Kentucky DUI Assessment Report for 2003

Prepared for:
Karyn Hascal
Director - Kentucky Division of
Mental Health and Substance Abuse

Prepared by:
Center on Drug and Alcohol Research
University of Kentucky

Principal Investigator -------------J. Matthew Webster

Co-Investigator -------------Carl G. Leukefeld

Study Director -------------David B. Clark

Research Analyst -------------Steven Cook

Programmer -------------Dalton Ruth

UK
UNIVERSITY OF KENTUCKY
Center on Drug and Alcohol Research

643 Maxwelton Court
Lexington, KY 40506-0350

cdar.uky.edu

TABLE OF CONTENTS

EXECUTIVE SUMMARY

In calendar year 2003, 21,731 DUI assessments were submitted to the Kentucky Division of Mental Health and Substance Abuse by 115 licensed and certified DUI assessment programs. These records include education and treatment information for persons convicted of DUI who were assessed and referred for an intervention. Once a person has met or failed to meet the requirements of the treatment and or education intervention to which they were referred, that record is considered closed and submitted. The University of Kentucky Center on Drug and Alcohol Research is contracted by the Division of Mental Health and Substance Abuse to receive these records from DUI assessment programs each month and to maintain this information in a database. This report provides information on records submitted from January 1, 2003 through December 31, 2003.

The typical person assessed for a DUI in Kentucky in 2003 is a male in his 20's who has been convicted of his first DUI. His blood alcohol level is about 0.10 and there is about a 40% chance he has met DSM-IV diagnostic criteria for abuse or dependence in his lifetime. The typical offender is referred for a 20 hour education intervention which he completes within 6 months of his assessment.

- For 2003, the number of DUI Assessments in Kentucky was 21,731.
  - Gender:
    - Males   83%
    - Females   17%
  - Age:
    - 21-40 years old   63%
      - 21-30 years old   36%
      - 31-40 years old   27%

- Program referrals were made to:
  - 20-Hour Education   57%
  - Outpatient   47%
  - Intensive Outpatient   2%
  - Residential   2%
    *Percentages add up to more than 100% because referrals can be made to more than one type of intervention.

- Overall, 78% of persons were compliant with their education/treatment referrals. Non-compliers were most likely to be under 40 years of age, have multiple DUI convictions, and met at least three DSM-IV criteria for dependence in their lifetime. Additionally, non-compliant persons scored significantly higher on the AUDIT and DAST screening instruments, were referred to higher levels of care, and were more likely to have been convicted in a Dry county than compliant persons. Combinations of risk factors appear to increase the risk of non-compliance.

- The number of females who met DSM-IV criteria for alcohol or drug dependence was slightly lower than that of males (11.1% vs. 12.3%). This is different from national data which shows that females are dependent about half as much as males (2.6% vs. 6.3%)[9].

- Only 5% of all assessments used the optional Diagnostic Interview Schedule (DIS) for drugs; 16% of assessments used the optional Diagnostic Interview Schedule (DIS) for alcohol.

- Assessment programs referred individuals to themselves for education and/or treatment services 95% of the time.

- Publicly funded programs completed 28% of all assessments. These programs represent about 11% of assessment programs and 35% of assessment sites in Kentucky.

- Males scored higher than females on the Alcohol Use Disorders Identification Test (AUDIT) 7.7 vs. 6.3, which measures problems associated with alcohol use, but no gender differences were found on the Drug Abuse Screening Test (DAST) 5.0 vs. 5.0, which screens for problems associated with drug use.

- Half (50%) of all individuals were referred to an education intervention as their highest level of care rather than treatment.

- 1,541 (7.9%) of assessments submitted in 2003 were for persons under the legal drinking age.

BACKGROUND

This page left intentionally blank.

Study Overview

In accordance with Kentucky Revised Statute 189A.040, Kentucky licensed drivers convicted of Driving Under the Influence (DUI) are required to receive an assessment by a state certified DUI assessor in a state licensed and certified DUI assessment program. The purpose of the assessment is to determine the appropriate level of care to address the person's problem. If treatment is needed, the person can be referred to one or more of the following modalities: outpatient, intensive outpatient, or residential treatment. Referral may also include an education intervention or an education intervention coupled with treatment.

If the person finishes their education and/or treatment requirements consistent with his or her referral within a stipulated timeframe, the person is considered "compliant." However, if the person fails to meet the referral requirements he/she is considered "non-compliant." In either case, once a person is designated as compliant or non-compliant, that assessment is "completed." DUI Assessment programs are required (908 KAR 1:310) to send completed records each month to the University of Kentucky Center on Drug and Alcohol Research (CDAR), which receives them on behalf of the Kentucky Division of Mental Health and Substance Abuse.

CDAR serves as the repository for state DUI assessment records. CDAR receives a disk every month from each DUI assessment program containing the completed records for that month. The data is entered into a database from which this report was developed.

Data Description

DUI assessment records provide demographic information about the person, results of the assessment, and education/treatment information. Demographic information includes age, gender, blood alcohol content, DUI conviction history, and county of conviction. Records include four assessment instruments:

- Alcohol Use Disorders Identification Test (AUDIT)[1] – The AUDIT was developed by the World Health Organization as a screening method for excessive drinking. The test consists of 10 questions scored from 0 to 4. A combined score of 8 or more is considered as positive (i.e. the individual has a drinking problem).
- Drug Abuse Screening Test (DAST)[2] – The DAST was developed to assess the extent of drug problems. The test consists of 28 true/false questions with a score of 1 or 0. A combined score of 5 or more is considered as positive (i.e. the individual has a drug problem).
- DSM-IV[3] checklist for Substance Abuse and Dependence. The Diagnostic and Statistical Manual, Fourth Edition (DSM-IV) was developed by the American Psychiatric Association as the standard for psychiatric diagnoses. A person who meets three (or more) of the seven dependence criteria within a 12-month time frame is considered as dependent on the substance in question. A person who meets one of four abuse criteria is considered as abusing the substance.
- Diagnostic Interview Schedule (DIS)[4] The DIS was developed at the request of the National Institute of Mental Health (NIMH) as a comprehensive diagnostic instrument which could be administered either by lay interviewers or by clinicians. The instrument includes 30 questions which address abuse and dependence criteria.

Information about the intervention referral is also noted. This includes the level(s) of education and/or treatment to which the person is referred as well as the person's compliance. The DUI Assessment program was pilot tested by certified assessors and their input was integral in determining which assessment instruments were included.

Sample

This report presents DUI assessment records completed in 2003. A total of 21,731 records completed between January 1, 2003 and December 31, 2003 were received from 115 certified DUI Assessment Programs. Completed assessment records in 2003 are not the same as the number of DUI convictions in 2003 because persons can be convicted, assessed, and complete their intervention in separate years.

Limitations

There are several limitations to this data. First, there is the issue of incomplete, erroneous, and/or missing data. Table 1 presents the level of missing data.

Table 1: Missing Data

	Missing Assessments	Percent of Cases
Gender	2	< 0.1%
Treatment Program	8	<0.1%
Assessment Program	90	0.4%
County of Conviction	508	2.3%
Age	2,302	9.4%
Recommended Level of Care	2,087	9.6%
Time to Completion	2,417	11.1%
AUDIT Score	2,890	13.3%
DAST Score	7,123	32.8%
Blood Alcohol Content	9,799	45.1%

Blood Alcohol Content has the highest percent of missing cases which is largely due to individuals who either refused the test or did not remember the level. Each update to the Kentucky DUI Assessment software has successfully reduced the amount of missing data, but certain fields remain problematic.

Second, these data represent a subset of a larger, unknown number of DUI's in Kentucky. In 2002 there were 26,312 DUI arrests, 34,932 DUI convictions, and 21,296 completed assessments[5]. This disparity emphasizes the dangers in comparing these data. There were 40,710 DUI arrests in 2001, many of which were not convicted until 2002. Additionally, many assessments submitted in 2003 represent cases convicted in 2002. This report presents assessments completed in 2003 which is independent of date of violation and date of conviction. Caution should be used in comparing this data to other sources. Another portion of the unaccounted records includes out-of-state licensees who are arrested in Kentucky but are not required to have a Kentucky assessment. Assessments would also not be completed or submitted for persons who are incarcerated for an extensive period of time following their DUI. Persons who are arrested for DUI may plea bargain to a lesser charge or plea bargain to remove the DUI charge altogether.

Third, data collection involves self-report and therefore the accuracy may be less than optimal.

Finally, CDAR receives a small percentage of disks which are damaged. When CDAR receives an unreadable disk, those records cannot be added to the database. An unreadable disk does not affect information required by other government agencies (Courts and Transportation Cabinet) because they receive paper data. CDAR makes every effort to retrieve data when a damaged disk is received. Attempts to retrieve the data are first made by phone and if needed a site visit is made. In 2003, 38 damaged disks were received with an estimated loss of 585 records. This is a reduction from 2002 when 58 damaged disks were received with an estimated loss of 870 records.

Summary

Despite the limitations listed above, this is a robust data set to examine variables which give a detailed view of persons convicted of DUI in Kentucky.

Data is presented in sections that describe demographic information, results of screenings, and the type and frequency of referrals. There is also a section dedicated to non-compliant persons who are at high risk for recidivism. Additional sections compare Mental Health/Mental Retardation (MHMR) regions, Division of Mental Health & Substance Abuse (DMHSA) regions, community vs. privately funded programs, and trends from 2002 to 2003.

This page left intentionally blank.

1 DEMOGRAPHICS

This page left intentionally blank.

1.1   Number of DUI Assessments submitted in 2003:

The number of completed DUI assessments submitted in calendar year 2003 was 21,731. In 2002 there were 26,312 arrests for DUI which accounted for 12.1% of all arrests in Kentucky in 2002, a decrease of 35.4% from the 40,710 DUI arrests in 2001 (14.1% of all arrests in 2001). Since there can be a significant lag between arrest and conviction, it is more appropriate to look at convictions. In 2002 there were 34,935 DUI convictions. The five year average for convictions (1998 through 2002) was 33,335. Data on DUI arrests during 2003 was not available from the Kentucky State Police when this report was developed.

1.2   DUI Assessments by Gender:

Of the 21,731 assessments, 82.7% were males, 17.3% females.

Figure 1: Assessments by Gender*

Female, 3,767
(17.3%)

Male, 17,962
(82.7%)
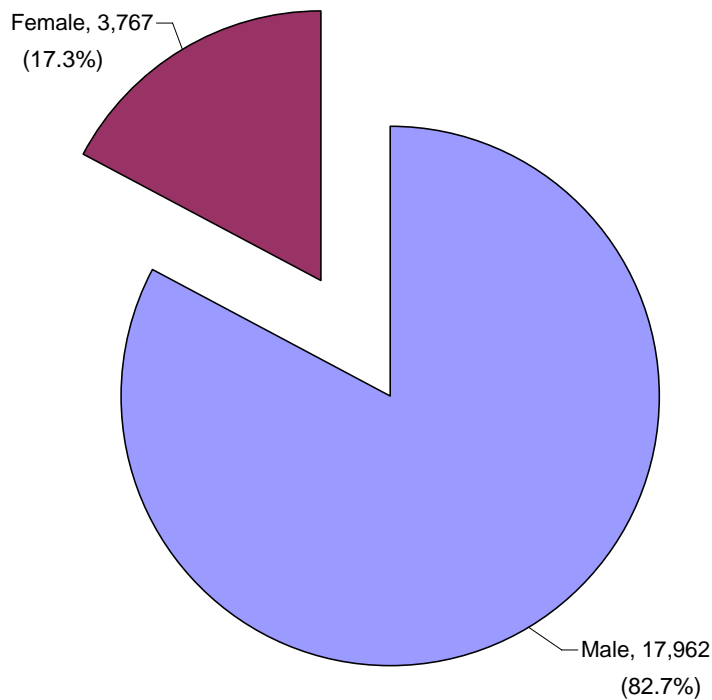
*Missing Data = 2 Assessments

1.3 **Assessments by Age:** There is a decrease in the number of assessments as individuals age. The majority of persons assessed were between 21 and 40 years old (63.3%). Persons who are under the legal drinking age are typically referred to an Early Intervention Program (EIP) for an assessment. However, 1,541 persons between 16 and 20 were assessed. Arrest data for 2002 shows that 2,610 of 26,312 (9.9%) DUI arrests were for persons under 21 years of age[5]. The oldest person was 91 years old.

Figure 2: Assessments by Age*
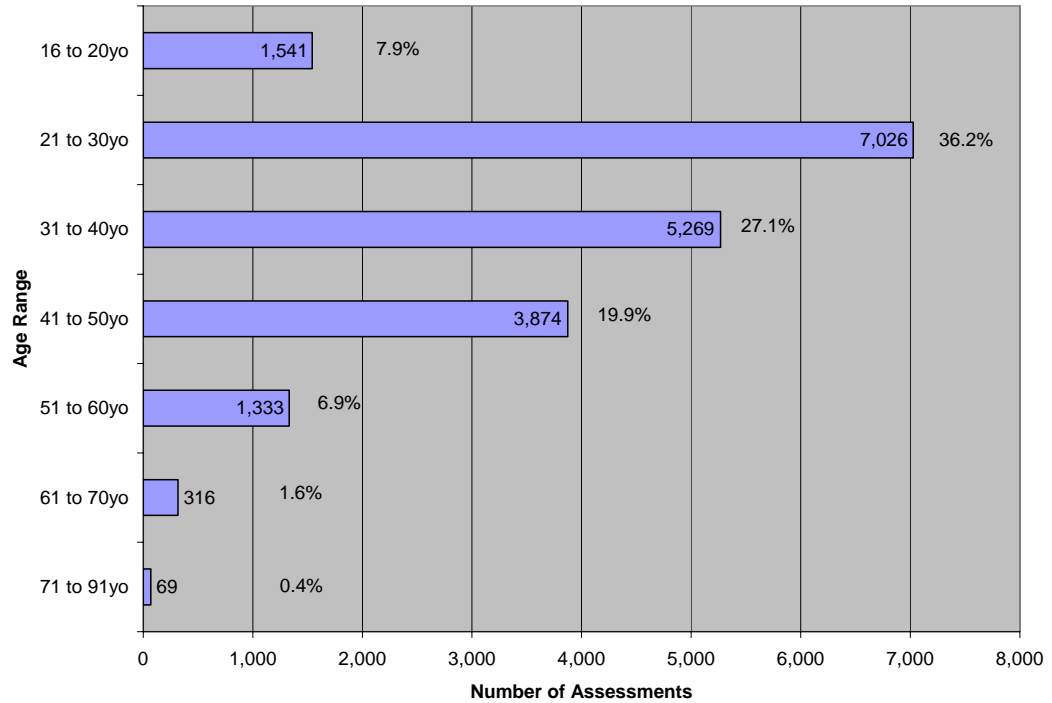
*Missing Data = 2,303 Assessments

1.4 **DUI Convictions in the Previous Five Years.** Figure 3 shows the number of DUI's that individuals had within the past five years. This number includes the DUI which resulted in the current assessment. 92 cases had no DUI convictions in the past five years. This seems highly unlikely unless the person sought his/her assessment before the actual conviction in order to "appease" the courts.

Figure 3: DUI Convictions in the Previous Five Years*
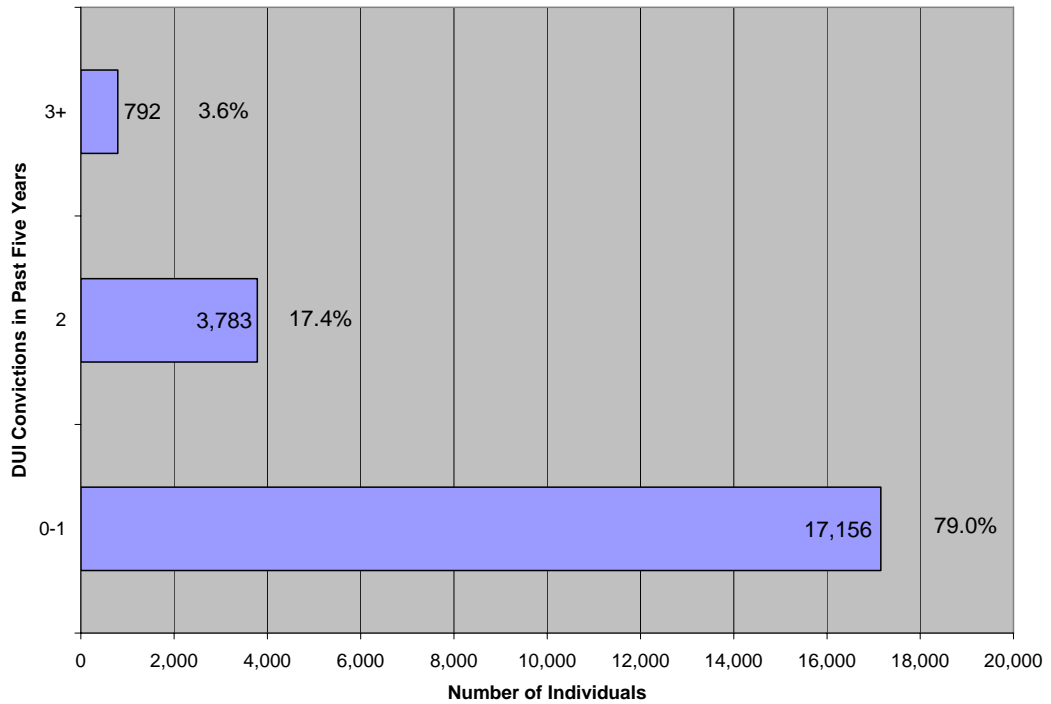
*Missing Data = None

NOTE: Due to the small number of individuals with no convictions (n = 92, 0.4%) and individuals with 4 or more convictions (n = 75, 0.3%), figures and tables combine the 0 to 1 convictions and 3 to 4 or more convictions creating three levels: 0-1, 2 and 3+.

1.5   **Blood Alcohol Content.** Figure 4 presents the Blood Alcohol Content (BAC) for the number of persons arrested. What this indicates is a peak in arrests at the 0.10 to 0.12 levels with a decline at higher levels. Very few cases (n = 210) were above the 0.28 level. 4,444 (20.5%) cases were at least twice the legal limit. Most cases are over 0.10 g/dL. According to the National Highway Traffic Safety Administration (NHTSA), Kentucky's BAC's in 2000 over 0.10 were involved in an estimated 30,700 crashes (750.1 per 100,000 residents) that killed 203 persons (5.0/100,000) and injured 9,700 persons (237.0/100,000). BAC's 0.09 and below accounted for 1,500 crashes, 53 fatalities, and 1,300 injuries[8]. Kentucky is above the national average for:

- Alcohol related crashes (750.1 per 100,000 Kentucky residents vs. 713.8/100,000 for the nation)
- Deaths from alcohol related crashes (5.0/100,000 KY vs. 4.5/100,000 US)
- Injuries from alcohol related crashes (237.0/100,000 KY vs. 156.6/100,000 US)

In 2003, BAC's over 0.10 represented 46% of all assessments, including those for which BAC is unknown.

Figure 4: Blood Alcohol Content by Number of Assessments*
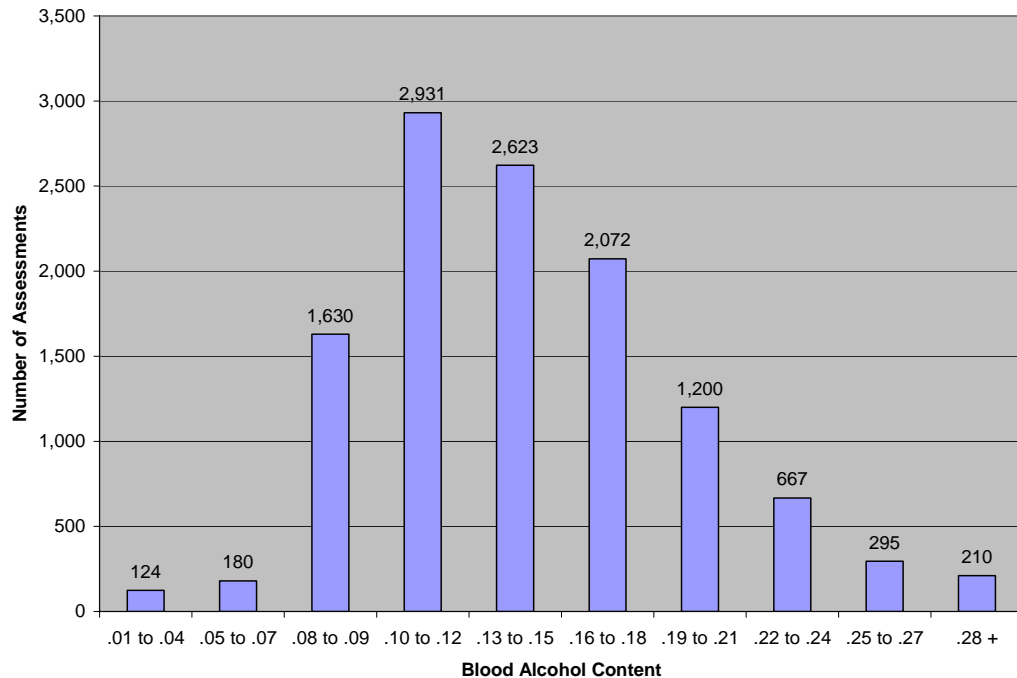
Note: Scaling for BAC's under .10 differs slightly to emphasize the information presented above.
* Missing Data = 9,799 Assessments

Demographics Summary: Those assessed in 2003 were most likely to be a male between 21 and 40 years old who was arrested for his first DUI in five years and had a BAC greater than 0.10.

2 SCREENING

This page left intentionally blank.

SECTION TWO: SCREENING

2.1 **AUDIT**. The AUDIT is a screening test which is used to identify excessive drinking. The test consists of 10 questions, each scored from 0 to 4. The final score is the combination of the 10 question scores. A final score of 8 or more is considered positive. Males generally score higher than females. Appendix A contains average AUDIT scores for each question by gender.

Table 2: AUDIT Scores*

	Males	Females	Total
Positive (8+)	5,956 (38.2%)	878 (27.2%)	6,835 (36.3%)
Average Score	7.7	6.3	7.4
Number of Assessments	15,612	3,228	18,841

*Missing Data = 2,890 Assessments

2.2 **DAST.** The DAST assesses drug use problems. The test consists of 28 true/false questions with a score of 1 or 0. A combined score of 5 or more identifies a person with a drug problem. Table 3 shows the DAST results. Males and females scored similarly on this measure. Appendix B contains average DAST scores for each question by gender.

Table 3: DAST Scores*

	Males	Females	Total
Positive (5+)	4,135 (34.2%)	773 (30.7%)	4,908 (33.6%)
Average Score	5.0	5.0	5.0
Number of Assessments	12,092	2,516	14,608

*Missing Data = 7,123 Assessments

2.3 **AUDIT and DAST Consistency**. Figures 5 and 6 show the relation between AUDIT and DAST scores. Figure 5 presents each AUDIT score with the corresponding average DAST score. To illustrate, all assessments that scored 1 on the AUDIT had an average DAST score of 4.3. The dashed lines show the cutoff for each test and the solid line shows the overall trend. Negative AUDIT scores 1 through 7 had a corresponding negative DAST score. Additionally, positive AUDIT scores 10 and higher all had corresponding positive DAST scores. Persons who scored 8 and 9 on the AUDIT (both positive scores) had negative DAST scores. It is interesting to note that persons who scored 0 on the AUDIT had an average DAST score that was positive (6.2). AUDIT scores of 35 though 40 were combined due to the small number of assessments that scored in that range (n = 44).

Figure 5: AUDIT Score Predicts DAST Score*
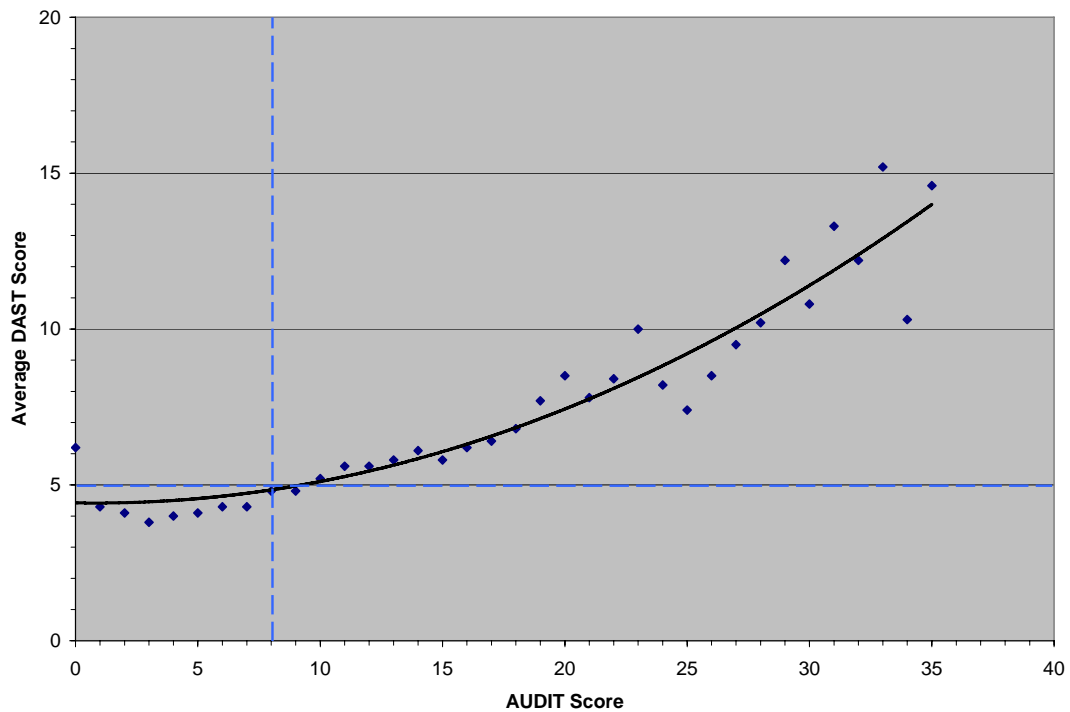
*Missing Data = 7,920 Assessments

Figure 6 shows each DAST score with the corresponding average AUDIT score. Similar to Figure 5 the dashed lines show the cutoff for each test and the solid line shows the overall trend. Also similar to Figure 5, negative DAST scores 0 though 4 had corresponding negative average AUDIT scores, positive DAST scores 8 and higher had positive average AUDIT scores, and positive DAST scores 5 through 7 had a corresponding negative average AUDIT score. DAST scores 25 through 28 were combined due to the small number of assessments that scored in that range (n = 28).

Figure 6: DAST Score Predicts AUDIT Score*
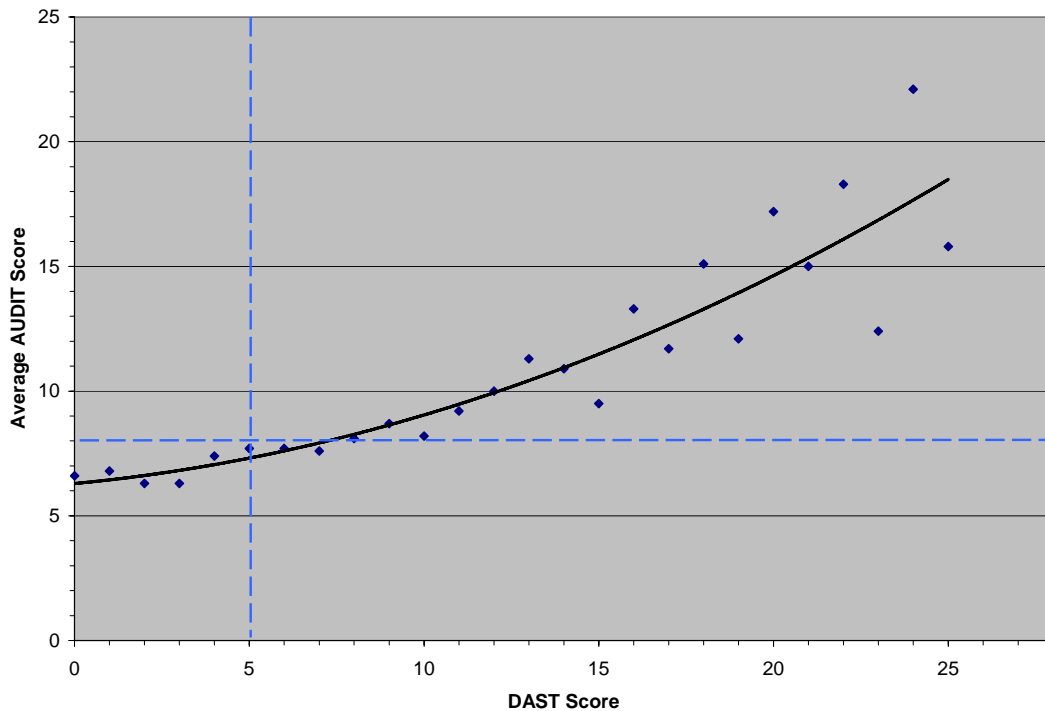
*Missing Data = 7,920 Assessments

It is interesting to note the consistencies between scores on the AUDIT, which tests for alcohol problems, and scores on the DAST, which tests for drug problems. Despite the significant correlation between scores ($p < .001$), neither test is a good predictor of the other. A positive score on one test is a very poor predictor of a positive score on the other. Of the 5,034 assessments positive on the AUDIT, only 43.3% were also positive on the DAST. Specifically, of the 4,500 assessments positive on the DAST, only 48.5% were also positive on the AUDIT. Negative scores were moderately better at prediction. Of the 8,776 assessments negative on the AUDIT, 73.6% were also negative on the DAST. Of the 9,310 assessments negative on the DAST, 69.4% were also negative on the AUDIT. The relation between scores presented in Figures 5 and 6 are more likely related to severity of problems. A very high AUDIT or DAST score, indicating a more severe problem, has a corresponding higher score on the other test.

23

2.4 **AUDIT and DAST Scores by the Number of DUI Convictions**: Figure 7 shows the relation between AUDIT and DAST scores and the number of DUI convictions in the past five years. The horizontal line for a test score of 8 differentiates between a positive and negative AUDIT score. The horizontal line at 5 differentiates between a positive and negative DAST score. Persons convicted of their first DUI had an average score of 6.8 on the AUDIT and 4.6 on the DAST. Both scores are considered negative for alcohol or drug problems. Offenders with two or more DUI convictions in the past five years had an average score of 9.7 on the AUDIT and 5.6 on the DAST. Those persons with three or more prior convictions scored 12.0 on the AUDIT and 6.2 on the DAST. The average AUDIT and DAST scores for persons with multiple convictions were positive on both tests, indicating a more severe alcohol and/or drug problem.

Figure 7: AUDIT and DAST Scores by Number of DUI Convictions
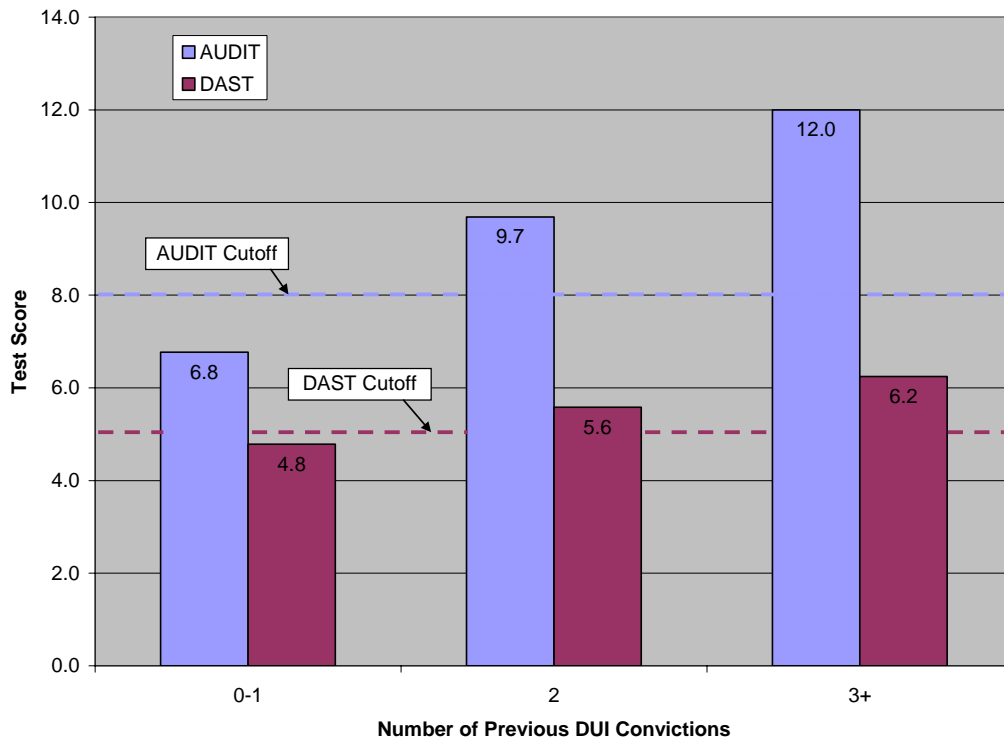
2.5 **DSM-IV Abuse and Dependence Criteria**. The U.S. national average for alcohol dependence is 4.4% with males at 6.3% and females at 2.6% (NIAAA, 1994)[9]. This increases to 9.7% for "current drinkers"[10] (Males = 11.3%, Females = 7.6%). Overall, the national average for females is about half that of males. However, females (11.1%) had about the same rate of dependence as males (12.3%). The top section of each bar in Figure 8 shows individuals who met dependence criteria, but not abuse criteria. The lower section shows individuals who met abuse criteria but not dependence criteria. The center section shows persons who met criteria for both abuse and dependence. Appendix C and Appendix D present responses for each DSM-IV criteria by gender.

Figure 8: Percent of Persons Meeting Abuse and/or Dependence Criteria by Gender*
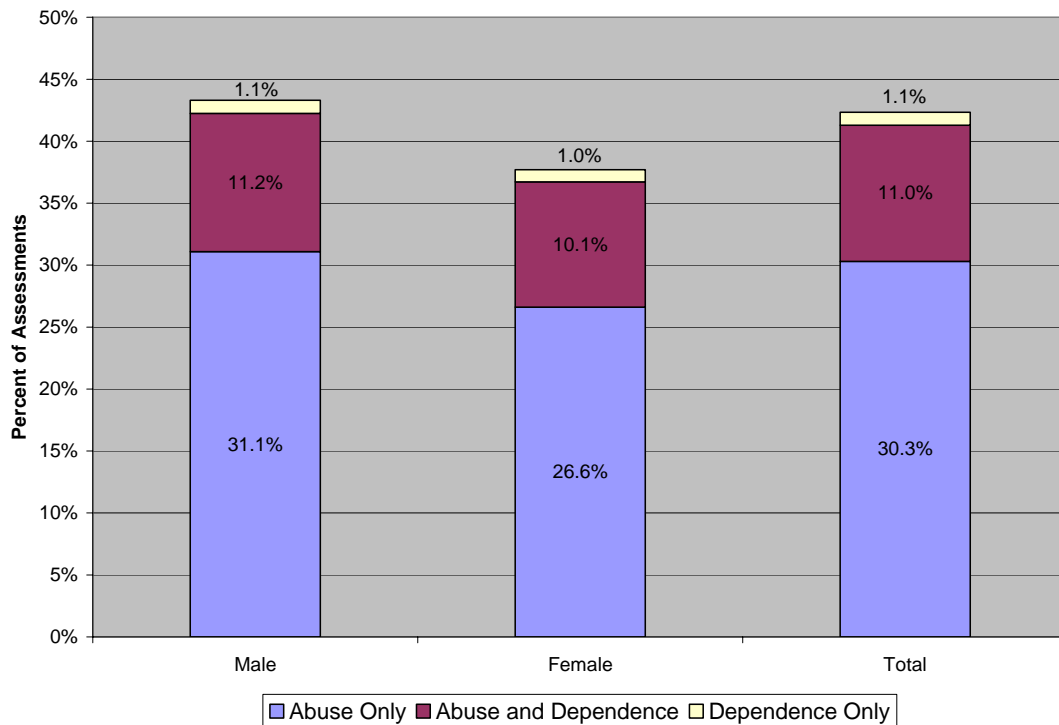
*Missing Data = 2 Assessments.

It is important to note that these data do not present a clinical DSM-IV diagnosis. Dependence in this case means that the person has met at least three DSM-IV dependence criteria in his/her lifetime. A clinical DSM-IV dependence diagnosis requires meeting three (or more) criteria which occur within the same 12-month time frame. Abuse means that the person met DSM-IV criteria for abuse in their life. Neither diagnostic category takes the possibility of remission into consideration.

Figure 9 compares the percentage of persons who met DSM-IV criteria for abuse or dependence with the number of previous DUI convictions in the past five years. Persons who met three or more dependence in their lifetime increase about 10% with each prior DUI offense. Abuse, however, peaks at two prior DUI convictions with a decrease at three convictions. The odds of being arrested for driving while impaired range from an estimated 1:200 to 1:2000 with the national average around 1:770[11]. One of the abuse criteria is "Recurrent substance use in situations in which it is physically hazardous (e.g., driving an automobile or operating a machine while impaired by substance use)". Therefore, almost all persons with multiple DUI convictions should meet criteria for Alcohol Abuse which differs from the 58.9% for 2 convictions and 60.9% for 3+ convictions shown in Figure 9.

Figure 9:   Percent of Persons meeting Dependence or Abuse Criteria by Number of DUI Convictions in the Past Five Years*
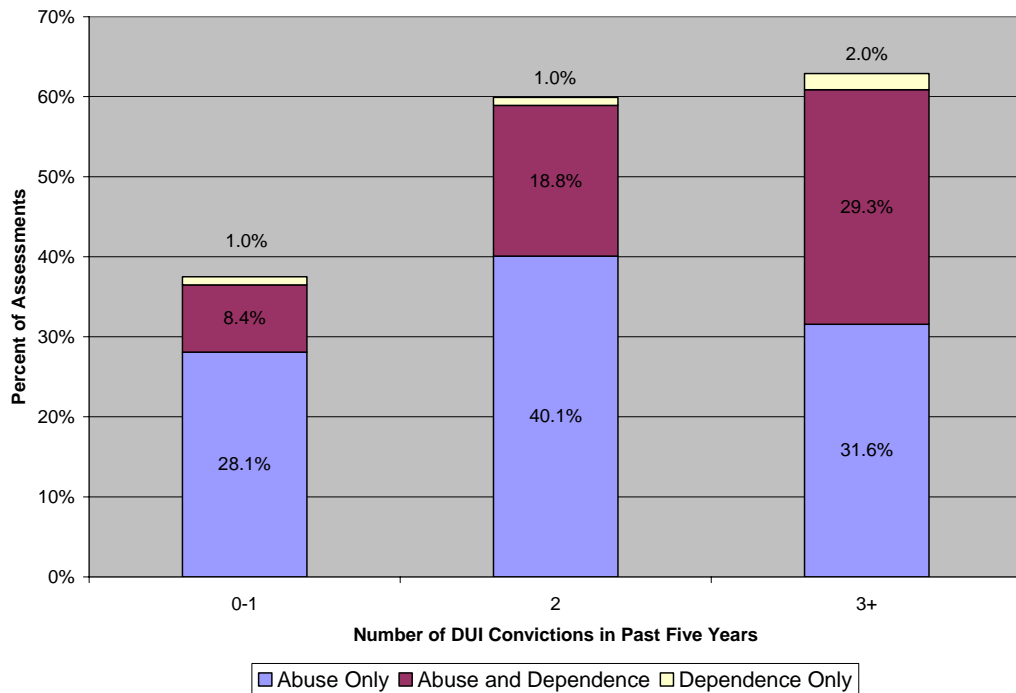
*Missing Data = none

2.6 **DSM-IV Criteria and Blood Alcohol Content**. There was an expected relationship between Blood Alcohol Content (BAC) and individuals who met DSM-IV abuse and/or dependence criteria. Figure 10 presents trends for BAC and DSM-IV dependence and abuse criteria. Persons who were convicted with a higher BAC were more likely to present with DSM-IV criteria for abuse and/or dependence. There was a sharp increase in persons who met criteria for dependence as BAC increased from 0.16 g/dL to greater than 0.28 g/dL. The percentage of persons who met abuse criteria increased steadily from .01 through 0.20 with a decrease at higher levels. Persons with a BAC less than 0.22 g/dL ranged from 7% to 13% who met three or more dependence criteria. Over 20% of persons with a BAC between 0.22 g/dL and 0.27g/dL and over 36% of persons with a BAC of at least 0.28 g/dL meet three or more criteria for dependence.

Figure 10: Percent of Persons meeting Abuse or Dependence Criteria by Blood Alcohol Content*
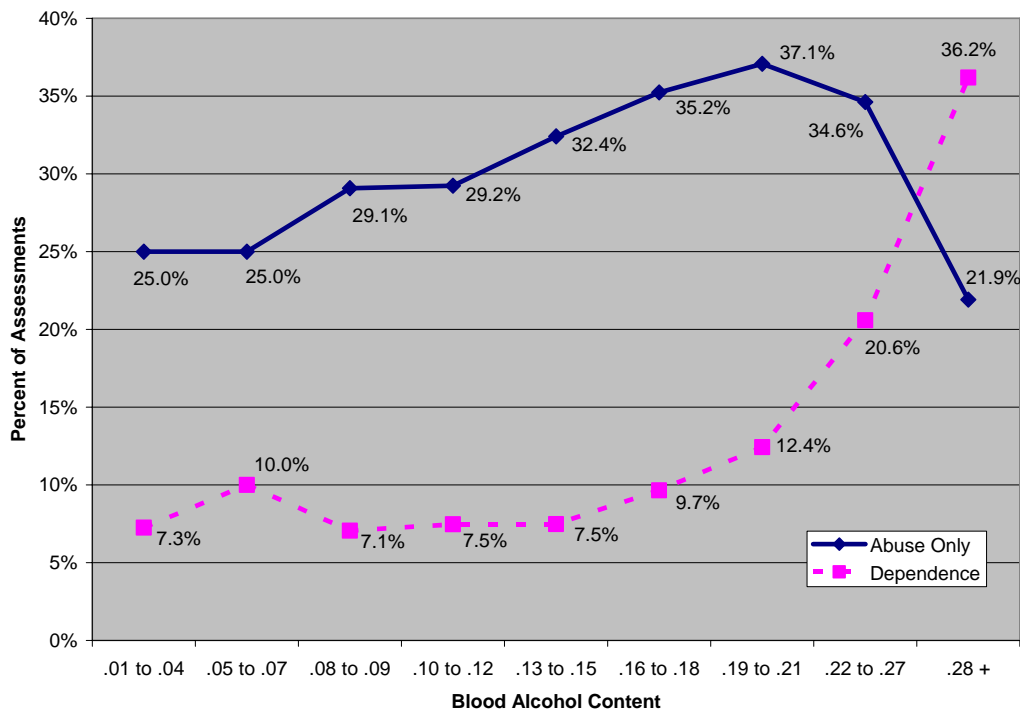
*Missing Data = 8,837 Assessments

Screening Summary: AUDIT and DAST scores, DSM-IV criteria for abuse and dependence and blood alcohol content are all closely related. Consequently these screening instruments appear to be valid for this population. There is also a strong correlation between AUDIT scores and DAST scores. The higher an individual scores on either the AUDIT or the DAST, there is a greater chance that they will also have a high score on the other test. From a clinical standpoint, this emphasizes the importance of completing both tests, especially for persons who have a high score on either instrument. There were also noticeable differences in AUDIT and DAST scores when broken down by number of DUI convictions in the past 5 years. Individuals who have at least two DUI convictions in the past five years have an average AUDIT and DAST score which is considered as positive for those tests. Those convicted of their first offense average just below a positive result on both tests. There also appears to be a relationship between blood alcohol content and abuse/dependence criteria. The higher a persons BAC is, the more likely they are to have met 3 DSM-IV criteria for dependence in their lifetime. Persons convicted for multiple DUI's and those arrested with elevated BAC's are at most risk for meeting criteria for a significant alcohol or drug problem.

3 TREATMENT REFERRALS

This page left intentionally blank.

3.1 **Level of Care Recommended**. Figure 11 presents the education intervention and treatment recommendations made by assessors. For any combination, only the highest level of care is included. For example, if an individual was recommended for Outpatient (OP) and Intensive Outpatient (IOP), only the IOP recommendation is presented. Figure 11 indicates that almost everyone assessed (96.4%) was referred for Education (50.3%) or Outpatient (46.1%) as their highest level of care.

Figure 11: Highest Level of Care Recommended*
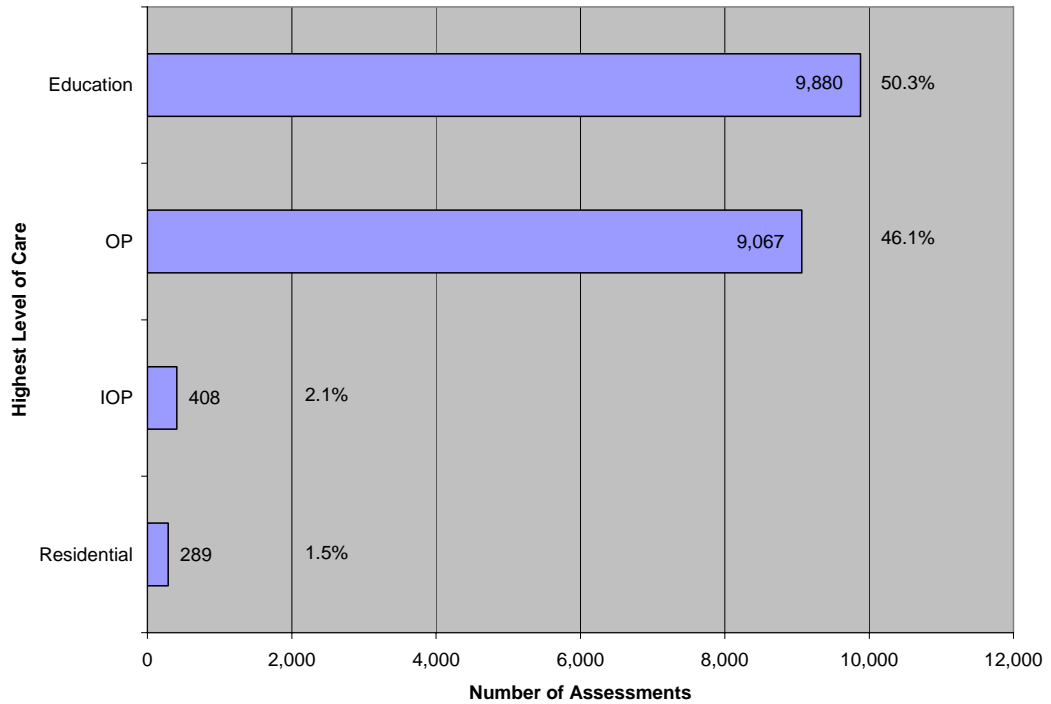
*Missing Data = 2,087 Assessments

Figure 12 presents the highest level of care by DSM-IV criteria. Treatment referrals are related to DSM-IV criteria. Those persons who have met three or more dependence criteria in their lifetime are more likely to receive an intensive outpatient or a residential treatment recommendation. Persons who did not meet criteria for abuse or dependence were most often referred for education. In addition, an increase in treatment referrals (outpatient, intensive outpatient, residential) and a decrease in Education referrals can be seen when the person meets more significant criteria. Furthermore, most Intensive Outpatient and Residential referrals were made when an individual met three or more dependence criteria.

Figure 12: Level of Care by DSM-IV Criteria*
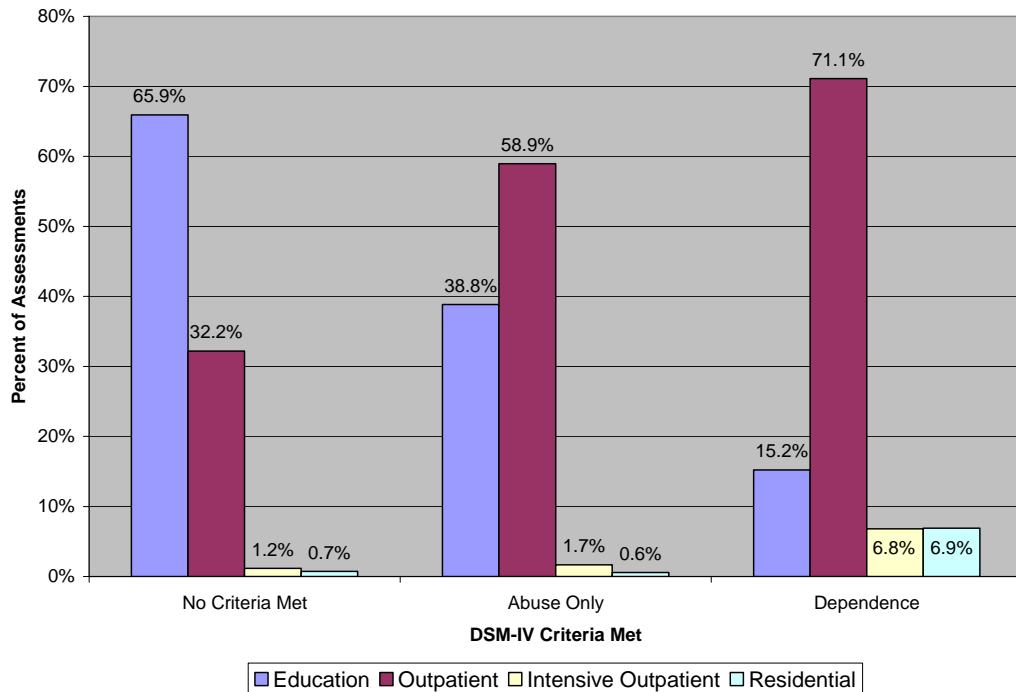
*Missing Data = 2,087 Assessments

Table 5 presents the number of referrals to each level, including cases with multiple levels. This represents the total number of intervention referrals to a specific intervention regardless of how many other levels of care were recommended. Table 6 presents all combinations.

Table 5: Total Referrals*

Education	11,121
Outpatient	9,291
Intensive Outpatient	426
Residential	289

*Some assessments are counted twice because some individuals are referred to more than one level of care.

Table 6 presents all intervention combinations. Persons referred for Residential services tended to have the most combinations of referrals. Almost half of the persons referred for Residential services were also referred to another level.

Table 6: Total Referrals by Combination*

Ed	9,880
OP	7,872
OP + Ed	1,195
IOP	308
IOP + Ed	14
IOP + OP	84
IOP + OP + Ed	2
Res	124
Res + Ed	19
Res + OP	117
Res + OP + Ed	11
Res + IOP	8
Res + IOP + Ed	0
Res + IOP + OP	10
Res + IOP + OP + Ed	0

Key:

Education	Ed
Outpatient	OP
Intensive Outpatient	IOP
Residential	Res

*Missing Data = 2,087 Assessments

3.2 Highest Level of Care Recommended Compared to the Number of DUI Convictions in the Previous Five Years. Figure 13 presents the type of referral an individual received compared to the number of DUI convictions in the past 5 years. As described in Section 3.1, only the highest level of care is counted here. This figure is similar to Figure 12 because individuals who have had multiple DUI convictions are reported as referred to a higher level of care. It is interesting to note the change from Education to Outpatient recommendations when previous convictions change from 0-1 to 2 convictions. Education referrals decreased from 63.1% to 1.2% while Outpatient referrals increased from 33.9% to 93.7%. Referrals to Residential and Intensive Outpatient increase moderately with more convictions. For those persons presenting with their second conviction, there was a 93.7% chance they will be recommended for Outpatient services.

Figure 13: Highest Level of Care Recommended Compared to Number of DUI Convictions*
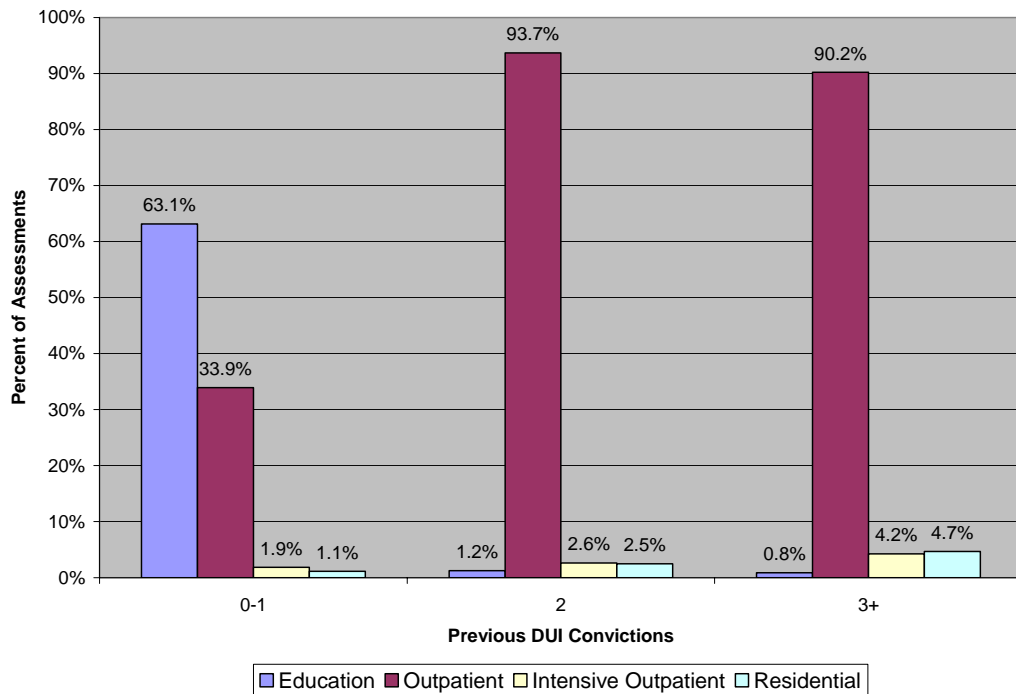
*Missing Data = 2,087 Assessments

3.3 **Recommended Level of Care by Blood Alcohol Content.** Figure 14 presents the highest level of care recommended compared to Blood Alcohol Content. At double the legal limit (0.16 g/dL) the majority of interventions switch from an Education to an Outpatient recommendation. There is also a trend for more Intensive Outpatient and Residential recommendations at higher BAC's.

Figure 14: Level of Care by Blood Alcohol Content
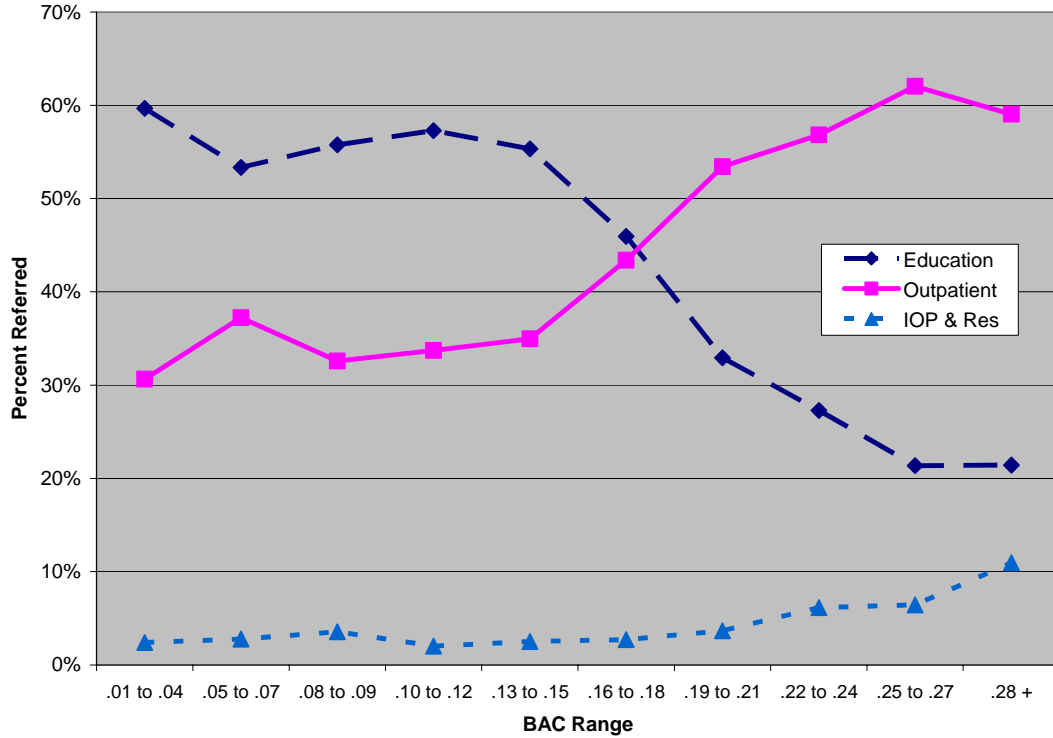
*Missing Data = 10,539 Assessments

3.4 **Time to Completion**. Figure 15 presents the length of time to complete DUI requirements for compliant and non-compliant individuals. Overall, about 75% of cases are closed within 6 months and almost 90% are closed within 1 year. Virtually all cases (98.4%) are closed within 2 years.

Figure 15: Time to Completion*
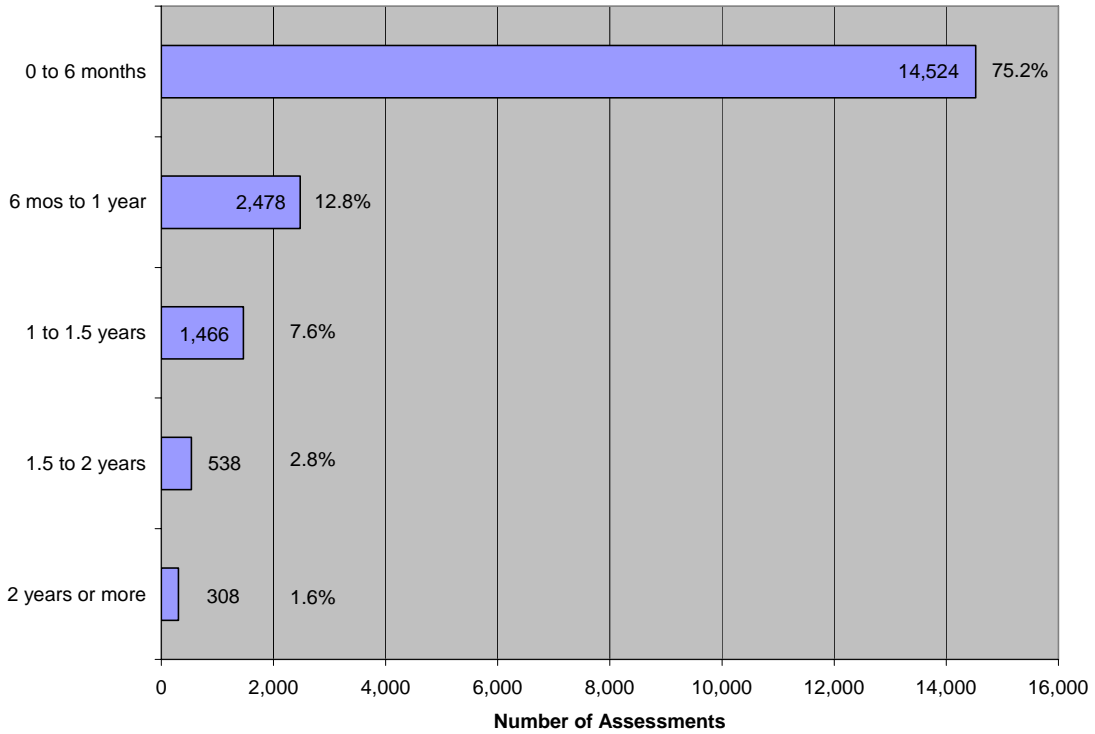
*Missing Data = 2,417 Assessments

Figures 16 and 17 present the time to completion based on the number of DUI convictions in the past five years and by compliance. Persons convicted of their first DUI have a maximum of 90 days to complete their education or treatment. Persons convicted of two or more DUI's have a maximum of one year to complete their intervention. Both figures show that most compliant persons complete their intervention within the prescribed time. Non-compliant individuals show a similar trend on both figures and usually complete the intervention within 6 months. (Please note the difference in scale for the Y-Axis on Figures 16 and 17.)

Figure 16: Time to Completion by Compliance for First Convictions*
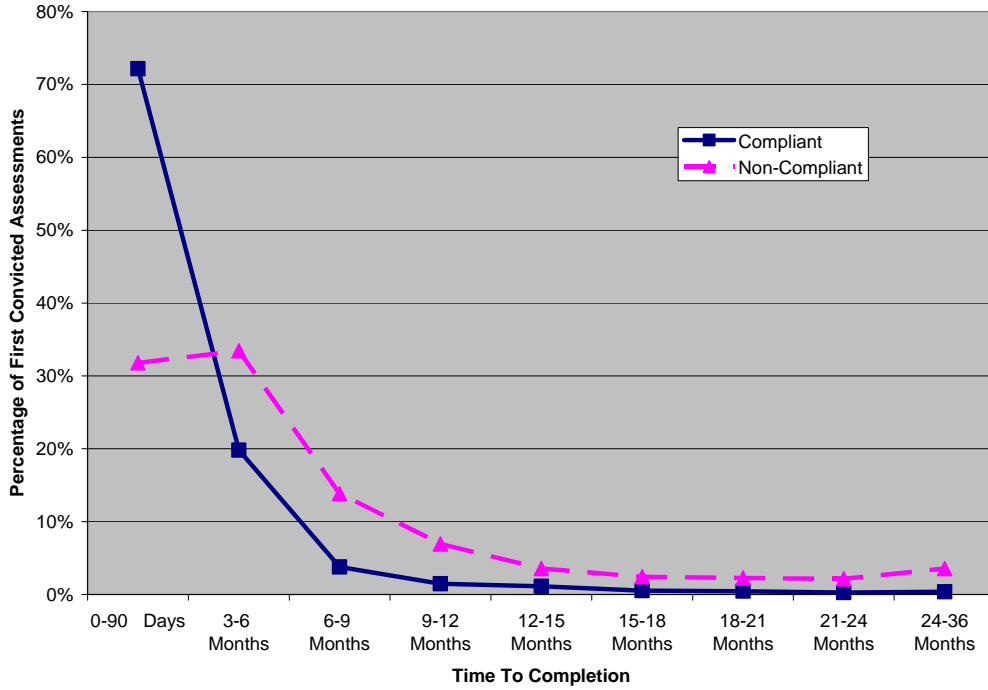
*Missing Data = 1,819 Assessments

Figure 17: Time to Completion by Compliance for Multiple Convictions*
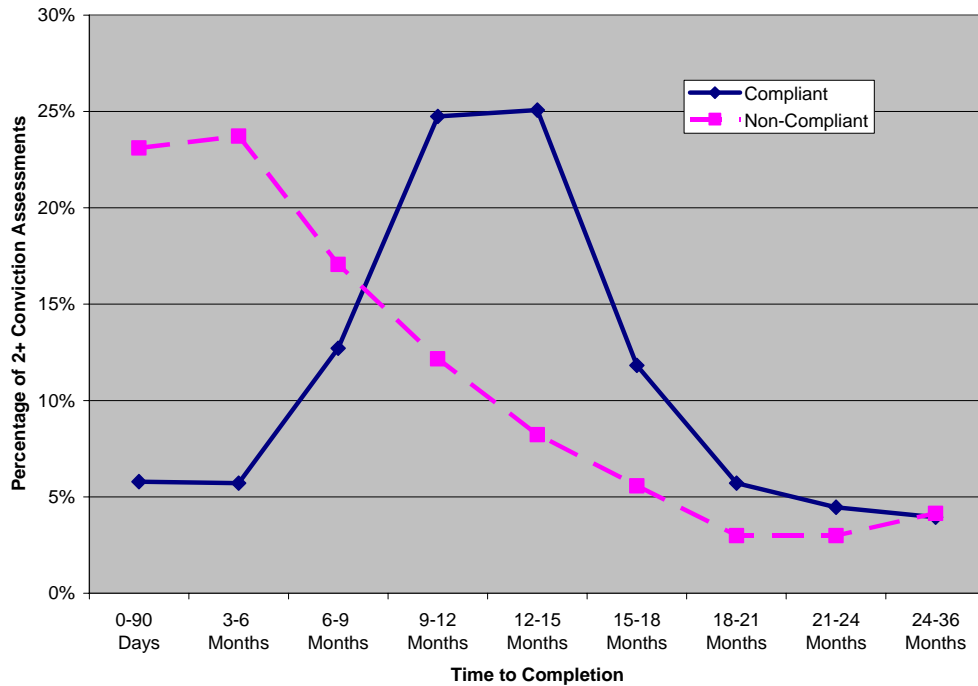
*Missing Data = 609 Assessments

In Figure 16 non-compliant first-conviction individuals may be given more time before being completed so that they may attempt to become compliant. In Figure 17 multiple-conviction non-compliant persons may be declared non-compliant for infractions that occur during their course of treatment.

Referral Summary: The majority of persons assessed are referred to Education or Outpatient as the highest level of care. This is not surprising since most assessments are for a first DUI. While 90% of persons with multiple convictions are referred to outpatient, there is a trend for persons meeting DSM-IV criteria for abuse and/or dependence to be referred to a higher level of care. Persons who meet at least one abuse criteria in their life are more likely to be referred to a higher level of care than those who have never met abuse criteria. This is also the case for persons who meet at least three dependence criteria in their lifetime. Persons who meet three or more dependence criteria are more likely to be referred for a higher level of care than those that meet abuse criteria. There also appears to be a relationship between blood alcohol content and recommended level of care. Specifically, the majority of persons with a BAC of 0.01 to 0.15 are referred for education, and the majority of persons with a BAC of 0.19 or higher are referred for outpatient services. In addition, there was a general increase in referrals to intensive outpatient or residential services as BAC increased. There was also a relationship between time to completion and the number of prior DUI convictions in the past five years. The majority of first conviction individuals completed their recommended level of care within the 90 days prescribed by law. Likewise, most persons convicted of multiple DUI's also complete near the 1 year statutory requirement.

4 COMPLIANCE

This page left intentionally blank.

4.1 **Compliant vs. Non-Compliant**. Figure 18 examines compliance. As noted in Figure 15, about 90% of cases are closed within one year. Females were more likely to be compliant than males (80.5% vs. 77.4%). Overall, about 4 of 5 cases were considered to be compliant while about 1 of 5 was non-compliant. There are four reasons an individual can be considered as non-compliant: 1) Failure to maintain contact with the program for more than 30 days, 2) Failure to achieve the goals stated in his treatment plan, 3) Failure to comply with the program rules of conduct, or 4) Failure to pay required fees in accordance with the fee agreement.

Figure 18: Compliant vs. Non-Compliant*
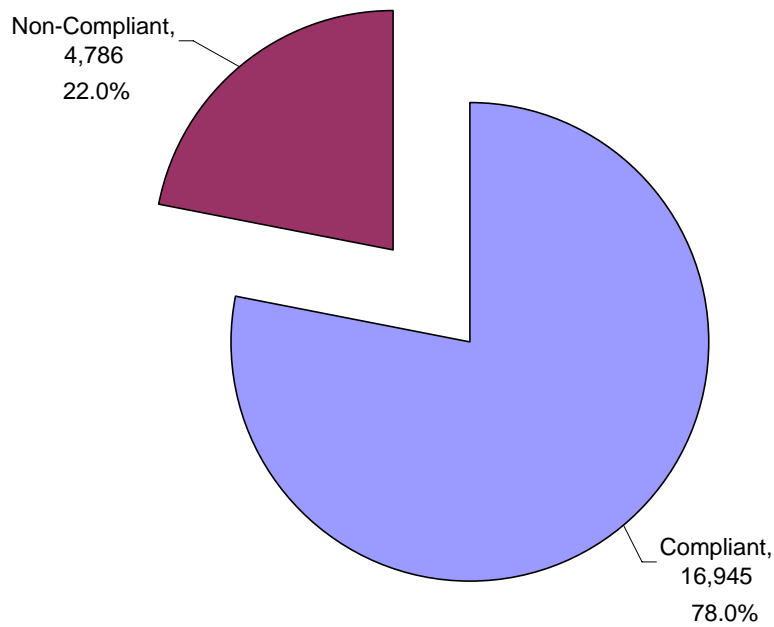
Non-Compliant,
4,786
22.0%

Compliant,
16,945
78.0%

*Missing Data = none

4.2 **Compliance by Age.** Figure 19 shows compliance rates by age. Younger individuals tend to be less compliant. The decrease in compliance for persons between 71 and 87 years old is similar to the decrease noted in the 2002 data. In 2003, persons aged 16 to 20 years old were more compliant than persons between 21 and 50 years of age. Persons under 21 years of age accounted for 1,541 assessments, 7.9% of assessments in this figure. As noted in section 1.3, individuals less than 21 years of age are typically referred to an Early Intervention Program, however, a shortage of these programs along with judges who elect to sentence these persons for a standard DUI assessment may account for the large number of cases in this range. Arrest data from 2002 shows that 9.9% of all DUI arrests for the year were for persons under 21 years of age.

Figure 19: Compliance by Age*
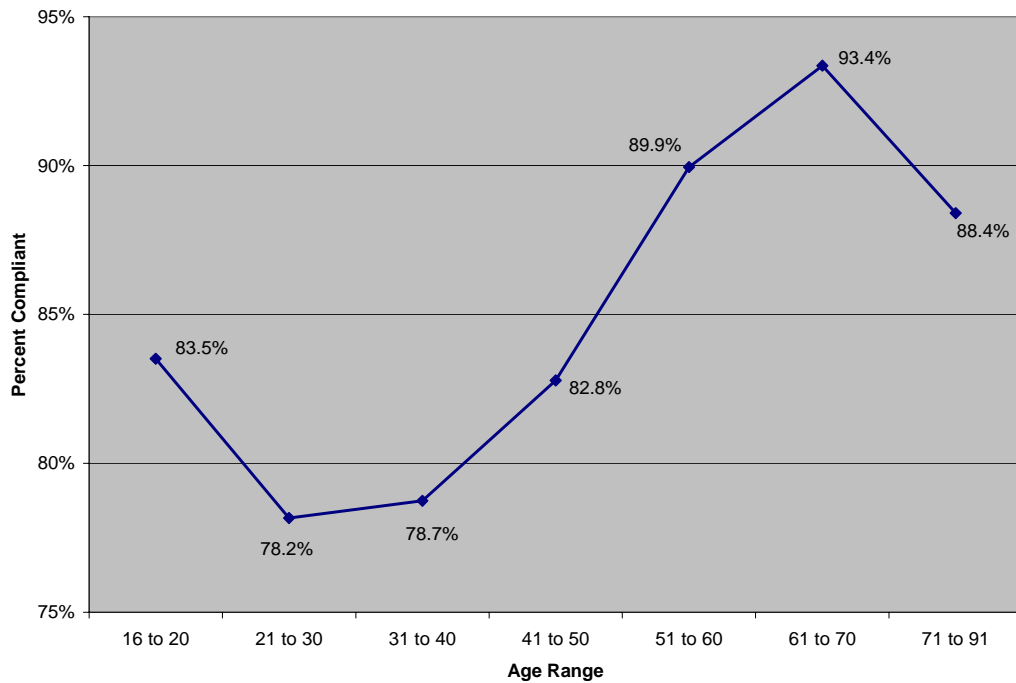
*Missing Data = 2,303 Assessments

4.3 **Compliance by Previous DUI Convictions.** Figure 20 shows compliance rates by DUI convictions in the past 5 years. There is a steep decline in rates of compliance between persons presenting with their first DUI in at least five years and persons presenting with multiple DUI's in the past five years. First time convictions comply at a rate of 82.7%. Compliance drops 20.6% with a second DUI conviction to 62.1%. There is another 11.1% drop in compliance between a second DUI and a third DUI. As a group, multiple conviction persons are about 20% to 35% less likely to successfully complete their recommended intervention.

Figure 20: Compliance by Number of DUI Convictions*
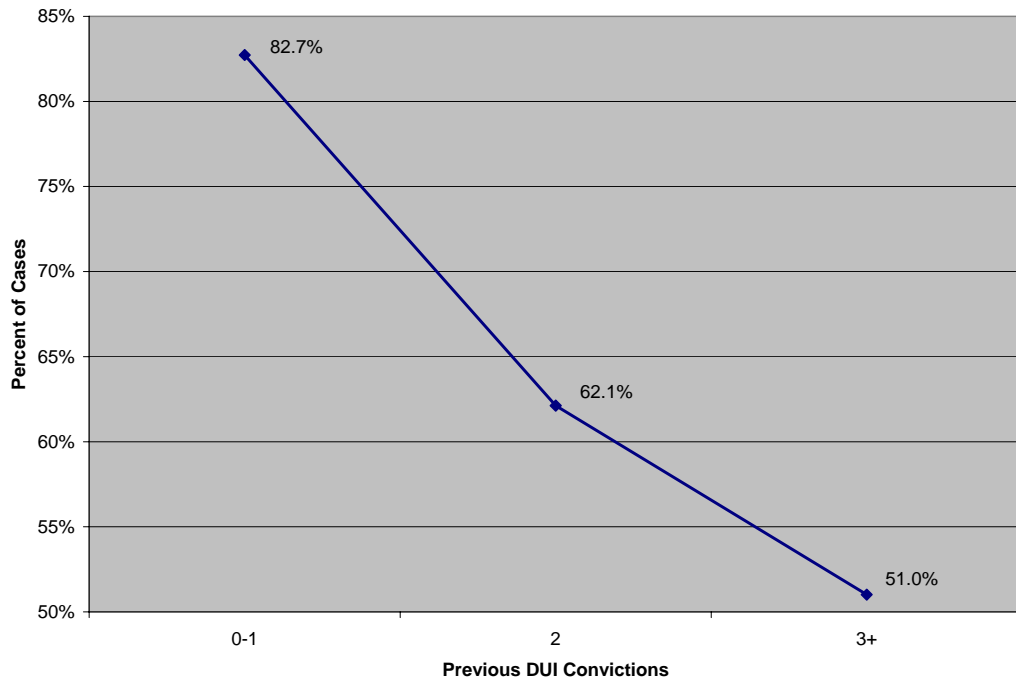
*Missing Data = none

4.4 **Compliance by DSM-IV Criteria**. Figure 21 presents compliance by DSM-IV criteria. An individual who has met at least three dependence criteria is less likely to be compliant with their intervention. Oddly, of those persons who met less than three dependence criteria, those that met one or more abuse criteria were more likely to be compliant than those who met no abuse criteria.

Figure 21: Compliance by DSM-IV Criteria*
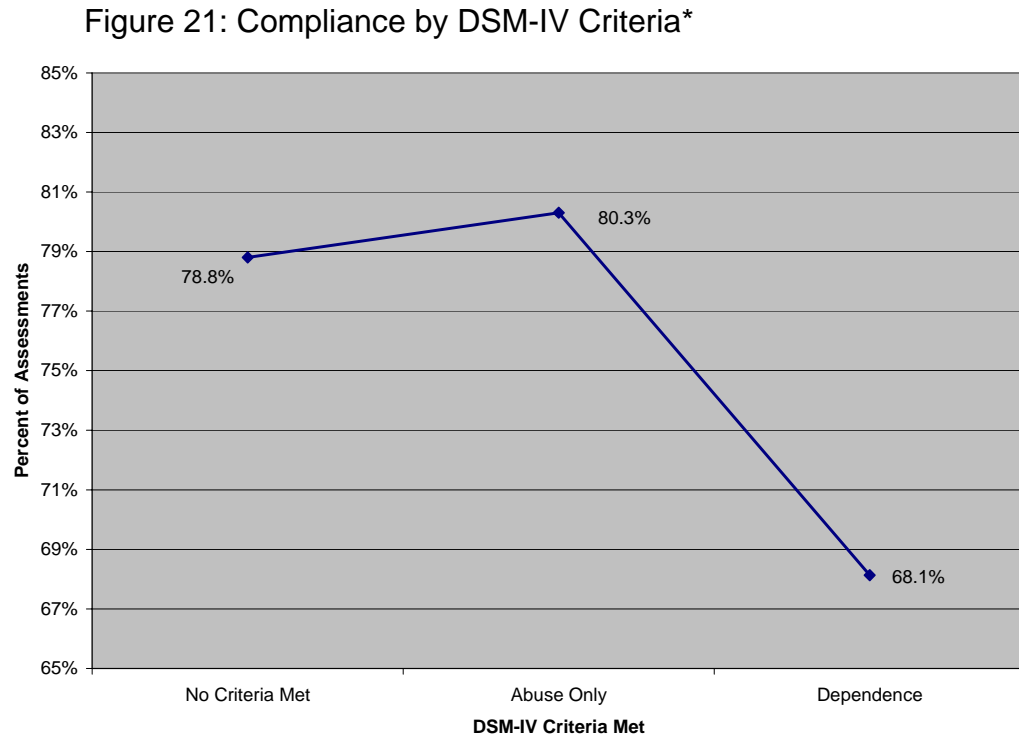
*Missing Data = none

4.5 **Compliance by County of Conviction Status.** Figure 22 presents compliance by the Wet/Dry/Moist status of the county of conviction. The three types of counties are[6]:

- Wet – Alcohol can be purchased or sold anywhere in the county with the proper license.
- Moist – A Dry county which contains a Wet city
- Dry – No alcohol is sold or served.

There are three exceptions to Moist and Dry counties:

- o Limited – Where a dry county or city has elected to allow alcohol sales in restaurants only by the drink. Such a restaurant must be able to seat 100 diners and food sales must account for at least 70% of income.
- o Golf – Where sales of alcohol by the drink are approved on golf courses only.
- o Winery – Where a business may produce and serve wine in a dry county.

For this presentation, Moist counties include Dry counties with Limited, Winery, and/or Golf exceptions.

Figure 22 shows that persons convicted in Dry counties are less likely to be compliant than those convicted in Moist counties. Similarly, persons convicted in Moist counties are less likely to be compliant than those convicted in Wet counties.

Figure 22: Compliance by County of Conviction Wet/Dry/Moist Status*
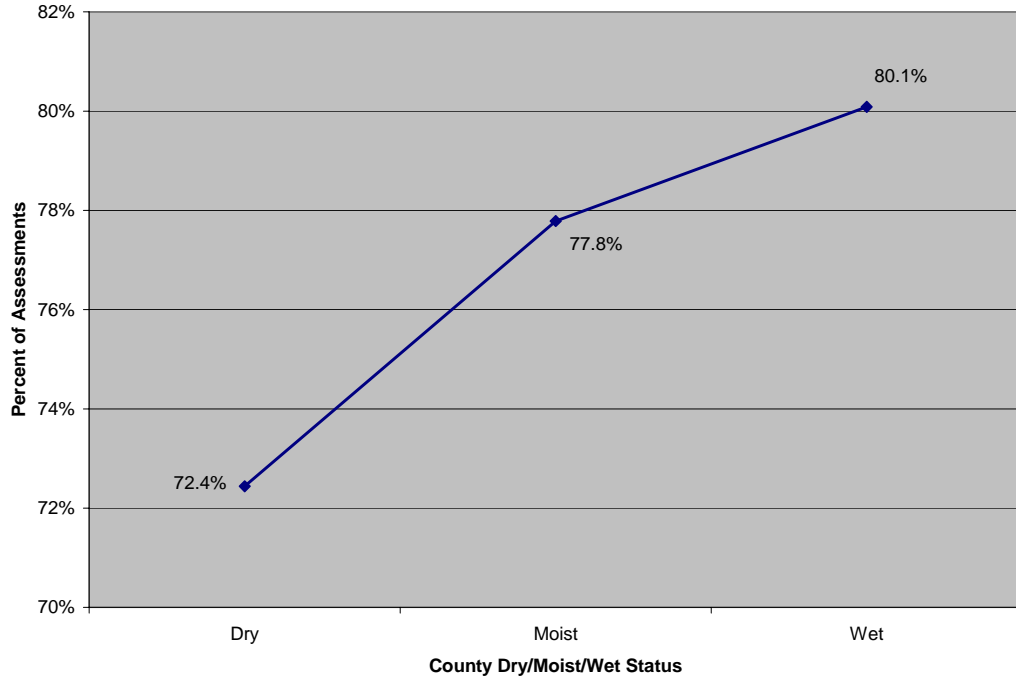
*Missing Data = 508 Assessments

4.6 **Compliance by Highest Level of Care Recommended.** Figure 23 presents compliance for the highest level of care recommended. Those persons referred for Education were the most compliant. Higher levels of care each showed a decrease in compliance. This overall decrease may be accounted for by the increasing difficulty of each higher level of care. In addition, persons recommended for higher levels of care have more severe drug/alcohol problems and are therefore less likely to be compliant.

Figure 23: Compliance by Highest Level of Care*
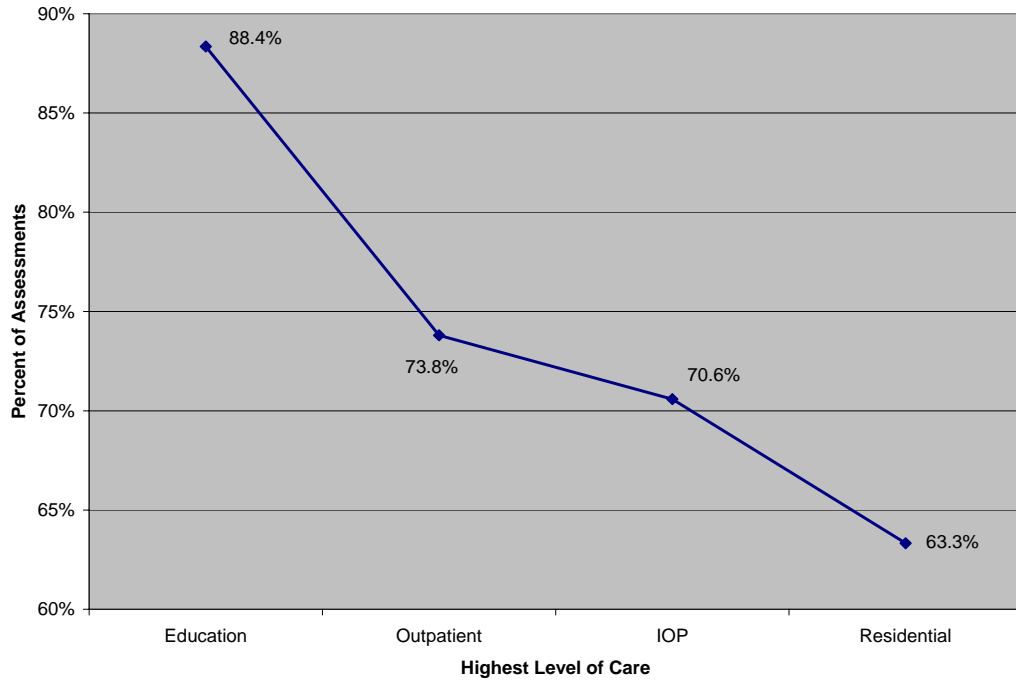
*Missing Data = 2,087 Assessments

4.7 **Compliance by AUDIT and DAST Scores.** Figure 24 presents compliance by AUDIT scores. Scores were grouped into four categories. The four groups represent: A - a negative score (0 to 7), B - a positive score (8 to 15), C - at least twice the positive score (16 to 23), and D - at least three times the positive score (24 to 40). Each higher scoring group had lower compliance. DAST Scores (shown in Figure 25) show a similar trend.

Figure 24: Compliance by AUDIT Score*
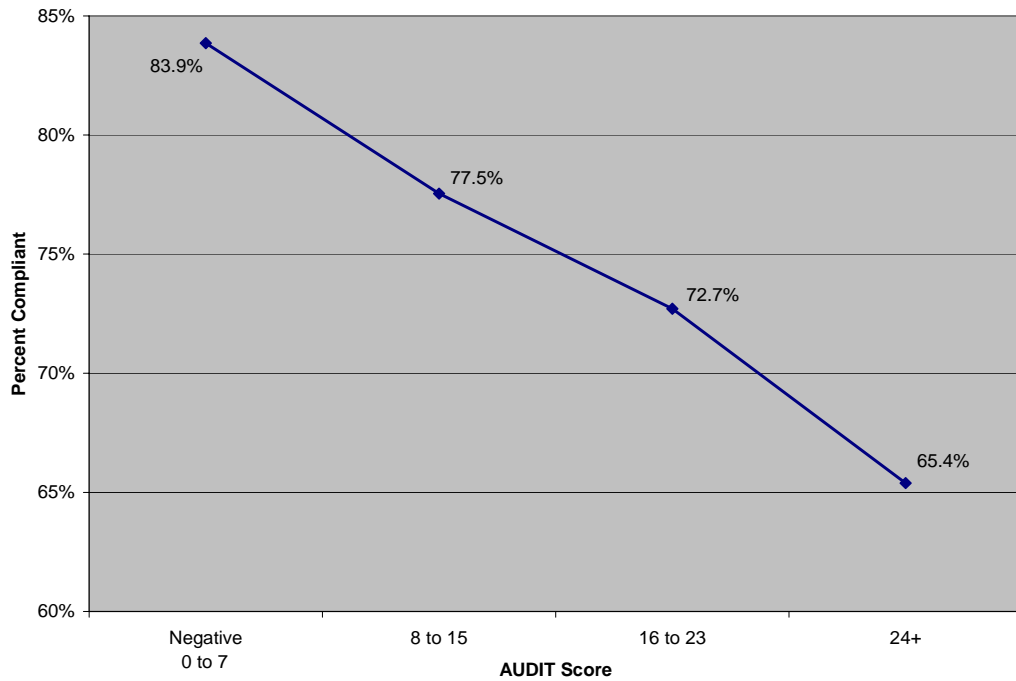
*Missing Data = 2,890 Assessments

Figure 25 presents compliance compared by DAST scores. These scores were grouped into four categories: A – negative (0 to 4), B – positive (5 to 9), C - twice positive (10 to 14), and D – three times or more positive (15 to 28). Figure 25 shows a decrease in compliance with higher scores being less compliant.

Figure 25: Compliance by DAST Score*
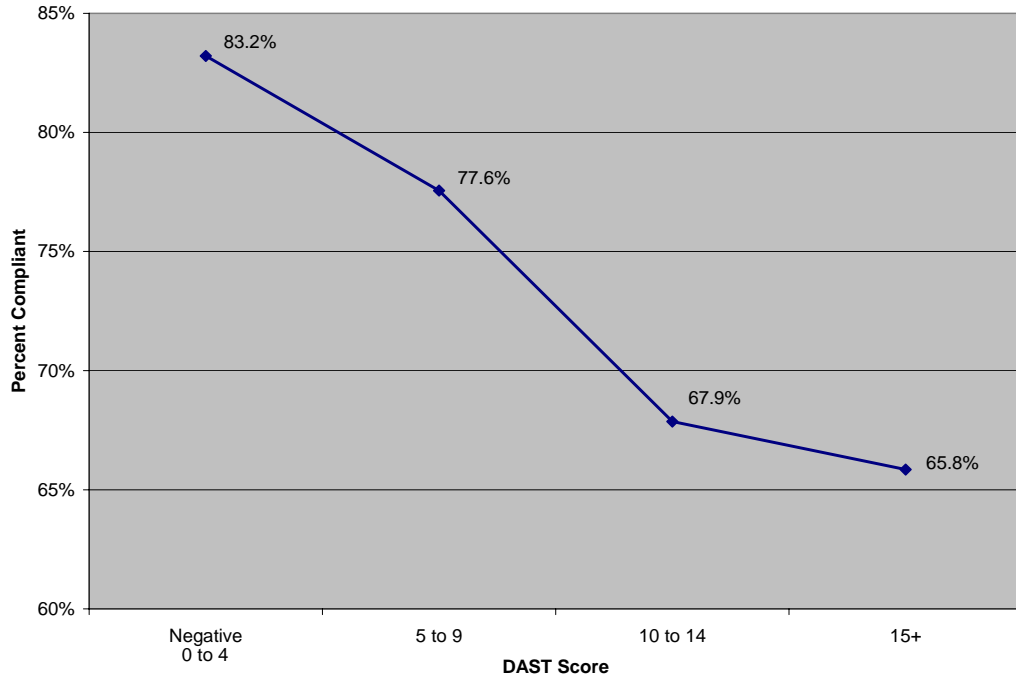
*Missing Data = 7,123 Assessments

Compliance Summary: There are several factors that are related to lower compliance rates. These factors include younger ages, more than one DUI conviction in the previous five years, meeting DSM-IV criteria for dependence, Dry County of conviction, higher AUDIT score, higher DAST score, and higher levels of care. Females were slightly more likely to be compliant than males. Blood alcohol content was not related to compliance. To emphasize this point, a combination of risk factors is presented in Figure 26. The first column represents compliance for all assessments. The second column represents males, 21 to 40 years old, who met at least three DSM-IV dependence criteria in their lifetime, and had at least 2 DUI convictions in the past five years. The third column represents those persons with none of the risk factors in column two (females, over 40 years old, presenting for their first DUI, and met fewer than three DSM-IV dependence criteria in their life).

Figure 26: Compliance by Selected Risk Factors
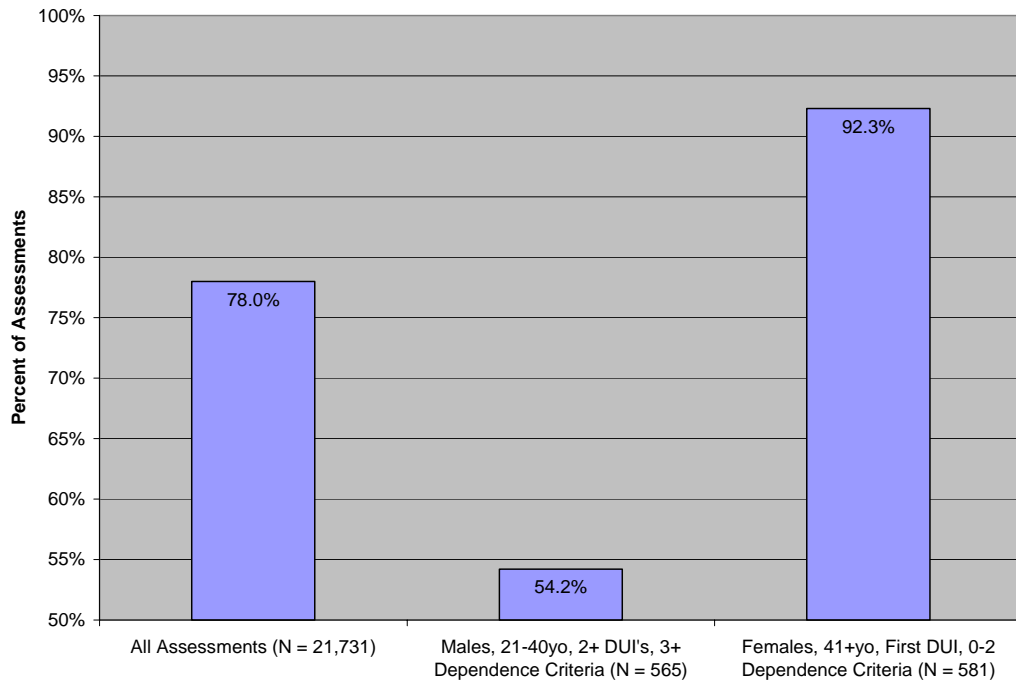
This page left intentionally blank.

5 REGION AND FUNDING SOURCE COMPARISONS

This page left intentionally blank.

5.1 **Assessments**. In calendar year 2003, 115 licensed and certified programs submitted at least one DUI assessment. There were sixteen programs that submitted fewer than ten assessments. Table 7 presents the number of programs and assessments completed by community mental health programs (publicly funded) and private assessment programs. There are fourteen publicly funded programs in Kentucky. Table 7 indicates that private programs completed almost three-fourths of all assessments (74%). Although their program numbers were smaller by an almost 8:1 ratio, community programs complete over 2.3 times as many assessments per program than privately funded programs. This may be accounted for by the number of sites. Privately funded programs average about 1.5 sites per program compared to 6.3 sites per community funded program. The average number of assessments per site is higher for privately funded programs (n = 103) than publicly funded programs (n = 69).

Table 7: Community and Privately Funded Program Assessments*

	Total	Community	Private
Assessments Completed	21,641	5,622 (26%)	16,019 (74%)
Number of Programs	115	13 (11%)	102 (89%)
Number of Sites	237	82 (35%)	155 (65%)
Average Assessments per Program	188	432	157
Average Assessments per Site	91	69	103

*Missing Data = 90 Assessments

5.2 **Mental Health/Mental Retardation (MHMR) Regions**. Kentucky has 14 MHMR regions numbered 1 through 15 (region 9 no longer exists).

> **IMPORTANT: MHMR Regions include *all* programs within that region, not just the program that shares the region name.** For Tables 8 through 14, the highest and lowest values for a given field are in italics.

Table 8 presents demographic differences between records submitted from each region. The average age and gender for those assessed is similar between regions. However, Region 11 has a slightly higher percentage of persons less than 40 years of age. The most notable difference is the number of assessments. Region 6 has over 14 times the number of assessments as Region 8.

Table 8: MHMR Demographic Differences

	Average Age	% Under 40 yo	% Male	Assessments
Region 1 - Four Rivers	34.1	69.8%	83.5%	1,305
Region 2 - Pennyroyal	34.2	70.0%	83.5%	811
Region 3 - River Valley	34.3	70.5%	85.3%	1,561
Region 4 - Lifeskills	33.9	71.4%	83.1%	1,534
Region 5 - Communicare	*35.2*	70.4%	85.1%	1,589
Region 6 - Seven Counties	34.9	*69.0%*	83.6%	*3,705*
Region 7 - North Key	34.3	71.8%	*78.5%*	2,325
Region 8 - Comprehend	33.6	74.3%	*86.6%*	*253*
Region 10 - Pathways	33.9	71.3%	84.9%	1,291
Region 11 - Mountain	*31.8*	*78.9%*	82.3%	673
Region 12 - Kentucky River	33.4	72.6%	85.6%	548
Region 13 - Cumberland	34.2	70.8%	82.5%	953
Region 14 - Adanta	35.0	69.3%	83.5%	1,248
Region 15 - Bluegrass	33.2	73.5%	79.1%	3,427

5.3 **MHMR DUI Convictions in the Past Five Years**. Table 9 presents the average number of convictions per region and the percentage of persons presenting for their first (0-1), second (2), or third or more (3+) DUI conviction in the previous five years. Region 8 had the highest average number of convictions per assessment, the highest percentage of second convictions, and the lowest percentage of first convictions. Conversely, region 10 had the lowest average, lowest multiple convictions and highest first conviction assessments while Region 13 had the highest percentage of persons with three or more convictions.

Table 9: MHMR DUI Convictions in the Past Five Years

	Average	0-1	2	3+
Region 1 - Four Rivers	1.28	77.6%	17.5%	4.8%
Region 2 - Pennyroyal	1.24	79.3%	17.1%	3.6%
Region 3 - River Valley	1.28	75.2%	21.8%	3.0%
Region 4 - Lifeskills	1.31	75.1%	19.8%	5.1%
Region 5 - Communicare	1.28	75.9%	20.0%	4.1%
Region 6 - Seven Counties	1.23	80.0%	17.2%	2.8%
Region 7 - North Key	1.22	82.2%	14.4%	3.4%
Region 8 - Comprehend	*1.34*	*70.8%*	*24.9%*	4.3%
Region 10 - Pathways	1.26	78.2%	17.5%	4.3%
Region 11 - Mountain	*1.15*	*86.2%*	*12.9%*	*0.9%*
Region 12 - Kentucky River	1.23	80.8%	15.3%	3.8%
Region 13 - Cumberland	1.33	74.6%	19.1%	*6.3%*
Region 14 - Adanta	1.26	78.7%	16.8%	4.5%
Region 15 - Bluegrass	1.22	81.2%	16.0%	2.9%

5.4 **MHMR Regions and Blood Alcohol Content.** Table 10 presents MHMR regions and blood alcohol content. The average BAC was fairly consistent across regions. Region 11 had the lowest average BAC, the lowest percentage of persons at twice the legal limit, and the highest percentage of persons between .08 and .15. Conversely, Region 8 had the highest average BAC, the lowest percentage of persons in the .08 to .15 range, and the highest percentage of assessments at two or three times the legal limit. Region 2 had the highest percentage of assessments below the legal limit while Region 14 had the highest percentage of assessments with BAC four times or more the legal limit.

Table 10: MHMR Regions and Blood Alcohol Content

	Avg BAC	BAC Ranges				
		< .07	.08 - .15	.16 - .23	.24 - .31	> .32
Region 1 - Four Rivers	0.138	6.9%	58.2%	30.0%	4.2%	0.7%
Region 2 - Pennyroyal	0.134	*7.8%*	60.8%	24.5%	6.4%	0.5%
Region 3 - River Valley	0.138	7.1%	56.2%	30.9%	4.9%	0.9%
Region 4 - Lifeskills	0.147	2.4%	58.5%	30.9%	7.3%	0.8%
Region 5 - Communicare	0.146	*2.0%*	57.7%	35.2%	4.7%	0.3%
Region 6 - Seven Counties	0.145	4.9%	56.0%	31.8%	6.6%	0.6%
Region 7 - North Key	0.143	5.6%	55.2%	33.3%	5.7%	0.3%
Region 8 - Comprehend	*0.154*	5.0%	*47.8%*	*37.7%*	*8.8%*	0.6%
Region 10 - Pathways	0.141	3.9%	60.1%	32.7%	*3.1%*	0.1%
Region 11 - Mountain	*0.118*	4.8%	*79.7%*	*11.3%*	3.9%	0.3%
Region 12 - Kentucky River	0.141	2.6%	63.0%	28.0%	6.3%	*0.0%*
Region 13 - Cumberland	0.138	3.1%	63.5%	29.9%	*3.1%*	0.3%
Region 14 - Adanta	0.135	6.8%	62.2%	25.8%	4.0%	*1.1%*
Region 15 - Bluegrass	0.142	3.4%	61.6%	29.9%	4.5%	0.7%

5.5 **MHMR Regions and Screening Instruments.** Table 11 presents the AUDIT and DAST average scores and percentage of assessments that were positive for each test by MHMR region. There were pronounced differences between regions. The average AUDIT scores ranged from 6.0 (negative) to 8.8 (positive). Four of the fourteen regions had a positive average AUDIT score. These differences are more pronounced with the DAST. Average DAST scores ranged from 3.8 (negative) to 7.3 (positive). Eight of fourteen regions had an average positive DAST score. Region 5 had the highest AUDIT average score and percentage of positive AUDITs. Similarly, Region 12 was the highest in DAST for average score and percentage of positive tests. Region 7 had the lowest DAST average score and lowest percentage of positive DAST tests. The lowest average AUDIT score was in Region 11 while the lowest percentage of positive AUDIT's was in Region 2.

Table 11: MHMR Regions and AUDIT/DAST Scores

	AUDIT		DAST	
	Average	% Positive	Average	% Positive
Region 1 - Four Rivers	7.3	34.0%	4.8	29.3%
Region 2 - Pennyroyal	6.7	*27.4%*	4.6	32.7%
Region 3 - River Valley	8.4	44.1%	6.2	45.8%
Region 4 - Lifeskills	7.4	35.0%	5.3	33.6%
Region 5 - Communicare	*8.8*	*47.2%*	5.5	41.2%
Region 6 - Seven Counties	8.2	40.9%	4.6	29.5%
Region 7 - North Key	6.7	31.4%	*3.8*	*22.4%*
Region 8 - Comprehend	6.8	34.3%	4.9	34.0%
Region 10 - Pathways	6.9	32.1%	5.3	33.9%
Region 11 - Mountain	*6.0*	29.3%	5.0	39.4%
Region 12 - Kentucky River	8.7	43.9%	*7.3*	*58.5%*
Region 13 - Cumberland	6.5	29.1%	6.3	44.3%
Region 14 - Adanta	7.4	36.4%	6.1	45.0%
Region 15 - Bluegrass	7.1	34.6%	4.6	30.7%

Table 12 presents the percentage of assessments that met DSM-IV criteria by MHMR region. There are wide regional differences in DSM-IV results. Region 2 was the highest in the percent of persons who met no abuse and 0 to 2 dependence criteria. Region 10 had the highest percentage of assessments that met abuse criteria and Region 12 had the highest percentage of persons who met 3 or more lifetime dependence criteria. As noted in Section 2.5 (page 25), dependence in the context of these data refers to the individual meeting 3 or more DSM-IV dependence criteria in their lifetime. The percentage of assessments that met no abuse criteria and 0-2 dependence criteria ranged from 38.7% to 76.3%. Abuse ranged from 17.1% to 45.9% and dependence ranged from 6.5% to 26.8%.

Table 12: MHMR Regions and DSM-IV Criteria

	No Criteria	Abuse Only	Dependence
Region 1 - Four Rivers	57.7%	31.1%	11.2%
Region 2 - Pennyroyal	*76.3%*	*17.1%*	*6.5%*
Region 3 - River Valley	56.6%	33.9%	9.5%
Region 4 - Lifeskills	51.8%	31.3%	16.9%
Region 5 - Communicare	66.8%	24.9%	8.4%
Region 6 - Seven Counties	59.1%	30.8%	10.1%
Region 7 - North Key	57.2%	34.8%	8.0%
Region 8 - Comprehend	45.1%	37.2%	17.8%
Region 10 - Pathways	*38.7%*	*45.9%*	15.5%
Region 11 - Mountain	51.4%	27.6%	21.0%
Region 12 - Kentucky River	39.8%	33.4%	*26.8%*
Region 13 - Cumberland	59.1%	21.5%	19.4%
Region 14 - Adanta	62.0%	22.8%	15.2%
Region 15 - Bluegrass	60.0%	29.5%	10.5%

5.6 **MHMR Regions and Level of Care.** Table 13 presents the highest level of care assigned and compliance levels by MHMR region. Level of care refers only to the highest level assigned for each assessment. When two or three levels of care were assigned, only the highest level is presented here. Compliance refers to the percentage of assessments that were considered compliant on completion. There are wide variations between regions. Region 8 and region 11 show a difference between education referrals and outpatient referrals. Region 8 tends to refer persons to outpatient rather than education. Region 8 also has the lowest percentage of residential referrals and lowest level of compliance. Region 11 has the highest level of education referrals and lowest OP and IOP referrals. There is a 45.6% difference in education referral rates and a 44.3% difference between the highest and lowest percentages for OP referrals. Compliance also varies widely between regions from 63.2% to 86.8%.

Table 13: MHMR Regions and Level of Care

	Education	Outpatient	IOP	Residential	Compliance
Region 1 - Four Rivers	60.6%	35.8%	*0.3%*	*3.3%*	74.8%
Region 2 - Pennyroyal	63.1%	34.5%	1.2%	1.3%	81.8%
Region 3 - River Valley	54.7%	41.0%	2.0%	2.3%	75.0%
Region 4 - Lifeskills	50.1%	44.7%	2.1%	3.0%	68.3%
Region 5 - Communicare	49.7%	47.0%	2.6%	0.6%	79.9%
Region 6 - Seven Counties	43.5%	53.6%	1.7%	1.3%	77.8%
Region 7 - North Key	47.5%	49.6%	1.1%	1.8%	83.6%
Region 8 - Comprehend	*19.5%*	*78.5%*	2.0%	*0.0%*	*63.2%*
Region 10 - Pathways	37.5%	60.4%	1.0%	1.2%	79.2%
Region 11 - Mountain	*65.1%*	*34.2%*	*0.3%*	0.3%	73.6%
Region 12 - Kentucky River	36.7%	62.0%	0.4%	0.9%	77.0%
Region 13 - Cumberland	54.8%	43.4%	0.5%	1.3%	72.7%
Region 14 - Adanta	46.2%	37.0%	*15.6%*	1.2%	64.8%
Region 15 - Bluegrass	56.4%	42.1%	0.8%	0.8%	*86.6%*

5.7 **MHMR Regions and Time to Completion.** Table 14 presents time to completion by MHMR region. Region 1 has the highest percentage of completions within 6 months and within 1 year. Region 8 has the highest percentage of completions in the 6-month to 1 year and 1 to 1.5 year ranges. Region 8 also has the lowest percentage of completions in the 6 month or less range. This may be associated with referrals (as noted in Table 13) since Region 8 has the highest rate of OP referrals and lowest rate of education referrals. Region 11 has the highest percentage of assessments for 1.5 years or more. In Region 11, 13.2% of persons completed over 1.5 years after their assessment. That percentage is 7.2% higher than the next highest region. Most programs had fewer than 5% of persons complete over 1.5 years after the assessment.

Table 14: MHMR Region and Time to Completion

	0 to 6 mo	6m to 1y	1 to 1.5y	1.5 to 2y	2y or mo
Region 1 - Four Rivers	*79.4%*	10.9%	7.1%	*1.6%*	1.0%
Region 2 - Pennyroyal	77.8%	*9.4%*	9.3%	2.7%	*0.8%*
Region 3 - River Valley	71.2%	14.0%	9.5%	3.8%	1.6%
Region 4 - Lifeskills	71.5%	14.1%	9.0%	3.9%	1.5%
Region 5 - Communicare	71.7%	15.5%	9.6%	2.2%	1.1%
Region 6 - Seven Counties	75.4%	10.6%	8.0%	3.7%	2.3%
Region 7 - North Key	76.0%	15.1%	5.8%	2.0%	1.1%
Region 8 - Comprehend	*62.3%*	*19.1%*	*14.2%*	2.9%	1.5%
Region 10 - Pathways	73.9%	16.6%	6.1%	1.7%	1.7%
Region 11 - Mountain	64.9%	14.8%	7.1%	*7.2%*	*6.0%*
Region 12 - Kentucky River	77.2%	14.5%	*4.2%*	1.7%	2.3%
Region 13 - Cumberland	74.9%	15.1%	5.5%	2.9%	1.6%
Region 14 - Adanta	74.3%	13.3%	8.5%	2.5%	1.4%
Region 15 - Bluegrass	79.3%	10.1%	7.5%	2.0%	1.0%

5.8 **Self-Referrals Compared With Other Referrals**. Figure 27 presents the number of times an assessment program referred an individual to their own education or treatment program for services or to another program. Almost 95% of the time, an assessor referred an individual to their own program. There was no difference in self vs. other referrals for the type of funding the program receives. In other words, community funded and privately funded programs referred persons to their own programs at almost identical rates.

Figure 27: Self-Referrals vs. Outside Referrals*

Other Referral, 975, 5.2%

Self-Referred, 17,746, 94.8%
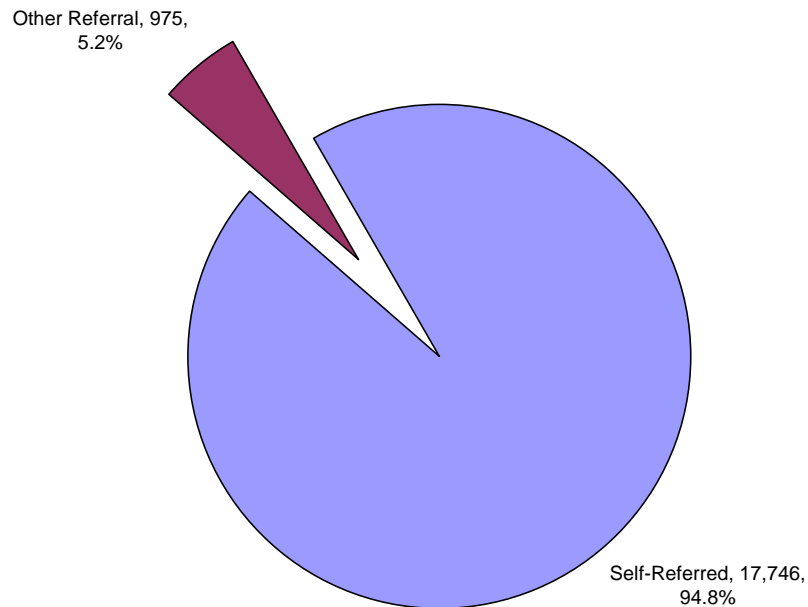
*Missing Data = 3,009 Assessments

Region and Funding Source Summary: Overall, community funded programs incorporate multiple sites and private programs tend to be represented by one or two sites per program. Although community programs complete more assessments per program than privately funded programs, privately funded programs complete more assessments per site than community funded programs. In addition, programs tend to refer individuals to their own program for education and treatment. There were variations between regions for all variables. However, these differences were not outside expectations since regional differences may be attributed to available resources. It is also possible that increased availability of education/treatment options may lower barriers for the person to seek and succeed in their assigned intervention.

This page left intentionally blank.

6 DIVISION OF MENTAL HEALTH AND SUBSTANCE ABUSE REGIONS

This page left intentionally blank.

SECTION SIX: DMHSA REGIONS

6.1 **Number of Assessments and Demographics by Region**. Table 15 presents a relatively even distribution of cases by DMHSA region. For this purpose region was determined by County of Conviction rather than County of Assessment. 508 cases were excluded: 461 were Out of State and 47 did not list a County of Conviction.

Table 15: Assessments by DMHSA Region

	CENTRAL	EAST	NORTH	WEST
Assessments	4548	5688	5458	5529

Figure 28 presents the percent of completed DUI assessments who were males. All regions were between 81% and 84% male (16% to 19% female).

Figure 28: Percent of Male Assessments by DMHSA Region

Figure 29 presents the age ranges for each DMHSA region. The distribution is almost identical. The East region had a slightly higher percentage of assessments in the 21 to 30 age range.

Figure 29: Age Distribution by DMHSA Region
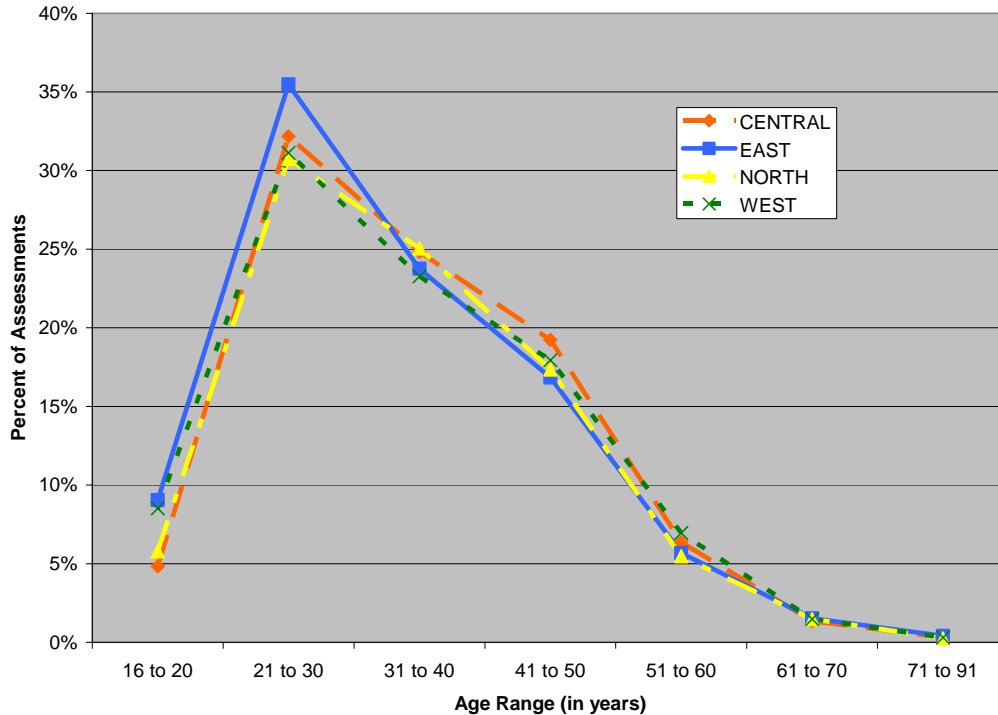
6.2 **AUDIT and DAST Scores**. Table 16 presents AUDIT and DAST Scores by DMHSA region. Overall the scores were fairly consistent between regions. The Central and East regions showed the largest disparity. The Central region had the highest AUDIT scores and the lowest DAST scores while the East region had the highest DAST and lowest AUDIT scores. The Central regions average AUDIT score and the East and West regions average DAST scores were all in the positive range.

Table 16: AUDIT and DAST Scores by DMHSA Region

	CENTRAL	EAST	NORTH	WEST
AUDIT				
Positive	39.7%	33.5%	35.9%	36.9%
Average Score	8.01	6.94	7.30	7.62
DAST				
Positive	29.6%	38.9%	30.8%	35.1%
Average Score	4.61	5.41	4.68	5.21

6.3 **Blood Alcohol Content and DSM-IV Criteria**. Figure 30 presents DSM-IV criteria for Abuse and Dependence by DMHSA region. The East region had the highest level of persons meeting three or more dependence criteria and the North region had the highest level of persons meeting abuse. Conversely, the North region had the lowest level of persons with 3+ dependence criteria and the East region had the lowest percentage of persons meeting abuse criteria.

Figure 30: DSM-IV Criteria by DMHSA Region
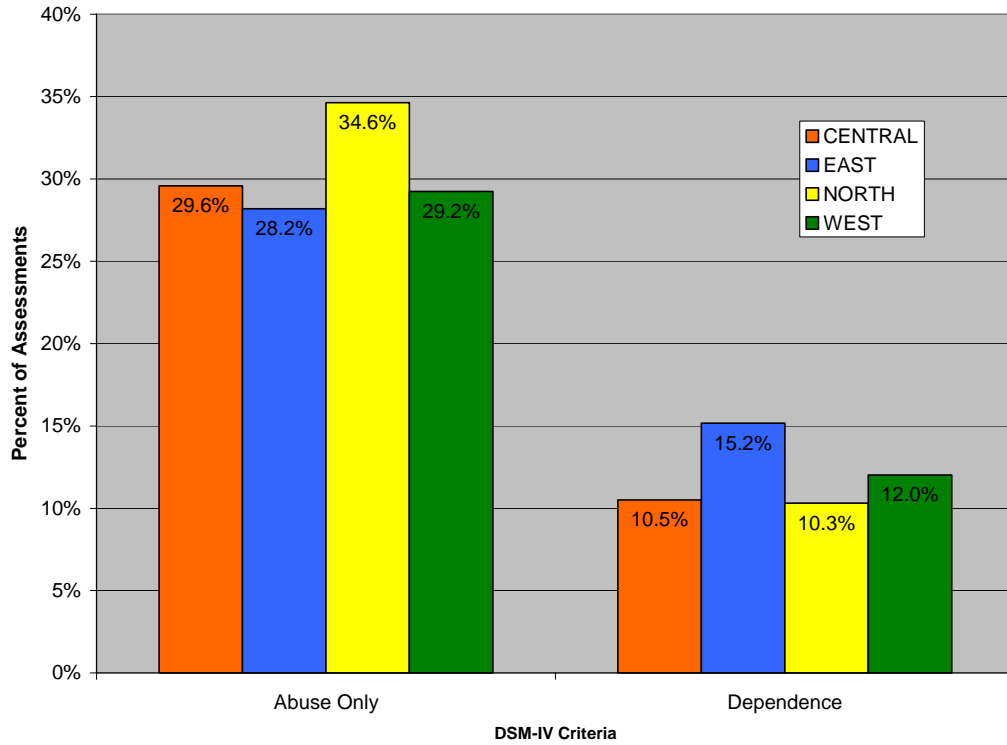
Figure 31 presents the blood alcohol content ranges across the four DMHSA regions. Other than a slight elevation in the .10 to .12 range for the East region, there are no notable differences.

Figure 31: Blood Alcohol Content by DMHSA Region*
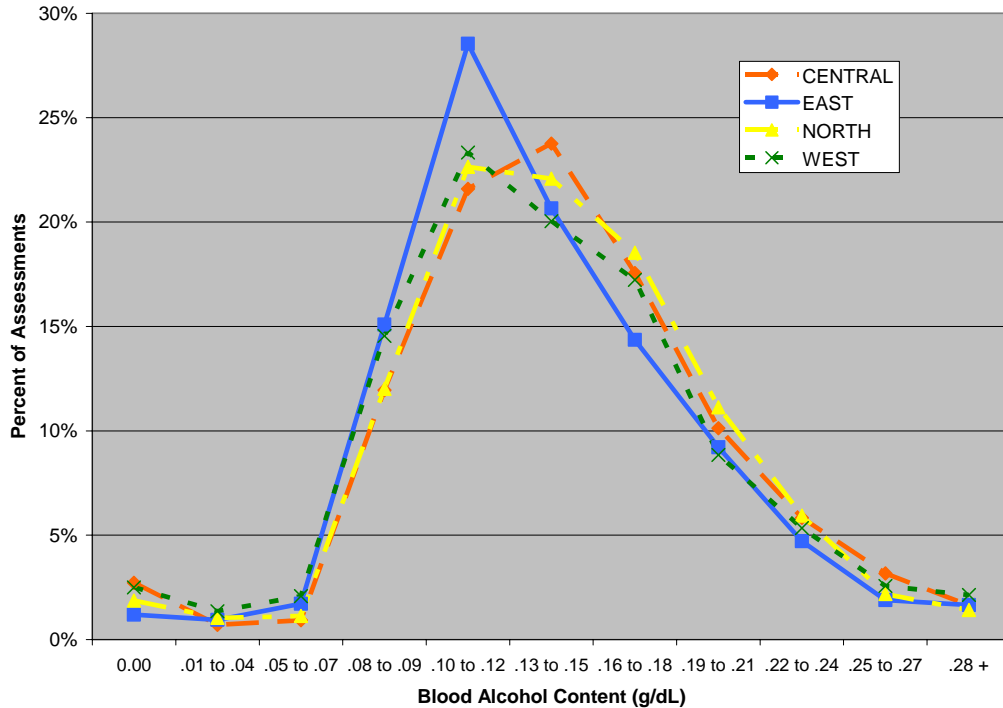
* - BAC excludes cases where the person refuses, BAC isn't known, and BAC > 0.50

6.4 Level of Care, Time to Completion, and Compliance. Table 17 presents the rates of compliance for each DMHSA region. The West region showed the lowest level of compliance with the recommended intervention.

Table 17: Compliance by DMHSA Region

	CENTRAL	EAST	NORTH	WEST
Compliance	79.1%	77.3%	80.5%	74.7%

Figure 32 presents the highest level of care recommended by DMHSA region. The West region had the most education referrals and the fewest outpatient referrals. The East region had over twice the percentage of IOP recommendations than the next highest region. The West also had over three times the rate of residential referrals than the East.

Figure 32: Highest Level of Care by DMHSA Region
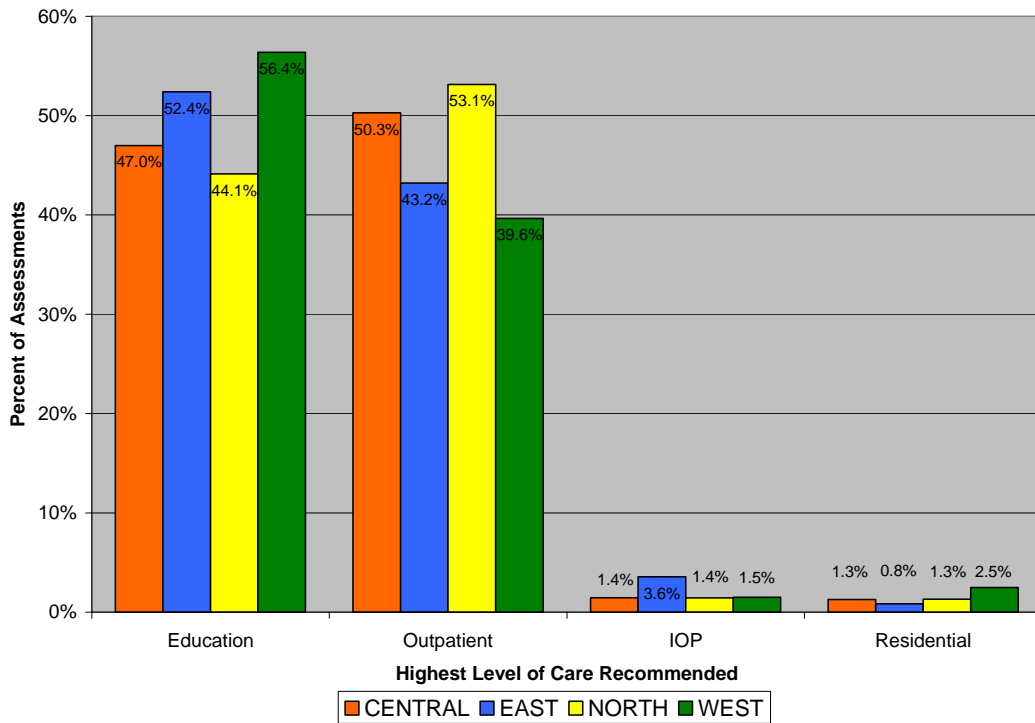
Figure 33 presents the time for a person to complete the recommended level of care. All four regions were very similar.

Figure 33: Time to Completion by DMHSA Region
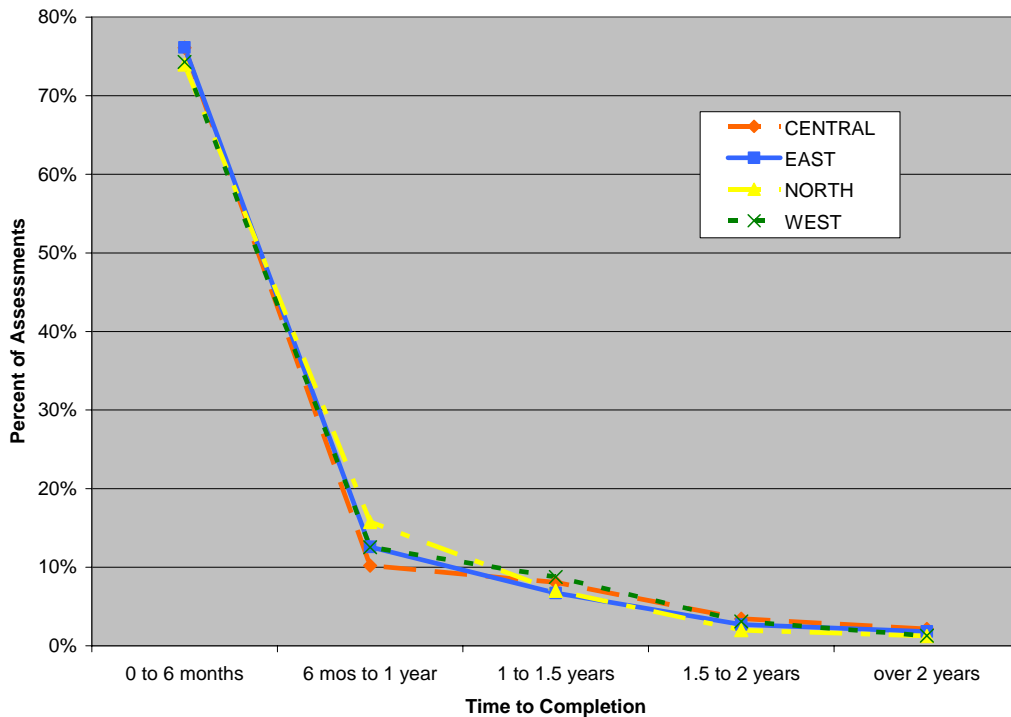
DMHSA Regions Summary: Overall, there is an equitable distribution among variables across DMHSA regions. The Central region had the fewest assessments and the West region had the lowest compliance. While, the North region had the highest percentage of persons who met DSM-IV criteria for abuse, it reported the lowest percent of persons who met three or more dependence criteria. The East region on the other hand, had the lowest percentage of persons who met criteria for abuse and the highest percentage of persons who met three or more dependence criteria. While the West region had the highest percentage of persons who recommended education, it had the lowest percentage of persons who were recommended for outpatient. Conversely the North region had the lowest percentage of persons recommended for education and the highest percentage of persons recommended for outpatient.

7 TRENDS FOR 2002 AND 2003

This page left intentionally blank.

SECTION SEVEN: TRENDS FOR 2002 AND 2003

7.1 **Gender and Age Trends 2002 and 2003.** Table 18 presents the total number of DUI Assessments for calendar years 2002 and 2003. The number of cases increased slightly (2%) from 2002 to 2003. When years 2002 and 2003 were compared, there was an equal distribution by gender, a 5.4% increase in persons under 21 years of age, and a 3.7% decrease in persons over 51 years of age.

Table 18: Comparison of 2002 and 2003 Gender and Age

Gender:	2002	2003
Male	17,482 (82.1%)	17,962 (82.7%)
Female	3,801 (17.8%)	3,767 (17.3%)
Missing	13 (0.1%)	2 (<0.1%)
Total	21,296	21,731

Age:		
16 to 20	531 (2.5%)	1,541 (7.9%)
21 to 30	7,116 (33.4%)	7,026 (36.2%)
31 to 40	5,628 (26.4%)	5,269 (27.1%)
41 to 50	4,706 (22.1%)	3,874 (19.9%)
51 and older	2,463 (11.6%)	1,718 (7.9%)
Missing	852 (4.0%)	2,303 (10.6%)

7.2 **Number of DUI Convictions 2002 and 2003**. Figure 34 presents the difference between the number of DUI convictions for the previous five years in 2002 and 2003 assessments. The 0-1 field indicates a first conviction, 2 and 3+ fields indicate multiple convictions. 2003 showed a slight increase in multiple convictions.

Figure 34: Number of DUI Convictions 2002 and 2003

7.3 **Compliance 2002 and 2003**. Figure 35 presents overall levels of compliance for 2002 and 2003 assessments. There was a slight increase in non-compliance in 2003 of 2.2%.

Figure 35: Compliance Levels 2002 and 2003

Figure 36 presents the levels of compliance for age. Like 2002 data, compliance dropped for persons over 71 years of age. Persons in their 50's and 60's showed a slight increase in compliance in 2003 and persons age 16 to 20 showed an 8.9% increase in compliance in 2003.

Figure 36: Compliance by Age Groups 2002 and 2003
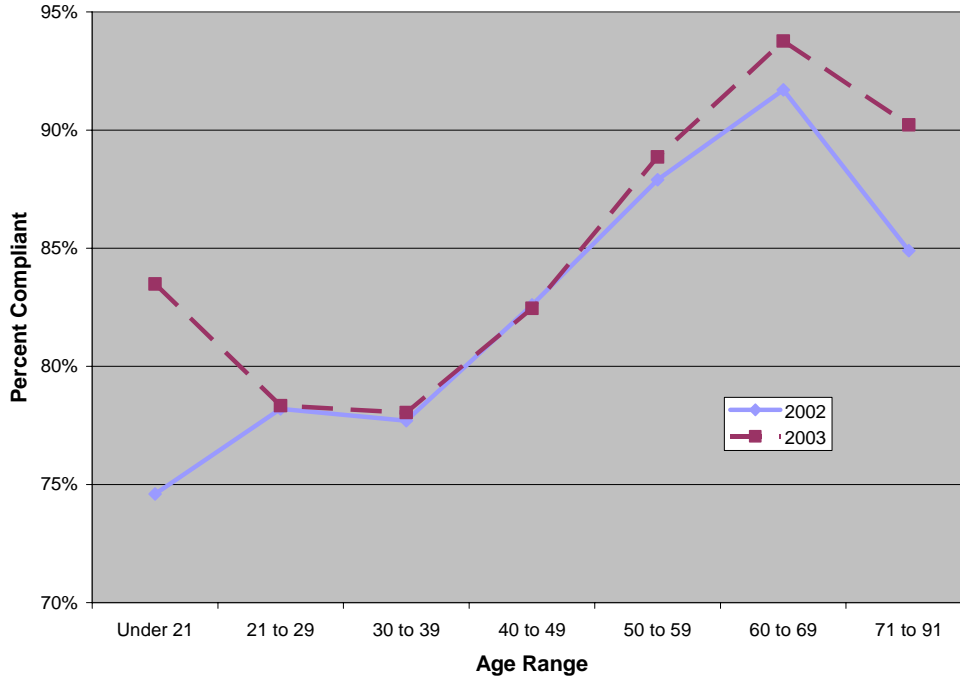
Figure 37 presents levels of compliance for the number of previous DUI convictions in the past five years. The rates are almost identical.

Figure 37: Compliance by Previous DUI Convictions 2002 and 2003
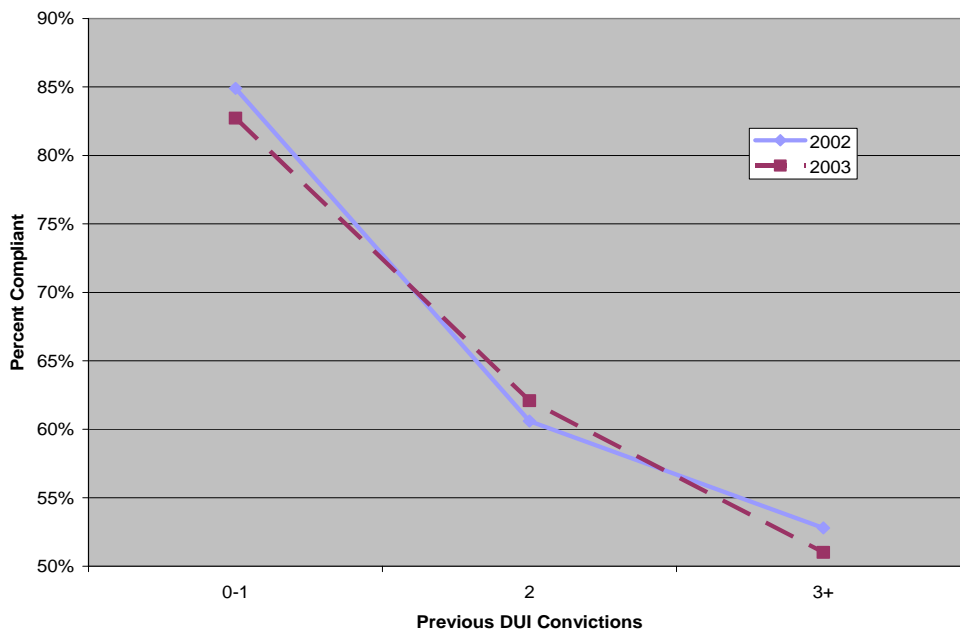
Figure 38 presents compliance by DSM-IV criteria. 2003 showed slightly lower levels of compliance at all three categories.

Figure 38: Compliance by DSM-IV Criteria 2002 and 2003
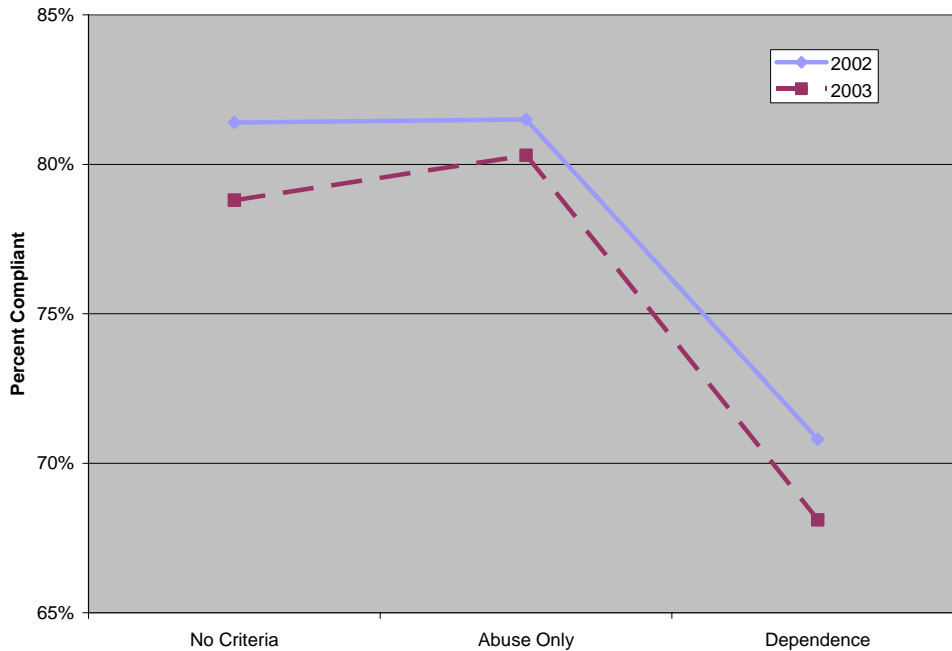
7.4 **Screening Instruments**. Table 19 presents AUDIT and DAST scores from 2002 and 2003. Scores on both tests increased slightly in 2003. The percent of positive scores increased for the DAST but remained almost the same for the AUDIT.

Table 19: AUDIT and DAST Scores 2002 and 2003

	2002	**2003**
AUDIT		
Positive (8+)	7,173 (36.7%)	6,835 (36.3%)
Average Score	7.25	7.44
DAST		
Positive (5+)	5,537 (31.7%)	4,908 (33.6%)
Average Score	4.76	4.98

74

Figures 39 and 40 present AUDIT and DAST scores for previous DUI convictions. The 2002 scores are very similar to the 2003 scores for both tests at all three conviction levels. The dashed lines indicate the cutoff score for each test.

Figure 39: AUDIT Scores by Previous DUI Convictions 2002 and 2003
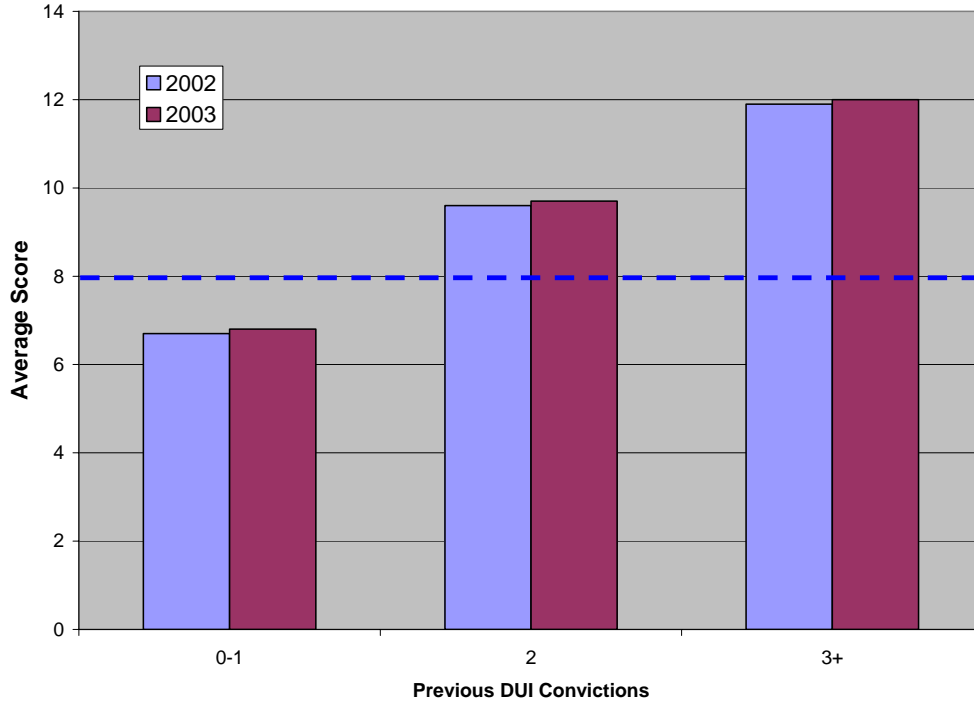
Figure 40: DAST Scores by Previous DUI Convictions 2002 and 2003
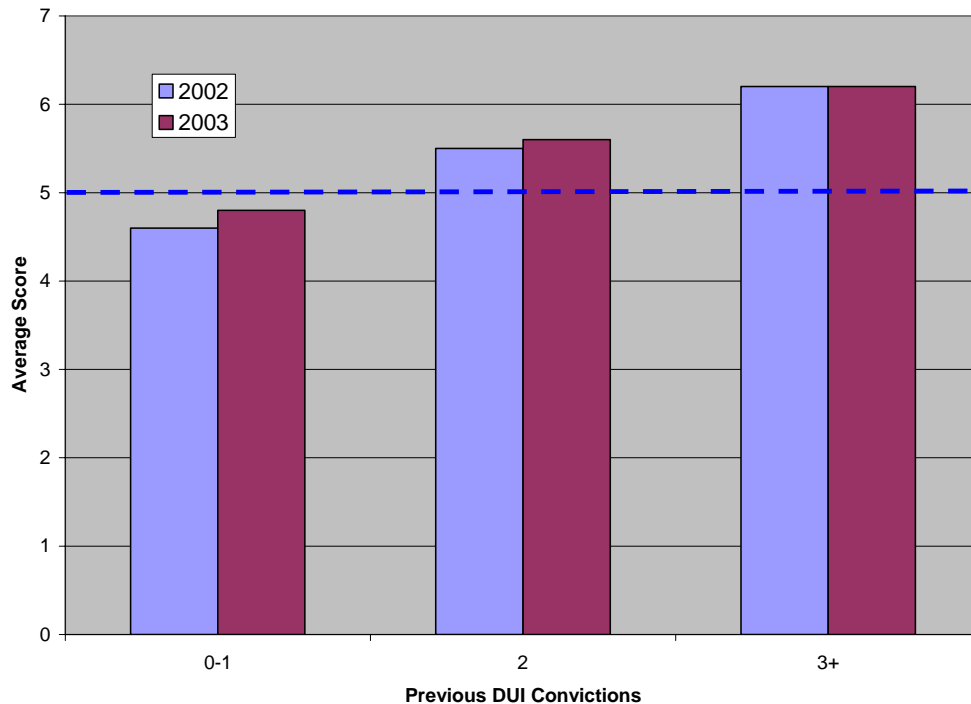
Figure 41 presents DSM-IV dependence criteria by gender for 2002 and 2003. The only notable difference was a 1.1% decrease for females in 2003.

Figure 41: DSM-IV Dependence Criteria by Gender 2002 and 2003
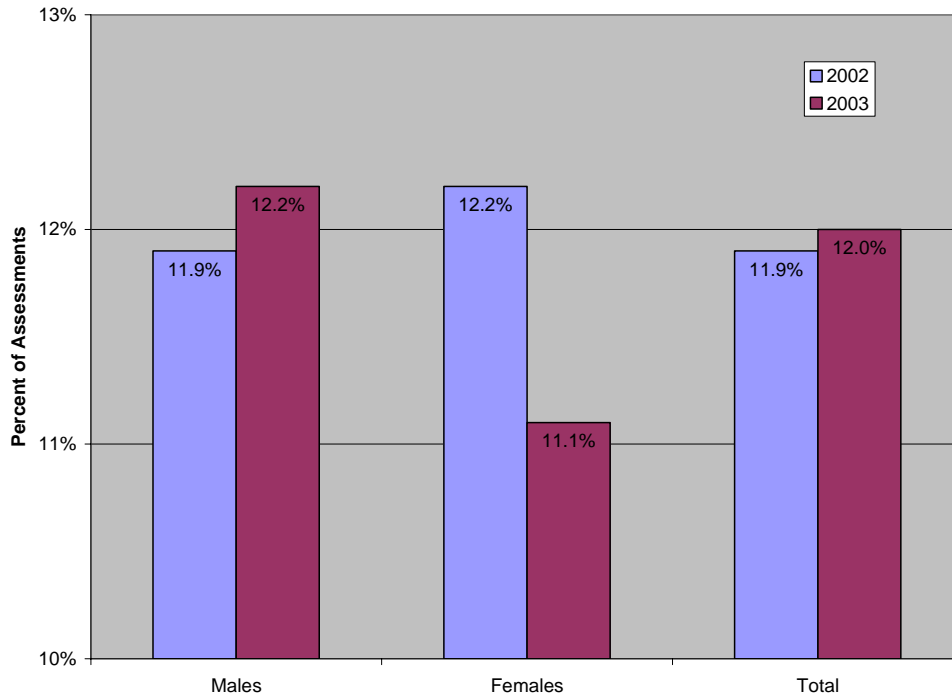
Figures 42 and 43 present DSM-IV abuse and dependence criteria and DUI convictions in the previous five years. Rates of dependence are almost identical between 2002 and 2003 but rates of abuse increased notably in 2003.

Figure 42: DSM-IV Dependence Criteria by Previous DUI Convictions 2002 and 2003
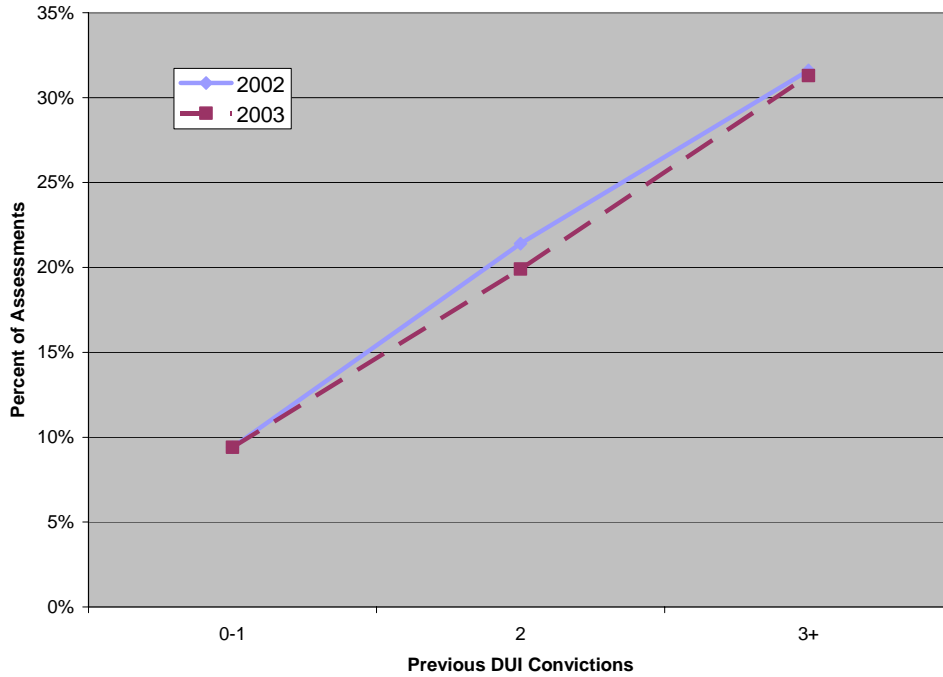
Figure 43: DSM-IV Abuse Criteria by Previous DUI Convictions 2002 and 2003
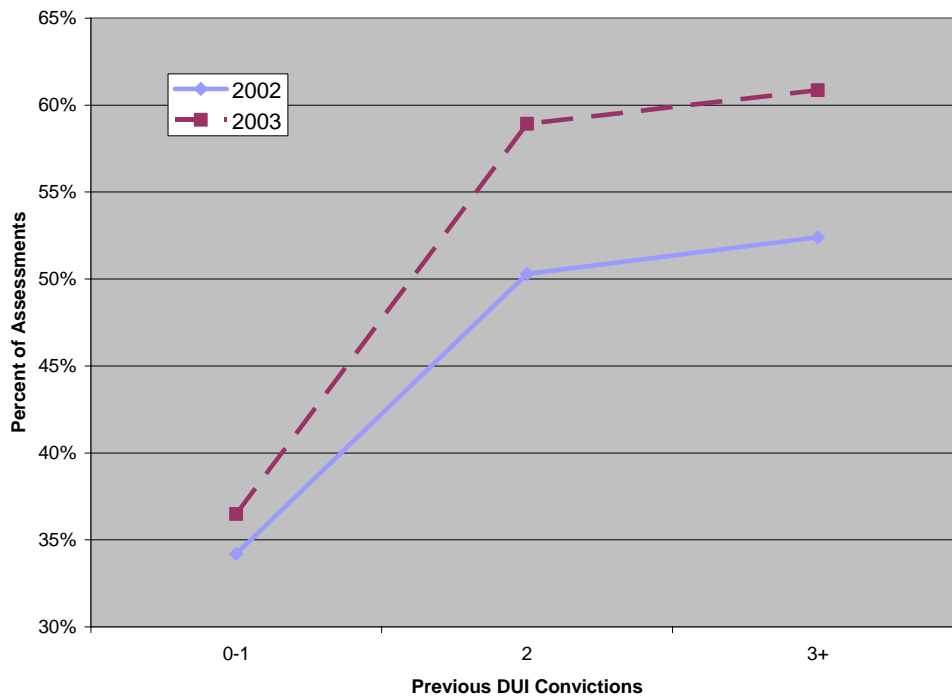
Figures 44 and 45 present DSM-IV abuse and dependence criteria and blood alcohol content for 2002 and 2003. Dependence levels are about the same except for BAC's over 0.28. Conversely, abuse levels all increased except at the 0.28+ level.

Figure 44: DSM-IV Dependence Criteria by Blood Alcohol Content 2002 and 2003
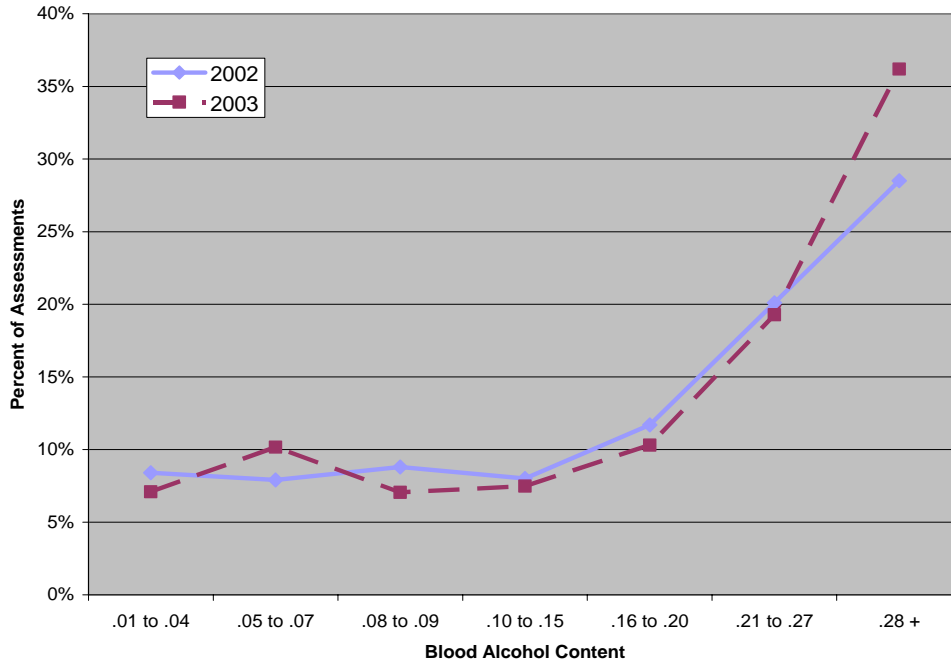
Figure 45: DSM-IV Abuse Criteria by Blood Alcohol Content 2002 and 2003
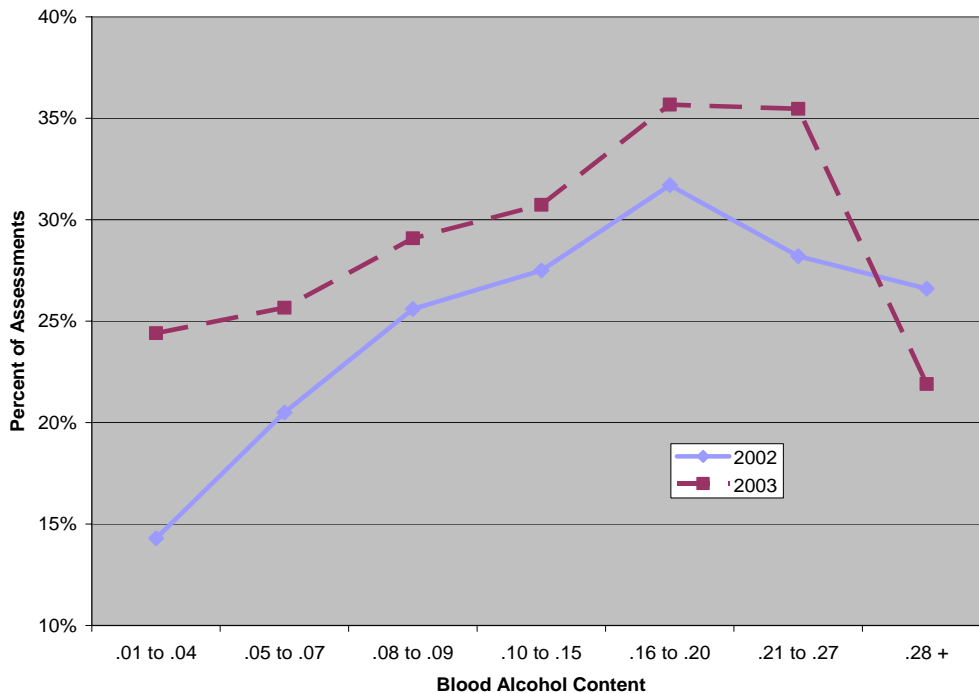
7.5 **Intervention Referrals**. Table 20 presents the total number of referrals to each level of care for 2002 and 2003. There was a marginal increase in outpatient referrals in 2003 while education and residential referrals decreased. The most notable change was the 42.5% increase in Intensive Outpatient (IOP) referrals.

Table 20: Total Referrals 2002 and 2003

	2002	**2003**	**% Change**
Education	11,766	11,121	-5.5%
Outpatient	8,512	9,291	9.2%
IOP	299	426	42.5%
Residential	335	289	-13.7%

Figure 46 presents the highest level of care recommended for 2002 and 2003. This data is similar to Table 20.

Figure 46: Highest Level of Care Recommended 2002 and 2003

79
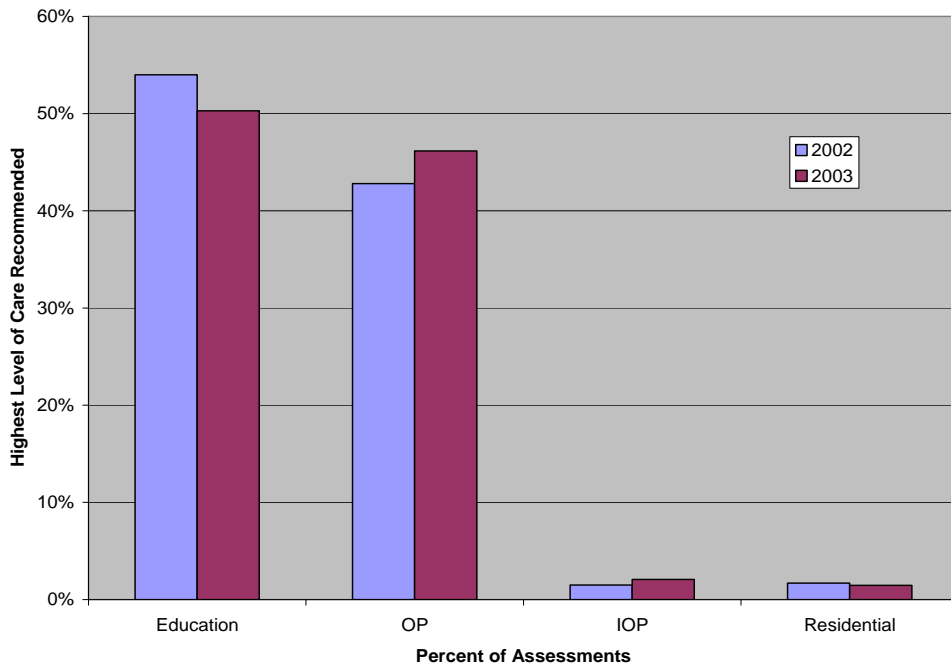
Figure 47 presents the time to completion for 2002 and 2003 assessments. 2003 assessments showed an increase in persons who took 1.5 years or more to complete their intervention

Figure 47: Time to Completion 2002 and 2003
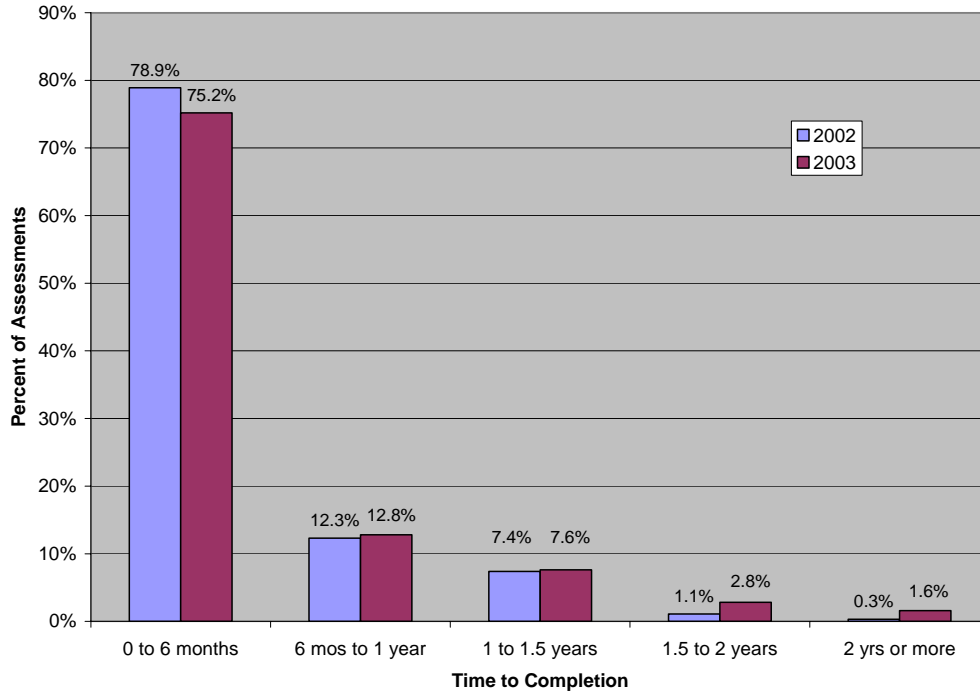
7.6 **Sites Not Submitting Data.** Figure 48 presents the number of sites not submitting data in 2002 and 2003. At the beginning of each month, each assessment program either creates a diskette containing completed records for the previous month or, in the case of no completed records, sends a letter to that effect. Either the diskette or letter must be submitted to CDAR each month. In the event that neither is received, a list of sites not submitting data is forwarded to the DMHSA coordinator. There was a sharp decline in the number of sites not responding when 2002 is compared to 2003. In 2002 the average number was 52 sites per month compared to 22 per month in 2003, and the total number of assessment programs increased from 105 in 2002 to 115 in 2003.

Figure 48: Sites Not Submitting Data 2002 and 2003
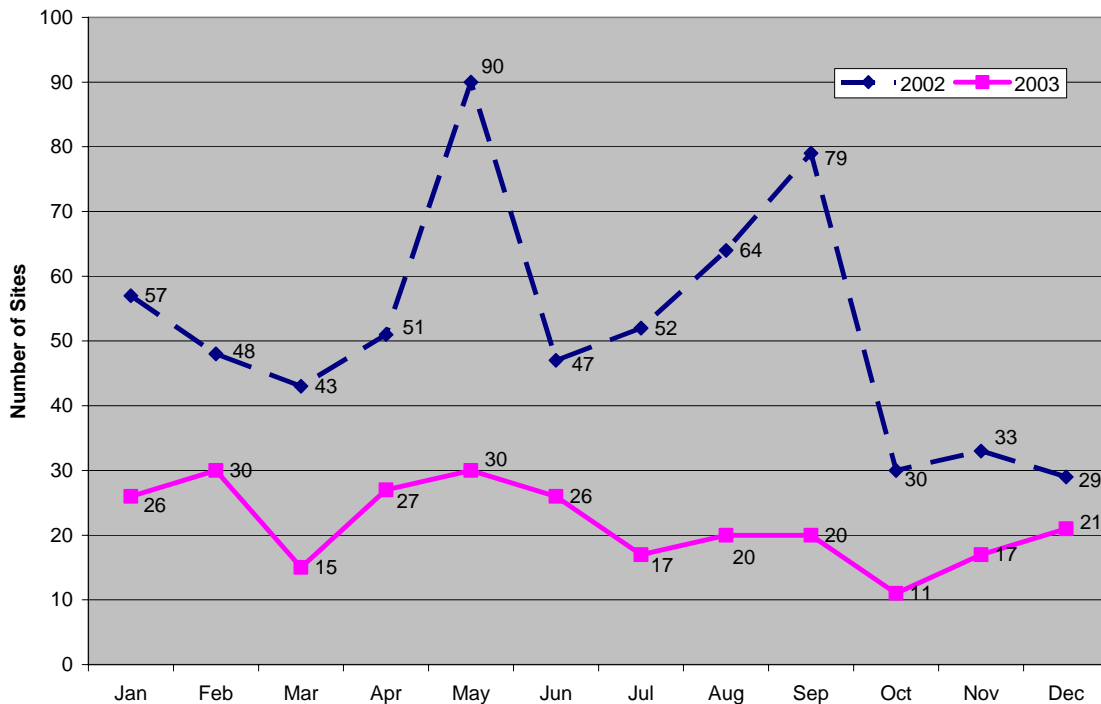
Trends Summary: Overall, 2003 assessments were very similar to 2002 assessments. For example, gender, previous DUI convictions, AUDIT and DAST scores were very similar. The number of persons who met DSM-IV criteria for abuse was slightly elevated and persons who met three or more DSM-IV criteria for dependence in their lifetime was lower in 2003. Assessments submitted in 2003 had a higher percentage of persons who took 1½ years or more to complete their assigned intervention. There were also more outpatient referrals and fewer education referrals in 2003.

This page left intentionally blank.

8 SUMMARY

This page left intentionally blank.

In 2003, the typical Kentuckian who was assessed for Driving Under the Influence was male, under 40 years of age, who was arrested for his first DUI within the past five years. The typical offender was referred for an education intervention. Most individuals completed their intervention within the prescribed amount of time. The average person assessed had a Blood Alcohol Content (BAC) between 0.10 and 0.18 g/dL.

Factors related to non-compliance included: age, gender, number DUI convictions in the past five years, AUDIT score, DAST score, DSM-IV dependence criteria, and Wet/Dry/Moist status of the county of conviction. For example, persons convicted in a Dry county were 5.4% to 7.7% less likely to comply with their intervention than persons convicted in Moist or Wet counties. In addition, persons with multiple risk factors like age (under 40 years old), gender (male), previous DUI convictions (2 or more), and number of DSM-IV dependence criteria (3 or more) were less likely to comply than persons with none of these risk factors.

The screening instruments showed good consistency. AUDIT scores, DAST scores, DSM-IV criteria for abuse and dependence, and Blood Alcohol Content were closely related. These screening instruments are used by assessors to make treatment referrals. Persons convicted of multiple DUI's and those arrested with elevated BAC's are at most risk for meeting criteria for significant alcohol or drug problems. Higher BAC's also tended to be recommended for higher levels of care.

Publicly funded programs completed about one-third (30%) of all assessments, and privately funded programs completed more assessments per site. Programs generally referred individuals to their own program for education and treatment interventions.

There were no overall differences between assessments from the four DMHSA regions. Data received in 2003 was strikingly similar to 2002 data. The number of assessments received in 2003 was a 2% increase from 2002 with a reduction in assessment sites not submitting 2003 data.

This page left intentionally blank.

REFERENCES

This page left intentionally blank.

REFERENCES

1- Babor TF, De La Fuente JR, Saunders JB, et al, (1992). *The Alcohol Use Disorders Identification Test*, World Health Organization, Department of Mental Health and Substance Dependence, New York

2- Skinner HA (1982) The Drug Abuse Screening Test, *Addictive Behaviors*, 1982, Vol. 7, 363-371

3- American Psychiatric Association (1994). *Diagnostic and Statistical Manual of Mental Disorders* (4th ed). Washington, DC: American Psychiatric Association

4- Robins L, Cottler L, Bucholz K, et al, (1997) Diagnostic Interview Schedule for DSM-IV, University of Washington, St. Louis

5- Kentucky State Police website (www.kentuckystatepolice.org) 2002 Annual Crime Report

6- Kentucky Alcoholic Beverage Control web site, www.state.ky.us/agencies/cppr/abc

7- Kentucky State Data Center & Kentucky Population Research, http://ksdc.louisville.edu/kpr/popset/est.htm

8- National Highway Traffic Safety Administration web site, www.nhsta.dot.gov/people/injury/alcohol/KY.htm

9- Grant BF, Harford TC, Dawson DA, et al, (1994) Prevalence of DSM-IV Alcohol Abuse and Dependence, NIAAA's Epidemiological Bulletin No.35, *Alcohol Health and Research World*, 18(3), 243-248

10- Drinking in the United States: Main Findings from the 1992 National Epidemiologic Survey (NLAES). *U.S. Alcohol Epidemiologic Reference Manual*, Volume 6, First Edition, November 1998, NIH Publication 99-3519

11- Testimony of Steve Blackistone before the Committee on Law Enforcement, Texas House of Representatives, March 17, 2003

This page left intentionally blank.

This page left intentionally blank.

APPENDICES

This page left intentionally blank.

APPENDIX A: AUDIT RESPONSES BY GENDER

AUDIT Question

Q1 How often do you have a drink containing alcohol? (missing = 1619)
- Females: 1.64
- Males: 1.87
- Total: 1.83

Q2 How many drinks containing alcohol do you have on a typical day when you are drinking? (missing = 2568)
- Females: 1.11
- Males: 1.52
- Total: 1.45

Q3 How often do you have six or more drinks on one occasion? (missing = 1728)
- Females: 0.92
- Males: 1.33
- Total: 1.25

Q4 How often during the last year have you found that you were not able to stop drinking once you had started? (missing = 1711)
- Females: 0.31
- Males: 0.36
- Total: 0.35

Q5 How often during the last year have you failed to do what was normally expected of you because of drinking? (missing = 1678)
- Females: 0.28
- Males: 0.29
- Total: 0.29

Average Score

■ Females ■ Males □ Total

Appendix A: Page 1 of 2

Q6 — How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session? (missing = 1654)
- Females: 0.10
- Males: 0.13
- Total: 0.12

Q7 — How often during the last year have you had a feeling of guilt or remorse after drinking? (missing = 1710)
- Females: 0.54
- Males: 0.51
- Total: 0.52

Q8 — How often during the last year have you been unable to remember what happened the night before because of your drinking? (missing = 1673)
- Females: 0.29
- Males: 0.29
- Total: 0.29

Q9 — Have you or someone else been injured because of your drinking? (missing = 1698)
- Females: 0.31
- Males: 0.33
- Total: 0.32

Q10 — Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down? (missing = 1694)
- Females: 0.64
- Males: 0.89
- Total: 0.85

AUDIT Question (y-axis)
Average Score (x-axis)

Females Males Total

Appendix A: Page 2 of 2

APPENDIX B: DAST RESPONSES BY GENDER

DAST Question (y-axis)

Q1 — Have you ever used drugs other than those required for medical reasons? (missing = 2275)
- Females: 36.1%
- Males: 38.7%
- Total: 38.2%

Q2 — Have you abused prescription drugs? (missing = 2523)
- Females: 10.4%
- Males: 8.4%
- Total: 8.8%

Q3 — Do you abuse more than one drug at a time? (missing = 3803)
- Females: 7.9%
- Males: 8.3%
- Total: 8.2%

Q4 — Can you get through the week without using drugs (other than those for medical reasons)? (missing = 4031) *Percent who answered "No"*
- Females: 6.0%
- Males: 6.8%
- Total: 6.7%

Q5 — Are you always able to stop using drugs when you want to? (missing = 5163) *Percent who answered "No"*
- Females: 9.8%
- Males: 9.0%
- Total: 9.1%

Q6 — Do you abuse drugs on a continuous basis? (missing = 4330)
- Females: 5.1%
- Males: 5.0%
- Total: 5.0%

Q7 — Do you try to limit your drug use to certain situations? (missing = 5957) *Percent who answered "No"*
- Females: 40.2%
- Males: 38.7%
- Total: 39.0%

Percent of Assessments that Answered "Yes" (x-axis: 0% to 45%)

Legend: ☐ Females ☐ Males ☐ Total

Appendix B: Page 1 of 4

DAST Question

Q8 — Have you had "blackouts" or "flashbacks" as a result of drug use? (missing = 4496)
- Females: 7.3%
- Males: 5.7%
- Total: 5.9%

Q9 — Do you ever feel bad about your drug abuse? (missing = 4953)
- Females: 18.2%
- Males: 15.9%
- Total: 16.3%

Q10 — Does your spouse (or parents) ever complain about your involvement with drugs? (missing = 4665)
- Females: 10.9%
- Males: 12.7%
- Total: 12.4%

Q11 — Do your friends or realtives know or suspect you abuse drugs? (missing = 4777)
- Females: 15.0%
- Males: 16.5%
- Total: 16.2%

Q12 — Has drug abuse ever created problems between you and your spouse? (missing = 4735)
- Females: 9.2%
- Males: 8.3%
- Total: 8.5%

Q13 — Has any family member ever sought help for problems related to your drug use? (missing = 4439)
- Females: 5.7%
- Males: 4.5%
- Total: 4.7%

Q14 — Have you ever lost friends because of your use of drugs? (missing = 4544)
- Females: 6.1%
- Males: 5.9%
- Total: 6.0%

Percent of Assessments that Answered "Yes"

Legend: ☐ Females ■ Males ☐ Total

Appendix B: Page 2 of 4

Q15 — Have you neglected your family or missed work because of your use of drugs? (missing = 4567)
- Females: 9.0%
- Males: 7.9%
- Total: 8.1%

Q16 — Have you ever been in trouble at work because of drug abuse? (missing = 4420)
- Females: 3.0%
- Males: 3.7%
- Total: 3.6%

Q17 — Have you ever lost a job because of drug abuse? (missing = 4407)
- Females: 3.3%
- Males: 4.0%
- Total: 3.8%

Q18 — Have you gotten into fights when under the influence of drugs? (missing = 4411)
- Females: 7.0%
- Males: 8.1%
- Total: 7.9%

Q19 — Have you ever been arrested because of unusual behavior while under the influence of drugs? (missing = 4422)
- Females: 10.0%
- Males: 10.4%
- Total: 10.4%

Q20 — Have you ever been arrested for driving while under the influence of drugs? (missing = 4376)
- Females: 19.1%
- Males: 19.0%
- Total: 19.0%

Q21 — Have you engaged in illegal activities in order to obtain drugs? (missing = 4396)
- Females: 7.4%
- Males: 8.1%
- Total: 8.0%

Y-axis: **DAST Question**

X-axis: **Percent of Assessments that Answered "Yes"** (0% to 45%)

Legend: ☐ Females ■ Males ☐ Total

Appendix B: Page 3 of 4

DAST Question

Q22 — Have you ever been arrested for possession of illegal drugs? (missing = 4382)
- Females: 12.6%
- Males: 18.9%
- Total: 17.8%

Q23 — Have you ever experienced withdrawal symptoms as a result of heavy drug intake? (missing = 4418)
- Females: 8.0%
- Males: 5.3%
- Total: 5.7%

Q24 — Have you had medical problems as a result of your drug use? (missing = 4383)
- Females: 3.9%
- Males: 2.2%
- Total: 2.5%

Q25 — Have you ever gone to anyone for help for a drug problem? (missing = 4395)
- Females: 10.1%
- Males: 8.4%
- Total: 8.7%

Q26 — Have you ever been in a hospital for medical problems related to your drug use? (missing = 4420)
- Females: 4.8%
- Males: 2.8%
- Total: 3.2%

Q27 — Have you ever been involved in a treatment program specifically related to drug use? (missing = 4363)
- Females: 9.6%
- Males: 8.9%
- Total: 9.0%

Q28 — Have you been treated as an outpatient for problems related to drug abuse? (missing = 4360)
- Females: 7.8%
- Males: 6.3%
- Total: 6.5%

Percent of Assessments that Answered "Yes"

Legend: Females — Males — Total

Appendix B: Page 4 of 4

APPENDIX C: DSM-IV ABUSE CRITERIA BY GENDER

A1 — Recurrent substance use resulting in a failure to fulfill major role obligations at work, school or home

- Female: 7.9%
- Male: 8.2%
- Total: 8.1%

A2 — Recurrent substance use in situations in which it is physically hazardous (e.g, driving an automobile when impaired by substance use)

- Female: 29.8%
- Male: 34.5%
- Total: 33.7%

A3 — Recurrent substance-related legal problems

- Female: 17.4%
- Male: 24.1%
- Total: 22.9%

A4 — Continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance

- Female: 11.8%
- Male: 14.3%
- Total: 13.9%

Percent of Assessments that are Positive

☐ Female ■ Male ☐ Total

Missing Data = 2 Assessments

APPENDIX D: DSM-IV DEPENDENCE CRITERIA BY GENDER

D1	Tolerance evidenced by a) need for increased amounts to achieve intoxication OR b) markedly diminished effect while using the same amount

Female: 25.3%
Male: 30.3%
Total: 29.4%

D2	Withdrawal evidenced by a) characteristic withdrawal syndrome OR b) the same (or closely related substance) is taken to relieve or avoid withdrawal symptoms

Female: 10.2%
Male: 9.8%
Total: 9.8%

D3	Substance is often taken in larger amounts or over a longer period of time than was intended

Female: 4.2%
Male: 5.2%
Total: 5.0%

D4	Persistent desire or unsuccessful attempts to cut down or control use

Female: 10.5%
Male: 11.9%
Total: 11.7%

D5	Great deal of time is spent in activities necessary to obtain the substance, use the substance, or recover from its effects

Female: 7.2%
Male: 7.8%
Total: 7.7%

D6	Important social, occupational, or recreational activities are given up or reduced because of substance use

Female: 8.9%
Male: 9.7%
Total: 9.5%

D7	Continued use despite knowledge of a persistent or recurrent physical or psychological problem that is likely to have been caused by or exacerbated by the substance

Female: 12.2%
Male: 10.5%
Total: 10.8%

Percent of Assessments that are Positive

☐ Female ■ Male ☐ Total

Missing Data = 2 Assessments