The Maryland Automated Hotline Reporting System (MAHRS):

Background and Early Findings

Prepared by

Eliot Levine
Michael Wagner
Eric D. Wish

March 28, 1994

Center for Substance Abuse Research (CESAR)
University of Maryland
4321 Hartwick Road, Suite 501
College Park, Maryland 20740

Funded under a contract from the Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment, to the Maryland Alcohol and Drug Abuse Administration.

ABSTRACT

In conjunction with six Maryland telephone crisis hotlines, the Center for Substance Abuse Research (CESAR) has developed the Maryland Automated Hotline Reporting System (MAHRS). Data collected through MAHRS provide a new indicator of substance use and the need for treatment across the state.

Working with hotline staff, CESAR developed a scannable telephone log form that met the data collection needs of each hotline and CESAR. In return, the hotlines agreed to ask several drug-related questions of all callers who mention alcohol or drugs as a problem. Completed forms are sent to CESAR each month for optical scanning and analysis, and CESAR returns an updated file to each hotline. MAHRS can generate descriptive reports tailored to each hotline's needs, as well as county-level and statewide data on alcohol and drug use, frequency of specific drug mentions, patterns of injection drug use, callers' assessment of their need for alcohol or drug treatment, and many other aspects of the data.

Based on the first five months of MAHRS data collection (March 1-July 31, 1993), about 10% of calls to the six hotlines involve alcohol or other drugs (AOD). The monthly number of AOD-related calls was highly stable over the period, which suggests that calls to MAHRS hotlines are a promising indicator of community-level drug problems. More than half of the callers who mentioned alcohol and/or other drugs as a problem reported a current need for treatment, which lends credibility to MAHRS as a needs assessment and treatment planning tool. One-third of the AOD-related calls resulted in referrals to addiction services.

The AOD-related problems mentioned by hotline callers are consistent with what is known from other sources about patterns of drug use in the state. For example, the steady increase over the period in mentions of heroin use by hotline callers in the Baltimore Metro area is consistent with reports of the ready availability of low-cost, high-purity heroin in that part of the state. A comparison of MAHRS data and data from the Substance Abuse Management Information System, an established indicator of substance use and treatment utilization, also indicates considerable agreement regarding the regional distribution of substance use.

The data from the first five months of MAHRS operation provide a baseline against which changes in drug use and need for treatment can be measured. Subsequent CESAR reports will update MAHRS findings.

ACKNOWLEDGMENTS

On October 1, 1992, the State of Maryland was awarded a three-year, $1.2 million contract by the Center for Substance Abuse Treatment (CSAT), Substance Abuse and Mental Health Services Administration (SAMHSA), to launch a set of studies to measure the need for substance abuse treatment in Maryland. Maryland was among 13 states chosen to receive awards in the first round of funding for CSAT's national program of State Demand and Needs Assessment Studies, Alcohol and Other Drugs.

This award was the result of a successful collaboration between staff at Maryland's Alcohol and Drug Abuse Administration (ADAA) and the University of Maryland's Center for Substance Abuse Research (CESAR). CESAR received a subcontract from ADAA to conduct a series of studies, one of which is investigating calls to telephone crisis hotlines as a potential indicator of the need for substance abuse treatment. The early results of the study are described in this report. This project exemplifies the collaboration between state government and university staff envisioned by CESAR's founders — the Governor's Drug and Alcohol Abuse Commission and faculty at the University of Maryland, College Park.

Thanks are due to all the individual hotline coordinators and counselors, whose compassionate interventions and thorough recordkeeping ensured successful data collection for the project. Henry Westray of the Maryland Mental Hygiene Administration coordinates the Maryland Youth Crisis Hotline, a network of telephone crisis hotlines across the state. Directors of the participating hotlines are Eileen Clancy of Walden/Sierra Inc., Faye Harmon of the Life Crisis Center, Chrissy Haugh of the Frederick County Mental Health Association, Lori James of Grassroots Crisis Intervention, David Pollock of the Mental Health Association of Montgomery County, and Rich Reap of Hotline & Suicide Prevention Center Inc.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

THE MARYLAND AUTOMATED HOTLINE REPORTING SYSTEM

The Maryland Automated Hotline Reporting System (MAHRS) automates the collection of data from calls to six telephone crisis hotlines in Maryland. Based on information from approximately 80,000 calls to the hotlines a year, it is now possible to track substance abuse trends that may correlate with the need for treatment among the caller population. Data from the first five months of operation (March 1-July 31, 1993) show a high level of stability in reported drug use, which suggests that the hotline statistics may be sensitive to community drug-use trends. We expect that these data will be a valuable addition to the set of substance abuse indicators monitored by the Center for Substance Abuse Research (CESAR).

This report describes findings from the first five months of MAHRS data collection. The research methodology is described in Appendix A. Future reports will update findings as additional data become available.

BACKGROUND

Calls to telephone crisis hotlines are a potential source of information about substance abuse treatment needs among the general population. In recent years, data collected from hotlines have been used to investigate such drug-related problems as smoking (Shiffman, 1986; Shiffman and Jarvik, 1987), cocaine abuse (Roehrich, 1988), and substance abuse trends (Gold, 1984; Washton et al., 1984). Data can typically be collected more quickly through hotlines than through conventional sources, as demonstrated by the two substance abuse hotlines that reported the crack epidemic several years before other sources (Hall, 1988). Hotline research also provides information about substance abusers who would not be reached by traditional methods (Washton and Gold, 1987).

When CESAR began working with the six hotlines that make up MAHRS, the hotlines were recording information about callers on paper forms and then transferring it later to a computer for generating reports. Time-consuming data entry demands often resulted in backlogs of several months, and hotline staff often had difficulty generating timely and useful reports for internal purposes and to meet the needs of the agency or organization operating the hotline.

Hotline counselors had earlier told CESAR staff that substance abuse problems were discussed in many of the calls they received, so caller information appeared to be a potentially valuable source of data on the use of alcohol and other drugs (AOD). Unfortunately, none of the hotlines had systematic procedures for collecting AOD information. CESAR offered to automate the hotlines' data collection if, in return, the hotlines would ask several AOD-related questions of any caller who mentioned alcohol or drugs as a problem. The questions ask if the alcohol or drug user has ever injected illegal

drugs and if the user thinks he or she needs treatment for alcohol or drug use. Also included is an inventory of drugs that are checked off by hotline staff if mentioned by the caller.

CESAR collaborated with the hotlines over a period of months to create a scannable data collection form (Figure 1) that accommodated the needs of the six hotlines. The forms are filled out by hotline staff during telephone interviews and are sent once a month to CESAR for optical scanning and analysis. CESAR has also created a customized software application for this database that enables individual hotlines to create a variety of descriptive reports about the calls they receive, including reports on the characteristics of callers, key concerns of callers (e.g., substance abuse, domestic violence, pregnancy, AIDS, homelessness), outcome of calls (e.g., hang-up, client sent to emergency room), and referrals (e.g., addiction services, legal services, other hotlines).

The AOD questions are analyzed by CESAR to obtain information about substance abuse trends in Maryland. Reports can be generated describing the county-level distribution of alcohol and other drug use, number of specific drug mentions, patterns of injection drug use, callers' assessment of the need for alcohol or drug treatment, and many other aspects of the data.

FINDINGS

This section analyzes data collected from the six MAHRS hotlines from March 1 through July 31, 1993. To ensure anonymity, each hotline is identified only by a letter of the alphabet ("A" through "F").

MAHRS Call Volume

The total number of calls received over the five months was 34,217. One third of the calls (N=11,133) were from "frequent callers," people who called many times a month for companionship rather than crisis help. As explained in Appendix A, frequent callers were excluded from the analyses so they would not distort the results. Thus, the total number of calls analyzed is 23,084 (Table 1). All subsequent tables are based on those 23,084 calls. Each hotline's call volume remained relatively stable over the five months. The total number of calls per month across all hotlines also stayed within a narrow range, from 4,205 to 5,150. Call volume varied across hotlines, however; one hotline received more than 7,000 calls and two hotlines each received fewer than 2,000 calls.

Characteristics of Callers

Eighty-seven percent of MAHRS calls were from people calling to discuss their own problems (Table 2). The remaining calls were from people calling about a third party (someone other than themself — 8%), from agencies (3%), or from people calling about themself and a third party (2%). Sixty-nine percent of the calls were from females, and

Figure 1: MAHRS Data Entry Form

UNIVERSITY OF MARYLAND AT COLLEGE PARK
CENTER FOR SUBSTANCE ABUSE RESEARCH

MARYLAND HOTLINE DATA ENTRY FORM

MO. | DAY | YR. | TIME (AM / PM) | CALL LENGTH | AGE | HOTLINE | GENDER (1 Male, 2 Female) | CLIENT CALLS

HOTLINE: 1 GR, 2 LCC, 3 FCH, 4 MC, 5 PG, 6 WS

FORM: 1 YCH, 2 Hotline, 3 Business, 4 Shelter, 5 Phone Friend

SPECIAL CLIENT: 1 CMH, 2 Renab. Clients, 3 Common, 4 Frequent, 5 MPD

COUNTY

01 Anne Arundel, 02 Allegany, 03 Balt.City, 04 Balt. CO, 05 Calvert, 06 Caroline, 07 Carroll, 08 Cecil, 09 Charles, 10 Dorchester, 11 Frederick, 12 Garrett, 13 Harford, 14 Howard, 15 Kent, 16 Montgomery, 17 P.G., 18 Queen Anne, 19 Somerset, 20 St. Marys, 21 Talbot, 22 Washington, 23 Wicomico, 24 Worcester, 25 Unknown, 26 Other: *Specify:*

CALLER: 1 Self, 2 3rd Party, 3 Agency

ISSUES (Mark all that apply)

01 Alcohol/Drugs (fill out entire drug box below), 02 Drug Dealer, 03 Other Addictions, 04 Eating Disorders, 05 Domestic Violence, 06 Batterers, 07 Sexual Assault/Rape, 08 Child Sexual Abuse, 09 Child Sexual Assault, 10 Adult Molested As A Child, 11 Adult Abuse/Neglect, 12 Child Abuse/Neglect, 13 Sexual Issues, 14 Sexual Minorities, 15 Pregnancy, 16 AIDS, 17 Sexually Transmitted Disease, 18 Physical Health Concern, 19 Separation/Divorce, 20 Parenting Issues, 21 Runaway/Throwaway, 22 Gen. Family Issues, 23 Latch Key Concerns, 24 Social Personal Relat., 25 Mental Health Concerns, 26 Psychological Crisis, 27 Marital Stress, 28 Daily Stressors, 29 Employment/School, 30 Financial Stress, 31 Housing/Homelessness, 32 Legal Concerns, 33 Suicide (active attempt), 34 Suicide Ideation, 35 Survivor (family mem.), 36 Homicide, 37 Death/Dying, 38 Religious/Cult Issues, 39 Service Inquiry

USER: 1 Self, 2 3rd Party, 3 Both, 4 Overdose/Withdrawal

DRUGS IDENTIFIED BY CALLER: (Mark all that apply)

01 Alcohol, 02 Cigarettes, 03 Other tobacco, 04 Cocaine (powder), 05 Crack (smokable), 06 Darvon, 07 Designer Drugs, 08 Downers, 09 Heroin, 10 Other opiates, 11 Inhalants, 12 LSD, 13 Marijuana/Hashish, 14 Methadone, 15 PCP, 16 Quaaludes, 17 Tranquilizers, 18 Uppers, 19 Other: *Specify:*

ASK: Has this person ever injected illegal drugs?
1 Yes, 2 No, 3 Client refused, 4 Client doesn't know

ASK: Does this person think that s/he now needs treatment for alcohol or drug use?
1 No, 2 Yes, drug only, 3 Yes, alcohol only, 4 Yes, drug and alcohol, 5 Client refused, 6 Client doesn't know

DISPOSITION (Mark all that apply)

01 Hang-up, 02 Gen. Closure/no further help, 03 Client will call back, 04 Hotline to follow-up, 05 Client to E.R., 06 Client declined services, 07 Intervention sent/other agency, 08 Intervention sent/in-house, 09 Client to walk-in, 10 Other agency/person called, 11 CMH contacted, 12 Renab. agency contacted

CLIENT REFERRED TO: (Mark all that apply)

13 Mental Health Services, 14 Addictions treatment, 15 Shelter/in-house, 16 Other shelters, 17 DSS, 18 Own therapist, 19 Private therapist, 20 Self-help groups, 21 Other Homeless services, 22 Other hotline, 23 Other helping agency, 24 Other crisis services, 25 Own support systems, 26 Domestic violence, 27 Sexual assault, 28 Health services, 29 Legal services, 30 AIDS CTS, 31 Rescue services, 32 Law Enforcement, 33 Youth services, 34 Protective services, 35 Senior Citizens services, 36 School services

CLIENT REFERRED BY:

01 SELF, 02 Friend, 03 Employer, 04 Family mem. relative, 05 Schools, 06 DSS, 07 Other Govt., 08 Other Pvt., 09 Religious, 10 Police, 11 Other county, 12 Non-county source, 13 Public listing, 14 Other, *Specify:*

REASON NEEDING SHELTER:

1 Formal Eviction, 2 Informal Eviction, 3 Transient, 4 Domestic Violence, 5 Family Conflict, 6 Institutional Discharge, 7 Situational, 8 Other

REASON SHELTER DENIED:

1 Shelter Full, 2 Inappropriate

HOMELESS: 1 Yes, 2 No

PG SHELTER: 1 PGH, 2 SC, 3 FCC, 4 FES

NO. PERSONS IN FAMILY

COUNSELOR

TRACED: 1 Yes, 2 No

COMPL: 1 Yes, 2 No

SERVICE TYPE: 1 Counseling, 2 I & R, 3 Follow-up, 4 Walk-in, 5 Outreach, 6 Intake

RACE: 1 Afr. Amer., 2 Caucasion, 3 Hispan., 4 Other

006284

PLEASE DO NOT WRITE IN THIS AREA

Figure 1 (cont)

Counselor's Name: _____ Date: _____ Shift: _____

Caller's Name: _____ Prior log: _____ Phone: _____

Client's Name (If different): _____ D. O. B.: _____ Phone: _____

Address: _____ City/County: _____ Zip: _____

Caller Characteristics (Affect, indications of drug/alcohol abuse, tone and speed of speech, disjointed, etc.):

Caller's Statement of Problem: _____

Brief History (Personal/Family/Social/Psych): _____

Current & Past Assistance (DSS, CMH, etc.): _____

Client in Treatment: _____ If yes, with whom: _____

Caller's Goals: _____

Assessment (Counselor's understanding of client's issues and needs based on presenting problem and history):

Intervention/Action Plan/Resolution/Alternatives/Steps Agreed Upon/Referrals Made: _____

Counselor/Co-Counselor Comments:	Staff/Supervisor Comments:

although the median age was 30, almost one third of the calls were from persons under age 20 or over age 44.

Table 1: Monthly Number of Calls to Hotlines

Month (1993)	Hotline A	B	C	D	E	F	Total
March	1,580	564	411	1,004	1,255	336	5,150
April	1,408	469	371	884	954	319	4,405
May	1,345	426	340	861	878	355	4,205
June	1,484	409	334	948	1,015	346	4,536
July	1,447	512	403	1,090	1,049	287	4,788
Total	7,264	2,380	1,859	4,787	5,151	1,643	23,084

NOTE: Excludes 11,133 calls from frequent callers.

Table 2: Characteristics of Hotline Callers
(N=23,084 calls in 5 months)

Caller	Self	87%
	Third Party	8
	Agency	3
	Self & Third Party	2
		100%
Gender	Female	69%
Age	< 20 years	18%
	20 - 29	24
	30 - 44	46
	≥ 45	12
		100%
	Median = 30	
Hotline Called	A	32%
	B	10
	C	8
	D	21
	E	22
	F	7
		100%

NOTE: Calls from an agency or a third party are excluded from age and gender statistics.

AOD-related Calls to Hotlines

Of the 39 issues listed on the data collection form (Figure 1), up to 4 issues are recorded by hotline counselors for each call (average = 1.7). Issues that were mentioned more frequently than alcohol and drugs were social and personal relationships (20%), mental health concerns (15%), daily stressors (13%), housing and homelessness (13%), and general family issues (12%).

Alcohol use and drug use were mentioned in 2,353 (10%) of the 23,084 calls included in the analysis (Table 3). The remainder of this report focuses on those 2,353 calls. The total number of AOD-related calls was stable from month to month, ranging from 445 to 504. However, the number of AOD-related calls to individual hotlines ranged widely (e.g., Hotline B received 66 AOD calls in March and 30 in May; Hotline D received 39 AOD calls in March and 20 in April).

Table 3: Monthly AOD-related Calls to Hotlines
(N=2,353 calls with AOD mentions in 5 months)

	Hotline						
Month (1993)	A	B	C	D	E	F	Total
March	208	66	29	39	67	95	504
April	158	58	45	20	57	107	445
May	155	30	37	21	61	151	455
June	163	36	34	28	81	133	475
July	171	40	49	37	66	111	474
Total	855	230	194	145	332	597	2,353

AOD and Non-AOD Calls, by County

Most of the AOD-related calls came from just five jurisdictions — St. Mary's County (555), Baltimore City (349), Prince George's County (295), Baltimore County (178), and Frederick County (157). (See Table 4.) Fifteen of the remaining 19 counties received fewer than 50 AOD-related calls during the five-month period. As might be expected, the six counties in which the MAHRS hotlines are located (Table 4) had six of the seven highest total call volumes. The seventh is Baltimore City, which had a high call volume but is not the site of a MAHRS hotline.

Table 4: AOD and Non-AOD Calls, by County
(N=23,084 calls in 5 months)

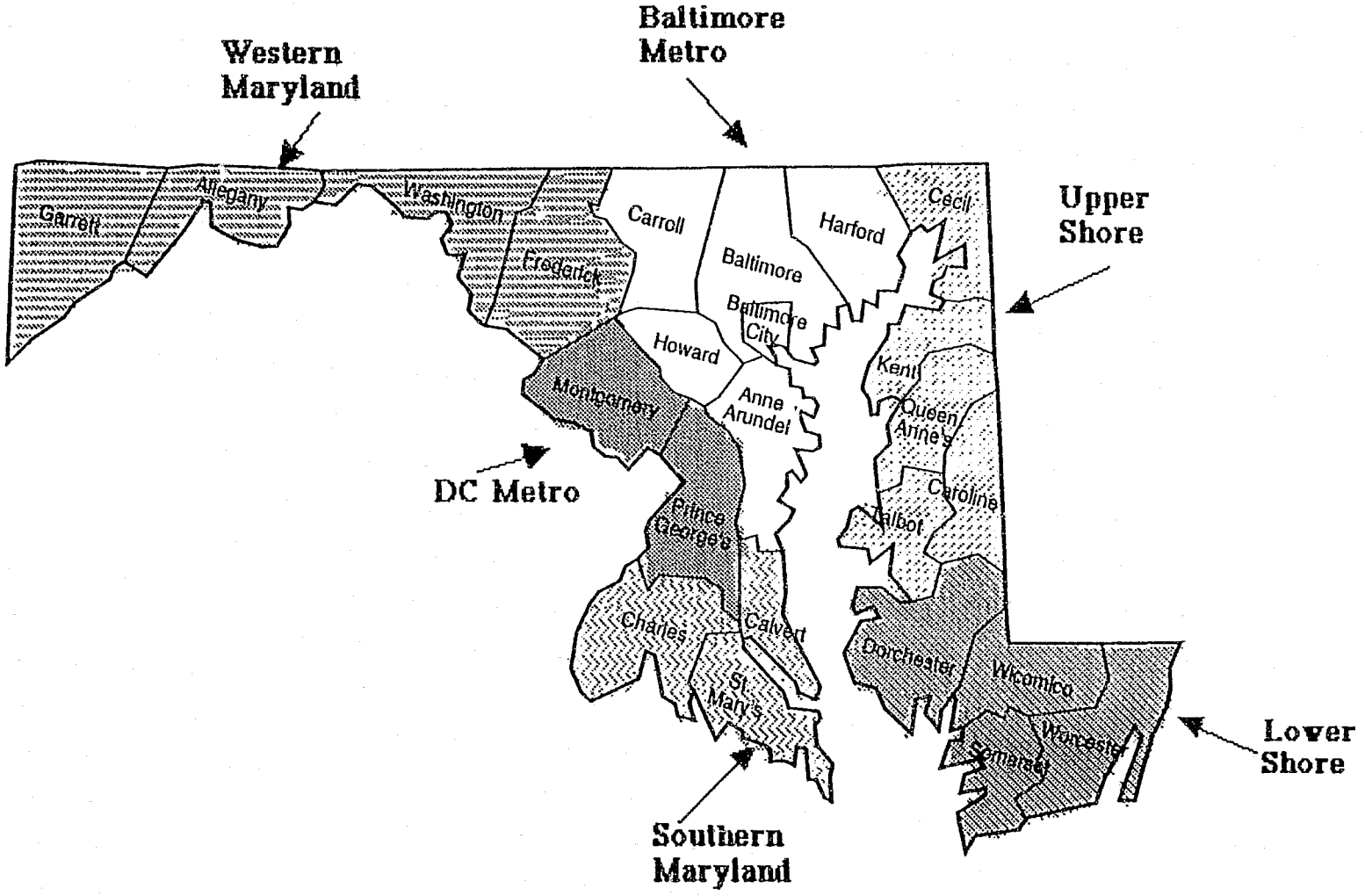
County*	Calls With No AOD Mention	Calls With AOD Mention	Total Calls
Anne Arundel	335	42	377
Allegany	23	5	28
Baltimore City	1,751	349	2,100
Baltimore County	1,058	178	1,236
Calvert	80	18	98
Caroline	16	3	19
Carroll	68	27	95
Cecil	157	9	166
Charles	21	7	28
Dorchester	51	3	54
Frederick*	1,417	157	1,574
Garrett	36	7	43
Harford	99	8	107
Howard*	1,599	133	1,732
Kent	10	1	11
Montgomery*	2,817	102	2,919
Prince George's*	4,130	295	4,425
Queen Anne's	12	1	13
Somerset	120	15	135
St. Mary's*	925	555	1,480
Talbot	37	2	39
Washington	129	16	145
Wicomico*	1,162	115	1,277
Worcester	320	58	378
Out of State	744	31	775
Unknown	3,614	216	3,830
Total	20,731	2,353	23,084

*Counties in which the hotlines are located.

Population and Call Volume, by Region

Because the number of calls to many counties was small, we aggregated counties into regions for the analysis (Figure 2). Assignment was based on the Maryland Adolescent Survey (MAS) regional divisions, as follows: Western Maryland (Allegany, Frederick, Garrett, and Washington counties), Southern Maryland (Calvert, Charles, and St. Mary's counties), Lower Shore (Dorchester, Somerset, Wicomico, and Worcester counties),

Figure 2: Map of MAHRS Regions



Baltimore Metro (Baltimore City and Anne Arundel, Baltimore, Carroll, Harford, and Howard counties), DC Metro (Montgomery and Prince George's counties), and Upper Shore (Caroline, Cecil, Kent, Queen Anne's, and Talbot counties).

Callers from the Upper Shore placed only 1.3% of total calls (and only 16 calls with AOD mentions) during the period (Table 5), so drawing meaningful conclusions about alcohol and other drug trends in the Upper Shore region is difficult. To simplify the presentation of regional results, in subsequent tables we combined calls from the Upper Shore and Out of State regions into an "Other" category.

Table 5: Percent of Population and Call Volume of MAHRS Regions

Region[a]	% of State Population (N=4,781,468)	% of Total Calls (N=19,254)[b]
Baltimore Metro	49.1%	29.3%
DC Metro	31.1	38.1
Western Maryland	7.8	9.3
Southern Maryland	4.8	8.3
Upper Shore	3.8	1.3
Lower Shore	3.4	9.6
Out of State	0.0	4.0
	100.0%	100.0%

[a]Western Maryland = Allegany, Frederick, Garrett, and Washington counties; Southern Maryland = Calvert, Charles, and St. Mary's counties; Lower Shore = Dorchester, Somerset, Wicomico, and Worcester counties; Baltimore Metro = Baltimore City and Anne Arundel, Baltimore, Carroll, Harford, and Howard counties; DC Metro = Montgomery and Prince George's counties; Upper Shore = Caroline, Cecil, Kent, Queen Anne's, and Talbot counties.
[b]Excludes calls from "Unknown" category (3,830), which reduces the total number of calls from 23,084 to 19,254.

The DC Metro and Baltimore Metro regions generated the greatest percentage of calls (70%), but they also have the largest population by far (80% of state population). In addition, three of the hotlines are in the DC Metro and Baltimore Metro regions, and a fourth is nearby in the Western Maryland region. The Lower Shore region had a higher percentage of AOD-related callers than expected (10%), given that the region has only 3% of the state's population. In general, the percentage of calls from a region was roughly equivalent to the region's share of the state's population.

Drugs Used, Ever Injected, and Need for Treatment*

From March through July, 10.2% of calls included AOD-related mentions; the range was 9.8% to 10.8% (Table 6). Except for heroin mentions, which rose steadily from 0.4% to 0.9%, mentions of specific drugs were stable over the period. (Figure B-1 in Appendix B displays the absolute number of AOD-related calls each month by type of drug mentioned.) Reports of injecting illegal drugs were made in 1.1% of calls. Self-reported need for treatment was relatively steady in two categories: an average of 2.1% of callers reported a need for alcohol treatment and an average of 1.1% reported a need for both alcohol and drug treatment. However, the rate of callers reporting a need for drug treatment alone increased steadily from 1.4% to 2.5% over the period.

Calls from agencies, which make up 3% of total calls, are excluded from drug injection and treatment statistics. These calls represent agencies contacting hotlines on behalf of a client, to inquire about hotline services, or to tell hotlines about their services. Agency calls frequently do not provide information on the history of a specific client, so they are excluded from injection and treatment statistics.

AOD Mentions per 100 AOD Calls, by Region and Month

Some of the data presented so far could be misleading because of changes in the number of calls to hotlines from month to month. To control for this potential bias, Table 7 focuses on the rate at which specific drugs were mentioned in each region. It is a useful table for examining changes in alcohol and drug use calls over time. The "total" column is the only column not based on *rates*; it is included so the reader can see the *absolute* number of AOD mentions per region per month. Table B-1 (see Appendix B) provides the absolute number of mentions per region per month for each drug.

A noteworthy trend evident in Table 7 is the steady increase in total rates of crack, marijuana, and heroin mentions over the period. Rates of crack mentions increased in four of six regions (Southern Maryland, Lower Shore, DC Metro, and Other), rates of marijuana mentions increased in three regions (Southern Maryland, Lower Shore, and Baltimore Metro), and rates of heroin mentions increased in three regions (Western Maryland, Baltimore Metro, and DC Metro). It is possible that these increases are linked to increases in drug box completion rates (see Appendix A). However, given that rates of alcohol and cocaine mentions did not increase consistently in any region, despite the high number of mentions in both categories, the increased rates of other drug mentions are not explainable by increased drug box completion rates alone.

---

* The validity of AOD data relies on consistent completion of AOD-related items on the hotline log form. Completion rates rose steadily throughout the five months covered by this report, due to more consistent reporting by hotline counselors. Appendix A provides a discussion of this issue.

Table 6: Percent of Calls per Month with AOD Mentions, Self-reported History of Injecting Illegal Drugs, and Self-reported Need for Treatment (N=23,084 calls in 5 months)

	March (N=5,150)	April (N=4,405)	May (N=4,205)	June (N=4,536)	July (N=4,788)	Total (N=23,084)
Any AOD Mention	9.8%	10.1%	10.8%	10.5%	9.9%	10.2%
Alcohol	6.6%	6.9%	6.5%	6.8%	5.8%	6.5%
Cocaine	2.1	1.7	2.3	2.0	1.9	2.0
Crack	1.5	1.7	2.0	2.0	1.9	1.8
Marijuana	1.1	1.2	1.4	1.3	1.4	1.3
Heroin	0.4	0.5	0.8	0.7	0.9	0.6
Other	1.7	1.3	2.3	2.0	2.2	1.9
Ever Injected*	1.0%	1.0%	1.3%	1.3%	1.1%	1.1%
Need Treatment*						
Alcohol	1.8%	2.3%	2.4%	2.3%	1.7%	2.1%
Drug	1.4	1.6	2.0	2.1	2.5	1.9
Alcohol & Drug	1.1	0.8	1.2	1.2	1.3	1.1
None	95.7	95.3	94.5	94.4	94.6	94.9
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

NOTE: Calls from agencies are excluded from injection and treatment statistics.
*Excludes "doesn't know" and "refused" to answer.

Table 7 shows that alcohol was mentioned in all regions far more frequently than any other substance. (See also Figure B-2 in Appendix B.) The highest rates of heroin and cocaine mentions were in the Baltimore Metro region; crack mentions were more widely distributed.

Comparison of AOD and Non-AOD Callers

Sixty-nine percent of the total calls to the hotlines were from females, but only 47% of calls with AOD mentions were from females (Table 8). Thus, calls from women were less likely to involve AOD mentions than calls from men. The median age of both groups was 30, but only 8% of AOD calls were from the youngest group (less than 20 years old) compared to 18% of non-AOD calls. Hotlines D and E received a lower percentage of AOD calls than non-AOD calls, but Hotline F, which is affiliated with a drug treatment center, received 26% of AOD calls and only 5% of non-AOD calls. Calls from Southern Maryland showed the opposite pattern; they accounted for 6% of the calls without AOD mentions but 27% of calls with AOD mentions. Finally, callers from the DC Metro region made 40% of the calls without AOD mentions but 19% of calls with AOD mentions. Eighty percent of AOD calls came from three regions — Baltimore Metro, DC Metro, and Southern Maryland.

Table 7: AOD Mentions per 100 AOD-related Calls and Total Drug Mentions, by Region and Month (N=2,353 calls with AOD mentions in 5 months)

Region[a]	Month	Alcohol	Cocaine	Crack	Marijuana	Cigarettes	Heroin	LSD	PCP	Other	Absolute No. of AOD Mentions[b]
Western Maryland	March	59	6	9	25	3	6	0	0	13	32
	April	79	5	5	15	3	0	5	0	13	39
	May	74	18	8	13	8	3	3	0	16	38
	June	75	14	18	39	14	4	7	0	14	28
	July	63	8	10	23	15	10	0	2	6	48
Southern Maryland	March	59	18	18	5	1	2	1	4	4	92
	April	69	19	27	8	3	1	1	1	5	104
	May	62	23	23	13	4	5	3	3	8	146
	June	71	14	19	15	3	6	3	2	6	129
	July	73	20	28	12	5	2	4	4	6	109
Lower Shore	March	86	10	18	12	4	0	0	0	10	50
	April	76	10	16	14	4	2	0	0	4	51
	May	71	4	25	21	4	0	4	0	21	24
	June	45	16	35	3	3	0	0	0	3	31
	July	66	9	31	49	3	3	3	0	9	35
Baltimore Metro	March	64	32	13	8	7	9	2	2	8	180
	April	63	24	11	10	3	11	1	1	9	143
	May	46	27	14	11	4	15	2	5	9	122
	June	57	28	13	7	6	12	0	1	9	138
	July	47	25	10	15	5	16	2	3	14	154
DC Metro	March	60	17	18	11	6	1	1	0	7	83
	April	55	10	14	14	6	1	3	0	8	71
	May	58	12	18	17	8	8	2	3	20	65
	June	68	20	23	14	24	4	2	2	19	95
	July	51	19	24	11	14	7	1	4	23	83
Other	March	79	7	7	14	0	0	0	0	7	14
	April	60	20	10	20	0	0	10	10	20	10
	May	80	40	0	0	0	0	0	0	0	5
	June	75	13	13	13	13	0	0	13	0	8
	July	30	0	50	10	0	0	0	0	20	10
Total	March	65	22	15	10	5	5	1	2	8	451
	April	66	17	16	11	4	5	2	1	8	418
	May	59	21	18	13	5	8	3	3	12	400
	June	65	20	19	13	10	7	2	2	10	429
	July	57	19	20	15	8	9	2	3	12	439

NOTE: Rates computed by multiplying each cell of Table B-1 by 100, then dividing by the "Any AOD" value of the cell's row in Table B-1.
[a]Other = Upper Shore and Out of State.
[b]This column reports absolute number of AOD mentions per region per month. All other columns are rates of AOD mentions per 100 AOD-related calls.

Table 8: Characteristics of AOD-related and Non-AOD-related Calls (N=23,084 calls in 5 months)

		Non-AOD (20,731)	AOD (2,353)
Gender	Female	69%	47%
Age	< 20	18	8
	20 - 29	23	34
	30 - 44	46	50
	≥ 45	13	8
		100%	100%
	Median	30	30
Hotline Called	A	32	36
	B	11	10
	C	8	8
	D	21	6
	E	23	14
	F	5	26
		100%	100%
Region	DC Metro	40	19
	Baltimore Metro	29	34
	Lower Shore	10	9
	Southern Maryland	6	27
	Western Maryland	9	9
	Other	6	2
		100%	100%

NOTE: Calls from an agency or a third party are excluded from age and gender statistics.

Characteristics of AOD Callers

Females, as noted, made 47% of the calls with AOD mentions, but they were overrepresented (58%) among calls with heroin mentions and underrepresented (37%) among calls with marijuana mentions (Table 9). The median age of 30 is consistent for almost all groups of callers with specific drug mentions, except for the LSD group, which was slightly older (35). Callers in the middle age groups, ages 20-29 and 30-44, placed 84% of total AOD calls and from 79% to 91% of calls for each individual drug and alcohol. Callers in the under-20 age group, who placed 8% of the AOD calls, were overrepresented among calls with marijuana (16%), LSD (13%), and PCP (17%) mentions. Callers in the over-44 group, who placed 8% of the calls with AOD mentions, were overrepresented among calls with alcohol mentions (11%) and underrepresented among calls with marijuana mentions (1%). A pattern of age-related usage is evident here: alcohol mentions were more prevalent among older callers and marijuana mentions were more prevalent among younger callers. In addition, PCP and LSD mentions may be more prevalent among young callers, but the small number of total mentions makes this difficult to determine.

Thirty-four percent of calls with AOD mentions were from the Baltimore Metro region, but Baltimore Metro was overrepresented among calls with heroin (66%) and cocaine (48%) mentions. All other regions were underrepresented among calls with heroin mentions, largely due to the high number of heroin mentions in Baltimore Metro. Twenty-seven

Table 9: Demographics, Drugs Used, Ever Injected, and Need for Treatment of Callers with AOD Mentions
(N=2,353 calls with AOD mentions in 5 months)

		Percent Mentioned							
		Alcohol (N=1,465)	Cocaine (N=451)	Crack (N=405)	Marijuana (N=282)	Heroin (N=147)	LSD (N=49)	PCP (N=43)	Any Alc/Drug (N=2,353)
Gender	Female	42	46	46	37	58	17	33	47
Age	< 20	6	7	6	16	5	13	17	8
	20 - 29	31	41	42	37	37	37	37	34
	30 - 44	53	49	49	46	52	44	42	50
	≥ 45	11	3	3	1	6	6	4	8
		100%	100%	100%	100%	100%	100%	100%	100%
	Median	32	30	30	30	31	35	33	30
Region	Western Maryland	10	5	5	16	7	13	2	9
	Southern Maryland	29	26	36	24	14	35	37	27
	Lower Shore	10	5	12	10	1	5	0	9
	Baltimore Metro	31	48	24	28	66	27	40	34
	DC Metro	18	15	21	20	12	17	16	19
	Other	2	1	2	2	0	3	5	2
		100%	100%	100%	100%	100%	100%	100%	100%
Ever Injected Illegal Drugs	Yes	10	28	22	14	68	15	20	13
	No	57	43	47	56	16	59	55	53
	Refused	9	10	8	6	5	3	3	10
	Doesn't Know	24	19	23	24	11	23	22	24
		100%	100%	100%	100%	100%	100%	100%	100%
Thinks He/She Needs Treatment Now	No	32	25	22	34	24	45	31	30
	Yes - Drug	3	39	43	25	44	29	26	21
	Yes - Alcohol	35	3	2	6	2	2	2	22
	Yes - Both	16	22	24	18	24	14	34	13
	Refused	3	3	1	2	0	0	2	2
	Doesn't Know	11	8	8	15	6	10	5	12
		100%	100%	100%	100%	100%	100%	100%	100%

NOTE: Calls from an agency or a third party are excluded from age and gender statistics. Agency calls are also excluded from injection and treatment statistics.

percent of calls with AOD mentions were from Southern Maryland, but the region was overrepresented among calls with LSD (35%), crack (36%), and PCP (37%) mentions. The other regions were proportionally represented in AOD-related calls for most drugs. The information collected on injection of illegal drugs lends validity to the data. Although only 13% of the calls with AOD mentions involved a person who had ever injected illegal drugs, 68% of the calls with heroin mentions involved a person who had injected. The next highest group was cocaine calls, 28% of which involved a report of drug injection. The substantial difference in injection practices between heroin calls and all other alcohol and drug calls is consistent with the typical route of administration of heroin.

Callers with AOD mentions were asked, "Does this person think s/he now needs treatment for alcohol or drug use?" Twenty-one percent responded "yes" for just drug treatment, 22% for just alcohol treatment, and 13% for both alcohol and drug treatment. Hence, more than half (56%) of calls with AOD mentions involved a person who needed some kind of AOD treatment services. The highest rates of treatment need were associated with heroin (70%), crack (69%), and cocaine (64%). The lowest rates were for LSD (45%) and marijuana (49%).

Characteristics of AOD Callers, by Need for Treatment

Fifty-one percent of callers who reported a need for drug treatment were female, compared to only 36% of callers who reported a need for both alcohol and drug treatment (Table 10). Callers who just wanted drug treatment were more likely to be under age 30 than callers who just wanted alcohol treatment (56% versus 30%), and the alcohol-only group was more likely to be over age 44 than the drug-only group (13% versus 2%). Not all hotlines and regions had equal proportions of callers who reported a need for treatment. Callers to Hotline A placed 38% of calls with AOD mentions but only 25% of calls with reported need for alcohol treatment. Callers from Southern Maryland placed 40% of calls with reported need for both alcohol and drug treatment, but overall they accounted for only 28% of calls with AOD mentions. Among calls in which need for alcohol and drug treatment was reported, 40% involved a history of injection of illegal drugs.

Callers Referred to Addiction Services

Of 2,353 calls with alcohol or drug mentions, 32% resulted in referrals to addiction services (Table 11). Calls with crack (44%), PCP (40%), and LSD (39%) mentions were most likely to result in referrals to addiction services, compared to 31% of calls with marijuana mentions and 21% of calls with mentions of "other" drugs, a category that includes cigarettes, Darvon, inhalants, downers, and several other infrequently mentioned drugs. In 37% of calls that included mention of injection of illegal drugs, the callers were referred to addiction services. Not surprisingly, the highest rates of referral were for calls in which a need for treatment was reported — from 43% to 51% of these calls resulted in referrals, depending on what kind of treatment was needed. More surprising is the finding that only about half of these calls resulted in treatment referrals, although many of the unreferred callers may have already been participating in drug or alcohol treatment programs.

Table 10: Characteristics of AOD-related Calls and Callers, by Need for Treatment (N=2,353 calls with AOD mentions in 5 months)

		Treatment Needed Now?				
		No (N=612)	Alc Only (N=456)	Drug Only (N=422)	Alc & Drug (N=239)	Total (N=1,729)[a]
Gender	Female	54%	42%	51%	36%	47%
Age	< 20	12	2	7	8	7
	20 - 29	26	28	49	41	35
	30 - 44	50	57	42	48	50
	≥ 45	12	13	2	3	8
		100%	100%	100%	100%	100%
	Median	31	33	27	30	30
Hotline	A	49	25	40	29	38
	B	10	13	9	9	10
	C	8	8	3	5	6
	D	6	5	5	3	5
	E	11	16	19	13	15
	F	16	33	24	41	26
		100%	100%	100%	100%	100%
Region	DC Metro	16	19	23	15	19
	Baltimore Metro	46	23	38	28	35
	Lower Shore	9	12	8	10	9
	Southern Maryland	18	35	25	40	28
	Western Maryland	9	8	4	5	7
	Other	2	3	2	2	2
		100%	100%	100%	100%	100%
Drug Mentioned[b]	Alcohol	66%	98%	10%	85%	63%
	Cocaine	17	2	37	38	21
	Crack	14	2	39	38	20
	Marijuana	15	3	16	20	13
	Heroin	5	<1	14	14	7
Ever Injected (yes)		13%	6%	31%	40%	19%

NOTE: Calls from an agency or a third party are excluded from age and gender statistics. Agency calls are also excluded from injection and treatment statistics.

[a]Excludes "refused" (53 calls), "doesn't know" (243), and "missing" (328).

[b]Sums to greater than 100% because some callers mentioned multiple drugs.

Table 11: Referral to Addiction Services, by Drug Mentioned, Ever Injected, and Need for Treatment (N=2,353 calls with AOD mentions in 5 months)

	Referred to Addiction Services
Alcohol or Drug Mentioned (N)	
Crack (405)	44%
PCP (43)	40
LSD (49)	39
Cocaine (451)	37
Heroin (147)	36
Alcohol (1,465)	31
Marijuana (282)	31
Other Drug (335)	21
All AOD Calls (2,353)	32
Ever Injected (N=241)	37%
Self-reported Need for Treatment (N)*	
Both (239)	51%
Drug (422)	50
Alcohol (456)	43
No (612)	15

*Excludes "refused" (53 calls), "doesn't know" (243), and "missing" (328).

Comparison of MAHRS Data and SAMIS Data

The principal purpose of MAHRS is to investigate hotline calls as indicators of need for substance abuse treatment in the caller population. One way to determine if hotline calls are valid indicators of treatment need is to compare the MAHRS findings to an indicator of treatment utilization, such as the Substance Abuse Management Information System (SAMIS) indicators collected by the Alcohol and Drug Abuse Administration (ADAA). For each person admitted to alcohol or drug treatment in Maryland, SAMIS records up to three substances mentioned by the client as most problematic in his or her life. If AOD-related hotline calls are a good indicator of relative need for substance abuse treatment, MAHRS callers can be expected to mention alcohol and other drugs in similar proportions to SAMIS clients. If crack was mentioned in 30% of MAHRS calls with AOD mentions, for example, one would expect a similar proportion of SAMIS clients to mention crack. Total correspondence is not expected, because unlike MAHRS callers, SAMIS clients are currently entering treatment, so the two populations presumably represent populations that differ to some degree with regard to life-style, severity of drug problem, motivation to seek treatment, and other important dimensions.

Table 12: Comparison of SAMIS and MAHRS AOD Mentions, by Drug

Alcohol Mentions

	SAMIS (N=40,932)	MAHRS (N=1,332)
Western Maryland	88%	70%
Southern Maryland	87	55
Lower Shore	84	71
DC Metro	77	59
Baltimore Metro	63	56

Marijuana Mentions

	SAMIS (N=14,915)	MAHRS (N=263)
Western Maryland	35%	22%
Lower Shore	33	19
Southern Maryland	25	11
Baltimore Metro	24	10
DC Metro	22	13

Cocaine/Crack Mentions

	SAMIS (N=23,583)	MAHRS (N=796)
Baltimore Metro	47%	36%
DC Metro	31	31
Lower Shore	30	29
Southern Maryland	25	37
Western Maryland	24	16

Heroin Mentions

	SAMIS (N=12,294)	MAHRS (N=140)
Baltimore Metro	34%	13%
DC Metro	8	4
Lower Shore	3	1
Western Maryland	2	5
Southern Maryland	2	3

PCP Mentions

	SAMIS (N=2,258)	MAHRS (N=43)
DC Metro	8%	2%
Southern Maryland	7	3
Baltimore Metro	3	2
Western Maryland	3	1
Lower Shore	0	0

NOTES: SAMIS data are for fiscal year 1993. MAHRS data are for March through July 1993. The Upper Shore region was omitted from the table because of the small number of calls.

Table 13: Comparison of SAMIS and MAIIRS AOD Mentions, by Region

Western Maryland

	SAMIS Mentions (N=4,355)	MAIIRS Mentions (N=185)
Alcohol	88%	70%
Marijuana	35	22
Cocaine/Crack	24	16
PCP	3	1
Heroin	2	5

Southern Maryland

	SAMIS Mentions (N=3,442)	MAIIRS Mentions (N=580)
Alcohol	87%	55%
Marijuana	25	11
Cocaine/Crack	25	37
PCP	7	3
Heroin	2	3

Lower Shore

	SAMIS Mentions (N=2,864)	MAIIRS Mentions (N=191)
Alcohol	84%	71%
Marijuana	33	19
Cocaine/Crack	30	29
Heroin	3	1
PCP	0	0

Baltimore Metro

	SAMIS Mentions (N=32,906)	MAIIRS Mentions (N=737)
Alcohol	63%	56%
Cocaine/Crack	47	36
Heroin	34	13
Marijuana	24	10
PCP	3	2

DC Metro

	SAMIS Mentions (N=11,036)	MAIIRS Mentions (N=397)
Alcohol	77%	59%
Cocaine/Crack	41	31
Marijuana	22	13
Heroin	8	4
PCP	8	2

NOTES: SAMIS data are for fiscal year 1993. MAIIRS data are for March through July 1993. The Upper Shore region was omitted from the table because of the small number of calls.

A comparison of the SAMIS and MAHRS indicators shows considerable agreement regarding regional distribution of substance use (Table 12). In general, the region with the highest percentage of SAMIS mentions for a given drug is also the MAHRS region with the highest percentage of calls with mentions of the same drug, and so on for the second, third, fourth, and last region. The only substantial deviation from this pattern is found with Southern Maryland's alcohol mentions (second highest in SAMIS, lowest in MAHRS) and cocaine/crack mentions (second lowest in SAMIS, highest in MAHRS). The pattern holds for most regions for all five substances included in the table. Moreover, as discussed above, we expect some differences between the two indicators because they are likely to represent somewhat different populations of AOD users.

Broad agreement is also found between the MAHRS and SAMIS indicators regarding relative number of mentions of each drug in a given region (Table 13). The drug with the greatest proportion of SAMIS mentions in a region is also the drug with the greatest proportion of MAHRS mentions in the same region, and so on for the second, third, fourth, and last drug. This pattern holds for all drugs in two regions (DC Metro and Baltimore Metro), and in the remaining regions (Western Maryland, Southern Maryland, and Lower Shore) four out of five drugs are in corresponding order.

IMPLICATIONS

Several findings indicate that calls to MAHRS hotlines are a promising indicator of need for substance abuse treatment in Maryland. First, steady numbers of monthly AOD-related calls to the six hotlines provide a baseline against which changes in drug use can be measured. Second, the compliance of hotline counselors with data collection protocols is high, which ensures that findings are representative of the overall caller population. Third, the internal consistency of the data is good. For example, Hotline F, which is affiliated with a drug treatment center, received 26% of AOD-related calls and only 5% of non-AOD calls. Also, although only 13% of the calls with AOD mentions involved a person who had ever injected illegal drugs, 68% of the calls with heroin mentions involved a person who had injected, which is consistent with the typical route of administration of heroin. Fourth, most Maryland counties are represented among MAHRS callers, so findings can be used to assess statewide substance use trends. Fifth, the MAHRS data show impressive agreement with SAMIS, an established indicator of need for substance abuse treatment.

The current findings provide important information about substance use and need for treatment in Maryland. Of 23,084 calls in the first five months of MAHRS operation, 10.2% mentioned alcohol and/or drugs as a problem, 1.1% reported a history of injecting illegal drugs, and 5.1% reported a need for substance abuse treatment. The highest rates of injection of illegal drugs were reported in calls with heroin, crack, and cocaine mentions. The data also show that the highest percentage of calls with reported need for treatment were from callers who mentioned alcohol. In the current sample, about half of the calls with reported need for treatment resulted in referral to treatment.

Another important finding is the successful operation of the MAHRS system. Based on a review of published literature, this is the first time that several hotlines have adopted a mutually acceptable data collection process for operational and research purposes and then demonstrated a high level of compliance with research protocols.

After five months of operation, MAHRS has demonstrated the kind of stability that is required for tracking trends. If heroin mentions increased rapidly after being consistently low over a long period, CESAR could alert staff and local agencies to the problem. If researchers suspected a declining trend in crack use, perhaps it would be reflected in the hotline calls. More than half of callers with alcohol and other drug issues reported a current need for treatment, which lends credibility to MAHRS as a needs assessment and treatment planning tool. Future reports will update MAHRS findings periodically.

APPENDIX A

METHODOLOGICAL AND ADMINISTRATIVE CONSIDERATIONS

METHODOLOGICAL AND ADMINISTRATIVE CONSIDERATIONS

DEVELOPMENT OF THE COMMON DATA COLLECTION FORM

The first step in automating the data collection and analysis procedures was to design a single telephone log form that would meet the needs of the six hotlines and CESAR. Each hotline already had its own form, but a consensus was reached to use one hotline's form as a base. Changes were then made in two areas. First, staff at each hotline recommended items to be eliminated or added so that the form would better meet their individual data needs. This was an iterative process involving several revisions and meetings with staff of all the hotlines. Second, CESAR added a set of items, known as the "drug box" questions, that were to be asked of any caller who mentioned alcohol or drugs as a problem. The drug box questions are, "Has this person ever injected illegal drugs?" and "Does this person think that s/he now needs treatment for alcohol or drug abuse?"[1] Also included is a list of drugs that are checked off if mentioned by the caller.

Once the data needs were established, CESAR staff worked with National Computer Systems to design a scannable version of the telephone log form (Figure 1). An important design concern involved maintaining the anonymity of the callers. CESAR needed to receive the forms for data processing, but hotline staff were accustomed to recording confidential information directly on the forms. A lesser concern was devising a convenient way to provide the hotline with a copy of the form.

To deal with these problems, CESAR developed a "snap set" scanning sheet. This is a two-sheet form bound on one side. The scannable sheet is the first page, and the second sheet is a non-scannable copy of the first. A piece of carbon paper separates the two sheets and is used to produce the copy. The sheet was designed so that all machine-scannable information was on the front of the first sheet and all confidential information was on the back of the second sheet. When a call has been completed, the scannable form and the carbon copy are separated, and counselors write their confidential assessment of the call on the back of the copy. The scannable forms are then sent to CESAR monthly for processing, for which CESAR has purchased an optical scanner and written a customized scanning program. A more complete discussion of these procedures is found in the *MAHRS Training and Procedures Manual* (Wagner, 1993).

After the form was designed, CESAR and the hotlines began pilot testing. CESAR obtained a sample of completed forms to ensure that the drug box questions were being answered properly and to determine the percentage of calls involving alcohol and other drug

---

[1]When a caller is calling about someone else (a third party) and mentions the third party's drug use, the caller is asked to report on the third party's injection history and need for treatment.

issues. The hotlines provided feedback about the data collection system, which was modified and reevaluated several times. In March 1993, all hotlines switched to the new system.

Each month, CESAR provides each hotline with an updated file of its data. Using a software application created by CESAR, the hotlines can then produce reports tailored to their individual needs.

DATA COLLECTION

To obtain answers to the drug box questions, hotline counselors need to deviate only slightly from their standard procedures. If a caller mentions alcohol or drugs, the counselors are instructed to ask the drug box questions. They are not asked to probe for specific drugs used by callers, but rather to record on the log form any drugs mentioned spontaneously by the caller.

In most cases, hotline counselors fill out one form per phone call. However, counselors were asked to fill out only one form per month for each frequent caller, some of whom call daily or even more often.[2] If frequent callers are identified in this way, CESAR can adjust the database so that characteristics of frequent callers are not overrepresented in the sample. For example, if a heroin user from Baltimore called twice every day, and a counselor filled out a new log sheet each time, Baltimore's heroin problem would appear spuriously high.

Ideally, one call per month from each frequent caller would be included in the analyses. Unfortunately, some hotlines are unable to record data in a way that makes this possible. It was therefore necessary either to include or exclude all calls from frequent callers. Given that frequent callers generate 33% of all calls but constitute much less than 33% of all callers,[3] we decided that excluding them would result in less bias than including them. Nonetheless, some people probably called two or more times in a month and were not categorized as frequent callers, so some multiple counting is inevitable.

Because call volume is a principal concern of hotlines, hotline staff wanted statistics on all their calls, including those from frequent callers. To accommodate the hotlines while

---

[2] Two categories of frequent callers ("frequent" and "common") were designated on the data collection form, principally to meet cite-specific needs of different hotlines. For the purposes of this report, the categories are equivalent, and the term "frequent" is used throughout to refer to both groups.

[3] It is impossible to determine the exact percentage from the existing data, but since frequent callers by definition call several times per month, they constitute a much larger fraction of total calls than of total callers.

excluding frequent callers from CESAR's analyses, log forms include a numeric tally of the number of calls per month from each frequent caller. This tally is then used to tailor reports to the specific needs of individual hotlines.

DRUG BOX COMPLETION RATES

A crucial aspect of MAHRS data collection is that each counselor ask the drug box questions when a caller identifies alcohol or drugs as a problem. If the drug box completion rate is low, trends might be missed or differences might exist between calls for which the drug box is and is not completed. For example, if a hotline had low completion rates during a period of increasing heroin mentions among its callers, the trend would be missed by MAHRS. One important measure of data quality is, therefore, the drug box completion rate.

In the first month of data collection, drug box questions were completed only 70% of the time (Table A-1). However, this rate increased to 87% in the third month, and to 96% in the fifth month. The "user" column in Table A-1 indicates whether an AOD mention involves the caller, a third party, or both. The lowest completion rate for this question in March was 60%, but by July the lowest rate was 91%. The "ever injected" column indicates responses to the question, "Has this person ever injected illegal drugs?" The lowest completion rate for this question was 19% in the third month, compared to 90% in the fifth month. The "needs treatment" column indicates responses to the question, "Does this person think that s/he now needs treatment for alcohol or drug use?" The lowest completion rate for this question was 58% in the first month, compared to 92% in the fifth month.

LIMITATIONS OF DATA

Because the six hotlines vary in terms of location, call volume, caller characteristics, advertising, and other dimensions, sampling is nonrandom. As a result, explaining differences between hotlines can be difficult. For example, even though MAHRS hotlines are geographically diverse, some counties have greater access to hotline services than others. A difference between counties in drug prevalence rates could therefore be attributed to either hotline access or severity of the drug problem. Similarly, all six hotlines handle drug-related calls, but some hotlines are better known for this service than others. In fact, the hotline with the highest rate of AOD-related calls is part of a substance abuse treatment agency that encourages clients to call the hotline. If one hotline received a high volume of drug-related calls, it could be explained by the orientation of the hotline, severity of the local drug problem, extent of advertising, or a combination of these and other factors. Establishing the validity of the MAHRS data therefore requires comparison with previously validated measures of substance use prevalence and need for substance abuse services.

Despite these limitations, standardized data collection permits assessment of treatment needs and AOD use trends. If procedures are followed consistently, and if rates of AOD use and need for treatment remain stable over time, deviations can be assumed to be associated with underlying drug trends.

Table A-1: Completion Rates for Three "Drug Box" Questions

		Percent Completing Question			
		User*	Ever Injected	Needs Treatment	Average of 3 Questions
Hotline A	March	85%	60%	76%	74%
	April	86	80	85	84
	May	92	77	82	84
	June	89	91	93	91
	July	98	97	98	98
Hotline B	March	97	88	94	93
	April	91	95	95	94
	May	100	97	97	98
	June	92	78	86	85
	July	98	98	98	98
Hotline C	March	90	48	66	68
	April	80	60	64	68
	May	95	95	97	96
	June	94	85	82	87
	July	92	90	92	91
Hotline D	March	69	46	59	58
	April	60	40	50	50
	May	48	19	33	33
	June	96	100	100	99
	July	95	100	100	98
Hotline E	March	60	46	58	55
	April	33	49	65	49
	May	79	93	90	87
	June	91	95	94	93
	July	91	92	94	92
Hotline F	March	73	53	63	63
	April	89	83	91	88
	May	86	96	95	92
	June	99	97	97	98
	July	96	100	100	99
Hotline Average	March	80	59	71	70
	April	79	75	82	79
	May	87	86	88	87
	June	93	92	93	93
	July	96	96	97	96

*Identifies whether the "user" who is the focus of the call is the caller, a third party, or both.

APPENDIX B

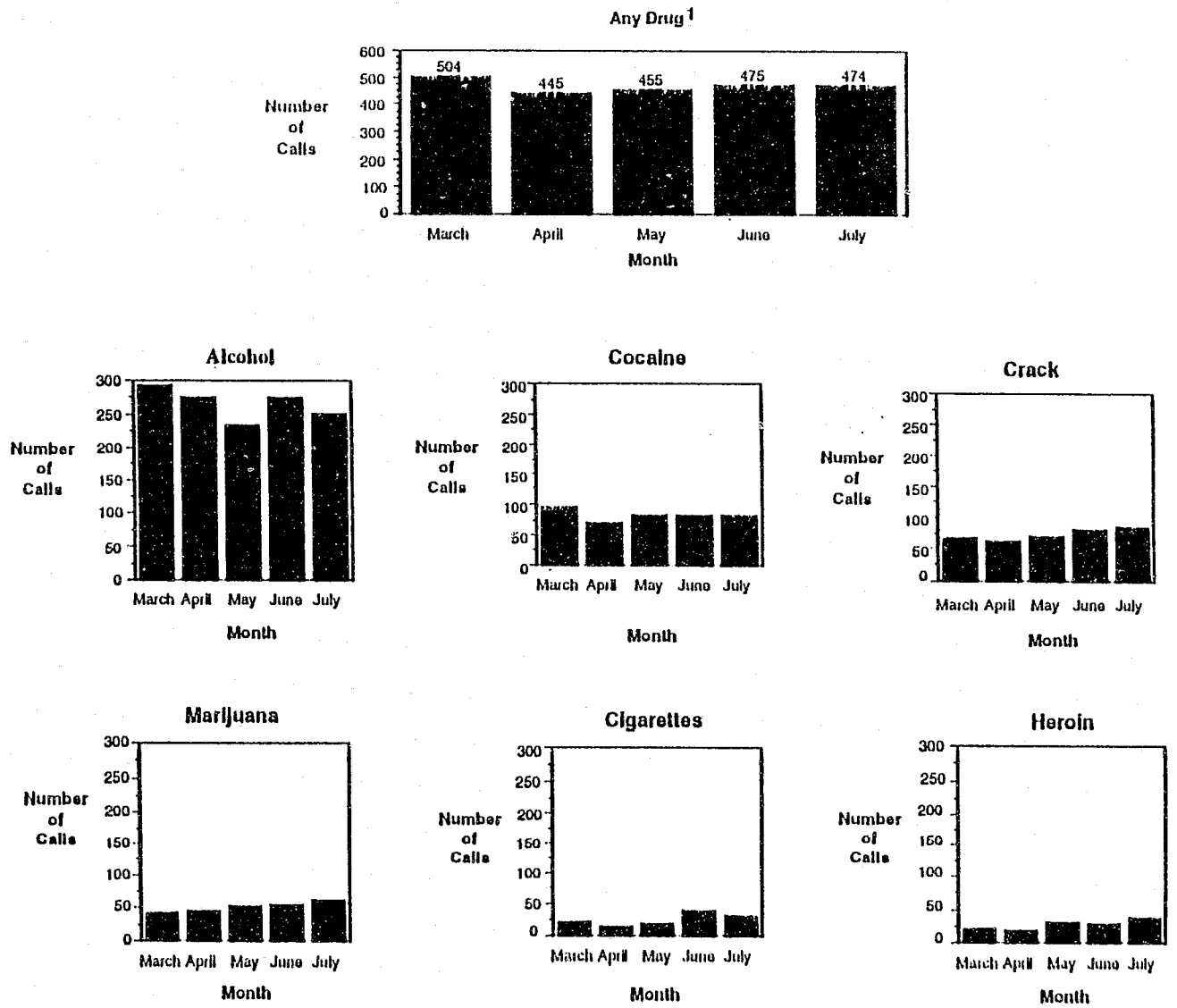
SUPPLEMENTAL DATA

Table B-1: Number of Drug Mentions, by Region and Month

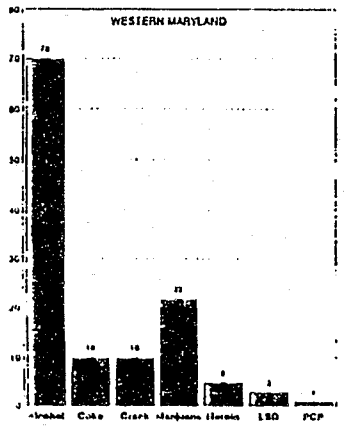
Region	Month	Alcohol	Cocaine	Crack	Marijuana	Cigarettes	Heroin	LSD	PCP	Other	Any AOD*
Western Maryland	March	19	2	3	8	1	2	0	0	4	32
	April	31	2	2	6	1	0	2	0	5	39
	May	28	7	3	5	3	1	1	0	6	38
	June	21	4	5	11	4	1	2	0	4	28
	July	30	4	5	11	7	5	0	1	3	48
Southern Maryland	March	54	17	17	5	1	2	1	4	4	92
	April	72	20	28	8	3	1	1	1	5	104
	May	91	34	34	19	6	7	4	4	11	146
	June	92	18	25	19	4	8	4	3	8	129
	July	80	22	31	13	5	2	4	4	6	109
Lower Shore	March	43	5	9	6	2	0	0	0	5	50
	April	39	5	8	7	2	1	0	0	2	51
	May	17	1	6	5	1	0	1	0	5	24
	June	14	5	11	1	1	0	0	0	1	31
	July	23	3	11	17	1	1	1	0	3	35
Baltimore Metro	March	116	58	24	14	13	16	3	4	14	180
	April	90	34	16	14	5	16	2	2	13	143
	May	56	33	17	13	5	18	3	6	11	122
	June	79	38	18	10	8	17	0	1	12	138
	July	73	39	16	23	8	25	3	4	21	154
DC Metro	March	50	14	15	9	5	1	1	0	6	83
	April	39	7	10	10	4	1	2	0	6	71
	May	38	8	12	11	5	5	1	2	13	65
	June	65	19	22	13	23	4	2	2	18	95
	July	42	16	20	9	12	6	1	3	19	83
Other	March	11	1	1	2	0	0	0	0	1	14
	April	6	2	1	2	0	0	1	1	2	10
	May	4	2	0	0	0	0	0	0	0	5
	June	6	1	1	1	1	0	0	1	0	8
	July	3	0	5	1	0	0	0	0	2	10
Total	March	293	97	69	44	22	21	5	8	34	451
	April	277	70	65	47	15	19	8	4	33	418
	May	234	85	72	53	20	31	10	12	46	400
	June	277	84	82	55	41	30	8	7	43	429
	July	251	84	88	64	33	39	9	12	54	439

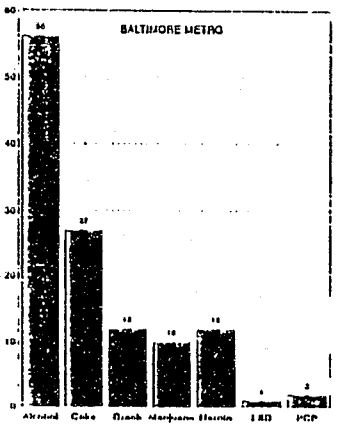
*Sums to less than the row total because some callers mention multiple substances.

Figure B-1: Number of AOD-related Calls per Month, by Type of Drug Mentioned



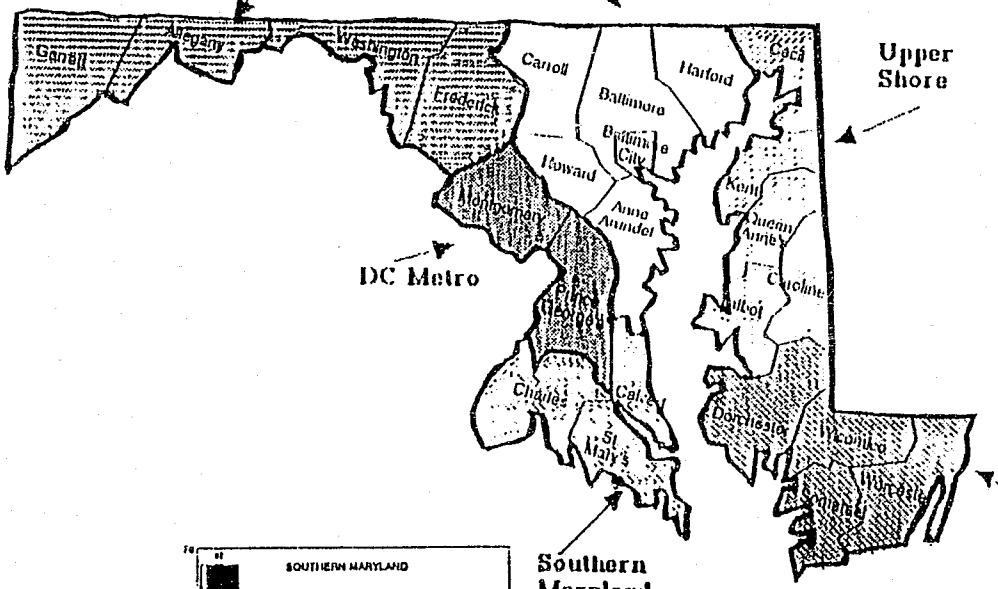
[1]All AOD mentions (including PCP, LSD, and Other).



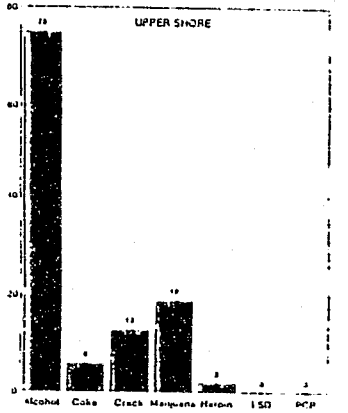


Western Maryland

Baltimore Metro



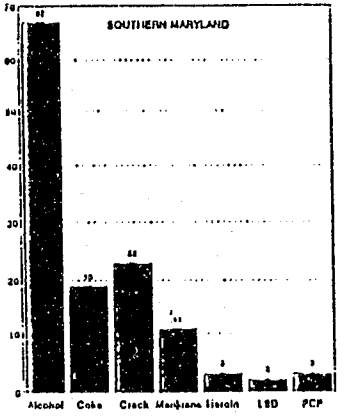
Upper Shore

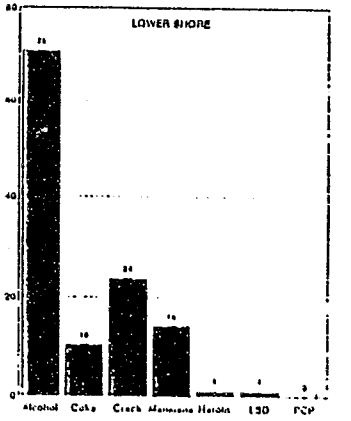


DC Metro

Lower Shore

Southern Maryland





APPENDIX C

REFERENCES

REFERENCES

Gold, M.S. (1984). *800-COCAINE.* New York: Bantam Books.

Hall, J. N. (1988). Sentinel for prevention: The drug hotline and information center. *Street Pharmacologist*, 12(1):5-6. Published by Upfront Inc., Miami, Fla.

Roehrich, H. (1988). Familial addiction in cocaine abusers. *Journal of Clinical Psychiatry*, 49(8), 326.

Shiffman, S. (1986). A cluster-analytic classification of smoking relapse episodes. *Addictive Behaviors*, 11, 295-307.

Shiffman, S., & Jarvik, M. (1987). Situational determinants of coping in smoking relapse crises. *Journal of Applied Social Psychology*, 17(1), 3-15.

Wagner, M. (1993). *Automation of data collection and analysis for statewide hotline information: Training and procedures manual.* College Park, MD: Center for Substance Abuse Research.

Washton, A.M., Gold, M.S., & Pottash, A.L.C. (1984). Survey of 500 callers to a national cocaine hotline. *Psychosomatics*, 25(10), 1-5.

Washton, A. & Gold, M. (1987). Recent trends in cocaine abuse: A view from the national hotline, '800-COCAINE'. *Advances in Alcohol and Substance Abuse*, 6(2), 31-47.