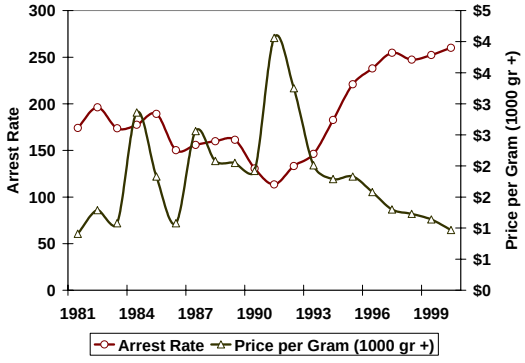


Figure 31. Marijuana Arrest Rates and Price of Marijuana (1000 or more pure grams)



Benefit Analysis

Arrests should have a measurable deterrent effect. The costs of public policies are judged by their benefits. The benefits of a policy of using criminal arrests to deter drug use and promote public health should be evaluated by the performance of drug use and public health indicators. Arrest rates for marijuana offenses are instruments of policy. The purpose of increasing arrest rates is to have a beneficial effect on specific problems and to produce specific outcomes. The increase in the arrest rate for marijuana should produce a reduction in several key indicators used to evaluate the performance of drug control policies.

The objectives of increasing the arrest rate for marijuana are to reduce marijuana use, its availability, the number of new users, admissions to drug treatment programs, emergency room mentions, and its potency. Another objective is to increase the perception of risk associated with regular marijuana use. These are the potential benefits that could hypothetically result from a substantial increase in the arrest rate for marijuana offenses. According to the data reviewed above, increasing arrest rates accomplished none of these objectives.

One measure of the relationship between two indicators is their correlation coefficient. This statistic can be used to quantify the relationships illustrated by the various graphs above. In other words, the correlation coefficient sharpens and clarifies what the eyes intuitively capture at a glance. For example, the graph showing the association between risk perception and marijuana use by high school seniors illustrates a negative correlation between the two indicators. When risk perception increases, use decreases. When risk perception decreases, use increases. This relationship does not establish that one indicator is the cause of

Table 16. Correlation Coefficients for Marijuana Arrest Rates and Key Indicators

Indicator	Period	Expected Correlation	Actual Correlation
Use – National	1991 - 2001	-	+ .70
Use – High School Seniors	1975 - 2003	-	+ .31
Risk Perception – High School Seniors	1975 - 2003	+	- .52
Availability– High School Seniors	1975 - 2003	-	+ .74
New Users	1975 - 2001	-	+ .80
Treatment Admissions	1988 - 2002	-	+ .56
Emergency Department Mentions	1988 - 2002	-	+ .87
Potency	1992- 2001	-	+ .75
Price	1981- 2000	+	-.75

another but instead that they tend to move in opposite directions, whatever the cause. This relationship can be quantified with a correlation coefficient. A perfect correlation between two indicators has a correlation of 1.0. Indicators that rise and fall in perfect correspondence have a positive correlation of 1.0 while indicators that move in opposite directions in perfect correspondence have a negative correlation of 1.0. In the original example involving risk perception and monthly marijuana use by school seniors, these two indicators have a correlation coefficient of -.85, an extremely strong correlation.

If marijuana arrests were an effective policy tool then there would be a negative correlation between arrest rates and the other indicators considered above, except for risk perception and price for which a positive correlation would be expected. For example, if increasing the arrest rate resulted in a reduction in the number of new marijuana users then there would be a negative correlation between the two indicators. When arrests went up the number of new users should go down. The graph of this relationship indicates that the opposite is true, when arrests go up the number of new users is also increasing. (See Figure 16.)

Alternately, when the number of new users goes up the arrest rate goes up. The correlation does not establish causality, but it does establish the direction of the relationship. These two indicators have a correlation of .8, a very strong positive correlation and the opposite of what would be expected if marijuana arrests were an effective policy tool.

Arrest rates do not have the expected correlation with any of the important indicators reviewed in this report. Increased arrest rates are not associated with reduced marijuana use, reduced marijuana availability, a reduction in the number of new users, reduced treatment admissions, reduced emergency room mentions, any reduction in marijuana potency, or any increases in the price of marijuana. The correlation coefficients for arrest rates and each of these indicators are provided in Table 16.

Arrests are an ineffective policy tool because they do not achieve important policy objectives. A policy of arresting 1.5% of all marijuana users annually did not have impact on these policy objectives in the 1980s. A policy of arresting over twice as many marijuana users was implemented during the 1990s with still no measurable impact on these policy objectives.

All law enforcement drug-related activities can be characterized as supply-reduction policies. Demand reduction policies are characterized by public health initiatives such as education and treatment programs. For example, this comment in the 2000 National Drug Control Strategy:

> We remain committed to the *Strategy* that focuses on shrinking America's demand for drugs, through prevention and treatment, and attacking the supply of drugs through law enforcement and international cooperation. [13]

Law enforcement's mandate in the "War on Drugs" is supply reduction, to disrupt and reduce the supply of illegal drugs. The purpose of arrests for drug-related offenses is to apply a policy of suppression to the consumers and suppliers that maintain the illegal market. Arrests are the primary policy

[13] Barry McCaffrey, Director, ONDCP. Office of National Drug Control Programs. National Drug Control Strategy, Annual Report 2000. Washington, D.C.: Office of National Drug Control Programs. Page V.

of drug control applied to the use and sale of marijuana. Arrests are a supply reduction policy that should be evaluated the same as supply reduction policies in general:

> The drug trade is a profit-making business, one whose necessary balance of costs and rewards can be disrupted, damaged, and even destroyed. The main reason supply reduction matters to drug policy is that it makes drugs more expensive, less potent, and less available. Price, potency, and availability are significant drivers of both addicted use and casual use. [14]

Supply reduction may be an important tactic but the objective of drug policy is drug control — to exert influence over the market in order to achieve specific objectives. Arrests for marijuana offenses do not achieve important policy objectives; they are not a success. Marijuana arrests have the opposite effect on every major policy objective they are intended to influence.

[14] Office of National Drug Control Programs. National Drug Control Strategy – 2004. Washington, D.C.: Office of National Drug Control Programs. Page 31.

Table 17. Marijuana Arrests (1965 - 2003)

Year	United States Population	All Drug Arrests	Marijuana Arrests	Arrest Rate For All Drugs	Arrest Rate For Other Drugs	Arrest Rate For Marijuana	Marijuana Arrests as Pct of All Drug Arrests
1965	194,303,000	60,500	18,815	31.14	21.45	9.68	31%
1966	196,560,000	75,900	31,119	38.61	22.78	15.83	41%
1967	198,712,000	121,500	61,843	61.14	30.02	31.12	51%
1968	200,706,000	198,900	95,870	99.10	51.33	47.77	48%
1969	202,677,000	288,600	118,903	142.39	83.73	58.67	41%
1970	205,052,000	415,600	188,682	202.68	110.66	92.02	45%
1971	207,661,000	492,000	225,828	236.92	128.18	108.75	46%
1972	209,896,000	527,400	292,179	251.27	112.07	139.20	55%
1973	211,909,000	628,900	420,700	296.78	98.25	198.53	67%
1974	231,854,000	642,080	445,000	276.93	85.00	191.93	69%
1975	215,973,000	601,300	416,100	278.41	85.75	192.66	69%
1976	218,035,000	609,700	441,100	279.63	77.33	202.31	72%
1977	220,239,000	642,700	457,600	291.82	84.05	207.77	71%
1978	222,585,000	628,700	445,800	282.45	82.17	200.28	71%
1979	225,055,000	558,600	391,600	248.21	74.20	174.00	70%
1980	227,726,000	580,900	405,600	255.09	76.98	178.11	70%
1981	229,966,000	559,900	400,300	243.47	69.40	174.07	71%
1982	232,188,000	676,000	455,600	291.14	94.92	196.22	67%
1983	234,307,000	661,400	406,900	282.28	108.62	173.66	62%
1984	236,348,000	708,400	419,400	299.73	122.28	177.45	59%
1985	238,466,000	811,400	451,138	340.26	151.07	189.18	56%
1986	240,651,000	824,100	361,780	342.45	192.11	150.33	44%
1987	242,804,000	937,400	378,709	386.07	230.10	155.97	40%
1988	245,021,000	1,155,200	391,600	471.47	311.65	159.82	34%
1989	247,342,000	1,361,700	398,977	550.53	389.23	161.31	29%
1990	250,132,000	1,089,500	326,850	435.57	304.90	130.67	30%
1991	253,493,000	1,010,000	287,850	398.43	284.88	113.55	29%
1992	256,894,000	1,066,400	342,314	415.11	281.86	133.25	32%
1993	260,255,000	1,126,300	380,689	432.77	286.49	146.28	34%
1994	263,436,000	1,351,400	481,098	512.99	330.37	182.62	36%
1995	266,557,000	1,476,100	588,964	553.77	332.81	220.95	40%
1996	269,667,000	1,506,200	641,641	558.54	320.60	237.94	43%
1997	272,912,000	1,583,600	695,200	580.26	325.53	254.73	44%
1998	276,115,000	1,559,100	682,886	564.66	317.34	247.32	44%
1999	279,295,000	1,532,200	704,812	548.60	296.24	252.35	46%
2000	282,434,000	1,579,566	734,498	559.27	299.21	260.06	47%
2001	285,545,000	1,586,902	723,627	555.74	302.33	253.42	46%
2002	288,600,000	1,538,813	697,082	533.20	291.66	241.54	45%
2003	290,809,000	1,678,192	755,186	577.08	317..39	259.68	45%

Source: Uniform Crime Reports (Annual), Crime in the United States.

Table 18. Marijuana Arrests and Annual Marijuana Use

Year	Marijuana Arrests	Arrest Rate for Marijuana	Annual Marijuana Users	Arrest Rate per 100,000 Annual Marijuana Users
1979	391,600	174.00	32,603,886	1,201
1980	405,600	178.11		
1981	400,300	174.07		
1982	455,600	196.22	31,994,668	1,424
1983	406,900	173.66		
1984	419,400	177.45		
1985	451,138	189.18	28,589,521	1,578
1986	361,780	150.33		
1987	378,709	155.97		
1988	391,600	159.82	21,098,764	1,856
1989	398,977	161.31		
1990	326,850	130.67	20,454,352	1,598
1991	287,850	113.55	19,234,931	1,496
1992	342,314	133.25	17,400,256	1,967
1993	380,689	146.28	18,573,265	2,050
1994	481,098	182.62	17,812,545	2,701
1995	588,964	220.95	17,754,695	3,317
1996	641,641	237.94	18,398,308	3,488
1997	695,200	254.73	19,446,161	3,575
1998	682,886	247.32	18,710,020	3,650
1999	704,812	252.35	19,081,589	3,694
2000	734,498	260.06	18,611,081	3,947
2001	723,627	253.42	21,065,231	3,435
2002	697,082	241.54	25,963,087*	2,685
2003	755.186	259.68	25,231,000*	2,993

*Note: The estimate of annual marijuana users for 2002 and 2003 is based on a revised survey instrument with improved accuracy. The increases in the estimate reflects a change in the survey rather than a dramatic one-year increase in marijuana use. In light of these new estimates it is likely that pre-2002 estimates significantly under-estimate the number of marijuana users in the U.S. Also, the 2002 NSDUH survey reported an estimate of 25,755,000 annual marijuana users and this figure is reported elsewhere in this report. However the 2003 NSDUH survey revised the 2002 estimate upward to 25,963,087.

Sources: Uniform Crime Reports (Annual), Crime in the United States; National Survey on Drug Use and Health (2002-2003); National Household Survey on Drug Abuse . (1979, 1982,1985, 1988, 1991-2001)

Table 19. High School Senior Marijuana Use, Risk Perception, and Marijuana Availability (1975- 2003)

Year	Marijuana Arrests	Marijuana Arrest Rate	12th Grade Annual Marijuana Use	12th Grade Monthly Marijuana Use	12th Grade Perception of Great Risk w/ Regular Marijuana Use	12th Grade Perception of Marijuana's Availability
1975	416,100	192.66	40.00%	27.10%	43.30%	87.80%
1976	441,100	202.31	44.50%	32.20%	38.60%	87.40%
1977	457,600	207.77	47.60%	35.40%	36.40%	87.90%
1978	445,800	200.28	50.20%	37.10%	34.90%	87.80%
1979	391,600	174.00	50.80%	36.50%	42.00%	90.10%
1980	405,600	178.11	48.80%	33.70%	50.40%	89.00%
1981	400,300	174.07	46.10%	31.60%	57.60%	89.20%
1982	455,600	196.22	44.30%	28.50%	60.40%	88.50%
1983	406,900	173.66	42.30%	27.00%	62.80%	86.20%
1984	419,400	177.45	40.00%	25.20%	66.90%	84.60%
1985	451,138	189.18	40.60%	25.70%	70.40%	85.50%
1986	361,780	150.33	38.80%	23.40%	71.30%	85.20%
1987	378,709	155.97	36.30%	21.00%	73.50%	84.80%
1988	391,600	159.82	33.10%	18.00%	77.00%	85.00%
1989	398,977	161.31	29.60%	16.70%	77.50%	84.30%
1990	326,850	130.67	27.00%	14.00%	77.80%	84.40%
1991	287,850	113.55	23.90%	13.80%	78.60%	83.30%
1992	342,314	133.25	21.90%	11.90%	76.50%	82.70%
1993	380,689	146.28	26.00%	15.50%	72.50%	83.00%
1994	481,098	182.62	30.70%	19.00%	65.00%	85.50%
1995	588,964	220.95	34.70%	21.20%	60.80%	88.50%
1996	641,641	237.94	35.80%	21.90%	59.90%	88.70%
1997	695,200	254.73	38.50%	23.70%	58.10%	89.60%
1998	682,886	247.32	37.50%	22.80%	58.50%	90.40%
1999	704,812	252.35	37.80%	23.10%	57.40%	88.90%
2000	734,498	260.06	36.50%	21.60%	58.30%	88.50%
2001	723,627	253.42	37.00%	22.40%	57.40%	88.50%
2002	697,082	241.54	36.20%	21.50%	53.00%	87.20%
2003	755,186	259.68	34.90%	21.20%	54.90%	87.10%

Sources: Uniform Crime Reports (Annual), Crime in the United States; Monitoring the Future (1975—2003).

Table 20. New Users of Marijuana and Alcohol (1965- 2002)

Year	Marijuana		New Alcohol	New Marijuana Users			Mean Age Of
	Arrests	Arrest Rate	Users	All Ages	Under 18	18 and Older	First Mj. Use
1965	18,815	9.68	3,283,000	794,000	304,000	490,000	18.7
1966	31,119	15.83	2,954,000	785,000	268,000	517,000	19.4
1967	61,843	31.12	3,609,000	1,317,000	463,000	854,000	19.2
1968	95,870	47.77	3,648,000	1,961,000	757,000	1,204,000	18.8
1969	118,903	58.67	3,955,000	2,627,000	985,000	1,642,000	19.0
1970	188,682	92.02	4,064,000	2,858,000	1,306,000	1,551,000	18.6
1971	225,828	108.75	3,918,000	2,951,000	1,333,000	1,619,000	18.4
1972	292,179	139.20	4,320,000	3,134,000	1,666,000	1,468,000	18.3
1973	420,700	198.53	4,140,000	3,460,000	1,735,000	1,725,000	18.8
1974	445,000	191.93	4,053,000	3,275,000	1,912,000	1,363,000	18.5
1975	416,100	192.66	3,999,000	3,332,000	1,880,000	1,452,000	18.3
1976	441,100	202.31	3,900,000	3,236,000	1,943,000	1,292,000	18.4
1977	457,600	207.77	4,103,000	3,327,000	1,891,000	1,436,000	18.6
1978	445,800	200.28	3,938,000	3,225,000	1,925,000	1,300,000	18.4
1979	391,600	174.00	3,959,000	3,028,000	1,733,000	1,295,000	19.1
1980	405,600	178.11	3,596,000	2,555,000	1,565,000	990,000	18.5
1981	400,300	174.07	3,744,000	2,518,000	1,452,000	1,066,000	18.3
1982	455,600	196.22	3,642,000	2,412,000	1,404,000	1,008,000	19.4
1983	406,900	173.66	3,219,000	2,365,000	1,500,000	865,000	18.0
1984	419,400	177.45	3,407,000	2,123,000	1,379,000	745,000	17.9
1985	451,138	189.18	3,288,000	2,182,000	1,374,000	809,000	18.0
1986	361,780	150.33	3,207,000	2,046,000	1,258,000	788,000	17.6
1987	378,709	155.97	3,086,000	1,809,000	1,116,000	692,000	17.8
1988	391,600	159.82	3,046,000	1,695,000	1,087,000	608,000	17.8
1989	398,977	161.31	3,220,000	1,702,000	994,000	708,000	18.3
1990	326,850	130.67	2,884,000	1,505,000	825,000	680,000	18.8
1991	287,850	113.55	2,961,000	1,765,000	1,042,000	723,000	17.8
1992	342,314	133.25	3,182,000	2,013,000	1,159,000	854,000	17.5
1993	380,689	146.28	3,190,000	2,148,000	1,338,000	810,000	17.2
1994	481,098	182.62	3,252,000	2,464,000	1,616,000	848,000	16.8
1995	588,964	220.95	3,278,000	2,698,000	1,726,000	973,000	17.0
1996	641,641	237.94	3,462,000	2,448,000	1,590,000	857,000	16.9
1997	695,200	254.73	3,697,000	2,613,000	1,725,000	889,000	17.2
1998	682,886	247.32	3,949,000	2,519,000	1,702,000	816,000	17.0
1999	704,812	252.35	4,258,000	2,715,000	1,728,000	987,000	17.5
2000	734,498	260.06	5,079,000	2,862,000	1,966,000	896,000	16.9
2001	723,627	253.42	5,259,000	2,806,000	1,872,000	934,000	17.3
2002	755,186	259.68	Not Available	2,573,000	1,763,000	810,000	17.2

Sources: Uniform Crime Reports (Annual), Crime in the United States; National Survey on Drug Use and Health (2003).

Table 21. Marijuana Arrests and Treatment Admissions (1995 - 2001)

	1995	1996	1997	1998	1999	2000	2001	2002
Marijuana Arrests	588,964	641,642	695,199	682,886	704,812	734,498	723,627	697,082
Marijuana Arrest Rate	220.95	237.94	254.73	247.32	252.35	260.06	253.42	241.54
Treatment Admissions	141,520	195,787	191,724	208,671	223,597	236,638	255,934	283,527
Diversions from Criminal Justice System	69,769	97,698	100,272	112,474	127,674	133,464	145,371	164,729
Diversions as Pct of Arrests	11.85%	15.23%	14.42%	16.47%	18.11%	18.17%	20.09%	23.63%

Sources: Uniform Crime Reports (Annual), Crime in the United States; Treatment Episode Data Set (2002).

Table 22. Marijuana Treatment Admissions Referrals (1995 - 2002)

	1995	1996	1997	1998	1999	2000	2001	2002
Treatment Admissions	141,520	195,787	191,724	208,671	223,597	236,638	255,934	283,527
Individual	20.00%	21.60%	18.30%	17.50%	16.30%	16.70%	17.50%	16.60%
Criminal Justice System	49.30%	49.90%	52.30%	53.90%	57.10%	56.40%	56.80%	58.10%
Substance Abuse Care Provider	7.70%	7.20%	7.20%	6.80%	6.20%	6.80%	5.90%	5.40%
Other Health Care Provider	6.10%	5.80%	5.60%	5.60%	5.30%	5.30%	4.90%	4.70%
School (Educational)	6.00%	4.90%	5.20%	4.70%	4.20%	3.90%	4.20%	4.20%
Employer/EAP	2.10%	2.00%	1.90%	1.70%	1.40%	1.30%	1.20%	1.20%
Other Community Referral	8.70%	8.60%	9.40%	9.70%	9.30%	9.60%	9.50%	9.80%

Sources: Uniform Crime Reports (Annual), Crime in the United States; Treatment Episode Data Set (2002).

Table 23. Emergency Department Mentions of Marijuana, Cocaine, and Heroin

			Mentions					Mj	Mj-Only	Mj-Only
Year	Marijuana Arrest Rate	All Drug Episodes	All Drug	Cocaine	Heroin	Marijuana	Only Marijuana	Pct of Episodes	Pct of Mj Mentions	Pct of Episodes
1988	159.82	403,578	668,153	101,578	38,063	19,962		4.95%		
1989	161.31	425,904	713,392	110,013	41,656	20,703		4.86%		
1990	130.67	371,208	635,460	80,355	33,884	15,706		4.23%		
1991	113.55	393,968	674,861	101,189	35,898	16,251		4.12%		
1992	133.25	433,493	751,731	119,843	48,003	23,997		5.54%		
1993	146.28	460,910	796,762	123,423	63,232	28,873		6.26%		
1994	182.62	518,880	899,600	143,337	63,158	40,034		7.72%		
1995	220.95	513,519	900,287	135,711	69,556	45,259	9,690	8.81%	21.41%	1.89%
1996	237.94	513,993	906,366	152,420	72,980	53,770	11,657	10.46%	21.68%	2.27%
1997	254.73	526,818	942,382	161,083	70,712	64,720	13,734	12.29%	21.22%	2.61%
1998	247.32	542,432	981,764	172,011	75,688	76,842	16,044	14.17%	20.88%	2.96%
1999	252.35	554,767	1,014,243	168,751	82,192	87,068	18,936	15.69%	21.75%	3.41%
2000	260.06	601,563	1,099,306	174,881	94,804	96,426	22,694	16.03%	23.53%	3.77%
2001	253.42	638,484	1,165,367	193,034	93,064	110,512	27,062	17.31%	24.48%	4.24%
2002	241.54	670,306	1,203,338	199,196	93,519	118,472	32,953	17.67%	27.80%	4.92%

Sources: Uniform Crime Reports (Annual), Crime in the United States; Drug Abuse Warning Network (Annual).

Table 24. Marijuana Potency

Year	Marijuana Arrests	Marijuana Arrest Rate	Commercial Marijuana Potency	Sinsemilla Marijuana Potency
1992	342,314	133.25	3.97%	8.57%
1993	380,689	146.28	4.52%	5.77%
1994	481,098	182.62	4.25%	7.49%
1995	588,964	220.95	4.19%	7.51%
1996	641,641	237.94	4.77%	9.23%
1997	695,200	254.73	5.56%	11.55%
1998	682,886	247.32	4.21%	12.33%
1999	704,812	252.35	4.19%	13.38%
2000	734,498	260.06	4.68%	12.82%
2001	723,627	253.42	4.72%	9.03%

Sources: Uniform Crime Reports (Annual), Crime in the United States; Drug Enforcement Administration (1999, 2003).

Table 25. Marijuana Prices per Pure Gram of THC

Year	Marijuana Arrests	Marijuana Arrest Rate	Purchase of <10 grams	Purchase of 10 to 100 grams	Purchase of 100 to 1000 grams	Purchase of 1000 + grams
1981	400,300	174.07	$7.37	$4.19	$6.78	$0.91
1982	455,600	196.22	$9.80	$5.33	$2.17	$1.29
1983	406,900	173.66	$11.10	$8.23	$3.66	$1.08
1984	419,400	177.45	$12.08	$6.65	$2.93	$2.86
1985	451,138	189.18	$12.80	$7.54	$2.80	$1.83
1986	361,780	150.33	$14.81	$8.40	$3.32	$1.08
1987	378,709	155.97	$13.05	$12.36	$4.28	$2.56
1988	391,600	159.82	$14.23	$10.34	$3.79	$2.08
1989	398,977	161.31	$14.58	$15.59	$3.67	$2.05
1990	326,850	130.67	$14.07	$8.85	$5.06	$1.92
1991	287,850	113.55	$23.35	$16.88	$5.39	$4.06
1992	342,314	133.25	$14.82	$10.32	$4.86	$3.25
1993	380,689	146.28	$15.05	$15.75	$4.08	$2.01
1994	481,098	182.62	$13.73	$8.79	$3.48	$1.79
1995	588,964	220.95	$11.77	$7.39	$3.34	$1.83
1996	641,641	237.94	$10.47	$6.87	$2.54	$1.58
1997	695,200	254.73	$10.05	$6.80	$2.70	$1.30
1998	682,886	247.32	$9.22	$6.67	$2.94	$1.23
1999	704,812	252.35	$9.27	$9.05	$2.71	$1.14
2000	734,498	260.06	$8.80	$5.26	$2.41	$0.97

Sources: Uniform Crime Reports (Annual), Crime in the United States; Office of National Drug Control Policy (2001)

3. Marijuana Possession Arrests

Marijuana Possession Arrests—General Trend This part describes overall trends in marijuana possession arrests. These arrests account for 80% to 90% of all marijuana arrests. The national arrest rate for possession was 89 per 100,000 in 1991; in 2002 the rate was 213. By 2001 arrests had increased by a factor of 2.8, from 344,339 in 1991 to 641,108. In 2003 the arrest rate for marijuana possession was 228, total arrests were 662,896.

The Demographics of Marijuana Possession Arrests This part describes the population of people arrested for marijuana possession**.** The people arrested for marijuana possession tend to be young and male. 3 out of 5 people arrested for marijuana possession (61%) are under the age of 24. Over 4 out of 5 people arrested for marijuana possession (85%) are male.

Population, Use, and Arrest Percentages This part compares the representation of sub-populations among people arrested for marijuana possession, people who use marijuana, and the overall national population. For example, there are 1.7 times as many blacks, on a percentage basis, in the population of people arrested than in the population of people who use marijuana. This will be referred to as an 'over-representation' of blacks in the group of people arrested for possession. Over-representation indicates the subpopulations most likely to be arrested for marijuana possession.

Arrest Rates Based on the User Population This part combines arrest and annual use data to produce arrest rates per 100,000 annual users. This provides another way to compare the arrest rates for various sub-populations while controlling for differences in the prevalence of marijuana use. The arrest rate of 2,367 per 100,000 annual users indicates that about 2.4% of all users were arrested in 2002 for marijuana possession. The rate for blacks is 4,586, 94% higher than the rate for all users while the rate for whites is 2,371, about the same.

Arrest Rates Based on Population This part presents traditional arrest rates per 100,000 of the overall population receiving law enforcement service. Even without controlling for differences in the prevalence of marijuana use, conventional arrest rates demonstrate the same bias in arrests for marijuana possession as the data above. The arrest rate for blacks is 413 compared to 179 for whites, 174 for indians (Native Americans) and35 for Asians. The rate for black adults is 523 compared to 186 for white adults.

Marijuana Possession Arrests—General Trend

Marijuana possession arrests account for an overwhelming percentage of all marijuana arrests. These arrests account for 80% to 90% of all marijuana arrests. The national arrest rate for possession was 89 per 100,000 in 1991; in 2002 the rate was 213. (See Table 26.) After falling in 2001 and 2002 the arrest rate for possession rose back to 228 in 2003.

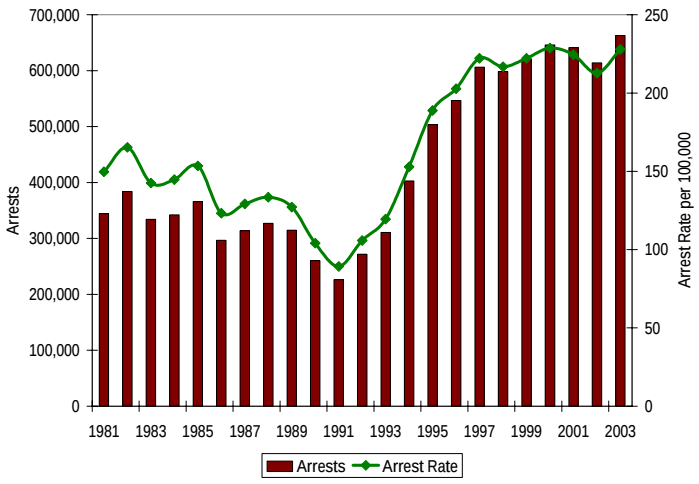
In 1981 marijuana possession arrests accounted for 86% of all marijuana arrests, and as arrest rates fell in the 1980s this percentage also fell, to 78.6% in 1991. However as arrest rates rose in the 1990s marijuana possession arrests began to account for an increasingly higher percentage of all marijuana arrests, reaching 88.6% in 2001. During the 1980s the arrest rate for marijuana possession offenses fell from 165 in 1982 to 89 in 1991. Arrests fell from 344,339 in 1981 to 226, 240 in 1991. In the 1990s the arrest rate for possession rose steadily from 89 in 991 to 229 in 2000. (See Table 26, Figure 32.) By 2001 arrests had increased by a factor of 2.8, from 344,339 in 1991 to 641,108. Since 1996 marijuana possession arrests have averaged 617,066 per year.

Table 26. Marijuana Possession Arrests

Year	Arrests	Rate	Pct of Mj.
1981	344,339	149.73	86.02%
1982	383,968	165.37	84.28%
1983	334,007	142.55	82.09%
1984	342,157	144.77	81.58%
1985	365,941	153.46	81.12%
1986	296,676	123.28	82.00%
1987	313,709	129.20	82.84%
1988	326,921	133.43	83.48%
1989	314,552	127.17	78.84%
1990	260,391	104.10	79.67%
1991	226,240	89.25	78.60%
1992	271,932	105.85	79.44%
1993	310,859	119.44	81.66%
1994	402,717	152.87	83.71%
1995	503,350	188.83	85.46%
1996	546,751	202.75	85.21%
1997	606,519	222.24	87.24%
1998	598,694	216.83	87.67%
1999	620,541	222.18	88.04%
2000	646,042	228.74	87.96%
2001	641,108	224.52	88.60%
2002	613,986	212.75	88.08%
2003	662,886	227.95	87.87%

Source: Uniform Crime Reports (Annual), Crime in the United States.

Figure 32. Marijuana Possession Arrests and Rate (1981- 2003)



The Demographics of Marijuana Possession Arrests

The people arrested for marijuana possession tend to be young and male. While the data discussed below is from 2002 the same trends are evident for 2000 and 2001. (See Figure 33 below and Figures 57-65 in Appendix 3.)

Young people comprise the majority of marijuana possession arrests. Three out of five people arrested for marijuana possession (61%) are under the age of 24. (See Table 27.) Nearly half of the people arrested for marijuana possession (51%) are 21 or younger. One fourth of the people arrested for marijuana possession (25%) are 18 or younger.

Over 4 out of 5 people arrested for marijuana possession (85%) are male. Half of all marijuana possession arrests are males under the age of 24. Males age 15 to 18 account for 1 out of 5 marijuana possession arrests (21%). Over 1 out of 4 people arrested for marijuana possession (26%) are Black. White juveniles account for 15% of possession arrests while black juveniles account for 3%.

In sheer numbers according to the available data in 2002 there were roughly 100,000 marijuana possession arrests of individuals under the age of 18, 250,000 possession arrests of individuals age 18 to 21, and 150,000 possession arrests of individuals age 22 to 29. Three fourths of marijuana possession arrests are of individuals under the age of 30.

Figure 33. Marijuana Possession Arrest Percentages (2000-2002)

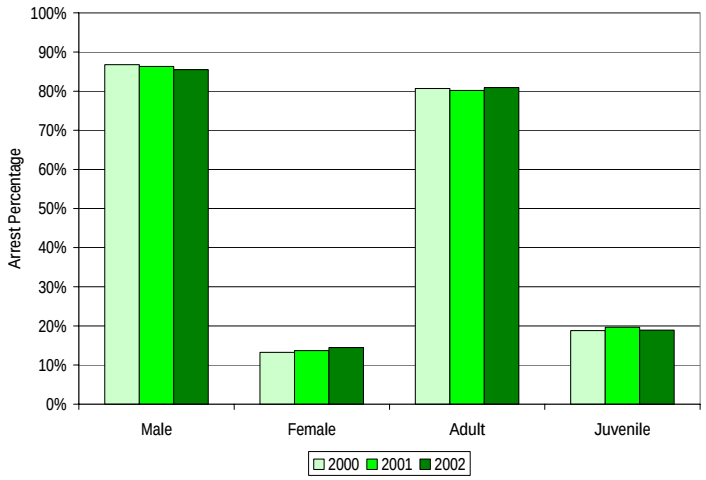


Table 27. Marijuana Possession Arrests (2002)

	Male	Female	Total	Male	Female	Total
Age 15	16,537	3,505	20,042	2.69%	0.57%	3.26%
Age 16	27,861	4,909	32,770	4.54%	0.80%	5.34%
Age 17	38,451	5,852	44,303	6.26%	0.95%	7.22%
Age 18	49,830	7,441	57,271	8.12%	1.21%	9.33%
Age 19	48,202	7,022	55,224	7.85%	1.14%	8.99%
Age 20	40,828	5,955	46,783	6.65%	0.97%	7.62%
Age 21	34,322	4,908	39,229	5.59%	0.80%	6.39%
Age 22 to 23	52,932	7,534	60,467	8.62%	1.23%	9.85%
Age 24 to 29	83,951	12,780	96,731	13.67%	2.08%	15.75%
Age 30 to 34	40,016	7,544	47,560	6.52%	1.23%	7.75%
Age 35 to 49	67,591	15,604	83,195	11.01%	2.54%	13.55%
Age 50 to 64	8,875	1,519	10,393	1.45%	0.24%	1.69%
Age 65 +	580	85	665	0.09%	0.01%	0.11%
All Ages	525,126	88,839	613,965	83.06%	13.78%	96.85%
	Juvenile	**Adult**	**All**	**Juvenile**	**Adult**	**All**
White	93,569	349,387	442,956	15.24%	56.91%	72.15%
Black	20,304	141,301	161,605	3.31%	23.01%	26.32%
Indian	1,131	3,963	5,095	0.18%	0.65%	0.83%
Asian	1,407	2,902	4,309	0.23%	0.47%	0.70%
All Races	116,411	497,554	613,965	18.96%	81.04%	100.00%

Source: Uniform Crime Reports, Arrests by Age, Sex and Race (2002).

Population, Use, and Arrest Percentages

One way to evaluate the demographics of marijuana possession arrests is to compare the population of people arrested for possession with the population of people who use marijuana annually and the composition of the overall national population of the country. (See Table 29 for population estimates.)

A National Research Council review of supply-reduction policy analysis and related research explains the importance of this issue:

> "The nation has long maintained the expectation that law enforcement should be fair as well as effective. In particular, Americans expect that enforcement efforts will not target members of specific socioeconomic or demographic groups. As the Supreme Court stated in *Yick Wo v. Hopkins* in 1886, law enforcement officials violate the Constitution if they apply an otherwise valid law "with an evil eye and an unequal hand so as practically to make

Table 28. Population, Use, and Arrest Percentages, by Race (2002)

Juvenile	Population	Annual Use	Arrests
White	19.36%	10.55%	15.24%
Black	3.94%	1.68%	3.31%
Indian	0.31%	0.19%	0.18%
Asian	0.95%	0.20%	0.23%
Total	25.28%	12.64%	18.96%
Adult	**Population**	**Annual Use**	**Arrests**
White	61.31%	61.48%	56.91%
Black	8.80%	11.91%	23.01%
Indian	0.65%	0.62%	0.65%
Asian	3.06%	1.19%	0.47%
Total	74.72%	75.45%	81.04%
All	**Population**	**Annual Use**	**Arrests**
White		72.02%	72.15%
Black	12.74%	13.58%	26.32%
Indian	0.95%	0.81%	0.83%
Asian	4.01%	1.67%	0.70%
Total	100.00%	100.00%	100.00%

Sources: Uniform Crime Reports, Arrests by Age, Sex and Race (2002); National Survey on Drug Use and Health (2002); U.S. Census Bureau Population Estimates—State Characteristics (2002).

Figure 34. Population, Annual Marijuana Use, & Marijuana Possession Arrest Percentages, by Race (2002)

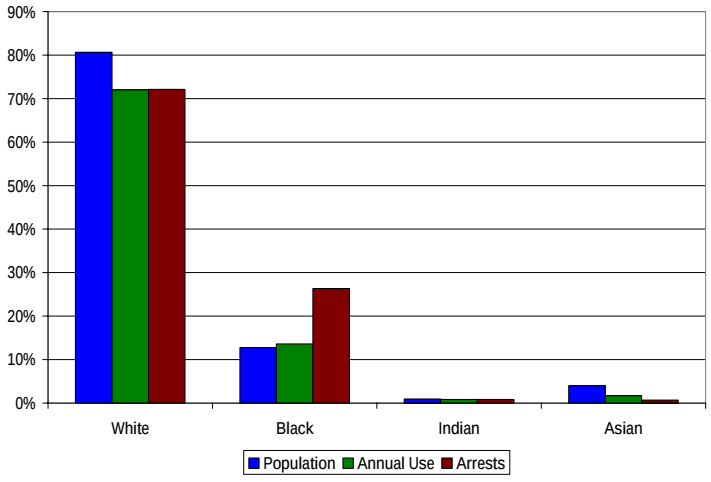


Table 29. U.S. Population Estimates, by Age and Sex (2002)

	Population Estimates			Population Pct.		
Age	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Age 15	2,094,912	1,996,179	4,091,091	0.73%	0.69%	1.42%
Age 16	2,092,881	1,988,750	4,081,631	0.73%	0.69%	1.42%
Age 17	2,092,873	1,982,455	4,075,328	0.73%	0.69%	1.41%
Age 18	2,084,079	1,964,005	4,048,084	0.72%	0.68%	1.40%
Age 19	2,106,383	1,973,634	4,080,017	0.73%	0.68%	1.41%
Age 20	2,111,955	2,000,318	4,112,273	0.73%	0.69%	1.43%
Age 21	2,123,992	2,027,916	4,151,908	0.74%	0.70%	1.44%
Age 22 to 23	4,137,828	3,945,988	8,083,816	1.43%	1.37%	2.80%
Age 24 to 29	11,616,497	11,221,029	22,837,526	4.03%	3.89%	7.92%
Age 30 to 34	10,562,644	10,393,768	20,956,412	3.66%	3.60%	7.27%
Age 35 to 49	32,858,263	33,360,407	66,218,670	11.39%	11.57%	22.96%
Age 50 to 64	21,968,875	23,414,724	45,383,598	7.62%	8.12%	15.74%
Age 65 +	14,771,869	20,830,048	35,601,916	5.12%	7.22%	12.35%
All Ages	141,660,976	146,707,728	288,368,704	49.12%	50.88%	100.00%
Race	**Juvenile**	**Adult**	**All**	**Juvenile**	**Adult**	**All**
White	55,836,000	176,810,160	232,646,160	19.36%	61.31%	80.68%
Black	11,367,877	25,378,096	36,745,973	3.94%	8.80%	12.74%
Indian	884,207	1,867,951	2,752,158	0.31%	0.65%	0.95%
Asian	2,736,521	8,822,501	11,559,022	0.95%	3.06%	4.01%
All Races	72,894,485	215,474,206	288,368,672	25.28%	74.72%	100.00%

Source: U.S. Census Bureau Population Estimates—County Characteristics (2002); State Characteristics (2002).

> unjust discriminations between persons in similar circumstances." While society's concern for evenhandedness in enforcement is a normative matter, this concern generates empirical questions on which data and research can shed light: How evenhanded is enforcement policy today? What would alternative policies achieve? A flash point of recent public discussion of evenhandedness in drug law enforcement has been the striking disparities between the racial or ethnic composition of the U.S. population and the racial or ethnic distribution of persons arrested, convicted, and imprisoned for drug offenses . . . While the existence of these disparities is widely acknowledged, there is no consensus about their interpretation." [15]

The data reviewed below will further describe these disparities in terms of both race and age/sex demographics. Race, though, provides a ready demonstration of the disparities mentioned above. Blacks account for 12.74% of the population, 13.58% of annual marijuana users and 26.32% of marijuana possession arrests in 2002. (See Table 28.) These data indicate that there are slightly more blacks, on a percentage basis, in the population of annual users than there is in the overall national population. These data also indicate that there are nearly twice as many blacks, on a percentage basis, in the population of people arrested than in the population of people who use marijuana. In the discussion below this will be referred to as an 'over-representation' of blacks in the group of people arrested for possession.

Over-representation indicates the subpopulations most likely to be arrested for marijuana possession. A comparison of the arrest percentage with either the annual use or the population percentage provides a means to evaluate the representation of sub-populations in the overall population of people arrested for marijuana possession. The results identify similar trends to comparisons of arrest rates which follow below.

The over-representation of blacks is also

[15] National Research Council. (2001) Manski, Charles F., John V. Pepper, and Carol V. Petrie (eds.) Informing America's Policy on Illegal Drugs. Washington, D.C.: National Academy Press. Pg 179.

Figure 35. Population, Annual Marijuana Use, & Marijuana Possession Arrest Percentages, Adults by Race (2002)

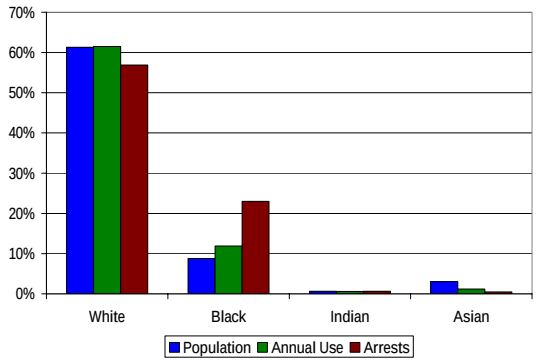


Figure 36. Population, Annual Marijuana Use, & Marijuana Possession Arrest Percentages, Juveniles by Race (2002)

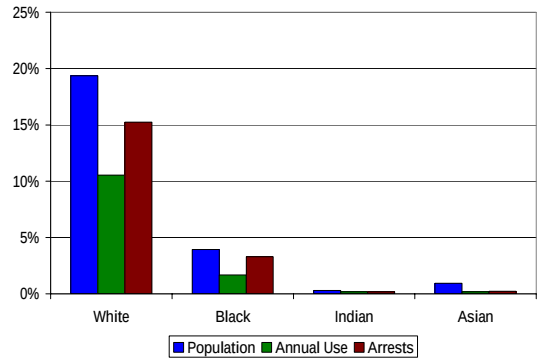


Table 30. Population, Use, and Arrest Percentages, by Age and Sex (2002)

By Age	Population	Annual Use	Arrests
Age 15	1.42%	3.17%	3.26%
Age 16	1.42%	4.04%	5.34%
Age 17	1.41%	4.92%	7.22%
Age 18	1.40%	5.44%	9.33%
Age 19	1.41%	5.50%	8.99%
Age 20	1.43%	4.99%	7.62%
Age 21	1.44%	5.43%	6.39%
Age 22 to 23	2.80%	8.32%	9.85%
Age 24 to 29	7.92%	15.59%	15.75%
Age 30 to 34	7.27%	9.52%	7.75%
Age 35 to 49	22.97%	23.69%	13.55%
Age 50 to 64	15.74%	5.70%	1.69%
Age 65 +	12.35%	0.78%	0.11%

Males	Population	Annual Use	Arrests
Age 15	0.73%	1.62%	2.69%
Age 16	0.73%	2.05%	4.54%
Age 17	0.73%	2.69%	6.26%
Age 18	0.72%	3.13%	8.12%
Age 19	0.73%	2.97%	7.85%
Age 20	0.73%	2.94%	6.65%
Age 21	0.74%	3.07%	5.59%
Age 22 to 23	1.43%	4.82%	8.62%
Age 24 to 29	4.03%	9.66%	13.67%
Age 30 to 34	3.66%	6.32%	6.52%
Age 35 to 49	11.40%	15.20%	11.01%
Age 50 to 64	7.63%	3.59%	1.45%
Age 65 +	5.12%	0.58%	0.09%

Females	Population	Annual Use	Arrests
Age 15	0.69%	1.55%	0.57%
Age 16	0.69%	2.00%	0.80%
Age 17	0.69%	2.23%	0.95%
Age 18	0.68%	2.31%	1.21%
Age 19	0.68%	2.53%	1.14%
Age 20	0.69%	2.04%	0.97%
Age 21	0.70%	2.36%	0.80%
Age 22 to 23	1.37%	3.50%	1.23%
Age 24 to 29	3.90%	5.93%	2.08%
Age 30 to 34	3.60%	3.20%	1.23%
Age 35 to 49	11.57%	8.49%	2.54%
Age 50 to 64	8.12%	2.11%	0.24%
Age 65 +	7.22%	0.20%	0.01%

Sources: Uniform Crime Reports, Arrests by Age, Sex and Race (2002); National Survey on Drug Use and Health (2002); U.S. Census Bureau Population Estimates—State Characteristics (2002).

clarified by comparing black representation to whites in these populations. Whites account for 81% of the population and 72% of both annual marijuana users and marijuana possession arrests. (See Table 28, Figure 34.)

Black adults account for 8.8% of the population, 11.9% of annual marijuana users, and 23.0% of marijuana possession arrests. (See Table 28, Figure 35.) White adults have a using percentage (61.5%) about the same as their percentage of the population (61.3%), but they are slightly under-represented in possession arrests (57%). Native American adults use marijuana and are arrested in the same proportions as in the population, while Asians are under-represented in both annual use and in arrests.

Black juveniles use marijuana (1.7% of annual users) in lower proportions than their population share (3.9%). (See Table 28, Figure 36.) Black juveniles are over-represented in possession arrests accounting for 3.3% compared to a 1.7% share of using population. The same trend, to a much lesser degree, holds for white juveniles, who account for 10.5% of users and 15.3% of possession arrests.

Black adults make up a greater share of annual marijuana users than they do the general population; this characteristic is not shared by black juveniles. And while more black adults may use marijuana than whites, proportionately, this does not account for the dramatic contrast between their share of annual marijuana users (11.9%) and their share of possession arrests (23.0%)

The majority of people arrested for marijuana possession are young: 25% of arrests are of people 18 or younger, 48% are 21 or younger, and 74% of arrests are people under the age of 30. (See Table 30, Figure 37.) Prior to age 30 younger age groups make up a larger percentage of annual users than they

Figure 37. Population, Annual Marijuana Use, & Marijuana Possession Arrest Percentages by Age (2002)

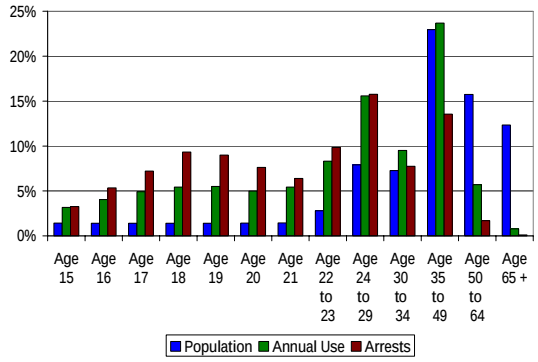


Figure 38. Population, Annual Marijuana Use, & Marijuana Possession Arrest Percentages for Males, by Age (2002)

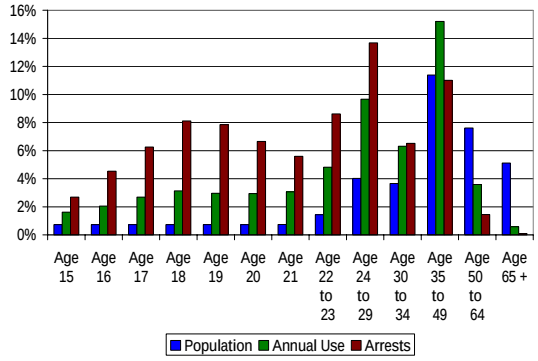
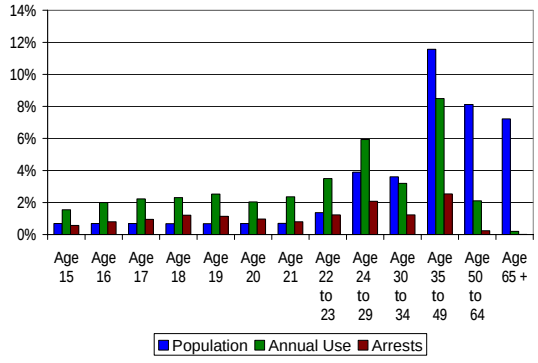


Figure 39. Population, Annual Marijuana Use, & Marijuana Possession Arrest Percentages for Females, by Age (2002)



do the general population. However their percentages of possession arrests overtakes their percentage of annual users; the disparity increases as age 18 is reached and declines through age 23 and then increases again for those age 24 to 29. Age 16 accounts for 1.4% of the population, 4% of annual users, and 5.3% of possession arrests. At age 18 the disparity grows, accounting for 1.4% of the population, 5.4% of annual users, and 9.3% of possession arrests. By comparison the 30 to 34 age group accounts for 7.3% of the population, 9.5% of annual users, and only 7.8% of arrests. Among older groups the percentage of arrests is considerably lower, a fraction, of the percentage of annual use.

The age data hides another imbalance in the demographics of marijuana possession arrests, the emphasis of arrests of young males. (See Table 30, Figure 38.) At age 15 males are .7% of the population, 1.6% of annual marijuana users, and 2.7% of marijuana possession arrests. By age 18 males are .7% of the population, 3.1% of annual marijuana users, and 8.1% of possession arrests. Males aged 24 to 29 are 4% of the population, 9.7% of annual users, and 13.7% of possession arrests. For males ages 35 to 49 the percentage of annual use (15.2%) is higher than their population percentage (11.4%) but the arrest percentage (11%) is lower than the use percentage and about the same as the percentage in the population. By comparison males ages 50 to 64 are 7.6% of the population, 3.6% of annual users, and 1.4% of marijuana possession arrests. Overall males are 49% of the population, 60% of annual users and 86% of marijuana possession arrests.

Another group (in addition to whites) that is underrepresented in marijuana possession arrests is the female population. (See Table30, Figure 39.) While females make up 40% of annual marijuana users they only account for about 14% of all marijuana arrests. For female age groups under 30 the percentage of annual users far exceeds the percentage of the population. At age 18 females make up .7% of the population, 2.3% of annual marijuana users, and 1.2% of marijuana possession arrests. Females age 35 to 49 make up 11.6% of the population, 8.5% of marijuana users, and 2.5% of marijuana possession offenses.

Table 31. Comparison of Marijuana Use and Possession Arrest Percentages

Sub-population	Use	Arrests	Increase
Male Age 18	3.13%	8.12%	159%
Black Juveniles	1.68%	3.31%	97%
Blacks	13.58%	26.32%	94%
Black Adults	11.91%	23.01%	93%
Male 24 to 29	9.66%	13.67%	42%
Age 18	5.44%	9.33%	72%

Sources: Uniform Crime Reports, Arrests by Age, Sex and Race (2002); National Survey on Drug Use and Health (2002).

Overall females are 51% of the population, 40% of annual users, and 14% of marijuana possession arrests.

One way to compare the over representation of some of these demographic groups in arrests is to rank them by the amount of increase from their share of annual use to their share of possession arrests. (See Table 31.) For age 18 the increase from 5.4% of annual users to 9.3% of possession arrests is an increase of 72%. For males age 18 the increase is 159%, for black adults it is 93%.

Marijuana possession arrests disproportionately affect blacks, youths, and males. Marijuana users who are white, over 30, and/or female, are disproportionately unaffected by marijuana possession arrests.

Arrest Rates Based on the User Population

This demographic data can also be used to estimate arrest rates for marijuana possession in each group in terms of the number of annual marijuana users. These estimates further clarify the differences in how these demographic subgroups are impacted by marijuana possession arrests by taking the number of marijuana users into account.

The arrest rate of 2,367 per 100,000 annual users indicates that about 2.4% of all users are now arrested each year for possession alone. (See Table 32, Figure 40.) The rate for blacks is 4,586, 94% higher than the rate for all users while the rate for whites is 2,371, about the same. The rate for all juveniles is 2,979, 26% higher. The arrest rate for black juveniles is 4,660, roughly 49% higher than the 2,367 benchmark rate for all users. This relatively high arrest rate has as much to do with age as with race.

The arrest rate for female marijuana users under age 35 is fairly constant between 800 and 1,000 arrests per 100,000 users, or 1%, but reaches 1,243 for 18 year old and 1,124 for 20 year old females. (See Table 33, Figure 410.)

Table 32. Marijuana Possession Arrest Rates per 100,000 Annual Marijuana Users, by Race (2002)

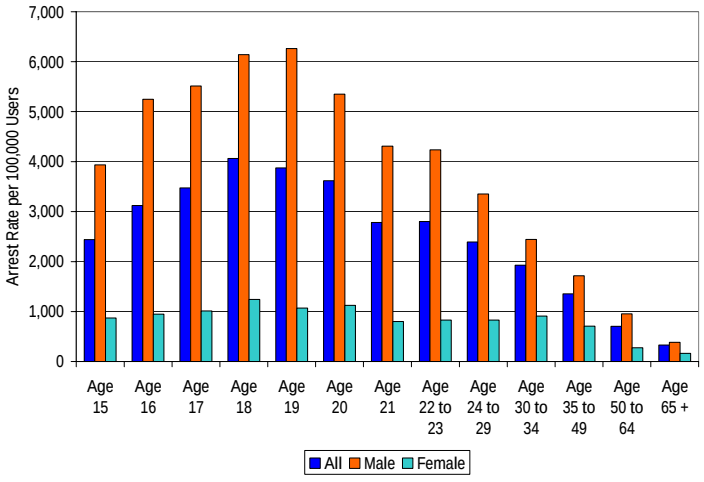
	All	Juvenile	Adult
White	2,371.28	3,420.39	2,191.28
Black	4,586.62	4,660.88	4,576.15
Indian	2,416.02	2,313.93	2,446.83
Asian	995.72	2,749.39	939.29
All	2,367.22	2,979.95	2,258.61

Table 33. Marijuana Possession Arrest Rates per 100,000 Annual Marijuana Users, by Age (2002)

	Total	Male	Female
Age 15	2,438.80	3,935.12	872.93
Age 16	3,124.09	5,246.52	947.86
Age 17	3,474.70	5,512.50	1,013.41
Age 18	4,062.45	6,140.11	1,243.83
Age 19	3,873.76	6,262.78	1,070.56
Age 20	3,617.76	5,347.91	1,124.18
Age 21	2,784.33	4,310.23	801.07
Age 22 to 23	2,803.25	4,237.13	829.98
Age 24 to 29	2,392.06	3,351.49	830.42
Age 30 to 34	1,927.16	2,441.31	910.30
Age 35 to 49	1,354.16	1,714.37	708.93
Age 50 to 64	703.20	954.29	277.13
Age 65 +	330.27	387.71	163.91
All Ages	2,367.22	3,368.13	858.75

Sources: Uniform Crime Reports, Arrests by Age, Sex and Race (2002); National Survey on Drug Use and Health (2002).

Figure 40. Marijuana Possession Arrest Rates per 100,000 Users, by Age (2002)



The most striking bias in arrest rates per annual users is in the rates for young males. The rate for 15 year old males is 3,935 and it increases steadily to a peak of 6,140 for 18 year old and 6,263 for 19 year old males before dropping to about 4,237 for ages 21 to 23.

The use of survey data on marijuana use along with data on arrests provides a basis for estimating the extent possession arrests impact on the target population of annual users. While arrests generally hit about 2.4% of users they reach as high as 6.1% for 18 year old males and close to 4.5% for blacks. Arrest rates per 100,000 annual marijuana users clarify the differential impact of possession arrests on blacks and the young.

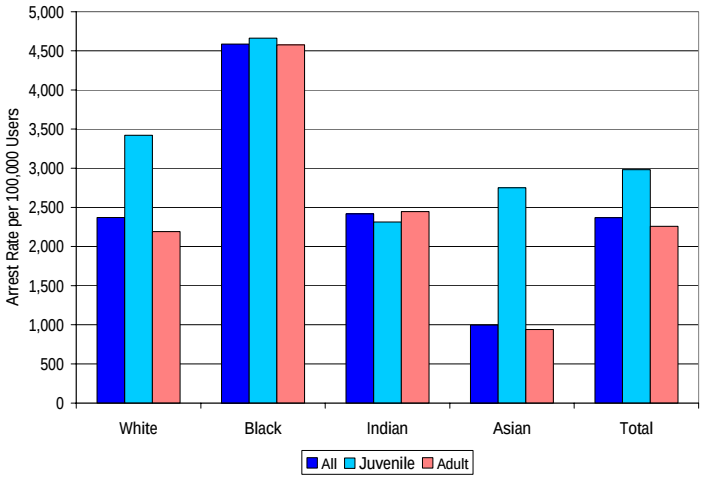
It's not just that marijuana use is more prevalent in these groups. Review of demographic data on marijuana use, its comparison with demographic data on arrests, and examination of arrest rates based on the number of annual marijuana users in each group indicates that the over-representation of blacks and youths in marijuana arrests is a function of law enforcement capability and policy rather than differences in marijuana use by different demographic groups.

Calculation of Usage Based Arrest Rates

Arrest rates per 100,000 population for a particular offense are calculated by dividing the number of arrests by the coverage population of the reporting law enforcement agencies and multiplying the result by 100,000. Arrest rates per 100,000 annual marijuana users are calculated the same way. The number of arrests for marijuana possession, for example, are divided by the number of annual marijuana users, and the result is multiplied by 100,000 to produce the arrest rate per 100,000 annual marijuana users.

The calculation of age-, sex-, and race-specific arrest rates based on the estimated population of annual marijuana users requires national estimates of the number of arrests for each demographic category. These estimates are obtained by applying the proportional representation of subgroups in the UCR master file of arrests to the national UCR estimate of all marijuana possession arrests. For example, 18 year old males are 8.12% of the 485,513 possession arrests by reporting agencies to the UCR program and on this basis the number of 18 year old males arrested nationally is estimated to be 8.12% of the total 613,965 possession arrests nationally.

Figure 41. Marijuana Possession Arrest Rate per 100,000 Users, by Race (2002)



Arrest Rates Based on Population

The overall rate for marijuana possession from this 2002 UCR master file data is 200 per 100,000. Conventional arrest rates (per 100,000 population) for marijuana possession are reported in Table 34. Three year trends are presented in Figure 42 below and in Figures 66-74 in Appendix 3.

Most of the demographic trends evaluated in earlier sections are noticeable in these general arrest rates. The highest arrest rates are for teenage males. The possession arrest rate climbs from 1,253 per 100,000 for 16 year old males to 2,155 for 19 year old males. (See Table 34.) The arrest rates for teenage females, while considerably lower than the rates for teenage males, are still much higher than the overall rate. The arrest rate for 18 year old females is 357; the rate for 19 year old females is 335. The arrest rate for adult blacks is 532 per 100,000 while the arrest rate for adult whites is 186.

However the arrest rate for juvenile blacks (168) is only slightly higher than the rate for juvenile whites (158). Even without the distinctions between males and females or juveniles and adults the overall disparities remain apparent. The arrest rate for teenagers climbs from 461 for 15 year olds to 1,024 for 17 year olds and 1,333 for 18 year olds. The arrest rate for blacks is 413 compared to a rate of 179 for whites. As noted in the prior section differences in the prevalence of marijuana use do not account for the differences in arrest rates. Regardless of the cause black adults and young people are the primary focus for marijuana arrests.

Whether or not these disparities in marijuana law arrests indicate a lack of evenhandedness by law enforcement is a matter for further research, analysis, and debate. The issue here is one of impacts, specifically the magnitude of the impact of

Table 34. Marijuana Possession Arrest Rates per 100,000 Population, by Age and Race

	Male	Female	All
Age 15	743.51	165.40	461.43
Age 16	1,253.88	232.50	756.22
Age 17	1,730.47	278.06	1,023.94
Age 18	2,252.08	356.84	1,332.57
Age 19	2,155.40	335.13	1,274.88
Age 20	1,820.86	280.40	1,071.54
Age 21	1,522.02	227.95	889.96
Age 22	1,303.69	197.84	763.63
Age 23	1,101.83	161.02	642.82
Age 24	953.97	150.11	561.09
Age 25 to 29	624.67	98.60	365.91
Age 30 to 34	356.83	68.37	213.76
Age 35 to 39	263.23	61.26	162.21
Age 40 to 44	195.77	46.32	120.48
Age 45 to 49	119.02	24.17	70.89
Age 50 to 54	60.89	11.10	35.44
Age 55 to 59	28.55	3.73	15.75
Age 60 to 64	12.57	1.27	6.65
Age 65 +	3.70	0.38	1.76
Total	349.15	57.04	200.54
	Juvenile	**Adult**	**All**
White	157.58	185.82	179.04
Black	167.95	523.56	413.55
Indian	120.29	199.52	174.07
Asian	48.36	30.93	35.06
Total	154.56	219.78	200.54

Sources: Uniform Crime Reports, Arrests by Age, Sex and Race (2002); U.S. Census Bureau Population Estimates—State Characteristics (2002).

marijuana possession arrests on blacks and young people and the limitations of law enforcement capabilities.

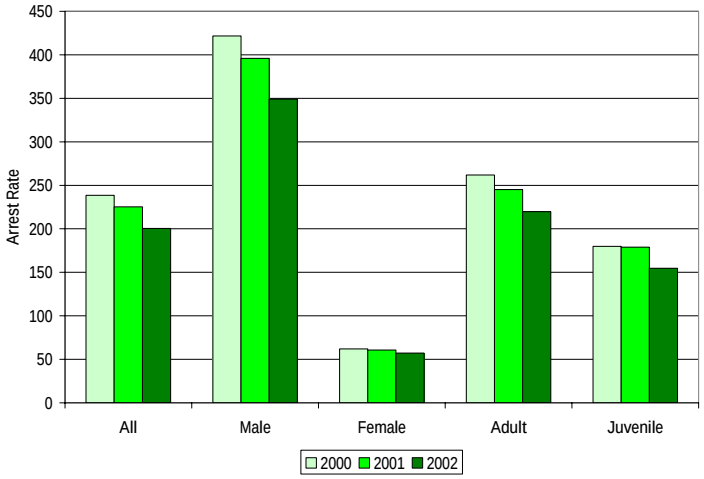
The principle investigators for the Monitoring the Future survey of high school and college students have focused considerable research and analysis on "The Decline of Substance Use in Young Adulthood." Their results provide considerable support for the theory that the use of drugs is related to risk perception:

> "[Our] findings also confirm earlier research showing that views about drugs – especially perceived risks and disapproval – are strongly linked with actual use. And in spite of all the problems in using correlations to sort out casual directions, we feel entirely confident in asserting that perceiving a substance as risky makes adolescents and young adults more likely to avoid use of that substance. Engagement, marriage, pregnancy, and parenthood all tend to heighten both disapproval and perception of risks of substance use . . . we do not believe in scare tactics as a means of preventing drug use, but the large body of research linking perceptions of risk to lower drug use certainly suggests that known dangers of various kinds of drug use should be publicized widely, realistically, and also dramatically." [16].

The obvious question, then, is whether or not intensive arrests of young marijuana users conveys sufficient risk to discourage use; does the law serve as a sufficient deterrent to adolescent marijuana use? Another way of looking at this, though, is whether or not this use of law enforcement qualifies as a scare tactic. Marijuana use has increased in the 1990s and into this decade despite the dramatic increase in arrest rates during this period. Law enforcement has the ability to impact these demographic groups, whether or not it affects their behavior is another matter.

[16] Bachman, Jerald G., Patrick M. O'Malley, John E. Schulenberg, Lloyd D. Johnston, Alison L. Bryant, and Alicia C. Merline. (2002) The Decline of Substance Use in Young Adulthood. Changes in Social Activities, Roles, and Beliefs. Mahwah, New Jersey: Lawrence Erlbaum Associates. Pg. 219.

Figure 42. Marijuana Possession Arrest Rates (2000-2002)



4. Marijuana Sales Arrests

Marijuana Sales Arrests—General Trend. This part describes overall trends in marijuana sales arrests. These arrests have not increased along with marijuana possession arrests. The national arrest rate for sales was 24 per 100,000 in 1991; in 2002 the rate was 29. While arrests for sales have grown from 68,276 in 1982 to 83,096 in 2002 the arrest rate for sales was 29 per 100,000 in both years. In 2003 the arrest rate for marijuana sales offenses was 31.74.

The Demographics of Marijuana Sales Arrests. This part describes the population of people arrested for marijuana sales**.** The people arrested for marijuana sales tend to be young adults and male. Half of people arrested for marijuana sales (50%) are under the age of 24. Almost 9 out of 10 people arrested for marijuana sales (87%) are male.

Population, Sales, and Arrest Percentages. This part compares the representation of sub-populations among people arrested for marijuana sales, people who sell marijuana and other drugs, and the overall national population. For example, there are 2 times as many blacks, on a percentage basis, in the population of people arrested for sales than in the population of people who sell drugs. This will be referred to as an 'over-representation' of blacks in the group of people arrested for sales. Over-representation indicates the subpopulations most likely to be arrested for marijuana sales.

Arrest Rates Based on the Seller Population. This part combines arrest and drug seller data to produce arrest rates per 100,000 sellers. This provides another way to compare the arrest rates for various sub-populations while controlling for differences in participation in drug sales. The arrest rate of 2,187 per 100,000 sellers indicates that about 2.1% of all sellers were arrested in 2002 for marijuana sales. The rate for blacks is 3,706 per 100,000 sellers, over twice the comparable rate for whites (1,629).

Arrest Rates Based on Population. This part presents traditional arrest rates per 100,000 of the overall population receiving law enforcement service. Even without controlling for differences in the prevalence of marijuana sales, conventional arrest rates demonstrate the same bias in arrests for marijuana sales as the data above. The arrest rate for blacks is 76 compared to 21 for whites, 19 for Indians, and 6 for Asians. The rate for black adults is 96 compared to 22 for white adults.

Marijuana Sales Arrests—General Trend

Marijuana sales arrests and general arrest rates have been more consistent over the last twenty years as compared with marijuana possession arrests.

Generally receiving less attention than marijuana possession arrests these distribution offenses have equal if not greater policy significance in terms of both costs and policy evaluation.

Marijuana sales offenses are felonies with far greater individual, social, and fiscal costs. Marijuana sales convictions are supposed to be an important deterrent tool in drug control efforts that, in theory, reduce both the use and sale of marijuana.

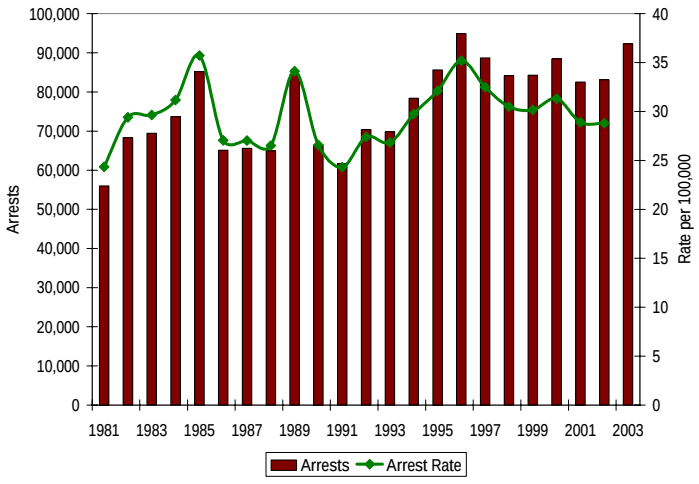
Marijuana sales arrests and rates have not followed the same pattern as overall arrests, exhibiting neither a significant drop over the 1980s nor a steep increase during the 1990s. (See Table 35, Figure 43.) During the early 1980s marijuana sales arrests rose from 55,990 in 1981 to 85,197 in 1985 and then dropped back to about 65,000 for a few years before rising again to 84,425 in 1989 and falling again to 61,610 in 1991. During the 1990s sales arrests rose steadily for several

Table 35. Marijuana Sales Arrests

Year	Sales Arrests	Sales Rate	Possession Rate
1981	55,990	24.35	149.73
1982	68,276	29.41	165.37
1983	69,447	29.64	142.55
1984	73,674	31.17	144.77
1985	85,197	35.73	153.46
1986	65,104	27.05	123.28
1987	65,618	27.03	129.20
1988	64,961	26.51	133.43
1989	84,425	34.13	127.17
1990	66,460	26.57	104.10
1991	61,610	24.30	89.25
1992	70,382	27.40	105.85
1993	69,830	26.83	119.44
1994	78,381	29.75	152.87
1995	85,614	32.12	188.83
1996	94,891	35.19	202.75
1997	88,682	32.49	222.24
1998	84,191	30.49	216.83
1999	84,271	30.17	222.18
2000	88,456	31.32	228.74
2001	82,519	28.90	224.52
2002	83,096	28.79	212.75
2003	92,301	31.74	259.68

Source: Uniform Crime Reports (Annual), Crime in the United States.

Figure 43. Marijuana Sales Arrests (1981-2003)



years to 94,891 in 1996 before falling to around 85,000 a year during the late 1990s through 2002.

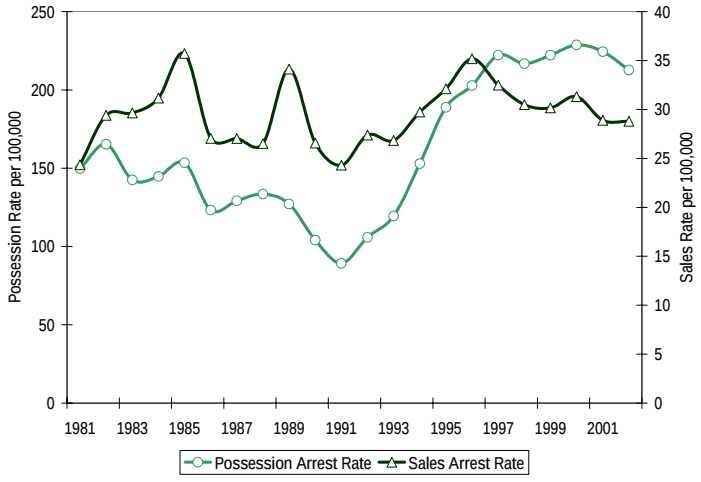
Marijuana sales arrests increased to 92,301 in 2003. In terms of the general population marijuana sales arrest rates followed the same trajectory from a low near 24 per 100,000 in both 1981 and 1991 to a high of near 35 per 100,000 in 1985 and 1996. In 2003 the arrest rate for marijuana sales was 31.74.

While both the overall marijuana arrest rate and the possession rate grew steadily from 1991 to 1996 the growth in the sales rate was within a range established over prior years. (See Figure 44.) The marijuana sales rate for the five years ending in 2002 is approximately the same (29.52) as the average for the last five years (29.93).

Over 25.9 million Americans use marijuana annually according to the 2003 National Survey on Drug Use in Health (NSDUH). The characteristics of marijuana purchases are important to evaluating the policy implications of marijuana sales arrests. The objectives of sales arrests include reduction of use through disruption of supply, increase in cost, and deterrence of involvement in commercial activities.

In theory arresting marijuana suppliers makes marijuana less available by forcing users to find new sources, more expensive by increasing the risk of illegal activity, and generally more difficult to get through discouraging entrepreneurs from entering the illegal market. However it is a mistake to draw a sharp distinction between the use and sale of marijuana. NSDUH data on the characteristics of marijuana purchases and sales indicate that marijuana users rely on complex social networks to obtain and maintain sources of supply for individual use.

Figure 44. Marijuana Possession and Sales Arrest Rates (1981-2002)



The Demographics of Marijuana Sales Arrests

The people arrested for marijuana sales offenses also tend to be young adults and male. The demographic trends are consistent for 2000 through 2002 (see Figures 75-83 in Appendix 3).

Adults account for 84% of marijuana sales arrests. (See Table 36.) Males comprise 87% of the arrests for marijuana sales. Males under the age of 24 account for 50% of all marijuana sales arrests, and males ages 18 to 23 account for over one third (36%) of arrests for marijuana sales. Nearly three-fourths (73%) of these arrests are of males under the age of 35. Whites account for 62% of arrests while blacks comprise 36%.

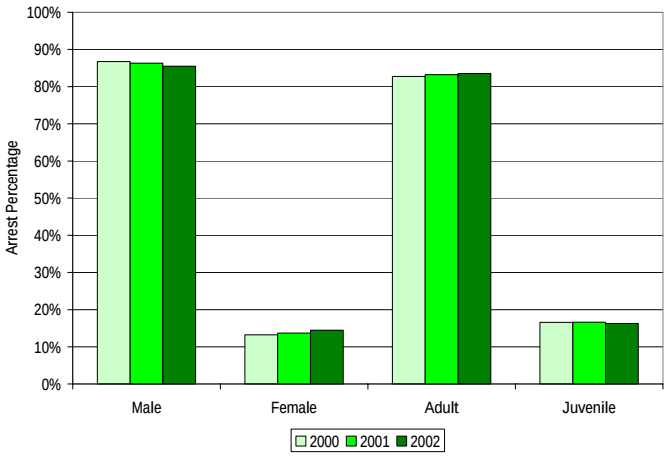
When viewed in terms of five year age groups the share of marijuana arrests drops significantly after age 24 and diminishes steadily (See Figures 75—77 in Appendix 3). A closer look at ages 15 to 24 indicates an increasing growth in the arrest rate that levels off between ages 18 and 20 and then reduces steadily thereafter (See Figures 81-83). While this trend is most pronounced for males it is also evident for females, though at much lower percentages of the entire group of arrestees.

Table 36. Marijuana Sales Arrests, by Age and Race (2002)

	Male	Female	Total
Age 13 to 17	14.15%	1.88%	16.03%
Age 18 to 20	21.04%	2.62%	23.66%
Age 21 to 23	14.98%	1.85%	16.83%
Age 24 to 34	22.89%	3.43%	26.32%
Age 35 to 49	5.31%	1.15%	6.46%
Age 50+	8.76%	1.93%	10.69%
Total	87.14%	12.86%	100.00%
	Adult	**Juvenile**	**Total**
White	51.01%	11.24%	62.24%
Black	31.50%	4.61%	36.10%
Indian	0.56%	0.13%	0.68%
Asian	0.64%	0.33%	0.97%
Total	83.70%	16.30%	100.00%

Source: Uniform Crime Reports, Arrests by Age, Sex and Race (2002).

Figure 45. Marijuana Sales Arrest Percentages (2000-2002)



Population, Sales, and Arrest Percentages

The NHDUH data on drug sellers provides a basis for a comparison of a demographic groups' prevalence in the general population, in the population of drug sellers, and in the population of marijuana sales arrests. Following the general trend of marijuana use, males are over-represented in arrests accounting for 49% of the population, 76% of the sellers, and 88% of the marijuana sales arrests. (See Table 37, Figure 46.) Despite the large number of juvenile drug sellers discussed above, overall juveniles are slightly under-represented in arrests, accounting for 25% of the population, 24% of drug sellers, and 17% of arrests. As with marijuana possession arrests, greater demographic detail will reveal greater disparities between marijuana sales arrests for different groups.

Black adults are over-represented in the sales arrest data. Black adults comprise 9% of the population, 15% of sellers, and 32% of marijuana sales arrests. (See Table 38, Figure 47.) Native American and Asian populations do not contribute significantly to sales arrests. White adults account for 61% of the population, 52% of drug sellers, and 51% of marijuana sales arrests.

Table 37. Population, Drug Seller, and Marijuana Sales Arrest Percentages (2002)

	Population	Sellers	Arrests
Males	49.09%	76.47%	87.14%
Females	50.91%	27.52%	12.86%
Adults	73.67%	74.36%	83.70%
Juveniles	24.74%	23.53%	16.30%

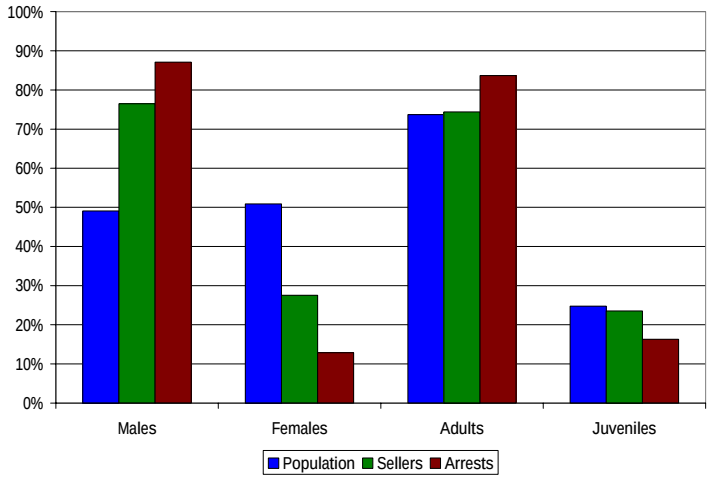
Sources: Uniform Crime Reports, Arrests by Age, Sex and Race (2002); National Survey on Drug Use and Health (2002); U.S. Census Bureau Population Estimates—State Characteristics (2002).

Table 38. Population, Drug Seller, and Marijuana Sales Arrest Percentages, by Age (2002)

	Population	Sellers	Arrests
Age 13 to 17	5.39%	23.21%	16.03%
Age 18 to 20	4.16%	19.97%	23.66%
Age 21 to 23	3.95%	14.38%	16.83%
Age 24 to 34	15.19%	22.70%	26.32%
Age 35 to 49	7.84%	11.84%	6.46%
Age 50+	43.15%	7.89%	10.69%

Sources: Uniform Crime Reports, Arrests by Age, Sex and Race (2002); National Survey on Drug Use and Health (2002); U.S. Census Bureau Population Estimates—State Characteristics (2002).

Figure 46. Population, Drug Seller, and Marijuana Sales Arrest Percentages (2002)



Whites are under-represented when juvenile arrests are considered. White juveniles account for 20% of the population, 16% of drug sellers, and 11% of marijuana sales arrests. (See Table 39, Figure 47.) Black juveniles, in contrast, account for 4% of the population, only 3% of sellers, but still account for close to 5% of marijuana sales arrests.

The review of marijuana usage and marijuana possession data above establish that higher arrest rates for blacks were not due to greater levels of marijuana usage than white or other sub populations. Here the NSDUH data estimating the number of drug sellers establishes that the disproportionate share of arrests of blacks for marijuana sales offenses is not due to greater involvement by blacks in the sale of marijuana and/or other drugs. Nor is the data disproportionately weighted toward areas with large black populations. The NSDUH data is based on a stratified national survey designed to produce accurate estimates of demographic subpopulations. The data from the Uniform Crime Reporting program represents 80% of the US population.

As indicated above, a substantial number of drug sellers are in their teens and twenties. Females account for only 13% of marijuana sales arrests; Males account for 87% of marijuana sales arrests. Not only are males over-represented in marijuana sales arrests, but as with possession arrests young males also appear to be one of law enforcement's favorite subgroup to target for marijuana sales' arrests.

All groups of males under 50 exhibit significantly greater participation in drug sales then their proportion of the population. (See Table 40, Figure 49.) Males age 13 to 17 have a far greater percentage of sellers (16%) than in the general population (3%).

Figure 47. Adult Population, Drug Sellers, and Marijuana Sales Arrest Percentages (2002)

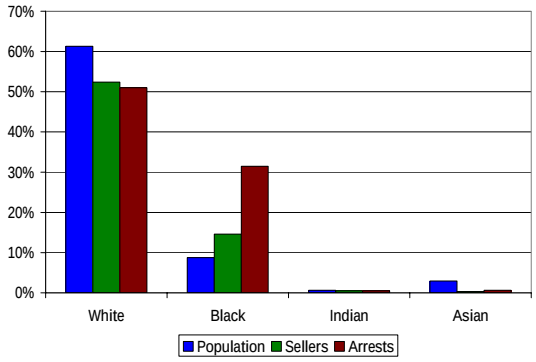


Figure 48. Juvenile Population, Drug Sellers, and Marijuana Sales Arrest Percentages (2002)

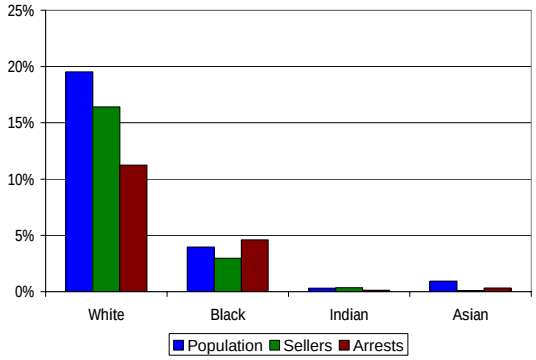
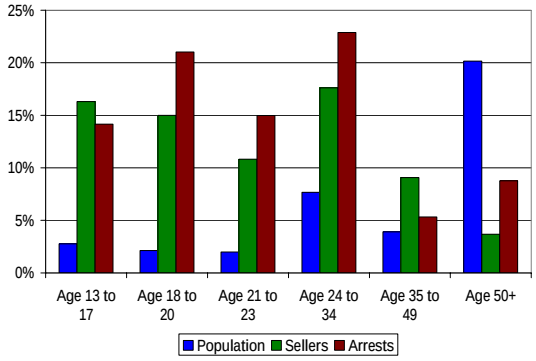


Figure 49. Male Population, Drug Sellers, and Marijuana Sales Arrest Percentages, by Age Group (2002)



However they only account for 14% of arrests. However from age 18 through 34 the percentage of arrests exceeds the percentage of sellers, demonstrating the over-representation of young males in marijuana sales arrests.

Table 39. Population, Drug Seller, and Marijuana Sales Arrest Percentages by Race (2002)

Total	Population	Sellers	Arrests
White	80.84%	68.82%	62.24%
Black	12.72%	17.55%	36.10%
Indian	0.95%	0.88%	0.68%
Asian	3.90%	0.42%	0.97%
Adult	**Population**	**Sellers**	**Arrests**
White	61.32%	52.40%	51.01%
Black	8.75%	14.59%	31.50%
Indian	0.64%	0.53%	0.56%
Asian	2.96%	0.32%	0.64%
Juvenile	**Population**	**Sellers**	**Arrests**
White	19.52%	16.42%	11.24%
Black	3.97%	2.96%	4.61%
Indian	0.31%	0.35%	0.13%
Asian	0.94%	0.10%	0.33%

Sources: Uniform Crime Reports, Arrests by Age, Sex and Race (2002); National Survey on Drug Use and Health (2002); U.S. Census Bureau Population Estimates—State Characteristics (2002).

Table 40. Population, Drug Seller, and Marijuana Sales Arrest Percentages for Males, by Age (2002)

Male	Age 13 to 17	Age 18 to 20	Age 21 to 23	Age 24 to 34	Age 35 to 49	Age 50+	Total
Population	2.76%	2.12%	1.99%	7.67%	3.91%	20.16%	49.09%
Sellers	16.31%	14.99%	10.82%	17.62%	9.07%	3.68%	76.47%
Arrests	14.15%	21.04%	14.98%	22.89%	5.31%	8.76%	87.14%

Sources: Uniform Crime Reports, Arrests by Age, Sex and Race (2002); National Survey on Drug Use and Health (2002); U.S. Census Bureau Population Estimates—State Characteristics (2002).

Arrest Rates Based on Seller Population

Estimates of the number of marijuana sellers provide a basis for calculating an arrest rate per 100,000 sellers for each demographic subgroup.

The total arrest rate per sellers differs when considering race or age based data because of the way estimates of demographic subgroups are produced from the 2002 NSDUH survey data. When looking at age/ sex demographic groups the total rate per 100,000 sellers is 1,809. For males age 18-20 the rate is 2,538, and for males age 21 to 23 the rate is 2,506. (See Table 41, Figure 50.) The traditional arrest rates per 100,000 population for these age groups are presented in Table 43.

While the data indicates a substantial number of female sellers, 27% of the total (See Table 15), their arrest rates remain relatively low - the overall rate for females is 846 arrests for marijuana sales per 100,000 female sellers.

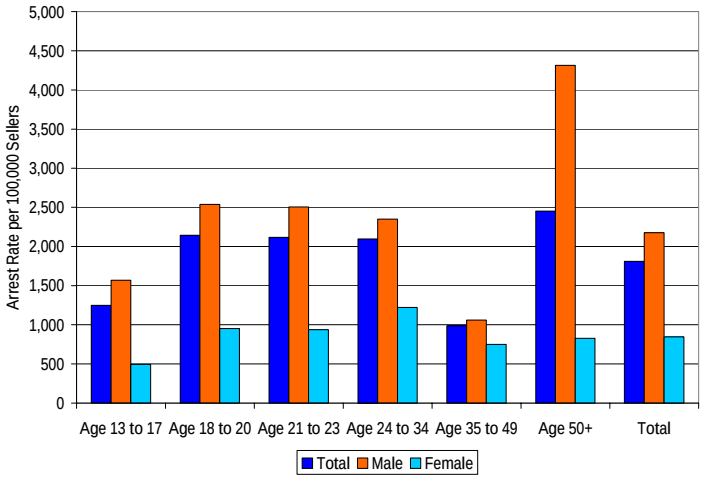
Of greater significance is the arrest rate for males over 50 and older – 4,314 per 100,000 sellers, the highest for these age/sex brackets. The rate for males over 50 is elevated by a relatively high number of

Table 41. Marijuana Sales Arrest Rate per 100,000 Sellers, by Age and Sex (2002)

	Male	Female	Total
Age 13 to 17	1,569.37	493.26	1,249.37
Age 18 to 20	2,538.16	953.18	2,143.10
Age 21 to 23	2,505.91	937.78	2,117.14
Age 24 to 34	2,350.38	1,221.02	2,097.35
Age 35 to 49	1,060.03	751.04	987.78
Age 50+	4,313.59	827.66	2,451.27
Total	2,174.78	845.76	1,809.07

Sources: Uniform Crime Reports, Arrests by Age, Sex and Race (2002); National Survey on Drug Use and Health (2002).

Figure 50. Marijuana Sales Arrest Rate per 100,000 Drug Sellers, by Age (2002)



arrests (7,282) and a relatively low number of sellers (168,807).

Using the race based data the overall arrest rate for marijuana sales is 2,028 per 100,000 sellers, or 2%. By comparison the rate for all whites is 1,630 while the rate for all blacks is 3,706, over twice as high. (See Table 42, Figure 51.) The arrest rate for black juveniles is 2,803, over 70% higher than the overall rate for juveniles of 1,630.

Table 42. Marijuana Sales Arrest Rate per 100,000 Sellers, by Race (2002)

	Adult	Juvenile	Total
White	1,753.88	1,233.35	1,629.69
Black	3,889.26	2,803.48	3,706.08
Indian	1,897.08	644.74	1,399.07
Asian	808.13	2,716.65	1,059.89
Total	2,187.27	1,472.29	2,026.84

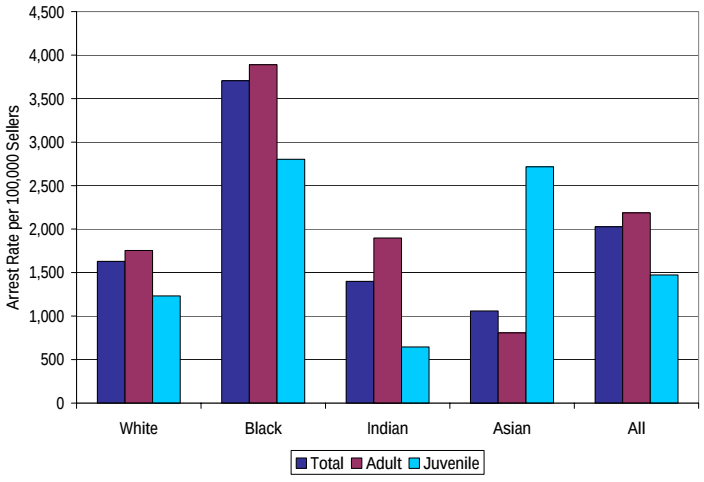
Sources: Uniform Crime Reports, Arrests by Age, Sex and Race (2002); National Survey on Drug Use and Health (2002).

Table 43. Marijuana Sales Arrest Rate by Selected Age Groups (2002)

	Male	Female	Total
Age 13 to 17	103.32	14.45	14.45
Age 18 to 20	257.08	34.02	34.02
Age 21 to 23	184.26	23.83	23.83
Age 24 to 34	79.48	12.23	12.23
Age 35 to 49	37.36	8.07	8.07
Age 50+	11.51	2.23	2.23
Total	47.52	6.78	6.78

Sources: Uniform Crime Reports, Arrests by Age, Sex and Race (2002); U.S. Census Bureau Population Estimates—State Characteristics (2002).

Figure 51. Marijuana Sales Arrest Rate per 100,000 Drug Sellers, by Race (2002)



Arrest Rate per Population

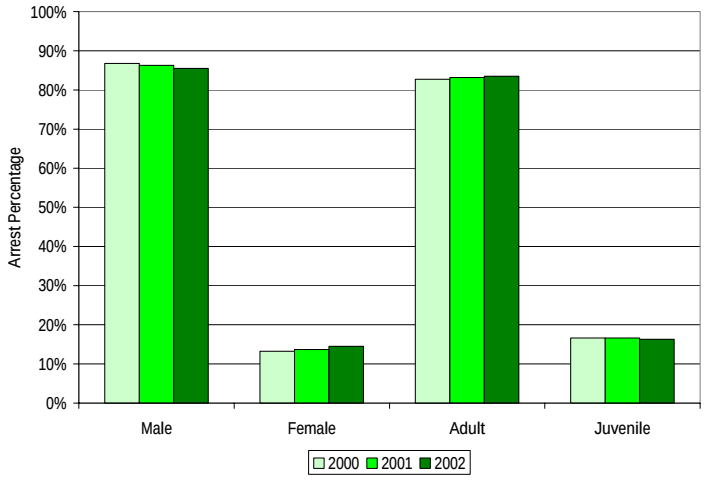
Finally, the conventional arrest rates per 100,000 population for marijuana sales offenses also demonstrate the elevated arrest rates for blacks and young males. (See Figure 52.) For example, the arrest rate for adult blacks for marijuana sales offenses is 96 per 100,000 population compared to the arrest rate for adult whites of 22. (See Table 44.) Multi-year trends are presented in Figure 52 below and Figures 84-92 in Appendix 3. When the data is broken down by age groups, the overall arrest rate for marijuana sales offenses is 27 per 100,000, but for males it is 48. (See Figure 85 in Appendix 3.) However for males age 17 the general rate is 208, and for males age 18 the general rate is 266. (See Table 43.) One example of the emphasis on youthful arrests is provided by females age 19. The overall general rate for females for marijuana sales offenses is 7 per 100,000 population. However for females age 19 the rate is 36, a five fold increase.

Sources: Uniform Crime Reports, Arrests by Age, Sex and Race (2002); U.S. Census Bureau Population Estimates—State Characteristics (2002).

Table 44. Marijuana Sales Arrest Rates (2002)

	Male	Female	All
Age 15	86.19	12.17	50.08
Age 16	145.75	20.06	84.51
Age 17	208.01	25.11	119.04
Age 18	266.33	33.48	153.36
Age 19	269.33	35.79	156.36
Age 20	235.74	32.81	137.03
Age 21	206.76	25.55	118.25
Age 22	183.16	24.80	105.82
Age 23	161.82	20.99	93.11
Age 24	140.18	18.72	80.82
Age 25 to 29	96.14	14.41	55.94
Age 30 to 34	52.92	9.10	31.19
Age 35 to 39	37.36	8.07	22.71
Age 40 to 44	27.67	6.60	17.05
Age 45 to 49	18.69	3.86	11.16
Age 50 to 54	10.60	1.96	6.18
Age 55 to 59	5.23	0.94	3.02
Age 60 to 64	2.85	0.33	1.53
Age 65 +	0.81	0.11	0.40
Total	47.52	6.78	26.80
	Adult	**Juvenile**	**All**
White	22.25	15.52	20.63
Black	95.70	31.26	75.77
Indian	23.02	10.91	19.13
Asian	5.60	9.23	6.46
Total	30.32	17.75	26.80

Figure 52. Marijuana Sales Arrest Rates (2000-2002)



5. Marijuana Arrests at the State and Local Level

State Penalties for Marijuana Possession State marijuana laws should be characterized by their maximum penalty. Eight states mandate no jail sentence for the maximum penalty for marijuana possession. However 11 states have maximum penalties for 6 months, 20 have maximum penalties of 1 year, and 4 states have even harsher maximums: Arizona (18 mo.), Florida (60 mo.), Tennessee (72 mo.), and Oregon, which despite decriminalizing small amounts of marijuana for personal use still has a sentence of 120 months on the books as the maximum penalty for marijuana possession.

Marijuana Possession Arrests at the State Level The Marijuana Possession Arrest Threat Index (MPATI) is a combination of state ratings according to the maximum penalty for possession of 1 ounce, the total arrest rate, the arrest rate for 18 year old males, and the arrest rate for black adults. According to MPATI ten states posing the greatest threat to marijuana users, according to this index, are: Arizona, Kentucky, New Hampshire, South Dakota, Oklahoma, Tennessee, Maryland, Oregon, Wyoming, and Missouri.

State Penalties for Marijuana Sales In Indiana, Kentucky, Maine, Michigan and Washington D.C. the sale of 1 ounce of marijuana is subject to a maximum penalty of 1 year. The maximum penalty is 18 months in New Mexico and Ohio, and the sale of 1 ounce of marijuana can bring a maximum sentence of 2 years in Texas, South Dakota, and Massachusetts. In the remaining 38 states the maximum penalty for sales of an ounce of marijuana range from 3 to 30 years. In 19 states the maximum penalty for the sale of 1 ounce is 10 years or more. The most obvious evidence of the ineffectiveness of state penalties for marijuana sales is the sustained prevalence of marijuana use in even states with the harshest penalties.

Marijuana Sales Arrests at the State Level Marijuana sales arrest rates also vary considerably at the state level. The average national arrest rate for marijuana sales offenses from 2000 to 2002 is 29.77 per 100,000. Six states have marijuana sales arrest rates over 50: Georgia, Louisiana, New Hampshire, Wisconsin, Kentucky, and Minnesota, a state that has decriminalized possession of small amounts of marijuana and has the highest arrest rate for marijuana sales in the country.

Local Level Enforcement Marijuana arrests in counties with populations over 10,000 have lower average arrest rates and by comparison are more consistent. Average arrest rates vary from 220 to 238 while the standard deviation, an indication or how much variance exists arrest rates from place to place, ranges from 122 to 248. In other words, for any population size over 10,000 county level arrest rates will average about 230 per 100,000 with a standard deviation of about 170. This is still a considerable level of variation in county level arrest rates. In 383 counties with a population between 50,000 and 100,000 the average arrest rate for marijuana is 238, with a standard deviation of 127, and a range from a minimum of 13.74 to a maximum of 729.49. This one simple descriptive statistic, the standard deviation, describes one of the primary reasons why the national policy of criminalizing marijuana is ineffective. Marijuana arrest rates fluctuate widely from place to place.

State Penalties for Marijuana Possession

Most arrests for marijuana offenses are made by local and state law enforcement officials; marijuana's illegality is an unfunded federal mandate in which the primary fiscal and social burden is placed on the states.

States and some municipalities have responded to this burden with a variety of statutory classifications, penalty structures, and sentencing options that give local law enforcement, prosecutors, and courts wide discretion to determine who gets arrested and what sentence is appropriate. The public is led to believe by anti-reform and some government agencies that no one goes to jail anymore for marijuana possession, however if this is true then what justification do these groups and agencies have for maintaining marijuana possession as a criminal offense?

State marijuana laws are usually characterized by the minimum penalty provided by statute, usually for what is considered a small, personal use amount. (A summary of minimum penalties for marijuana possession is contained in Appendix 1.) From a policy standpoint state and municipal legislators proscribed laxity in crafting state marijuana laws is responsible for the widespread availability of marijuana in the United States, and most especially the availability of marijuana to teenagers and children. These laws guarantee reliable repeat business for marijuana sellers, and by forcing the market to organize itself around frequent access to small quantities these laws have also insured that the market is structured to appeal to the economic capacities of both teenage consumers and entreprenuers.

Emphasis on the minimum penalties of state laws also obscures the real nature of marijuana use and the criminal penalties for marijuana possession and sale. Law enforcement likes to suggest to the public that adults who use marijuana, use very small amounts very infrequently. However many use marijuana regularly, and the law penalizes any attempt they make to save money by purchasing larger quantities at a lower cost.

Figure 53. Maximum Penalty for Possession of 1 oz. of Marijuana (First Offense)

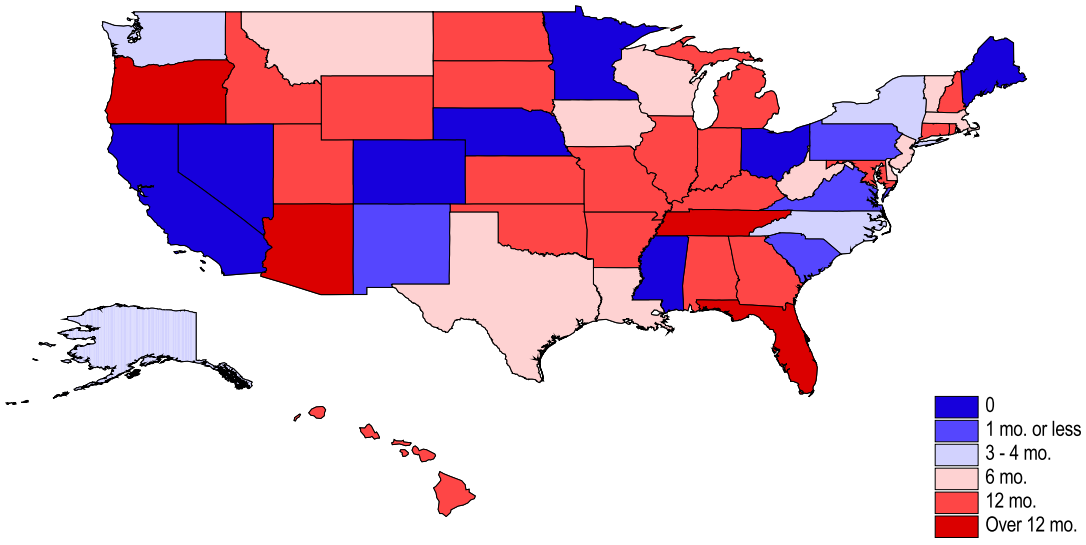


Figure 54. Maximum Penalty for Possession of 1 oz. of Marijuana (Second Offense)

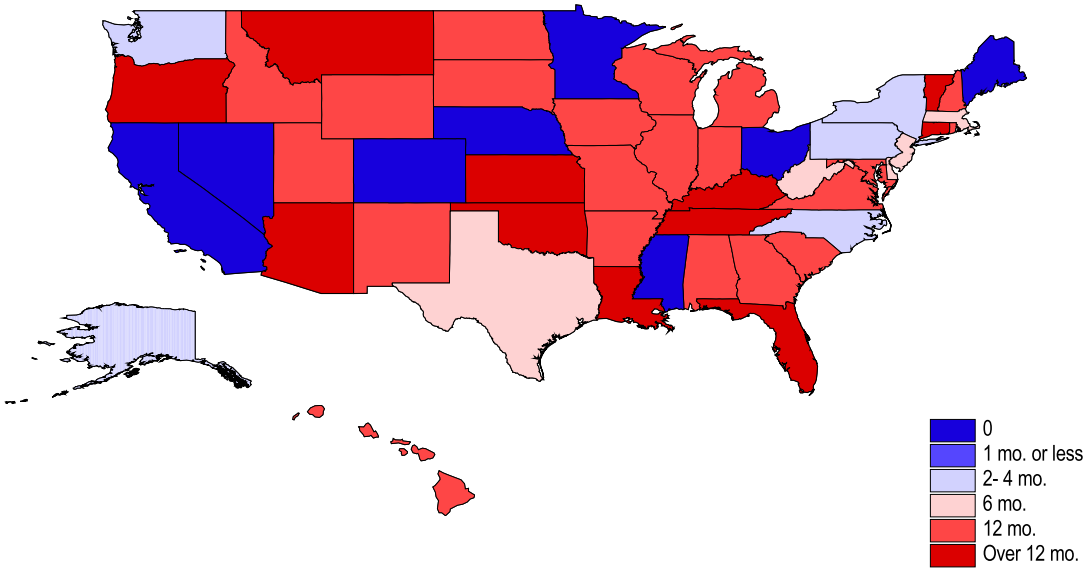
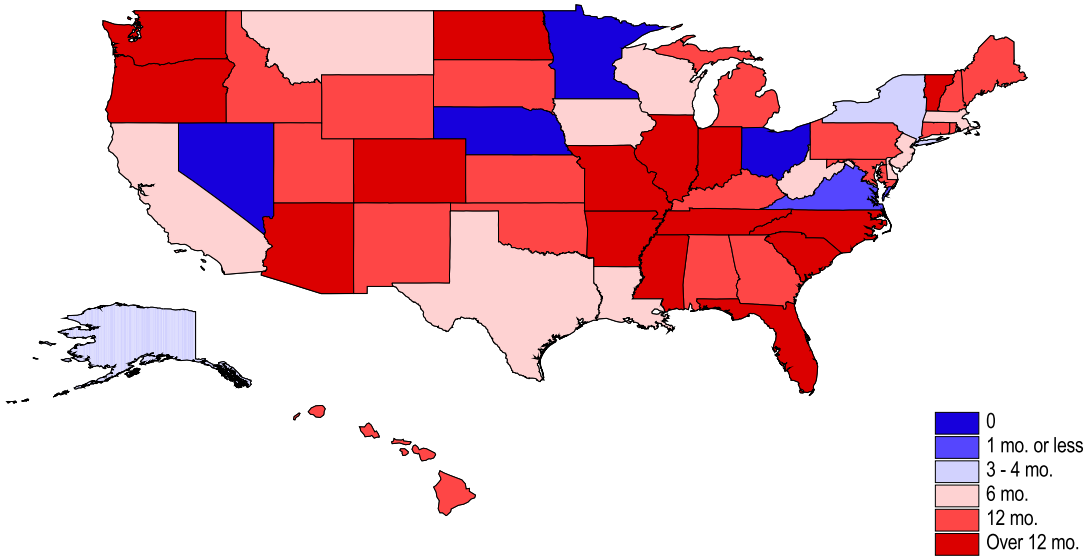


Figure 55. Maximum Penalty for Possession of 2 oz. of Marijuana



Any adult who attempts to possess more than a few weeks worth of marijuana at one time is subject to prosecution for possession of marijuana with intent to distribute. The law also penalizes attempts to deprive the illegal market of funds through cultivation for personal use; individuals who grow their own marijuana are also prosecuted for having an intent to distribute, frequently subjected to prosecutorial arguments that the amount they were growing was far beyond the small amounts attributed to most marijuana consumers.

State marijuana laws should be characterized by their maximum penalty. Given the wide disparity in criminal penalties around the country, the degree of latitude enjoyed by police, prosecutors, and judges, the maximum penalty provides an appropriate index of the degree of potential inequities that result from unequal treatment under the law for marijuana-related offenses.

It doesn't matter that many people arrested for marijuana possession do not spend time in jail beyond the time required for processing and arraignment before a magistrate; what matters is that any person

Table 45. Maximum Penalties for Possession of 1 Ounce of Marijuana

No Time	A Month or Less	Three or Four Months	Six Months	Twelve Months	More Time
California	New Mexico (15 days)	Alaska (3 mo.)	Delaware	Alabama	Arizona (18 mo.)
Colorado	Pennsylvania (1 mo.)	New York (3 mo.)	District Of Columbia	Arkansas	Florida (60 mo.)
Maine	South Carolina (1 mo.)	Washington (3 mo.)	Iowa	Connecticut	Tennessee (72 mo.)
Minnesota	Virginia (1 mo.)	North Carolina (4 mo.)	Louisiana	Georgia	Oregon (120 mo.)
Mississippi			Massachusetts	Hawaii	
Nebraska			Montana	Idaho	
Nevada			New Jersey	Illinois	
Ohio			Texas	Indiana	
			Vermont	Kansas	
			West Virginia	Kentucky	
			Wisconsin	Maryland	
				Michigan	
				Missouri	
				New Hampshire	
				North Dakota	
				Oklahoma	
				Rhode Island	
				South Dakota	
				Utah	
				Wyoming	

Source: National Organization for the Reform of Marijuana Laws (2004).

arrested by police for marijuana possession can be sentenced to the maximum penalty allowed by law in any case in any court by any prosecutor before any judge. Contrary to the established notions of equity, fairness and predictability, marijuana laws are subjectively enforced and prosecuted on an ad hoc basis.

Sentencing trends for marijuana possession offenses are generally anecdotal, un-documented and otherwise unknown. The dilemma for defenders of criminal penalties for marijuana possession is that if a majority of offenders were to actually go to jail this would strengthen the case for reform of the marijuana laws both in terms of the law's ineffectiveness and their fiscal cost. Conversely if a majority of offenders do not go to jail this also strengthens the case for reform. The less jail sentences are utilized in marijuana possession cases the greater the inequity that occurs when a jail sentence is utilized.

Eight states mandate no jail sentence for the maximum penalty for marijuana possession. (See Figure 53 and Table 45.) However 11 states have maximum penalties for 6 months, 20 have maximum penalties of 1 year, and 4 states have even harsher maximums: Arizona (18 mo.), Florida (60 mo.), Tennessee (72 mo.), and Oregon, which despite decriminalizing small amounts of marijuana for personal use still has a sentence of 120 months on the books as the maximum penalty for marijuana possession. Alaska, New York, and North Carolina have also decriminalized marijuana but Alaska and New York maintain 3 month penalties for marijuana possession of one ounce while North Carolina maintains a 4 month penalty. All of these penalties are for the first offense of possession of one ounce.

Possession of two ounces of marijuana carries a penalty of six months in 11 states, 1 year in 18 states, and longer sentences in 15 states. (See Figure 55.) The most severe maximum sentences for possession of two ounces of marijuana consist of 5 years in South Carolina, Washington, North Dakota, and Florida, 6 years in Tennessee, 7 years in Missouri, and 10 years in both Arkansas and Oregon.

In Tennessee, for example, possession of less than ½ ounce is considered a misdemeanor crime punishable by a year in jail. However in Tennessee possession of ½ ounce of marijuana or more is considered a sales offense punishable by a maximum penalty of 6 years. The minimum penalty for sales offenses involving less than 10 pounds of marijuana is also 1 year.

While the penalty structure varies from state to state marijuana possession is still a serious crime throughout the United States.

Marijuana Possession Arrests at the State Level

Marijuana possession arrest rates vary considerably at the state level. The average national arrest rate for marijuana possession from 2000 to 2002 was 221 per 100,000 population. Nine states had average marijuana possession arrest rates of less than 150: Kansas, North Dakota, California, Pennsylvania, Massachusetts, West Virginia, Vermont, Hawaii and Montana. (See Table 49.) Seven states have arrest rates over 300: South Dakota, Oklahoma, Maryland, Mississippi, Kentucky, New York, and Nebraska. (See Table 46.)

The average national arrest rate for marijuana possession from 2000 to 2002 for males age 18 was 2,483 per 100,000 population. Six states had average marijuana possession arrest rates for 18 year old males of less than 1,500: California, West Virginia, North Dakota, Vermont, Hawaii and Montana, (See Table 49.) Ten states have average marijuana possession arrest rates for 18 year old males of over 3,000. (See Table 47.)

Table 46. Marijuana Possession Arrest Rates in Selected States (Avg. 2000-2002)

State	Rate
Nebraska	445.86
New York	444.43
Kentucky	383.57
Mississippi	346.02
Maryland	321.08
Oklahoma	305.30
South Dakota	304.59
Louisiana	299.31
South Carolina	290.20
New Hampshire	288.23

Source: Uniform Crime Reports, Arrests by Age, Sex and Race (2002).

The national average arrest rate for marijuana possession for black adults was 619 per 100,000 for 2000 to 2002. Seven states had average marijuana possession arrest rates for black adults of less than 400: Massachusetts, Vermont, Montana, Michigan, Alaska, New Mexico, and Hawaii. (See Table 49.) Ten states had average marijuana possession arrest rates for black adults of

Table 47. Marijuana Possession Arrest Rates in Selected States—Males Age 18 (Avg. 2000-2002)

State	Rate
New York	4,970.37
New Hampshire	4,606.83
Nebraska	4,218.69
Maryland	4,035.10
New Jersey	3,685.61
Kentucky	3,372.36
Louisiana	3,368.27
Mississippi	3,337.59
Wisconsin	3,106.72
Arizona	3,023.52

Source: Uniform Crime Reports, Arrests by Age, Sex and Race (2002).

Table 48. Marijuana Possession Arrest Rates in Selected States—Black Adults (Avg. 2000-2002)

State	Rate
Nebraska	4,604.47
South Dakota	2,475.32
Kentucky	1,819.44
Iowa	1,666.67
Wisconsin	1,559.14
New York	1,342.12
New Hampshire	1,100.52
Wyoming	1,050.09
Colorado	974.97
Oklahoma	901.00

Source: Uniform Crime Reports, Arrests by Age, Sex and Race (2002).

Table 49a. Selected Marijuana Possession Arrest Rates, by State (Average 2000-2002)

State Name	Max. Penalty	Total Rate	Male Age 18 Rate	Black Adult Rate
Alabama	12	237.97	2,371.13	589.26
Alaska	3	171.81	1,615.33	281.37
Arizona	18	282.80	3,023.52	896.97
Arkansas	12	224.58	1,917.37	553.77
California	0	143.19	1,488.88	422.65
Colorado	0	238.57	2,415.98	974.97
Connecticut	12	189.80	2,725.95	586.50
Delaware	6	190.38	2,577.74	476.73
Georgia	12	257.42	2,762.70	589.73
Hawaii	12	86.21	425.84	140.69
Idaho	12	217.91	1,942.58	598.16
Indiana	12	228.39	2,540.74	877.64
Iowa	6	199.88	2,215.09	1,666.67
Kansas	12	144.70	1,671.81	409.03
Kentucky	12	383.57	3,372.36	1,819.44
Louisiana	6	299.31	3,368.27	616.36
Maine	0	243.83	2,991.60	698.68
Maryland	12	321.08	4,035.10	584.71
Massachusetts	6	131.11	2,130.45	361.19
Michigan	12	154.96	1,829.34	283.10
Minnesota	0	153.07	1,918.05	658.44
Mississippi	0	346.02	3,337.59	720.95
Missouri	12	254.77	2,919.75	708.77
Montana	6	49.34	400.94	328.90

Note: Arrest data was not available for the District of Columbia, Florida, and Illinois.

Table 49b. Selected Marijuana Possession Arrest Rates, by State (Average 2000-2002)

State Name	Max. Penalty	Total Rate	Male Age 18 Rate	Black Adult Rate
Nebraska	0	445.86	4,218.69	4,604.47
Nevada	0	190.01	1,560.92	785.57
New Hampshire	12	288.23	4,606.83	1,100.52
New Jersey	6	229.15	3,685.61	553.86
New Mexico	0.5	158.86	1,658.25	248.22
New York	3	444.43	4,970.37	1,342.12
North Carolina	4	240.20	2,387.68	569.51
North Dakota	12	144.18	1,386.27	680.55
Ohio	0	173.70	1,810.78	637.45
Oklahoma	12	305.30	2,676.20	901.00
Oregon	120	175.83	1,830.00	522.84
Pennsylvania	1	134.93	1,842.36	490.28
Rhode Island	12	204.22	2,950.59	615.13
South Carolina	1	290.20	2,973.99	537.92
South Dakota	12	304.59	2,949.85	2,475.32
Tennessee	72	206.16	2,121.09	402.81
Texas	6	250.25	2,698.82	594.70
Utah	12	188.98	1,778.87	751.82
Vermont	6	107.94	1,342.25	352.73
Virginia	1	178.60	2,380.26	401.44
Washington	3	219.71	2,167.11	537.85
West Virginia	6	118.89	1,457.05	485.34
Wisconsin	6	279.28	3,106.72	1,559.14
Wyoming	12	248.44	2,627.72	1,050.09

Sources: National Organization for the Reform of Marijuana Laws (2004); Uniform Crime Reports, Arrests by Age, Sex and Race (2000 - 2002); U.S. Census Bureau Population Estimates—State Characteristics (2000 - 2002).

over 900. (See Table 48.)

The maximum penalty for possession of 1 ounce of marijuana is an important indicator of the nature of state-level marijuana laws. These three arrest rates (total, males age 18, & black adults) are important indicators of the extent of marijuana law enforcement. Together these indictors provide the basis for an overall index for scoring the threat of arrest in the 48 states providing detailed arrest data to the Uniform Crime Reports. (Detailed data are not available for Illinois, Florida, and the District of Columbia.)

The Marijuana Possession Arrest Threat Index (MPATI) is a combination of several ratings, each of which weighted according to its relative importance. MPATI is a combination of state ratings according to the maximum penalty for possession of 1 ounce, the total arrest rate, the arrest rate for 18 year old males, and the arrest rate for black adults. Each of these categories of data will be converted to a percentage ranking, transforming each into a common scale of 0 to 100%. The index will consist of equal contributions between the penalty and arrest rates, and the arrest rate contribution will consist of equal contributions from all three key arrest rate indicators. The source data for the index is contained in Table 49. The percentage scoring and index for each state is presented in Table 50.

A state with severe penalties for possession of one ounce of marijuana but low arrest rates poses less of a threat to marijuana users than a state with severe penalties and high arrest rates. Conversely a state with mild penalties for possession but high arrest rates poses more of a threat than a state with similar penalties and a low arrest rate. Also, states with higher rates for 18 year old males and/or black adults score higher on this index than states with similar penalties and overall arrest rates.

According to MPATI index the ten states with the least overall threat of arrest are: West Virginia, Nevada, Pennsylvania, Alaska, Vermont, Minnesota, Montana, Ohio, New Mexico, and the state with the lowest arrest threat index—California.

The ten states posing the greatest threat to marijuana users, according to this index, are: Arizona, Kentucky, New Hampshire, South Dakota, Oklahoma, Tennessee, Maryland, Oregon, Wyoming, and Missouri.

Oregon, ranked 8th, has decriminalized possession of less than 1 ounce of marijuana, an offense that is punishable by a $500 fine. However, possession of 1 ounce in Oregon still risks a maximum 10 year prison sentence — a sufficient enough threat to place Oregon in the top ten despite decriminalization and despite relatively low arrest rates in all three categories.

Maryland, ranked 7th, has a maximum penalty of 12 months for possession of 1 ounce. This is a common penalty that places the state at 55% on the penalty rankings. Maryland had relatively high arrest rates. The total arrest rate for possession is 321 per 100,000 population (91%). The arrest rate for 18 year old males is 4,035 (94%). The arrest rate for black adults is 585 (43%).

Arizona poses the greatest threat to marijuana users according to this index. Arizona's maximum 18 month penalty places it at 96%. High arrest rates place Arizona at 79% for its total possession arrest rate, 81% for males 18 years old, and 79% for black adults.

Texas, ranked 24th, provides another interesting case to consider. The six month maximum penalty for possession of 1 ounce gives Texas a score of 34%. The overall arrest rate of 250 generates a score of 70%, however

Table 50a. Marijuana Possession Arrest Threat Index, By State

Rank	State Name	Index	Penalty Pct	Total Rate Pct	Male Age 18 Rate Pct	Black Adult Rate Pct
1	Arizona	87.47	96%	79%	81%	79%
2	Kentucky	74.34	55%	96%	89%	96%
3	New Hampshire	71.85	55%	81%	98%	87%
4	South Dakota	70.45	55%	87%	72%	98%
5	Oklahoma	66.22	55%	89%	62%	81%
6	Tennessee	65.88	98%	47%	38%	17%
7	Maryland	65.51	55%	91%	94%	43%
8	Oregon	64.47	100%	30%	28%	30%
9	Wyoming	63.01	55%	68%	60%	85%
10	Missouri	62.67	55%	72%	70%	68%
11	New York	60.51	26%	98%	100%	89%
12	Georgia	59.48	55%	74%	68%	49%
13	Indiana	58.76	55%	55%	55%	77%
14	Wisconsin	58.71	34%	77%	83%	91%
15	Rhode Island	56.63	55%	45%	74%	55%
16	Louisiana	55.22	34%	85%	87%	57%
17	Alabama	53.12	55%	60%	47%	47%
18	Connecticut	52.02	55%	36%	66%	45%
19	Idaho	50.62	55%	49%	36%	53%
20	Nebraska	49.19	0%	100%	96%	100%
21	Utah	48.85	55%	34%	21%	72%
22	New Jersey	48.10	34%	57%	91%	38%
23	Arkansas	47.81	55%	53%	32%	36%
24	Texas	47.78	34%	70%	64%	51%

Note: Arrest data was not available for the District of Columbia, Florida, and Illinois.

Table 50b. Marijuana Possession Arrest Threat Index, By State

Rank	State Name	Index	Penalty Pct	Total Rate Pct	Male Age 18 Rate	Black Adult Rate
25	Iowa	47.04	34%	43%	45%	94%
26	North Carolina	41.78	32%	64%	51%	40%
27	North Dakota	41.76	55%	15%	6%	64%
28	South Carolina	41.74	19%	83%	77%	34%
29	Mississippi	41.41	0%	94%	85%	70%
30	Delaware	37.16	34%	40%	57%	23%
31	Kansas	36.83	55%	17%	19%	19%
32	Michigan	36.47	55%	21%	26%	6%
33	Maine	35.01	0%	66%	79%	66%
34	Washington	33.62	26%	51%	43%	32%
35	Colorado	32.88	0%	62%	53%	83%
36	Hawaii	28.35	55%	2%	2%	0%
37	Massachusetts	27.23	34%	9%	40%	13%
38	Virginia	25.45	19%	32%	49%	15%
39	West Virginia	23.70	34%	6%	9%	26%
40	Nevada	20.84	0%	38%	13%	74%
41	Pennsylvania	20.83	19%	11%	30%	28%
42	Alaska	20.16	26%	26%	15%	4%
43	Vermont	20.16	34%	4%	4%	11%
44	Minnesota	19.08	0%	19%	34%	62%
45	Montana	18.41	34%	0%	0%	9%
46	Ohio	18.37	0%	28%	23%	60%
47	New Mexico	15.58	17%	23%	17%	2%
48	California	7.40	0%	13%	11%	21%

Sources: National Organization for the Reform of Marijuana Laws (2004); Uniform Crime Reports, Arrests by Age, Sex and Race (2000 - 2002); U.S. Census Bureau Population Estimates—State Characteristics (2000 - 2002).

the rates for 18 year old males and black adults score lower, 64% and 51% respectively. (Data on hispanic origin are not reported.)

California poses the least threat to marijuana users. The maximum penalty for possession of 1 ounce of marijuana does not include any jail time, providing a score of 0% in this category. California's total arrest rate for marijuana possession is 143, producing a score of 13%. The rate for 18 year old males, 1,489, is low by national standards and produces a score of 11%. The rate for arrests of black adults in California is 422, producing a score of 21%. Despite the lowest score in the MPATI the case of California underscores an important national characteristic of marijuana law enforcement. Even in California the arrest rates for young adults and black adults are significantly higher than the overall arrest rate for possession.

State Penalties for Marijuana Sales

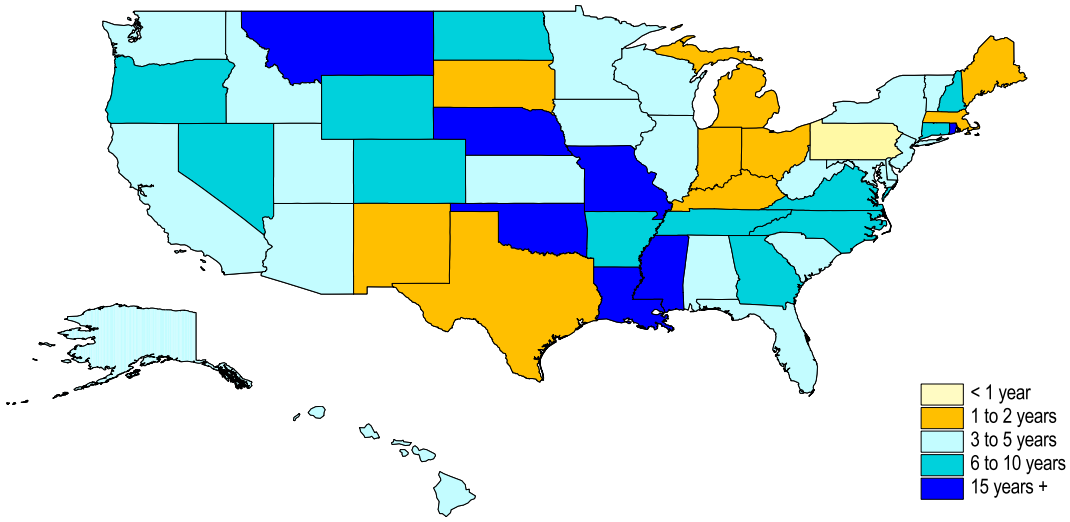
The federal Controlled Substances Act prohibits the manufacture, sale and distribution of marijuana. Indeed federal and state marijuana laws are not about marijuana use at all. They concern commerce. In 1962 the Supreme Court ruled in *Robinson v. California* [17] that laws criminalizing drug use inflicted cruel and unusual punishment and were a violation of the 6th Amendment of the U.S. Constitution. Consequently all modern drug laws concern commerce in drugs; possession of illegal drugs is a crime because commerce in the drugs is illegal, the crime is possession of contraband. Regardless of political rhetoric the legal justification and objective of the nation's drug laws, including marijuana laws, is to prohibit commerce rather than use.

It is often said that "no one goes to jail for possession of an ounce of marijuana", generally considered possession for personal use. But what about the person who sells that 1 ounce of marijuana? What about the 19 year-old college student who buys a couple of ounces and then resells one to a friend? Most penalties for the sale of marijuana are based on a familiar rhetorical model: throw the evil drug pusher in prison for corrupting our young people. As discussed above the data shows that a tremendous amount of commerce in marijuana takes place in small amounts between friends. However under the current law these transactions are serious felony crimes. These penalties are often discussed in terms of deterrence, but given their ineffectiveness over the last 35 years or more, penalties for small scale marijuana users and sellers hardly amount to more than retribution. Consider this: 4.5 million people admit to selling drugs and 25.7 million people admit to using marijuana on an annual basis. Of those 4.5 million drug sellers the most that have ever been arrested for selling marijuana is 94,891 in 1996. They broke the law, they were caught, tried, many were convicted, many of them went to prison. In the aggregate is marijuana any more under control now than it was 30 years ago?

Nonetheless, the primary strategy of law enforcement for restricting access to marijuana remains threatening potential

[17] Robinson v. California. Supreme Court of the United States. 370 U.S. 660; 82 S. Ct. 1417; 1962 U.S. LEXIS 850; 8 L. Ed. 2d 758

Figure 56. Maximum Penalty for Sales of 1 oz. of Marijuana Continental United States



marijuana sellers with lengthy prison sentences.

State laws regarding the sale of marijuana vary widely in terms of the maximum penalty for the sale of 1 ounce of marijuana. (See Figure 56.) Montana and Oklahoma policy makers believe that anyone who sells 1 ounce of marijuana should face the prospect of a life sentence in prison.

In Pennsylvania, on the other hand, sale of 1 ounce of marijuana is punishable by a month in jail. Pennsylvania, however, is a solitary exception. Everywhere else in the country the sale of even 1 ounce of marijuana, a relatively small amount and one of the most common transaction conducted by marijuana users, is a serious felony crime.

In Indiana, Kentucky, Maine, Michigan and Washington D.C. the sale of 1 ounce of marijuana is subject to a maximum penalty of 1 year. (See Table 51.) The maximum penalty is 18 months in New Mexico and Ohio, and the sale of 1 ounce of marijuana can bring a maximum sentence of 2 years in Texas, South Dakota, and Massachusetts. In the remaining 38 states the maximum penalty for sales of an ounce of marijuana range from 3 to 30 years. In 19 states the maximum penalty for the sale of 1 ounce is 10 years or more.

One might argue that these maximum sentences to not reflect the actual sentences handed out in individual cases, and that the courts insure that actual sentences are

Table 51. Maximum Penalties for Sale of 1 Ounce of Marijuana (Months)

<12 mo		12 to 24 mo		36 to 60 mo		62—120 mo		180 mo +	
Pennsylvania	1	Massachusetts	24	Alaska	60	Arkansas	120	Montana	life
		South Dakota	24	Delaware	60	Georgia	120	Oklahoma	life
		Texas	24	Florida	60	North Dakota	120	Louisiana	360
		New Mexico	18	Hawaii	60	Oregon	120	Rhode Island	360
		Ohio	18	Idaho	60	Virginia	120	Mississippi	240
		Washington, DC	12	Iowa	60	Wyoming	120	Nebraska	240
		Indiana	12	Maryland	60	Connecticut	84	Missouri	180
		Kentucky	12	Minnesota	60	New Hampshire	84		
		Maine	12	South Carolina	60	Colorado	72		
		Michigan	12	Utah	60	Nevada	72		
				Vermont	60	North Carolina	72		
				Washington	60	Tennessee	72		
				West Virginia	60				
				Wisconsin	54				
				Kansas	51				
				California	48				
				New York	48				
				Alabama	36				
				Arizona	36				
				Illinois	36				
				New Jersey	36				

Source: National Organization for the Reform of Marijuana Laws (2004).

considerably less than these maximums. That argument, though, misses the point. The issue of individual justice is indeed important and whether sentences such as these are fair and just should be a matter of public and political debate. However an equally important question, and the focus of this report, is whether or not these penalties serve the public interest.

Given the magnitude of marijuana sales activity in the United States it is obvious that the laws against the sale of marijuana are effectively unenforceable. Despite law enforcement's historic and ongoing concern about marijuana, 98% of marijuana sellers evade arrest every year.

The responsibility to enforce federal drug policies diminishes the credibility of state governments to deter criminal activity. One of the most effective means to deter crime is to insure that crimes are subject to swift and sure punishment. Unenforceable marijuana laws do not contribute to this perception.

Penalties for the possession of marijuana favor the purchase of small amounts of marijuana by many consumers. Consequently a great deal of marijuana sales to consumers consists of small quantities. The sale of small quantities of marijuana requires relatively little capital. The nature of the marijuana laws minimizes the entry level costs for any aspiring marijuana seller to enter the market. Selling marijuana looks like easy money to young people, but worse, it is too easy for young people to enter the market, and even worse then that, it is too easy for them to learn that they can break the law and get away with it. Thus, their criminality becomes normalized rather than marginalized by effective and swift of criminal sanctions. This is how unenforceable marijuana laws harm the public interest. Potentially severe penalties obscure the real impact of marijuana sales penalties — they send a compelling message that a young kid can start to sell marijuana with relatively little capital and even less risk.

The most obvious evidence of the ineffectiveness of state penalties for marijuana sales is the sustained prevalence of marijuana use in even states with the harshest penalties for marijuana sales. In Montana, where the maximum penalty for marijuana sales is life imprisonment, 8.71% of the public (age 12 and older) use marijuana on a monthly basis. (See Table 52.) In Oklahoma, the other state with the same penalty, the monthly usage rate for marijuana is 5.23%. In Pennsylvania, where sale of 30 grams of less of marijuana is a misdemeanor punishable by 30 days in jail, the monthly marijuana usage rate is 5.41%. In Washington, D.C., where the prison sentence is 1 year, the monthly usage rate is 10.82%; in Vermont, where the prison sentence for sale of 1 ounce of marijuana is 5 years, the monthly usage rate is 10.04%. In Louisiana, where the maximum penalty for selling 1 ounce is 30 years in prison, the monthly marijuana usage rate is 6.36%; in Indiana, where the maximum penalty is 1 year, the monthly marijuana usage rate is 6.39%.

While a review of the states above implies there is no connection between maximum sales penalties and usage rates it is possible to select a few states that provide a different impression. Only 7 states have monthly marijuana usage levels less than 5%: West Virginia, South Carolina, Texas, Tennessee, Iowa, Utah, and Alabama with the lowest monthly marijuana usage in the country at 4.35%. The maximum penalties for sale of an ounce in these states are: West Virginia (5 yrs.), South Carolina (5 yrs.) Texas (10 yrs.), Tennessee (5 yrs.), Iowa (5 yrs.), Utah (4.5 yrs.), and Alabama (10 yrs.). However when compared with the rest of the data there is apparently no consistent relationship between the severity of penalties

Table 52. The Prevalence of Monthly Marijuana Use, by State (1999-2001; 2002)

	1999	2000	2001	2002*
Alabama	3.30%	3.84%	4.17%	4.35%
Alaska	7.10%	6.35%	7.09%	9.77%
Arizona	5.20%	4.53%	4.57%	5.54%
Arkansas	3.50%	3.89%	4.97%	5.43%
California	6.00%	5.69%	5.96%	6.78%
Colorado	7.70%	7.80%	7.43%	8.92%
Connecticut	5.00%	5.70%	6.26%	6.27%
Delaware	6.50%	7.24%	6.38%	6.79%
District Of Columbia	7.10%	5.23%	5.92%	10.82%
Florida	5.00%	4.74%	4.70%	6.58%
Georgia	4.20%	4.45%	4.61%	5.14%
Hawaii	5.80%	6.07%	5.82%	7.19%
Idaho	4.20%	4.12%	4.37%	5.60%
Illinois	4.80%	4.77%	5.60%	5.55%
Indiana	4.60%	4.43%	3.92%	6.39%
Iowa	3.30%	2.79%	3.49%	4.63%
Kansas	3.70%	3.68%	4.66%	5.32%
Kentucky	3.60%	4.21%	4.96%	5.48%
Louisiana	3.50%	3.74%	3.82%	6.36%
Maine	5.80%	5.95%	7.13%	6.93%
Maryland	4.90%	4.46%	4.69%	5.72%
Massachusetts	7.50%	9.03%	8.86%	6.32%
Michigan	5.30%	5.66%	6.01%	7.10%
Minnesota	5.30%	4.73%	5.33%	6.33%
Mississippi	3.30%	3.16%	3.83%	5.02%

	1999	2000	2001	2002*
Missouri	4.70%	4.33%	4.42%	6.06%
Montana	5.90%	4.89%	5.11%	8.71%
Nebraska	3.90%	3.45%	3.69%	6.38%
Nevada	5.60%	5.31%	5.17%	8.63%
New Hampshire	5.90%	5.96%	6.97%	9.85%
New Jersey	5.00%	4.63%	4.43%	5.00%
New Mexico	6.50%	5.93%	5.97%	5.86%
New York	4.90%	4.50%	5.27%	7.52%
North Carolina	4.70%	5.50%	5.80%	5.57%
North Dakota	3.90%	3.17%	3.31%	5.57%
Ohio	4.30%	4.30%	4.61%	6.69%
Oklahoma	3.50%	3.02%	3.55%	5.23%
Oregon	6.60%	6.53%	7.19%	8.96%
Pennsylvania	4.50%	4.47%	4.76%	5.41%
Rhode Island	7.40%	7.20%	6.78%	9.49%
South Carolina	3.80%	4.02%	4.10%	4.96%
South Dakota	4.10%	3.73%	3.69%	5.68%
Tennessee	3.60%	4.31%	4.78%	4.69%
Texas	3.50%	3.36%	3.63%	4.87%
Utah	4.90%	3.15%	3.51%	4.59%
Vermont	5.40%	7.26%	9.06%	10.04%
Virginia	4.00%	4.13%	4.28%	6.43%
Washington	6.80%	5.62%	5.95%	8.13%
West Virginia	3.60%	3.49%	3.96%	4.98%
Wisconsin	5.10%	5.24%	4.95%	5.44%
Wyoming	5.60%	4.40%	4.35%	5.18%
United States	4.90%	4.80%	5.09%	6.20%

Sources: National Survey on Drug Use and Health (2002, 2003); National Household Survey (1999 - 2001).

*Note: The 2002 NSDUH utilized a new survey instrument and provided incentives for respondents to finish the survey. Greater cooperation from people taking the survey resulted in increased estimates of marijuana use. The 2002 data does not necessarily reflect an increase in marijuana use; instead the 2002 data should be interpreted as providing a more accurate estimate of state level marijuana use than earlier surveys.

for marijuana sales and the prevalence of monthly marijuana use.

One of the most interesting phenomena in this review of marijuana arrest statistics is the difference in the arrest trends for marijuana possession and marijuana sales arrests. From 1992 to 2002 the arrest rate for marijuana possession doubled from 105 per 100,000 to 212 per 100,000. During the same time frame the arrest rate for marijuana sales increased from 27 per 100,000 to 29 per 100,000. What's prevented a similar rackdown on marijuana sales? The answer: relative cost. Existing state penalties for marijuana sales are far too severe to enforce, even if police could gain access to the majority of marijuana transactions that take place in private beyond the reach of police, informants, reasonable searches, and the other limited tools society has availed to make such laws effective. Severe penalties are part of the problem society has in controlling the marijuana market, not part of the solution.

Marijuana Sales Arrests at the State Level

Marijuana sales arrest rates also vary considerably at the state level. The average national arrest rate for marijuana sales offenses from 2000 to 2002 is 29.77 per 100,000. Eleven states have sales arrest rates under 15 per 100,000: North Dakota, South Dakota, Utah, Hawaii, West Virginia, Vermont, Colorado, Texas, Oregon, Montana (the state with one of the most severe penalties), and Alabama (the state with the lowest monthly marijuana usage in the country). (See Table 56.) Six states have marijuana sales arrest rates over 50: Georgia, Louisiana, New Hampshire, Wisconsin, Kentucky, and Minnesota, a state that has decriminalized possession of small amounts of marijuana and has the highest arrest rate for marijuana sales in the country. (See Table 53.) Pennsylvania, with the lowest penalty in the country, has the 10th highest arrest rate for marijuana sales.

The average national arrest rate for marijuana sales from 2000 to 2002 for males age 18 was 297.31 per 100,000, ten times the overall national average. Seven states have rates less than 100: Colorado, Texas, Oregon, Vermont, Hawaii, Montana, and Alabama. (See Table 56.) Five states have rates over 500: Louisiana, New Jersey, Wisconsin, New Hampshire, and Minnesota. (See Table 54.)

The average national arrest rate for marijuana sales for black adults is 107.77. Ten states have arrest rates under 50 per 100,000: South Dakota, West Virginia, Alaska, Colorado, Utah, Hawaii, Idaho, Texas, Alabama, and Montana, which reports no arrests of black adults for marijuana sales during this time period. (See Table 56.) Seven states have marijuana sales arrest rates for black adults over 200 per 100,000: California, Wyoming, New Hampshire, Pennsylvania, Nevada, Kentucky (414 per 100,000), and Wisconsin (755 per 100,000). (See Table 52.)

As discussed earlier, the maximum penalty, the overall arrest rate, and the arrest rates for 18 year old males and black adults are important indicators of the nature of state-level marijuana arrests. An index composed of these indicators provides a useful tool to compare state-level marijuana sales arrests. The Marijuana Sales Arrest Threat Index (MSATI) was created similarly to the Marijuana Possession Arrest Threat Index introduced above. (See Table 57.)

A state with severe penalties for sales of one ounce of marijuana but low arrest rates poses less of a threat to marijuana sellers than a state with severe penalties and high arrest rates. Conversely a state with mild penalties for sales but high arrest rates poses more of a threat than a state with similar penalties and

a low arrest rate. Also, states with higher rates for 18 year old males and/or black adults score higher on this index than states with similar penalties and overall arrest rates.

According to this index the ten states with the least threat of arrest for marijuana sales are: Vermont, Utah, West Virginia, New Mexico, Hawaii, Ohio, South Dakota, Michigan, Texas, and Alabama.

The ten states posing the greatest threat to marijuana sellers are Louisiana, New Hampshire, Rhode Island, Oklahoma, Georgia, Wyoming, Mississippi, Nevada, and Missouri. Louisiana law enforcement poses the greatest threat to marijuana sellers, the state has one of the harshest penalties and some of the highest arrest rates. Maryland, one of the toughest states regarding marijuana possession, falls more in the middle with respect to marijuana sales with the 23rd highest index; California was 24th.

Texas is a border state and has an uncommon problem with marijuana sales; in many respects sales of 1 ounce are not much of a priority when state law enforcement must deal with international trafficking on a regular basis. Texas ranked 24th on the MPATI but when it comes to the issue of marijuana sales Texas is next to last.

While Arizona poses the greatest threat for marijuana possession arrests, because of its problems being a border state Arizona only scores 34th on the MSATI. Kentucky was ranked second greatest threat for possession arrests but ranks only 25th for marijuana sales.

Table 53. Marijuana Sales Arrest Rates in Selected States (Avg. 2000-2002)

State	Rate
Minnesota	97.34
Kentucky	60.69
Wisconsin	60.36
New Hampshire	50.72
Louisiana	50.69
Georgia	50.17
South Carolina	44.80
Maine	44.31
New York	43.76
Pennsylvania	42.34

Sources: Uniform Crime Reports, Arrests by Age, Sex and Race (2000 - 2002); U.S. Census Bureau Population Estimates—State Characteristics (2002).

Table 54. Marijuana Sales Arrest Rates in Selected States, Males Age 18 (Avg. 2000-2002)

State	Rate
Minnesota	1,370.09
New Hampshire	861.13
Wisconsin	669.73
New Jersey	550.24
Louisiana	513.31
Pennsylvania	493.23
Georgia	483.84
Maryland	429.20
Maine	422.53
Kentucky	422.06

Sources: Uniform Crime Reports, Arrests by Age, Sex and Race (2000 - 2002); U.S. Census Bureau Population Estimates—State Characteristics (2002).

Table 55. Marijuana Sales Arrest Rates in Selected States, Black Adults (Avg. 2000-2002)

State	Rate
Wisconsin	755.16
Kentucky	414.31
Nevada	277.20
Pennsylvania	244.08
New Hampshire	221.38
Wyoming	208.49
California	204.75
New York	188.64
North Dakota	172.74
Nebraska	146.37

Sources: Uniform Crime Reports, Arrests by Age, Sex and Race (2000 - 2002); U.S. Census Bureau Population Estimates—State Characteristics (2002).

Table 56a. Selected Marijuana Sales Arrest Rates, by State (Average 2000-2002)

State Name	Max. Penalty	Total Rate	Male Age 18 Rate	Black Adult Rate
Alabama	36	5.61	23.05	14.84
Alaska	60	29.18	101.92	39.95
Arizona	36	23.13	202.44	94.15
Arkansas	120	30.18	225.80	80.98
California	48	34.68	299.64	204.75
Colorado	72	10.99	97.41	38.85
Connecticut	84	22.15	301.57	88.37
Delaware	60	29.51	328.02	103.96
Georgia	120	50.17	483.84	125.63
Hawaii	60	13.55	40.45	31.86
Idaho	60	16.30	163.45	26.51
Indiana	12	27.60	252.19	85.38
Iowa	60	17.29	178.85	141.16
Kansas	51	24.18	224.46	108.98
Kentucky	12	60.69	422.06	414.31
Louisiana	360	50.69	513.31	115.43
Maine	12	44.31	422.53	80.94
Maryland	60	39.10	429.20	70.81
Massachusetts	24	20.23	306.52	121.34
Michigan	12	23.02	205.23	54.02
Minnesota	60	97.34	1,370.09	134.62
Mississippi	240	34.67	224.16	68.38
Missouri	180	24.90	236.68	55.43
Montana	Life	5.90	36.34	0.00

Note: Arrest data was not available for the District of Columbia, Florida, and Illinois.

Table 56b. Selected Marijuana Sales Arrest Rates, by State (Average 2000-2002)

State Name	Max. Penalty	Total Rate	Male Age 18 Rate	Black Adult Rate
Nebraska	240	17.73	113.08	146.37
Nevada	72	39.82	268.86	277.20
New Hampshire	84	50.72	861.13	221.38
New Jersey	36	37.12	550.24	145.95
New Mexico	18	17.88	145.45	69.93
New York	48	43.76	408.29	188.64
North Carolina	72	31.25	270.95	107.92
North Dakota	120	14.95	158.76	172.74
Ohio	18	15.88	159.20	58.80
Oklahoma	Life	33.20	247.98	104.76
Oregon	120	7.18	79.09	59.45
Pennsylvania	1	42.34	493.23	244.08
Rhode Island	360	30.75	332.09	133.20
South Carolina	60	44.80	409.60	109.51
South Dakota	24	13.96	156.85	47.34
Tennessee	72	37.49	303.27	101.47
Texas	24	8.72	83.05	16.94
Utah	60	13.67	113.79	32.14
Vermont	60	11.55	58.51	66.93
Virginia	120	20.76	282.58	54.51
Washington	60	19.38	143.90	55.50
West Virginia	60	11.69	109.17	40.61
Wisconsin	54	60.36	669.73	755.16
Wyoming	120	31.16	259.16	208.49

Sources: National Organization for the Reform of Marijuana Laws (2004); Uniform Crime Reports, Arrests by Age, Sex and Race (2000 - 2002); U.S. Census Bureau Population Estimates—State Characteristics (2000 - 2002).

Table 57a. Marijuana Sales Arrest Threat Index, by State

Rank	State Name	Index	Penalty Pct	Total Rate Pct	Male Age 18 Rate Pct	Black Adult Rate Pct
1	Louisiana	87.93	93%	91%	91%	66%
2	New Hampshire	81.09	68%	94%	98%	91%
3	Rhode Island	80.84	93%	60%	74%	72%
4	Oklahoma	77.85	98%	66%	51%	57%
5	Georgia	77.39	73%	89%	87%	70%
6	Wyoming	70.66	73%	62%	55%	89%
7	Mississippi	68.70	89%	68%	43%	36%
8	Nevada	68.06	59%	79%	57%	96%
9	Nebraska	65.84	89%	30%	19%	81%
10	Missouri	63.67	86%	49%	49%	26%
11	Wisconsin	63.22	30%	96%	96%	100%
12	Tennessee	62.03	59%	74%	68%	53%
13	Minnesota	61.55	32%	100%	100%	74%
14	Arkansas	61.11	73%	57%	47%	45%
15	North Carolina	59.91	59%	64%	60%	60%
16	Connecticut	59.85	68%	40%	66%	49%
17	North Dakota	58.58	73%	21%	30%	83%
18	Virginia	56.86	73%	38%	62%	23%
19	South Carolina	54.12	32%	87%	79%	64%
20	New York	52.02	23%	83%	77%	85%
21	New Jersey	49.73	18%	72%	94%	79%
22	Montana	49.55	98%	2%	2%	0%
23	Maryland	49.51	32%	77%	85%	40%
24	California	48.14	23%	70%	64%	87%

Notes Arrest data was not available for the District of Columbia, Florida, and Illinois.

Table 57b. Marijuana Sales Arrest Threat Index, by State

Rank	State Name	Index	Penalty Pct	Total Rate Pct	Male Age 18 Rate Pct	Black Adult Rate Pct
25	Kentucky	47.08	2%	98%	81%	98%
26	Delaware	46.32	32%	55%	72%	55%
27	Pennsylvania	43.86	0%	81%	89%	94%
28	Oregon	43.76	73%	4%	9%	32%
29	Iowa	39.20	32%	28%	36%	77%
30	Kansas	39.06	27%	47%	45%	62%
31	Massachusetts	36.92	2%	85%	83%	43%
32	Maine	36.13	16%	36%	70%	68%
33	Colorado	35.14	59%	9%	13%	13%
34	Arizona	31.31	18%	45%	38%	51%
35	Washington	30.04	32%	34%	23%	28%
36	Alaska	29.68	32%	53%	15%	15%
37	Idaho	26.85	32%	26%	34%	6%
38	Indiana	26.20	2%	51%	53%	47%
39	Vermont	24.36	32%	11%	6%	34%
40	Utah	24.02	32%	17%	21%	11%
41	West Virginia	23.66	32%	13%	17%	17%
42	New Mexico	21.55	32%	15%	4%	9%
43	Hawaii	20.48	11%	32%	26%	38%
44	Ohio	19.78	11%	23%	32%	30%
45	South Dakota	18.89	2%	43%	40%	21%
46	Michigan	18.42	16%	19%	28%	19%
47	Texas	11.46	16%	6%	11%	4%
48	Alabama	9.40	18%	0%	0%	2%

Sources: National Organization for the Reform of Marijuana Laws (2004); Uniform Crime Reports, Arrests by Age, Sex and Race (2000 - 2002); U.S. Census Bureau Population Estimates—State Characteristics (2000 - 2002).

Marijuana Enforcement at the County and Local Level

The use of criminal law to control the availability and use of marijuana is a federal policy that is dependent on local law enforcement for its implementation and success. It is a federal policy that increases the cost of local government, and local governments have responded with a variety of strategies to manage those costs. As discussed above states respond to these costs with varying combinations of penalties and enforcement levels.

Areas with the highest arrest rates also bear the highest potential local costs for marijuana law enforcement. A majority of marijuana offenses are possession-related misdemeanors. In an era in which the responsibilities of local law enforcement have increased dramatically the costs of enforcing misdemeanors with prospective trial and criminal sanctions will come under increasing scrutiny.

For example, marijuana arrests in New York City (NYC) increased 98% in the five years from 1995 to 2000; the arrest rate increased by 81% from 511 per 100,000 to 928. (See Table 58.) Even though the state of New York had decriminalized possession of small amounts of marijuana possession arrests and related enforcement costs increased substantially in this period. During this period in which the arrest rate for marijuana increased 81% the arrest rate for all drug arrests only increased 14% and the arrest rate for all criminal arrests in NYC increased 21%. During this era it was a priority for NYC police to make marijuana arrests.

The attack on New York City on September 11, 2001 had a profound impact on the city and the country, including changes in the city's law enforcement responsibilities and priorities. Arrest statistics suggest that marijuana and other arrests did not have the priority they held in 2000 and earlier years. Marijuana arrests in New York City declined by 67% from 2000 to 2002. All drug arrests declined by 69% and total criminal arrests declined by 63%.

Table 58. Marijuana and Other Arrests in New York City Before and After 9/11/01

	1996	1997	1998	1999	2000	Change *96 to 00*	2001	2002	*Change 00 to 02*
Marijuana Arrests	37,527	46,527	59,916	58,426	74,289	***97.96%***	59,646	24,610	***-66.87%***
Marijuana Arrest Rate	511.30	635.57	814.33	786.43	927.64	***81.43%***	743.44	304.40	***-67.19%***
Drug Arrests	118,670	123,157	139,818	128,950	147,099	***23.96%***	116,723	45,888	***-68.80%***
Drug Arrest Rate	1,616.85	1,682.36	1,900.28	1,735.70	1,836.81	***13.60%***	1,454.85	567.59	***-69.10%***
Total Arrests	649,802	746,263	772,434	771,703	857,637	***31.98%***	844,644	321,552	***-62.51%***
Total Arrest Rate	8,853.38	10,194.19	10,498.25	10,387.34	10,709.25	***20.96%***	10,527.76	3,977.29	***-62.86%***

Source: Uniform Crime Reports, County-level Detailed Arrest and Offense Data (1996 - 2002).

The decline in marijuana arrests in New York City has obscured slight increases nationally in 2001 and 2002. In other words the decreases in New York City arrests were larger than the overall decrease in national arrests. In 2002 marijuana arrests declined 26,545 nationally from 2001 levels; but in NYC marijuana arrests declined by 35,035 from the prior year. Absent the decline in NYC, marijuana arrests actually increased nationally by 3,772 in 2001 and by 8,491 in 2002.

The War on Terror has increased the responsibilities of local law enforcement and government throughout the country. No jurisdiction other than New York City had to devote such substantial resources to both recovering from the 2001 attack and upgrading protection from future attacks. However the reallocation of resources evident in New York City's reduced marijuana arrest rate illustrates a problem faced by local government across the country.

The War on Terror has increased the responsibilities of local government, and that means the War on Terror has increased the cost of local government. Just as they do with the costs of marijuana arrests, local and state governments will manage the increased costs of the War on Terror. Increased budgetary demands for training, equipment, and deployment for the war on terror will compete for more funding to process misdemeanor arrests across the board.

Marijuana is no less a social 'problem' now then it was before the War on Terror. What has changed is the fiscal dynamic of local government's budgets. The War on Terror has required local governments to do more with less. In this context marijuana possession, for example, is not a law enforcement priority but instead just another misdemeanor.

Every state has several misdemeanor crimes that are punishable only by a fine. Many states have provisions in state law allowing police officers to issue citations for misdemeanors. Many states allow defendants to waive trial and pay a fine to resolve such a citation. Increased pressures on local and state law enforcement will favor efforts to save criminal justice funds by processing more misdemeanor crimes, notably minor marijuana offenses, in this way. Nonetheless the increase in marijuana arrests in 2003 to record arrest levels higher than before 9/11 suggests that cost control efforts or not — marijuana arrests are likely to continue at the local law enforcement level.

Areas with the highest arrest rates indicate areas where this overall pressure may be the strongest over time. The potential costs of marijuana arrests in counties with the highest arrest rates, or anywhere else for that matter, obscures a more important issue. Differences in local enforcement make the overall federal control policy ineffective.

On a national and state level marijuana arrests and arrest rates are at their highest levels ever. Overall marijuana arrests have doubled since 1990. At the national level marijuana policy is subject to local law enforcement priorities. The NYC example makes it clear that arrest trends can change due to a change in local priorities. National hot spots, where marijuana arrests are at the highest levels, indicate where local enforcement is the most burdened and/or distracted by marijuana arrests. (See Appendix 2.)

Marijuana Arrests and Geography

In many jurisdictions, regardless of population size, marijuana arrest rates are several times higher than the overall national rate. This should send an obvious message to marijuana users to either avoid these areas or

exercise extreme discretion and caution when visiting, living, or passing through these locations. (Indeed many of the areas with smaller populations and higher arrest rates are vacation areas in which many of the arrests are not of local residents.) However these areas with the highest arrest rates also highlight areas where even the most intensive enforcement efforts are ineffective in reducing regional marijuana use.

For every hot spot with one of the highest arrest rates for marijuana in the United States there is a corresponding cool spot with one of the lowest rates. A major problem in enforcement is the overall lack of consistency in arrest rates throughout the country.

There are 3,143 county level jurisdictions in the United States; this study utilized data from 2,968 of these jurisdictions and 96% of them reported arrests for marijuana sales or possession.

Marijuana arrests in small towns are often distorted by statistics. As mentioned above local arrest rates are more likely to reflect crimes by visitors and travelers. Arrests in counties with a population under 10,000 account for 1.35% of marijuana arrests. (See Table 59.) Compared to other counties these have the highest average arrest rates for marijuana and the highest levels of variance between counties.

In the 550 counties with a population between 2,500 and 9,999 the average arrest rate for marijuana was 231 per 100,000 with a standard deviation of 443. For counties with a population less than 2,500 the average arrest rate was 273 with a standard deviation of 540.

Marijuana arrests in counties with populations over 10,000 have lower average arrest rates and by comparison are more consistent. Average arrest rates vary from 220 to 238 while the standard deviation ranges from 122 to 248. In other words, for any population size over 10,000 county level arrest rates will average about 230 per 100,000 with a standard deviation of about 170.

This is still a considerable level of variation in county level arrest rates. In 383

Table 59. Summary of Local Agency Marijuana Arrests, by Population Size (Average, 2000–2002)

	Percent		Arrests (3 yr average)		Arrest Rate (3 yr average)	
	Of Sample	Obs.	Mean	Std. Dev	Mean	Std. Dev
Pop. <2,500	0.09%	113	5	9	273	540
Pop. 2,500—9,999	1.26%	540	14	27	231	443
Pop. 10,000-24,999	5.00%	852	36	26	220	144
Pop. 25,000-49,999	8.43%	625	83	61	236	159
Pop. 50,000-99,999	10.22%	383	163	98	238	128
Pop. 100,000-249.999	16.23%	282	352	208	243	125
Pop. 250,000-499,999	15.46%	118	802	564	242	147
Pop. 500,000-999,999	19.35%	77	1,538	917	225	122
Pop. 1,000,000+	23.97%	33	4,447	3,977	237	168

Source: Uniform Crime Reports, Arrests by Age, Sex and Race (2000 - 2002)

counties with a population between 50,000 and 100,000 the average arrest rate for marijuana is 238, with a standard deviation of 127, and a range from a minimum of 13.74 to a maximum of 729.49. This one simple descriptive statistic, the standard deviation, describes one of the primary reasons why the national policy of criminalizing marijuana is ineffective. Marijuana arrest rates fluctuate widely from place to place.

There are several potential factors that influence marijuana arrest levels on a regional or local basis—such variables as marijuana use, law enforcement priorities, fiscal constraints, local values, levels of tourist and vacation activity, and proximity to smuggling routes and/or growing activities. The problem for policy analysis, though, is not so much explaining the individual variance but rather explaining the relevance of the variance in local arrest rates to the overall effectiveness of the policy.

The policy under analysis is a national policy. Variance in local arrest rates demonstrates the lack of influence national administration officials have on policy implementation and effectiveness. Variance in local enforcement of marijuana laws is one of the primary constraints on the effectiveness of national policy.

The nature of this country's reliance on locally-controlled law enforcement renders national marijuana policy increasingly unworkable. For example the problem is not that California and other states have decided they don't want to arrest people for medical marijuana use. The problem for federal officials is the difficulty involved in getting all 3,144 county-level collections of law enforcement agencies to provide consistent and effective levels of enforcement of even the existing marijuana laws.

6. Policy Analysis and Recommendations

Marijuana Policy Analysis - Conventional Wisdom

The purpose of a drug control system is to increase the benefits to society associated with a drug's use. John Kaplan provides a useful model for policy analysis of drug control systems involving consideration of the policy's benefits, harms, and social costs. [18]

The drug control system should try to increase the benefits available from a drug, but the real emphasis according to Kaplan is to reduce the risks of a drug's use without a significant decrease in benefits. When such harm reduction is impossible prohibition is the remaining policy option. The larger number of users who benefit from a drug, though, the harder it is to make prohibition work. In addition to popularity another important factor in the success of a drug control system is the technological requirements of manufacture; if it is easy to produce the drug it will be hard to prohibit. Furthermore, Kaplan argued in 1973, prohibitions tend to discourage beneficial use more so than harmful use.

Harmfulness is the second term in Kaplan's analysis, and in this context it refers to serious harm to many people. The costs and consequences of a drug control system should not exceed the harm produced by the drugs, hence the repeal of alcohol prohibition in the United States in the early-20th century. Patterns of drug use create contingent harm, analogous to collateral damage to civilians in military combat, and so do drug control systems. As an example Kaplan argued that in an unregulated prohibitive market all drugs move toward more concentrated and more abusable forms. The contingent harm for society in this case consists of greater public health problems due to greater abuse. On the other hand widespread benign or inconsequential use makes prohibitive controls more difficult to enforce, making it harder to deter actual abuse, another example of contingent harm associated with a drug control system.

Social costs are the third term in Kaplan's analysis, and he provides the prescription system as an example. The control system, consisting of drug testing procedures to determine safety and effectiveness, inventory provisions, quotas, and medical prescriptions is expensive, yet it reduces harmful use without significant disruptions to beneficial use. The system has additional social costs, including reducing competition for new drugs and the costs of satisfying bureaucratic requirements. Additional social costs are created by sizable violations of the law.

This approach to drug policy analysis considers the benefits of a control system and compares them to its harmfulness and social costs. Under this analytical scheme prohibition is a costly means of lowering use, and this explains the popularity of the "Vice Model" which criminalizes the seller of illegal goods and services and subjects the buyer to minimal legal sanctions. Nonetheless prohibition of sales remains a costly and ineffective approach to drug control. The risks include moral dissonance, resentment of

[18] Kaplan, John. "Classification for Legal Control" From: Controlling Drugs, International Handbook for Psychoactive Drug Classification. Richard H. Blum, Daniel Bovet, James Moore and Associates. San Francisco: Jossey-Bass. 1974 pp 284—304.

police tactics, the threat of corruption from large illegal profits, incentives for drug dealing networks to expand their product lines, and the impact of higher prices on users of addictive drugs.

Kaplan participated in an important review of marijuana policy several years after his 1973 article on drug control. The Committee on Substance Abuse and Habitual Behavior of the National Research Council (NRC) conducted a review of marijuana policy from 1978 to 1982. [19] Their policy analysis is provided in the appendix of this report. During their review the Institute of Medicine (IOM) published a comprehensive report on Marijuana and Health, and the NRC committee's report includes a summary of the IOM report.

On the subject of marijuana's effects on health the NRC Committee concluded that:

> At this time, however, our judgment as to behavioral and health-related hazards is that the research has not established a danger both large and grave enough to override all other factors affecting a policy decision. [20]

Scientific findings over the next 20 years still support this conclusion, and a comparison of the 1982 IOM findings and subsequent research is contained in Appendix 6 of this report.

The NRC Committee recognized three major policy choices: complete prohibition of supply and use, prohibition of supply only, and a regulatory approach. Generally, they agreed with the conclusion of the 1973 National Commission on Marihuana and Drug Abuse that prohibition of sales was preferable to complete prohibition. The 1973 Commission expressed concern over the physiological effects of marijuana, the effect of marijuana use on the educational accomplishment of young users, public safety issues, possible associations with chronic disease, and the need to balance those costs with the social and political costs of fighting a well-established custom. Current policy has been described by the 1982 NRC report as complete prohibition of sale and use under the law, however in practice the policy has become (in their analysis) one of partial prohibition.

The current approach, what Kaplan refers to as the Vice Model, was viewed as practical when compared with the alternatives. The NRC Committee concluded that the problems with prohibition include alienation from the rule of law of the young people subjected to arrest, the impact of discrimination that arises from differential application of the law, only some deterrence of supply takes place, and there is minimal deterrence of use. Under regulation the argued that there would be mild disapproval of use, deterrence policies would focus on heavy or dangerous use, enforcement and social costs would be lower, but the main symbol of public disapproval would disappear — possibly risking a political backlash against a regulatory system. Given this analysis the advantages of emphasizing prohibition of supply include recognition that sanctions do not deter use, and the benefits of a cheaper cost and reduced alienation from the law — in a time when arrests were running about 400,000 per year.

The idea of focusing on sales rather than use has been labeled “partial prohibition” to

[19] National Research Council. Analysis of Marijuana Policy. Washington, D.C.: National Academy of Sciences Press. 1982

[20] ibid

distinguish it from "complete prohibition" of sales and use. The hallmark of partial prohibition is decriminalization, in which criminal penalties for possession of small amounts are replaced with a civil fine. As an alternative to decriminalization many states have implemented conditional discharge options for marijuana possession offenders in which a judge has the authority to dismiss the charges subject to good behavior and other conditions.

The 1982 NRC report concluded that the benefits of regulation would include reduction of illegal activity, savings in economic and social costs, better control over quality and safety, and increased credibility with risk warnings. While the costs of regulation would include increased use and proportional increases in the harm marijuana use causes to health, theses should be compared to the costs of prohibiting supply, which include smuggling, violence, a domestic sub-culture, and exposure of marijuana users to other drugs. The net effect of regulation, though, would be more use and less costs. The 1982 report concluded that partial prohibition was preferable to complete prohibition, and that the current policy of controlling supply through prohibition should be re-evaluated. Another important observation of the Committee was that problems associated with marijuana were not likely to get much better under the status quo. The data presented in section 2 confirms this prediction.

A Fresh Analysis of Marijuana Policy - A Reassessment of Partial Prohibition

The data reviewed in this report sheds new light on the analysis of marijuana policy. The demographic data on use, the characteristics of marijuana purchases, and marijuana sales indicates the widespread persistence of marijuana use and the failure of current policy to control and prevent the availability of marijuana to teenagers. The review of drug policy indicators in section 2 demonstrates the failure of the current control system to reduce the social costs associated with marijuana use.

The demographic impact of marijuana possession arrests provides additional support for earlier concerns about discrimination from inconsistent enforcement and alienating the young from the rule of law.

The demographic characterization of marijuana sales and marijuana sales arrests indicates the prevalence of teenage commerce in marijuana and other illegal drugs. As a percentage of annual users, marijuana arrests have increased steadily over 20 years, capped off with the dramatic increases on the 1990s and the persistence of historically high arrest rates in recent years. Arrests have doubled over the last ten years with no discernable benefits to show for the effort and increased cost. None of the potential benefits from increased enforcement have been realized while harmfulness, fiscal and social costs have all dramatically increased.

The distinction between partial and complete prohibition presents a false choice and misleading comparison. The current policy is complete prohibition, and policy implementation is characterized by increased enforcement constrained by social costs, resulting in what is referred to as partial prohibition or decriminalization of use. Decriminalization of use under current practices does not provide an alternative policy option to prohibition, indeed decriminalization policies enhance prohibition by helping to control social costs. Partial prohibition remains a viable policy option, but only if it consists of removing all penalties for personal/private possession while retaining the criminal prohibition on supply. The current practice only concerns

penalties for some users in some jurisdictions in some situations. The problems associated with complete prohibition that were recognized by the NRC analysis in 1982 are still with us today in 2005. The risk of alienation from the rule of law by young people has increased dramatically, as had the impact of discrimination that arises from differential application of the law. Only some deterrence of sales takes place and there remains only minimal deterrence of use. Both versions produce the unacceptable consequence of creating market structures that expedite rather than discourage teen age sales and purchases of marijuana.

The problem with the current policy is that while it has managed fiscal costs it has done so at the expense of increasing both social costs and the harm caused by the drug. The problem with either definition of prohibition (complete or partial) is in its effect on the illicit market. Rather than inhibit commerce by increasing the price of the drug, current policies facilitate distribution by lowering entry level costs; these lower costs attract young entrepreneurs who concentrate on sales to their underage peers. This dynamic explains in part why Kaplan was right when he noted that prohibitions can not succeed with popular drugs.

Scientific research has yet to challenge the NRC's conclusion that the health effects of marijuana are not sufficiently grave to outweigh all other policy considerations. For those looking for simplistic standards the near-impossibility of dying of an overdose creates a significant and substantial distinction between marijuana and illegal drugs such as heroin and cocaine and even legal drugs such as alcohol. It was the NRC opinion in 1982 that a more complex review of the health effects of marijuana use and the public health costs of marijuana use in society would support the use of regulatory tools in place of the existing policy of prohibition. The scientific record still supports this recommendation.

An effort to move closer to complete prohibition by increasing arrests for marijuana possession has failed to reduce use and availability. The effort to strive for a complete prohibition has increased the harm associated with marijuana use and increased the associated social costs.

While current policies have failed to increase the potential benefits associated with marijuana use, i.e. the lack of legal access for medical use, this problem can be remedied under the current policy regimen through the rescheduling of marijuana under the Controlled Substances Act (CSA) and its commercial development as a pharmaceutical product subject to Food and Drug Administration (FDA) testing and regulatory requirements. Otherwise four policy options are available:

Option 1. More of the Same: Under the current policy of marijuana control there is no control and no accountability. Federal marijuana policy is dependent on state and local level enforcement for success. State and local level cost management is a structural constraint on the performance and effectiveness of federal policy. Despite the best efforts of state and local law enforcement officials over 25 years current policies have neither been consistent nor effective. The cost management approach to prohibition of use and supply creates economic conditions that encourage development of teenage drug selling networks. Efforts to increase enforcement have increased the social costs inflicted on young and minority marijuana users and failed to produce other measurable benefits.

Option 2. Full enforcement, stricter penalties for use: The likely effect of this

approach will be to drive the younger market of marijuana purchasers and sellers, already subject to intense pressure from law enforcement, further underground. Alienation from the rule of law will continue to increase, and at a much faster rate. Stricter penalties for possession will also make older users more conservative, and will likely provide additional incentives for increasing indoor cultivation for personal use. Harsher penalties and/or higher arrest rates are not clearly associated with lower marijuana usage rates. Given the trends in important indicators during the past decade regarding use, availability, and safety more aggressive marijuana law enforcement would seem likely to increase social and fiscal costs rather than reduce them. Realistically, few state governments have either the fiscal or political capital to enforce such policies under the budgetary constraints faced by state and local governments in the early 21st century.

Option 3. Maintain prohibition on commerce while dropping all penalties for possession and/or manufacture for personal use: This option is similar to maintaining the status quo, but with lower social costs in terms of the fiscal and personal costs or arrests. It would create an unprecedented boom in marijuana cultivation for personal use which in many ways would make drug control more difficult rather than more effective. Nonetheless many marijuana users would still prefer to buy it than grow it themselves and the illicit market would remain. This option does not address the problem of illicit market structure and the availability of marijuana and other drugs to minors. This option would be well-received by many marijuana users.

Option 4. Regulation similar to the control of alcohol and/or tobacco: Many supporters of our current policies refuse to consider the legalization of marijuana under any circumstances. They argue that increased use of marijuana would create significant costs that would offset any fiscal savings. Many of the harms associated with marijuana use, though, could be addressed with regulatory controls. Potency could be controlled, for example, and age and use controls would certainly be established. Nonetheless teenagers would still find marijuana less available because regulatory controls would reduce the profit potential for teenage marijuana sellers. While teenagers indeed gain access to alcohol and tobacco under contemporary regulatory schemes there is little profit motivation or definable marketplace for teenagers to profitably resell alcohol and tobacco purchased from legal or illegal sources. Regulation can reduce the availability of marijuana to teenagers by reducing the available profit, and can reduce the availability of other drugs to teenagers by reducing their overall exposure to the market in illegal drugs.

While these policy choices, though, are ultimately about values, a point stressed in the introduction to the 1982 NRC report, an economic perspective is helpful to place these choices in a wider context. [21]

In terms of formal economic theory the potential tax revenue available to the government is not a potential benefit from regulation—merely a transfer of value. However wasteful spending depletes society's limited resources rather than multiplies them, and elimination of this waste does produce an economic benefit. Besides eliminating many enforcement costs regulation would also eliminate one of the greatest and under-estimated social costs of current policies, the lost human creativity, innovation and productivity due to arrest,

[21] For background and related commentary see: Landsburg, Steve. "Choosing Sides In The Drug War: How the *Atlantic Monthly* Got It Wrong." in The Arm-chair Economist: Economics and Everyday Life. The Free Press: New York. 1993. Chapter 10.

trial, and incarceration of people arrested for marijuana use.

Another benefit of a regulatory approach is that it would provide for a domestic manufacturing industry, and in many respects regulation would nationalize the economic impact of marijuana consumption. Under regulation more of the money spent on marijuana would remain in circulation in the US economy, multiplying its economic impact, particularly in regions with sufficient production capabilities.

Economic analysis rests on the assumption that people know what is best for them, and arguments for taking a regulatory approach to marijuana control rest in part in an assessment that the dependence liability of marijuana is sufficiently low enough that most adult consumers can engage in informed consent about its use. In this context increased consumption is a net benefit rather than a cost to society. Increased consumption under a regulatory scheme will reduce the cost of marijuana, producing significant consumer savings. On an individual level consumers will re-allocate this surplus. Overall, though, increased consumption will lower the amount of money our society spends on marijuana.

A powerful perspective of economics is that only individuals matter. Costs and benefits must be evaluated in terms of individuals, and benefits to society really don't matter in this assessment. The greatest indictment of current marijuana policies is that many individuals who bear the costs of the policies are not the individuals who gain its benefits. Families, concerned about the exposure of their children to illegal drugs, and young people, concerned about the risks of both marijuana use and the costs of arrests, bear the costs of current policies while drug dealers, for example, utilize the resulting economic consequences to further their pursuit of profits.

A public debate over adopting regulatory policies in place of the current prohibitive approach will be controversial, however it is a debate America has avoided at great cost for over 30 years. The controversy for supporters of current policies has been noted in both the 1973 National Commission report and the 1982 NRC report. The controversy for opponents of current policies, though, has been given little consideration.

Reduction of criminal sanctions, rather than their elimination, has long been the practical objective of most self-styled drug policy reformers. Reduction of state level justice costs through medical marijuana or other penalty-reducing initiatives is the strategic cornerstone of the efforts of several drug policy reform organizations. The policy analysis of this report, though, suggests that these strategies mislead the public about both the available policy options and the impact of state level refinements on national policy. Legal recognition of medical marijuana use by state governments, for example, is not a significant reform but a refinement, a very important and necessary refinement, in the application of state law completely consistent with the existing policy and regulatory structure.

It is very likely that efforts to reduce user penalties and sanctions at the state level will continue and perhaps increase over the next decade as states grapple with the increasing costs of current enforcement levels. However decriminalization efforts, as important as they are to reduce the social costs of the current marijuana control system, are no longer viable as efforts to reform the nation's marijuana laws.

Decriminalization, the general trend to reduce criminal sanctions, remains a state and local level policy. The reduction of

criminal sanctions for marijuana users is an effort in cost-containment by practical minded state and local governments. Marijuana control, though, is a national policy that must be addressed at the national level. State level refinements are no substitute for national reform, nor will state level refinements create sufficient pressure to bring about reform at the national level.

Federalism is an important part of our system of government that encourages the states to respond to new challenges and find new ways to respond to existing challenges. Some responsibilities of the federal government, though, do not have comparable state-level responsibilities. States do not experiment and innovate in the area of foreign policy, for example; this is a federal responsibility that can not be addressed nor improved through state legislative action. Fundamental civil rights are another example of issues that are federal in nature and not subject to local preferences. The regulation of interstate commerce is another such issue that is primarily federal in nature. Both the current prohibition of marijuana and the alternative policy approach of regulation are interstate commerce issues that must be addressed at the federal rather than the state level. Indeed this is one area where such powers are reserved for Congress and innovation by the states is prohibited by the Constitution.

A debate over adopting regulatory policies in place of the current prohibitive approach will be controversial because the public interest requires that advocates on both sides of the issue abandon some cherished ideological habits.

Both the 1973 National Commission and the 1982 National Research Council reports recognized social opposition to regulation that was based, in part, on a reaction to cultural controversies of the 1960s. Some opponents of regulation today are self-described cultural conservatives who place great value in the symbolic if not the practical importance of legal sanctions on the sale and use of marijuana. For them the issue of marijuana regulation presents a potential clash between the value they place on the law as a tool to teach proper behavior and the value they place on protecting young people from illegal drug sales.

Some supporters of regulation, on the other hand, support far and wide-reaching reform such as the repeal of the prohibitions on the sale and use of many other drugs beyond marijuana. For them the issue of marijuana regulation presents a potential clash between the value they place on ending marijuana prohibition and they value they place on ending the prohibition of all currently illicit drugs.

Both "sides" need to temper their ideologies in recognition that marijuana does not pose a danger, in the words of the NRC, grave enough to override other considerations. Contemporary scientific and medical knowledge should assure and/or persuade both "sides" that marijuana is sufficiently different from other illegal drugs to justify treating it more like the alcohol and tobacco and less like heroin and cocaine.

Odd as it may seem the most controversial aspect of a prospective public debate over marijuana's legalization and regulation is whether or not marijuana should be treated differently than other illegal drugs. The individual and public health risks of drugs presented by cocaine, heroin and similar drugs are much more dangerous than those of marijuana. The argument for treating marijuana differently than cocaine or heroin, for example, is that the health risks of marijuana use are not serious enough to outweigh other policy considerations. Some opponents of

marijuana regulation want a strict prohibition over marijuana and all illegal drugs while some supporters of regulation want to end prohibition over all drugs. Both camps may have trouble accepting that marijuana can and should be treated as a separate and distinct policy issue from drug control policies involving illicit drugs such as cocaine and heroin. Instead of groundbreaking reform marijuana regulation would actually be a conservative measure that would strengthen rather than weaken existing drug control policies.

For opponents of regulation the differences between marijuana and other illegal drugs provide the justification for treating marijuana differently under the law. For many advocates of regulation recognition of this somewhat obvious point provides justification for accepting marijuana regulation without establishing a precedent for legalizing cocaine, heroin, and other dangerous addictive drugs. In other words, major reform of marijuana policy in the United States does not require or involve reform of other drug control policies. While this may re-assure many current opponents of regulation it will also disturb many supporters of wider drug policy reform. Indeed, like reducing sanctions on marijuana users, regulation of marijuana will strengthen overall drug control efforts by reducing costs and increasing benefits.

The interests of advocacy groups, though, have little importance in evaluating the public interest. The 1982 analysis of marijuana policy by the National Research Council recommended a re-evaluation of attempts to control marijuana use through prohibition of supply. A review of policy performance over the 20 years that followed, especially the effects of the increase in arrests during the 1990s, adds considerable weight to that recommendation. It is now time for a serious debate over the costs and benefits of legal regulation of the manufacture, sale, and use of marijuana in the United States. This debate should focus on national rather than state level reform, and it should focus on common values and the public interest rather than validating the ideological passions found in the ranks of both prohibitionists and anti-prohibitionists.

Appendix 1.

Maximum Estimates of State and Local Criminal Justice Costs of Marijuana Arrests by State (2000)

Appendix 1. Maximum Estimates of State and Local Criminal Justice Costs of Marijuana Arrests by State

The most prominent discussion of the fiscal costs of drug abuse and related public policies is a report on *The Economic Costs of Drug Abuse in the United States* prepared by the Lewin Group and published by the Office of National Drug Control Policy in 2001. [22]

The ONDCP report considers costs in three broad categories: Health Care Costs, Productivity Losses, and the Costs of Other Effects including criminal justice system, other public costs, and private costs.

Productivity losses include both the work time lost by victims of crime as well as by individuals incarcerated for criminal offenses. The public costs include Police Protection, Legal Adjudication, State and Federal Corrections, Local Corrections, and Federal Spending to Reduce Supply.

The health care costs of marijuana use are beyond the scope of this report other than to note that differences in the drug's dependence liability and route of administration distinguish marijuana from more addictive drugs such as alcohol and heroin and from the public health costs created through needle sharing by IV drug users.

Productivity losses attributable to arrests for marijuana are a significant public cost attributable to the policy choice to retain a prohibition approach to marijuana regulation.

Marijuana prohibition creates considerable costs for the criminal justice system regardless of how many offenders are fined or how many stay in a local jail or how long they are sentenced. Increases in arrests and/or increases in norms for the severity of sentences for marijuana offenses increase the costs of marijuana prohibition in any state of municipality. Obviously the opposite is also true, explaining in part the logic of decriminalization of marijuana in 12 states that have done away with arrest for possession of small amounts of marijuana (Alaska, California, Colorado, Maine, Minnesota, Mississippi, Nebraska, Nevada, New York, North Carolina, Ohio, and Oregon.)

In the ONDCP report the costs of police protection and legal adjudication for drug abuse related offenses are estimated using a very simple and straightforward method: "police protection and legal adjudication costs were attributed to drug abuse based on the percentage of arrests attributable to drug abuse." [23]

In other words if drug abuse offenses comprised 10% of all arrests then the costs of drug abuse offenses would be estimated at 10% of all police protection and legal adjudication costs. On this basis the fiscal costs of marijuana law enforcement can be estimated by a) determining what percentage of all arrests are attributable to marijuana possession or sales, b) determining the entire costs of police protection, and c) multiplying the percentage of arrests attributable to marijuana times the total police budget.

Estimates of the criminal justice costs related to marijuana arrests are presented in Table 60. The costs were estimated using the

[22] Office of National Drug Control Policy (2001). The Economic Costs of Drug Abuse in the United States, 1992-1998. Washington, DC: Executive Office of the President (Publication No. NCJ-190636). This publication can be accessed electronically through the following World Wide Web address: http://www.whitehousedrugpolicy.gov

[23] ibid, pg. 39.

method described above for police protection, judicial and legal, and corrections. The source data on combined state and local criminal justice costs were obtained from the Bureau of Justice Statistics Criminal Justice Expenditure and Employment Extracts Program for 2000. [24] The cost estimates are labeled as "maximum cost" estimates to call attention to the method of estimation and the necessity to consider it in analysis of the resulting data.

The estimation method is based on the premise that all arrests have equal investigative, custodial, judicial, and sentencing costs. These and other factors affect the true cost of law enforcement for any specific offense in any specific location.

As indicated above many states try to minimize the costs of marijuana possession offenses through decriminalization; in addition to replacing arrest with civil fines many states replace sentencing with conditional discharge or other lower-cost alternatives. Regardless of these considerations the resulting estimates call attention to the significant costs of marijuana law enforcement. In 4/5 of the states marijuana accounts for five to ten percent of all arrests. Those are considerable costs no matter how they are calculated.

The maximum estimate for the state and local criminal justice costs of marijuana arrests for 2002 is $7.6 billion; police costs are $3.7 billion, judicial/legal costs are $853 million, and correctional costs are $3.1 billion (See Table 60.) The maximum estimate of $7.6 billion for marijuana arrests nationwide is equal to $10,402 per arrest.

[24] Bureau of Justice Statistics, Criminal Justice Expenditure and Employment Extracts Program (CJEE), cjee0008.wk1, Table 8. Per capita justice expenditure (fiscal 2000) and full-time equivalent justice employment per 10,000 population (March 2000) of State and local governments by activity and state.

The two largest states in the country provide a good example of the concept of cost management. California and New York both have maximum criminal justice costs for marijuana offenses of over $1 billion each (See Table 60.) In order to reduce actual costs for enforcing marijuana possession laws California and New York have decriminalized possession of small amounts of marijuana producing what are likely to be substantially lower actual enforcement and other criminal justice costs.

Both Ohio and Pennsylvania have maximum cost estimates for marijuana arrests near $300 million. However, Ohio has decriminalized possession of small amounts of marijuana and as in the example above is likely to have much lower actual costs from marijuana law enforcement than Pennsylvania.

Table 60a. Maximum Estimates of State and Local Criminal Justice Costs of Marijuana Arrests by State (2000) (All costs in $1000's)

	Marijuana as a Pct of All Arrests	Maximum Police Costs	Maximum Judicial and Legal Costs	Maximum Correctional Costs	Maximum Criminal Justice Costs
Alabama	5.87%	$38,504	$7,678	$23,731	$69,914
Alaska	4.26%	$7,539	$2,764	$7,455	$17,757
Arizona	7.17%	$78,593	$21,902	$68,474	$168,969
Arkansas	3.87%	$13,614	$3,026	$12,685	$29,325
California	5.27%	$458,684	$164,817	$377,879	$1,001,380
Colorado	5.64%	$46,816	$9,270	$46,267	$102,352
Connecticut	6.18%	$42,142	$13,290	$34,231	$89,664
Delaware	6.94%	$11,541	$3,147	$15,828	$30,517
District of Columbia	5.53%	$18,237	$1,284	$16,853	$36,374
Florida	5.53%	$206,907	$38,641	$181,131	$426,679
Georgia	7.59%	$97,094	$19,919	$104,400	$221,414
Hawaii	2.47%	$5,481	$2,222	$3,819	$11,522
Idaho	5.56%	$11,530	$2,825	$10,625	$24,980
Illinois	5.53%	$168,992	$26,601	$97,552	$293,145
Indiana	7.34%	$61,863	$11,923	$53,355	$127,142
Iowa	7.37%	$31,460	$9,310	$21,931	$62,701
Kansas	6.21%	$26,689	$6,399	$21,689	$54,776
Kentucky	8.42%	$41,101	$12,214	$51,410	$104,725
Louisiana	7.08%	$58,717	$12,694	$55,213	$126,624
Maine	8.19%	$13,417	$2,810	$10,099	$26,326
Maryland	7.37%	$82,558	$18,035	$81,358	$181,951
Massachusetts	7.53%	$111,352	$23,632	$59,832	$194,816
Michigan	4.58%	$82,098	$20,735	$84,855	$187,688
Minnesota	8.24%	$71,996	$18,227	$48,705	$138,928
Mississippi	6.19%	$25,001	$4,777	$18,065	$47,843
Missouri	5.19%	$45,957	$9,309	$34,894	$90,160

Notes: Costs estimated on percentage basis. Police and Corrections costs are estimated using total costs times the percentage of all arrests. Total Judicial and legal costs include civil as well as criminal use of the courts, therefore total criminal judicial costs have been estimated as 50% of total judicial costs. The judicial costs of marijuana arrests has been estimated using this estimate of criminal judicial costs and the percentage of all arrests.

Arrest data was unavailable for DC, FL, and IL. The national arrest percentage has been used to estimate costs for these states.

Table 60b. Maximum Estimates of State and Local Criminal Justice Costs of Marijuana Arrests by State (2000) (All costs in $1000's)

	Marijuana as a Pct of All Arrests	Maximum Police Costs	Maximum Judicial and Legal Costs	Maximum Correctional Costs	Maximum Criminal Justice Costs
Montana	2.08%	$2,825	$682	$2,594	$6,102
Nebraska	9.04%	$21,266	$4,336	$20,924	$46,525
Nevada	3.87%	$20,867	$4,802	$18,247	$43,915
New Hampshire	10.57%	$19,773	$4,878	$12,175	$36,826
New Jersey	7.55%	$168,464	$35,790	$111,759	$316,013
New Mexico	3.42%	$13,071	$2,855	$10,787	$26,713
New York	9.85%	$563,120	$111,427	$432,635	$1,107,181
North Carolina	5.03%	$69,480	$11,829	$58,276	$139,585
North Dakota	5.32%	$3,627	$1,474	$2,151	$7,252
Ohio	6.36%	$135,140	$36,827	$123,219	$295,186
Oklahoma	8.92%	$46,235	$8,616	$45,610	$100,461
Oregon	5.48%	$38,141	$9,749	$40,953	$88,843
Pennsylvania	5.71%	$126,819	$30,474	$126,875	$284,167
Rhode Island	8.70%	$18,374	$4,574	$12,113	$35,061
South Carolina	8.84%	$57,749	$7,922	$49,373	$115,044
South Dakota	8.08%	$7,112	$1,601	$6,551	$15,264
Tennessee	7.44%	$69,952	$14,840	$44,940	$129,731
Texas	6.52%	$208,904	$44,161	$244,868	$497,933
Utah	4.91%	$18,706	$4,965	$17,254	$40,925
Vermont	4.76%	$3,708	$938	$3,156	$7,802
Virginia	5.47%	$64,301	$14,033	$68,164	$146,497
Washington	6.10%	$61,440	$14,328	$64,256	$140,023
West Virginia	6.12%	$10,474	$3,296	$11,269	$25,039
Wisconsin	4.43%	$49,840	$9,757	$45,653	$105,250
Wyoming	6.77%	$6,699	$1,694	$6,658	$15,051
United States		$3,663,969	$853,298	$3,122,795	$7,640,062

Sources: Bureau of Justice Statistics, Criminal Justice Expenditure and Employment Extracts Program (2000); Uniform Crime Reports, County-level Detailed Arrest and Offense Data (2000); Wisconsin arrest data estimated using data obtained from the Wisconsin Office of Justice Assistance.

Appendix 2.

Selected Local Marijuana Arrest Rates

Table 61. Selected County Level Marijuana Arrests and Rates, by Population Size (2000-2002 Average)

Table 61a Pop. <2,500

County	St	#	Rate
Menard	TX	98	4,110.90
Kenedy	TX	10	2,413.53
Alpine	CA	24	1,939.52
Daggett	UT	12	1,312.64
Prince of Wales	AK	29	1,257.64
Sterling	TX	16	1,157.98
Sully	SD	18	1,130.08
Oldham	TX	24	1,062.22
Esmeralda	NV	10	1,034.24
Garfield	WA	20	809.88
Gilliam	OR	13	684.76

Table 61b Pop. 2,500—9.999

County	St	#	Rate
Brooks	TX	526	6,464.11
Hudspeth	TX	198	5,756.29
Kimble	TX	151	3,316.42
Culberson	TX	68	2,250.19
Sutton	TX	87	2,102.20
Jim Hogg	TX	110	2,053.38
Crockett	TX	67	1,614.57
Hamilton	NY	59	1,086.42
McCulloch	TX	89	1,055.04
Treutlen	GA	70	1,010.19
Beaver	UT	58	953.69

Table 61c Pop. 10,000—24,999

County	St	#	Rate
Lampasas	TX	197	1,099.15
Fredericksburg	VA	180	920.55
Brantley	GA	127	848.74
Matanuska-Sust.	AK	86	843.99
Butts	GA	163	812.82
Monroe	GA	179	806.05
Jeff Davis	GA	103	792.42
Winchester	VA	184	767.44
Colonial Heights	VA	132	765.95
Mackinac	MI	88	733.17
Colorado	TX	151	726.83

Table 61d Pop. 25,000-49,999

County	St	#	Rate
Kleberg	TX	769	2,376.87
Worcester	MD	984	2,082.44
Sequoyah	OK	527	1,344.34
Dare	NC	347	1,136.97
Laurens	GA	324	707.87
Greene	NY	315	651.96
Queen Anne's	MD	267	648.92
Rockwall	TX	232	632.79
Uintah	UT	155	601.02
McClain	OK	167	598.58
Pearl River	MS	288	590.44

Table 61e Pop. 50,000-99,999

County	St	#	Rate
Crittenden	AR	389	760.09
Bossier	LA	691	707.55
Sullivan	NY	519	699.32
Chemung	NY	610	666.90
Forrest	MS	489	649.24
Warren	NY	403	633.83
Laramie	WY	515	628.65
Otero	NM	389	619.99
Lee	MS	458	613.31
Clinton	NY	491	612.37
Douglas	GA	567	605.02

Table 61f Pop. 100,000-249.999

County	St	#	Rate
Coconino	AZ	798	681.40
Harrison	MS	1,264	663.97
Ulster	NY	1,167	653.92
Iredell	NC	782	627.27
Houston	GA	697	615.78
Yavapai	AZ	1,067	613.05
Horry	SC	1,176	592.53
Cape May	NJ	589	570.83
Calcasieu	LA	999	543.96
Kenton	KY	817	536.35
Mesa	CO	627	531.80

Table 61g Pop. 250,000-499,999

County	St	#	Rate
Douglas	NE	4,071	874.89
Orleans	LA	3,225	664.88
Richmond	NY	2,947	657.90
E. Baton Rouge	LA	2,659	643.60
Guilford	NC	2,679	621.18
Albany	NY	1,558	526.87
Orange	NY	1,775	518.24
Lancaster	NE	1,232	490.36
Onondaga	NY	2,143	465.96
Nueces	TX	1,470	459.07
Greenville	SC	1,777	453.55

Table 61h Pop. <500,000-999,999

County	St	#	Rate
Baltimore City	MD	4,069	614.36
Fulton	GA	4,946	571.17
Pima	AZ	4,516	519.02
Denver	CO	2,937	517.47
Jefferson	KY	3,313	474.73
Hamilton	OH	4,001	470.46
Jackson	MO	3,489	447.56
Wake	NC	2,692	422.97
El Paso	TX	2,589	372.72
Tulsa	OK	2,135	366.40
Baltimore	MD	2,765	361.80

Table 61i Pop. 1,000,000+

County	St	#	Rate
New York	NY	10,185	661.20
Queens	NY	14,698	659.12
Bronx	NY	8,794	657.38
Kings	NY	16,226	656.95
Philadelphia	PA	5,901	388.19
Suffolk	NY	5,001	351.48
Nassau	NY	3,625	271.11
Clark	NV	3,818	265.23
Bexar	TX	3,770	264.45
King	WA	4,363	245.84
Orange	CA	6,800	234.57

Source: Uniform Crime Reports, Arrests by Age, Sex and Race (2000 - 2002). Data Unavailable for FL, DC, and IL.

Table 62. Selected County Level Marijuana Possession Arrests and Rates, by Population Size (2000-2002 Average)

Table 62a Pop. <2,500

County	St	#	Rate
Menard	TX	98	4,110.90
Kenedy	TX	10	2,413.53
Alpine	CA	18	1,448.72
Daggett	UT	12	1,241.42
Sterling	TX	16	1,157.98
Prince of Wales	AK	26	1,142.30
Sully	SD	18	1,130.08
Oldham	TX	24	1,062.22
Esmeralda	NV	9	896.92
Garfield	WA	20	809.88
Gilliam	OR	13	684.76

Table 62b Pop. 2,500—9.999

County	St	#	Rate
Brooks	TX	526	6,464.11
Hudspeth	TX	195	5,668.56
Kimble	TX	143	3,138.17
Sutton	TX	82	1,974.47
Jim Hogg	TX	105	1,954.63
Crockett	TX	67	1,606.61
Culberson	TX	47	1,536.35
McCulloch	TX	88	1,050.97
Treutlen	GA	64	919.69
Emporia city	VA	53	915.36
Beaver	UT	55	904.11

Table 62 Pop. 10,000—24,999

County	St	#	Rate
Lampasas	TX	171	954.42
Fredericksburg	VA	170	866.32
Matanuska-Sust.	AK	81	794.87
Butts	GA	149	745.04
Winchester	VA	178	743.71
Jeff Davis	GA	93	720.60
Monroe	GA	158	710.22
Colorado	TX	146	700.89
Colonial Heights	VA	120	696.17
Brantley	GA	96	642.58
Henry	AL	105	641.31

Table 62d Pop. 25,000-49,999

County	St	#	Rate
Kleberg	TX	759	2,347.39
Worcester	MD	898	1,900.02
Sequoyah	OK	479	1,221.55
Dare	NC	332	1,088.56
Laurens	GA	285	622.82
Rockwall	TX	228	620.99
Greene	NY	296	611.25
Queen Anne's	MD	248	603.46
Kittitas	WA	188	554.85
McClain	OK	154	552.01
Navarro	TX	249	539.71

Table 62e Pop. 50,000-99,999

County	St	#	Rate
Crittenden	AR	360	703.56
Sullivan	NY	500	673.27
Chemung	NY	603	659.60
Bossier	LA	637	651.91
Forrest	MS	474	629.76
Otero	NM	388	618.94
Warren	NY	388	610.23
Lee	MS	450	603.48
Laramie	WY	485	592.04
Clinton	NY	473	589.12
Houston	AL	517	575.15

Table 62f Pop. 100,000-249.999

County	St	#	Rate
Coconino	AZ	752	641.93
Ulster	NY	1139	638.21
Iredell	NC	764	612.84
Horry	SC	1126	567.15
Harrison	MS	1069	561.59
Cape May	NJ	551	533.45
Yavapai	AZ	917	528.05
Minnehaha	SD	806	518.71
Tom Green	TX	513	483.53
Taylor	TX	648	480.98
Kenton	KY	727	476.92

Table 62g Pop. 250,000-499,999

County	St	#	Rate
Douglas	NE	3980	855.19
Richmond	NY	2614	583.50
Orleans	LA	2754	567.79
East Baton Rouge	LA	2330	563.97
Guilford	NC	2284	529.49
Orange	NY	1694	494.38
Albany	NY	1456	492.38
Lancaster	NE	1214	483.07
Onondaga	NY	2092	454.87
Nueces	TX	1456	454.74
Jefferson	TX	1064	413.66

Table 62h Pop. <500,000-999,999

County	St	#	Rate
Baltimore city	MD	3682	555.58
Denver	CO	2905	511.81
Fulton	GA	4284	494.96
Pima	AZ	4285	492.46
Hamilton	OH	3793	445.98
Jackson	MO	3362	431.28
Jefferson	KY	2809	402.50
El Paso	TX	2518	362.42
Monmouth	NJ	2038	328.27
Tulsa	OK	1913	328.25
Anne Arundel	MD	1551	312.33

Table 62i Pop. 1,000,000+

County	St	#	Rate
New York	NY	9042	586.97
Queens	NY	13047	585.08
Bronx	NY	7804	583.37
Kings	NY	14398	582.93
Suffolk	NY	4864	341.85
Nassau	NY	3494	261.37
Bexar	TX	3700	259.56
Philadelphia	PA	3530	232.21
King	WA	4049	228.09
Clark	NV	3131	217.27
Orange	CA	6279	216.59

Source: Uniform Crime Reports, Arrests by Age, Sex and Race (2000 - 2002) Data Unavailable for Florida, District of Columbia,

Table 63. Selected County Level Marijuana Sales Arrests and Rates, by Population Size (2000-2002 Average)

Table 63a Pop. <2,500

County	St	#	Rate
Haines	AK	9	494.86
Alpine	CA	6	490.80
Armstrong	TX	6	260.77
De Baca	NM	4	193.37
Kent	TX	1	148.64
Esmeralda	NV	1	137.32
Taliaferro	GA	3	123.42
Prince of Wales	AK	3	115.34
Piute	UT	2	114.23
Aleutians East	AK	1	103.71
King	TX	0	91.58

Table 63b Pop. 2,500—9.999

County	St	#	Rate
Culberson	TX	21	713.83
Gilpin	CO	11	224.68
Wrangell-Ptbrg.	AK	14	221.67
Baker	GA	9	212.15
Hamilton	NY	11	203.63
Kimble	TX	8	178.25
Washakie	WY	14	164.71
Thomas	KS	13	163.43
Stewart	GA	9	160.59
NW Arctic	AK	5	160.42
Tunica	MS	14	154.29

Table 63c Pop. 10,000—24,999

County	St	#	Rate
Trinity	CA	41	306.81
Bosque	TX	43	244.63
Beckham	OK	46	229.34
Koochiching	MN	33	228.70
Mille Lacs	MN	49	217.82
Haskell	OK	25	208.31
Brantley	GA	31	206.16
Twiggs	GA	21	192.53
Tippah	MS	39	188.43
Pope	MN	20	176.30
Monroe	AR	17	164.30

Table 63d Pop. 25,000-49,999

County	St	#	Rate
St Martin	LA	151	311.13
Goodhue	MN	125	285.04
Henry	IN	111	227.80
Worcester	MD	86	182.42
Mower	MN	69	177.90
Knox	IN	69	175.41
Polk	MN	48	151.44
Freeborn	MN	48	147.25
Kandiyohi	MN	60	145.64
Carlton	MN	45	142.05
Toombs	GA	38	141.85

Table 63e Pop. 50,000-99,999

County	St	#	Rate
Wright	MN	216	238.35
Scott	MN	147	160.79
Sherburne	MN	93	158.63
Blue Earth	MN	79	140.54
Clay	MN	72	140.28
Carver	MN	92	130.25
Crow Wing	MN	70	126.22
Allegany	MD	91	119.56
Winona	MN	58	115.95
Buchanan	MO	94	109.26
Rice	MN	59	101.63

Table 63f Pop. 100,000-249.999

County	St	#	Rate
Clayton	GA	483	200.06
Houston	GA	221	195.60
Olmsted	MN	223	177.98
St Louis	MN	265	131.03
Cochise	AZ	141	116.23
Washington	MN	222	109.89
Harrison	MS	195	102.38
Humboldt	CA	121	94.11
Androscoggin	ME	98	93.45
Sumner	TN	125	89.11
Yavapai	AZ	149	85.00

Table 63g Pop. 250,000-499,999

County	St	#	Rate
Dakota	MN	408	113.87
Anoka	MN	303	100.79
Orleans	LA	471	97.09
Guilford	NC	395	91.69
Mercer	NJ	294	82.90
Greenville	SC	322	82.38
East Baton Rouge	LA	329	79.63
Richmond	NY	333	74.40
Richland	SC	230	69.85
Jefferson	LA	307	67.35
Rockingham	NH	187	66.11

Table 63h Pop. <500,000-999,999

County	St	#	Rate
San Francisco	CA	1,008	127.52
Wake	NC	731	114.34
Hudson	NJ	526	85.58
Fulton	GA	662	76.21
Shelby	TN	674	74.43
Jefferson	KY	504	72.23
Essex	NJ	540	67.28
Baltimore city	MD	387	58.78
Cobb	GA	365	58.70
Suffolk	MA	389	56.04
Mecklenburg	NC	393	55.62

Table 63i Pop. 1,000,000+

County	St	#	Rate
Philadelphia	PA	2,371	155.98
New York	NY	1,143	74.23
Queens	NY	1,651	74.04
Bronx	NY	989	74.02
Kings	NY	1,827	74.02
Alameda	CA	1,074	73.08
Hennepin	MN	696	61.79
Clark	NV	687	47.95
San Bernardino	CA	832	47.80
Sacramento	CA	498	40.01
Allegheny	PA	429	33.46

Source: Uniform Crime Reports, Arrests by Age, Sex and Race (2000 - 2002). Data Unavailable for FL, DC, and IL.

Table 64. Selected Local Level Marijuana Arrests and Rates, by Population Size (2000-2002 Average)

Table 64a Pop. <2,500

Agency	County	ST	#	Rate
Cecil State Police	Cecil	MD	339	14,740.00
Allegany	Allegany	MD	51	10,602.37
Hampden State Police	Hampden	MA	268	8,501.64
Industry	Los Angeles	CA	31	3,975.49
Whitesburg	Carroll	GA	20	3,363.16
Seaside Park	Ocean	NJ	76	3,347.03
Grand Coulee	Grant	WA	24	2,694.29
Gallaway	Fayette	TN	17	2,541.05
Emerson	Bartow	GA	27	2,407.04
Holly Ridge	Onslow	NC	18	2,110.26
Medina	Gibson	TN	20	2,019.55
Alpine	Alpine	CA	23	1,843.41
Evansville	Natrona	WY	38	1,664.39
Burns Harbor	Porter	IN	12	1,511.85
Lincoln	Grafton	NH	19	1,461.46

Table 64b Pop. 2,500—9.999

Agency	County	ST	#	Rate
Roland	Sequoyah	OK	354	12,396.74
Ocean City	Worcester	MD	761	10,508.42
Lakehurst	Ocean	NJ	90	3,530.08
North Wildwood	Cape May	NJ	159	3,211.38
Wildwood	Cape May	NJ	143	2,605.84
Blanchard	McClain	OK	67	2,380.05
Flowood	Rankin	MS	113	2,370.85
Byron	Peach	GA	69	2,363.27
Blaine	Whatcom	WA	87	2,303.38
Seaside Heights	Ocean	NJ	67	2,110.62
Pigeon Forge	Sevier	TN	96	1,871.65
Merchantville	Camden	NJ	70	1,821.28
Webster	Harris	TX	165	1,799.08
Fife	Pierce	WA	82	1,698.64
Globe	Gila	AZ	124	1,647.59

Table 64c Pop. 10,000—24,999

Agency	County	ST	#	Rate
Webb	Webb	TX	327	1,950.94
Utah	Utah	UT	368	1,764.50
Picayune	Pearl River	MS	178	1,685.25
Myrtle Beach	Horry	SC	358	1,571.69
Lexington	Lexington	SC	154	1,557.27
Arcata	Humboldt	CA	233	1,379.19
Lawrenceburg	Lawrence	TN	148	1,360.58
Cayce	Lexington	SC	150	1,222.18
Tom Green	Tom Green	TX	188	1,196.50
Covington	Newton	GA	138	1,180.37
Douglas	Coffee	GA	126	1,163.65
Asbury Park	Monmouth	NJ	196	1,147.03
Douglas	Cochise	AZ	160	1,111.65
Laurel	Jones	MS	205	1,109.19
Lampasas	Lampasas	TX	119	1,087.74

Source: Uniform Crime Reports, Arrests by Age, Sex and Race (2000 - 2002). Data Unavailable for FL, DC, and IL.

Table 64. Selected Local Level Marijuana Arrests and Rates, by Population Size (2000-2002 Average) (continued)

Table 64d Pop. 25,000-49,999

Agency	County	ST	#	Rate
Jefferson	Jefferson	TX	478	1,399.01
Newburgh	Orange	NY	298	1,052.43
Hattiesburg	Forrest	MS	419	933.54
West Memphis	Crittenden	AR	257	923.86
Chester	Delaware	PA	341	923.09
Grand Junction	Mesa	CO	372	878.24
Wayne	Wayne	IN	233	826.94
Richmond	Madison	KY	222	815.42
Monroe	Union	NC	208	782.83
Sandusky	Erie	OH	212	761.58
Madison	Madison	MS	199	754.08
Wilson	Wilson	NC	306	682.43
Paducah	McCracken	KY	180	680.78
Morristown	Hamblen	TN	171	679.87
Maryland Heights	St Louis	MO	176	678.02

Table 64e Pop. 50,000-99,999

Agency	County	ST	#	Rate
Biloxi	Harrison	MS	659	1,297.58
Flagstaff	Coconino	AZ	593	1,098.95
Newport Beach	Orange	CA	691	972.11
Trenton	Mercer	NJ	771	896.95
Asheville	Buncombe	NC	534	765.84
North Charleston	Charleston	SC	603	752.94
Bossier City	Bossier	LA	412	729.71
Rutherford	Rutherford	TN	502	728.48
Lancaster	Lancaster	PA	388	688.12
Gulfport	Harrison	MS	479	671.54
Dothan	Houston	AL	378	652.80
El Paso	El Paso	TX	510	639.08
Utica	Oneida	NY	385	633.70
Cheyenne	Laramie	WY	337	633.06
Calcasieu	Calcasieu	LA	478	618.31

Table 64f Pop. 100,000-249.999

Agency	County	ST	#	Rate
Syracuse	Onondaga	NY	1,371	928.46
Baton Rouge	East Baton Rouge	LA	2,043	896.00
Independence	Jackson	MO	989	868.72
Greensboro	Guilford	NC	1,688	745.30
Rochester	Monroe	NY	1,549	702.54
Eugene	Lane	OR	921	662.44
Sioux Falls	Minnehaha	SD	708	569.40
Richland	Richland	SC	995	529.26
Lafayette	Lafayette	LA	499	452.40
Cedar Rapids	Linn	IA	534	441.32
Birmingham	Jefferson	AL	1,003	412.08
Guilford	Guilford	NC	455	410.06
Livonia	Wayne	MI	413	408.96
Orange	Orange	CA	516	395.86
Burbank	Los Angeles	CA	402	394.41

Source: Uniform Crime Reports, Arrests by Age, Sex and Race (2000 - 2002). Data Unavailable for FL, DC, and IL.

Table 64. Selected Local Level Marijuana Arrests and Rates, by Population Size (2000-2002 Average) (continued)

Table 64g Pop. 250,000-499,999				
Agency	**County**	**ST**	**#**	**Rate**
Omaha	Douglas	NE	3,492	892.42
Atlanta	Fulton	GA	3,651	865.17
Louisville	Jefferson	KY	1,794	697.56
Pima	Pima	AZ	1,412	454.95
Greenville	Greenville	SC	1,169	422.47
Raleigh	Wake	NC	1,157	414.62
Newark	Essex	NJ	1,138	413.40
Tulsa	Tulsa	OK	1,596	404.65
Kansas City	Jackson	MO	1,690	381.52
Chesterfield County	Chesterfield	VA	999	380.59
Long Beach	Los Angeles	CA	1,636	350.91
Prince William County	Prince William	VA	915	331.55
Howard County	Howard	MD	809	323.21
Virginia Beach	Virginia Beach City	VA	1,380	321.51
Colorado Springs	El Paso	CO	1,165	319.02

Table 64h Pop. 500,000—999,999				
Agency	**County**	**ST**	**#**	**Rate**
Baltimore City	Baltimore City	MD	3,916	594.39
Denver	Denver	CO	2,916	518.10
Tucson	Pima	CT	2,406	484.50
Baltimore County	Baltimore	MD	2,656	349.10
El Paso	El Paso	TX	1,893	331.47
Indianapolis	Marion	IN	2,472	310.16
Oklahoma City	Oklahoma	OK	1,320	259.77
Charlotte-Mecklenburg	Mecklenburg	NC	1,554	245.86
Connecticut State Police		CT	1,229	244.49
Fort Worth	Tarrant	TX	1,296	239.48
Memphis	Shelby	TN	1,472	224.81
Boston	Suffolk	MA	1,153	194.81
San Jose	Santa Clara	CA	1,761	194.70
San Francisco	San Francisco	CA	1,479	188.29
Portland	Multnomah	OR	924	173.58

Table 64i Pop. 1,000,000+				
Agency	**County**	**ST**	**#**	**Rate**
New York City		NY	52,725	657.42
Philadelphia	Philadelphia	PA	5,878	386.76
San Diego	San Diego	CA	3,014	243.30
San Antonio	Bexar	TZ	2,816	242.34
Las Vegas Metro Pd	Clark	NV	2,539	232.21
Dallas	Dallas	TX	1,876	156.03
Harris	Harris	TX	1,623	153.32
Los Angeles	Los Angeles	CA	5,692	152.37
Phoenix	Maricopa	AZ	1,989	147.81

Source: Uniform Crime Reports, Arrests by Age, Sex and Race (2000 - 2002). Data Unavailable for FL, DC, and IL.

Table 65. Selected Local Level Marijuana Possession Arrests and Rates, by Population Size (2000-2002 Average)

Table 65a Pop. <2,500

Agency	County	ST	#	Rate
Cecil State Police	Cecil	MD	319	13,901.92
Allegany	Allegany	MD	42	8,788.33
Hampden State Police	Hampden	MA	261	8,220.59
Industry	Los Angeles	CA	24	3,088.48
Seaside Park	Ocean	NJ	69	3,009.15
Whitesburg	Carroll	GA	17	2,750.37
Gallaway	Fayette	TN	15	2,291.76
Grand Coulee	Grant	WA	20	2,177.29
Emerson	Bartow	GA	22	1,990.38
Holly Ridge	Onslow	NC	14	1,713.06
Medina	Gibson	TN	16	1,678.06
Evansville	Natrona	WY	35	1,561.37
Alpine	Alpine	CA	17	1,375.28
Lincoln	Grafton	NH	16	1,252.45
Burns Harbor	Porter	IN	10	1,251.31

Table 65b Pop. 2,500—9.999

Agency	County	ST	#	Rate
Roland	Sequoyah	OK	346	12,116.42
Ocean City	Worcester	MD	700	9,655.56
Lakehurst	Ocean	NJ	86	3,398.18
North Wildwood	Cape May	NJ	155	3,117.23
Wildwood	Cape May	NJ	123	2,253.58
Flowood	Rankin	MS	107	2,245.26
Blaine	Whatcom	MA	84	2,224.57
Blanchard	McClain	OK	63	2,214.92
Byron	Peach	GA	62	2,121.81
Webster	Harris	TX	163	1,781.04
Merchantville	Camden	NJ	66	1,733.77
Pigeon Forge	Sevier	TN	88	1,721.07
Seaside Heights	Ocean	NJ	54	1,711.31
Globe	Gila	AZ	117	1,545.71
Clover	York	SC	61	1,520.50

Table 65c Pop. 10,000—24,999

Agency	County	ST	#	Rate
Webb	Webb	TX	311	1,859.87
Utah	Utah	UT	359	1,724.79
Picayune	Pearl River	MS	167	1,581.02
Lexington	Lexington	SC	149	1,509.77
Myrtle Beach	Horry	SC	340	1,491.33
Lawrenceburg	Lawrence	TN	137	1,262.53
Arcata	Humboldt	CA	204	1,207.22
Cayce	Lexington	SC	144	1,175.80
Covington	Newton	GA	132	1,128.92
Tom Green	Tom Green	TX	174	1,105.00
Asbury Park	Monmouth	NJ	188	1,100.02
Laurel	Jones	MS	192	1,042.56
Douglas	Coffee	GA	106	984.96
Dare	Dare	NC	150	978.25
Gregg	Gregg	TX	213	973.03

Source: Uniform Crime Reports, Arrests by Age, Sex and Race (2000 - 2002). Data Unavailable for FL, DC, and IL.

Table 65. Selected Local Level Marijuana Possession Arrests and Rates, by Population Size (2000-2002 Average) (continued)

Table 65d Pop. 25,000-49,999				
Agency	**County**	**ST**	**#**	**Rate**
Jefferson	Jefferson	TX	454	1,330.90
Newburgh	Orange	NY	276	973.54
Hattiesburg	Forrest	MS	417	928.34
West Memphis	Crittenden	AR	246	884.26
Wayne	Wayne	IN	214	757.32
Richmond	Madison	KY	205	751.97
Grand Junction	Mesa	CO	317	747.71
Sandusky	Erie	OH	202	724.54
Monroe	Union	NC	190	716.10
Madison	Madison	MS	172	652.02
Morristown	Hamblen	TN	160	636.05
San Marcos	Hays	TX	224	635.58
Columbus	Lowndes	MS	165	632.88
Tupelo	Lee	MS	213	620.07
Wilson	Wilson	NC	271	604.10

Table 65e Pop. 50,000-99,999				
Agency	**County**	**ST**	**#**	**Rate**
Flagstaff	Coconino	AZ	585	1,084.54
Biloxi	Harrison	MS	502	987.96
Newport Beach	Orange	CA	668	940.48
Asheville	Buncombe	NC	512	733.84
Rutherford	Rutherford	TN	467	678.48
Bossier City	Bossier	LA	381	674.27
North Charleston	Charleston	SC	538	671.09
Dothan	Houston	AL	374	646.47
Gulfport	Harrison	MS	461	645.97
Utica	Oneida	NY	380	625.51
Cheyenne	Laramie	WY	324	609.27
Trenton	Mercer	NJ	519	603.67
El Paso	El Paso	TX	464	580.72
Middletown	Butler	OH	299	578.79
Lancaster	Lancaster	PA	326	577.67

Table 65f Pop. 100,000-249.999				
Agency	**County**	**ST**	**#**	**Rate**
Syracuse	Onondaga	NY	1,344	909.72
Independence	Jackson	MO	891	782.59
Baton Rouge	East Baton Rouge	LA	1,729	758.32
Rochester	Monroe	NY	1,380	625.63
Eugene	Lane	OR	856	615.65
Greensboro	Guilford	NC	1,377	607.64
Sioux Falls	Minnehaha	SD	701	563.77
Cedar Rapids	Linn	IA	520	430.30
Lafayette	Lafayette	LA	468	423.70
Richland	Richland	SC	795	422.51
Birmingham	Jefferson	AL	1,000	410.85
Burbank	Los Angeles	CA	380	372.36
Orange	Orange	CA	479	367.49
Livonia	Wayne	MI	361	357.45
Guilford	Guilford	NC	380	342.27

Source: Uniform Crime Reports, Arrests by Age, Sex and Race (2000 - 2002). Data Unavailable for FL, DC, and IL.

Table 65. Selected Local Level Marijuana Possession Arrests and Rates, by Population Size (2000-2002 Average) (continued)

Table 65g Pop. 250,000-499,999				
Agency	**County**	**ST**	**#**	**Rate**
Omaha	Douglas	NE	3,416	872.91
Atlanta	Fulton	GA	3,213	761.77
Louisville	Jefferson	KY	1,525	592.82
Pima	Pima	AZ	1,292	416.04
Kansas City	Jackson	MO	1,682	379.79
Greenville	Greenville	SC	1,049	378.85
Tulsa	Tulsa	OK	1,416	359.11
Chesterfield County Pd	Chesterfield	VA	901	343.20
Long Beach	Los Angeles	CA	1,448	310.76
Prince William County	Prince William	VA	855	309.60
Howard County Police	Howard	MD	745	297.63
Colorado Springs	El Paso	CO	1,082	296.36
Anne Arundel County	Anne Arundel	MD	1,328	289.91
Newark	Essex	NJ	787	285.94
Virginia Beach	Virginia Beach City	VA	1,190	277.22

Table 65h Pop. 500,000-999,999				
Agency	**County**	**ST**	**#**	**Rate**
Baltimore	Baltimore city	MD	3,545	537.83
Denver	Denver	CO	2,884	512.49
Tucson	Pima	AZ	2,323	467.73
El Paso	El Paso	TX	1,882	329.42
Baltimore County	Baltimore	MD	2,251	295.92
Indianapolis	Marion	IN	2,241	281.24
Oklahoma City	Oklahoma	OK	1,270	250.06
Fort Worth	Tarrant	TX	1,271	234.80
Connecticut State Police		CT	1,062	211.34
Charlotte-Mecklenburg	Mecklenburg	NC	1,169	185.03
San Jose	Santa Clara	CA	1,530	169.17
Memphis	Shelby	TN	1,057	161.42
Portland	Multnomah	OR	827	155.38
Montgomery County Pd	Montgomery	MD	1,289	149.24
Austin	Travis	TX	901	135.30

Table 65i Pop. 1,000,000+				
Agency	**County**	**ST**	**#**	**Rate**
New York City		NY	46,787	583.34
San Antonio	Bexar	TX	2,785	239.60
Philadelphia	Philadelphia	PA	3,526	231.96
San Diego	San Diego	CA	2,570	207.45
Las Vegas Metro Pd	Clark	NV	1,982	180.82
Harris	Harris	TX	1,616	152.69
Dallas	Dallas	TX	1,793	149.30
Phoenix	Maricopa	AZ	1,756	130.54
Los Angeles	Los Angeles	CA	4,679	125.28

Source: Uniform Crime Reports, Arrests by Age, Sex and Race (2000 - 2002). Data Unavailable for FL, DC, and IL.

Table 66. Selected Local Level Marijuana Sales Arrests and Rates, by Population Size (2000-2002 Average)

Table 66a Pop. <2,500

Agency	County	ST	#	Rate
Allegany	Allegany	MD	9	1,814.04
Industry	Los Angeles	CA	7	887.01
Cecil State Police	Cecil	MD	19	838.08
Floodwood	St Louis	MN	4	720.45
Osseo	Hennepin	MN	17	709.97
Whitesburg	Carroll	GA	4	612.79
Pawnee	Pawnee	OK	12	532.93
Grand Coulee	Grant	WA	5	517.00
Alpine	Alpine	CA	6	468.13
Crosby	Crow Wing	MN	10	446.63
Emerson	Bartow	GA	5	416.66
Holly Ridge	Onslow	NC	3	397.20
Woodbury	Meriwether	GA	5	386.78
Ogunquit	York	ME	4	348.89
Medina	Gibson	TN	3	341.49

Table 66b Pop. 2,500-9.999

Agency	County	ST	#	Rate
Beckham	Beckham	OK	42	1,014.81
Ocean City	Worcester	MD	61	852.86
Fife	Pierce	WA	26	548.04
Frostburg	Allegany	MD	41	513.53
Lakemore	Summit	OH	13	506.78
East Grand Forks	Polk	MN	37	489.09
Eveleth	St Louis	MN	19	480.20
Newton	Newton	MS	17	464.51
Thomas	Thomas	KS	12	459.51
Alma	Bacon	GA	15	453.62
Stigler	Haskell	OK	12	449.50
Oak Park Heights	Washington	MN	18	444.30
Bisbee	Cochise	AZ	26	423.27
Oliver Springs	Anderson	TN	14	421.78
Seaside Heights	Ocean	NJ	13	399.31

Table 66c Pop. 10,000-24,999

Agency	County	ST	#	Rate
Altoona	Polk	IA	53	514.97
Douglas	Cochise	AZ	61	419.85
Perry	Houston	GA	39	396.61
Bosque	Bosque	TX	43	370.07
New Castle	Henry	IN	63	353.49
Buffalo	Wright	MN	35	348.95
Martinsville	Morgan	IN	41	346.66
Red Wing	Goodhue	MN	54	335.57
Vincennes	Knox	IN	63	333.40
North St. Paul	Ramsey	MN	37	311.74
Sunnyside	Yakima	WA	41	291.82
Lebanon	Wilson	TN	59	289.49
Shakopee	Scott	MN	57	277.39
Carroll	Carroll	IA	27	263.44
St. Joseph Township	Berrien	MI	25	251.75

Source: Uniform Crime Reports, Arrests by Age, Sex and Race (2000 - 2002). Data Unavailable for FL, DC, and IL.

Table 66. Selected Local Level Marijuana Sales Arrests and Rates, by Population Size (2000-2002 Average) (continued)

Table 66d Pop. 25,000-49,999

Agency	County	ST	#	Rate
Chester	Delaware	PA	136	369.46
St. Martin	St Martin	LA	92	272.68
Imperial	Imperial	CA	75	228.17
Mission	Hidalgo	TX	80	174.07
Winona	Winona	MN	43	157.03
Apple Valley	Dakota	MN	66	144.81
Cottage Grove	Washington	MN	44	141.96
Lagrange	Troup	GA	37	140.36
Plaquemines	Plaquemines	LA	37	139.49
Moorhead	Clay	MN	45	138.22
Lacey	Thurston	WA	42	133.27
Grand Junction	Mesa	CO	55	130.53
Harrisburg	Dauphin	PA	62	127.14
Blaine	Anoka	MN	57	126.19
Stokes	Stokes	NC	48	125.43

Table 66e Pop. 50,000-99,999

Agency	County	ST	#	Rate
Biloxi	Harrison	MS	157	309.62
Trenton	Mercer	NJ	252	293.28
Wright	Wright	MN	163	233.70
Hamilton	Butler	OH	97	160.12
Rochester	Olmsted	MN	127	147.71
Minnetonka	Hennepin	MN	65	126.05
St. Joseph	Buchanan	MO	91	123.40
Duluth	St Louis	MN	103	118.07
Whatcom	Whatcom	WA	85	117.92
St. Cloud	Stearns	MN	69	115.45
Lancaster	Lancaster	PA	62	110.45
Washington	Washington	MN	65	108.72
Maple Grove	Hennepin	MN	55	108.03
Bloomington	Hennepin	MN	89	103.53
Wilmington	New Castle	DE	76	102.77

Table 66f Pop. 100,000-249.999

Agency	County	ST	#	Rate
Jersey City	Hudson	NJ	418	170.29
Baton Rouge	E. Baton Rouge	LA	314	137.68
Greensboro	Guilford	NC	311	137.66
Richmond	Contra Costa	CA	131	130.57
Richland	Richland	SC	201	106.75
Independence	Jackson	MO	98	86.13
Cherokee	Cherokee	GA	98	80.79
Rochester	Monroe	NY	170	76.91
Allentown	Lehigh	PA	80	74.94
Vallejo	Solano	CA	89	74.93
Paterson	Passaic	NJ	109	72.62
Augusta-Richmond	Richmond	GA	136	68.72
Guilford	Guilford	NC	75	67.79
San Bernardino	San Bernardino	CA	122	65.11
Berkeley	Alameda	CA	66	63.48

Source: Uniform Crime Reports, Arrests by Age, Sex and Race (2000 - 2002). Data Unavailable for FL, DC, and IL.

Table 66. Selected Local Level Marijuana Sales Arrests and Rates, by Population Size (2000-2002 Average) (continued)

Table 66g Pop. 250,000-499,999

Agency	County	ST	#	Rate
Raleigh	Wake	NC	669	239.49
Oakland	Alameda	CA	713	176.30
Newark	Essex	NJ	351	127.45
San Bernardino	San Bernardino	CA	333	112.45
Louisville	Jefferson	KY	269	104.74
Atlanta	Fulton	GA	437	103.41
Jefferson	Jefferson	LA	230	66.33
Sacramento	Sacramento	CA	242	58.83
Pittsburgh	Allegheny	PA	185	54.05
Bakersfield	Kern	CA	126	50.30
Tulsa	Tulsa	OK	180	45.54
Virginia Beach	Virginia Beach city	VA	190	44.28
Greenville	Greenville	SC	120	43.62
Jefferson County Pol Dep	Jefferson	KY	150	41.28
Long Beach	Los Angeles	CA	187	40.14

Table 66h Pop. 500,000-999,999

Agency	County	ST	#	Rate
San Francisco	San Francisco	CA	1,001	127.42
Memphis	Shelby	TN	415	63.39
Boston	Suffolk	MA	365	61.65
Charlotte-Mecklenburg	Mecklenburg	SC	385	60.83
Baltimore	Baltimore City	MD	371	56.56
Baltimore County	Baltimore	MD	404	53.18
Connecticut State Police		CT	167	33.16
Prince George's	Prince George's	MD	211	30.85
Indianapolis	Marion	IN	231	28.92
Sacramento	Sacramento	CA	206	27.33
San Jose	Santa Clara	CA	232	25.52
Montgomery County	Montgomery	MD	191	22.09
Nashville		TN	108	19.52
Portland	Multnomah	OR	97	18.21
Tucson	Pima	AZ	83	16.76

Table 66i Pop. 1,000,000+

Agency	County	ST	#	Rate
Philadelphia	Philadelphia	PA	2,353	154.80
New York City		NY	5,938	74.07
Las Vegas Metro Pd	Clark	NV	557	51.39
San Diego	San Diego	CA	444	35.85
Los Angeles	Los Angeles	C	1,013	27.10
Phoenix	Maricopa	AZ	233	17.27
Dallas	Dallas	TX	83	6.73
San Antonio	Bexar	TX	32	2.74
Harris	Harris	TX	7	0.63

Source: Uniform Crime Reports, Arrests by Age, Sex and Race (2000 - 2002). Data Unavailable for FL, DC, and IL.

Appendix 3.

Marijuana Possession and Sales Arrest Trends 2000—2002

Figure 57. Marijuana Possession Arrest Percentages, by Age (2000-2002)

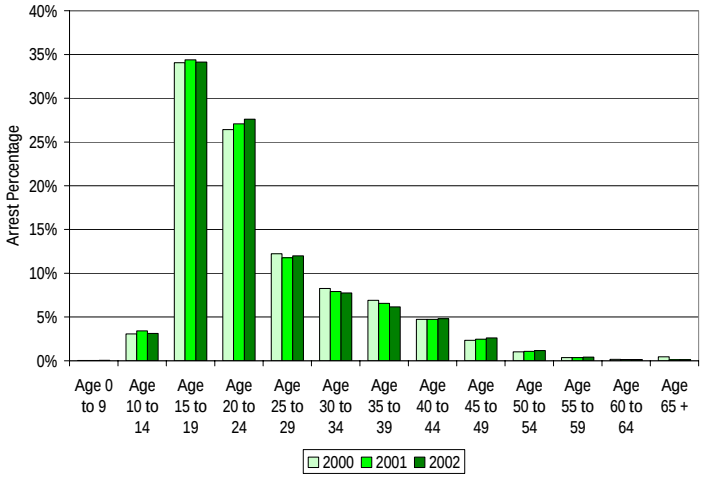


Figure 58. Marijuana Possession Arrest Percentages for Males, by Age (2000-2002)

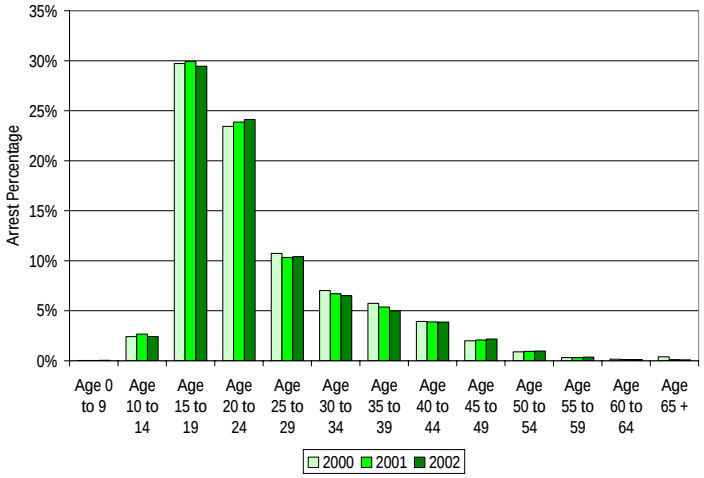


Figure 59. Marijuana Possession Arrest Percentages for Females, by Age (2000-2002)

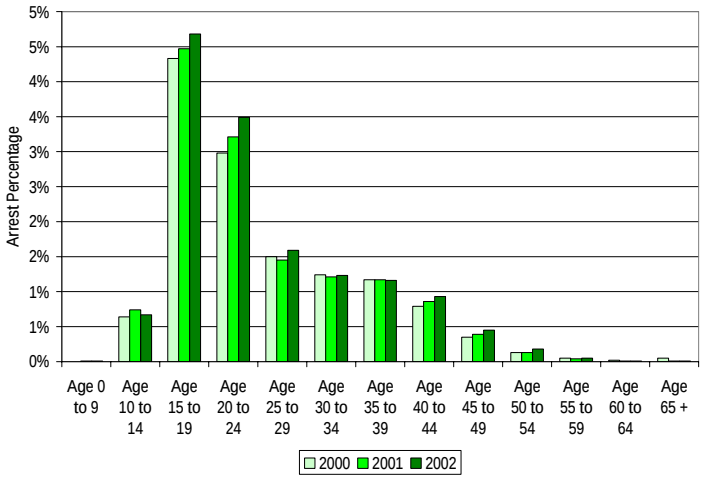


Figure 60. Marijuana Possession Arrest Percentages, by Race (2000-2002)

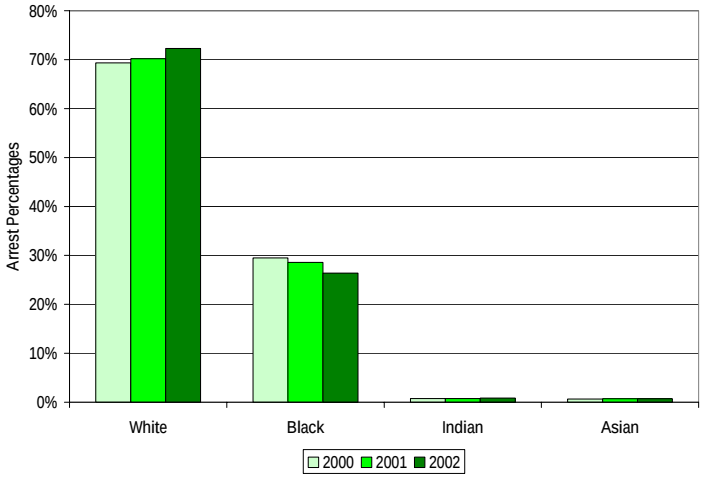


Figure 61. Marijuana Possession Arrest Percentages for Adults, by Race (2000-2002)

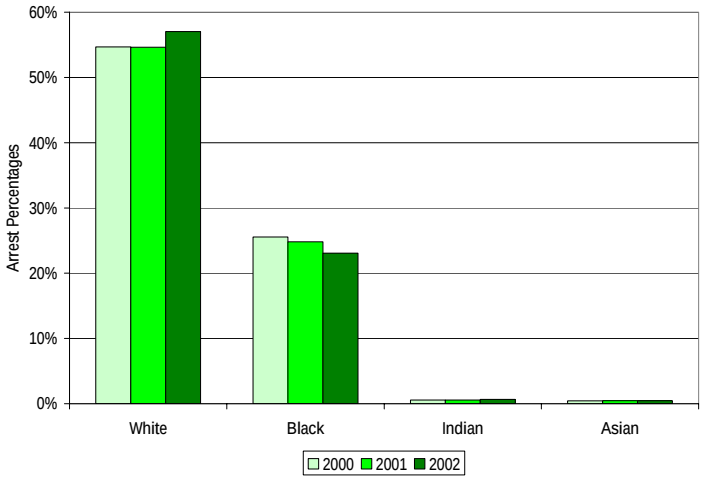


Figure 62. Marijuana Possession Arrest Percentages for Juveniles, by Race (2000-2002)

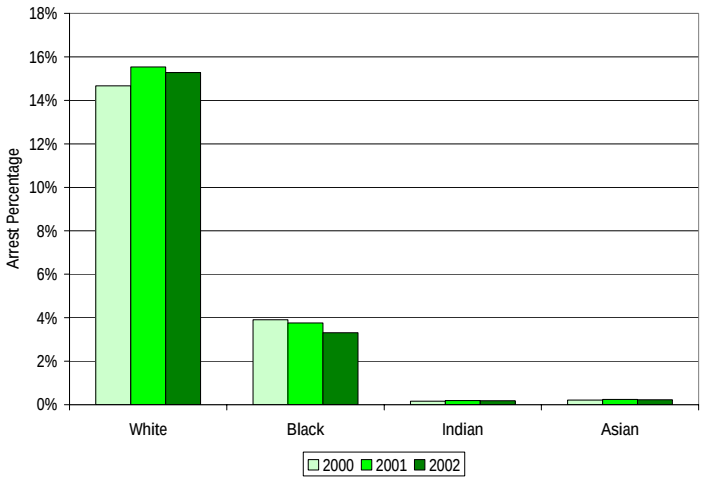


Figure 63. Marijuana Possession Arrest Percentages for Age 15 to 24 (2000-2002)

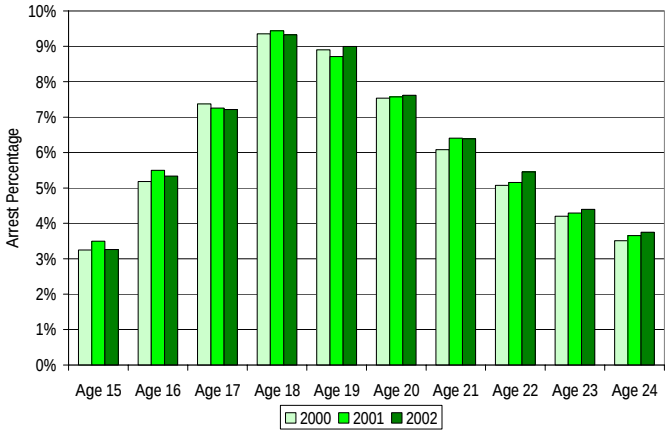


Figure 64. Marijuana Possession Arrest Percentages for Males, Age 15 to 24 (2000-2002)

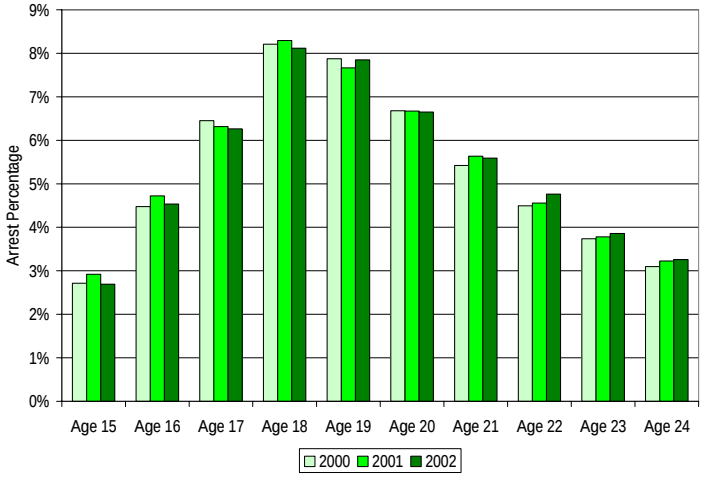


Figure 65. Marijuana Possession Arrest Percentages for Females, Age 15 to 24 (2000-2002)

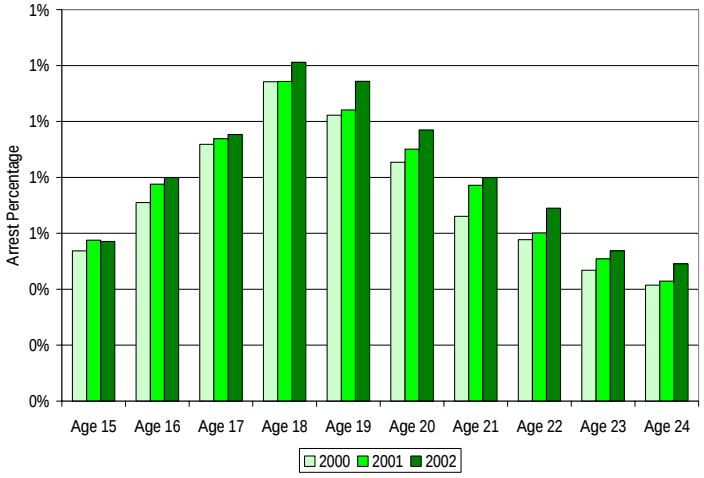


Figure 66. Marijuana Possession Arrest Rates by Age (2000-2002)

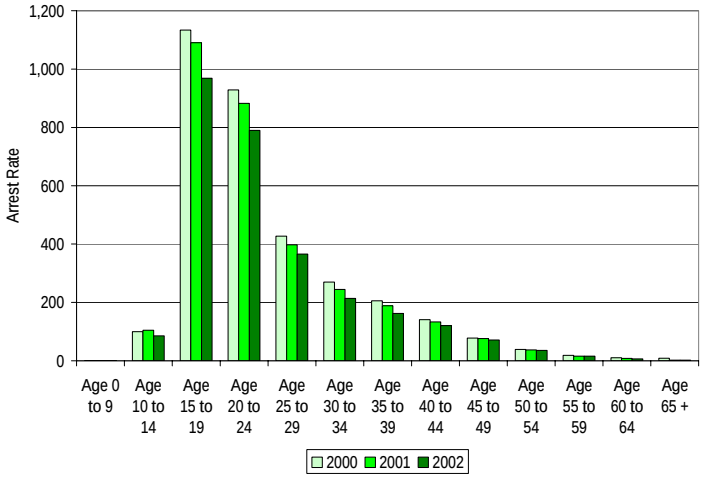


Figure 67. Marijuana Possession Arrest Rates for Males, by Age (2000-2002)

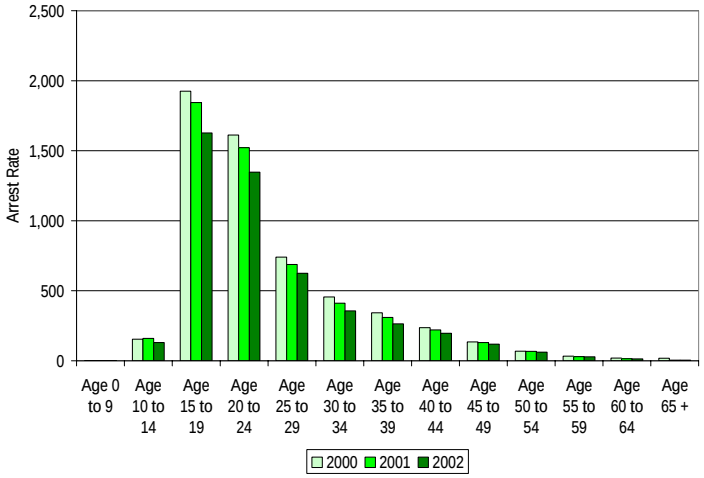


Figure 68. Marijuana Possession Arrest Rates for Females, by Age (2000-2002)

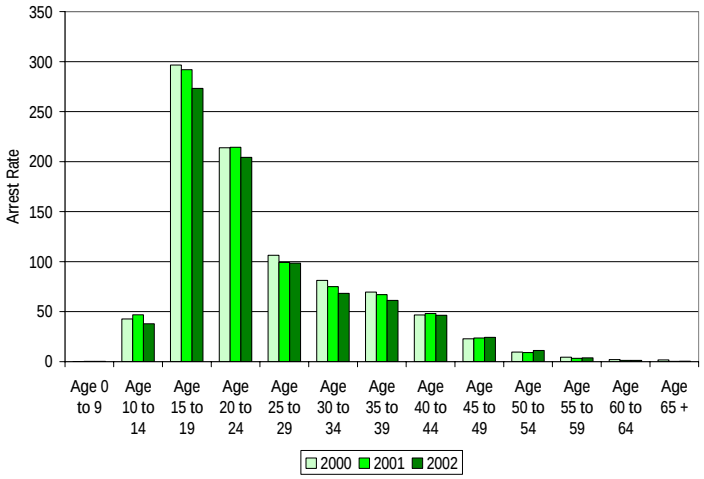


Figure 69. Marijuana Possession Arrest Rates by Race (2000-2002)

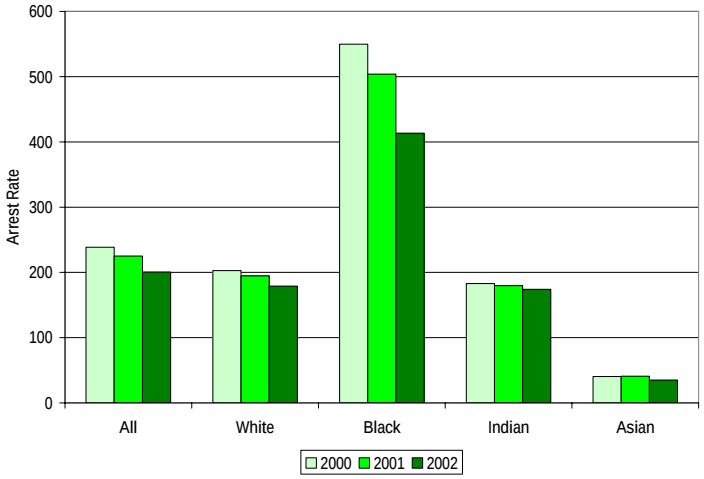


Figure 70. Marijuana Possession Arrest Rates for Adults, by Race (2000-2002)

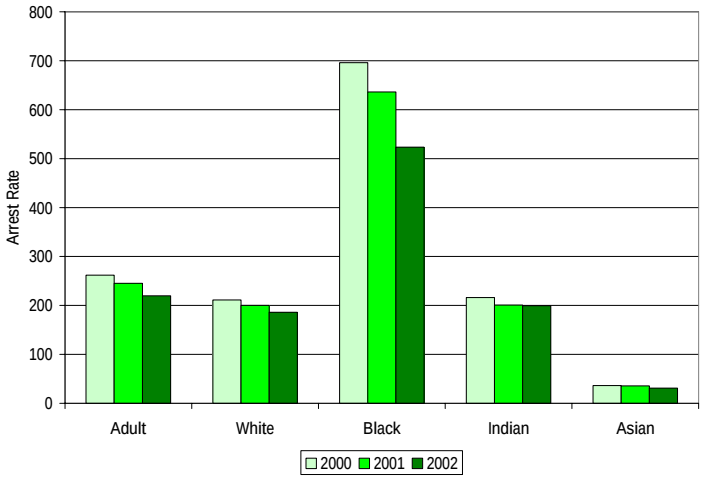


Figure 71. Marijuana Possession Arrest Rates for Juveniles, by Race (2000-2002)

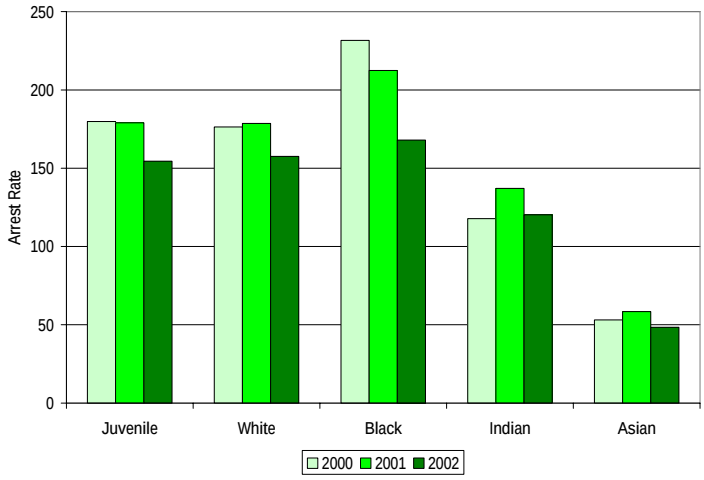


Figure 72. Marijuana Possession Arrest Rates for Age 15 to 24 (2000-2002)

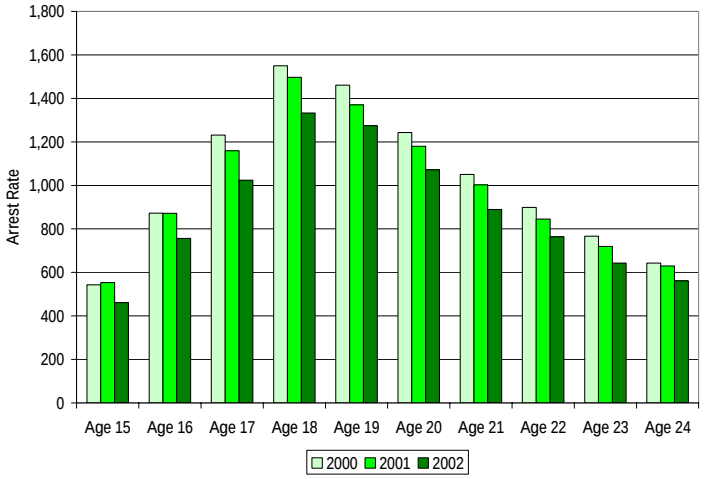


Figure 73. Marijuana Possession Arrest Rates for Males, Age 15 to 24 (2000-2002)

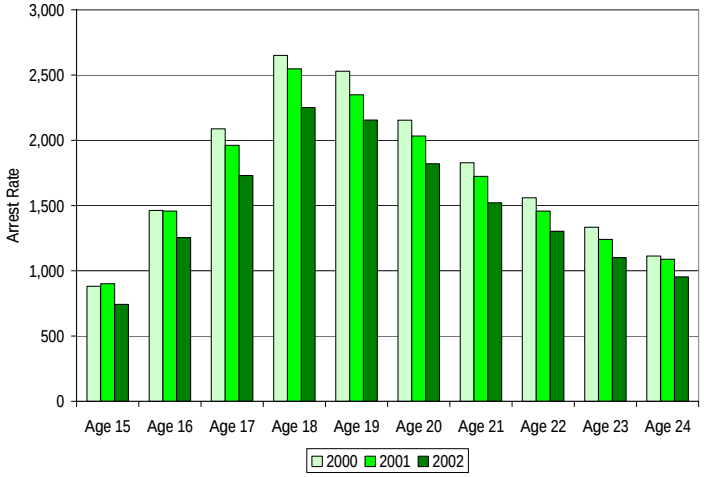


Figure 74. Marijuana Possession Arrest Rates for Females, Age 15 to 24 (2000-2002)

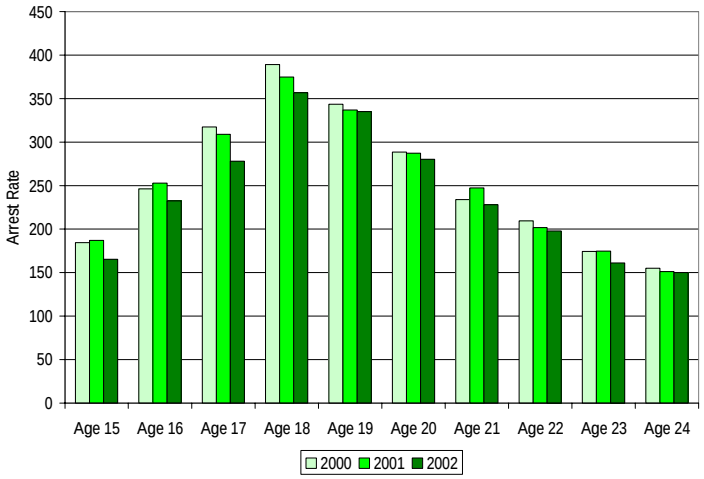


Figure 75. Marijuana Sales Arrest Percentages by Age (2000-2002)

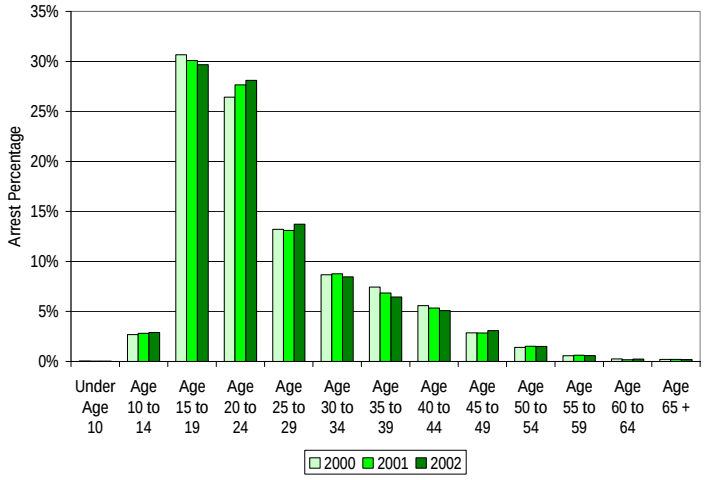


Figure 76. Marijuana Sales Arrest Percentages for Males, by Age (2000-2002)

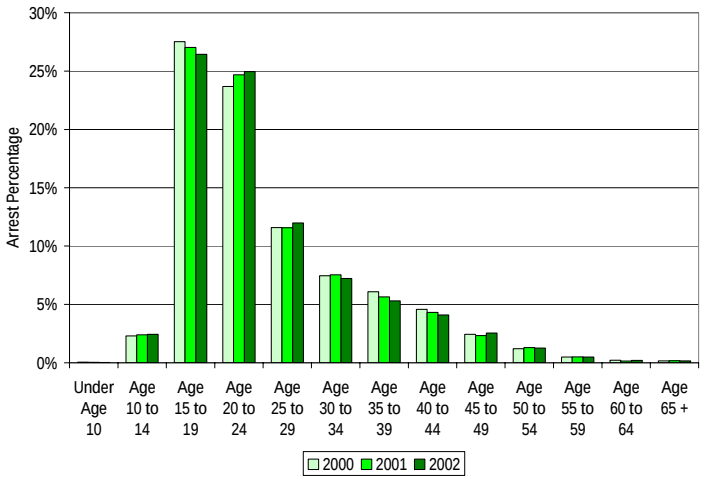


Figure 77. Marijuana Sales Arrest Percentages for Females, by Age (2000-2002)

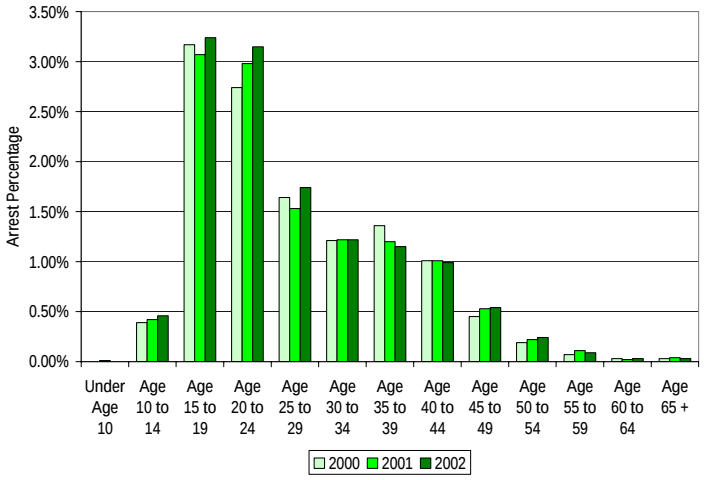


Figure 78. Marijuana Sales Arrest Percentages by Race (2000-2002)

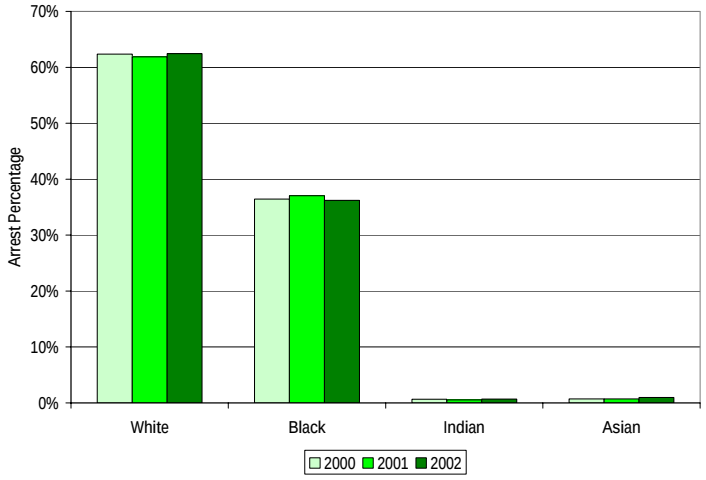


Figure 79. Marijuana Sales Arrest Percentages for Adults, by Race (2000-2002)

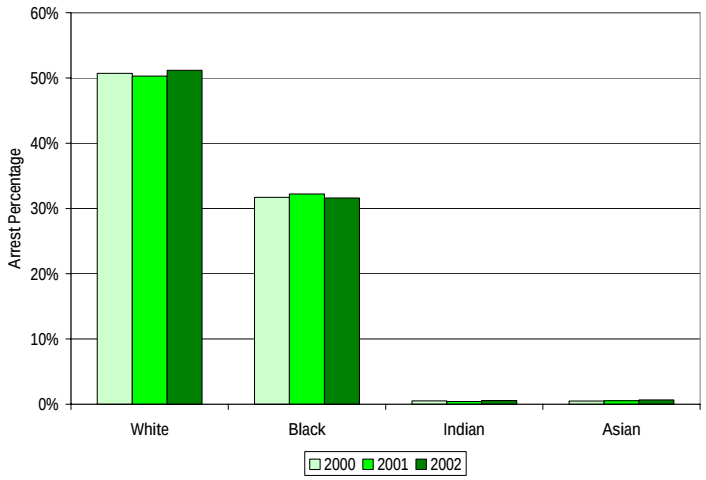


Figure 80. Marijuana Sales Arrest Percentages for Juveniles, by Race (2000-2002)

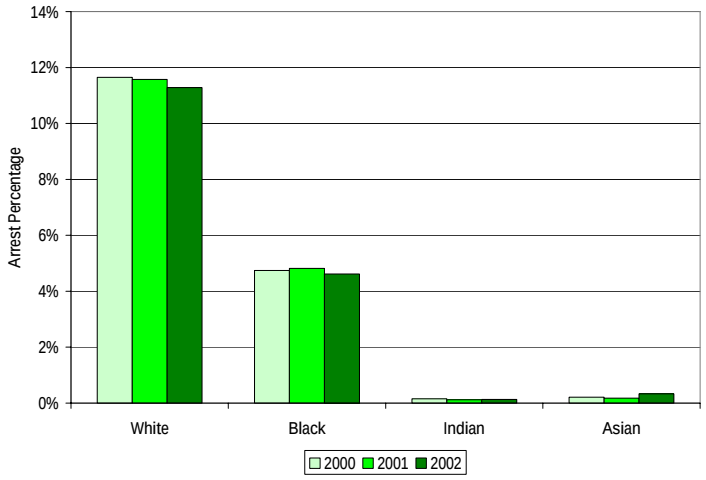


Figure 81. Marijuana Sales Arrest Percentages for Age 15 to 24 (2000-2002)

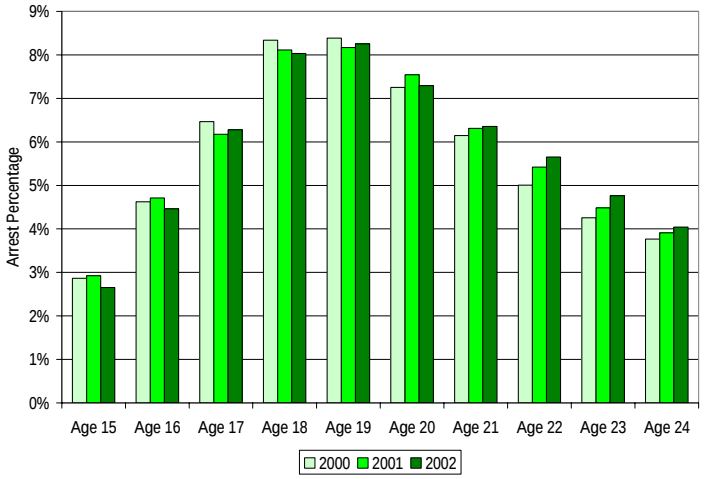


Figure 82. Marijuana Sales Arrest Percentages for Males, Age 15 to 24 (2000-2002)

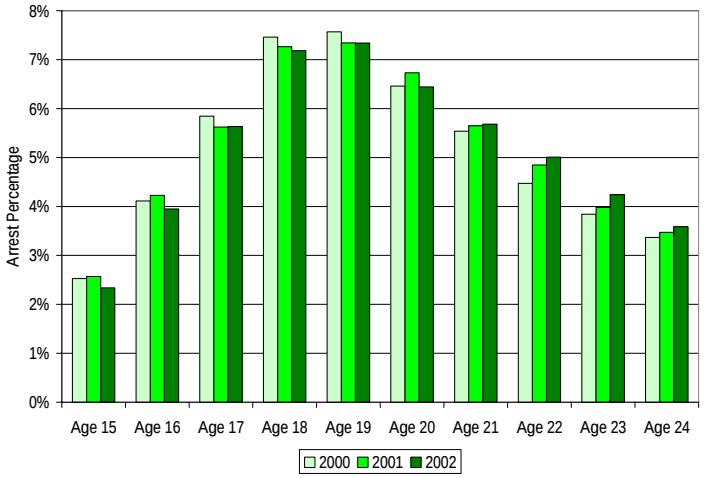


Figure 83. Marijuana Sales Arrest Percentages for Females, Age 15 to 24 (2000-2002)

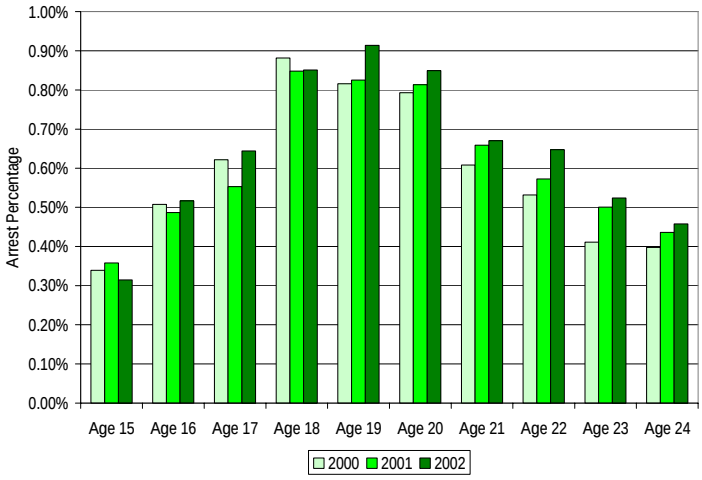


Figure 84. Marijuana Sales Arrest Rates by Age (2000-2002)

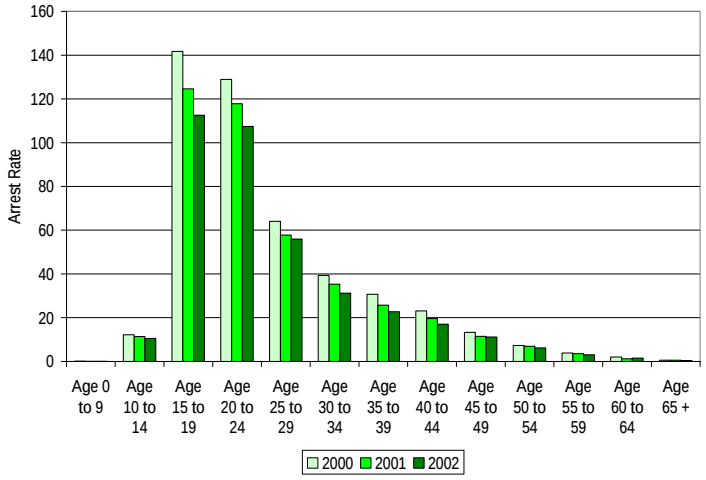


Figure 85. Marijuana Sales Arrest Rates for Males, by Age (2000-2002)

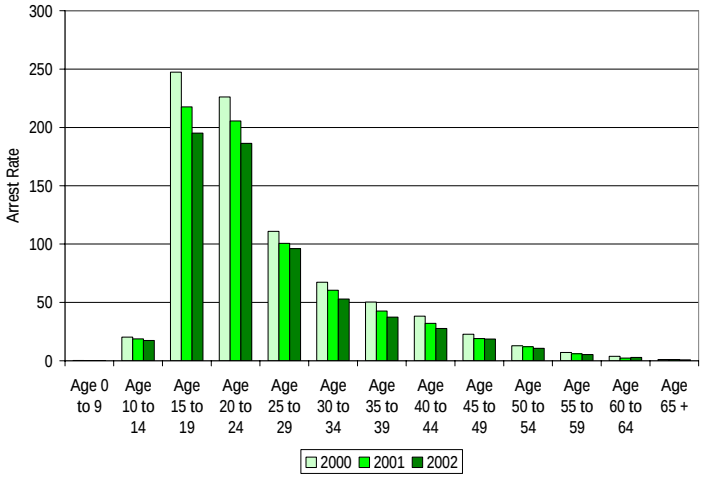


Figure 86. Marijuana Sales Arrest Rates for Females, by Age (2000-2002)

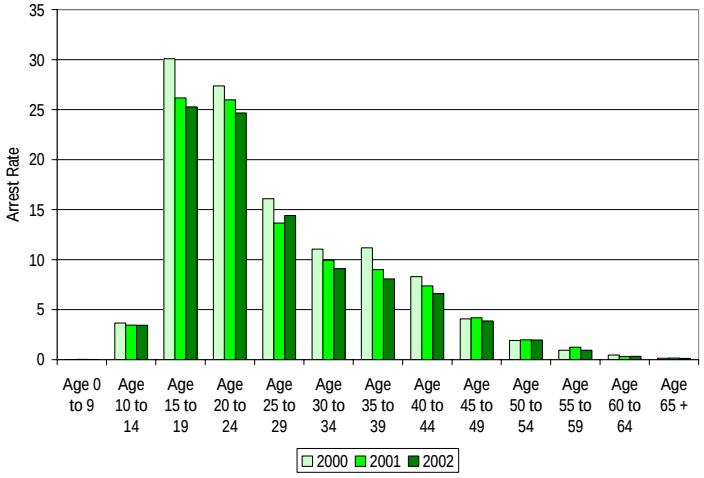


Figure 87. Marijuana Sales Arrest Rates by Race (2000-2002)

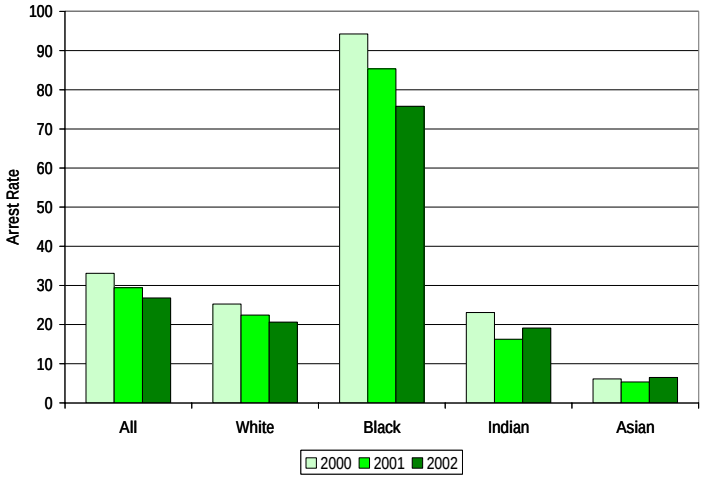


Figure 88. Marijuana Sales Arrest Rates for Adults, by Race (2000-2002)

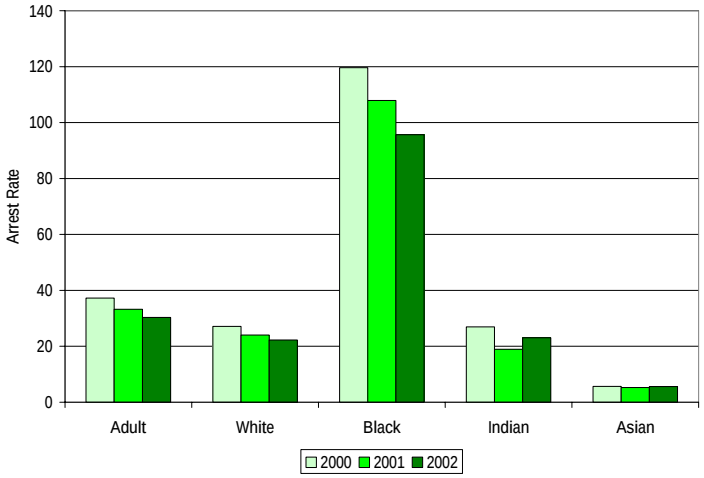


Figure 89. Marijuana Sales Arrest Rates for Juveniles, by Race (2000-2002)

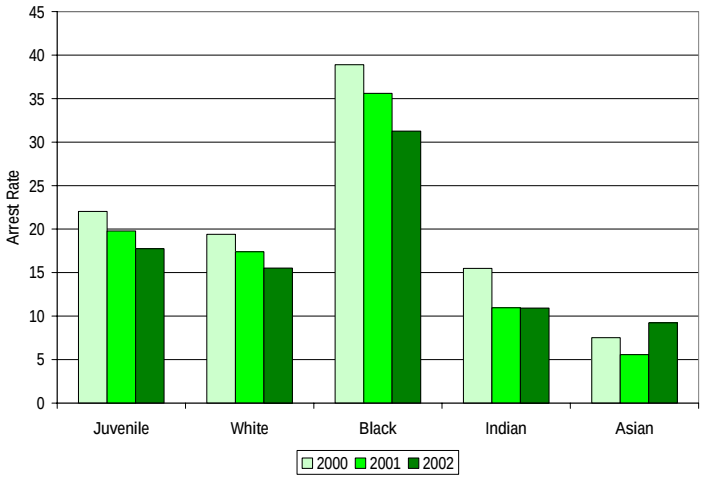


Figure 90. Marijuana Sales Arrest Rates for Age 15 to 24 (2000-2002)

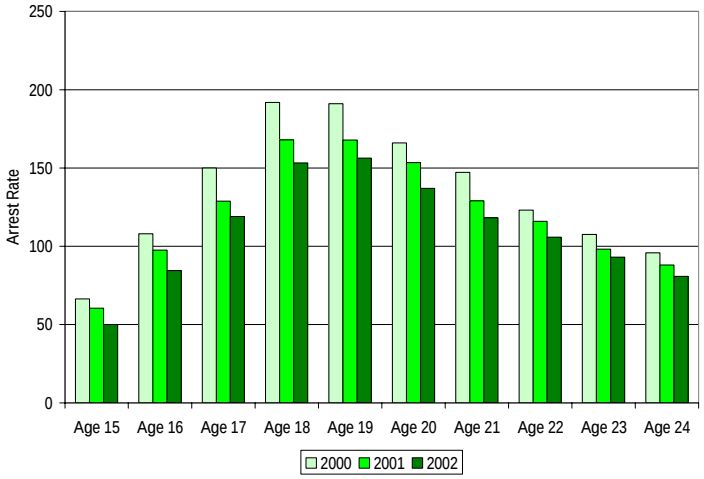


Figure 91. Marijuana Sales Arrest Rates for Males, Age 15 to 24 (2000-2002)

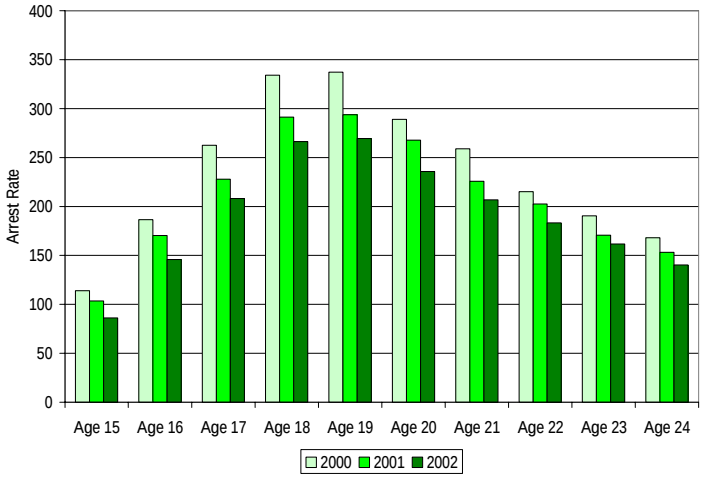
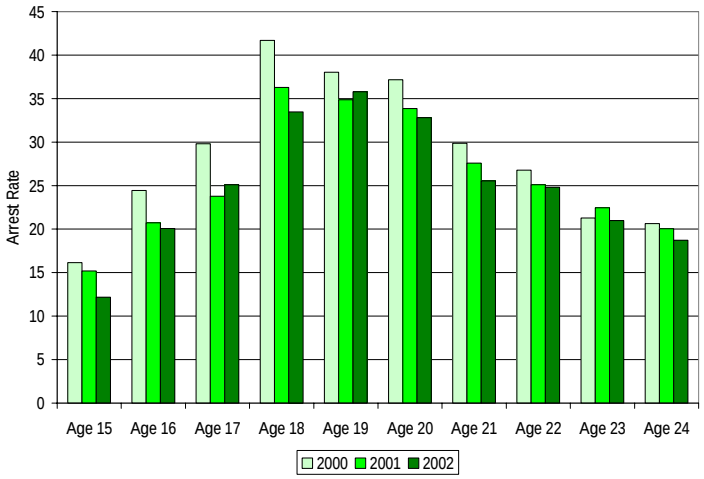


Figure 92. Marijuana Sales Arrest Rates for Females, Age 15 to 24 (2000-2002)



Appendix 4.

Minimum State-Level Penalties for Marijuana Possession

State	Minimum Penalty
Alabama	Up to 1 year in jail and a fine of up to $2000.
Alaska	Up to 90 days in jail and a fine of up to $1000.
Arizona	6 months to 5 years in jail; any personal possession conviction requires suspended sentence with treatment participation.
Arkansas	Up to 1 year in jail and a fine of up to $1000, the court may defer proceedings and grant probation.
California	28.5 g or less brings no incarceration and a flat fine of $100.
Colorado	1 oz or less is a petty offense requiring a court appearance but with no incarceration and a $100 maximum fine.
Connecticut	Up to 1 year in jail and a fine of up to $1000.
Delaware	Up to 6 months in jail and a fine of up to $1150.
District of Columbia	Eligibility of probation for first conviction, with dismissal of charges upon completion; up to 6 months in jail and a fine of up to $1000.
Florida	Up to 1 year in jail and a fine of up to $1000.
Georgia	Up to 1 year in jail and a fine of up to $1000; less than 1 oz brings probation for first offense.
Hawaii	Up to 30 days in jail and a fine of up to $1000; probation for first offense with record expunged upon completion.
Idaho	Up to 1 year in jail and a fine of up to $1000.
Illinois	2.5 grams or less is up to 30 days in jail and a fine up to $1500. More than 2.5 grams is up to 6 months in jail and a fine of up to $1500. More than 10 grams is 12 months in jail and a fine of up to $2500, more than 30 grams is a felony. Eligible for 24 month probation with first conviction.
Indiana	Up to 1 year in jail and a fine of a fine up to $5000.
Iowa	Conditional discharge; up to 6 months and a fine of up to $1000.
Kansas	Any amount for personal use punishable by up to one year and a fine of up to $2500.
Kentucky	Up to 1 year in jail, up to $500.
Louisiana	Up to 6 months and a fine of up to $500 for first offense.
Maine	Possession of less than 1.25 oz is a civil violation with flat fine.
Maryland	Up to 1 year in jail and a fine of up to $1000.
Massachusetts	Probation with records sealed upon completion; up to 6 months and a fine of up to $500.
Michigan	Up to 1 year in jail and a fine of up to $2000; conditional discharge possible.
Minnesota	Less than 42.5g is up to $200 fine.
Mississippi	30 g or less first offense has no incarceration and a flat fine.
Missouri	Up to 1 year in jail and a fine of up to $1000.
Montana	Up to 6 months in jail and a fine of a fine of $100 to $500.
Nebraska	1 oz or less is a civil citation, flat fine.
Nevada	Any amount, age 21 and over, no incarceration for first or, second offense, flat fine.
New Hampshire	Any amount for personal use punishable by up to one year in jail and a fine of up to $2000.
New Jersey	Up to 6 months in jail and a fine of up to $1000.
New Mexico	1 oz or less, first offense, up to 15 days in jail and a fine of a fine of $50 - $100.
New York	25 g or less, first offense, is a civil citation, flat fine $100.
North Carolina	.5 oz or less, mandatory fine , suspended sentence, up to 30 days.

State	Minimum Penalty
North Dakota	Less than .5 ounce is up to 30 days in jail and a fine of up to $1000, more than .5 ounce is up to 1 year in jail and a fine of up to $2000, first conviction can be expunged.
Ohio	Less than 100 grams is a civil citation with no incarceration and a flat fine.
Oklahoma	Up to 1 year in jail; conditional discharge available.
Oregon	Less than 1 ounce, no incarceration, a fine of $500 to $1000, conditional discharge possible for 1st offenses.
Pennsylvania	Possible probation for first offense, up to 30 days in jail and a fine of up to $500 for possession of 30 gr or less.
Rhode Island	Up to 1 year in jail and a fine of $200 to $500.
South Carolina	Conditional discharge possible for first offense, up to 30 days in jail and a fine of $100.
South Dakota	Up to 1 year in jail and a fine of up to $1000.
Tennessee	.5 oz or less, up to 1 year in jail and a fine of up to $2500.
Texas	With no prior felony convictions a judge must impose a sentence of probation with mandatory drug treatment; 2 ounces is punishable by up to 180 days in jail and a fine of up to $2000.
Utah	Up to 6 months in jail and a fine of up to $1000.
Vermont	Less than 2 oz possible deferred sentencing for first offenders; up to 6 months in jail and a fine of up to $500.
Virginia	Zero to 30 days in jail for first offense possession and a fine of a fine up to $500.
Washington	Up to 90 days in jail and a fine of up to $1000.
West Virginia	Less than 15 grams triggers automatic conditional discharge; 90 days to 6 months in jail and a fine up to $1000.
Wisconsin	Conditional discharge; up to 6 months in jail and a fine of up to $1000.
Wyoming	Conditional discharge for first offense; up to 90 days in jail and a fine of up to $100.

Source: National Organization for the Reform of Marijuana Laws (NORML)

Appendix 5.

An Analysis of Marijuana Policy

Committee on Substance Abuse
and Habitual Behavior
Commission on Behavioral and Social Sciences
and Education
National Research Council

National Academy Press
Washington, D.C. 1982

NOTICE: The project that is the subject of this report was approved by the Governing Board of the National Research Council whose members are drawn from the councils of the National Academy of Sciences, the National Academy of Engineering., and the Institute of Medicine. The members of the committee responsible for the report were chosen for their special competences and with regard for appropriate balance.

This report has been reviewed by a group other than the authors according to procedures approved by a Report Review Committee consisting of members of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine.

The National Research Council was established by the National Academy of Sciences in 1916 to associate the broad community of science and technology with the Academy's purposes of furthering knowledge and of advising the federal government. The Council operates in accordance with general policies determined by the Academy under the authority of its congressional charter of 1863, which establishes the Academy as a private, nonprofit, elf-governing membership corporation. The Council has become the principal operating agency of both the National Academy of Sciences and the National Academy of Engineering in the conduct of their services to the government, the public, and the scientific and engineering communities. It is administered jointly by both Academies and the Institute of Medicine. The National Academy of Engineering and the Institute of Medicine were established in 1964 and 1970, respectively, under the charter of the National Academy of Sciences.

Available from:

Commission on Behavioral and Social Sciences and Education
National Research Council
2101 Constitution Avenue N.W.
Washington. D.C. 20418

Printed in the United States of America

NATIONAL RESEARCH COUNCIL
2101 CONSTITUTION AVE NW
WASHINGTON, DC 20518
Office of the Chairman

June 21, 1982

Dr. William Pollin
Director National Institute on Drug Abuse
Park Lawn Building
Room 10-05 5600
Fishers Lane Rockville, Maryland 20857

Dear Dr. Pollin:

I transmit, herewith, a report of the National Research Council's Committee on Substance Abuse and Habitual Behavior: "An Analysis of Marijuana Policy" prepared at the request of the National Institute on Drug Abuse.

The Committee on Substance Abuse and Habitual Behavior, composed of 18 experts in the several relevant disciplines, has weighed carefully the available data regarding the costs, risks, and benefits of the major policy alternatives regarding the control of marijuana use and supply. The Committee is clear in pointing to the deficiencies of this body of evidence and cautions about the hazards of formulating policy recommendations based solely or in part thereon. In this regard, I call your attention to the following statement by Louis Lasagna

and Gardner Lindzey contained in the Preface to the report:

The Committee wishes to make clear what it regards as the limits of this report for the section of policy alternatives. Scientific judgment can estimate the prevalence of different kinds of use, risks to health, economic costs, and the like under current policies and try to project such estimates for new policies. It can come to some conclusions based on those estimates. But selection of an alternative is always a value-governed choice which can ultimately be made only by the political process.

This caveat notwithstanding, the Committee has derived from its examination of the scientific data a conclusion about the major policy choices facing the nation with respect to marijuana: complete prohibition, prohibition of supply only, and regulatory approaches. Specifically, the Committee concurs with the judgment of the National Commission on Marijuana and Drug Abuse, rendered in 1971, that a policy of prohibition of supply only is preferable to a policy of complete prohibition of supply and use.

What must be understood by the public, the media, and all who read the Committee's report is that its decision to endorse a policy change was not fashioned from scientific information--old or new--alone. Rather it was the analysis of a combination of factors which affect policy decisions, including the cost and efficacy of enforcement practices. Values were necessarily involved in balancing these factors and there are those within the membership and governing bodies of the Academies and the National Research Council who might not have come to the same policy conclusions, after reviewing the same data.

My own view is that the data available to the Committee were insufficient to justify on scientific or analytical grounds changes in current policies dealing with the use of marijuana. In this respect I am concerned that the Committee may have gone beyond its charge in stating a judgment so value-laden, that it should have been left to the political process.

I have one further concern that cannot go unaddressed. I fear that this report, coming as it does from a well-known and well-respected scientific organization, will be misunderstood by the media and the public to imply that new scientific data are suddenly available that justify changes in public attitudes on the use of marijuana.

This would be unfortunate at a time when daily use trends by high school students are down significantly. As the Committee's discussion of marijuana's behavioral and health-related effects clearly demonstrates, there is no new scientific information exonerating marijuana. In fact, the review by our Institute of Medicine, published a few months ago, reevaluated existing scientific evidence and concluded, as have others, that marijuana is a harmful drug whose use justifies serious national concern.

I wish to remind you that this is a committee report; the only position that can be inferred with respect to the National Research Council on the issue of marijuana policy is that the National Research Council is satisfied that the Committee was competent to examine the issue and diligent in carrying out its task. Despite my personal disagreement, I believe that the Committee has performed a useful service by illuminating many of the complex issues surrounding this highly controversial subject.

Yours sincerely
Frank Press
Chairman

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PREFACE

In 1978 the Committee on Substance Abuse and Habitual Behavior began a study of marijuana policy at the request and with the support of the National Institute on Drug Abuse. Sharp increases in marijuana use along with suggestions for reform of existing marijuana laws from scientists and policy makers prompted a renewed look at those laws. In addition, the National Commission on Marijuana and Drug Abuse, in its 1973 final report, Drug Use in America: Problem in Perspective, had recommended that a follow-up commission be appointed to review possible changes in the situation four years later. That recommendation was not implemented, so the Committee took as a framework for its task the assessment that the Commission recommended, especially the assessment of new evidence regarding the effects of recent changes in state marijuana policies.

The Committee conducted its study with awareness of the intensity of past controversies about marijuana use in U.S. society. In the four years since the Committee began its work, there has been an increase in visible concern among many parents about marijuana use among youth, its potential risks to the health of children, and the possibility that heavy use by some young people may seriously threaten their education. Parents who have experienced problems with their own children, or observed those of others, have organized to make marijuana policies a major item on current political agendas. In comparison with the situation at the inception of this study, there is today greater rancor in public discussion, press reports, legislative hearings, and policy-oriented technical meetings related to marijuana use.

This is the context in which the Committee completed its review of the evidence and arguments of earlier studies and weighed the significance of subsequent evidence for the major policy alternatives. Every policy has potentially good and potentially bad effects, and policy choices involve difficult comparisons of such effects. It is important to recognize that to allow the inertia developed by existing policies to prevent change is itself a choice.

The Committee is aware that analyzing a topic that is the subject of heated social debate has its hazards. Many of those participating in the marijuana debate have already selected what they take to be the admissible terms of the discussion and look with disfavor on anyone's insistence on a wider set of considerations. For example, some would settle the issue on physiological grounds alone: whether cannabis products, in the dose ranges customarily used by most people,' cause tissue damage. Defenders of marijuana use may seize on the ambiguity or absence of evidence for such damage and ignore any other effects on education or safety; those opposed to marijuana use may emphasize the possibility of chronic disease that is suggested by some laboratory findings and ignore the social, political, and economic costs of fighting a well-established custom.

This report does not review and analyze every conceivable policy nuance or option. It addresses the major choices--both because these families of alternative policies subsume many variants and because the choice among these major options must be discussed before specific, perhaps new, policy instruments can be designed.

The Committee wishes to make clear what it regards as the limits of this report for the selection of policy alternatives. Scientific judgment can estimate the prevalence of

different kinds of use, risks to health, economic costs, and the like under current policies and can try to project such estimates for new policies. It can come to some conclusions based on those estimates. But selection of an alternative is always a value-governed choice, which can ultimately be made only by the political process. The role of scientific evidence in this process is not inconsiderable, even though, at times, the strongest evidence may be pushed aside and the wildest speculation prevail. But the weight of the evidence is only one factor in the process of policy formation; ultimately, that process involves value choices.

In completing its report, the Committee has benefited from many people in formulating, revising, and updating the analyses and data. A very early version of this report was discussed at the Committee's annual conference in 1979, and subsequent versions benefited from comments by staff of the National Institute on Drug Abuse and of the National Research Council. The final draft received close and constructive attention by members of the National Research Council's Commission on Behavioral and Social Sciences and Education, the Institute of Medicine, and the Report Review Committee of the National Academy of Sciences.

We have also maintained a close liaison with the staff and members of the Institute of Medicine's Committee to Study the Health-Related Effects of Cannabis and Its Derivatives, on which three members of our Committee also served, and whose recently published report, Marijuana and Health, significantly contributed to our work.

Two former Committee members, Troy Duster and Michael Agar, assisted in the early preparation of the report. At later stages we were very ably assisted by the staff of the Commission on Behavioral and Social Sciences and Education, in particular David Goslin, executive director, and Eugenia Grohman, associate director for reports. Without their help, it is doubtful that we could have completed this task. Finally, we are indebted to the staff and members of the Committee, for their diligence, patience, and commitment to a difficult assignment.

Louis J Lasagna, Chair
Gardner Lindzey, Chair, 1977-1980
Committee on Substance Abuse and Habitual Behavior

An Analysis of Marijuana Policy

INTRODUCTION

Since the early 1960s the use of marijuana as an intoxicant by a growing proportion of the American population has been an issue of major national concern. Despite repeated warnings of possible adverse health consequences and persistent efforts by law enforcement agencies to restrict the supply and use of marijuana, available data indicate that experimentation with or regular use of the drug is no longer restricted to a small minority of Americans. In 1979, for example, 68 percent of young adults between the ages of 18 and 25 reported having tried marijuana; 35.4 percent reported having used marijuana in the last month. Among adults over age 26, the proportion having ever used marijuana has more than doubled since 1971, from 9.2 percent to 19.6 percent (Fishburne et aI., 1980; see Table I, below).

Although "the marijuana problem" may be viewed as of recent origin, marijuana is not a new drug. The cannabis plant has been cultivated and used both for its intoxicating properties and for its fiber (hemp) throughout the world for more than 10,000 years (Abel, 1980). At various times and places attempts have been made to restrict its use as an intoxicant; at other times and places

its virtues have been extolled for medical purposes, and it has played a significant role in religious ritual. Because cannabis is easily grown--indeed, it is one of the hardiest of all plant species--its resin has been used for centuries along with tobacco, fermented distillates of grains and fruits (alcohol), and opium derivatives as one means of relieving stresses associated with daily life.

Despite its long history, the use of cannabis as an intoxicant was relatively unknown in the United States until the latter part of the nineteenth century, and even then its use as a drug was restricted to a tiny fraction of the population, primarily immigrants from Mexico. The first efforts to restrict its use in this country did not occur until 1911, when Congress, which at that time was considering proposals for federal antinarcotics legislation, listened to arguments that cannabis should be included in the list of illegal drugs. That effort failed, but during the next two decades a number of state legislatures moved to prohibit the possession of marijuana unless prescribed by a physician. It was not until 1937, when the Marijuana Tax Law was enacted, that the federal government became involved in the attempt to control its use. Even this law recognized the industrial uses of hemp and also exempted the seeds of the plant, which were then being sold as bird feed. In 1956, Congress included marijuana in the Narcotics Act of that year and, in 1961, the United Nations adopted the Single Convention on Narcotic Drugs, the terms of which state that each participating country could "adopt such measures as may be necessary to prevent misuse of, and illicit traffic in, the leaves of the cannabis plant." Congress approved participation in the convention in 1967 and three years later passed' the Comprehensive Drug Abuse Prevention and Control Act, which provides the basis for current federal prohibitions regarding marijuana use.

Despite this history it was not until the 1960s that most Americans became aware of marijuana. The political and cultural protests of that period focused public attention on young people, their life-styles, and their use of drugs, including marijuana. That period created the context in which public policies regarding marijuana use have been debated since the early 1970s. As Abel (1980) points out, for the first time marijuana use was not restricted to minority groups and fringe elements of society: many of the new users were native-born, middleclass, white college students, without doubt, the political and cultural context in which marijuana emerged as an issue of national concern has strongly influenced the subsequent policy debate about its use.

The policy debate about marijuana use has also brought into sharp focus two conflicting but deeply held beliefs of large and overlapping segments of the American population. To many, the use of drugs of any kind solely for the purpose of producing states of intoxication is abhorrent, entirely apart from any presumed health effects. At the same time, many people strongly defend the right of individuals to privately indulge their desires, so long as others are not adversely affected. Adding to the complexity of the issues are continuing uncertainties about the health and developmental consequences of marijuana use, concern over the growing number of adolescent users, the social consequences of prosecuting otherwise law-abiding citizens for possession and use of marijuana, the relationship between the distribution of marijuana and that of other illegal drugs, the costs of enforcement of current laws, and the economic implications of the persistence of very large illegal markets.

The next section of this report presents a brief summary of existing evidence regarding the health consequences of marijuana use,

drawing heavily on the recently completed study by the Institute of Medicine. The third section summarizes existing federal and state laws relating to the supply and use of marijuana. The fourth section of the report reviews the conclusions of the report of the National Commission on Marijuana and Drug Abuse (1972). The next two sections deal, respectively, with policies regarding the use and the supply of marijuana. The two final' sections present a summary of the committee's conclusions regarding major policy options and recommendations for research needed to more adequately assess those options.

THE DANGERS OF MARIJUANA

Marijuana is not a harmless drug. Although available evidence suggests that marijuana may be less likely than opiates, barbiturates, or alcohol to induce psychological and physical dependence in its users, it has the capacity to reduce the effective functioning of individuals under its influence, and prolonged or excessive use may cause serious harmful biological and social effects in many users.

The recent report, Marijuana and Health, Institute of Medicine (1982:5 [reproduced in the appendix]) concludes:

The scientific evidence published to date indicates that marijuana has a broad range of psychological and biological effects, some of which, at least under certain conditions, are harmful to human health. Unfortunately, the available information does not tell us how serious this risk may be.

Overall, the report concludes (p. 5):

[W)hat little we know for certain about the effects of marijuana on human health--and all that we have reason to suspect--justifies serious national concern.

The complete summary of the Institute of Medicine report appears as the appendix to this report.

Over the past 40 years, marijuana has been accused of causing an array of antisocial effects, including: in the 1930s, provoking crime and violence; in the early 1950s, leading to heroin addiction; and in the late 1960s, making people passive, lowering motivation and productivity, and destroying the American work ethic in young people. Although beliefs in these effects persist among many people, they have not been substantiated by scientific evidence.

Concerns about how marijuana affects citizenship, motivation, and job performance have become less salient in recent years as marijuana has moved more into the mainstream of society and has become less exclusively associated with radicals, hippies, or disadvantaged minorities. Though there is still widespread belief that heavy marijuana use may be incompatible with a responsible, productive life, evidence that marijuana has not adversely affected either the productivity or the sense of social responsibility of some groups of users (see, e.g., Hochman and Brill,' 1973) has tempered earlier fears of a widespread "amotivational syndrome." Research that correlates marijuana use with undesirable behavior, such as alienation or inattention to school studies, has not established the direction of causality or ruled out spurious associations (see, e.g., Beachyet al., 1979). This issue, however, continues to be the subject of lively controversy and the Institute of Medicine report (1982:125) concludes that "it appears likely that both self-selection and authentic drug effects contribute to the 'motivational' problems seen in some chronic marijuana users."

Recently, a body of literature has accumulated that reports on links between marijuana use and such health impairments

as lung disease, chromosome damage, reduced reproductive function, and brain dysfunction (summarized in Institute of Medicine, 1982, and National Institute on Drug Abuse, 1980). In some areas--for example, effects on the nervous system and behavior and on the cardiovascular and respiratory systems--there is clear evidence that marijuana produces acute short-term effects (Institute of Medicine, 1982:2,3):

With a severity directly related to dose, marijuana impairs motor coordination and affects tracking ability and sensory and perceptual functions important for safe driving and the operation of other machines. . . '. [It also] increases the work of the heart, usually by raising the heart rate and, in some persons, by raising blood pressure.

There is as yet no such clear evidence on the possible long-term effects in these areas, or of other potential health consequences of marijuana use; further research is needed. In addition, most studies on human populations have been laboratory studies of young, healthy adult males.' Differential effects of marijuana use on the elderly, on pregnant women, on groups that are psychiatrically vulnerable or at risk for disease or dysfunction, and particularly on adolescents have not been studied systematically.

In our view, the most troublesome aspects of marijuana use are its potential effects on the development of adolescents. Parents as well as a number of clinicians and researchers are concerned that the social and intellectual development of teenagers may be harmed by chronic marijuana use. There is good evidence that intoxication may seriously impair such important skills as comprehension and retention of newly presented educational materials (Institute of Medicine, 1982). Rapidly growing tissues have been shown to be particularly vulnerable to some, although by no means all, toxic agents, and there is at least a possibility that toxic effects may be subtle and not clearly manifest until adulthood. Scientifically, these are difficult relationships to identify, and the research to date is still insufficient to strongly support any relationship.

Perhaps more significant than any lasting biological effect is the effect of the drug in different patterns of use on emotional development, on the formation of habits, and on the acquisition of coping skills for stress situations. Indeed, although the many issues raised by the use of intoxicants to escape stressful challenge have not been systematically studied, the evident attractiveness of marijuana to many adolescents, and its possible dose-related interference with the study and hard work needed for intellectual development in the crucial high school years, make this a special matter for concern. This is particularly so in light of the fact that, unlike alcohol, marijuana is used by many adolescents during school hours. Finally, reports of the effects of marijuana use on automobile driving skills are worrisome.

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This Committee has reviewed the scientific literature surveys of marijuana effects on health and behavior, including the major recent study conducted by the Institute of Medicine (1982) and those by the National Institute on Drug Abuse (1979; 1930), Tashkin et al. (1978), Nahas (1977), and Fried (1977). We agree with the conclusion of the Institute of Medicine report that it is likely that long-term heavy marijuana use will be shown to result in measurable damage to health, just as long-term chronic tobacco and alcohol use have proven to cause such damage. It is evident that the full impact of marijuana use on human health will not be clear without careful epidemiological studies involving substantial populations of users--a matter of some decades--even though it is predictable

that this drug--like all others--will cause harm in some of its users, particularly in its heaviest users, and among these, in its heaviest adolescent users. At this time, however, our judgment as to behavioral and health-related hazards is that the research has not established a danger both large and grave enough to override all other factors affecting a policy decision.

OVERVIEW OF CURRENT MARIJUANA POLICIES

Current federal and state marijuana laws are in part governed by international treaty. The major federal law relevant to marijuana is the Comprehensive Drug Abuse Prevention and Control Act of 1970, which repealed all prior federal legislation and reduced federal penalties for possession and sale. Although marijuana possession and sale are still prohibited, possession has been reduced from a felony to a misdemeanor offense; the maximum penalty for a first offense is $5,000 and one year's imprisonment. The Act also provides for conditional discharge, by which first offenders found guilty of simple possession or casual transfer (which is treated as simple possession) may be placed on probation for up to one year (Congressional Digest, 1979).

The Uniform Controlled Substance Act of 1970, drafted by the National. Conference of Commissioners on Uniform State Laws, was designed to make state laws more compatible with the new federal law. Like the federal act, the Uniform Act reclassified marijuana as a hallucinogen rather than a narcotic and reduced the penalty for possession from the felony to the misdemeanor level; a majority of the states have adopted the Uniform Act. Eleven states have withdrawn the criminal sanction from possession for personal use. In these states, arrest has been replaced with a traffic-ticket type of citation, and a small fine is the sole allowable penalty. About 30 states include some provision for conditional discharge of first offenders, and about a dozen of them provide for all records of the offense to be expunged. The Alaska Supreme Court ruled in 1975 that possession for personal use by adults at home was protected by the constitutional right to privacy and hence was not subject to any penalty (Rosenthal, 1979).

State penalties for second-offense possession and for selling marijuana are extremely variable. (See National Organization for the Reform of Marijuana Laws and Center for Study of Non-Medical Drug Use, 1979, for summary tables of state marijuana laws.) Sale is almost always a felony, with maximum sentences ranging from two years to life, although casual transfer, or "accommodation," is sometimes exempt from felony treatment. All but 15 jurisdictions punish cultivation as heavily as they do sale; the Uniform Act includes the two in the same classification (manufacture), with the same penalty provisions.

Federal prohibition of small-scale possession is virtually unenforced. At the March 1977 House of Representatives hearings on decriminalization, the chief of the criminal division of the Department of Justice testified that the federal government no longer effectively prosecutes the use of marijuana, "nor do we, under any conceivable way, in the Federal Government have the resources to do so" (Select Committee on Narcotics Abuse and Control, 1977:13). In terms of its effects from a law enforcement point of view, the present official federal policy of complete prohibition does not differ in fact from a policy of prohibition of supply only. Complete prohibition is the federal law, but partial prohibition is the practice. However, the law, even though partly unenforced, has probably had a restraining influence on the willingness of states to adopt policies of less than

complete prohibition. The states traditionally have followed the federal lead in drug abuse legislation, although they are not legally required to do so (see the testimony of Jay Miller, American Civil Liberties Union, to the Select Committee on Narcotics Abuse and Control, 1977). In summary, in most states and according to federal law, U.S. marijuana policy is one of complete prohibition--that is, prohibition of both supply and use.

Major alternatives to complete prohibition include prohibition of supply only--called partial prohibition-and regulation. [1] Prohibition of supply only means having no penalty (or only civil penalties) for use, possession, or, sometimes, "casual transfer" of small quantities of marijuana, while having criminal penalties for manufacture, importation, or commercial sale of marijuana. Regulation means not only eliminating penalties for use but also allowing controlled production and distribution.

Within each of the three broad policy options-- , complete prohibition, prohibition of supply only, and regulation--numerous subsidiary policy choices exist. For example, a policy of complete prohibition necessitates decisions about the resources to be devoted to enforcement, the appropriate penalties to be imposed for violations, and whether marijuana should be made available for any medical uses. Under a policy of prohibition of supply only, decisions must still be made about penalties and permitted medical uses. In addition, one must also determine how to distinguish between users and suppliers; whether cultivation should be permitted; how stronger preparations of the cannabis plant, such as hashish, should be treated; whether to criminalize small-scale casual transfers, made with, or without payment; and what should be done about certain specific behaviors, such as the public use of marijuana and the operation of motor vehicles under the influence of the drug. Under a policy of regulation, some of the issues to be decided are: the type of control system, (e.g. state monopoly or licensed sale), the rules as to potency and quality, and appropriate penalties for violation of the system's rules.

The variety of choices within each of the broad policy options suggests that none can be characterized in a monolithic way. Some regulatory systems could be so stringent as to have results similar to prohibitory' laws: e.g. a regulatory system that raised the price drastically above what the illegal market charges. Similarly, lack of enforcement could strongly reduce the impact of a prohibitory option. As we have already noted, this latter effect has already occurred in some jurisdictions in which the law provides for complete prohibition built users are not in fact prosecuted.

A REVIEW OF THE REPORT OF THE NATIONAL COMMISSION ON MARIJUANA AND DRUG ABUSE

An attempt to describe a fun array of policy options together with associated benefits and detriments of each of them was made by the National Commission on Marijuana and Drug Abuse in its 1972 report, Marijuana: A Signal of Misunderstanding. With respect to the major policy choices, the Commission did a thorough job. The members and-staff recognized the limited

[1] In this discussion, we use the terms "complete prohibition," and "prohibition 'of supply and use" interchangeably. We also use the terms "partial prohibition," "prohibition of supply only," and "decriminalization" as equivalent. We generally prefer the terms "partial prohibition," or "prohibition of supply only" since many people seem to regard decriminalization as the equivalent of legalization or regulation---which it most certainly is not. (The policy of partial prohibition has also been called the vice model.) , Finally, we use "regulation" and "legalization" as equivalent terms.

knowledge base for their deliberations and subsequently recommended that a second commission be appointed to review the situation four years later. Such a follow-up commission was never appointed. It seems appropriate, then, that this Committee reappraise the Commission's work in light of subsequent research findings, especially those relating to recent changes in marijuana policies.

The Commission examined the spectrum of social policies available to control marijuana use and the benefits and detriments of implementing each policy. The legal alternatives presented included those identified above: complete prohibition; prohibition of supply only; and regulatory approaches. The Commission emphasized that choosing among the three approaches requires consideration of the social milieu, cultural values, and practicalities of .implementation. The Commission considered such social conditions particularly important in examining marijuana controls because both use of the drug and the laws prohibiting supply and use had symbolic importance, representing a clash of values between a dominant culture that opposed marijuana use and a large minority that either used marijuana or condoned its use. The probable effects of the various policies considered by the Commission include changes in use patterns, enforcement costs, and influence on related social concerns such as the marketing of other illicit drugs and general respect for law.

The Commission commented on all three broad policy options. It suggested first that total prohibition has resulted in costly enforcement, alienation of the young, discrimination through selective enforcement, some deterrence of supply (especially to middle-aged and middleclass potential users), but minimal deterrence of use by those with access to the drug. Second, the Commission stated its belief that prohibition of supply only would support the official policy of discouraging use, but at the same time would recognize the practical difficulties of attempting to eliminate use. The report listed a number of choices that might be made under a system of partial prohibition and described some of the practical problems they might entail (e.g., the need to distinguish between casual and commercial distributors). Finally, the Commission described regulation as a policy that only mildly disapproved of occasional use and that concentrated on controlling excessive use, but was mostly designed to lower the costs of prohibiting the drug. The Commission argued that marijuana consumption would increase considerably if complete prohibition were replaced by regulation. In addition, the Commission considered a major drawback of any regulatory system to be that its elimination of the main symbol of society's disapproval--criminal sanctions--would cause resentment' among the nonuser majority of the population. Marijuana was described as being symbolic of countercultural lifestyles: "the drug's symbolism creates a risk of strong political reaction to any liberalization of the present laws by older members of the society" (National Commission on Marijuana and Drug Abuse, 1972, Appendix Volume II:1149).

On balance, the Commission concluded that, since the threat of punishment had not apparently deterred the millions of people who had already used marijuana, the replacement of complete by partial prohibition would not produce a significant increase in marijuana use. Consequently, the Commission recommended that individual marijuana users should not be subject to criminal prosecution for their private use or possession of small amounts of the drug, and that, on balance, the best policy was one of prohibition of supply only. In accordance

with this view, the Commission recommended that federal and state laws should be amended to achieve partial prohibition. In the decade since the Commission report, a number of states have changed their laws in varying ways. These legal changes can be viewed as natural experiments, and one can use the data from them to reassess the Commission's conclusions regarding these policies.

THE USE OF MARIJUANA: COMPARING COMPLETE AND PARTIAL PROHIBITION

To compare the two types of marijuana control policies presently used in the United States--prohibition of supply and use and prohibition of supply only--we need to consider only the one particular in which they differ: the application of criminal sanctions against marijuana users. To compare the effects of the two policies, we can examine the effects of the prohibition of use and determine whether prohibition results in more costs than benefits or vice versa.

In recent years the prohibition of marijuana use has come under increasing criticism. Many students of the U.S. marijuana situation, including the National Commission on Marijuana and Drug Abuse, members of Congress, political analysts, and legal experts, have suggested that existing laws prohibiting marijuana use be repealed. These suggestions have been prompted by the failure of current policies to deter large numbers of users, the consequent criminalization of large numbers of young Americans, and the high social costs of such law enforcement. A number of professional associations and agencies have also gone on record in support of the removal of all criminal penalties for the private possession and use of marijuana as a means of reducing the economic costs of law enforcement and the social costs of arrest or imprisonment (criminalization) of young people who are otherwise not criminally involved or labeled. The organizations and agencies that have: expressed this view include the American Medical Association, the American Bar Association, the American Public Health Association" the Canadian Commission of Inquiry into the Non-Medical Use of Drugs, the National Council of Churches, the National Advisory Commission on Criminal Justice Standards and Goals, the National Commission on Marijuana and Drug Abuse, among others. Eleven states, with one-third of the nation's population, have adopted some version of partial prohibition or "decriminalization." (In Oregon, Alaska, Maine, Colorado, California, Ohio, Minnesota. Mississippi, New York, North Carolina, and Nebraska, citations and small fines have replaced arrests and incarceration for use-only marijuana-related offenses.) .

At first glance, criminalizing the selling of marijuana might appear inconsistent with failing to punish its purchase. But in the drafting of laws, a line is often drawn between legal and illegal conduct so that the maximum reduction in the proscribed behavior can be gained at minimum social cost. Frequently it turns out that laws aimed solely at suppressing sales are more cost-effective in reducing both the possession and use of a substance than are laws that attempt to suppress possession directly. There are several reasons for this. First, there are fewer sellers than buyers; this permits a concentration of law enforcement efforts where they do the most good. Second, juries are likely to be more sympathetic to a "mere.' user, who may be ill-advised, than to a dealer making a profit from the weaknesses of others. Offenses treated under the vice model (partial prohibition) range from gambling--the person who takes illegal bets is guilty of a crime while the person who places them is not--to the offense of selling new automobiles not equipped with seat belts--the seller, not

the buyer, is guilty of an offense. Even Prohibition in 1919 never criminalized the possession or use of alcohol, only its manufacture and sale.

Effects of Partial Prohibition

Probably the most important fact about a policy of prohibition of supply only is that where it has been adopted it has apparently not led to appreciably higher levels of marijuana use than would have existed if use were also prohibited. The National Commission on Marijuana and Drug Abuse's speculations about the lack of change in use patterns resulting from repeal of prohibitions on use have been confirmed by data since 1972. Reports from California, Oregon, and Maine indicate no appreciable increase in use following decriminalization of use, at least in the short term.

Oregon, the first state to repeal prohibition of use (in October 1973) has been studied in a series of Drug Abuse Council surveys (National Governors' Conference, 1977). Surveys in 1974 and 1975 showed no major increase following decriminalization. While the percentage of adults who were current users had increased by January 1977 (from 20 to 24 percent), use had increased similarly nationwide in the same period, suggesting that the causes for the adult increase in Oregon were the same as those for increases in the rest of the country rather than the result of changes in the law. Indeed, the percentage of adult ever-users in Oregon in 1976 (24 percent) was lower than the average percentage of adult ever-users in the western United States (28 percent) in 1975-1976, although higher than the national average (21.3 percent). (It should be noted that aggregate use rates in the western United States are heavily weighted by use rates in California, the largest western state, which had relatively high rates even prior to the state repeal of prohibition of use.) That the increase -in use in Oregon from 1973 to 1976 was probably not due to the new law is suggested by other survey data. Only a small proportion of nonusers said fear of legal prosecution was a reason for non-use in 1974, 1975, and 1976 (National Governors' Conference, 1977). On the question of the fear of health dangers, Drug Abuse Council survey data show that such fear decreased significantly over those years but has increased since 1976.

The state of Maine, which repealed criminal penalties for marijuana use in May 1976, surveyed the effects of legislation in July and August 1978 (State of Maine Department of Human Services, 1979). Its study concluded that the change from criminal to civil penalties has not caused a large increase in marijuana use,: less' than 1 percent of all adults and 3.1 percent of all high school students reported any increase in their use as a result of the new law; 3.5 percent of adult regular users and 7 percent of high school regular users reported any increase in their use directly attributable to the change in the law. There is also preliminary evidence, based on nationwide study of high school students between 1975 and 1979, that "any increase in marijuana use in the decriminalized states, taken as a group, was equal to' or less than the increases being observed in the rest of the country where decriminalization was not taking place" (Johnston, 1980:5). It could be argued that because de facto repeal of prohibition of use has been taking place throughout the country, one should not expect to see larger increases in use in states that legally decriminalize than in others. Even if this is true, however, the important point is that the legal change to decriminalization does not, in itself, appear to lead to increases in use.

This lack of change is not particularly surprising. The statistical chance that any person would be apprehended for his or her

use is, in fact, extremely low' throughout the United States (though, as we note below, the large number of users is sufficient to generate a substantial volume of arrests in states that do prohibit use). As a result, it is hard to imagine that the deterrent effect of prohibition laws on any given user would be very great.

It has been suggested that repeal of government prohibitions might' change attitudes related to health or morals, perhaps symbolizing that health officials certify marijuana use to be safe. The absence of large increases in marijuana use in repeal states, however, indicates that either the change in policy has not had such a symbolic effect, or that, if it has, its causal significance is not appreciable--though it must be acknowledged that changes of this type might take generations to occur.

Costs of Prohibition of Use

The costs of policies directed at the user are not negligible, although actual savings in law enforcement costs attributable to repeal of prohibition of use per se are difficult to estimate. The difficulty arises in part because marijuana arrests have decreased nationally in recent years, reflecting the overall tendency to relax enforcement of marijuana laws, and that change could lead to inaccurate estimates of the impact of repeal. Nevertheless, reduced law enforcement activities seem to have led to substantial savings in states that have repealed laws that prohibit use.

Ca1ifornia made a careful study of the economic impact of its law repealing prohibition of use, which went into effect in January 1976 (State Office of Narcotics and Drug Abuse, 1977). The law reduced the penalty for personal possession of one ounce or less of marijuana from & possible felony to a citable misdemeanor, punishable as an infraction with a maximum fine of $100 without regard to prior possession offenses. Criminal custody, booking, and pretrial incarceration procedures were eliminated. Possession of more than one ounce was also made a misdemeanor, with a maximum fine of $500, six months in jail, or both. According to the study, these changes resulted in a 74 percent reduction in what the state had been spending yearly to enforce its marijuana laws. (Estimates of what the state had been spending ranged from $35 million to more than $100 million yearly; see National Governors' Conference, 1977.)

In addition to its economic benefits, repealing prohibition of use saves the social costs of criminalizing the marijuana user. In recent years, close to 400,000 people have been arrested each year for marijuana-related offences despite the general nonenforcement of criminal sanctions for use (Federal Bureau of Investigation, 1980). Only a small fraction of the arrests are made under federal law, largely for importation of marijuana. About 85 percent of all marijuana-related arrests are for possession, usually of one ounce or less (see, e.g., State Office of Narcotics and Drug Abuse, 1977).

A Study by the National Commission on Marijuana and Drug Abuse of a sample consisting of some 3,000 of the people arrested for marijuana-related offenses in 1970 indicated that the marijuana arrest was usually the arrestee's first experience with the criminal justice system, particularly among juveniles (National Commission on Marijuana and Drug Abuse, 1972). Yet, "it is standard practice for law enforcement agencies to report such offenses to prospective employers, licensing agencies, and other authorities as 'narcotic drug arrests'" (testimony of Jay Miller, American civil Liberties Union, to the Select Committee on Narcotics Abuse and Control, 1977). Thus young users, who are often otherwise law

abiding people, are subject to an arrest record, or even a prison term, with implications extending into many aspects of their lives.

Alienation from the rule of law in democratic society may be the most serious cost of current marijuana laws. The National Commission on Marijuana and Drug Abuse was concerned that young people who see no rational basis for the legal distinction between alcohol and marijuana may become cynical about America's political institutions and democratic process. The American Bar Association report (printed in Select Committee on Narcotics and Drug Abuse, 1977) concurs in the view that marijuana laws that criminalize the millions of Americans who have used marijuana engender disrespect for the law.

Public Attitudes Toward Partial Prohibition

Although the National Commission on Marijuana and Drug Abuse concluded that' prohibition of supply only would be a better policy than prohibition of supply and use, it felt that a serious disadvantage of such a course would be the upset and moral outrage such a policy would engender. Hindsight now shows that the Commission was mistaken in predicting a strong uniform public reaction to the adoption of partial prohibition policies. Experience since 1973 has shown that repeal of criminal penalties for use of marijuana has not been accompanied by massive public protest in the states in which it occurred and, in fact, has had the approval of the majority of citizens in those states (National Governors' Conference, 1977).

Nationally, attitude trends are consistent with the experience of the repeal states. Roffman (1978) reports that public opinion surveys indicate a slowly increasing preference for a reduction in penalties for marijuana offenses; a 1975 national survey (National Institute on Drug Abuse, 1975-1976) found that 52 percent of American adults favored only a fine or probation for small marijuana offenses; and a 1977 Gallup poll showed that 28 percent of the public favored legalization compared with 12 percent in 1969.

THE SUPPLY OF MARIJUANA: COMPARING PROHIBITED AND REGULATED MARKETS

Policy implementation does not occur in an ideal world. Prohibition of supply has not, in practice, meant that no one has had access to marijuana--though this may have been the intent of those who framed that law. Similarly, regulation of supply does not mean that everyone who uses marijuana will use it moderately, minimizing its harm. Prohibition of supply does make marijuana less accessible than it might otherwise be to a large number of Americans, and thus it almost certainly reduces the total amount of the drug used and the number of users. Such reduction is the purpose of a partial prohibition policy and to some extent it is accomplished. Arguments for a regulated, legal supply of marijuana are largely based on the social costs and incomplete effectiveness of prohibition of supply and on the belief that regulating rather than prohibiting the supply would not lead to an unacceptably large increase in use.

Under a regulatory policy, the cultivation, importation, manufacture, distribution, retailing, and, of course, use of marijuana would no longer be illegal per se. Within this broad category, specific policy options range from a virtual withdrawal of the government from marijuana control (allowing the drug to be freely produced, advertised, and sold, very much as coffee is today--by protecting the consumer against harmful adulterants), to a carefully controlled

system of licensing, to a government monopoly on retail sales, wholesale distribution, or manufacture of marijuana. Thus, controls might be placed on such factors as quality, potency, amount purchased, time and place of sales, age of buyers, etc. If marijuana were regulated as is alcohol, restrictions would derive from federal, state, or local statutes, with the majority of them not at the federal level. Regulations might also include legally fixed prices--as in state-controlled alcohol beverage retailing or as a consequence of the levying of excise taxes.

The specific form and content of any proposed regulatory system are very important for those faced with the decision as to whether and under what conditions to remove penalties for the distribution of marijuana, but such details are beyond the scope of this report.

The advantages of a policy of regulation include the disappearance of most illegal market activity, the savings in economic and social costs of law enforcement, directed against illegal supply systems, better controls over the quality and safety of the product, and, possibly, increased credibility for warnings about risks. The major disadvantages are a consequence of increased marijuana use--increases in harm to physical health and to individual development and behavior.

Costs of Prohibition of Supply

The number of arrests for violations related to supply is much lower than for those related to use. But enforcement of prohibition of supply is far more costly per arrest. Long undercover investigations, the purchase of expensive hardware, and the major consumption of trial and correctional resources are largely attributable to the prohibition of supply.

The National Institute on Drug Abuse (1975) estimated that in 1974 costs for enforcement of marijuana laws totaled $600 million for state and local agencies. If we extrapolate from the California data (State Office of Narcotics and Drug Abuse, 1977), about three-fourths of the total is spent enforcing the law against marijuana supply. The total federal drug abuse law enforcement budget was more than $400 million in 1979, about half of which was the budget for the Drug Enforcement Administration. At the federal level, authorities do not break down their expenditures on enforcement between marijuana and other drugs; virtually all of the federal resources that are allocated to marijuana are spent in attempting to enforce the laws against supply.

The task of attempting to make the prohibition of supply effective is, of course, formidable. In 1969 Operation Intercept demonstrated the practical difficulty of sealing off the Mexican border. In the weeks the operation lasted, hundreds of thousands of vehicles and passengers were searched every day; ensuing traffic jams caused expenditures by U.S. tourists and commuters to Mexico to drop 50-70 percent below normal. (Kaplan, 1971). The situation was intolerable and the program was halted. However, the federal government has continued efforts to improve border surveillance and to penetrate trafficking networks. The White House Strategy Council on Drug Abuse (1979) notes that more than 5.6 million pounds of marijuana was seized at the Mexican border over a 12-month period in 1977-1978; a large increase over the 1.5 million pounds seized during the previous 12 months, "but a fraction of marijuana entering the country." Recently, the Council has suggested strengthening border surveillance by cooperative efforts of the Drug Enforcement Administration, the Customs Service, the Coast Guard, and the

Department of State and by the use of the detection capabilities of the armed forces as well.

In our view, the prospects for major success in these ventures are not great. Nor is there much likelihood that some recently suggested measures against marijuana production outside the U.S. would make future prohibition of supply more effective. For example, the White House Strategy Council on Drug Abuse has supported crop eradication programs, provided that the proposed method of eradication is evaluated for possible health and environmental consequences and that a readily distinguishable marker is added to any chemical herbicides that are used, but the political obstacles to this course would be significant. Entirely apart from the views of producer nations, which are likely to be quite negative, the public is unlikely to support the use of chemicals of unknown toxicity on an import product, legal or not, that may be used by large numbers of Americans. And irrespective of the degree of success of controlling imports, the problem of domestic production under a policy of partial prohibition remains. Although the illegal domestic industry is thought to account for only about 15 percent of American marijuana consumption, marijuana grows easily in many parts of the United States. The National Commission on Marijuana and Drug Abuse cited a Department of Agriculture estimate that in 1972 there were 5 million acres containing wild marijuana in the United States and an undetermined but obviously growing number of acres under cultivation.

Law enforcement costs are by no means the only costs of prohibition of supply. There are large amounts of money being made in marijuana--which, like any illegal business, carries with it the likelihood of corruption of public officials and the loss of tax dollars. Violence is also a cost of attempting to prohibit marijuana supply; this problem is not confined to illegal marijuana production abroad. There has been violence in marijuana growing regions in the United States. The extent of such violence is not known with any precision, but there have been popular press reports of kidnappings, assaults, burglaries, and homicides known to be connected with the marijuana business in northern California and elsewhere.

Another major cost of attempts to prohibit the supply of marijuana is related to the, fact that many illegal sellers of marijuana also sell other illegal drugs, e.g., PCP, amphetamine, and barbiturates (Blum, 1971). It is likely, therefore, that prohibition of the supply of mariju6na increases access to and use of other illegal drugs through the creation of an illegal marketing system for all drugs. Little is known about the structures and activities of illicit drug markets. It is clear, however, that there are many small-scale marijuana dealers, that many sellers service only their friends and acquaintances, and that those who sell marijuana are thereby more likely to come into contact with users and sellers of more dangerous drugs, to use such drugs, and to make them available to their clientele (Blum, 1971). Moreover, there is reason to believe that marijuana sellers may become socialized into other illegal activities.

Costs of Regulating Supply

The wide availability and use of marijuana are not only major factors in the cost of attempts to prohibit the supply of the drug they also have implications for the likely magnitude of increases in use that could be expected under a regulatory policy. Greater use of marijuana under a regulatory policy is regarded as the most significant cost of such a policy. In an analysis of this potential cost, however, it is important to note that under the present policy of prohibition, prevalence and frequency of

marijuana use are substantial and have increased in recent years. [2]

National Institute on Drug Abuse general household survey (Fishburne et al., 1980) shows that 35.4 percent of the 18-25-year-olds in the United States report having used marijuana in the month preceding the survey. Yearly surveys show a steady increase from 1971 to 1979 in the percentage of people who report having ever used marijuana as well as in the percentage of people who report being current users (see Table 1). These survey results (Fishburne et a1., 1980) also indicate that between 1976 and 1977, the percentage of current users among 12-17 year-olds increased from 12.3 to 16.6 percent; this trend had leveled off by 1979 and has since shown a decline. In an annual survey of national samples of some ,17,000 high school seniors, Johnston et al. (1982) found that 7.0 percent of the class of 1981 reported daily marijuana use, compared with 6.0 percent in 1975 and JO.7 percent in 1978, the peak year (see Table 2). There has been a similar trend in initial use at younger ages.

Although the present policy of prohibition of supply is not preventing the current levels of marijuana use, including use among the very young, it is probable that most strategies under a regulatory policy would result in an overall increase in use. Even more important than overall use rates, however, are likely changes in consumption patterns; such patterns are the most difficult changes to predict. The smallest increases in numbers of users can be expected to occur among those to whom marijuana is now most readily available--the young. Johnston et a!. (1982) found that close to 90 percent of the high school seniors in their national sample survey report that marijuana is "fairly easy" or "very easy" for them to get. This percentage remained relatively stable over the seven years~ 1975-1981. At the same time, the reported availability of most other illegal drugs (except cocaine) declined considerably. For example, while 46.2 percent of the 1975 high school seniors said that LSD would be

[2] The data indicating rates of use are based on self reports; as such, their reliability and validity may be questioned. Nevertheless, as Radosevich et al (1979) indicate, studies of questions on drug use have consistently demonstrated reliable responses within the same instrument and over time. Furthermore, there are indications that most drug surveys do not have serious validity problems (see Whitehead and Smart and Abelson and Atkinson, both cited in Radosevich et al., 1979; Johnston et al., 1982.

TABLE 1. Lifetime Prevalence and Use in past Month of Marijuana, 1971-1979, by Category of User (percentage)

Category of User	1971	1972	1973	1974	1975	1976
Youth: Ages 12-17						
Ever used	14.0	14.0	23.0	22.4	28.0	30.9
Used in past month	6.0	7.0	12.0	12.3	16.6	16.7
Young Adults: Ages 18-25						
Ever used	39.2	47.9	52.7	52.9	59.9	68.2
Used in past month	17.3	27.8	25.2	25.0	27.4	35.4
Older Adults: Ages 26+						
Ever used	9.2	7.4	9.9	12.9	15.3	19.6
Used in past month	1.3	2.5	2.0	3.5	3.3	6.0
(number)	(3,186)	(3,265)	(4,022)	(3,576)	(4,594)	(7,224)

Source: Fishburn et al. (1980)

"fairly easy" or "very easy" to get, only 32.2 percent of the class of 1978 gave those responses. It would appear, therefore, that the reports of easy availability are not due to a tendency of adolescence to report any illegal drug as easy to get, but reflect their actual access to the drug. - It might also be noted that only 13.9 percent of the class of 1978 reported having no friends who smoke marijuana; thus it is reasonable to expect that at least 86 percent have a factual basis for estimating the availability of the drug.

Other survey data corroborate these findings. Radosevich et al. (1979) report that a 1975 national survey by the Drug Abuse Council found that at least 70 percent of the high school students in their sample reported marijuana "easy 1:0 get," and O'Donnell et al. (1976) found similar results. There are no contrary reports for recent years. In sum, one can be reasonably confident that, at least with respect to older adolescents, the prohibition against supply does not succeed in suppressing access to marijuana. (The effect on price is discussed below.)

Regulation could be expected to provide the greatest increase in availability to those to whom the drug is' now least available, i.e., older adults who are not in contact with marijuana sellers or a drug-using subculture and who are most likely to avoid illegal "connections."

It has been argued that a serious cost of the adoption of a regulatory policy for marijuana is the likelihood that such a change might delude many people into believing that the drug is safe. As noted above, there is no indication that the elimination of penalties for marijuana use has caused the drug to be regarded as any less dangerous. Moreover, alcohol and tobacco are almost universally regarded as involving risks to health, and these drugs are already made available under regulatory systems.

To the extent that marijuana use causes harm, one is necessarily concerned about policy changes that will lead to increases in use. As we have noted, however, it is a fact that marijuana is already widely available despite the legal prohibition of supply and that, despite the best efforts of government under any foreseeable set of conditions, it

TABLE 2. Trends in Prevalence of Marijuana Use by High School Seniors (percentage)

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	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981
Ever Used	47.3	52.8	56.4	59.2	60.4	60.3	59.5
Used in last 12 months	40.0	44.5	47.6	50.2	50.8	48.8	46.1
Used in last 30 days	27.1	32.2	35.4	37.1	36.5	33.7	31.6
Used daily in last 30 days	6.0	8.2	9.1	10.7	10.3	9.1	7.0

Source: Johnson et al. (1982)
Note: Daily use defined as using marijuana on 20 or more occasions in the last 30 days.

will continue to be. Though a regulatory policy would increase the availability of the drug, estimates of the size of these increases, and associated increases in harm, must be weighed against estimates of the costs and weaknesses of continuing prohibitions of supply. In pragmatic terms, the issue is whether more harm would be done, overall, by retaining the partly effective, costly prohibition of supply or by moving to a system of legalized regulated sales--wherein presumably more people would use more marijuana, but some of the costs imposed by prohibition of supply would be removed.

Regulatory Systems: Some Concrete Aspects

To this point, a policy of regulation has been discussed rather abstractly in contrast with the more concrete discussion of prohibition policies. Experimentation with varying systems of regulation followed by adjustment and readjustment based on experience would be necessary before those most appropriate for particular circumstances could be developed. This can be a complex matter. For instance, U.S. alcohol policy, developed with the repeal of Prohibition, consists of an umbrella of national policy and a wide variety of supporting state and local regulation. The national policy umbrella includes controls on importation, taxation, potency, packaging, labeling, advertising, use in federal jurisdictions (e.g., parks, military installations), and use in systems regulated by the federal government (e.g., air transportation); it also provides funds and guidelines for the treatment of casualties of excessive use. Under the umbrella policy, states and local jurisdiction~ regulate taxes, retail sales, hours of availability, age limits, and the like, where supply is legal, or prohibit sales entirely. Some states have monopoly systems for package sales, others use licensed private stores. Historically, under this system, the strictness of controls has reflected local sentiment about the consumption of alcohol. Although few "dry" jurisdictions exist today, various degrees of local "dryness" were quite widespread until very recently (National Research Council, 198I).

Controlling Use

A regulated system of marijuana sale might attempt to moderate use by inhibiting the frequency of use and the amounts used as well as by prescribing conditions of purchase and use. However, it is likely that under a regulatory system consumption would in great part be controlled by informal social norms--as it is today.

Manipulating the price of the drug is an obvious means of inhibiting use. It has been argued that most adults would be willing to pay a higher price for legal marijuana than they currently pay for illegal supplies in return for not having to seek out "connections" and being relieved of the feeling that they may be supporting organized crime. A high price would be comparatively more restrictive for young people--precisely those whom one would most want to discourage from use--since, though they 'seem affluent compared with young people in previous times, their budgets are in fact more constrained than those of adults. The possibility of illegal markets selling to young people remains, but today's kind of, illegal market for marijuana would probably drink greatly under a regulatory system in the same way that illegal alcohol distribution systems have become so scarce. Young users would be much more likely to gain access to marijuana by diversion from the legal market-as they do today for alcohol--or from homegrown plants than from a wholly illegal chain of distributors. Such a development would make marijuana selling a less profitable and status-producing occupation among the young.

It has been suggested that if legal limits were imposed on the potency of legally available marijuana, a substantial illegal market for high-potency forms of the drug, including hashish, would still exist. Since it is likely that there would continue to be some users who prefer high-potency forms of cannabis, this is a reasonable concern. But there is no compelling a priori reason to believe that a legal structure for retail marijuana sales, which includes limits on potency, would result in any increase in the availability and use of high-potency products.

Home Cultivation

Cultivation of marijuana by users is another issue that would have to be confronted in devising a regulatory system. Growing marijuana without payment of a tax might be treated as a revenue offense. Without criminal penalties or vigorous enforcement, however, deterrent effects would be minimal since marijuana can be grown indoors anywhere in the United States using artificial light--and at comparatively little expense. A recent British study of options for marijuana control (Logan, 1979) suggests that, from a law enforcement perspective, it is not feasible to attempt to control home cultivation. Whether users would take the trouble to grow their own marijuana would depend in part on the legal price. The relatively high prices that might be charged in order to discourage use and to increase revenues would also tend to encourage home cultivation. Whatever its disadvantages, however, the use of homegrown marijuana at least would not bring users into contact with those who illegally sell the drug. With respect to young people, moreover, marijuana under cultivation is much harder for children to hide from parents than is the purchased prepared drug, and cultivation by juveniles could remain illegal if age limits on use were imposed. Nonetheless, the treatment of home cultivation represents a major issue for the design of a regulatory system.

Public Education

Excessive use may be discouraged by policies aimed at public education and at the use of the media, including a ban on commercial advertising. Although information on how to use drugs, on drug hazards, and on the attributes of drugs is passed along most effectively through informal channels (see, e.g., Hanneman, 1971), media and education programs can make such information far more readily available.

Research on the communication of messages to the public has identified source credibility as a major factor contributing to the persuasive power of a message (McGuire, 1969). It appears that the public is now extremely wary of some government information programs that attempt to influence health behaviors. The credibility of the federal government may be especially suspect when it issues health warnings about an illegal substance that it is clearly trying to prohibit. Rosenthal (1979) asserts that distrust of the government and the medical establishment has grown because of past exaggerations and distortions of the effects of some mind-altering drugs.

Informal Social Controls

In an assessment of possibilities for governmental controls under a regulatory system, the operation of informal norms for controlling substance use practices must be taken into account (Maloff et al., 1980). National experience with alcohol use, for example, provides evidence that there are informal rituals and sanctions that generally enc6urage moderation in the use of

recreational drugs. Moreover, moderation is encouraged when a drug is introduced gradually, that is, to a growing population of users, like marijuana in the 1960s and early 1970.

One might expect that when a new drug is introduced into a society, governmental control would be particularly important since no informal controls for teaching people appropriate rules for use would have developed. If a potent drug is made widely available precipitously and very cheaply to a novice population, severe societal disruptions may occur: for example, the gin epidemics of early eighteenth-century England. (see Clark, 1976). Because in the past two decades informal norms for controlling marijuana use have spread in the United States under conditions of greatly increased availability of marijuana, there is reason to believe that widespread uncontrolled use would not occur under regulation. Indeed, regulation might facilitate patterns of controlled use by diminishing the "forbidden fruit" aspect of the drug and perhaps increasing the likelihood that an adolescent would be introduced to the drug through families and friends who practice moderate use, rather than through their heaviest-using, most drug-involved peers.

Relations Among States

As has historically been the case with respect to alcohol state governments differ in their approaches to marijuana. So long as present federal law continues: to prohibit cultivation and distribution of marijuana, states cannot adopt a regulatory system, although they are legally free to reduce or eliminate their own penalties for sale and are not compelled to enforce federal laws. If federal law were changed, however, the institution of a regulatory system in one state would have reverberations in other states. Residents of states that continued to prohibit marijuana could be expected to cross state lines to purchase the drug in a state with a regulated system, thus further compromising the ability of states to enforce prohibition of supply among its residents. Furthermore, states that attempted to curtail consumption by raising prices might find their populations turning to lower-cost marijuana from neighboring states with lower prices. This is a familiar situation. Large numbers of both cigarettes and guns are smuggled illegally into New York from other states. Moreover, New Yorkers may travel to New Jersey to gamble in a casino, or Virginians to the District of Columbia to buy cheaper liquor. It is difficult to see how state prohibitions could remain effective if the number of states with regulatory, systems grew very large unless the changes occurred in only one region of the country. However, there may be advantages in permitting a state-by-state approach. Conditions governing the costs and benefits both of partial prohibition and of regulation vary among the states. In this area of uncertainty, we may learn from experiment. If one regulatory system proved successful, other states would be more likely to adopt similar systems; similarly, if it worked poorly in one state, other states would be less inclined to adopt a regulatory policy.

Effects on Foreign Relations

The 1961 Single Convention on Narcotic Drugs, which now obligates the U.S. government to prevent the importation of marijuana and to prohibit the adoption of a licensing system by any state, is a serious (although not an insurmountable obstacle to the adoption of a federal regulatory policy and the development of state licensing. The treaty allows a signatory to terminate its adherence to the agreement at any time after two years from the date of the convention. Of course the general impact of any move to withdraw from the convention includes a

broad foreign policy context, which is beyond the expertise of this Committee to judge.

CONCLUSIONS

For the last decade, concern with health hazards attributable to marijuana has been rising. The hearts, lungs, reproductive functions, and mental abilities of children have been reported to be threatened by marijuana, and such threats are not to be taken lightly. Heavy use by anyone or any use by growing children should be discouraged. Although conclusive evidence is lacking of major, long-term public health problems caused by marijuana, they are worrisome, possibilities, and both the reports and the a priori likelihood of developmental damage to some young users makes marijuana use a cause for extreme concern.

At the same time, the effectiveness of the present federal policy of complete prohibition falls far short of its goal--preventing use. An estimated 55 million Americans have tried marijuana, federal enforcement of prohibition of use is virtually nonexistent, and 11 states have repealed criminal penalties for private possession of small amounts and for private use. It can no longer be argued that use would be much more widespread and the problematic effects greater today if the policy of complete prohibition did not exist: The existing evidence on policies of partial prohibition indicates that partial prohibition has been as effective in controlling consumption as complete prohibition and has entailed considerably smaller social, legal, and economic costs. On balance, therefore, we believe that a policy of partial prohibition is clearly preferable to a policy of complete prohibition of supply and use.

We believe, further, that current policies directed at controlling the supply of marijuana should be seriously reconsidered. The demonstrated ineffectiveness of control of use through prohibition of supply and the high costs of implementing such a policy make it very unlikely that any kind of partial prohibition policy will be effective in reducing marijuana use significantly below present levels. Moreover, it seems likely to us that removal of criminal sanctions will be given serious consideration by the federal government and by the states in the foreseeable future. Hence, a variety of alternative policies should be considered.

At this time, the form of specific alternatives to current policies and their probable effect on patterns of use cannot be determined with confidence. It is possible that, after careful study, all alternatives will turn out to have so many disadvantages that none could command public consensus. To maximize the likelihood of sound policy for the long run, however, further research should be conducted on the biological, behavioral, developmental, and social consequences of marijuana use, on the structure and operation of drug markets, and on the relations of various conditions of availability to patterns of use.

RECOMMENDATIONS FOR RESEARCH

Health and Behavior

The persistent concern about the health-related effects' of marijuana requires both an immediate and a continuing response. First, as the report of the Institute of Medicine (1982:5) recommends, there should be "a greatly intensified and more comprehensive program of research into the effects of marijuana on the health of the American people." An important goal of this research program should be the identification of subgroups at high risk for physiological and psychological damage in relation to patterns of use and doses of marijuana. The report presents a detailed agenda of needed research. Second, to the extent that potential

health hazards are identified, policy research should address possible safeguards and precautions to protect the user.

If marijuana use can be scientifically shown to entail grave risks--to the brain, the cardiovascular and respiratory systems, or to reproductive functions, for example--that are currently not known, it can be argued that, as was the case with cigarette smoking, knowledge of those effects will be more effective than criminal enforcement as a deterrent to use.

Drug Markets

Research on the price elasticity of demand in legal and illegal markets is a clear priority. The result of such research will be important in determining the likelihood of controlling heavy use through price mechanisms and in computing the amount of money~-if any--that could be realized in taxation of marijuana.

Present knowledge of the structure and activities of drug markets and networks is insufficient to allow prediction of the effects of policy changes on them. Research in this area is difficult but the questions are important. If many dealers who sell cocaine, PCP, amphetamines, and barbiturates as well as marijuana would be put out of business if marijuana were available through legal channels, it might result in a curtailed market for a variety of other drugs. On the other hand, it is also possible that the market structure is so loosely organized, and dealers so transiently involved, that removing marijuana from the illegal markets would have little effect. To be sure, much research on some of these questions could not be conducted unless a regulatory system were in place in some state. Nonetheless, some research, particularly ethnographic and economic studies, should be undertaken now to discover the importance of marijuana profits to drug-dealing networks; the transiency, size, and nature of such networks; etc. 'It is essential for research in this area to be supported by appropriate government agencies.

Effects on Use

Although many questions remain to be answered before the most informed choices can be made between prohibiting and regulating supply, there are many things that cannot be known unless some jurisdiction tries a regulatory policy. Although adoption of a regulatory policy is likely to result in increased use, little is known about changes in patterns of use that are likely to result. If federal laws prohibiting supply are changed to allow states to license marijuana sales, epidemiological research programs must be ready to monitor any changes in use and their consequences. To do so, research should be organized and operating well in advance of any such policy changes in order to determine rates of use before the change. Although the shift in the law from complete to partial prohibition in 11 states has apparently had little effect on consumption patterns there, we do not know the degree to which legally available marijuana would attract a larger market. The impact on use of educational campaigns, health warnings, and informal social controls under a regulatory system should be investigated.

In the absence of the opportunity for states to adopt regulatory policies, there can only be educated guesses about which age groups are likely to increase use or whether individuals who now use marijuana will use more, etc. Meanwhile, every bit of analysis to predict the answers to these questions, by surveying public attitudes, assessing past experiences with the spread of drug use in society (e.g., alcohol use following the repeal of Prohibition), and critically reviewing the

experience in other societies in which marijuana is more readily available, will be valuable.

Marijuana regulation would permit systematic provision of comprehensive, clearly communicated health warnings on package inserts or covers, in public health education, by medical practitioners, and by public health interest groups as well as by the government. The extent to which such warnings would have more credibility for users than current health warnings, generated in an atmosphere of prohibition, is an important subject for research. Despite widespread pessimism about the failures of drug education campaigns, there are encouraging results in educational approaches based on the Stanford Heart Disease Prevention Program experience. With appropriate, research-based models and techniques, public health education may be an attractive means for limiting excessive use (see, e.g., Maccoby, 1979).

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APPENDIX:

SUMMARY OF MARIJUANA AND HEALTH

The Institute of Medicine (I0M) of the National Academy of Sciences has conducted a 15-month study of tire health-related effects of marijuana, at the request of the Secretary of Health and Human Services and the Director of the National Institutes of Health. The I0M appointed a 22-member committee to:

analyze existing scientific evidence bearing on the possible hazards to the health and safety of users of marijuana;

analyze data concerning the possible therapeutic value and health benefits of marijuana;

assess federal research programs in marijuana;

identify promising new research directions, and make suggestions to improve the quality and usefulness of future research; and

draw conclusions from this review that would accurately assess the limits of present knowledge and thereby provide a factual, scientific basis for the development of future government policy.

This assessment of knowledge of the health-related effects of marijuana is important and timely because marijuana is now the most widely used of all the illicit drugs available in the United States. In 1979, more than SO million persons had tried it at least once. There has been a steep rise in its use during the past decade, particularly among adolescents and young adults, although there has been a leveling-off in its overall use among high school seniors in the past 2 or 3 years and a small decline in the percentage of seniors who use it frequently. Although substantially more high school students have used alcohol than have ever used marijuana, more high school seniors use marijuana on a daily or near-daily basis (9 percent) than alcohol (6 percent). Much of the heavy use of marijuana, unlike alcohol, takes place in school, where effects on behavior, cognition, and psychomotor performance can be particularly disturbing. Unlike alcohol, which is rapidly metabolized and eliminated from the body, the psychoactive components of marijuana persist in the body for a long time. Similar to alcohol, continued use of marijuana may cause tolerance and dependence. For all these reasons, it is imperative that we have reliable and detailed information about the effects of marijuana use on health, both in the long and short term.

What, then, did we learn from our review of the published scientific literature? Numerous acute effects have been described in animals, in isolated cells and tissues, and in studies of human volunteers; clinical and epidemiological observations also have been reported. This information is briefly summarized in the following paragraphs.

EFFECTS ON THE NERVOUS SYSTEM AND ON BEHAVIOR

We can say with confidence that marijuana produces acute effects on the brain, including chemical and electrophysiological changes. Its most clearly established acute effects are on mental functions and behavior. With a severity directly related to dose, marijuana impairs

motor coordination and affects tracking ability and sensory and perceptual functions important for safe driving and the operation of other machines; it also impairs short-term memory and slow' learning. Other acute effects include feelings of euphoria and other mood changes, but there also are disturbing mental phenomena, such as brief periods" anxiety, confusion, or psychosis.

There is not yet any conclusive evidence as to whether prolonged use of marijuana causes permanent changes in the nervous system or sustained impairment of brain function and behavior in human beings. In a few unconfirmed studies in experimental animals, impairment of learning and changes in electrical brain-wave recordings have been observed several months after the cessation of chronic administration of marijuana. In the judgment of the committee, widely cited studies purporting to demonstrate that marijuana affects the gross and microscopic structure of the human or monkey brain are not convincing; much more work is needed to settle this important point.

Chronic relatively heavy use of marijuana is associated with behavioral dysfunction and mental disorders in human beings, but available evidence does not establish if marijuana use under these circumstances is a cause or a result of the mental condition. There are similar problems in interpreting the evidence linking the use of marijuana to subsequent use of other illicit drugs, such as heroin or cocaine. Association does not prove a causal relation, and the use of marijuana may merely be symptomatic of an underlying disposition to use psychoactive drugs rather than a "stepping stone" to involvement with more dangerous substances. It is also difficult to sort out the relationship between use of marijuana and the complex symptoms known as the amotivational syndrome. Self-selection and effects of the drug are probably both contributing to the motivational problems seen in some chronic users of marijuana.

Thus, the long-term effects of marijuana on the human brain and on human behavior remain to be defined. Although we have no convincing evidence thus far of any effects persisting in human beings after cessation of drug use, there may well be subtle but important physical and psychological consequences that have not been recognized.

EFFECTS ON THE CARDIOVASCULAR AND RESPIRATORY SYSTEMS

There is good evidence that the smoking of marijuana usually causes acute changes in the heart and circulation that are characteristic of stress, but there' is no evidence to indicate that a permanently deleterious effect on the normal cardiovascular system occurs. There is good evidence to show that marijuana increases the work of the heart, usually by raising heart rate and, in some persons, by raising blood pressure. This rise in workload poses a threat to patients with hypertension, cerebrovascular disease, and coronary atherosclerosis.

Acute exposure to marijuana smoke generally elicits broncho-dilation; chronic heavy smoking of marijuana causes inflammation and pre-neoplastic changes in the airways, similar to those produced by smoking of tobacco. Marijuana smoke is a complex mixture that not only has many chemical components (including carbon monoxide and "tar") and biological effects similar to those of tobacco smoke, but also some unique ingredients. This suggests the strong possibility that prolonged heavy smoking of marijuana, like tobacco, will lead to cancer of the respiratory tract and to serious impairment of lung function. Although there is evidence of impaired lung function in chronic smokers, no direct

confirmation of the likelihood of cancer has yet been provided, possibly because marijuana has been widely smoked in this country for only about 20 years, and data have not been collected systematically in other countries with a much longer history of heavy marijuana use.

EFFECTS ON THE REPRODUCTIVE SYSTEM AND ON CHROMOSOMES

Although studies in animals have shown that delta-9-THC (the major psychoactive constituent of marijuana) lowers the concentration in blood serum of pituitary hormones (gonadotropins) that control reproductive functions, it is not known if there is a direct effect on reproductive tissues. Delta-9-THC appears to have a modest reversible suppressive effect on sperm production in men, but there is no proof that it has a deleterious effect on male fertility. Effects on human female hormonal function have been reported, but the evidence is not convincing. However, there is convincing evidence that marijuana interferes with ovulation in female monkeys. No satisfactory studies of the relation between use of marijuana and female fertility and child-bearing have been carried out. Although delta-9-THC is known to cross the placenta readily and to cause birth defects when administered in large doses to experimental animals, no adequate clinical studies have been carried out to determine if marijuana use can harm the human fetus. There is no conclusive evidence of teratogenicity in human offspring, but a slowly developing or low-level effect might be undetected by the studies done so far. The effects of marijuana on reproductive function and on the fetus are unclear; they may prove to be negligible, but further research to establish or rule out such effects would be of great importance.

Extracts from marijuana smoke particulates ("tar") have been found to produce dose-related mutations in bacteria; however, delta-9-THC, by itself, is not mutagenic. Marijuana and delta-9-THC do not appear to break chromosomes, but marijuana may affect chromosome segregation during cell division, resulting in an abnormal number of chromosomes in daughter cells. Although these results are of concern, their clinical significance is unknown.

THE IMMUNE SYSTEM

Similar limitations exist in our understanding of the effects of marijuana on other body systems. For example, some studies of the immune system demonstrate a mild, immunosuppressant effect on human beings, but other studies show no effect.

THERAPEUTIC POTENTIAL

The committee also has examined the evidence on the therapeutic effects of marijuana in a variety of medical disorders. Preliminary studies suggest that marijuana and its derivatives or analogues might be useful in the treatment of the raised intraocular pressure of glaucoma. in the control of the severe nausea and vomiting caused by cancer chemotherapy. and in the treatment of asthma. There also is some preliminary evidence that a marijuana constituent (cannabidiol) might be helpful in the treatment of certain types of epileptic seizures. as well as for spastic disorders and other nervous system diseases. But in these and all other conditions much more work is needed. Because marijuana and delta-9-THC often produce troublesome psychotropic or cardiovascular side-effects that limit their therapeutic usefulness, particularly in older patients, the greatest therapeutic potential probably lies in the use of synthetic analogues of marijuana derivatives with higher ratios of therapeutic to undesirable effects.

THE NEED FOR MORE RESEARCH ON MARIJUANA

The explanation for all of these unanswered questions 'is insufficient research. We need to know much more about the metabolism of the various marijuana chemical compounds and their biologic effects. This will require many more studies in animals, with particular emphasis on subhuman primates. Basic pharmacologic information obtained in animal experiments will ultimately have to be tested in clinical studies on human beings.

Until 10 or 15 years ago, there was virtually no systematic, rigorously controlled research on the human health-related effects of marijuana and its major constituents. Even now, when standardized marijuana and pure synthetic cannabinoids are available for experimental studies, and good qualitative methods exist for the measurement of delta-9-THC and its metabolites in body fluids. Well-designed studies on human beings are relatively few. There are difficulties in studying the clinical effects of marijuana in human beings, particularly the effects of long-term use. And yet, without such studies the debate about the safety or hazard of marijuana will remain unresolved. Prospective cohort studies, as well as retrospective case-control studies, would be useful in identifying long-term behavioral and biological consequences of marijuana use.

The federal investment in research on the health-related effects of marijuana has been small, both in relation to the expenditure on other illicit drugs and in absolute terms. The committee considers the research particularly inadequate when viewed in light of the extent of marijuana use in this country, especially by young people. We believe there should be a greater investment in research on marijuana, and that investigator-initiated research grants should be the primary vehicle of support.

The committee considers all of the areas of research on marijuana that ate supported by the National Institute on Drug Abuse to be important, but we did not judge the appropriateness of the allocation of resources among those areas, other than to conclude that then' should be increased emphasis on studies in human beings 'and other primates. Recommendations for future research are presented at the end of Chapters 1-7 of this report.

CONCLUSIONS

The scientific evidence published to date indicates that marijuana has a broad range of psychological and biological effects, some of which, at least under certain conditions, are harmful to human health. Unfortunately, the available information does not tell us how serious this risk may be.

The major conclusion is that what little we know for certain about the effects of marijuana on human health--and all that we have reason to suspect--justifies serious national concern. Of no less concern is the extent of our ignorance ~bout many of the most basic and important questions about the drug. Our major recommendation is that there be a greatly intensified and more comprehensive program of research into the effects of marijuana on the health of the American people.

Appendix 6.

Marijuana and Health Research Update: Excerpts from Key Reports

By Jon Gettman, Ph.D.

Marijuana and Health Research Update: Excerpts from Key Reports
By Jon Gettman, Ph.D.

The National Research Council published "An Analysis of Marijuana Policy" in 1982. Their policy analysis was based in part on a then recent report on Marijuana and Health by the Institute of Medicine of the National Academy of Sciences, and the appendix of the NRC analysis contains a summary of this 1982 scientific review on the health effects of marijuana use. This appendix contains the complete summary of Marijuana and Health from the 1982 NRC report as well as reports on recent research findings on similar subjects.

Characteristic Effects of Marijuana (1999)

The Institute of Medicine reported in 1999 that: "The most commonly reported effects of smoked marijuana are a sense of well-being or euphoria and increased talkativeness and laughter alternating with periods of introspective dreaminess followed by lethargy and sleepiness. . . . A characteristic feature of a marijuana "high" is a distortion in the sense of time associated with deficits in short-term memory and learning. A marijuana smoker typically has a sense of enhanced physical and emotional sensitivity, including a feeling of greater interpersonal closeness. The most obvious behavioral abnormality displayed by someone under the influence of marijuana is difficulty in carrying on an intelligible conversation, perhaps because of an inability to remember what was just said even a few words earlier." [1]

Marijuana Potency (1973, 1975, 2001)

In Ravin v. State of Alaska, (1975) the Supreme Court of Alaska observed that: "Marijuana is the common term for dried leaves or stalk of the plant Cannabis sativa L. The primary psychoactive ingredient in the plant is delta-9-tetrahydrocannabinol (THC). Most marijuana available in the United States has a THC content of less than one percent. . . However, in smoking marijuana, the usual method of taking it in this country, the user can self-titrate, or control the amount taken in, since the effect builds up gradually." [2]

Higher potency marijuana was available in the United States at this time. In 1973 Gabriel Nahas reports that the THC content of drug-type cannabis ranges from 3.4 to 4.8%. [3] In 1975, before the emergence of high quality domestic marijuana cultivation in the U.S., John Langer of the DEA reports that: "Marihuana produced in the United States is considered inferior because of the low concentration of psychoactive ingredients, which varies between 0.2 and 2.0 percent. Marihuana of Mexican origin is known to be slightly stronger. The variety known as Jamaican ganja. . . has a THC content of 4 to 8 percent."[4]

In 2001 the Department of Health and Human Services reported that: " In the usual mixture of leaves and stems distributed as marijuana, the concentration of delta-9-THC ranges from 0.3 to 4.0 percent by weight. However, specially grown and selected marijuana can contain 15 percent or even more delta-9-THC." [5] In 2001 HHS also reported that: "An experienced marijuana smoker can titrate and regulate the dose to obtain the desired acute psychological effects and to avoid overdose and/or minimize undesired effects." [6]

Variability of Effects Upon Different Individuals (1975, 2001)

The Ravin Court reported in 1975 that: "Scientific testimony on the physiological and psychological effects of marijuana on humans generally stresses the variability of effects upon different individuals and on any one

individual at different times. The setting and psychological state of the user can affect his responses. Responses also vary with the amount of marijuana one has used in the past. A new user, for instance, often feels no effects at all."

In 2001 HHS reported that: " A smoker's experience is likely an important determinant of the dose that is actually absorbed. Venous blood levels of delta-9-THC or other cannabinoids correlate poorly with intensity of effects and character of intoxication." [7]

Tolerance to Marijuana (1993, 1999)

In 1993 Miles Herkenham and his team observed that: "[E]xperienced users are capable of consuming enormous quantities of the drug with few or no obvious ill effects. Scores in cognitive tasks, both in human and non-human primate studies, show a paucity of measurable effects associated with chronic use . . . tolerance to most psychoactive and physiological effects does occur in humans when high doses are administered daily." [8]

According to the1999 Institute of Medicine report: "Tolerance to most of the effects of marijuana can develop rapidly after only a few doses, and it also disappears rapidly. Tolerance to large doses has been found to persist in experimental animals for long periods after cessation of drug use. Performance impairment is less among people who use marijuana heavily than it is among those who use marijuana only occasionally." [9]

National Research Council (1982): Description of 1982 IOM Study

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This assessment of knowledge of the health-related effects of marijuana is important and timely because marijuana is now the most widely used of all the illicit drugs available in the United States. In 1979, more than 50 million persons had tried it at least once. There has been a steep rise in its use during the past decade, particularly among adolescents and young adults, although there has been a leveling-off in its overall use among high school seniors in the past 2 or 3 years and a small decline in the percentage of seniors who use it frequently.

Marijuana Use (2002)

In 2002 the National Survey on Drug Use and Health reported that 95 million Americans have used marijuana at least once, including 54% of adults age 18 to 25. In 2002 the National Survey on Drug Use reported that 12.2% of past year marijuana users used the drug daily or almost daily, approximately 3.1 million users, or 3.2% of all individuals who have tried marijuana at least once in their lifetime.

National Research Council (1982): Concern over Daily Marijuana Use

Although substantially more high school students have used alcohol than have ever used marijuana, more high school seniors use marijuana on a daily or near-daily basis (9 percent) than alcohol (6 percent).

Comparison of Monthly Marijuana Use in 1975 and 2001

The Ravin Court noted in 1975 that: "The most serious risk to the public health discerned by the [1972] National Commission [on Marihuana and Drug Abuse] is the possibility of an increase in the number of heavy users, who now constitute about 2% (500,000) of those who have used the drug. Within this group certain emotional changes have been observed among "predisposed individuals" as a result of prolonged heavy use. This group seems to carry the highest risk, particularly in view of the risk of retarding social adjustment among adolescents if heavy use should grow."

According to the 1976 Sourcebook of Criminal Justice Statistics 5% of the population in 1975 were current (monthly) marijuana users.9 According to the National Survey on Drug Use and Health in 2001 monthly marijuana use was reported by 5.4% of the population age 12 to 17.. [11]

National Research Council (1982): Reasons for Concern Over Heavy Marijuana Use

Much of the heavy use of marijuana, unlike alcohol, takes place in school, where effects on behavior, cognition, and psychomotor performance can be particularly disturbing. Unlike alcohol, which is rapidly metabolized and eliminated from the body, the psychoactive components of marijuana persist in the body for a long time. Similar to alcohol, continued use of marijuana may cause tolerance and dependence. For all these reasons, it is imperative that we have reliable and detailed information about the effects of marijuana use on health, both in the long and short term.

What, then, did we learn from our review of the published scientific literature? Numerous acute effects have been described in animals, in isolated cells and tissues, and in studies of human volunteers; clinical and epidemiological observations also have been reported. This information is briefly summarized in the following paragraphs.

National Research Council (1982): Effects On The Nervous System And On Behavior

We can say with confidence that marijuana produces acute effects on the brain, including chemical and electrophysiological changes. Its most clearly established acute effects are on mental functions and behavior. With a severity directly related to dose, marijuana impairs motor coordination and affects tracking ability and sensory and perceptual functions important for safe driving and the operation of other machines; it also impairs short-term memory and slow' learning. Other acute effects include feelings of euphoria and other mood changes, but there also are disturbing mental phenomena, such as brief periods of anxiety, confusion, or psychosis.

Marijuana, Driving, and Psychomotor Performance (1998 - 1999)

Hollister's conclusion in 1998 was that: "Cannabis alone does not contribute substantially to automobile accidents. Alcohol, much more widely used, remains the main culprit. By and large use of cannabis preceding driving should be discouraged. The old admonition, 'If you

drink, don't drive' applies fully to cannabis use." [12]

The Institute of Medicine reported in 1999 that "Marijuana administration has been reported to affect psychomotor performance on a number of tasks. . . Cognitive impairments associated with acutely administered marijuana limit the activities that people would be able to do safely or productively. For example, no one under the influence of marijuana or THC should drive a vehicle or operate potentially dangerous equipment." [13]

The Institute of Medicine reported in 1999 that: "For most people the primary adverse effect of acute marijuana use is diminished psychomotor performance. It is, therefore, inadvisable to operate any vehicle or potentially dangerous equipment while under the influence of marijuana, THC, or any cannabinoid drug with comparable effects. In addition, a minority of marijuana users experience dysphoria, or unpleasant feelings.

Adverse Mood Reactions to Marijuana (1999)

The Institute of Medicine reported in 1999 that: "Although euphoria is the more common reaction to smoking marijuana, adverse mood reactions can occur. Such reactions occur most frequently in inexperienced users after large doses of smoked or oral marijuana. They usually disappear within hours and respond well to reassurance and a supportive environment. Anxiety and paranoia are the most common acute adverse reactions; others include panic, depression, dysphoria, depersonalization, delusions, illusions, and hallucinations. Of regular marijuana smokers, 17% report that they have experienced at least one of the symptoms, usually early in their use of marijuana. Those observations are particularly relevant for the use of medical marijuana in people who have not previously used marijuana." [14]

National Research Council (1982): Marijuana Effects on the Brain

There is not yet any conclusive evidence as to whether prolonged use of marijuana causes permanent changes in the nervous system or sustained impairment of brain function and behavior in human beings. In a few unconfirmed studies in experimental animals, impairment of learning and changes in electrical brain-wave recordings have been observed several months after the cessation of chronic administration of marijuana. In the judgment of the committee, widely cited studies purporting to demonstrate that marijuana affects the gross and microscopic structure of the human or monkey brain are not convincing; much more work is needed to settle this important point.

Marijuana and the Brain (1998, 1999)

Hollister concluded in 1998 that "the notion of a specific 'cannabis psychosis' has found no support . . . it remains unclear whether chronic use of cannabis might precipitate an episode of schizophrenia in persons predisposed to that disorder." [15]

The Institute of Medicine reported in 1999 that: " A major question remains as to whether marijuana can produce lasting mood disorders or psychotic disorders, such as schizophrenia. . . . Hollister suggests that, because of the varied nature of the psychotic states induced by marijuana, there is no specific "marijuana psychosis." Rather, the marijuana experience might trigger latent psychopathology of many types. More recently, Hall and colleagues concluded that "there is reasonable evidence that heavy cannabis use, and perhaps acute use in sensitive individuals, can produce an acute

psychosis in which confusion, amnesia, delusions, hallucinations, anxiety, agitation and hypomanic symptoms predominate." Regardless of which of those interpretations is correct. . . there is little evidence that marijuana alone produces a psychosis that persists after the period of intoxication." [16]

National Research Council (1982): Chronic Use, Stepping Stone Hypothesis, and the Amotivational Syndrome.

Chronic relatively heavy use of marijuana is associated with behavioral dysfunction and mental disorders in human beings, but available evidence does not establish if marijuana use under these circumstances is a cause or a result of the mental condition. There are similar problems in interpreting the evidence linking the use of marijuana to subsequent use of other illicit drugs, such as heroin or cocaine. Association does not prove a causal relation, and the use of marijuana may merely be symptomatic of an underlying disposition to use psychoactive drugs rather than a "stepping stone" to involvement with more dangerous substances. It is also difficult to sort out the relationship between use of marijuana and the complex symptoms known as the amotivational syndrome. Self-selection and effects of the drug are probably both contributing to the motivational problems seen in some chronic users of marijuana.

Marijuana and Lack of Motivation (1998, 1999)

Hollister reported in 1998 that "Loss of initiative and motivation have been observed clinically among chronic users of cannabis. It is doubtful that such a syndrome is unique to cannabis rather it might be expected from intoxication with any sedative drug, such as alcohol. Thus it has been difficult to establish that any decrease in motivation among chronic users of cannabis is due to drug use per se." [17]

The Institute of Medicine reported in 1999 that: " One of the more controversial effects claimed for marijuana is the production of an "amotivational syndrome." This syndrome is not a medical diagnosis, but it has been used to describe young people who drop out of social activities and show little interest in school, work, or other goal-directed activity. When heavy marijuana use accompanies these symptoms, the drug is often cited as the cause, but no convincing data demonstrate a causal relationship between marijuana smoking and these behavioral characteristics. It is not enough to observe that a chronic marijuana user lacks motivation. Instead, relevant personality traits and behavior of subjects must be assessed before and after the subject becomes a heavy marijuana user." [18]

Marijuana and the Gateway Theory (1999)

The Institute of Medicine reported in 1999 that: "Many of the data on which the gateway theory is based do not measure dependence; instead, they measure use--even once-only use. Thus, they show only that marijuana users are more likely to use other illicit drugs (even if only once) than are people who never use marijuana, not that they become dependent or even frequent users. The authors of these studies are careful to point out that their data should not be used as evidence of an inexorable causal progression; rather they note that identifying stage-based user groups makes it possible to identify the specific risk factors that predict movement from one stage of drug use to the next--the real issue in the gateway discussion" [19]

"In the sense that marijuana use typically precedes rather than follows initiation into the use of other illicit drugs, it is indeed a gateway drug. However, it does not appear

to be a gateway drug to the extent that it is the cause or even that it is the most significant predictor of serious drug abuse; that is, care must be taken not to attribute cause to association. The most consistent predictors of serious drug use appear to be the intensity of marijuana use and co-occurring psychiatric disorders or a family history of psychopathology (including alcoholism)." [20]

Marijuana and Dependency (1998, 1999)

Hollister concluded in 1998 that "THC is not self-administered by animals, the usual case with dependence-producing drugs. Some degree of tolerance, dependence, and mild withdrawal symptoms has been reported. On the whole, these alterations are much less prominent than those associated with licit social drugs such as alcohol or nicotine." [21]

The Institute of Medicine reported in 1999 that: "Few marijuana users become dependent on it, but those who do encounter problems similar to those associated with dependence on other drugs. Dependence appears to be less severe among people who use only marijuana than among those who abuse cocaine or those who abuse marijuana with other drugs (including alcohol)." [22]

National Research Council (1982): Conclusions on Marijuana's Long Term Effects

Thus, the long-term effects of marijuana on the human brain and on human behavior remain to be defined. Although we have no convincing evidence thus far of any effects persisting in human beings after cessation of drug use, there may well be subtle but important physical and psychological consequences that have not been recognized.

National Research Council (1982): Effects On The Cardiovascular And Respiratory Systems

There is good evidence that the smoking of marijuana usually causes acute changes in the heart and circulation that are characteristic of stress, but there' is no evidence to indicate that a permanently deleterious effect on the normal cardiovascular system occurs. There is good evidence to show that marijuana increases the work of the heart, usually by raising heart rate and, in some persons, by raising blood pressure. This rise in workload poses a threat to patients with hypertension, cerebrovascular disease, and coronary atherosclerosis.

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Chronic Effects of Marijuana (1999)

The Institute of Medicine reported in 1999 that : "The chronic effects of marijuana

are of greater concern for medical use and fall into two categories: the effects of chronic smoking and the effects of THC. Marijuana smoking is associated with abnormalities of cells lining the human respiratory tract. Marijuana smoke, like tobacco smoke, is associated with increased risk of cancer, lung damage, and poor pregnancy outcomes. Although cellular, genetic, and human studies all suggest that marijuana smoke is an important risk factor for the development of respiratory cancer, proof that habitual marijuana smoking does or does not cause cancer awaits the results of well-designed studies." [23]

National Research Council (1982): Effects On The Reproductive System And On Chromosomes

Although studies in animals have shown that delta-9-THC (the major psychoactive constituent of marijuana) lowers the concentration in blood serum of pituitary hormones (gonadotropins) that control reproductive functions, it is not known if there is a direct effect on reproductive tissues. Delta-9-THC appears to have a modest reversible suppressive effect on sperm production in men, but there is no proof that it has a deleterious effect on male fertility. Effects on human female hormonal function have been reported, but the evidence is not convincing. However, there is convincing evidence that marijuana interferes with ovulation in female monkeys. No satisfactory studies of the relation between use of marijuana and female fertility and child-bearing have been carried out. Although delta-9-THC is known to cross the placenta readily and to cause birth defects when administered in large doses to experimental animals, no adequate clinical studies have been carried out to determine if marijuana use can harm the human fetus. There is no conclusive evidence of teratogenicity in human offspring, but a slowly developing or low-level effect might be undetected by the studies done so far. The effects of marijuana on reproductive function and on the fetus are unclear; they may prove to be negligible, but further research to establish or rule out such effects would be of great importance.

Extracts from marijuana smoke particulates ("tar") have been found to produce dose-related mutations in bacteria; however, delta-9-THC, by itself, is not mutagenic. Marijuana and delta-9-THC do not appear to break chromosomes, but marijuana may affect chromosome segregation during cell division, resulting in an abnormal number of chromosomes in daughter cells. Although these results are of concern, their clinical significance is unknown.

Marijuana and Cellular Abnormalities (1998)

According to a 1998 review by Leo Hollister: "Many older concerns about adverse effects on health (chromosomal damage, cannabinol psychosis, endocrine abnormalities, cardiac events, impaired immunity) no longer seem to elicit much interest. . . it appears that [reported adverse effects] have been limited to somatic cells where the clinical consequences might be quite subtle and not easily detected. . . Chromosomal damage has not been studied further. The aberrations previously noted are common to other widely-used drugs and seem to be of no clinical significance." [24]

National Research Council (1982): The Immune System

Similar limitations exist in our understanding of the effects of marijuana on other body systems. For example, some studies of the immune system demonstrate a mild, immunosuppressant effect on human beings, but other studies show no effect.

Marijuana and the Immune System (1998, 1999)

Hollister also concludes that "Adverse effects on the immune system have neither accelerated the progress of AIDS nor have they had any other clinical significance." [25] The Institute of Medicine also reported in 1999 that: "Cannabinoids, especially THC, can modulate the function of immune cells in various ways--in some cases enhancing and in others diminishing the immune response . . . Although the chronic effects of cannabinoids on the immune system have not been studied, based on acute exposure studies in experimental animals it appears that THC concentrations that modulate immunological responses are higher than those required for psycho-activity." [26]

Hollister also reported that "Endocrine abnormalities, both in men and women, were previously reported but not investigated further. Their clinical significance is also questionable." [27] However Holllister also concluded that "Marijuana use during pregnancy results in shorter and smaller offspring, similar to the effects of tobacco smoking." [28] The Institute of Medicine also reported in 1999 that : "THC inhibits reproductive functions. However, studies of men and women who use marijuana regularly have yielded conflicting results and show either depression of reproductive hormones, no effect, or only a short-term effect. . . . In brief, although there are no data on fertility itself, marijuana or THC would probably decrease human fertility--at least in the short term--for both men and women. And it is reasonable to predict that THC can interfere with early pregnancy, particularly with implantation of the embryo. Like tobacco smoke, marijuana smoke is highly likely to be harmful to fetal development and should be avoided by pregnant women and those who might become pregnant in the near future." [29]

The 1999 IOM report concluded that: "the short-term immunosuppressive effects are not well established but, if they exist, are not likely great enough to preclude a legitimate medical use." [30]

National Research Council (1982): Therapeutic Potential Of Marijuana

The committee also has examined the evidence on the therapeutic effects of marijuana in a variety of medical disorders. Preliminary studies suggest that marijuana and its derivatives or analogues might be useful in the treatment of the raised intraocular pressure of glaucoma. in the control of the severe nausea and vomiting caused by cancer chemotherapy, and in the treatment of asthma. There also is some preliminary evidence that a marijuana constituent (cannabidiol) might be helpful in the treatment of certain types of epileptic seizures. as well as for spastic disorders and other nervous system diseases. But in these and all other conditions much more work is needed. Because marijuana and delta-9-THC often produce troublesome psychotropic or cardiovascular side-effects that limit their therapeutic usefulness, particularly in older patients, the greatest therapeutic potential probably lies in the use of synthetic analogues of marijuana derivatives with higher ratios of therapeutic to undesirable effects.

Institute of Medicine (1999): Medical Value of Marijuana

"The argument against the future of smoked marijuana for treating any condition is not that there is no reason to predict efficacy but that there is risk. . .

"Patients who are currently suffering from debilitating conditions unrelieved by legally

available drugs, and who might find relief with smoked marijuana, will find little comfort in a promise of a better drug 10 years from now . . . This presents a policy issue that must weight - at least temporarily- the needs of individual patients against broader social issues. . .

"Scientific data indicate that the potential therapeutic value of cannabinoid drugs, primarily THC, for pain relief, control of nausea and vomiting, and appetite stimulation; smoked mariuana, however, is a crude THC delivery system that also delivers harmful substances." [31]

National Research Council (1982): The Need For More Research On Marijuana

The explanation for all of these unanswered questions 'is insufficient research. We need to know much more about the metabolism of the various marijuana chemical compounds and their biologic effects. This will require many more studies in animals, with particular emphasis on subhuman primates. Basic pharmacologic information obtained in animal experiments will ultimately have to be tested in clinical studies on human beings.

Until 10 or 15 years ago, there was virtually no systematic, rigorously controlled research on the human health-related effects of marijuana and its major constituents. Even now, when standardized marijuana and pure synthetic cannabinoids are available for experimental studies, and good qualitative methods exist for the measurement of delta-9-THC and its metabolites in body fluids. Well-designed studies on human beings are relatively few. There are difficulties in studying the clinical effects of marijuana in human beings, particularly the effects of long-term use. And yet, without such studies the debate about the safety or hazard of marijuana will remain unresolved. Prospective cohort studies, as well as retrospective case-control studies, would be useful in identifying long-term behavioral and biological consequences of marijuana use.

The federal investment in research on the health-related effects of marijuana has been small, both in relation to the expenditure on other illicit drugs and in absolute terms. The committee considers the research particularly inadequate when viewed in light of the extent of marijuana use in this country, especially by young people. We believe there should be a greater investment in research on marijuana, and that investigator-initiated research grants should be the primary vehicle of support.

The committee considers all of the areas of research on marijuana that are supported by the National Institute on Drug Abuse to be important, but we did not judge the appropriateness of the allocation of resources among those areas, other than to conclude that then' should be increased emphasis on studies in human beings 'and other primates. Recommendations for future research are presented at the end of Chapters 1-7 of this report.

National Research Council (1982): Conclusions

The scientific evidence published to date indicates that marijuana has a broad range of psychological and biological effects, some of which, at least under certain conditions, are harmful to human health. Unfortunately, the available information does not tell us how serious this risk may be.

The major conclusion is that what little we know for certain about the effects of marijuana on human health--and all that we have reason to suspect--justifies serious national concern. Of no less concern is the

extent of our ignorance about many of the most basic and important questions about the drug. Our major recommendation is that there be a greatly intensified and more comprehensive program of research into the effects of marijuana on the health of the American people.

Notes:

[1] Institute of Medicine. (1999) Janet E. Joy, Stanley J. Watson, Jr., and John A. Benson, Jr., Editors. Marijuana and Medicine, Assessing the Science Base. Washington, D.C.: National Academy Press. pgs. 83-84. **http://www.nap.edu/**

[2] Ravin v. State of Alaska. 537 P.2d 494 (Alaska, 1975). http://www.druglibrary.org/schaffer/legal/l1970/ravin.htm

[3] Nahas, G., Marihuana-Deceptive Weed. New York: Raven Press, 1973. pg. 78.

[4] Langer, J. Drugs of Abuse. Drug Enforcement Magazine. Spring, 1975. Vol. 2, No. 2. pg. 8-33. pg. 27.

[5] Department of Health and Human Services. Notice of Denial of Petition. Federal Register Vol. 66. pg 20045. April 18, 2001. **http://www.gpoaccess.gov/fr/index.html**

[6] Department of Health and Human Services. Notice of Denial of Petition. Federal Register Vol. 66. pg 20046. April 18, 2001. **http://www.gpoaccess.gov/fr/index.html**

[7] Department of Health and Human Services. Notice of Denial of Petition. Federal Register Vol. 66. pg 20046. April 18, 2001. **http://www.gpoaccess.gov/fr/index.html**

[8] Oviedo, A., Glowa, J, and Herkenham, M. (1993), "Chronic cannabinoid administration alters cannabinoid receptor binding in rat brain: a quantitative autoradiographic study." Brain Research, 616:293-302. pg 293.

[9] Institute of Medicine (1999) pg 89.

[10] Bureau of Justice Statistics. Sourcebook of Criminal Justice Statistics - 1975. Table 3.3. Pg 166.

[11] Results from the 2002 National Survey on Drug Use and Health: National Findings (Office of Applied Studies [OAS], 2003. http://www.samhsa.gov/oas/nhsda.htm#NHSDAinfo

[12] Hollister, L.E. (1998) Health Aspects of Cannabis: Revisited. Int J Neuropsychopharmacol. 1998 Jul;1(1):71-80. pg 77.

[13] Institute of Medicine (1999) pg 107.

[14] Institute of Medicine (1999) pg 84.

[15] Hollister (1998) pg 76.

[16] Institute of Medicine (1999) pgs 105-106.

[17] Hollister (1998) pg 74.

[18] Institute of Medicine (1999) pgs 107-108.

[19] Institute of Medicine (1999) pg 100.

[20] Institute of Medicine (1999) pgs 100-101.

[21] Hollister (1998) pg 77.

[22] Institute of Medicine (1999) pgs 96-97.

[23] Institute of Medicine. (1999) pg 5.

[24] Hollister (1998). Pgs. 71, 76.

[25] Hollister (1998) Pg. 76.

[26] Institute of Medicine (1999) Pg 59.

[27] Hollister (1998) Pg. 76.

[28] Hollister (1998) Pg. 77.

[29] Institute of Medicine (1999) Pg 123.

[30] Institute of Medicine (1999) pg. 5.

[31] Institute of Medicine (1999) pg 178 - 179.