

SUBSTANCE ABUSE AND NEED FOR TREATMENT IN MARYLAND

**Results of a Telephone Survey Conducted as Part of the Maryland
State Demand and Needs Assessment Studies**

by

Kenneth R. Petronis and Eric D. Wish

January 1996

Funded by the Center for Substance Abuse
Treatment, Substance Abuse and Mental Health Services
Administration, Department of Health and Human Services

**SUBSTANCE ABUSE AND NEED FOR TREATMENT
IN MARYLAND**

Conducted by

**Center for Substance Abuse Research (CESAR)
University of Maryland at College Park**

for

Maryland Alcohol and Drug Abuse Administration

January 1996

Center for Substance Abuse Research (CESAR)
University of Maryland
4321 Hartwick Road, Suite 501
College Park, MD 20740
Telephone: 301-403-8329
Fax: 301-403-8342

ABSTRACT

Maryland is one of many states that have been funded by the federal Center for Substance Abuse Treatment (CSAT) to conduct a family of studies designed to assess the need for drug treatment statewide. The Center for Substance Abuse Research is conducting these studies for Maryland's Alcohol and Drug Abuse Administration. One of the studies is a telephone survey of alcohol and drug dependence among the adult household population of Maryland.

The Survey Research Center of the University of Maryland administered a statewide telephone survey designed by CESAR to a randomly selected sample of adults in Maryland. The overall response rate was 80%, which resulted in a final sample size of 5,095 interviews. Data were collected in two waves.

The first wave of interviews was conducted between July 1993 and January 1994, the second wave between August and November 1994. CESAR used a modified version of the standard questionnaire developed by the National Technical Center for Substance Abuse Needs Assessment, the coordinating center contracted by CSAT to assist the states with their needs assessment studies. The primary objectives of the telephone survey were (1) to produce estimates of the extent of alcohol and drug use among the general adult population of Maryland and (2) to provide estimates of the need for and past use of drug and alcohol treatment services among this population.

Among adults residing in Maryland households accessible by telephone during 1993-94, 5.6% were diagnosed as dependent on or abusive of one or more of the five drugs studied--alcohol, marijuana, cocaine, hallucinogens, or opiates--during the 18 months prior to interview. By extension, 202,677 adult Marylanders were in need of treatment for one or more of these five substances during 1993-94. The majority of this need, 177,342 adult Marylanders, was for alcohol treatment. Need for marijuana or cocaine treatment was found for, respectively, 36,192 and 21,715 adult Marylanders.

Of the 5.6% of respondents diagnosed as dependent/abusive, only about half thought they had a problem that required treatment for the respective substance. Of all respondents, 3.1% reported having ever received alcohol or drug treatment, and 0.7% reported that they had been in treatment during the year prior to interview.

The rates of dependence/abuse found in the general population of Maryland are lower than previously reported national rates. Nonetheless, we believe that the responses to the survey were generally truthful: Ninety percent of all respondents said they would have admitted an alcohol problem if they had one and 88% said they would have admitted using cocaine or heroin on ten or more occasions if they had done so. The statistics reported herein, therefore, provide pertinent information on the treatment needs of the adult Maryland household population. The results may be viewed as conservative estimates of the minimum amount of treatment needed. The actual amount of treatment needed in Maryland is likely to be much higher and will be more completely reflected by estimates that combine the estimates from the telephone survey and those obtained from

studies of other components of the state population. The combined estimates will be calculated in the final project of the family of studies that constitute the Maryland CSAT Treatment Needs Assessment.

CONTENTS

	Page
ABSTRACT	iii
ACKNOWLEDGMENTS	ix
1. INTRODUCTION	1
Data Collection	1
Estimating Need for Treatment	2
Diagnosing Dependence and Abuse	2
Survey Limitations	3
Why the Survey Estimates May Appear Low	4
2. RESULTS: STATEWIDE	5
Demographic Characteristics	5
General Health	5
Alcohol Use Patterns	6
Drug Use Patterns	9
Dependence Diagnoses Statewide	12
Diagnosed Individuals--Do They Think They Have a Problem?	15
Multiple Diagnoses	15
Use of Treatment Services	16
3. RESULTS: REGIONAL	19
General Description of Regions	19
Regional Comparisons of Dependence/Abuse Rates	19
Use of Treatment Services, by Region	23
4. DISCUSSION	27
Appendix A: Rates of Substance Use and Dependence/Abuse	
Appendix B: Survey Methods	
Sample	B-1
Questionnaire and Data Collection	B-2
Survey Rates	B-3
Sample Weights	B-4
Standard Errors	B-5

TABLES AND FIGURES

	Page
Table 1	Percentage of Drinkers Who Experienced Alcohol-Related Problems 8
Table 2	Respondents' Income, Race, Education, Age, and Sex, by Region, Overall State, and 1990 Census 21
Figure 1	Frequency of Marijuana Use and Most Recent Time Used: Maryland 1993-94 10
Figure 2	Frequency of Drug Use and Most Recent Time Used Among Drug "Users": Maryland, 1993-94 13
Figure 3	Estimated Percentage and Number of Adults with DIS Diagnosis of Dependence/Abuse During the Past 18 Months: Maryland, 1993-94 14
Figure 4	Percentage of Adults with a DIS Diagnosis of Dependence/Abuse During the Past 18 Months Who Felt They Had a Problem: Maryland, 1993-94 16
Figure 5	Combinations of Diagnoses of Dependence/Abuse: Maryland, 1993-94 17
Figure 6	The Six Regions of Maryland 20
Figure 7	Alcohol Dependence/Abuse During the Past 18 Months, by Region of Maryland, 1993-94 23
Figure 8	Marijuana Dependence/Abuse During the Past 18 Months, by Region of Maryland, 1993-94 24
Figure 9	Cocaine Dependence/Abuse During the Past 18 Months, by Region of Maryland, 1993-94 25
Figure 10	Use of Treatment Services, by Region of Maryland 26
Figure 11	Comparison of Estimates from the Maryland Telephone Survey (NCS), and the Epidemiologic Catchment Area (ECA) Study 28

APPENDIX TABLES

Table A1 Lifetime, Past 18 Months, and Past Month Rates of Substance Use Among Adults Aged 18 and Older, Maryland, 1993-94

A1.A	Maryland
A1.B	Western Maryland
A1.C	D.C. Metro Area
A1.D	Southern Maryland
A1.E	Baltimore City
A1.F	Eastern Shore
A1.G	Central Maryland

Table A2 Rates of Lifetime Substance Use, by Demographic Groups, Among Adults Aged 18 and Older, Maryland, 1993-94

A2.A	Maryland
A2.B	Western Maryland
A2.C	D.C. Metro Area
A2.D	Southern Maryland
A2.E	Baltimore City
A2.F	Eastern Shore
A2.G	Central Maryland

Table A3 Rates of Substance Use During the Past 18 Months, by Demographic Groups, Among Adults Aged 18 and Older, Maryland, 1993-94

A3.A	Maryland
A3.B	Western Maryland
A3.C	D.C. Metro Area
A3.D	Southern Maryland
A3.E	Baltimore City
A3.F	Eastern Shore
A3.G	Central Maryland

Table A4 Rates of Substance Dependence/Abuse During Past 18 Months, by Demographic Groups, Among Adults Aged 18 and Older, Maryland, 1993-94

A4.A	Maryland
A4.B	Western Maryland
A4.C	D.C. Metro Area
A4.D	Southern Maryland
A4.E	Baltimore City
A4.F	Eastern Shore
A4.G	Central Maryland

Table B1 Final Sample Disposition: Total Sample B-4

Table B2 Completed Interviews, by Region B-5

Table B3 Standard Error of Percentages: Statewide Estimates B-7

Table B4 Standard Error of Percentages: Western Maryland Estimates B-8

Table B5 Standard Error of Percentages: DC Metro Area Estimates B-8

Table B6 Standard Error of Percentages: Southern Maryland Estimates B-9

Table B7 Standard Error of Percentages: Baltimore City Estimates B-9

Table B8 Standard Error of Percentages: Eastern Shore Estimates B-10

Table B9 Standard Error of Percentages: Central Maryland Estimates B-10

ACKNOWLEDGMENTS

This report would have not been possible without the cooperation and support of the Alcohol and Drug Abuse Administration of the state of Maryland. Mr. William Rusinko has served as the ideal project manager throughout the Maryland CSAT Needs Assessment study. Thanks also to the staff of the Survey Research Center of the University of Maryland at College Park, without whom the survey data could not have been collected. The invaluable editorial assistance of Jean Shirhall is gratefully acknowledged, as are the graphics skills of Bernadine Douglas and Sheree Van Vreede.

1. INTRODUCTION

The Maryland telephone survey is one of a family of treatment needs assessment studies being conducted by CESAR for Maryland's Alcohol and Drug Abuse Administration with funding from the federal Center for Substance Abuse Treatment (CSAT).¹ The telephone survey was designed (1) to produce estimates of the extent of alcohol and drug use among the general adult population of Maryland and (2) to provide reliable estimates of drug dependence/abuse and need for treatment statewide and in each of the six regions in the state.

The survey data are similar to those obtained by the National Household Survey on Drug Abuse, conducted for the Substance Abuse and Mental Health Services Administration (SAMHSA), but specifically for the state of Maryland during the period 1993-94. The Maryland survey went further than SAMHSA's survey, however, by also making extensive inquiries about drug use behaviors so that diagnoses of dependence and abuse and estimates of the need for treatment could be generated from the data.

DATA COLLECTION

The Survey Research Center of the University of Maryland at College Park conducted telephone interviews with 5,095 Maryland adults between July 1993 and November 1994. The target population of the survey was adults aged 18 and older residing in households accessible by telephone.

Data collection occurred in two waves and the first wave was divided into two stages. During the first stage of wave one, all telephone households in Maryland were eligible. For the second stage, of the 23 counties and Baltimore City (hereafter 24 counties), Baltimore City, Prince George's County, and Washington County were selected for oversampling. A total of 2,553 interviews with adult Maryland residents were completed in wave one, 1,001 during the first stage and 1,552 during the second. For the second wave, the state was divided into six regions.² The second wave of data collection yielded 2,542 interviews. The goal of the overall sample design was to complete approximately 700 interviews per region, including interviews from the first wave. The overall response rate was 80%, which resulted in a final sample size of 5,095 interviews.

The survey instrument that was employed was a slightly modified version of the questionnaire developed by the National Technical Center for Substance Abuse Needs

¹Other studies are assessing the level of drug abuse and need for treatment among adult arrestees and juvenile detainees, callers to crisis hotlines in Maryland, and injection drug users in Baltimore City. A final study will employ statistical modeling techniques that combine data from the preceding studies to provide estimates of the overall need for drug treatment in Maryland.

²See Appendix B for a description of the six regions.

Assessment (NTC), the coordinating center contracted by CSAT to assist the states with their telephone surveys and other needs assessment studies. The instrument measures the prevalence of the use of and dependence/abuse of marijuana (including hashish), cocaine (including crack), hallucinogens (including PCP), heroin and other opiates, and alcohol. Respondents were also asked if they have used sedatives that were not prescribed for them. This report summarizes the study's key findings for Maryland as a whole and for each of its six regions.

ESTIMATING NEED FOR TREATMENT

In this study, need for treatment for a substance was determined by estimating the number of people who are dependent on or abusive of that substance. The guiding principle is that if someone is dependent or abusive that person needs treatment for that substance. For each survey respondent, the survey questions can be used to determine if that person is diagnosably dependent on or abusive of any of the five substances being studied.

DIAGNOSING DEPENDENCE AND ABUSE

To estimate the number of persons dependent on or abusive of each substance, the survey questionnaire included questions from the alcohol and drug dependence modules of the Diagnostic Interview Schedule (DIS). The DIS is a structured interview used to diagnose alcohol and drug dependence/abuse, as well as mental disorders. To permit diagnoses, the DIS operationalizes the nine criteria set out in the *Diagnostic and Statistical Manual of Mental Disorders, Version III Revised (DSM-III-R)*, published by the American Psychiatric Association (1987:167-168). The nine DSM-III-R criteria are as follows:

1. Use larger amounts or for a longer period than intended;
2. Persistent desire for or unable to cut down on use;
3. Considerable time spent using or obtaining the substance;
4. Frequent intoxication or withdrawal symptoms when expected to fulfill major obligations at work, school, or home;
5. Reduced social, work, recreational activities due to use;
6. Continued use despite knowing a persistent social, psychological or physical problem has developed from use;
7. Tolerance--need more to achieve same effect;
8. Characteristic withdrawal symptoms; and

9. Substance often taken to relieve withdrawal symptoms.

For each of the DSM-III-R criteria, multiple questions are asked in order to determine if the respondent has experienced symptoms related to any of the criteria. If a respondent answers in a way that indicates he or she has experienced symptoms related to three or more of the nine criteria, the respondent is considered to have had a *diagnosable dependence* on the respective substance according to DSM-III-R criteria at some point during his or her *lifetime*.

Following guidelines issued by the NTC, respondents who reported use of the drug and the occurrence of one or more of the symptoms related to the nine criteria during the past 18 months are considered to have had a *diagnosable dependence during the past 18 months*. A respondent is considered to need treatment if he or she qualified for this 18-month diagnosis of dependence. The definition of 18-month dependence used in this survey is somewhat more inclusive than the usual period-specific definition of dependence (three or more symptoms of dependence active during the period), but it is more appropriate for the purpose of treatment needs assessment.³

To qualify for a *diagnosis of lifetime abuse*, a subject must report ever having had symptoms related to criterion 6 above or to a separate criterion--recurrent use when physically hazardous to self or others. A respondent is considered to need treatment if he or she qualifies for an *18-month diagnosis of abuse* (lifetime abuse and one of the abuse symptoms active during the past 18 months).⁴

SURVEY LIMITATIONS

The survey was designed to estimate the need for treatment among a specific population for whom relevant information is not generally available. This specific population consists only of adult residents of Maryland who live in a household in which they can be contacted by telephone. Children and adolescents, people who cannot claim Maryland as their state of residence, and people who do not have a telephone are not included in these estimates of need for treatment. In addition, some people likely to need treatment are not included in the survey. For example, people who reside in institutions cannot be directly contacted by telephone. This means that persons living in residential rehabilitation facilities, halfway houses, psychiatric hospitals, and prisons are not included in the survey estimates of need for treatment.

The Maryland telephone survey results may be viewed as conservative estimates of the minimum amount of treatment needed. The actual amount of treatment needed in Maryland is likely to be much higher and will be more completely reflected by estimates

³N. Mulvaney, "Scoring Mechanism for DSM-III-R Diagnosis of Substance Dependence and Abuse," in National Technical Center for Substance Abuse Needs Assessment, *Assessment of Substance Dependence Treatment Needs*, Cambridge, Mass., 1994.

⁴Ibid.

that combine the estimates from the telephone survey and those obtained from studies of other components of the state population. The combined estimates will be calculated in the final project of the family of studies that constitute the Maryland CSAT Treatment Needs Assessment.

WHY THE SURVEY ESTIMATES MAY APPEAR LOW

The survey assesses need among a population that does not generally appear in other sources of treatment statistics. Slightly more than 3% of the respondents in this sample reported having ever received substance abuse treatment in their lifetime. Although the estimates of alcohol/drug use and dependence/abuse may appear low, one must keep in mind that they refer to a general household population.

There are other reasons why the survey estimates may appear low. The responses were obtained by telephone and they were self-reported. Telephone surveys have been shown to obtain lower estimates of drug use than in-person interviews.⁵ In addition, survey respondents tend to underreport certain behaviors. In instances in which respondents are asked to report less socially accepted, socially unacceptable, or illegal behavior, underreporting must be considered a potential source of error. Further, validity and reliability studies show that self-report data are prone to underreporting of drug use.⁶ Extensive efforts were made in the design of the questionnaire and the survey procedures to minimize underreporting and to maximize validity and reliability, but there is no certainty that underreporting is not a factor in these data to some degree. The underreporting associated with telephone administration of a survey combined with that from self-reports could make the treatment need estimates from this survey conservative. Unfortunately, one cannot be certain how conservative they really are.

⁵ See J.C. Gfroerer and A.L. Hughes, "Collecting Data on Illicit Drug Use by Phone" in *Survey Measurement of Drug Use: Methodological Studies* (eds. C.F. Turner, J.T. Lessler, and J.C. Gfroerer), DHHS Publication No. (ADM) 92-1929, National Institute on Drug Abuse, Rockville, Md., 1992; W.S. Aquilino, "Telephone versus Face-to-Face Interviewing for Household Drug Surveys," *International Journal of the Addictions* 27(1):71-91, 1992.

⁶ See P.M. O'Malley, J.G. Bachman, and L.D. Johnston, "Reliability and Consistency in Self-Reports of Drug Use," *International Journal of the Addictions*, 18(6):805-824, 1983; B. Rouse, N. Kozel, and L. Richards, *Self-Report Methods of Estimating Drug Use: Meeting Current Challenges to Validity*, Research Monograph 57, National Institute on Drug Abuse, Rockville, Md., 1985; Z. Barnea, G. Rahav, and M. Teichman, "The Reliability and Consistency of Self-Reports on Substance Use in a Longitudinal Study," *British Journal of Addiction*, 82:891-898, 1987; E. Wish, J. Hoffman, and S. Nemes, "The Validity of Self-Reports of Drug Use at Treatment Admission and Follow-up," *The Validity of Self-Reports: The Implications for Survey Research*, ed. Lana Harrison, Research Monograph, National Institute on Drug Abuse, Rockville, MD., 1996, in press.

2. RESULTS: STATEWIDE

All percentages reported in this chapter and in Chapter 3 were weighted to adjust for the sampling design.⁷ The weights also correct the sample to reflect the age, race, and sex distributions for Maryland in the 1990 census. All reported sample sizes are not weighted—they reflect the actual number of respondents involved in the calculation.

Unless otherwise noted, all missing values and "don't know" responses have been excluded. In some cases the reported percentages might not add to 100 due to rounding. Finally, in interpreting these findings, it must be kept in mind that in many cases the number of respondents answering certain items is very small.

DEMOGRAPHIC CHARACTERISTICS

Of the 5,095 subjects interviewed, 52% were female and 48% were male. African-Americans constituted 23% of the sample and whites, 72%. The age distribution of the sample was very close to that in the 1990 census for the state, as was the educational distribution. For a more detailed discussion, see Chapter 3.

GENERAL HEALTH

At the beginning of the questionnaire all respondents were asked questions concerning their general health. The focus of the questions ranged from physical illnesses to cigarette smoking.

Most Marylanders reported that during the past year their physical health had been either excellent (40%) or good (44%). Twelve percent reported that their physical health had been fair, and 4% described their health as poor. A minority (13%) reported that there had been a period of two weeks or more during the past year when they experienced emotional problems. Almost a fifth of the respondents (17%) reported having had a physical illness or injury that prevented them from doing their usual activities. Slightly more women than men reported having had a physical illness or injury (19% vs. 15%, $p < .001$) or emotional problems during the past year (16% vs. 9%; $p < .001$). A majority of the respondents (82%) have one particular health facility they go to when they are sick or need advice about their health. A small number (2%) have more than one place they usually go to, and 16% reported that they do not have any medical facility they usually go to.

About half of the respondents (46%) reported having smoked at least 100 cigarettes in their lifetime. Almost half of those (48%) currently smoked. Among those currently smoking, 24% smoked fewer than 10 cigarettes a day, 32% smoked 10 to 19 cigarettes, 29% smoked a pack a day, and 15% smoked more than a pack a day. More

⁷ See Appendix B for a description of the weighting procedure.

males than females (50% vs. 43%) reported having smoked at least 100 cigarettes. However, more women (53%) than men (43%) currently smoked ($p < .001$). Women who smoked, smoked fewer cigarettes per day on average than did male smokers. More women than men (30% vs. 21%; $p < .001$) smoked fewer than 10 cigarettes a day. In contrast, more men than women (19% vs. 12%; $p < .001$) smoked more than a pack a day.

ALCOHOL USE PATTERNS

Alcohol Screener Questions

All respondents were asked a series of questions dealing with alcohol use patterns. These questions also served as screeners for the more lengthy alcohol use items that followed (discussed below). Most respondents (93%) reported that they had had at least one drink in their lifetime; 71% said they had had a drink during the past year and a half. Of those who had had at least a little to drink during the past 18 months,

- 42% drank less than once a month,
- 26% drank on one to three days a month,
- 20% drank on one or two days a week,
- 8% drank on three or four days a week, and
- 5% drank almost every day in the past 18 months.

On the days they did drink during the past 18 months,

- 74% averaged one or two drinks,
- 18% averaged three or four drinks,
- a small percentage averaged five (3%), six (3%), or seven or more drinks a day (3%), and
- 1% did not know how much they typically drank.

Drinkers who reported an average of four or fewer drinks on days when they consumed alcohol were then asked if they had five or more drinks in one day during the past 18 months, 20% answered yes.

Of all those who drank during the past 18 months, 4% reported that they had gone on binges (drinking for a couple of days or more without sobering up). Of those who said they binged,

- 55% did so the last time between 1980 and 1991,

- 25% did so the last time between 1992 and 1994, and
- 20% did so the last time between 1950 and 1979.

During these times, over half (58%) said they neglected their usual responsibilities and 40% said they did not. Finally, all those who drank during the past 18 months were asked if they ever had a drinking problem or were addicted to alcohol; 4% said they had had such a problem.

Alcohol Follow-up Questions

For a respondent to be asked the more extensive alcohol follow-up questions, he or she had to meet at least one of three criteria in the screening section: (1) the respondent reported having had a drink during the past 18 months and also reported having a drinking problem; (2) the respondent reported a drinking binge during the past 18 months; (3a) a female respondent reported having had a drink during the past 18 months and having had two or more drinks per drinking day; (3b) a male respondent reported having had a drink during the past 18 months and reported ever having had five or more drinks in a single day during the past 18 months. There were 1,506 respondents who met the alcohol screening criteria; they are referred to hereafter as *drinkers*. Below, the first percentage reported refers to the 1,506 respondents who passed the alcohol screener (i.e., Maryland drinkers); the second percentage, in brackets, refers to the entire sample of 5,095 (i.e., all Maryland respondents).

More than half (54% [16%]) of the drinkers did not experience a period in their lives when they drank more than they did during the past year and a half. When asked whether they behaved normally during the time of their heaviest drinking, 17% [5%] said they did not. Drinkers were also asked about problems related to their drinking, for example, the response to their drinking by family and friends. Objections to their drinking came most frequently from their families (20% [6%]). Few drinkers (6% [2%]) had friends object to their drinking, and even fewer (3% [1%]) experienced some sort of disapproval from a boss or people at work or school. A small number of drinkers reported having had their doctors (5% [2%]) or clergy (2% [$< 1\%$]) try to persuade them to stop drinking. Six percent [2%] of drinkers reported a drinking problem that involved the police, and 5% [1%] reported having had a traffic accident at some time because of their drinking. Fifty percent [4%] of the drinkers who experienced any of these problems continued to drink even after they realized drinking had caused the problem. Of those who continued to drink, 70% [3%] went on drinking a month or more after they recognized alcohol caused the problem.

Drinkers were also asked about incidents of injury, risk, and other problematic behavior stemming from their drinking. The results are summarized in Table 1.

Drinkers were next asked about their tolerance for alcohol and control over their drinking behavior. Twenty-three percent [7%] of drinkers said that they often drank more or for a longer period of time than they had intended. Of this group, 15% [1%] reported that they experienced at least one month during which they drank more or for a longer

Table 1
Percentage of Drinkers Who Experienced Alcohol-Related Problems

<u>Alcohol-Related Problem</u>	<u>Percentage Answering Yes</u>	
	<u>Drinkers* (N = 1,506)</u>	<u>Entire Sample** (N = 5,095)</u>
Often high from drinking in situations in which it increased chances of getting hurt?	24%	7%
Ever accidentally injured self?	12%	3%
Caused to miss school, be suspended, or do poorly on school work?	9%	3%
Deterred from doing household chores or taking care of children?	5%	2%
Caused to miss work frequently, lose a raise or promotion, or be fired?	3%	1%

*"Drinkers" are those respondents who met the alcohol screening criteria (see text).
**"Entire sample" includes both drinkers and respondents who did not meet the screening criteria.

time period on the majority of days in the month. Of those who drank more than they had intended, but not on most days, for at least a month, 10% [$< 1\%$] said this occurred repeatedly over a longer period. Fifteen percent [4%] of drinkers reported having found that they had to drink more than they used to in order to get the same effect, and 16% [4%] reported having discovered that the same amount of alcohol had less effect on them than before. A large minority of drinkers (38% [11%]) reported having tried at some time to quit or cut down on their drinking. Four percent [$< 1\%$] of those who had never tried to quit or cut down said they often wanted to do so.

Twelve percent of those who had tried to quit or reduce their drinking were unsuccessful in their efforts. Of these, 55% [1%] were unable to quit or cut down on their drinking on several attempts. Five percent [1%] of those who were unable to quit reported experiencing withdrawal symptoms after having stopped or reduced their drinking, and over half (55% [$< 1\%$]) of these people had experienced such symptoms several times.

All drinkers were asked if they had ever taken a drink to keep from having a hangover, the "shakes," or any other withdrawal symptoms or whether they took a drink to make them go away. Some of the drinkers said yes (9% [3%]), and the majority of

these (71% [2%]) had done so several times. In addition, 8% [2%] of drinkers reported that they had at least once made rules for themselves to help them limit the amount they were drinking. Twelve percent [4%] of drinkers reported having had a period when they spent a great deal of time drinking alcohol or getting over its effects. Four percent [1%] of drinkers had given up or greatly reduced important activities in order to drink.

The subsequent items in the alcohol follow-up section dealt with health problems resulting from excessive drinking. Four percent [1%] of drinkers said that their drinking caused a health problem, such as liver or stomach disease, yellow jaundice, vomiting blood, pancreatitis, or memory difficulties. Most of these (83% [1%]) continued to drink knowing that alcohol caused the health problem; and of those, 82% [< 1%] drank for a month or more after this realization. Three percent [1%] of drinkers still drank after they knew they had some other serious illness that might be made worse by drinking. Also, 10% [3%] of drinkers reported that alcohol caused them emotional or psychological problems, and 64% [2%] of those drinkers continued to drink after they knew it was causing these types of problems.⁸

DRUG USE PATTERNS

All respondents were asked a series of questions about drug use patterns. These questions also served as screeners for the more lengthy drug use items that followed. During the first stage of the first wave of the survey, respondents had to meet one of the following two criteria to be asked the drug follow-up questions: (1) the respondent reported using a substance 10 or more times during the past 18 months or (2) the respondent reported using a substance at least once during the past 18 months and reported once having had a problem with that substance. Because results from the first stage indicated that some respondents who should have been asked the follow-up questions were not, the screening criteria were changed. In the second stage of the first wave and in the second wave, respondents who reported using a substance at least once during the past 18 months were asked the follow-up questions.⁹

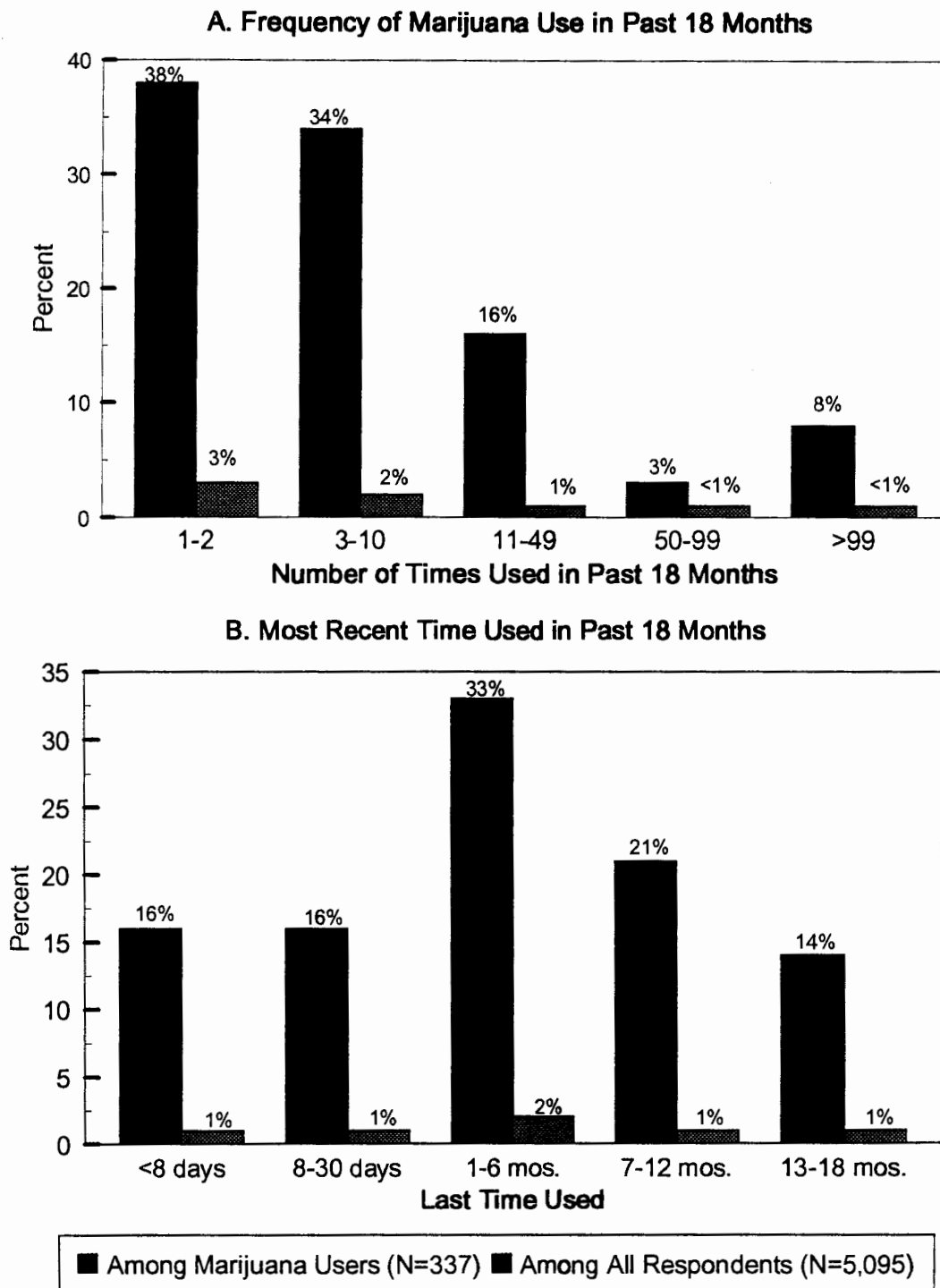
Marijuana Use Patterns

All respondents were asked if they used marijuana even once in their lives. Over a third (36%) reported that they had, 19% of whom did so during the prior 18 months. Only 4% of those who reported ever having used marijuana said that they had ever had a problem with, felt addicted to, or been hooked on the drug. The frequency of marijuana use and the most recent time used during the past 18 months are shown in Figure 1.

⁸Appendix A contains further tabulations of alcohol use patterns by age, race, sex, and region of Maryland.

⁹ During the first stage, 1,001 interviews were completed. See Appendix B for a detailed discussion of the survey design.

Figure 1
Frequency of Marijuana Use and Most Recent Time Used: Maryland, 1993-94



Five percent of the overall sample reported use of marijuana during the previous 18 months. These users were asked a series of questions similar to those asked of recent alcohol users. The percentages reported in the remainder of this section refer to the 337 respondents who passed the marijuana screener, hereafter referred to as *users*. Because all percentages referring to the entire sample are less than 1%, they are not reported.

As listed below, marijuana users reported having had a number of problems related to their use of the drug:

- 26% had at some time found that they needed more marijuana to get the same effect or that the same amount had less effect than before;
- 19% had had emotional or psychological problems;
- 19% had had considerable problems with family or friends, on the job, at school, or with the police;
- 19% had often been high on or experienced the aftereffects of marijuana while at work, at school, and/or while taking care of children;
- 15% had often used the drug in larger amounts or for a longer period than they intended;
- 14% had had problems at school;
- 11% often wanted to or tried to cut down but could not;
- 8% had spent a great deal of time getting, using, or recovering from the effects of marijuana;
- 8% had experienced withdrawal symptoms or had gotten sick from quitting or cutting down;
- 6% said using marijuana had frequently kept them from doing household chores or taking care of children;
- 6% had had physical health problems; and
- 3% had had job-related problems.

Eighty percent of marijuana users continued to use the drug after they realized it was causing problems.

Patterns of Use of Other Drugs

All respondents were asked whether they had ever used hallucinogens, cocaine, or heroin or other opiates. Nine percent of the respondents reported having ever used hallucinogens, 11% had used cocaine, and 2% had used heroin or other opiates at some time. One half of one percent of respondents (N = 22) passed the screener and were asked follow-up questions about their hallucinogen use. For cocaine and opiates the comparable rates were 1.2% (N = 49) and 0.4% (N = 15), respectively. The percentages in the remainder of this section refer to those who passed the screener for the respective substance and are hereafter referred to as *users*. Because all percentages referring to the entire sample are less than 1%, they are not reported.

When asked about when they last used any of the drugs listed, 11% of users reported cocaine use, 23% of users reported opiate use, and 10% of users reported hallucinogen use during the past 18 months. Figure 2 shows the number of times users took these substances during the past 18 months and the most recent time used. In interpreting this figure, it is important to take into account the small number of respondents upon which the percentages are based.

All respondents were also asked about their nonmedical use of sedatives; diagnostic questions pertaining to sedative use, however, were not asked. Five percent of respondents reported having obtained a prescription for sedatives (e.g., tranquilizers or barbiturates) at some time during the past year and a half. Among these sedative users, 6% took the sedatives more often than prescribed or in greater amounts than prescribed. Fewer (3%) sedative users reported having taken them for reasons other than a doctor said they should, for example, for kicks, to get high, or because they were curious about the drug's effects. Respondents were also asked if they had taken sedatives during the past 18 months that were not prescribed for them; only 1% said they had.¹⁰

DEPENDENCE DIAGNOSES STATEWIDE

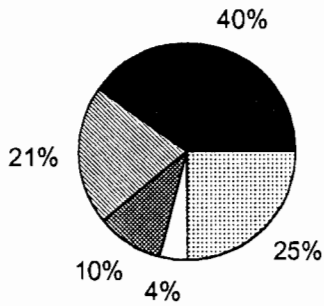
The estimated percentage and number of adult Marylanders who were diagnosable as dependent on or abusive of a substance during the 18 months prior to the survey and, therefore, in need of treatment for that substance are presented in Figure 3. (Appendix Table A.4A lists dependence/abuse rates for the state of Maryland by age, race, and sex.)

The data show that 5.6% of the respondents were diagnosable as dependent on or abusive of one of the five drugs studied--alcohol, marijuana, cocaine, hallucinogens, and opiates--during the past 18 months. By extension, 5.6% of the adult household population of Maryland, or 202,677 adult Marylanders, are in need of treatment for at least one of the five substances studied. Recall that the 5.6% of Marylanders that the survey estimates to be in need of treatment does not include persons already receiving treatment

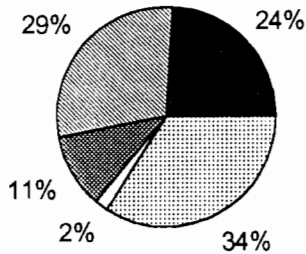
¹⁰Appendix A contains further tabulations of drug use patterns by drug, age, race, sex, and region of Maryland.

Figure 2
Frequency of Drug Use and Most Recent Time Used Among
Drug "Users": Maryland 1993-94

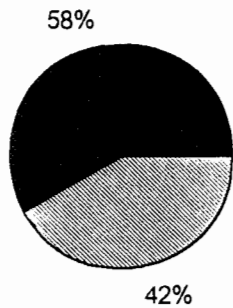
A. Frequency of Drug Use in Past 18 Months



Cocaine (N=49)



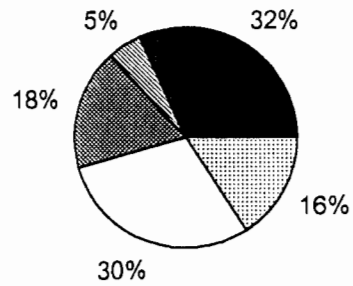
Opiates (N=15)



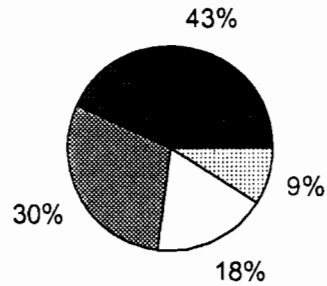
Hallucinogens (N=22)

1-2 times
 3-10 times
 11-49 times
 50-99 times
 >99 times

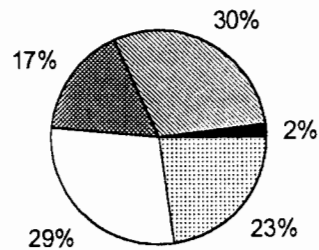
B. Most Recent Time Used in Past 18 Months



Cocaine (N=49)



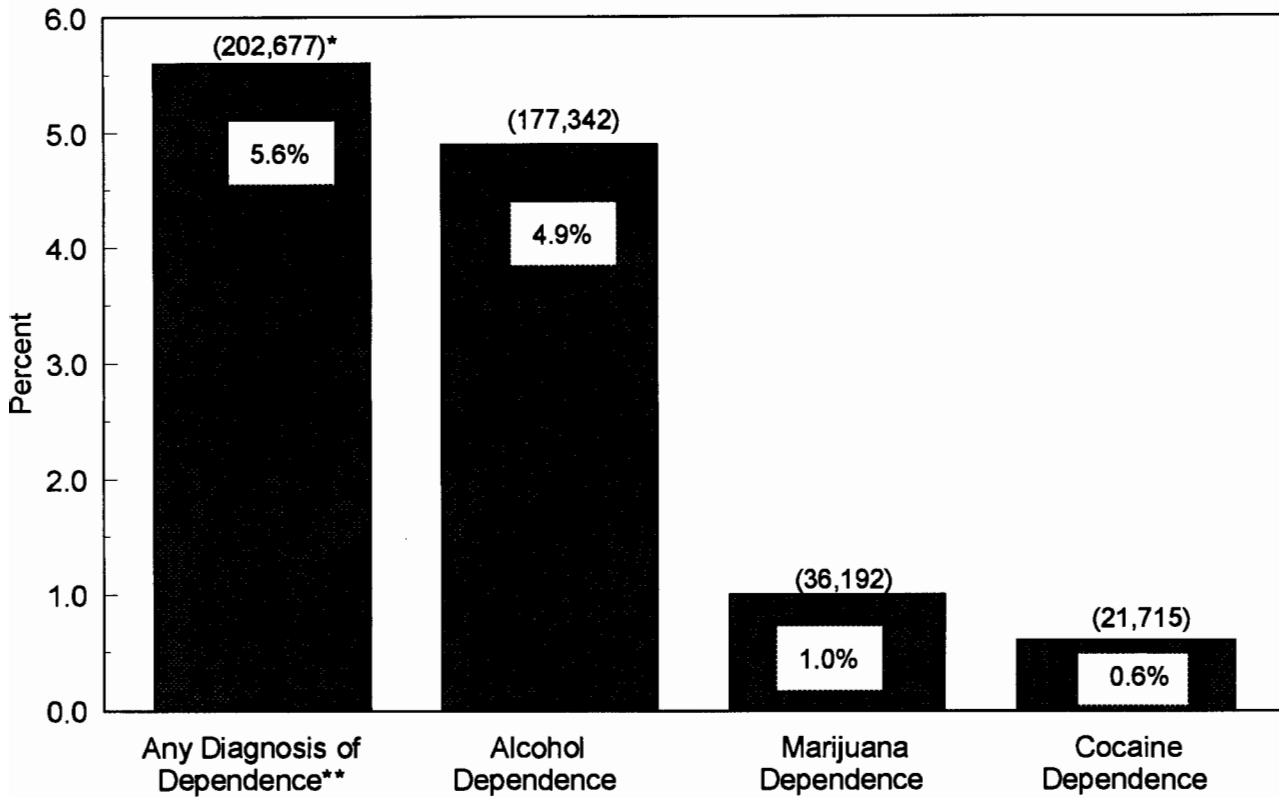
Opiates (N=15)



Hallucinogens (N=22)

<8 days
 8-30 days
 1-6 mos.
 7-12 mos.
 13-18 mos.

Figure 3
Estimated Percentage and Number of Adults with DIS Diagnosis of Dependence/Abuse During the Past 18 Months: Maryland, 1993-94



*Sample size equals 5,095 adults. Adult (aged 18 and over) population of Maryland is 3,619,227 (1990 census). Numbers in parentheses are the estimated number of adult Marylanders who would have qualified for a diagnosis of dependence in the same time period.

**DIS diagnosis of dependence on alcohol, marijuana, cocaine, hallucinogens, and/or opiates. Diagnoses for hallucinogens and opiates are not reported separately because no respondent had a diagnoses of dependence/abuse of hallucinogens and nine had a diagnosis of dependence/abuse of opiates.

(in residential rehabilitation facilities, halfway houses, prisons) or persons, such as the homeless, who cannot be reached by telephone.

The majority of the need for treatment in Maryland is for alcohol. While 5.6% of adult Marylanders are in need of treatment for one of the five substances studied (including alcohol), 4.9%, or 177,342 adult Marylanders, are in need of treatment for alcohol. In other words, when examining only the five substances included in this survey, 87.5% (4.9/5.6) of the need for treatment among adults living in Maryland households is

for alcohol. In comparison with alcohol, far fewer adult Maryland residents are dependent on or abusive of marijuana or cocaine. One percent of the adult population (36,192 Marylanders) needs treatment for marijuana and 0.6% (21,715 adult Marylanders) needs treatment for cocaine.

The percentages in need of treatment for hallucinogens and opiates are not presented separately because no respondents qualified for a diagnosis of dependence on or abuse of hallucinogens and only nine qualified for opiates. Individuals who are dependent on hallucinogens or opiates are difficult to locate by telephone. This is because hallucinogens are probably the most rarely used of the five drugs studied. Opiate-dependent individuals, on the other hand, are not as few but are often impossible to reach by telephone because they have no fixed address. It was expected that estimates for hallucinogens and opiates would be low. One of the other studies in this project is specifically designed to adjust such estimates using data from a variety of sources, such as treatment admissions statistics and rates of drug use among new prisoners. This study will employ statistical models of drug use prevalence to adapt existing data to estimate state and local needs and assist in the allocation of treatment resources.

Appendix Table A.4A breaks out the dependence/abuse diagnoses by demographic groups. For each demographic characteristic, a weighted sum of the dependence/abuse percentages results in the overall percentage dependent on the respective substance. For example, a weighted sum of the alcohol diagnostic rates for men and for women yields the overall alcohol dependence/abuse rate of 4.9%. The weights are simply the percentage of male and female respondents in the sample. Appendix Tables A.4B through A.4G provide the same information contained in Table A.4A for each of the six regions of Maryland.

DIAGNOSED INDIVIDUALS--DO THEY THINK THEY HAVE A PROBLEM?

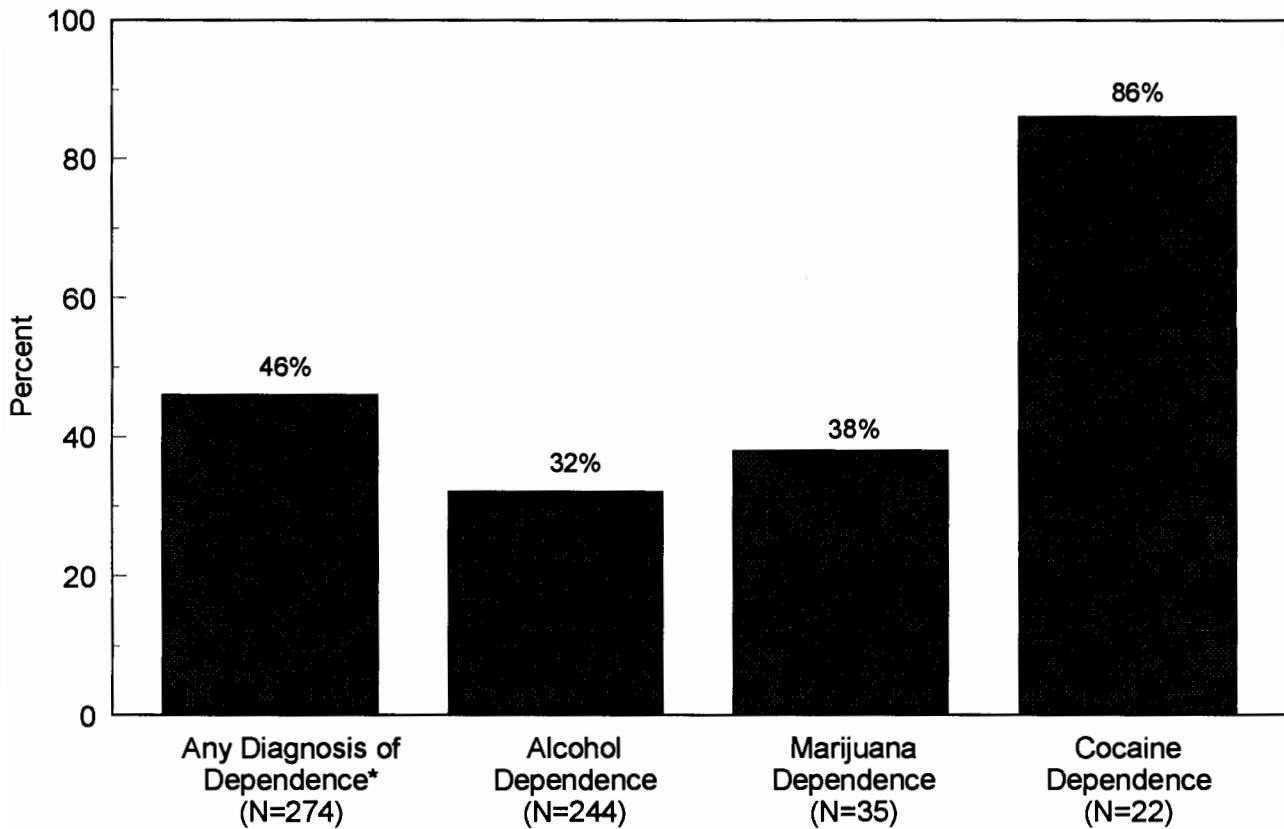
All survey respondents, including those who qualified for a diagnosis of dependence/abuse, were asked whether they thought they had ever had a problem with or were addicted to any of the five substances studied. About half (46%) of those who qualified for a diagnosis of dependence/abuse of any of the five substances reported that they thought they had a problem with the substance (see Figure 4).

Respondents qualifying for an alcohol diagnosis were least likely to report thinking they had a problem. This suggests that those with an alcohol problem do not perceive their alcohol use as a problem. Respondents who qualified for a cocaine diagnosis were most likely to report thinking they had a problem. These results suggest that those in need of treatment for a cocaine problem are more likely to seek treatment than those needing alcohol treatment.

MULTIPLE DIAGNOSES

Service providers are often confronted with individuals requiring treatment for problems with more than one substance. Figure 5 displays the combinations of diagnoses found among diagnosed individuals and among the entire sample.

Figure 4
Percentage of Adults with a DIS Diagnosis of Dependence/Abuse During the Past 18 Months Who Felt They Had a Problem: Maryland, 1993-94



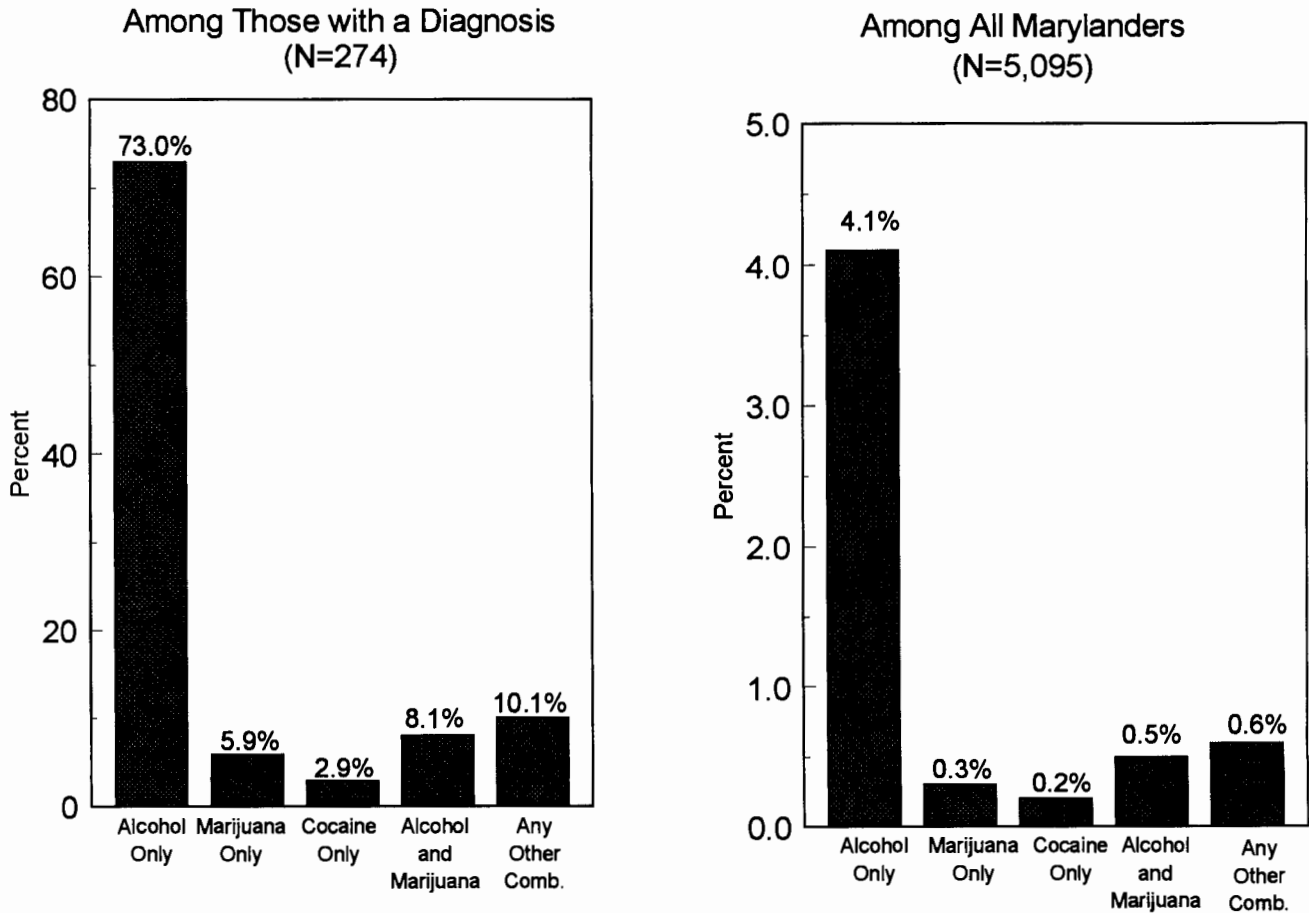
*DIS diagnosis of dependence on alcohol, marijuana, cocaine, hallucinogens, and/or opiates.

Among those with a diagnosis, the overwhelming majority (73%) required treatment for alcohol alone; this group constitutes 4.1% of the adult Maryland population. Marijuana problems (5.9%) and joint marijuana-alcohol problems (8.1%) make up another 14% of the need for treatment. This group is less than 1% of the adult Maryland population.

USE OF TREATMENT SERVICES

A series of questions related to use of alcohol and drug treatment services were asked of respondents who passed any of the screeners for alcohol or other drugs or who reported having felt addicted or hooked on any of these substances at some point in their life, hereafter referred to as "drinkers" and drug "users" (note that these definitions are

Figure 5
Combinations of Diagnoses of Dependence/Abuse:
Maryland, 1993-94



slightly different from the ones used earlier; see pp. 7 and 11). Nine percent of "drinkers" and drug "users" (3.1% of all Maryland residents) reported ever having received alcohol or drug treatment. Fifty-eight percent (1.8%) received treatment once, 18% (0.5%) were in treatment twice, 15% (0.4%) three to five times, and 9% (0.3%) were in treatment more than five times. In addition, 21% of respondents who had ever been in treatment (0.7% of all Maryland residents) reported that they had been in treatment during the past year.

"Drinkers" and drug "users" were also asked if they had ever attended meetings of a self-help organization, such as Alcoholics Anonymous or other 12-step group. Twelve percent (4.0% of all Maryland residents) reported that they had gone to such a group, and of these, 39% (1.6%) attended a self-help meeting during the past 12 months. "Drinkers" and drug "users" were also asked if they had ever talked about the extent of their drinking

or drug use or problems resulting from it with a physician, psychologist, social worker, or member of the clergy outside of a formal treatment program. Ten percent (3.2%) reported having received some sort of counseling along these lines, and 46% of these (1.5%) had done so during the past year.

3. RESULTS: REGIONAL

The state was divided into six regions chosen by the Maryland Alcohol and Drug Abuse Administration and a minimum of 700 interviews were completed in each region. The six regions are shown in Figure 6. The counties included in each region are as follows:

Eastern Shore (Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, and Worcester counties);

Baltimore City;

Central Maryland (Anne Arundel, Baltimore, Carroll, Harford, and Howard counties);

Southern Maryland (Calvert, Charles, and St. Mary's counties);

D.C. Metro (Frederick, Montgomery, and Prince George's counties); and

Western Maryland (Allegany, Garrett, and Washington counties).

GENERAL DESCRIPTION OF REGIONS

Table 2 provides a profile of the six regions and the overall state that compares respondents' sex, age, race, educational level, and household income. Race, educational level, age, and sex are also compared with 1990 census data for Maryland. Comparisons with census data on the regional level yield differences of 4% or less.

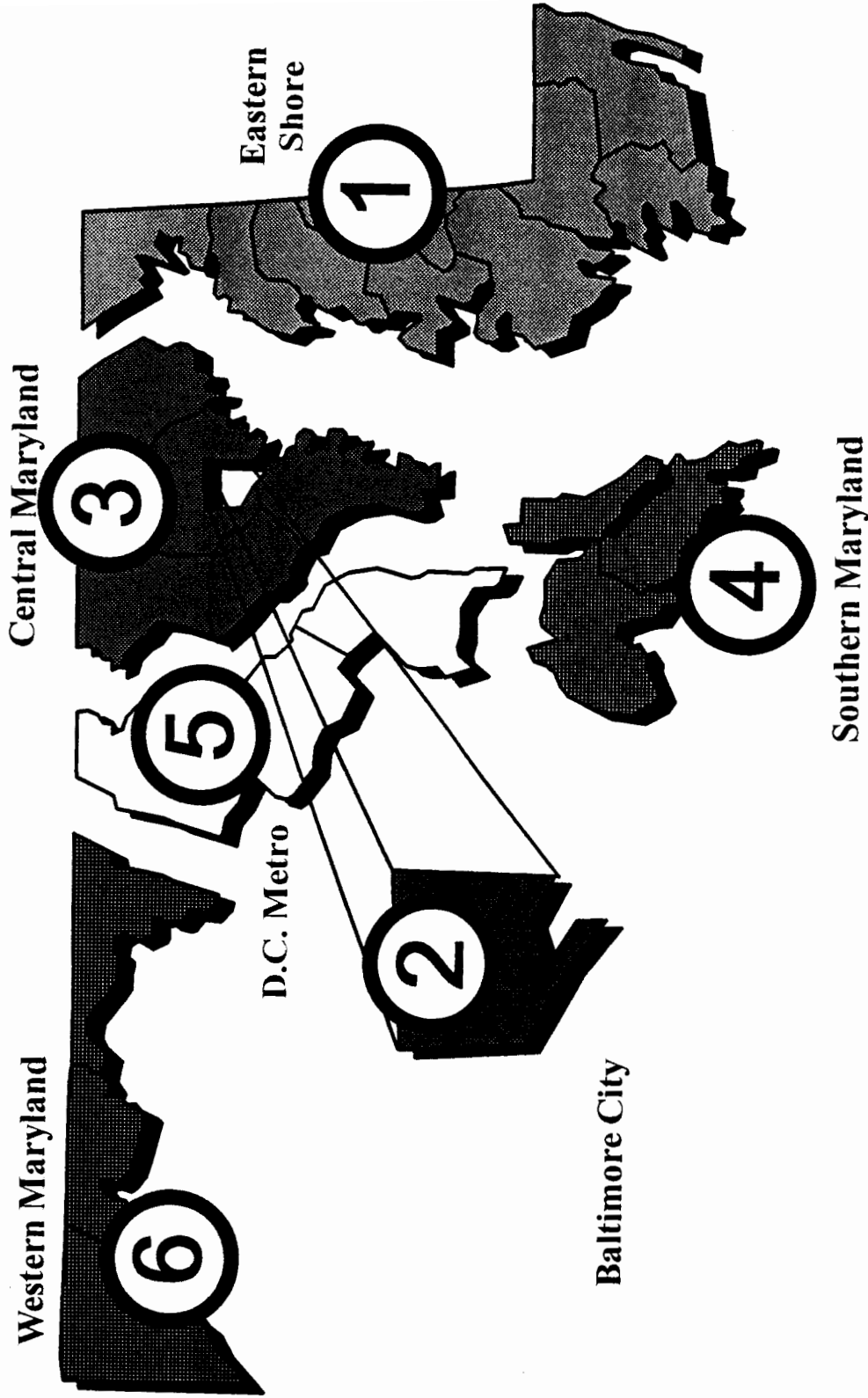
The statewide sample matches the census figures closely with respect to race and age. The statewide sample contains fewer high school graduates and slightly more college graduates than the census data. Table 2 does not include census figures to match the regional samples. For each regional sample, sex is within 1%, race is within 2%, and each age group is within 4% of census figures. The demographic data for the statewide sample and the Western Maryland region were the most likely to vary slightly from census figures.

REGIONAL COMPARISONS OF DEPENDENCE/ABUSE RATES

Figure 7 depicts the rate of alcohol dependence/abuse during the past 18 months by region of Maryland. Need for alcohol treatment appears to occur more often in rural regions. The rate of need for treatment for alcohol problems is greatest in Southern Maryland (6.5%), on the Eastern Shore (6.2%), and in Baltimore City (6.0%). In absolute numbers, however, Central Maryland has the greatest number of adults in need of alcohol treatment (66,194), almost twice as many as Baltimore City (33,369).

Regional comparisons of the rate of marijuana dependence/abuse during the past 18 months are shown in Figure 8. The marijuana diagnostic rates are much lower than those for alcohol and appear highest in urban regions. The greatest need for marijuana treatment is in Baltimore City (1.2%) and the D.C. Metro area (1.1%). These two regions also constitute the bulk of the need for marijuana treatment in terms of absolute numbers (D.C. Metro, 13,646; Baltimore City, 6,674).

Figure 6
The Six Regions of Maryland



NOTE: The counties within each region are as follows: Eastern Shore--Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, and Worcester counties; Baltimore City; Central Maryland--Anne Arundel, Baltimore, Carroll, Harford, and Howard counties; Southern Maryland--Calvert, Charles, and St. Mary's counties; D.C. Metro--Frederick, Montgomery, and Prince George's counties; and Western Maryland--Allegany, Garrett, and Washington counties.

Table 2 continued

	Western Maryland (N = 975)	D.C. Metro (N = 1,090)	Southern Maryland (N = 749)	Baltimore City (N = 789)	Eastern Shore (N = 692)	Central Maryland (N = 775)	Overall State (N = 5,070)	1990 Census Maryland
Education ^d								
Less than HS	15%	6%	11%	18%	18%	8%	10%	21%
HS graduate	40%	30%	38%	40%	39%	33%	34%	29%
Some college	26%	21%	27%	23%	20%	21%	22%	26%
College grad	11%	23%	13%	10%	13%	20%	18%	15%
More than college	9%	20%	11%	9%	11%	16%	15%	9%
Household income ^e								
\$20K or less	26%	7%	8%	27%	16%	9%	12%	
\$20K - 30K	19%	11%	13%	17%	17%	12%	13%	
\$30K - 50K	18%	12%	14%	20%	20%	15%	15%	
\$50K - 75K	29%	37%	41%	25%	35%	37%	35%	
\$75K or more	7%	33%	25%	11%	13%	27%	25%	

^a Comparisons with census data on the regional level yield differences of 1% or less.

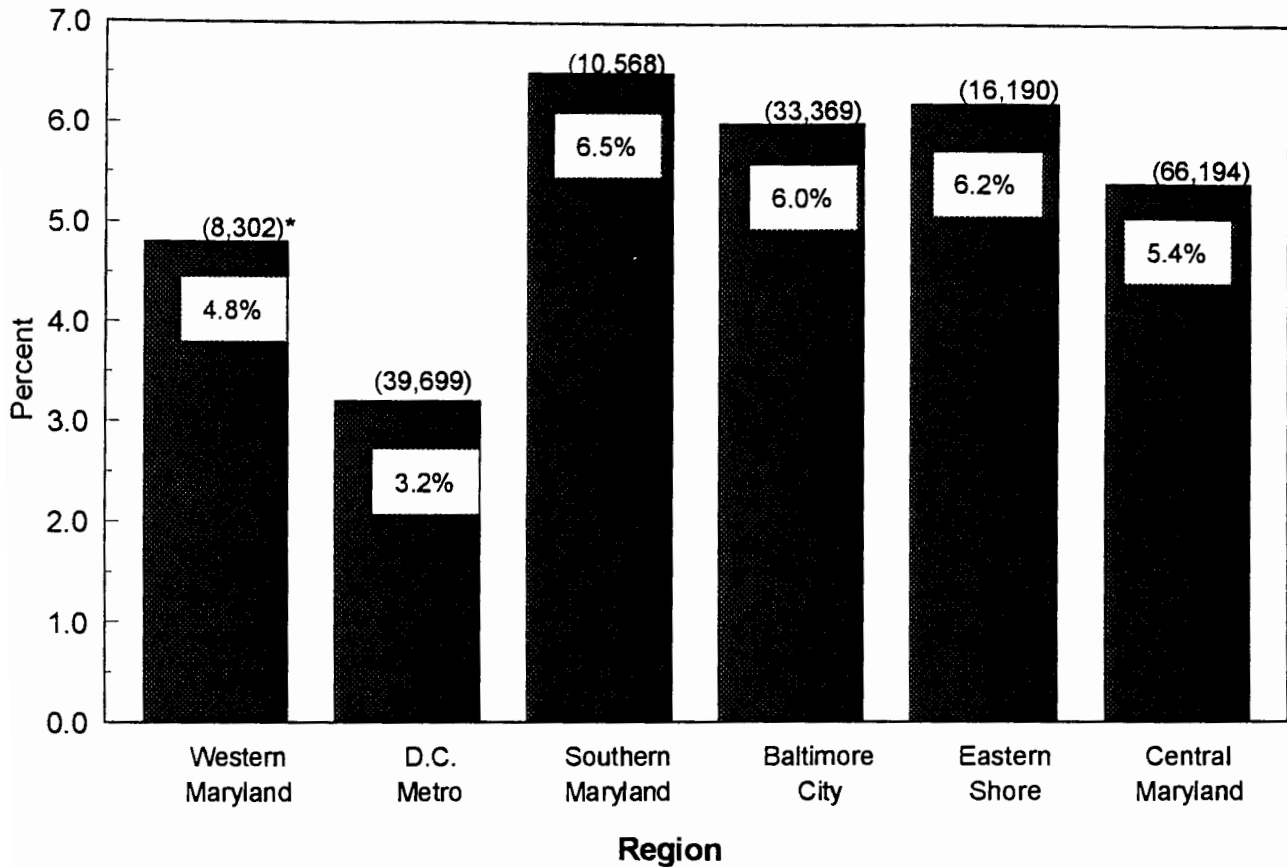
^b Comparisons with census data on the regional level yield differences of 4% or less.

^c Comparison with census data on the regional level yields differences of 2% or less.

^d The categories used by the Census Bureau are slightly different and have been recoded to match the categories used in this survey as closely as possible.

^e This coding scheme excludes a small percentage that cannot be captured with these categories (5.5% of weighted overall state) and those who refused to answer the household income question (9.7%).

Figure 7
Alcohol Dependence/Abuse During the Past 18 Months, by Region of Maryland, 1993-94



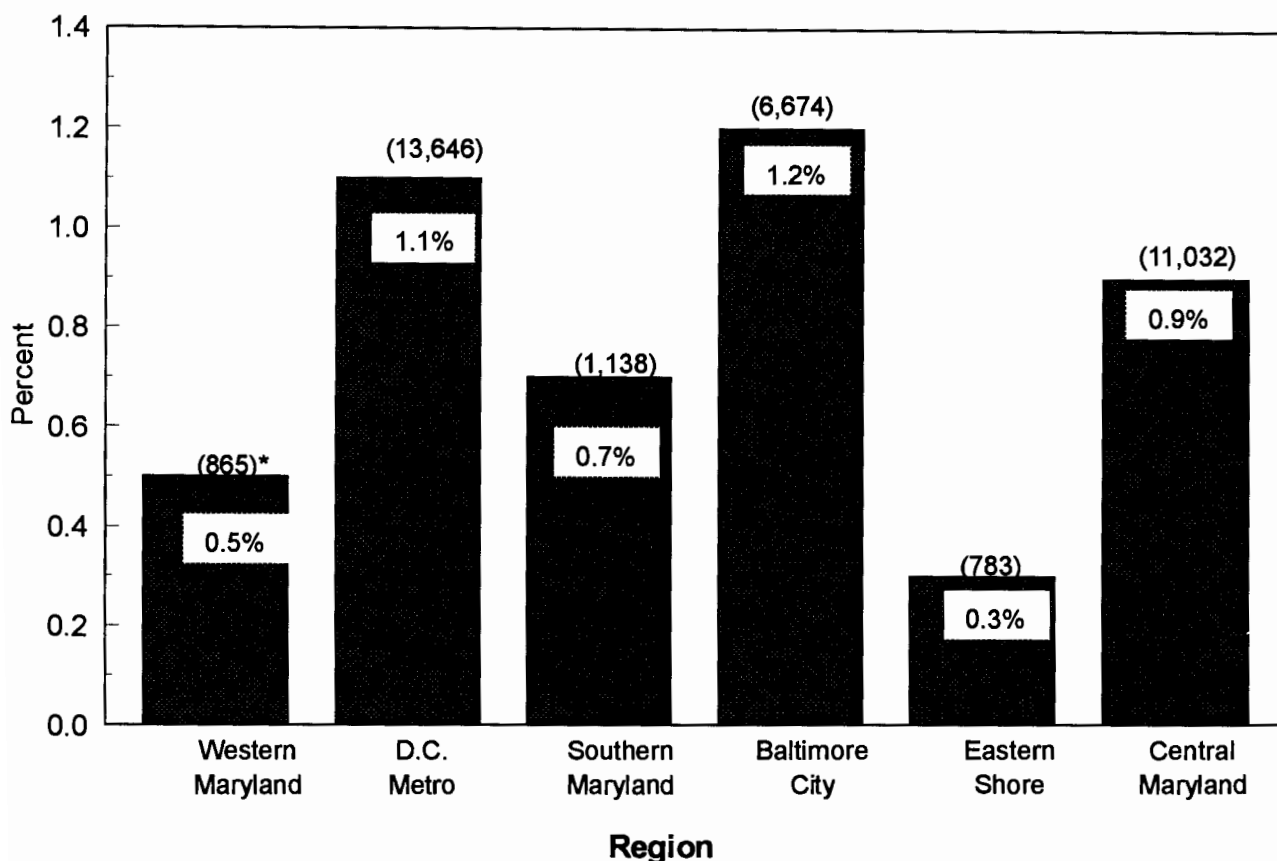
*Numbers in parentheses are the estimated number of adult Marylanders in the region who would have qualified for a diagnosis of dependence in the same time period.

Regional rates of cocaine dependence/abuse during the past 18 months are shown in Figure 9. Like the need for marijuana treatment, need for cocaine treatment appears to be an urban phenomenon. Baltimore City (1.1%) and the D.C. Metro area (0.8%) show the greatest need for cocaine treatment. The Eastern Shore, however, is not far behind (0.6%). The D.C. Metro has the greatest number of persons in need of cocaine treatment (9,925), followed by Baltimore City (6,118).

USE OF TREATMENT SERVICES, BY REGION

Among "drinkers" and drug "users," those in Baltimore City most often reported having ever received alcohol or drug treatment--18% (5.8% of all Baltimore City residents).

Figure 8
Marijuana Dependence/Abuse During the Past 18 Months, by Region of Maryland, 1993-94

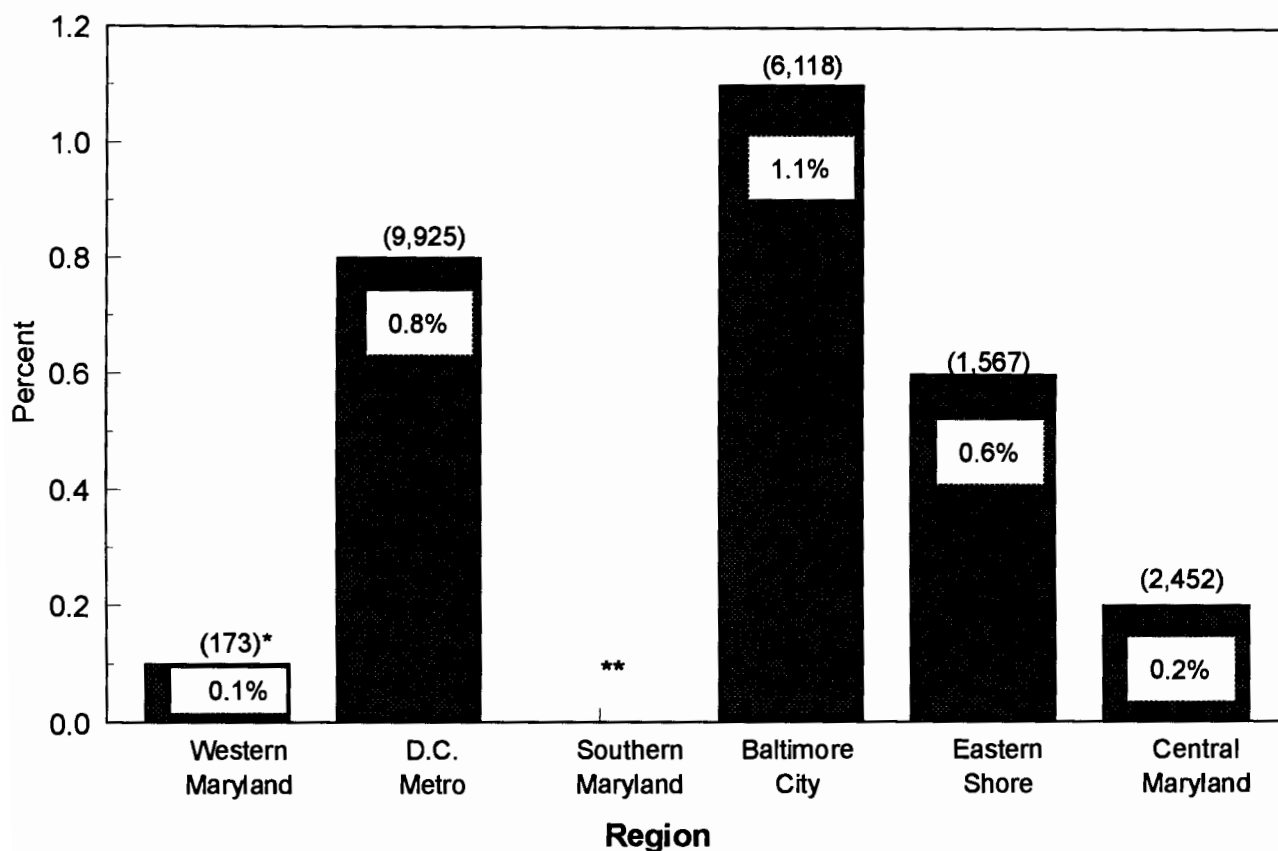


* Numbers in parentheses are the estimated number of adult Marylanders in the region who would have qualified for a diagnosis of dependence in the same time period.

See Figure 10A for the rates for the five other regions. Of those who ever received treatment, 30% (0.7%) of Central Maryland, 29% (0.6%) of Western Maryland, 26% (1.5%) of Baltimore City, 13.5% (0.6%) of Eastern Shore, 12.7% (0.3%) of D.C. Metro, and 10.5% (0.5%) of Southern Maryland "drinkers" and drug "users" reported having received treatment during the past 12 months.

Among "drinkers" and drug "users," those in Baltimore City most often reported ever having attended meetings of a self-help group for alcohol or drug use--21% (6.7% of all Baltimore City residents). See Figure 10B for the rates for the five other regions.

Figure 9
Cocaine Dependence/Abuse During the Past 18 Months, by Region of Maryland, 1993-94



*Numbers in parentheses are the estimated number of adult Marylanders in the region who would have qualified for a diagnosis of dependence in the same time period.

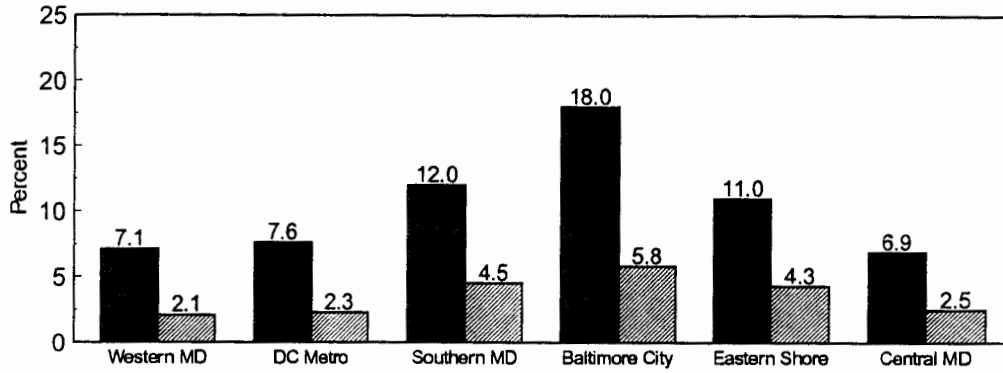
**Event was too rare to be estimated with this sample.

Among those who ever attended self-help groups, regional percentages of attendance during the past 12 months were Baltimore City, 43% (2.9%); Western Maryland, 42% (0.9%); D.C. Metro, 41% (1.2%); Central Maryland, 37% (1.4%); Southern Maryland, 36% (1.9%); and Eastern Shore, 36% (1.9%).

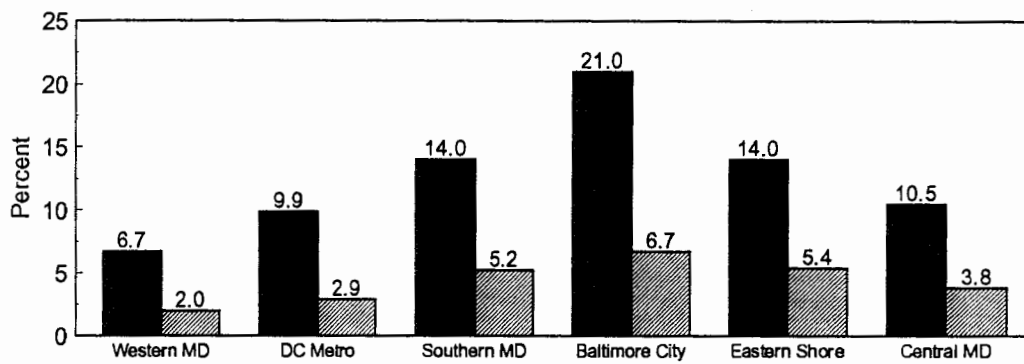
A sizable percentage of "drinkers" and drug "users" in all regions reported having ever discussed their alcohol or drug use with someone outside of a formal treatment program (see Figure 10C). Of those who received outside help, many did so during the past 12 months: Baltimore City, 58% (2.4%); D.C. Metro, 48% (1.3%); Central Maryland, 46% (1.4%); Eastern Shore, 44% (2.2%); Southern Maryland, 22% (0.7%); and Western Maryland, 19% (0.5%).

Figure 10
Use of Treatment Services, by Region of Maryland

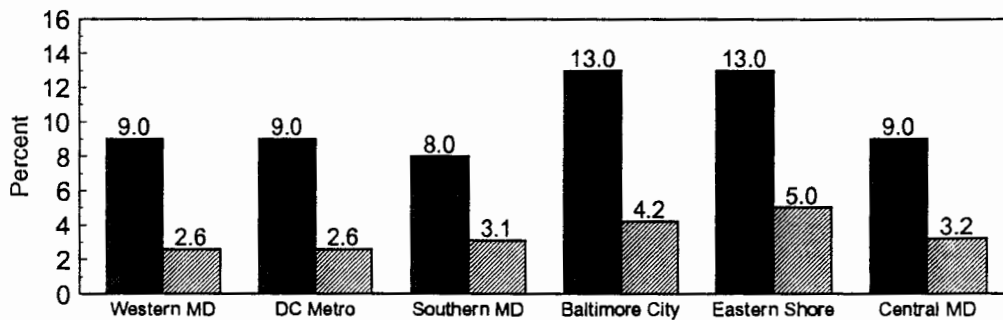
A. Percentage Who Ever Received Drug/Alcohol Treatment



B. Percentage Who Ever Attended Self-Help Meetings



C. Percentage Who Ever Discussed Alcohol or Drug Use with Someone Outside of a Formal Treatment Program



■ Among Drinkers & Users in Region ▨ Among Total Population in Region

DISCUSSION

Based on the survey data, the majority of the treatment need in Maryland is for alcohol. Illicit substances make up a small part of the need for treatment among the adult population of Maryland. Using similar methods, the Epidemiologic Catchment Area (ECA) study and the National Comorbidity Survey (NCS) have shown that nationally the majority of the need for treatment is also for alcohol. Hence, the preponderance of the need for alcohol treatment relative to other drug treatment in Maryland is consistent with national findings.

Lifetime dependence and dependence/abuse estimates from the Maryland survey are compared with ECA and NCS estimates in Figure 11. It is important to note that Figure 11 presents lifetime rates rather than 18-month rates, which were discussed elsewhere in this report.

The most striking feature of Figure 11 is that, except for cocaine, the national estimates are approximately three to four times higher than the respective Maryland estimates. The patterns of need represented by the Maryland telephone survey, however, are essentially the same as those evidenced by the ECA and NCS data. The ECA cocaine estimate may be lower than the Maryland estimate due to a time effect. The ECA data were gathered during the early 1980s, when cocaine use was generally an isolated phenomenon; it was not until the latter half of the 1980s that cocaine use escalated, especially with the introduction of crack cocaine. The Maryland data were collected during 1993-94, when cocaine use had declined but was still much higher than during the early 1980s.

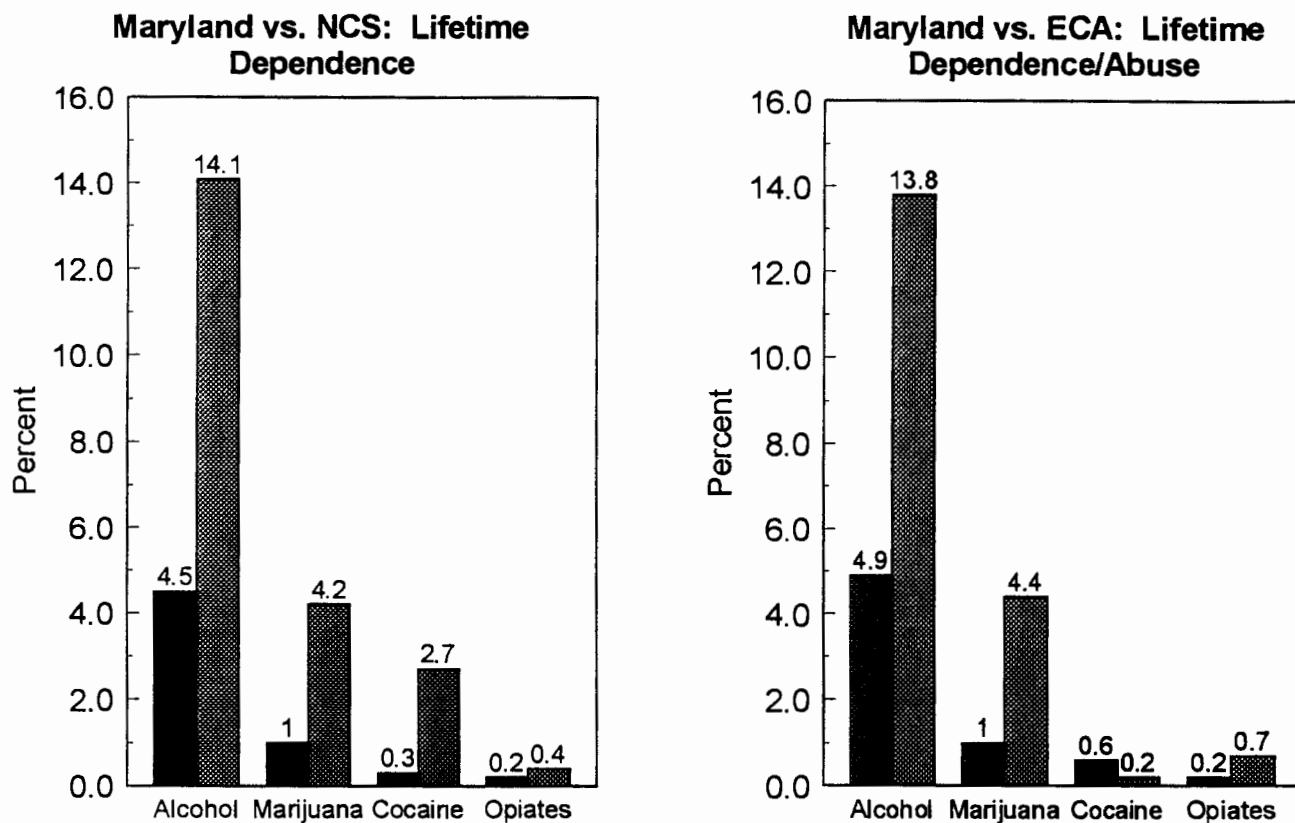
Rates of dependence/abuse in Maryland may truly be lower than national rates, or the Maryland telephone survey could have underestimated the true rates in Maryland. However, only the dependence/abuse estimates from the Maryland telephone survey are lower than national estimates; the Maryland survey estimates of lifetime and past month use of substances (Appendix Tables A1.A-A1.G) are generally in agreement with the 1993 findings of the National Household Survey on Drug Abuse.

The survey questionnaire contained two questions that were included to help ascertain the extent of underreporting among respondents. At the end of the interview, all respondents were asked two questions: "If you had ever had a problem with alcohol, would you have said so in this survey?" and "If you had ever used heroin or cocaine more than 10 times, would you have said so in this survey?" Of the entire sample, 90% said they would have admitted an alcohol problem, and 88% said they would have admitted a cocaine or heroin problem. These results imply that the responses to the survey were generally truthful.

The statistics reported herein, therefore, provide pertinent information on the treatment needs of the adult Maryland household population. The Maryland telephone survey results may be viewed as conservative estimates of the minimum amount of treatment needed. The actual amount of treatment needed in Maryland is likely to be much higher and will be more completely reflected by estimates that combine the

estimates from the telephone survey and those obtained from studies of other components of the state population. The combined estimates will be calculated in the final project of the family of studies that constitute the Maryland CSAT Treatment Needs Assessment.

Figure 11
Comparison of Estimates from the Maryland Telephone Survey, the National Comorbidity Survey (NCS), and the Epidemiologic Catchment Area (ECA) Study



SOURCES: The NCS estimates are from J.C. Anthony, L.A. Warner, and R.C. Kessler, "Comparative Epidemiology of Dependence on Tobacco, Alcohol, Controlled Substances, and Inhalants: Basic Findings from the National Comorbidity Survey," *Experimental and Clinical Psychopharmacology* 2(3):244-268, 1994. The ECA estimates are from J.C. Anthony and J. Helzer, "Syndromes of Drug Abuse and Dependence," in *Psychiatric Disorders in America* (eds. L.N. Robins and D.A. Regier), New York, Free Press, 1991.

APPENDIX A
RATES OF SUBSTANCE USE AND DEPENDENCE/ABUSE

TABLE A1.A

Lifetime, Past 18 Months, Past Month Rates of Substance Use Among Adults Aged 18 and Older: Maryland, 1993-94

	Lifetime		Past 18 Months		Past Month	
	%	Population Estimate	%	Population Estimate	%	Population Estimate
Alcohol	92.5	3,347,785	70.5	2,551,555	*	*
Marijuana	35.9	1,299,302	6.6	238,869	2.1	76,004
Cocaine	10.9	394,496	1.2	43,431	0.5	18,096
Opiates	2.2	79,623	0.5	18,096	0.2	7,238
Hallucinogens	8.9	322,111	0.9	32,573	0.3	10,858

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: Maryland population aged 18 and older (1990 census): 3,619,227.

*Respondents were not asked about their use of alcohol during the past month.

TABLE A1.B

Lifetime, Past 18 Months, Past Month Rates of Substance Use Among Adults Aged 18 and Older: Western Maryland, 1993-94

	Lifetime		Past 18 Months		Past Month	
	%	Population Estimate	%	Population Estimate	%	Population Estimate
Alcohol	91.6	158,428	63.3	109,481	*	*
Marijuana	23.8	41,164	3.5	6,053	1.8	3,113
Cocaine	5.0	8,648	0.5	865	**	**
Opiates	1.0	1,730	**	**	**	**
Hallucinogens	5.1	8,821	0.9	1,557	**	**

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: Western Maryland population aged 18 and older (1990 census): 172,956.

*Respondents were not asked about their use of alcohol during the past month.

**Event was too rare to be estimated with this sample.

TABLE A1.C

Lifetime, Past 18 Months, Past Month Rates of Substance Use Among Adults Aged 18 and Older: D.C. Metro Area, 1993-94

	Lifetime		Past 18 Months		Past Month	
	%	Population Estimate	%	Population Estimate	%	Population Estimate
Alcohol	93.1	1,154,983	72.4	898,182	*	*
Marijuana	35.1	435,445	6.7	83,119	1.9	23,571
Cocaine	10.7	132,742	1.3	16,128	0.4	4,962
Opiates	2.0	24,812	0.4	4,962	0.1	1,241
Hallucinogens	8.6	106,690	0.4	4,962	0.2	2,481

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: D.C. Metro Area population aged 18 and older (1990 census): 1,240,583.

*Respondents were not asked about their use of alcohol during the past month.

TABLE A1.D

Lifetime, Past 18 Months, Past Month Rates of Substance Use Among Adults Aged 18 and Older: Southern Maryland, 1993-94

	Lifetime		Past 18 Months		Past Month	
	%	Population Estimate	%	Population Estimate	%	Population Estimate
Alcohol	92.1	149,746	73.2	119,017	*	*
Marijuana	37.8	61,459	3.7	6,016	0.8	1,301
Cocaine	9.5	15,446	0.4	650	**	**
Opiates	1.7	2,764	0.1	163	**	**
Hallucinogens	7.3	11,869	0.7	1,138	**	**

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: Southern Maryland population aged 18 and older (1990 census): 162,591.

*Respondents were not asked about their use of alcohol during the past month.

**Event was too rare to be estimated with this sample.

TABLE A2.B

Rates of Lifetime Substance Use, by Demographic Groups, Among Adults Aged 18 and Older: Western Maryland, 1993-94

	Alcohol		Marijuana		Cocaine	
	Population (1990 Census)	%	Population Estimate	%	Population Estimate	%
Sex						
Male (n=380)	83,840	95.8	80,319	29.8	24,984	8.2
Female (n=599)	89,116	87.7	78,155	18.3	16,308	2.1
						6,875
						1,871
Race						
Black (n=19)	7,111	89.6	6,371	38.9	2,766	8.1
White (n=950)	164,629	91.6	150,800	23.5	38,688	5.0
Other (n=7)	1,216	95.3	1,159	6.7	81	8,231*
Age						
18-24 (n=76)	24,381	95.7	23,333	41.9	10,216	3.0
25-34 (n=174)	35,702	95.7	34,167	41.5	14,816	10.2
>34 (n=727)	112,873	89.7	101,247	15.8	17,834	4.2
						731
						3,642
						4,741

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: Western Maryland population aged 18 and older (1990 census): 172,956.

*Event was too rare to be estimated with this sample.

TABLE A2.C

Rates of Lifetime Substance Use, by Demographic Groups, Among Adults Aged 18 and Older: D.C. Metro Area, 1993-94

	Population (1990 Census)	Alcohol		Marijuana		Cocaine	
		%	Population Estimate	%	Population Estimate	%	Population Estimate
Sex							
Male (n=445)	589,674	95.4	562,549	39.0	229,973	12.6	74,299
Female (n=653)	650,909	91.0	592,327	31.6	205,687	8.9	57,931
Race							
Black (n=359)	335,447	90.4	303,244	37.1	124,451	11.6	38,912
White (n=648)	810,257	95.7	775,416	36.2	293,313	11.0	89,128
Other (n=75)	94,879	84.1	79,793	25.5	24,194	7.4	7,021
Age							
18-24 (n=103)	178,153	92.3	164,435	32.7	58,256	4.3	7,661
25-34 (n=264)	327,574	94.3	308,902	48.7	159,529	18.1	59,291
>34 (n=715)	734,856	93.1	684,151	31.0	227,805	9.6	70,546

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: D.C. Metro Area population aged 18 and older (1990 census): 1,240,583.

*Event was too rare to be estimated with this sample.

TABLE A2.D

Rates of Lifetime Substance Use, by Demographic Groups, Among Adults Aged 18 and Older: Southern Maryland, 1993-94

	Population (1990 Census)	Alcohol		Marijuana		Cocaine	
		%	Population Estimate	%	Population Estimate	%	Population Estimate
Sex							
Male (n=330)	80,836	93.6	75,662	45.2	36,538	11.6	9,377
Female (n=422)	81,755	90.6	74,070	30.4	24,854	7.4	6,050
Race							
Black (n=106)	25,487	76.7	19,549	22.1	5,633	3.3	841
White (n=623)	134,032	95.4	127,867	41.0	54,953	11.0	2,804
Other (n=14)	3,072	79.7	2,448	39.4	1,210	*	*
Age							
18-24 (n=68)	24,265	81.4	19,752	39.3	9,536	7.3	1,771
25-34 (n=200)	43,770	92.2	40,356	53.0	23,198	18.8	8,229
>34 (n=478)	94,556	94.6	89,450	31.5	29,785	6.3	5,957

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: Southern Maryland population aged 18 and older (1990 census): 162,591.

*Event was too rare to be estimated with this sample.

TABLE A2.E

Rates of Lifetime Substance Use, by Demographic Groups, Among Adults Aged 18 and Older: Baltimore City, 1993-94

	Population (1990 Census)	Alcohol		Marijuana		Cocaine	
		% Estimate	Population Estimate	% Estimate	Population Estimate	% Estimate	Population Estimate
Sex							
Male (n=307)	252,424	92.6	233,745	44.9	113,338	15.4	38,873
Female (n=486)	303,721	88.5	268,793	30.3	92,027	10.6	32,194
Race							
Black (n=365)	310,182	86.4	267,997	39.1	121,281	12.9	40,013
White (n=390)	236,442	96.4	227,930	35.4	83,700	13.2	31,210
Other (n=28)	9,521	79.6	7,579	18.5	1,761	*	*
Age							
18-24 (n=71)	82,731	83.0	68,667	43.5	35,988	6.7	5,543
25-34 (n=203)	137,881	88.4	121,887	53.1	73,215	23.0	31,713
>34 (n=511)	335,533	93.1	312,381	29.8	99,989	10.6	35,566

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: Baltimore City population aged 18 and older (1990 census): 556,145.

*Event was too rare to be estimated with this sample.

TABLE A2.F

Rates of Lifetime Substance Use, by Demographic Groups, Among Adults Aged 18 and Older: Eastern Shore, 1993-94

	Population (1990 Census)	Alcohol		Marijuana		Cocaine	
		%	Population Estimate	%	Population Estimate	%	Population Estimate
Sex							
Male (n=293)	125,600	94.8	119,069	40.8	51,245	13.7	17,207
Female (n=403)	135,531	88.5	119,945	29.7	40,253	6.8	8,541
Race							
Black (n=91)	44,711	90.9	40,642	33.4	14,933	11.6	5,186
White (n=589)	214,125	91.9	196,781	35.6	76,229	10.1	21,627 *
Other (n=14)	2,295	81.1	1,861	21.7	498		
Age							
18-24 (n=63)	34,373	89.0	30,592	47.2	16,224	13.0	4,468
25-34 (n=124)	56,024	95.3	53,391	58.4	32,718	19.6	10,981
>34 (n=504)	170,734	91.0	155,368	26.6	45,415	7.0	11,951

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: Eastern Shore population aged 18 and older (1990 census): 261,131.

*Event was too rare to be estimated with this sample.

TABLE A2.G

Rates of Lifetime Substance Use, by Demographic Groups, Among Adults Aged 18 and Older: Central Maryland, 1993-94

	Population (1990 Census)	Alcohol		Marijuana		Cocaine	
		%	Population Estimate	%	Population Estimate	%	Population Estimate
Sex							
Male (n=311)	592,491	94.3	558,719	40.0	236,996	13.9	82,356
Female (n=466)	633,330	91.4	578,864	36.8	233,065	9.7	61,433
Race							
Black (n=90)	125,895	79.7	100,338	41.6	52,372	5.6	7,050
White (n=658)	1,068,984	94.8	1,013,397	38.7	413,697	12.7	135,761
Other (n=24)	30,942	86.4	26,734	23.4	7,240	10.3	3,187
Age							
18-24 (n=59)	161,470	90.4	145,969	53.5	86,386	3.1	5,006
25-34 (n=166)	299,147	93.2	278,805	57.4	171,710	23.4	70,000
>34 (n=551)	765,204	93.2	713,170	29.3	224,205	9.8	7

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: Central Maryland population aged 18 and older (1990 census): 1,225,821.

TABLE A3.A

Rates of Substance Use During the Past 18 Months, by Demographic Groups, Among Adults Aged 18 and Older: Maryland, 1993-94

	Population (1990 Census)	Alcohol		Marijuana		Cocaine	
		%	Population Estimate	%	Population Estimate	%	Population Estimate
Sex							
Male (n=2066)	1,724,865	75.3	1,298,823	8.5	146,614	1.8	31,048
Female (n=3029)	1,894,362	66.3	1,255,962	4.9	92,824	0.7	13,261
Race							
Black (n=1030)	848,793	56	475,324	7.8	66,206	2.6	22,069
White (n=3858)	2,628,523	75.6	1,987,163	6.5	170,854	0.8	21,028
Other (n=162)	141,911	63.5	90,113	3.2	4,541	1.4	1,987
Age							
18-24 (n=440)	505,373	76.5	386,610	20.5	103,601	0.7	3,538
25-34 (n=1131)	900,098	77.4	696,676	8.4	75,608	2.3	20,702
>34 (n=3486)	2,213,756	66.8	1,478,789	2.9	64,199	1.0	22,138

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: Maryland population aged 18 and older (1990 census): 3,619,227.

TABLE A3.B

Rates of Substance Use During the Past 18 Months, by Demographic Groups, Among Adults Aged 18 and Older: Western Maryland, 1993-94

	Population (1990 Census)	Alcohol		Marijuana		Cocaine	
		%	Population Estimate	%	Population Estimate	%	Population Estimate
Sex							
Male (n=380)	83,840	70.6	59,191	5.1	4,276	0.8	671
Female (n=599)	89,116	56.6	50,440	2.0	1,782	0.2	178
Race							
Black (n=19)	7,111	60.3	4,288	*	*	*	*
White (n=950)	164,629	63.6	104,704	3.7	6,091	0.5	823
Other (n=7)	1,216	55.7	677	*	*	*	*
Age							
18-24 (n=76)	24,381	86.2	21,016	14.5	3,535	0.4	98
25-34 (n=174)	35,702	73.4	26,205	5.6	1,999	1.3	464
>34 (n=727)	112,873	56.3	63,547	0.7	790	0.2	226

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: Western Maryland population aged 18 and older (1990 census): 172,956.

*Event was too rare to be estimated with this sample.

TABLE A3.C

Rates of Substance Use During the Past 18 Months, by Demographic Groups, Among Adults Aged 18 and Older: D.C. Metro Area, 1993-94

	Alcohol		Marijuana		Cocaine	
	Population (1990 Census)	%	Population Estimate	%	Population Estimate	%
Sex						
Male (n=445)	589,674	77.8	458,766	9.4	55,429	2.1
Female (n=653)	650,909	67.6	440,014	4.3	27,989	0.7
Race						
Black (n=359)	335,447	59.0	197,914	7.4	24,823	1.6
White (n=648)	810,257	79.2	641,724	6.9	55,908	1.1
Other (n=75)	94,879	64.5	61,197	4.2	3,985	2.1
Age						
18-24 (n=103)	178,153	76.8	136,822	18.6	33,136	*
25-34 (n=264)	327,574	80.8	264,680	9.0	29,482	2.4
>34 (n=715)	734,856	68.0	499,702	3.0	22,046	1.3

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: D.C. Metro Area population aged 18 and older (1990 census): 1,240,583.

*Event was too rare to be estimated with this sample.

TABLE A3.D

Rates of Substance Use During the Past 18 Months, by Demographic Groups, Among Adults Aged 18 and Older: Southern Maryland

	Population (1990 Census)	%	Alcohol Population Estimate	%	Marijuana Population Estimate	%	Cocaine Population Estimate
Sex							
Male (n=330)	80,836	79.6	64,345	4.8	3,880	0.8	647 *
Female (n=422)	81,755	66.7	54,531	2.5	2,044		
Race							
Black (n=106)	25,487	51.7	13,177	3.2	816		*
White (n=623)	134,032	77.6	104,009	3.9	5,227 *	0.5	127 *
Other (n=14)	3,072	69.9	2,147				
Age							
18-24 (n=68)	24,265	71.1	17,252	13.9	3,373	1.2	291
25-34 (n=200)	43,770	83.7	36,635	4.2	1,838	0.9	394 *
>34 (n=478)	94,556	69.8	66,000	1.1	1,040		

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: Southern Maryland population aged 18 and older (1990 census): 162,591.

*Event was too rare to be estimated with this sample.

TABLE A3.E

Rates of Substance Use During the Past 18 Months, by Demographic Groups, Among Adults Aged 18 and Older: Baltimore City, 1993-94

	Population (1990 Census)	Alcohol		Marijuana		Cocaine	
		%	Population Estimate	%	Population Estimate	%	Population Estimate
Sex							
Male (n=307)	252,424	66.8	168,619	11.0	27,767	3.7	9,340
Female (n=486)	303,721	54.5	165,528	7.8	23,690	2.5	7,593
Race							
Black (n=365)	310,182	53.2	165,017	9.3	28,847	4.4	13,648
White (n=390)	236,442	69.4	164,091	9.5	22,462	1.0	2,364
Other (n=28)	9,521	55.6	5,294	3.7	352	*	
Age							
18-24 (n=71)	82,731	68.0	56,257	21.4	17,704	0.7	579
25-34 (n=203)	137,881	69.2	95,414	11.6	15,994	4.4	6,067
>34 (n=511)	335,533	54.8	183,872	5.5	18,454	3.1	10,402

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: Baltimore City population aged 18 and older (1990 census): 556,145.

*Event was too rare to be estimated with this sample.

TABLE A3.F

Rates of Substance Use During the Past 18 Months, by Demographic Groups, Among Adults Aged 18 and Older: Eastern Shore, 1993-94

	Population (1990 Census)	Alcohol % Population Estimate	Marijuana % Population Estimate	Cocaine % Population Estimate
Sex				
Male (n=293)	125,600	75.3	8.7	4.2
Female (n=403)	135,531	60.1	3.5	5,275 *
			10,927	
			4,744	
Race				
Black (n=91)	44,711	55.1	10.5	8.1
White (n=589)	214,125	70.3	5.2	0.8
Other (n=14)	2,295	50.7	11,135 *	3,622
				1,713 *
Age				
18-24 (n=63)	34,373	68.3	18.6	7.4
25-34 (n=124)	56,024	82.6	12.8	2.6
>34 (n=504)	170,734	63.5	1.8	0.9
			6,393	2,544
			7,171	1,457
			3,073	1,537

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: Eastern Shore Population Aged 18 and Older (1990 Census): 261,131.

*Event was too rare to be estimated with this sample.

TABLE A3.G

Rates of Substance Use During the Past 18 Months, by Demographic Groups, Among Adults Aged 18 and Older: Central Maryland, 1993-94

	Population (1990 Census)	Alcohol		Marijuana		Cocaine	
		%	Population Estimate	%	Population Estimate	%	Population Estimate
Sex							
Male (n=311)	592,491	77.2	457,403	6.9	40,882	0.5	2,962
Female (n=466)	633,330	72.8	461,064	5.5	34,833	0.3	1,900
Race							
Black (n=90)	125,895	56.6	71,257	8.2	10,323		*
White (n=658)	1,068,984	77.5	828,463	6.2	66,277	0.5	5,345
Other (n=24)	30,942	69.4	21,474		*		*
Age							
18-24 (n=59)	161,470	80.3	129,660	23.8	38,430		*
25-34 (n=166)	299,147	76.9	230,044	6.9	20,641	1.7	5,085
>34 (n=551)	765,204	73.2	560,129	2.5	19,130	0.1	7

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: Central Maryland population aged 18 and older (1990 census): 1,225,821.

*Event was too rare to be estimated with this sample.

TABLE A4.A

Rates of Substance Dependence/Abuse During Past 18 Months, by Demographic Groups, Among Adults Aged 18 and Older: Maryland, 1993-94

	Alcohol DX		Marijuana DX		Cocaine DX		Any DX*	
	%	Population Estimate	%	Population Estimate	%	Population Estimate	%	Population Estimate
Sex								
Male (n=2066)	7.8	134,539	1.5	25,873	0.8	13,799	8.8	151,788
Female (n=3029)	2.2	41,676	0.5	9,472	0.4	7,577	2.7	51,148
Race								
Black (n=1030)	3.3	28,010	1.1	9,337	1.2	10,186	4.6	39,044
White (n=3858)	5.6	147,197	0.6	15,771	0.3	7,886	6.1	160,340
Other (n=162)	3.5	4,967	**	**	1.4	1,987	3.5	91,998
Age								
18-24 (n=440)	7.5	37,903	2.1	10,613		**	8.3	11,779
25-34 (n=1131)	7.1	63,907	1.8	16,202	1.1	9,901	8.4	75,608
>34 (n=3486)	3.6	79,695	0.4	8,855	0.5	11,069	4.0	88,550
TOTAL (n=5095)	4.9	177,342	1.0	36,192	0.6	21,715	5.6	202,677

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: Maryland population aged 18 and older (1990 census): 3,619,227.

*DIS diagnosis of dependence on alcohol, marijuana, cocaine, hallucinogens, and/or opiates.

**Event was too rare to be estimated with this sample.

TABLE A4.B

Rates of Substance Dependence/Abuse During Past 18 Months, by Demographic Groups, Among Adults Aged 18 and Older: Western Maryland, 1993-94

	Alcohol DX		Marijuana DX		Cocaine DX		Any DX*	
	%	Population Estimate	%	Population Estimate	%	Population Estimate	%	Population Estimate
Sex								
Male (n=380)	7.6	6,372	0.7	587	0.1	84	8.0	6,707
Female (n=599)	2.3	2,050	0.3	267		**	2.5	2,228
Race								
Black (n=19)		**		**		**		**
White (n=950)	5.1	8,396	0.5	823	0.1	165	5.4	8,890
Other (n=7)		**		**		**		**
Age								
18-24 (n=76)	14.7	3,584	0.4	98		**	14.7	3,584
25-34 (n=174)	7.0	2,499	0.6	214	0.4	143	7.6	2,713
>34 (n=727)	2.3	2,596	0.5	564		**	2.6	2,935
TOTAL (n=979)	4.8	8,302	0.5	865	0.1	173	5.1	8,821

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: Western Maryland population aged 18 and older (1990 census): 172,956.

*DIS diagnosis of dependence on alcohol, marijuana, cocaine, hallucinogens, and/or opiates.

**Event was too rare to be estimated with this sample.

TABLE A4.C

Rates of Substance Dependence/Abuse During Past 18 Months, by Demographic Groups, Among Adults Aged 18 and Older: D.C. Metro Area, 1993-94

	Alcohol DX		Marijuana DX		Cocaine DX		Any DX*	
	%	Population Estimate	%	Population Estimate	%	Population Estimate	%	Population Estimate
Sex								
Male (n=445)	5.5	32,432	2.0	11,793	1.2	7,076	6.2	36,619
Female (n=653)	1.2	7,811	0.4	2,604	0.4	2,604	1.7	11,065
Race								
Black (n=359)	2.0	6,709	0.2	671	1.1	3,690	2.8	9,393
White (n=648)	3.7	29,980	1.7	2,799	0.5	823	4.4	7,244
Other (n=75)	3.7	3,511	**	**		**	3.7	3,511
Age								
18-24 (n=103)	3.3	5,879	3.3	5,879		**	4.6	8,195
25-34 (n=264)	4.8	15,724	1.5	4,914	1.3	4,258	5.5	18,017
>34 (n=715)	2.7	19,841	0.5	3,674	0.8	5,879	3.1	22,781
TOTAL (n=1098)	3.2	39,699	1.1	13,646	0.8	9,925	3.9	48,383

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: D.C. Metro Area population aged 18 and older (1990 census): 1,240,583.

*DIS diagnosis of dependence on alcohol, marijuana, cocaine, hallucinogens, and/or opiates.

**Event was too rare to be estimated with this sample.

TABLE A4.D

Rates of Substance Dependence/Abuse During Past 18 Months, by Demographic Groups, Among Adults Aged 18 and Older: Southern Maryland, 1993-94

	Alcohol DX		Marijuana DX		Cocaine DX		Any DX*	
	%	Population Estimate	%	Population Estimate	%	Population Estimate	%	Population Estimate
Sex								
Male (n=330)	9.6	7,760	1.2	970	**	8,245	10.2	8,245
Female (n=422)	3.4	2,780	0.3	245	**	3,025	3.7	3,025
Race								
Black (n=106)	2.7	688	1.9	484	**	688	2.7	688
White (n=623)	7.3	9,784	0.5	670	**	10,589	7.9	10,589
Other (n=14)	7.6	233	**	**	**	10,186	7.6	10,186
Age								
18-24 (n=68)	17.7	4,295	3.3	801	**	4,586	18.9	4,586
25-34 (n=200)	7.7	3,370	1.1	481	**	3,852	8.8	3,852
35+ (n=478)	3.5	3,309	**	**	**	3,309	3.5	3,309
TOTAL (n=752)	6.5	10,568	0.7	1,138	**	11,219	6.9	11,219

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: Southern Maryland population aged 18 and older (1990 census): 162,591.

*DIS diagnosis of dependence on alcohol, marijuana, cocaine, hallucinogens, and/or opiates.

**Event was too rare to be estimated with this sample.

TABLE A4.E

Rates of Substance Dependence/Abuse During Past 18 Months, by Demographic Groups, Among Adults Aged 18 and Older: Baltimore City, 1993-94

	Alcohol DX		Marijuana DX		Cocaine DX		Any DX*	
	%	Population Estimate	%	Population Estimate	%	Population Estimate	%	Population Estimate
Sex								
Male (n=307)	10.0	25,242	1.2	3,029	1.5	3,786	12.0	30,291
Female (n=486)	2.6	7,897	1.1	3,341	0.7	2,126	4.0	12,149
Race								
Black (n=365)	5.2	16,129	1.2	3,722	1.8	5,583	7.9	24,504
White (n=390)	7.1	16,787	0.9	2,128	**	**	7.1	16,787
Other (n=28)	7.4	705	**	**	**	**	7.4	705
Age								
18-24 (n=71)	8.8	7,280	1.7	1,406	**	**	8.8	7,280
25-34 (n=203)	9.2	12,685	1.9	2,620	2.3	3,171	12.1	16,684
>34 (n=511)	4.2	14,092	0.8	2,684	0.9	3,020	5.7	19,125
TOTAL (n=793)	6.0	33,369	1.2	6,674	1.1	6,118	7.6	42,267

SOURCE: Maryland Telephone Survey of Alcohol and Other Drug Abuse.

NOTE: Baltimore City population aged 18 and older (1990 census): 556,145.

*DIS diagnosis of dependence on alcohol, marijuana, cocaine, hallucinogens, and/or opiates.

**Event was too rare to be estimated with this sample.

APPENDIX B
SURVEY METHODS

APPENDIX B SURVEY METHODS

SAMPLE

The study combines two years of data collection. The final, combined two-year sample consists of 5,095 completed telephone interviews. In the first year, 2,553 interviews were completed between July 29, 1993, and January 7, 1994. The second year, 2,542 interviews were completed between August 9, 1994, and November 28, 1994.

The first-year sample design was divided into two stages. The first stage was a statewide survey in which the target population was adults aged 18 or older residing in Maryland. The goal of this study was to complete approximately 1,000 interviews. During the second stage, residents in Baltimore City, Prince George's County, and Washington County were oversampled. The goal of this stage was to complete approximately 600 interviews (including interviews from the statewide sample) in each of these three areas. Within each of the three areas, all telephone households had an equal chance of selection. In both stages, a random digit dial (RDD) sample was selected using a standard two-stage Waksberg-Mitofsky design.¹

For the second-year sample design, the state was divided into six geographic regions. The goal of the second year was to complete approximately 700 interviews in each of the six regions, including interviews from the first-year sample. More than 1,098 interviews were collected in the D.C. Metro area and 979 interviews in the Western Maryland region. As in the first-year sample design, the target population was adults 18 years or older and the telephone households were selected using a standard two-stage Waksberg-Mitofsky RDD design.

For both the first-year and second-year sample designs, within each sample household, the target respondent was selected at random from among all adults residing there. The "Next Birthday" selection method was used. In this procedure the interviewer asks to interview the adult, 18 or older, who will have the next birthday. This method provides a random respondent without having to ask intrusive questions about household composition.²

¹ J. Waksberg, "Sampling Methods for Random Digit Dialing," *Journal of the American Statistical Association* 73:40-46, 1978.

² R.W. Oldendick et al., "A Comparison of the Kish and Last Birthday Methods of Respondent Selection in Telephone Surveys," *Journal of Official Statistics* 4:307-318, 1988; C.T. Salmon and J.S. Nichols, "The Next Birthday Method of Respondent Selection," *Public Opinion Quarterly* 47:270-276, 1983.

QUESTIONNAIRE AND DATA COLLECTION

In the first year of the study three pretests were conducted. The first two pretests totaled 100 telephone interviews using a random selection of households chosen from the Baltimore City and Prince George's County telephone directories, respectively. The third pretest was conducted with a small sample (25) of volunteers who had recently received drug treatment. The purpose of this pretest was to test parts of the questionnaire that were asked only of those respondents who had used drugs and received drug treatment. In year two only minor changes were made to the survey instrument, so only one pretest of 50 interviews was conducted using a random sample drawn from the Montgomery County telephone directory.

Preceding the pretests, interviewers went through a structured training session. There was a mix of experienced and newly trained interviewers. Experienced interviewers are best able to identify characteristics of the study that could potentially pose problems. However, less experienced interviewers are often more likely to notice additional problems that may have been naturally compensated for, or dealt with, by the more experienced interviewers.

In the pretest training sessions, interviewers were given an outline of standard pretest procedures and specific items to be aware of, such as the following:

- Respondent response to the introduction,
- Any issues regarding selecting the correct respondent,
- Identifying question wording that is ambiguous or awkward to read,
- Inconsistencies in logic,
- Respondents' comments about questions (to be recorded verbatim), and
- Inconsistencies in skip patterns.

Following the pretests, a debriefing was held in which interviewers and supervisors reviewed any problems encountered and made suggestions for improvements in the questionnaire. Based on the pretest results, the final version of the instrument was developed.

Prior to main data collection, a group training session was conducted. The training session provided information on the background and goals of the study. This included the following topics:

- Purpose of the study,
- Sponsor and project director,
- Eligible respondents,
- Goals of the study,
- Target cooperation rate,
- Schedule, and
- Refusal conversion plans.

Interviewers were trained in procedures used to identify the correct respondent. This entailed problem-solving exercises in addition to written instructions. The supervisors coached each interviewer by asking questions that a respondent might ask.

A major part of the training involved persuading reluctant respondents to cooperate. The training manual developed by the Survey Research Center for interviewers working on this survey contains suggested responses to a number of questions frequently asked by reluctant respondents. The supervisors assumed the role of respondent in this exercise. This practice continued until all interviewers could handle these situations comfortably and correctly.

The next stage of the training session required interviewers to go through the questionnaire noting the question-by-question instructions and skip patterns. Interviewers read the survey instrument repeatedly to supervisors in order to familiarize themselves with the questionnaire and to learn how to pace the interview correctly. Finally, interviewers worked in pairs, with one interviewer acting as the respondent. Then, the pair switched roles, providing an opportunity for both to act as the interviewer.

During data collection, interviewers were monitored from the onset of the study to its completion. Supervisors regularly monitored each interviewer's calls and rated them on the following:

- Introduction and respondent identification,
- Properly administering the questionnaire (reading the questions verbatim, probing, keeping respondents on track),
- Correctly recording respondents' answers, and
- Refraining from biasing the survey with personal comments.

In addition to monitoring, the field manager reviewed daily reports on each interviewer's response rate, refusal rate, and efficiency rate. Interviewers who experienced difficulties were retrained by a supervisor. If there was no improvement by the interviewer after the retraining, the interviewer was removed from the study.

An experienced telephone supervisor was on duty at all times to monitor quality and handle any problems that came up. Shifts were scheduled during the day and evening and on weekends. All telephone numbers in the sample were tried up to 20 times. Respondents who initially refused were recontacted by a specialist in refusal conversion. All interviewing was conducted at the Survey Research Center Telephone Bank on the College Park campus.

SURVEY RATES

The final sample dispositions for year one, year two, and the two samples combined are shown in Table B1. The table shows the outcome of all telephone numbers used in the study and the final response rate. The final response rates were computed by dividing the number of completed interviews by the total number of households in the sample. A breakdown of interviews completed in each of the six regions of the state is shown in Table B2.

Table B1
Final Sample Disposition:
Total Sample

	<u>Year 1 Sample</u>		<u>Year 2 Sample</u>		<u>Total Sample</u>	
Total Sample	6,769		5,595		12,364	
Non-Households	3,203		2,291		5,494	
Unknown Status	229		254		483	
Households	3,337	100%	3,040	100%	6,377	100%
Interviews	2,553		2,542		5,095	
Response Rate		76.5%		83.6%		79.9%
Refusals	463	13.9%	352	10.6%	815	12.8%
Non-Contacts	215	6.4%	99	3.0%	314	4.9%
Misc. Problems	106	3.2%	47	1.4%	153	2.4%

SAMPLE WEIGHTS

Three design-level sample weights were necessary for the analysis. First, since every telephone number had an equal probability of selection into the sample, households with more than one telephone number had higher chances of inclusion. A question was asked to determine how many non-business telephone numbers each household had. This item was used to construct the first weight. Second, since only one adult was selected from among all adults in the household, a weight was necessary to adjust for household size. The third design weight was necessary to correct for the different sampling rates used in various Maryland counties. This design weight also corrected for the first-year oversampling done in Baltimore City and Prince George's and Washington counties.

In addition to the design weights, the sample was post-stratified on three demographic characteristics: gender, age, and race. The effect of the post-stratification weights was to bring males and females within each age and racial group into their proper census population proportions. Post-stratification was done in creating both an overall statewide weight as well as individual weights for each of Maryland's six regions.

For user convenience, the design weights and post-stratification weights were combined into two overall weights. The first weight, labeled **STATEWT**, was used when generating statewide estimates. The second weight, called **REGIONWT**, was used when generating estimates for the Maryland regions listed in Table B2. All frequencies and

Table B2
Completed Interviews, by Region

	<u>Year 1 Sample</u>	<u>Year 2 Sample</u>	<u>Total Sample</u>
Total Interviews	2,553	2,542	5,095
Baltimore City	672	121	793
Central Maryland (Anne Arundel, Baltimore, Carroll, Harford, and Howard counties)	293	484	777
D.C. Metro area (Frederick, Montgomery, and Prince George's counties)	828	270	1,098
Western Maryland (Garrett, Allegany, and Washington counties)	633	346	979
Southern Maryland (Calvert, Charles, and St. Mary's counties)	49	703	752
Eastern Shore (Kent, Cecil, Queen Anne's, Caroline, Talbot, Dorchester, Wicomico, Worcester, and Somerset counties)	78	618	696

cross-tabulations provided in this report are appropriately weighted. Both of the weight variables are included in the data set.

STANDARD ERRORS

The Waksberg-Mitofsky two-stage cluster design gives all residential telephone numbers an equal probability of selection. However, the Waksberg-Mitofsky sampling design is not a simple random sampling procedure and therefore standard errors, which assume a simple random sample, are not accurate. In order to estimate standard errors, the design effect on this two-stage cluster design was estimated. This design effect also estimates the effect of the oversampling described earlier. The square root of the design

effect multiplied by the standard error yields the correctly estimated standard error. Table B3 shows the estimated standard errors for statewide analysis. The square root of the average design effect for statewide analysis is 1.423.

Tables B4 through B9 show the estimated standard errors for analysis in each of the six regions. The square root of the average design effect for the regional analysis is included in each table.

To find the standard error of the percentage of respondents in an answer category, go to the value of p that is closest to that percentage, then go down the column to the row that is closest to the total number of respondents (sample size) answering that question.

Table B3
Standard Error of Percentages:
Statewide Estimates

<u>Sample Size (N)</u>	<u>p (or 1 - p)</u>				
	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	<u>0.9</u>
25	0.124	0.139	0.131	0.114	0.086
50	0.101	0.099	0.092	0.081	0.060
100	0.071	0.070	0.065	0.057	0.043
200	0.050	0.049	0.046	0.040	0.030
300	0.041	0.040	0.038	0.033	0.025
400	0.036	0.035	0.033	0.028	0.021
500	0.032	0.031	0.029	0.025	0.019
600	0.029	0.028	0.027	0.023	0.017
700	0.027	0.026	0.025	0.022	0.016
800	0.025	0.025	0.023	0.020	0.015
900	0.024	0.023	0.022	0.019	0.015
1000	0.023	0.022	0.020	0.018	0.014
1250	0.020	0.020	0.018	0.016	0.012
1500	0.018	0.018	0.017	0.015	0.011
1750	0.017	0.017	0.016	0.014	0.010
2000	0.016	0.016	0.015	0.013	0.009
2250	0.015	0.015	0.014	0.012	0.009
2500	0.015	0.014	0.013	0.012	0.009
2750	0.014	0.013	0.012	0.011	0.008
3000	0.013	0.013	0.012	0.010	0.008
3500	0.012	0.012	0.011	0.010	0.007
4000	0.011	0.011	0.010	0.009	0.007
4500	0.011	0.010	0.010	0.009	0.006
5000	0.010	0.010	0.009	0.008	0.006

Square root of average design effect (DEFT): 1.423

Table B4
Standard Error of Percentages:
Western Maryland Estimates

<u>Sample Size (N)</u>	<u>p (or 1 - p)</u>				
	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	<u>0.9</u>
25	0.129	0.126	0.118	0.103	0.077
50	0.091	0.089	0.083	0.073	0.055
100	0.064	0.063	0.059	0.051	0.039
200	0.045	0.045	0.042	0.036	0.028
300	0.037	0.036	0.034	0.030	0.022
400	0.032	0.032	0.030	0.026	0.019
500	0.029	0.028	0.026	0.023	0.017
600	0.026	0.026	0.024	0.021	0.016
700	0.024	0.024	0.022	0.020	0.014
800	0.023	0.022	0.021	0.018	0.014
900	0.022	0.021	0.020	0.017	0.013
1000	0.020	0.020	0.018	0.016	0.012

Square root of average design effect (DEFT): 1.287

Table B5
Standard Error of Percentages:
D.C. Metro Area Estimates

<u>Sample Size (N)</u>	<u>p (or 1 - p)</u>				
	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	<u>0.9</u>
25	0.121	0.119	0.111	0.097	0.073
50	0.086	0.084	0.079	0.069	0.051
100	0.061	0.059	0.056	0.048	0.037
200	0.043	0.042	0.040	0.034	0.026
300	0.035	0.034	0.032	0.028	0.021
400	0.030	0.030	0.028	0.024	0.018
500	0.027	0.027	0.025	0.022	0.016
600	0.025	0.024	0.023	0.020	0.015
700	0.023	0.022	0.021	0.019	0.014
800	0.022	0.021	0.020	0.017	0.013
900	0.020	0.020	0.019	0.016	0.012
1000	0.019	0.019	0.017	0.015	0.012
1250	0.017	0.017	0.015	0.014	0.011

Square root of average design effect (DEFT): 1.214

Table B6
Standard Error of Percentages:
Southern Maryland Estimates

<u>Sample Size (N)</u>	<u>p (or 1 - p)</u>				
	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	<u>0.9</u>
25	0.118	0.116	0.108	0.095	0.071
50	0.084	0.082	0.077	0.067	0.050
100	0.059	0.058	0.054	0.047	0.036
200	0.042	0.041	0.039	0.033	0.025
300	0.034	0.033	0.031	0.027	0.020
400	0.030	0.029	0.027	0.023	0.017
500	0.027	0.026	0.024	0.021	0.016
600	0.024	0.023	0.022	0.019	0.014
700	0.022	0.022	0.020	0.018	0.013
800	0.021	0.020	0.019	0.017	0.013

Square root of average design effect (DEFT): 1.181

Table B7
Standard Error of Percentages:
Baltimore City Estimates

<u>Sample Size (N)</u>	<u>p (or 1 - p)</u>				
	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	<u>0.9</u>
25	0.120	0.117	0.110	0.096	0.072
50	0.085	0.083	0.077	0.068	0.051
100	0.060	0.059	0.055	0.048	0.036
200	0.042	0.041	0.039	0.034	0.026
300	0.035	0.034	0.032	0.027	0.021
400	0.030	0.029	0.027	0.024	0.018
500	0.027	0.026	0.024	0.021	0.016
600	0.024	0.024	0.023	0.020	0.015
700	0.023	0.022	0.021	0.018	0.013
800	0.021	0.021	0.020	0.017	0.013

Square root of average design effect (DEFT): 1.196

Table B8
Standard Error of Percentages:
Eastern Maryland Estimates

<u>Sample Size (N)</u>	<u>p (or 1 - p)</u>				
	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	<u>0.9</u>
25	0.118	0.116	0.109	0.095	0.071
50	0.084	0.082	0.077	0.067	0.050
100	0.059	0.058	0.054	0.047	0.036
200	0.042	0.041	0.039	0.033	0.025
300	0.034	0.033	0.031	0.027	0.021
400	0.030	0.029	0.027	0.024	0.018
500	0.027	0.026	0.024	0.021	0.016
600	0.024	0.024	0.022	0.019	0.015
700	0.022	0.022	0.021	0.018	0.013

Square root of average design effect (DEFT): 1.185

Table B9
Standard Error of Percentages:
Central Maryland Estimates

<u>Sample Size (N)</u>	<u>p (or 1 - p)</u>				
	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	<u>0.9</u>
25	0.113	0.111	0.104	0.091	0.068
50	0.080	0.078	0.073	0.064	0.048
100	0.057	0.055	0.052	0.045	0.034
200	0.040	0.039	0.037	0.032	0.024
300	0.033	0.032	0.030	0.026	0.020
400	0.028	0.028	0.026	0.023	0.017
500	0.025	0.025	0.023	0.020	0.015
600	0.023	0.023	0.021	0.018	0.014
700	0.021	0.021	0.020	0.017	0.013
800	0.020	0.020	0.018	0.016	0.012

Square root of average design effect (DEFT): 1.131