2016

KENTUCKY DUI ASSESSMENT REPORT

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2016 Division of Behavioral Health
Driving Under the Influence Program

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This report was developed under a contract from the Kentucky Division of Behavioral Health, Department for Behavioral Health, Developmental and Intellectual Disabilities to the University of Kentucky Center on Drug and Alcohol Research. The following individuals contributed to data preparation, data analysis, writing, and production of this report: Matthew Webster (Principal Investigator), Megan Dickson, and Steve Cook. Copies of this report can be requested by emailing the Kentucky DUI Project at kydui@uky.edu. Previous DUI assessment annual reports and related information can be found on the project's website http://cdar.uky.edu/dui/.

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Executive Summary

In calendar year 2016, there were approximately 131 licensed and certified DUI Assessment Programs and 17,859 DUI assessment records were submitted to the Kentucky Division of Behavioral Health. These records include education and treatment information for persons convicted of DUI who were assessed and referred for an intervention. Using the web-based Kentucky DUI Assessment Instrument, records are submitted by certified DUI assessors once the initial substance abuse assessment is performed. The University of Kentucky Center on Drug and Alcohol Research is contracted by the Division of Behavioral Health, Department for Behavioral Health, Developmental and Intellectual Disabilities to receive these records from DUI assessment programs and to maintain this information in a database. This report provides information on assessments conducted from January 1, 2016 through December 31, 2016 and also provides trends from 2007 to 2016.

The typical person receiving a substance abuse assessment as a result of a DUI conviction in Kentucky in 2016 was a low-income white male in his 20's who was convicted of a first offense DUI with a blood alcohol level between 0.08 and 0.15 g/dL, met DSM-5 diagnostic criteria for a substance use disorder in the past 12 months, and was referred to either a 20-hour education intervention or to outpatient substance abuse treatment.

- For 2016, the number of DUI Assessments submitted was 17,859.
  Gender:
  - Males 74.1%
  - Females 25.9%

- Program referrals* were made to:
  - 20-Hour Education 43.6%
  - Outpatient 53.0%
  - IOP or Residential 3.4%

  *Only the highest level of care is presented for persons referred to more than one level of care

- The number of DUI assessment records has been decreasing since 2013. DUI arrests and convictions have also decreased overall.

- Overall, 82.0% of the assessments completed in 2016 were for DUI clients who were compliant with their education/treatment referrals. Persons who were non-compliant were most likely to have been under 40 years of age, African American, have multiple DUI convictions, and met at least two DSM-5 substance use disorder criteria in the past 12 months. Additionally, non-compliant persons scored higher on the AUDIT and DAST screening instruments and were under the influence of drugs at the time of their current DUI. Possessing multiple risk factors appears to increase the risk of non-compliance.

- The number of DUI assessments completed for male clients continues to decrease. It has dropped by nearly 6 percentage points since 2007.

- More than three-quarters (79.5%) of assessments submitted in 2016 that reported income information were for individuals with a household income less than $30,000.

- Nearly one in five DUI clients who were convicted of a first DUI offense had at least one other DUI offense in their lifetime.

- 28.0% of assessments submitted in 2016 were for DUI clients under the influence of drugs at the time of their DUI arrest – an increase from 2015. Clients convicted of a first DUI offense and those under the age of 40 were more likely to report being under the influence of drugs.

- In 2016, DUI assessment records indicated that female clients were more drug involved than their male counterparts. Female DUI clients were more likely to have a positive DAST score (32.3% vs. 23.7%), more likely to report a drug use disorder (24.9% vs. 17.6%), and more likely to report that their current DUI offense involved drugs (38.2% vs. 24.4%).

- DUI clients assessed in the Western-Central region of Kentucky were the most likely to report that their current DUI involved alcohol (90.1%). Clients in the Western-Central region also had the highest average AUDIT score and were most likely to report an alcohol use disorder according to DSM-5 criteria (56.3%).

- Drug problems, as measured by the DAST screening instrument, were most prevalent among DUI offenders in the Eastern region of Kentucky. Offenders in the Eastern region also had the highest rate of drug-involved DUIs (47.9%).

- During 2016, DUI offenders were more likely to be referred to outpatient (53.0%) than education (43.6%) or any other form of treatment (3.4%). The percentage of clients referred to outpatient treatment as the highest level of care has been steadily increasing since 2013, while education-only referrals have decreased.

- Underage DUI clients (< 21 year old; 56.2%) and individuals 60 years old and older (52.4%) were more likely to be referred to an education program than those in other age groups.

BACKGROUND

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Study Overview

The Kentucky Revised Statute 189A.040 requires Kentucky licensed drivers convicted of Driving Under the Influence (DUI) to receive a substance abuse assessment by a state certified DUI assessor in a state licensed and certified DUI assessment program[1]. DUI Assessment programs are required (908 KAR 1:310 Section 6(1)(a)4) to enter assessment records via the web-based Kentucky DUI Assessment Instrument (KDAI) within three (3) business days of the assessment. The University of Kentucky Center on Drug and Alcohol Research (CDAR) serves as the repository for state DUI assessment records. The data is stored in a database from which this report was developed.

The purpose of the assessment is to determine the extent to which the person has an alcohol and/or drug problem and to make a referral to an appropriate level of care to address it. If treatment need is determined, a person can be referred to one or more of the following treatment modalities: outpatient, intensive outpatient, or residential treatment. Referral may also include an education intervention or an education intervention coupled with treatment. If a 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 record is "completed." Assessment records previously submitted using KDAI are updated to include completion information once an individual is identified as compliant or non-compliant.

Data Description

DUI assessment records provide demographic information about the person, information about their DUI offense, results of the assessment, and education/treatment information. Demographic information includes age, gender, race/ethnicity, and household income. In addition, source of payment (e.g., self-payment) for DUI services is recorded. DUI offense information includes current DUI information, DUI conviction history, and county of conviction. Records include three assessment instruments:

- Alcohol Use Disorders Identification Test (AUDIT)[2] – 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 is likely to have a drinking problem).
- Drug Abuse Screening Test (DAST)[3] – 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 is likely to have a drug problem).
- DSM-5[4] checklist for Substance Use Disorders. The Diagnostic and Statistical Manual, Fifth Edition (DSM-5) was developed by the American Psychiatric Association as the standard for psychiatric diagnoses. The DSM-5 specifies three categories of substance use disorders: mild, moderate and severe. Meeting 2-3 criteria for a single substance within a 12-month period indicates a mild disorder;

4-5 criteria, a moderate disorder; and 6 criteria or more, a severe substance use disorder.

Information about the intervention referral is also noted. This includes the education and/or level(s) of treatment to which the person is referred, as well as the person's compliance with that referral.

Sample

This report presents DUI assessment records for assessments conducted between January 1, 2016 and December 31, 2016 as well as trends detailing changes in assessment results over the past several years. In 2016, a total of 17,859 assessment records were entered by licensed and certified DUI assessors. It should be noted that the number of submitted assessment records in 2016 is not the same as the number of completed assessment records or the number of DUI convictions in 2016 because persons can be convicted, be assessed, and complete their intervention in separate years. Of the 17,859 assessments conducted in 2016, only 13,413 assessment records were also "completed" before December 31, 2016. Additionally, the number of assessment records is not equal to the number of unique individuals. A single person can have multiple DUI assessment records in a single calendar year either because of multiple DUI convictions or because they had to be reassessed due to non-compliance.

Limitations

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

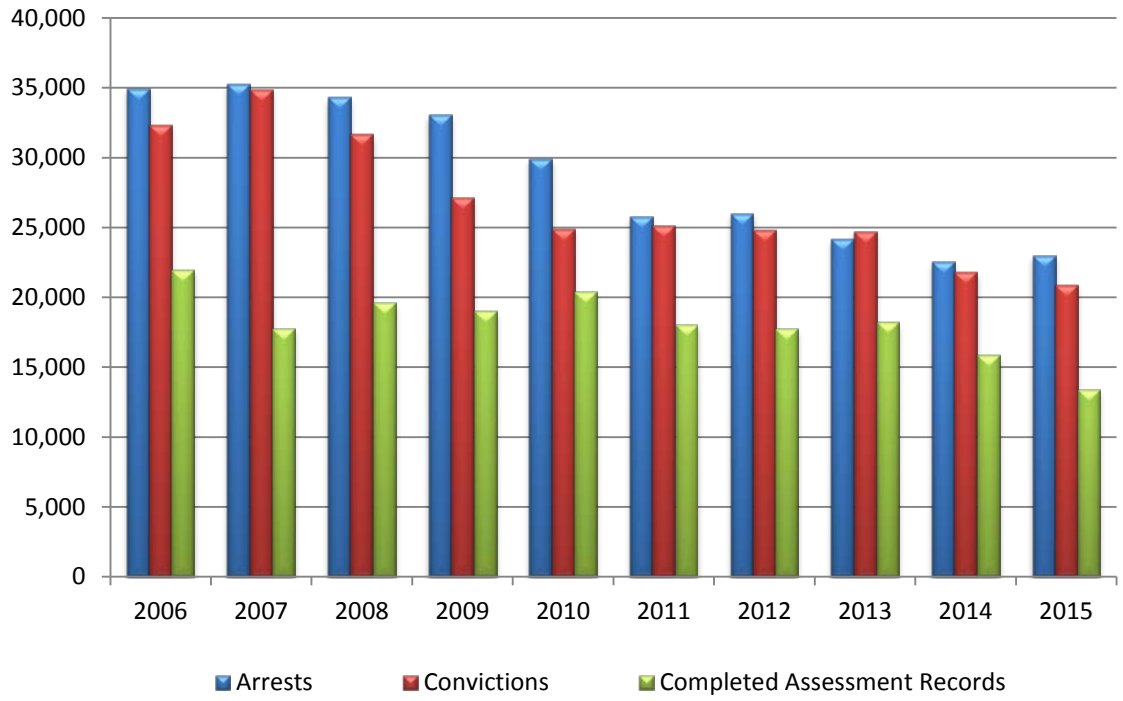
Table 1: Missing Data

	2016	
	Missing Assessments	Percentage of Cases
Age	3	0.02%
Race	2,758	15.4%
Household Income	3,794	21.2%
Blood Alcohol Content	9,103	51.0%
AUDIT	0	0.0%
DAST	0	0.0%
DSM-5	0	0.0%
Recommended Level of Care	0	0.0%

Although KDAI has successfully reduced the amount of missing data when compared to the previous DUI assessment record system, certain fields remain problematic. Blood Alcohol Content has the highest percentage of missing cases, which is largely due to individuals who were not tested, refused the test, or did not remember the level. Other variables, such as race and household income, have a significant amount of missing cases because they are optional fields.

The second limitation is that these data represent a subset of a larger, unknown number of DUIs in Kentucky. For example, in 2015 there were 23,024 DUI arrests and 14,286 completed assessments[5]. This difference emphasizes the dangers in comparing frequencies of arrests, convictions, and assessments as there are different requirements and timelines for compiling each of these types of records. Figure 1 presents the number of DUI arrests and convictions submitted to the Kentucky State Police, and completed DUI assessment records for 2006 through 2015. 2016 data were not available at the time this report was written.

Figure 1: DUI Arrests, DUI Convictions, and Completed Records, 2006 through 2015



* Arrest and conviction data from Kentucky State Police were only available through 2015 at the time this report was developed.

This report presents DUI assessment records submitted in 2016, which are independent of violation date and conviction date. Caution should be used in comparing these data to other data. For example, a portion of the unaccounted records includes out-of-state licensees who are arrested in Kentucky but are not required to receive 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. In addition, persons who are arrested for DUI may plea bargain to a lesser charge.

A third limitation is that most of the data are self-reported, which can be limited by recall.

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SECTION ONE
DEMOGRAPHICS

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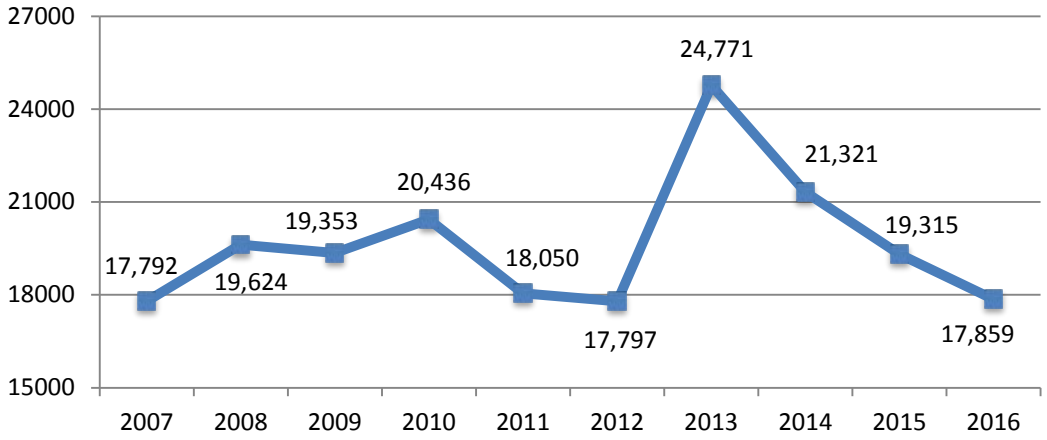
1.1 Number of DUI Assessments Submitted in 2016

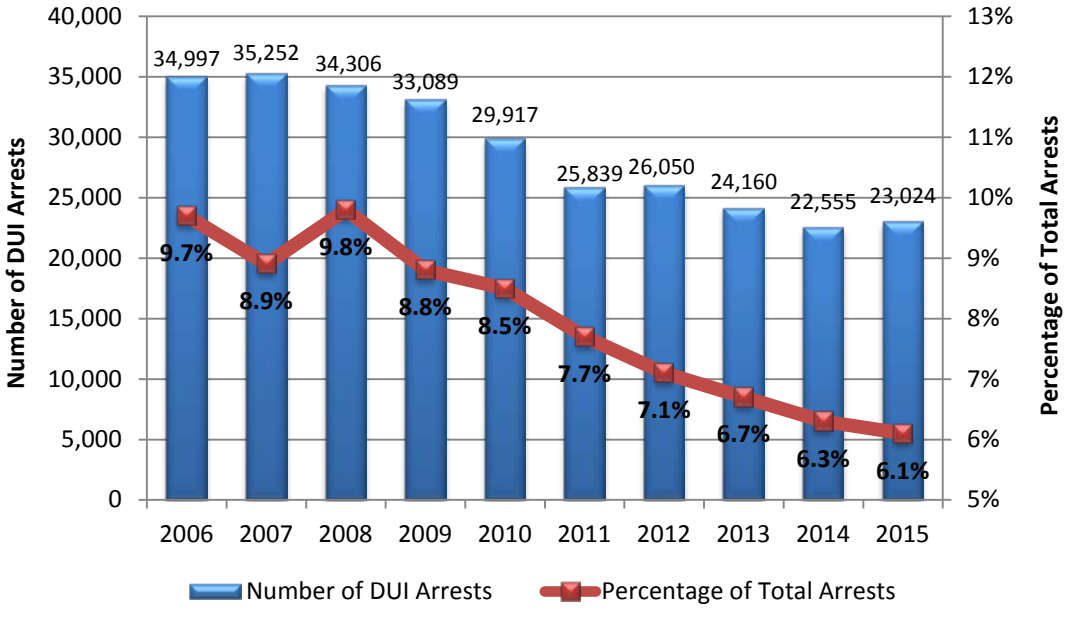
The number of DUI assessments submitted by licensed and certified DUI programs in calendar year 2016 was 17,859. Figure 1.1 presents the number of assessments submitted to CDAR on behalf of the Division of Behavioral Health from 2007 through 2016. The average number of assessments received has been 19,632 per year.

Figure 1.1: Number of Assessments 2007 to 2016



In 2015, there were 23,024 arrests for DUI, which represented 6.1% of all arrests in Kentucky in that year. Figure 1.2 presents the number of DUI arrests from 2006 to 2015 and the percentage of total arrests in Kentucky those DUIs represent.

Figure 1.2: Number of DUI Arrests and Percentage of Total Arrests 2006 to 2015



* Arrest and conviction data from Kentucky State Police were only available through 2015 at the time this report was developed.

1.2 DUI Assessments by Gender

Of the 17,859 assessments submitted in 2016, 13,241 (74.1%) were for males and 4,618 (25.9%) were for females.

Figure 1.3:
Assessments by Gender*

* Missing Data = 0 Assessments

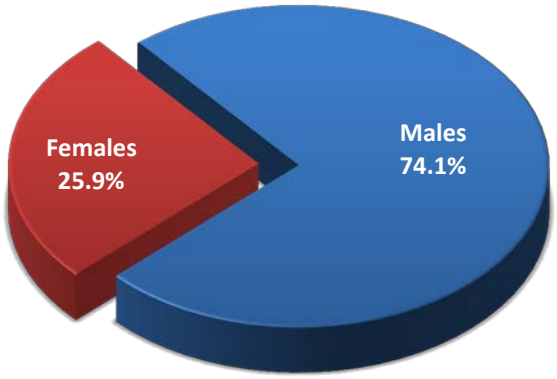
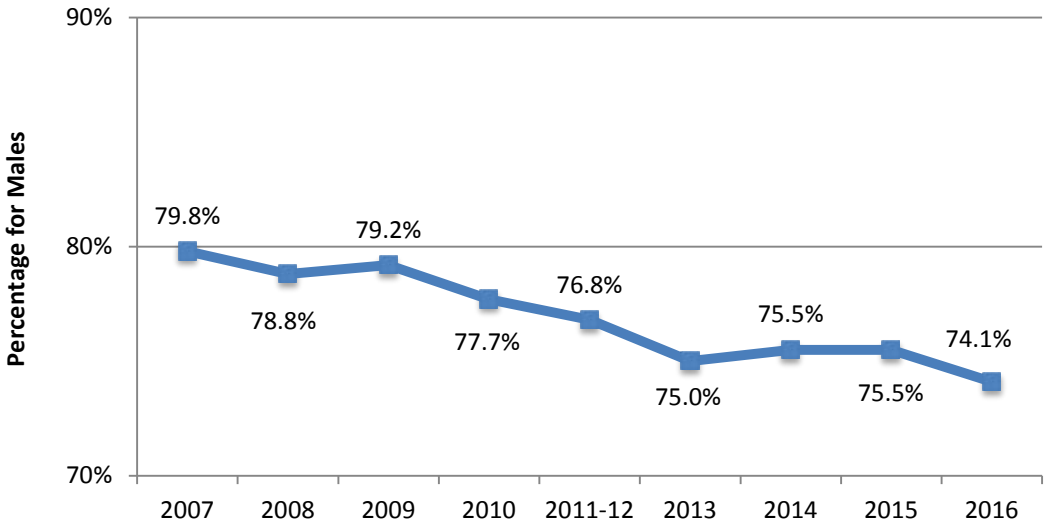


Figure 1.4 presents the percentage of assessments that were for males from 2007 through 2016. The percentage of males has slowly decreased over the past ten years.

Figure 1.4: Percentage of Assessments that were for Males 2007 to 2016

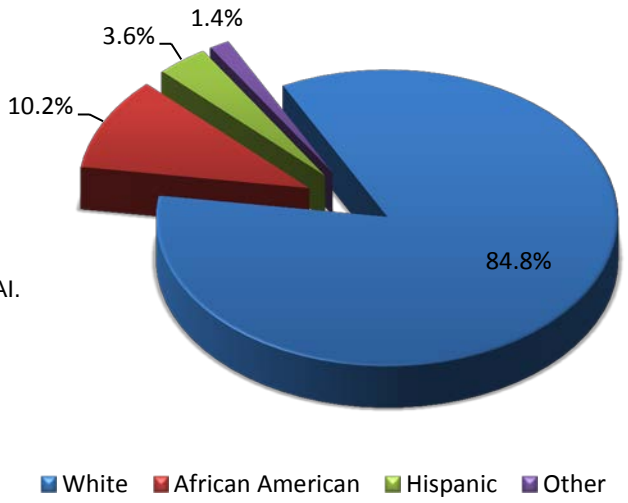


1.3 Assessments by Race/Ethnicity

Of those assessments for which race was reported in 2016, the majority were for White DUI clients (84.8%), while only 1,535 assessments (10.2%) were submitted for African Americans and 754 (5.0%) were submitted for Hispanics or those of another racial/ethnic background. Figure 1.5 presents the number of assessments by race/ethnicity.

Figure 1.5:
Assessments by Race/Ethnicity*

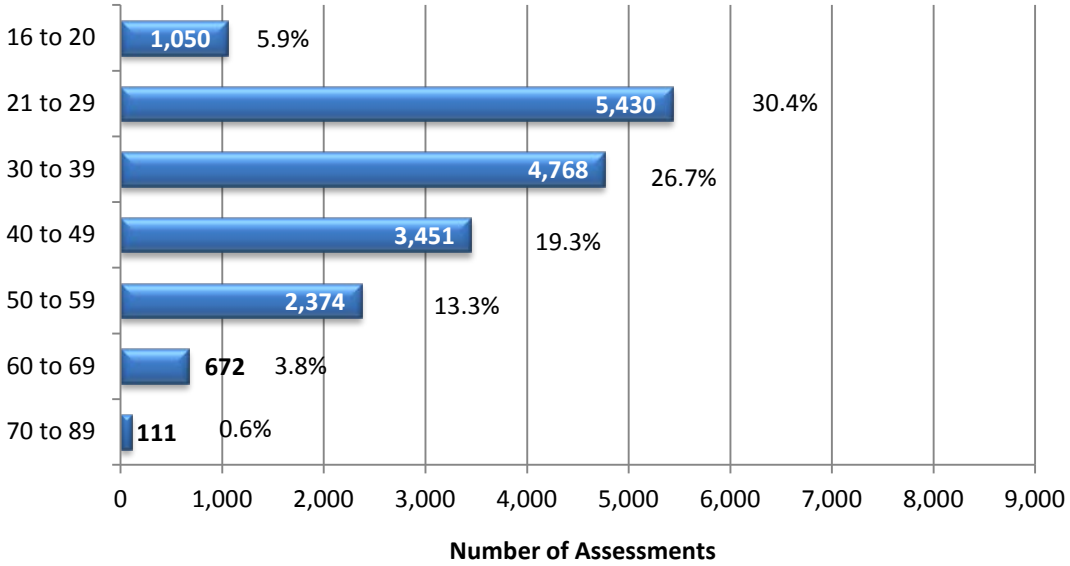
* Missing Data = 2,758 Assessments
Race/Ethnicity is an optional field in KDAI.



1.4 Assessments by Age

The majority of assessments were for DUI clients between 21 and 39 years old at the time of conviction (57.1%). There were 1,050 assessments (5.9%) submitted for DUI clients who were between 16 and 20 years old. Figure 1.6 presents the number of assessments by age at conviction.

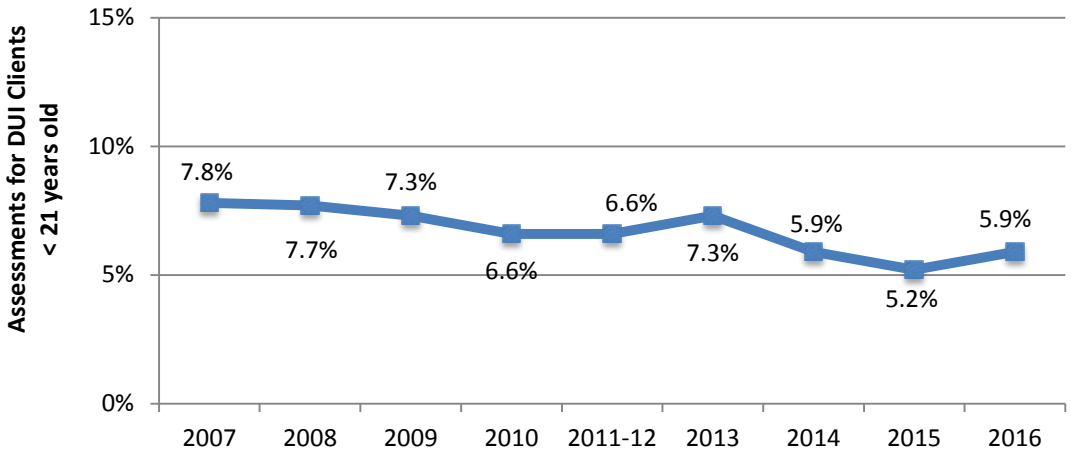
Figure 1.6: Assessments by Age at Conviction*



* Missing Data = 3 Assessments

Figure 1.7 presents the number of assessments for underage DUI clients (< 21 years old), which has declined overall since 2007.

Figure 1.7: Percentage of Assessments that were for Underage DUI Clients 2007 to 2016



1.5 Assessments by Income

Table 1.1 presents the number of DUI assessments by yearly household income range. The majority of assessments were conducted for individuals who had a household income level less than $20,000 (61.9%).

Table 1.1: Assessments by Yearly Household Income*

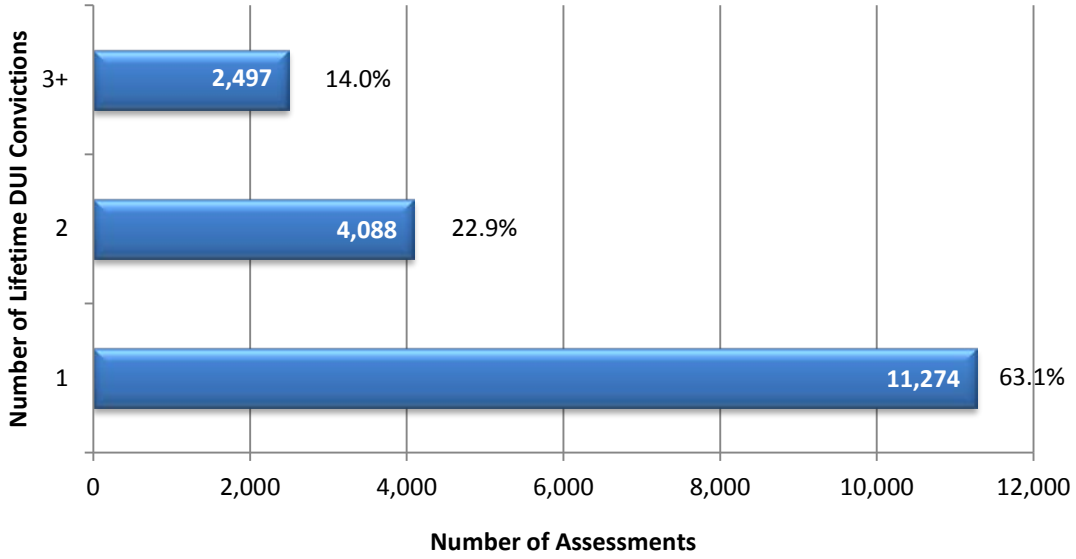
Household Income	Number of Assessments
Affidavit of Indigence	13
$0 to 9,999	4,860
$10,000 to 19,999	3,833
$20,000 to 29,999	2,481
$30,000 to 39,999	1,305
$40,000 to 49,999	628
$50,000 to 59,999	361
$60,000 to 69,999	190
$70,000 to 79,999	117
$80,000 to 89,999	66
$90,000 to 99,999	51
$100,000 or higher	160

* Missing Data = 3,794 Assessments

1.6 Assessments by DUI Convictions

Figure 1.8 presents frequencies of lifetime DUI convictions. This number includes the DUI conviction that resulted in the current assessment.

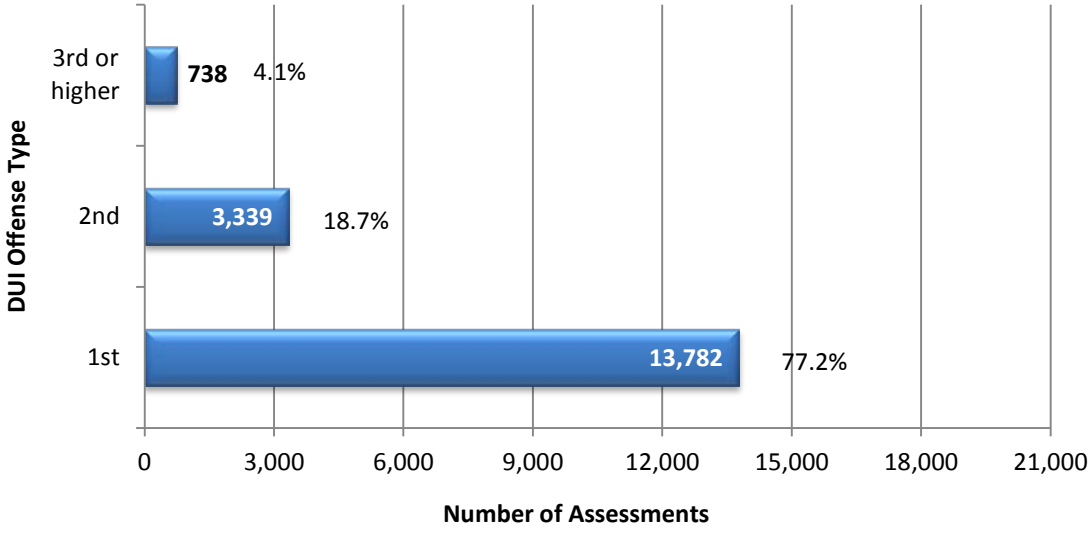
Figure 1.8: DUI Assessments by Lifetime DUI Convictions*



* Missing Data = 0 Assessments

Figure 1.9 presents the frequencies of each DUI offense type (e.g., convicted of a first offense) for assessments conducted in 2016.

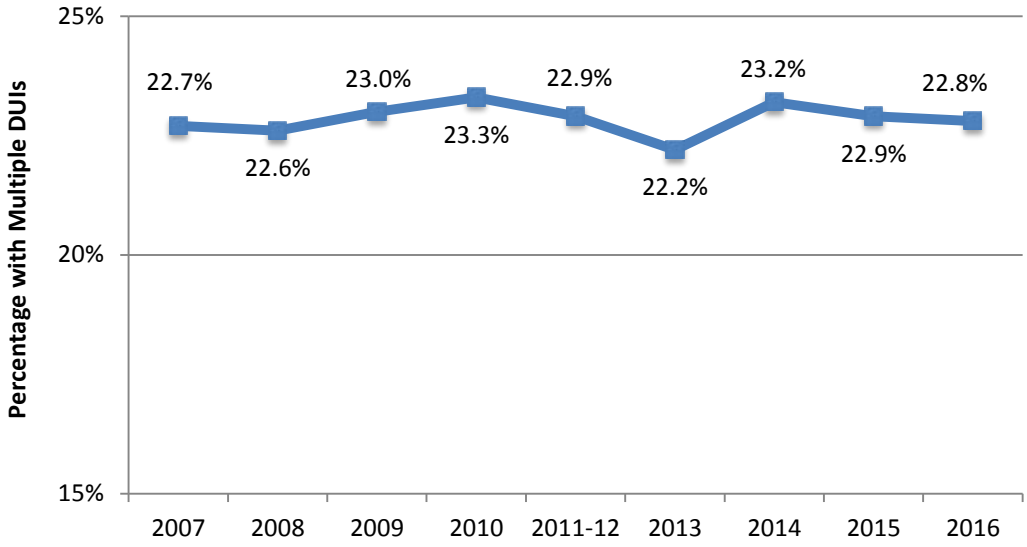
Figure 1.9: DUI Assessments by Offense Type*



* Missing Data = 0 Assessments

Figure 1.10 presents the percentage of assessments for individuals convicted of at least a second DUI offense. The percentage of DUI clients convicted of a second or higher DUI offense has remained relatively stable since 2007.

Figure 1.10: Percentage of Assessments for Persons Convicted of at least a 2nd Offense DUI between 2007 and 2016



Demographics Summary

Three out of four DUI assessments were for males and more than 80.0% were for White persons. The majority were also for persons between 21 and 39 years old, with 5.9% of assessments being for persons younger than 21. More than one-third were for persons who had two or more lifetime DUI offenses, while 22.8% were convicted of second or higher DUI offense.

SECTION TWO

SUBSTANCES INVOLVED IN DUI ARREST

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2.1 Assessments by Substance(s) Involved in DUI Arrest

The majority of assessments submitted in 2016 were for DUI arrests that involved only alcohol (72.0%). Around one-fourth (28.0%) of assessments were DUI arrests that were drug-involved, either drug-only DUIs or DUIs that involved both drugs and alcohol. The type of drugs involved in DUIs in 2016 included marijuana (11.1%), opiates (9.0%), and sedatives (5.2%). Figures 2.1 and 2.2 present the number of DUI assessments by the substance(s) involved.

Figure 2.1:
Assessments by Type of Substance(s) Involved in DUI Arrest *

* Missing Data = 36 Assessments

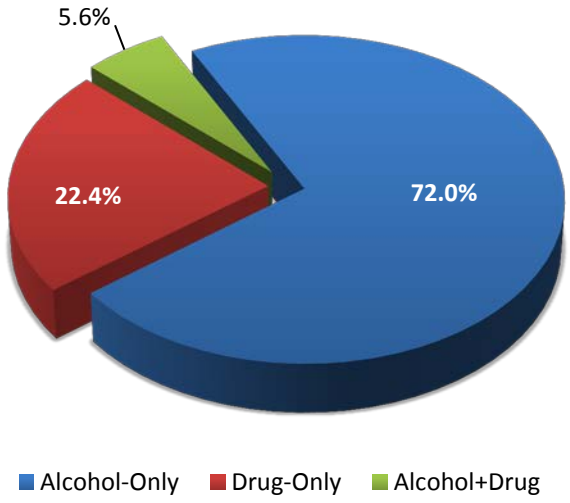
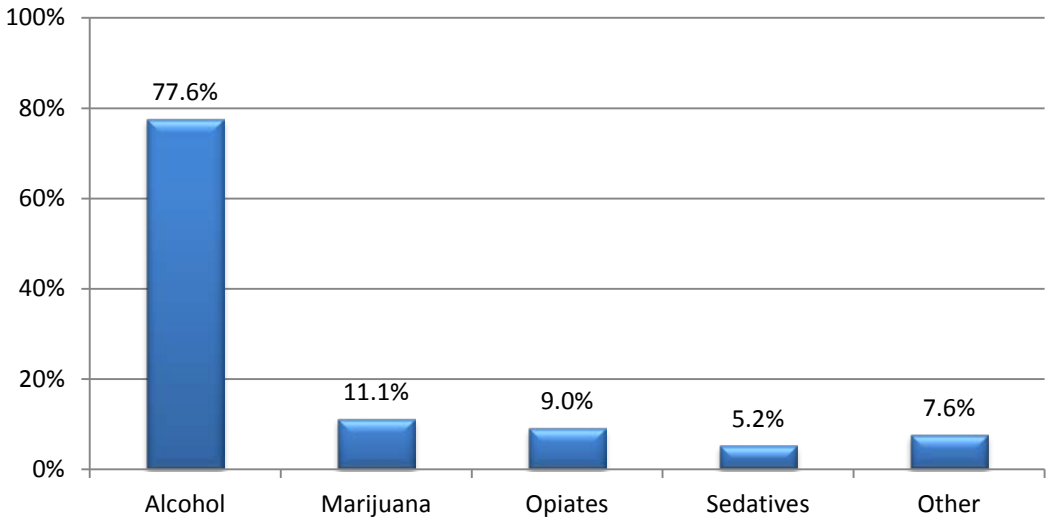


Figure 2.2: Assessments by Specific Substance Involved in DUI Arrest*

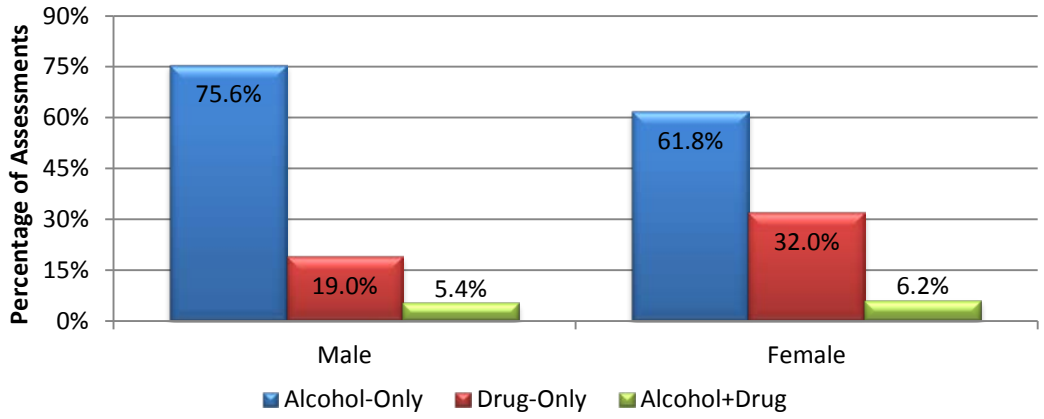


* Other includes cocaine, amphetamines, inhalants, hallucinogens, PCP, and an "other drug" category.

2.2 Substance(s) Involved in DUI Arrest by Gender

Figure 2.3 presents the type of substance(s) involved by gender of individuals convicted of DUI. Both male and female DUI clients were most often involved in an alcohol-only DUI. Female clients, however, were more likely (38.2%) to have a drug-involved DUI than male clients (24.4%).

Figure 2.3: Substance(s) Involved in DUI Arrest by Gender*

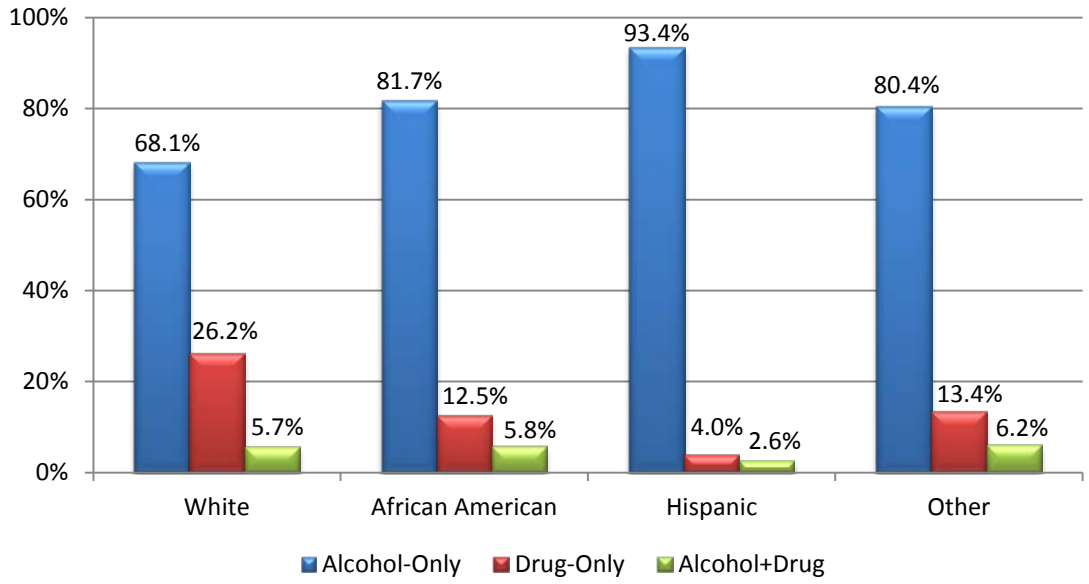


* Missing Data = 36 Assessments

2.3 Substance(s) Involved in DUI Arrest by Race/Ethnicity

Figure 2.4 presents the type of substance(s) involved by race/ethnicity. In 2016, White DUI clients were the most likely to have driven under the influence of drugs while a higher percentage of Hispanic DUI clients (93.4%) were involved in alcohol-only DUIs compared to other racial/ethnic categories.

Figure 2.4: Substance(s) Involved in DUI Arrest by Race*

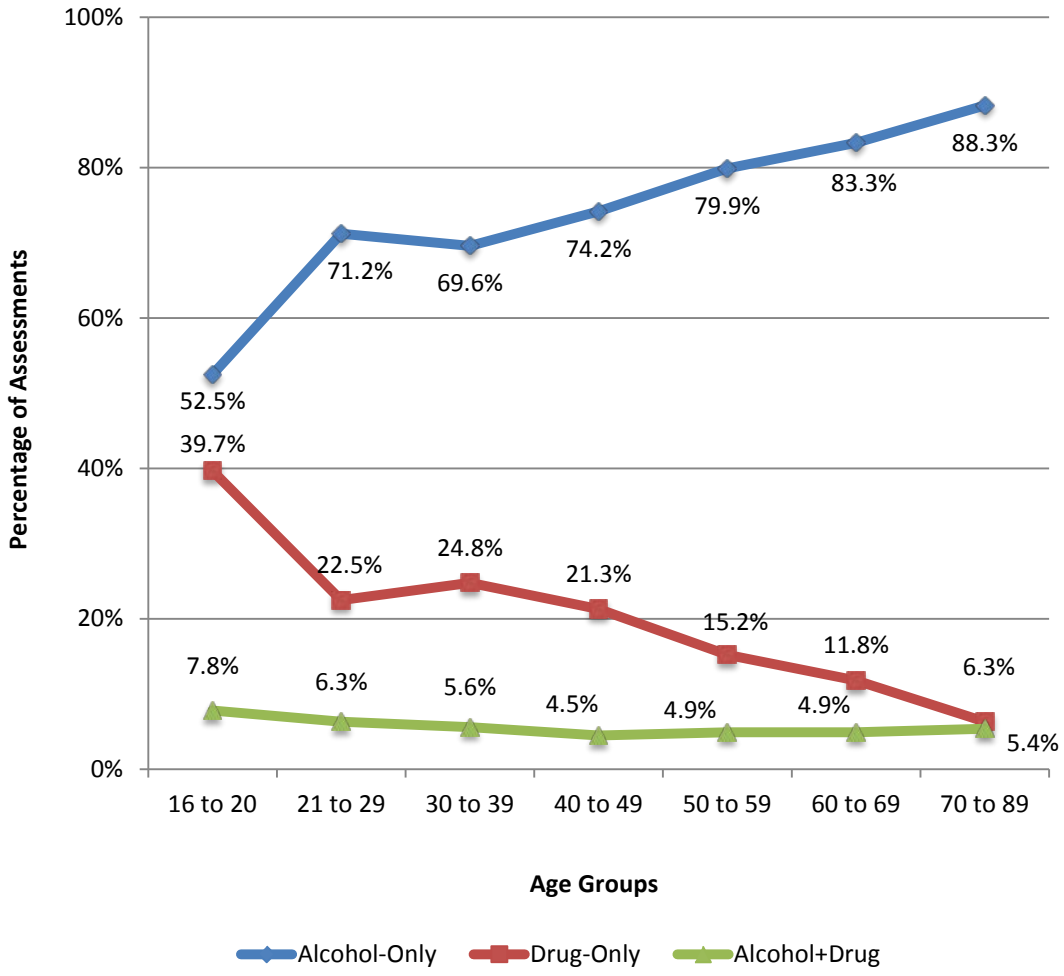


* Missing Data = 2,788 Assessments. Race/Ethnicity is an optional field in KDAI.

2.4 Substance(s) Involved in DUI Arrest by Age

In 2016, there was a relationship between the DUI client's age at conviction and the type of substance(s) involved in the current DUI. Compared to other age groups, older persons were more likely to be involved in an alcohol-only DUI, whereas clients between the ages of 16 and 39 were more likely to be involved in a drug-only DUI. Figure 2.5 presents the type of DUI for each age group.

Figure 2.5: Substance(s) Involved in DUI Arrest by Age at Conviction*

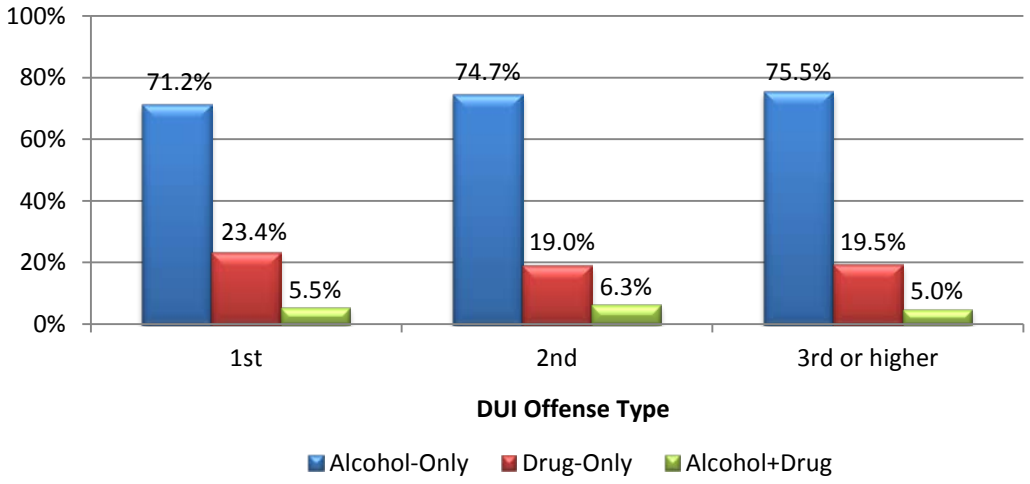


* Missing Data = 39 Assessments

2.5 Substance(s) Involved in DUI Arrest by DUI Offense Type

Figure 2.6 presents the relationship between the substance involved in the DUI and the DUI offense type. DUI clients convicted of a first offense DUI were most likely to have a drug-only DUI (23.4%), while those who were convicted of at least a second DUI offense were most likely to have an alcohol-involved DUI.

Figure 2.6: Substance(s) Involved in DUI Arrest by DUI Offense Type*



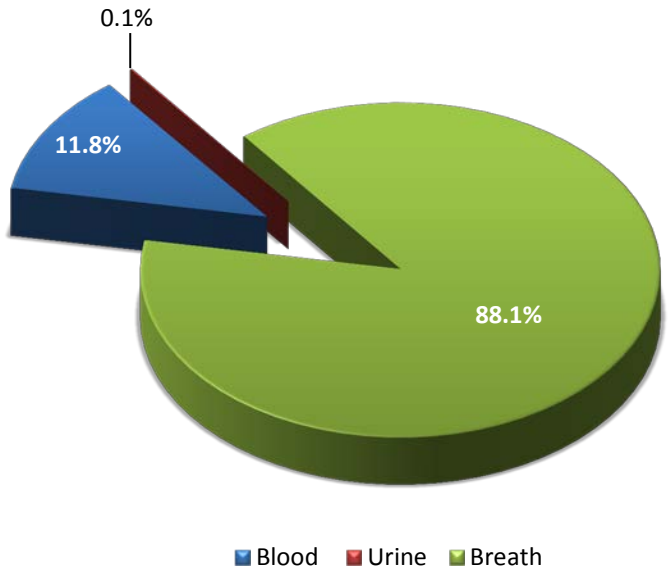
* Missing Data = 36 Assessments

2.6 Biological Tests for the Presence of Alcohol and Drugs

A majority of DUI clients reported that they were tested for alcohol during their current DUI arrest (59.1%). Of the 10,563 clients who were tested, a majority had their breath tested (88.1%). Figure 2.7 presents the number of assessments by method of alcohol test.

Figure 2.7:
Assessments by BAC Measurement Method*

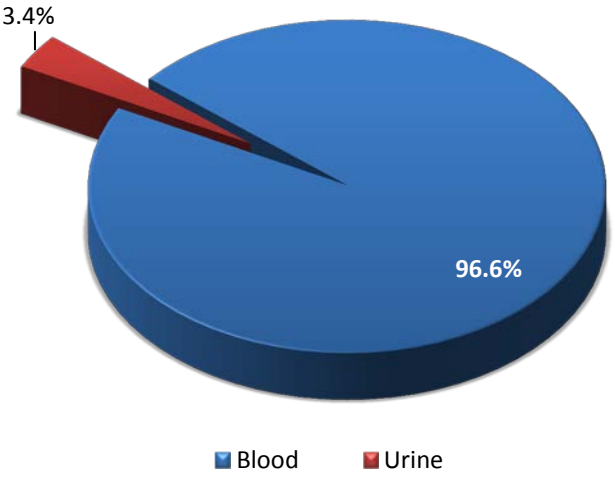
* Missing Data = 0 Assessments
Not Tested = 7,296 Individuals



A smaller percentage of DUI clients were drug tested with their current DUI (18.6%). Of the 3,326 tested, most had their blood tested (96.6%). Figure 2.8 presents the number of DUI assessments by method of drug testing.

Figure 2.8:
Assessments by Drug Test Method*

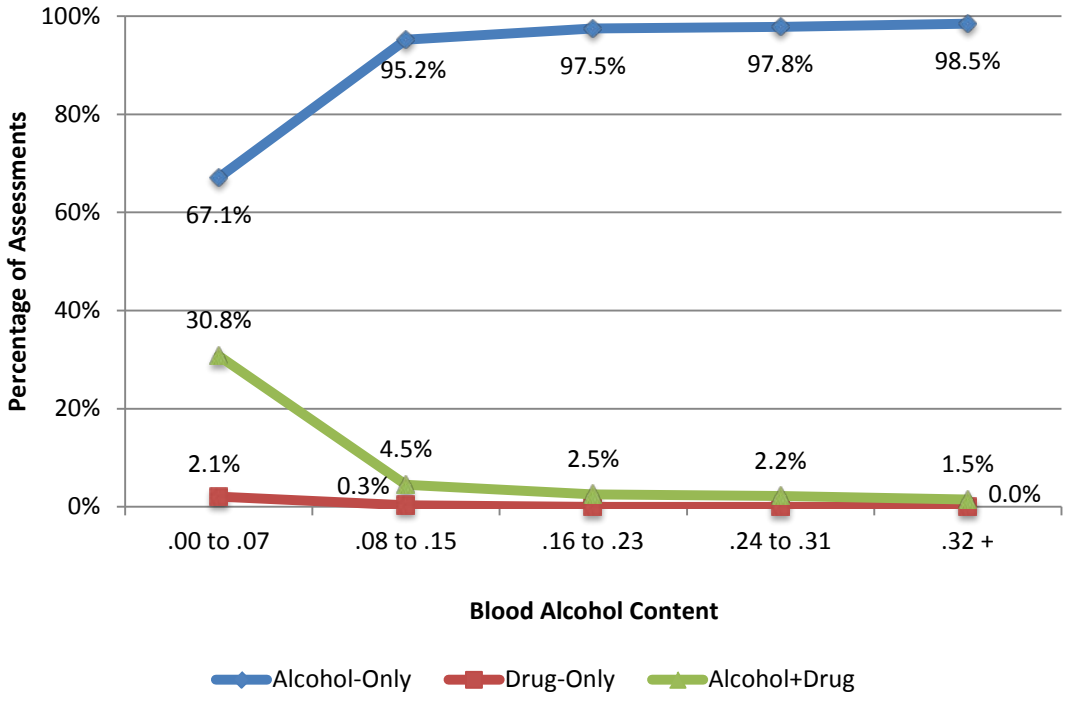
* Missing Data = 0 Assessments
Not Tested = 14,533 Individuals



2.7 Substance(s) Involved in DUI Arrest by Blood Alcohol Content

Figure 2.9 presents trends for BAC and the type of substance(s) involved in the current DUI. There was a relationship between BAC and type of DUI, with higher BACs reported for individuals involved in alcohol-only DUIs.

Figure 2.9: Substance(s) Involved in DUI Arrest by Blood Alcohol Content*



* Missing Data = 9,117 Assessments. This includes both alcohol- and drug-involved offenders.

Substances Summary

More than 3 out of 4 DUI assessments were for DUIs that involved alcohol. Females and White DUI clients were more likely to have driven under the influence of drugs in relation to males and non-Whites. Age was also related to drug involvement. Drug-involved DUI clients were more likely to be younger than 21 and were more likely to have been convicted of a first offense DUI. A majority of individuals reported that they were alcohol tested with their current DUI while only 18.6% were drug tested.

SECTION THREE

SCREENING

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3.1 AUDIT and DAST by Gender

The Alcohol Use Disorders Identification Test (AUDIT) is designed to identify problem drinking. This screening instrument consists of 10 questions, each scored from 0 to 4. The final score is computed as the sum of the 10 individual question scores. A final score of 8 or more suggests a likely drinking problem. Males had a higher average score than females (see Table 3.1). Appendix A (page 85) contains average scores for each AUDIT question by gender.

Table 3.1: AUDIT Scores*

	Males	Females	Total
Positive (8+)	4,072 (30.8%)	997 (21.6%)	5,069 (28.4%)
Average Score	6.32	5.07	5.99
Number of Assessments	13,241	4,618	17,859

* Missing Data = 0 Assessments

The Drug Abuse Screening Test (DAST) assesses drug use problems. This screening instrument consists of 28 true/false questions scored as 1 or 0. A summed score of 5 or more identifies a person with a potential drug problem. Females had a higher average DAST score than males (see Table 3.2). Appendix B (page 88) contains average scores for each DAST question by gender.

Table 3.2: DAST Scores*

	Males	Females	Total
Positive (5+)	3,139 (23.7%)	1,493 (32.3%)	4,632 (25.9%)
Average Score	3.18	4.58	3.54
Number of Assessments	13,241	4,618	17,859

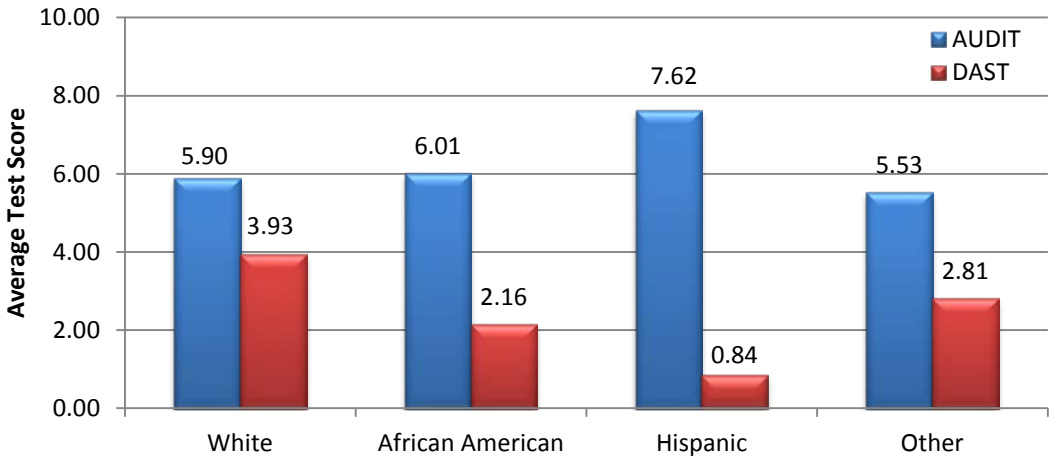
* Missing Data = 0 Assessments

Please note that screening instruments do not dictate a level of care. Screening instruments, in combination with a face-to-face clinical interview, assist DUI assessors in determining the appropriate level of care for DUI clients.

3.2 AUDIT and DAST by Race/Ethnicity

Figure 3.1 presents the AUDIT and DAST scores by race/ethnicity. Hispanic DUI clients had the highest average AUDIT scores (7.62) while White DUI clients had the highest average DAST scores (3.93).

Figure 3.1: AUDIT and DAST by Race/Ethnicity*

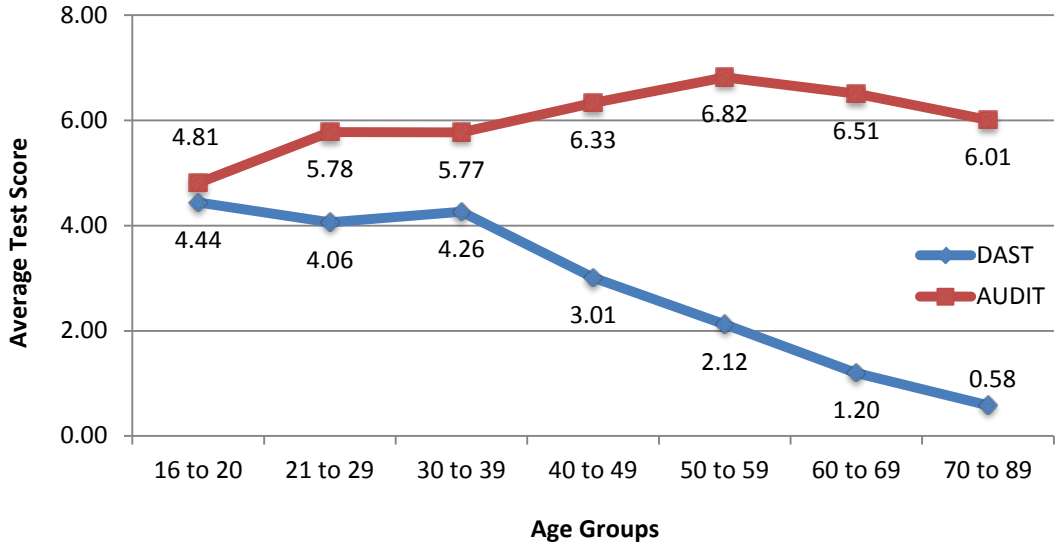


* Missing Data = 2,758 Assessments. Race/Ethnicity is an optional field in KDAI.

3.3 AUDIT and DAST by Age

Figure 3.2 presents the AUDIT and DAST scores by age groups. AUDIT scores increase overall with the age of DUI clients, while DAST scores are lower for older clients.

Figure 3.2: AUDIT and DAST by Age at Conviction*

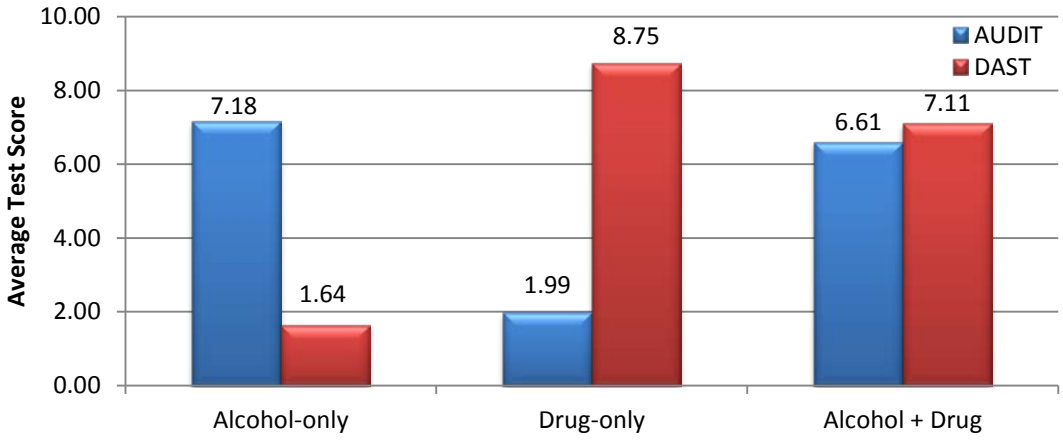


* Missing Data = 3 AUDIT Assessments / 3 DAST Assessments

3.4 AUDIT and DAST by Substance(s) Involved in DUI Arrest

Figure 3.3 presents AUDIT and DAST scores for each of the DUI types. As expected, AUDIT scores are higher for DUI clients with alcohol-involved DUIs compared to those who had drug-only DUIs. Conversely, DAST scores were significantly higher for those clients who had drug-involved DUIs.

Figure 3.3: AUDIT and DAST by Substance(s) Involved in DUI Arrest *

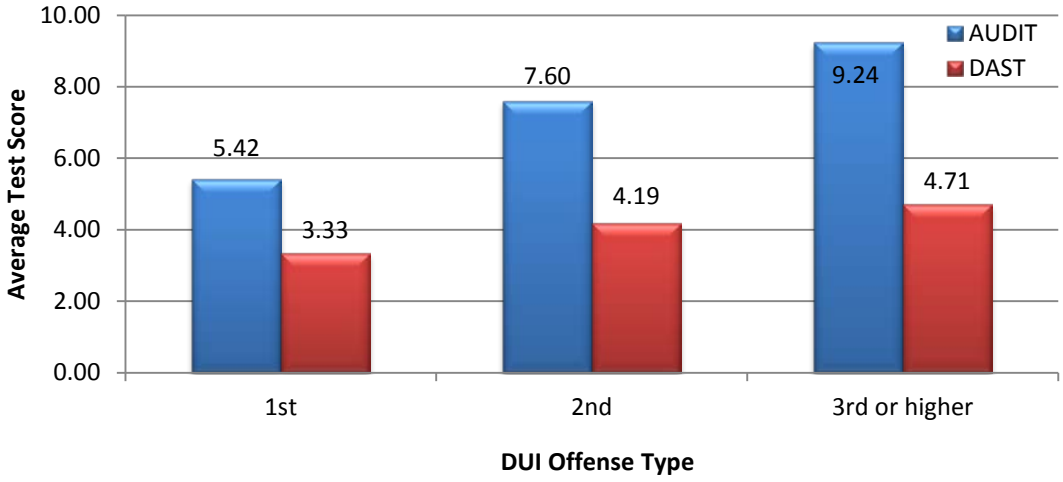


* Missing Data = 36 AUDIT Assessments / 36 DAST Assessments

3.5 AUDIT and DAST by DUI Offense Type

Figure 3.4 presents the relationship between AUDIT and DAST scores and clients' DUI offense type. Assessments for DUI clients convicted of a first DUI offense had an average score of 5.42 on the AUDIT and 3.33 on the DAST. Clients convicted of a third or higher DUI offense had a higher average score on both the AUDIT (9.24) and DAST (4.71).

Figure 3.4: AUDIT and DAST by DUI Offense Type*



* Missing Data = 0 AUDIT Assessments / 0 DAST Assessments

3.6 DSM-5 Substance Use Disorders by Gender

According to the DSM-5, individuals who meet two or more DSM criteria for a given substance within a 12-month period have a substance use disorder. Table 3.3 presents the percentage of assessment records for DUI clients with substance use disorders separated by gender. In 2016, females convicted of DUI had a higher rate of drug use disorders (24.9%) than males convicted of DUI (17.6%), while assessment records for males had a higher rate of alcohol use disorders (42.6% vs. 31.3%).

Table 3.3: DSM-5 Substance Use Disorders by Gender*

	Males	Females	Total
No Disorder	6,037 (45.6%)	2,265 (49.0%)	8,302 (46.5%)
Alcohol Use Disorder Only	4,877 (36.8%)	1,203 (26.1%)	6,080 (34.1%)
Drug Use Disorder Only	1,560 (11.8%)	909 (19.7%)	2,469 (13.8%)
Alcohol & Drug Use Disorder	767 (5.8%)	241 (5.2%)	1,008 (5.6%)

* Missing Data = 0 Assessments

Table 3.4 presents the percentage of assessment records for DUI clients with substance use disorders by severity separated by gender. Meeting 2-3 criteria within a 12-month period indicates a mild disorder; 4-5 criteria, a moderate disorder; and 6 criteria or more, a severe substance use disorder. In 2016, assessments for females convicted of DUI had a higher rate of severe substance use disorders (20.9%) than assessments for males (16.0%), while assessments for males had a higher rate of both mild (25.8% vs. 19.7%) and moderate (12.6% vs. 10.3%) substance use disorders.

Table 3.4: DSM-5 Substance Use Disorder Severity by Gender*

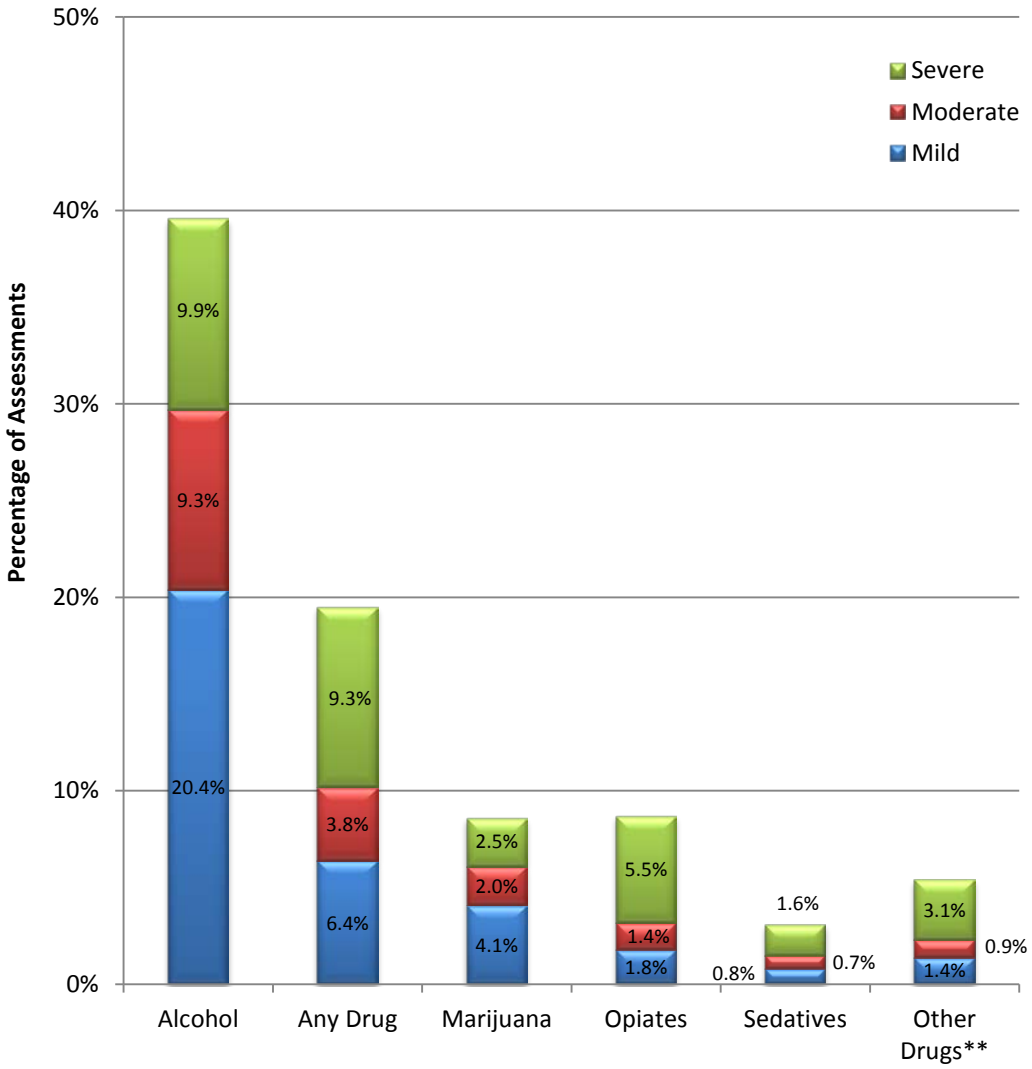
	Males	Females	Total
Mild	3,412 (25.8%)	910 (19.7%)	4,322 (24.2%)
Moderate	1,668 (12.6%)	476 (10.3%)	2,144 (12.0%)
Severe	2,124 (16.0%)	967 (20.9%)	3,091 (17.3%)

* Missing Data = 0 Assessments

3.7 DSM-5 Substance Use Disorder Severity for Alcohol and Drugs

Figure 3.5 presents substance use disorder information across individual substances. DUI clients were most likely to meet criteria for an alcohol use disorder (39.6%) followed by opiate use disorders (8.7%). Individuals were least likely to meet criteria for a sedative use disorder (3.1%). The highest percentage of severe substance use disorders was for alcohol (9.9%).

Figure 3.5: DSM-5 Substance Use Disorders By Individual Substances*



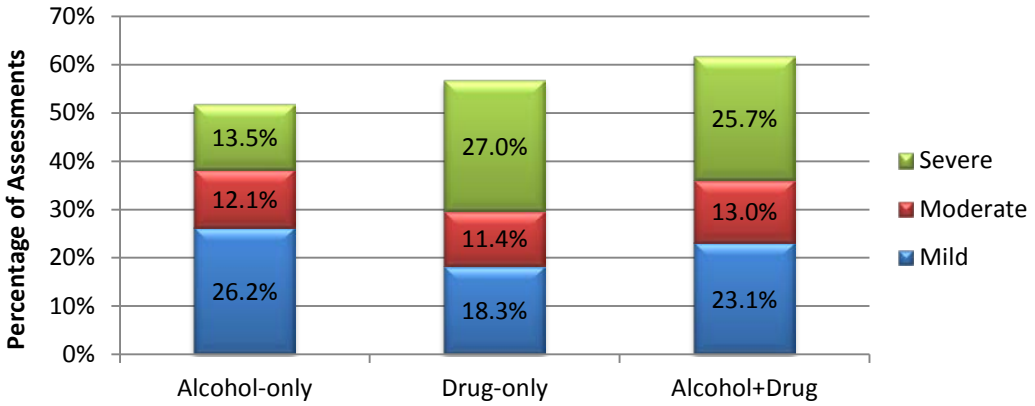
* Missing Data = 0 Assessments

**Other drugs include cocaine, amphetamines, hallucinogens, inhalants, PCP, and any other drugs not mentioned.

3.8 DSM-5 Substance Use Disorders by Substance(s) Involved in DUI Arrest

Figure 3.6 presents DSM-5 substance use disorder severity based on whether the DUI arrest was alcohol-involved, drug-involved, or both alcohol and drugs were involved. Clients whose current DUI involved both alcohol and drugs were more likely to meet criteria for a substance use disorder (61.8%) compared to those with alcohol-only (51.8%) or drug-only DUIs (56.7%). Individuals whose current DUI involved only drugs were most likely to meet criteria for a severe substance use disorder (27.0%).

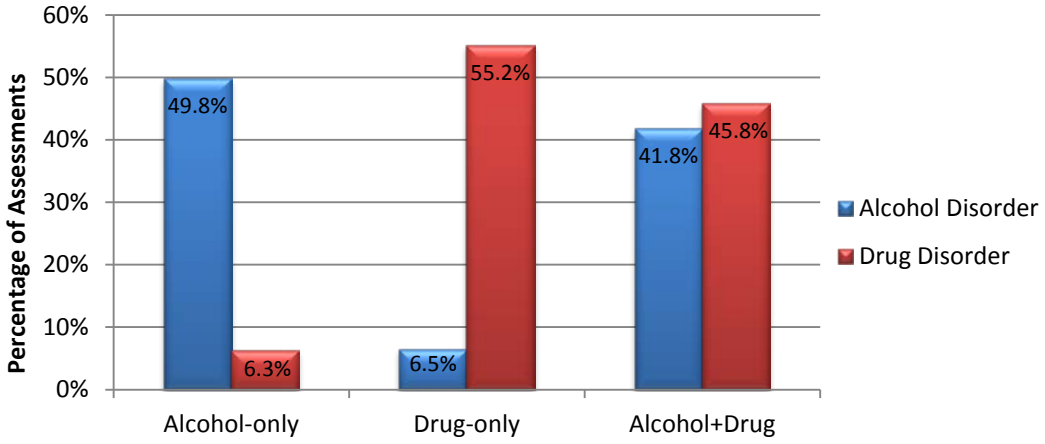
Figure 3.6: DSM-5 Substance Use Disorder Severity by Substance(s) Involved in DUI Arrest*



* Missing Data = 36 Assessments

Figure 3.7 presents DSM-5 substance use disorders based on the substance(s) involved in the DUI arrest. Clients whose current DUI involved only drugs were more likely to meet criteria (55.2%) for a drug use disorder while those involved in alcohol-only DUIs were more likely to meet criteria for an alcohol use disorder (49.8%).

Figure 3.7: DSM-5 Substance Use Disorders by Substance(s) Involved in DUI Arrest*

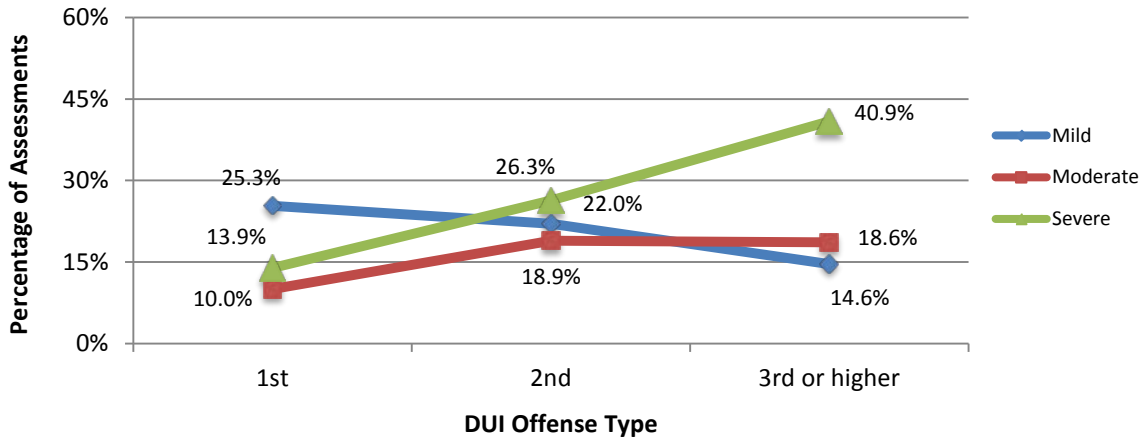


* Missing Data = 36 Assessments

3.9 DSM-5 Substance Use Disorders by DUI Offense Type

Figures 3.8 and 3.9 compare the percentage of assessments for DUI clients who reported DSM-5 criteria for a substance use disorder with the DUI offense type. As presented in Figure 3.8, the percentage of assessments for DUI clients who met criteria for a moderate or severe substance use disorder increases as clients are convicted of subsequent offenses.

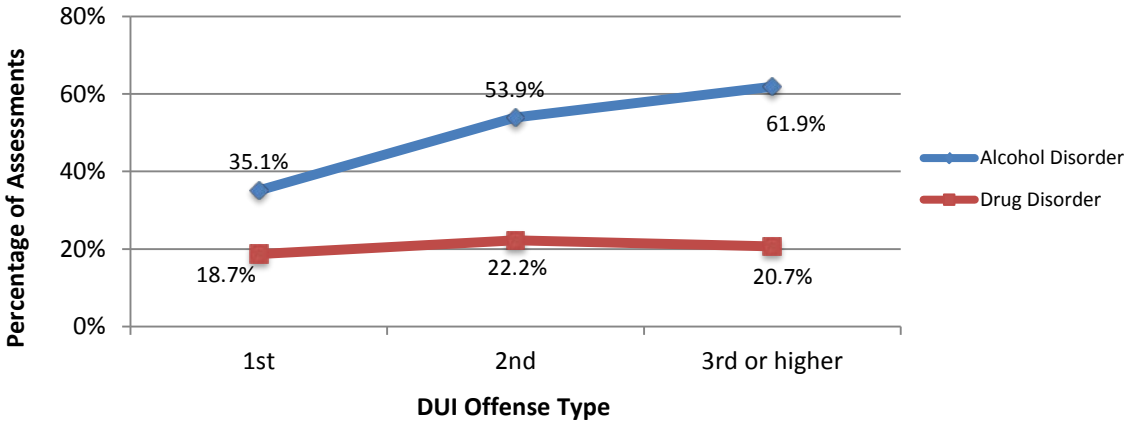
Figure 3.8: DSM-5 Substance Use Disorder Severity by DUI Offense Type*



* Missing Data = 0 Assessments

As shown in Figure 3.9, the percentage of assessments for DUI clients reporting DSM criteria for an alcohol use disorder increases with subsequent DUI convictions while the percentage of assessments for DUI clients reporting a drug use disorder remains fairly stable.

Figure 3.9: DSM-5 Substance Use Disorders by DUI Offense Type*

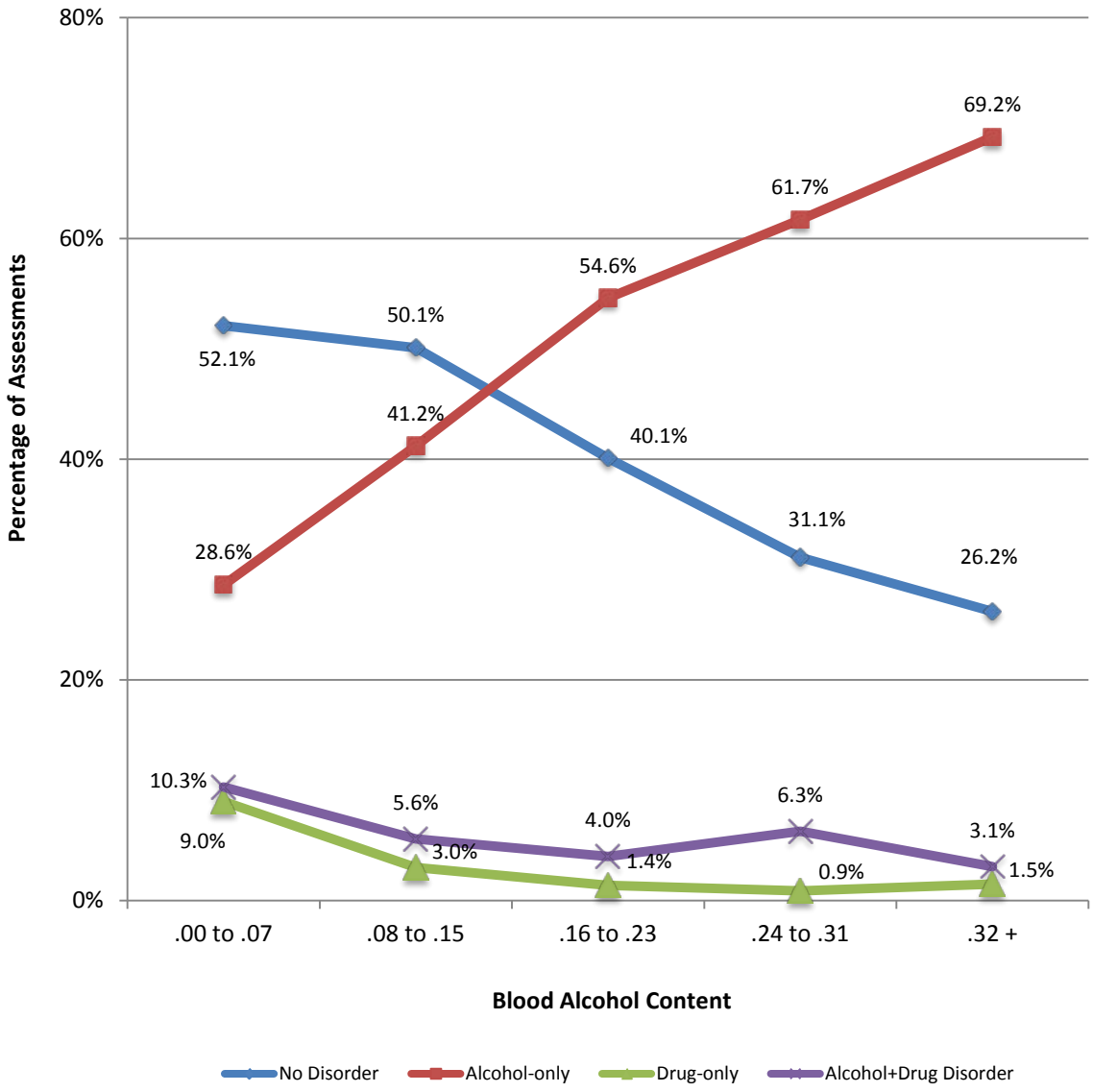


* Missing Data = 0 Assessments

3.10 DSM-5 Substance Use Disorders by Blood Alcohol Content

There was a relationship between Blood Alcohol Content (BAC) and DUI clients who met DSM-5 criteria for a substance use disorder in their lifetime. Figure 3.10 presents substance use disorders based on BAC level. Clients who were convicted with a higher BAC (.16+) were more likely to self-report DSM-5 criteria for an alcohol use disorder while those convicted with a lower BAC (less than .15) were more likely to report DSM-5 criteria for a drug-use disorder or no substance use disorder.

Figure 3.10: Percentage of Assessments for DUI Clients Meeting Substance Use Disorder Criteria by Blood Alcohol Content (g/dL)*



* Missing Data = 9,213 Assessments

Screening Summary

On the screening instruments, females had higher DAST scores but lower AUDIT scores than males while persons younger than 40 years old had higher DAST scores but lower AUDIT scores than those clients 40 years old and older. Demographic differences in DSM-5 criteria also indicated that females were more drug-involved with females being more likely to report a drug use disorder. Females were also more likely to meet criteria for a severe substance use disorder. Lastly, individuals whose current DUI involved drugs were more likely to report two or more substance use disorder criteria in the past 12 months than those involved in alcohol-only DUIs.

Additional screening information can be found throughout the 2016 Kentucky DUI Assessment Report. AUDIT information can be found in Sections 5.7, 6.5, and 7.3. DAST information can be found in Sections 5.8, 6.5, and 7.3. DSM information can be found in Sections 4.8, 5.9, 6.5, and 7.3.

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SECTION FOUR

TREATMENT REFERRALS

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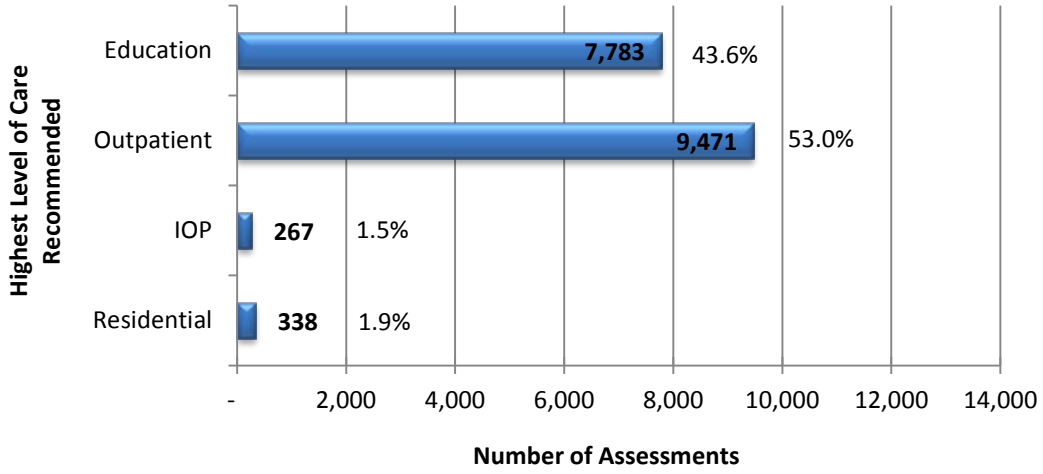
4.1 Level of Care Recommended

Figure 4.1 presents the assessors' education and treatment intervention referrals. Only the highest level of care recommended is provided. For example, if an individual was recommended for outpatient (OP) and intensive outpatient (IOP), only the IOP recommendation is presented. Figure 4.1 indicates that almost everyone assessed (96.6%) was referred for education or outpatient treatment as their highest level of care.

Figure 4.1: Highest Level of Care Recommended*



* Missing Data = 0 Assessments

Figure 4.2 presents the percentage of assessments that resulted in a referral for education or outpatient as the highest level of care from 2007 to 2016. The percentage of education versus outpatient referrals remained similar between 2008 and 2014, with an increase in the number of outpatient referrals since 2013.

Figure 4.2: Education and Outpatient Referrals 2007 to 2016

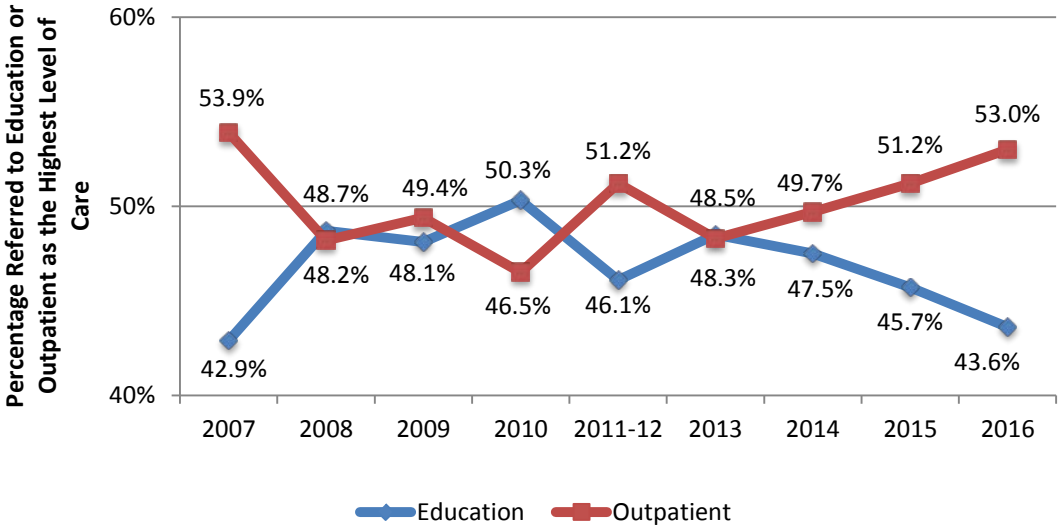
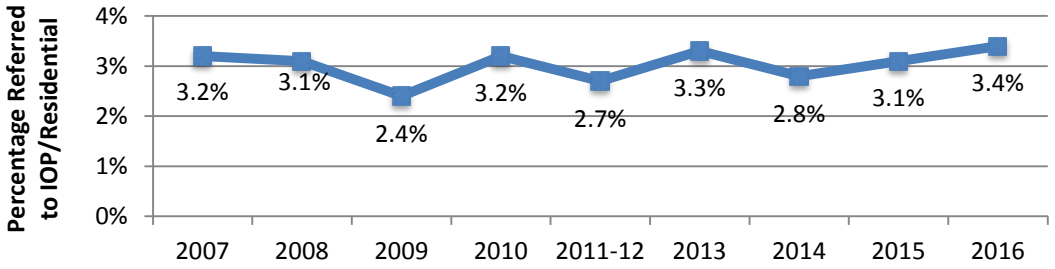


Figure 4.3 presents the percentage of assessments referred for IOP and/or residential treatment from 2007 to 2016. The percentage of assessments with an IOP or residential referral has remained relatively stable over the past ten years.

Figure 4.3: Intensive Outpatient and Residential Treatment Referrals 2007 to 2016



4.2 Total Referrals

Table 4.1 presents the number of referrals to each level of care, including multiple referrals. This represents the total number of referrals to a specific intervention regardless of how many other levels of care were recommended.

Table 4.1: Total Referrals*†

Education	8,532
Outpatient	9,610
Intensive Outpatient	280
Residential	338

* Missing Data = 0 Assessments
† Some assessments are counted twice because some individuals are referred to more than one level of care

Table 4.2 presents all intervention combinations. It is interesting to note that approximately 29.0% of persons recommended for residential services were also recommended for an additional level of care.

Table 4.2: Total Referrals by Combination*

Education	7,783
Outpatient	8,745
OP & Edu	726
Intensive Outpatient	196
IOP & Edu	10
IOP & OP	59
IOP & OP & Edu	2
Residential	240
Res & Edu	7
Res & OP	74
Res & OP & Edu	4

Res & IOP	13
Res & IOP & Edu	0
Res & IOP & OP	0
Res & IOP & OP & Edu	338

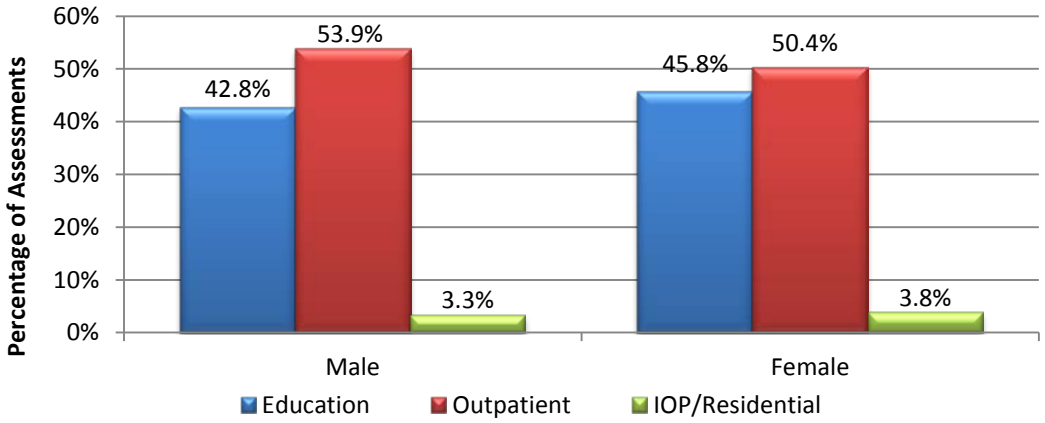
Key:	
Education	Edu
Outpatient	OP
Intensive Outpatient	IOP
Residential	Res

* Missing Data = 0 Assessments

4.3 Recommended Level of Care by Gender

Figure 4.4 presents the highest level of care recommended by gender of DUI clients. Both male and female DUI clients were most often referred to an outpatient intervention as their highest level of care. However, a higher percentage of female DUI clients (45.8%) were referred to education as their highest level of care compared to males (42.8%).

Figure 4.4: Highest Level of Care by Gender*

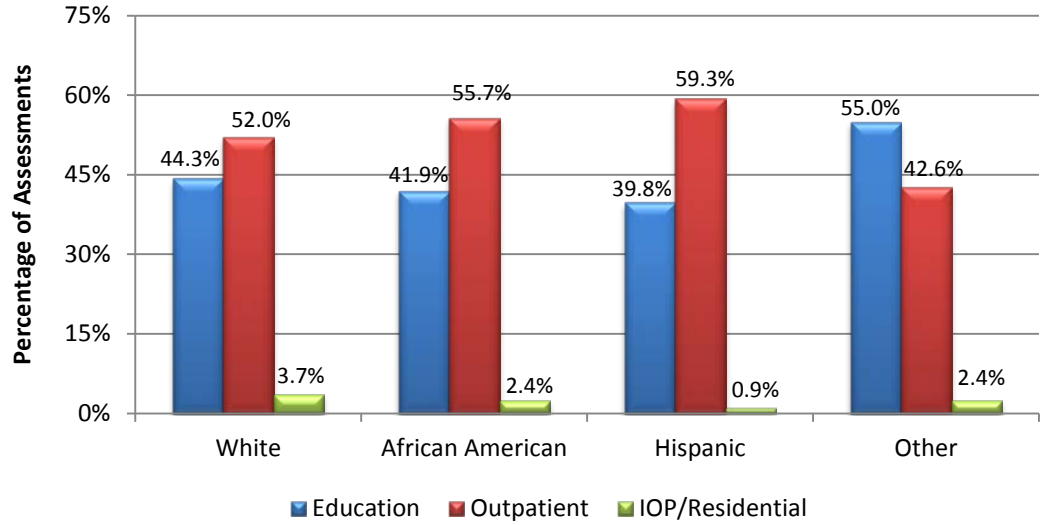


* Missing Data = 0 Assessments

4.4 Recommended Level of Care by Race/Ethnicity

Figure 4.5 presents the highest level of care recommended by race/ethnicity in 2016. Compared to other racial/ethnic groups, Hispanic DUI clients (59.3%) were slightly more often referred to outpatient treatment while White clients were more often referred to IOP/residential treatment (3.7%) than other racial/ethnic groups.

Figure 4.5: Highest Level of Care by Race*

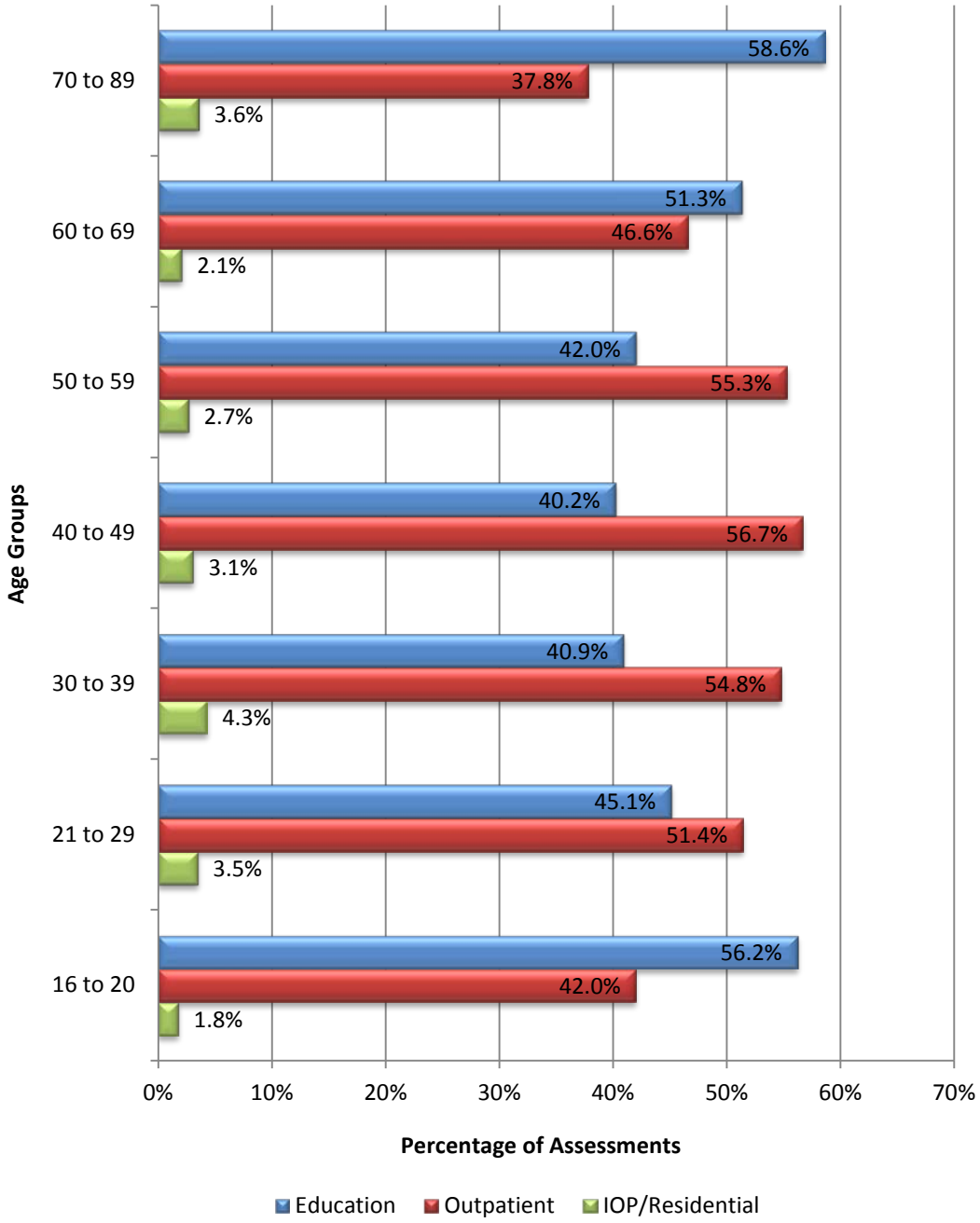


* Missing Data = 2,758 Assessments. Race/Ethnicity is an optional field in KDAI.

4.5 Recommended Level of Care by Age

Figure 4.6 presents the highest level of care recommended for each age group. Persons who were between the ages of 30 and 39 were more likely to be referred to intensive outpatient or residential treatment as their highest level of care than individuals in other age groups, while older persons between the ages of 70 and 89 were more likely to be referred to an education intervention.

Figure 4.6: Highest Level of Care by Age at Conviction*

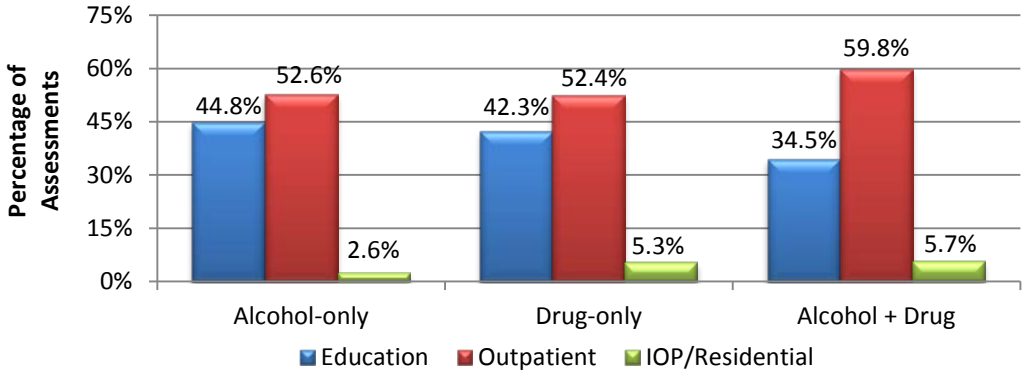


* Missing Data = 3 Assessments

4.6 Recommended Level of Care by Substance(s) Involved in DUI Arrest

Figure 4.7 presents the highest level of care recommended by the type of substance(s) involved in the current DUI offense. DUI clients across all categories were most likely to be referred to outpatient treatment as their highest level of care. Clients with an alcohol-only DUI were referred to education (44.8%) more often than clients with a drug-only DUI (42.3%) or a DUI that involved both drugs and alcohol (34.5%), while clients with a DUI that involved both drugs and alcohol were more likely (59.8%) to be referred to outpatient treatment.

Figure 4.7: Highest Level of Care by Substance(s) Involved in DUI Arrest *

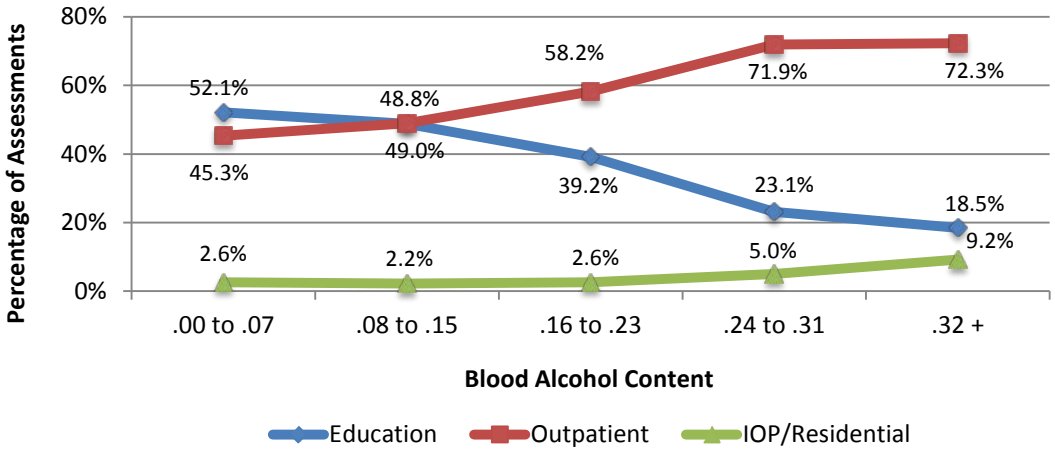


* Missing Data = 36 Assessments

4.7 Recommended Level of Care by Blood Alcohol Content

Figure 4.8 presents the highest level of care recommended and the Blood Alcohol Content. DUI clients who were under twice the legal limit (< 0.16 g/dL) were more likely to receive an education intervention. Clients above 0.16 g/dL were more likely to receive an outpatient referral. Individuals with higher BACs were more likely to be recommended for intensive outpatient or residential services than those with lower BACs.

Figure 4.8: Highest Level of Care by Blood Alcohol Content*

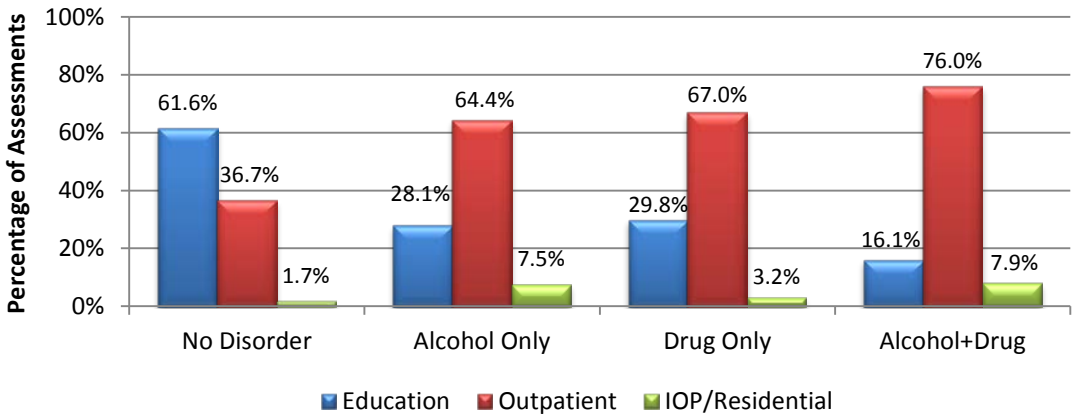


* Missing Data = 9,117 Assessments. This includes both alcohol- and drug-involved offenders.

4.8 Recommended Level of Care by DSM-5 Substance Use Disorders

Figure 4.9 presents the highest level of care by DSM-5 criteria. Persons who met two or more alcohol and drug use disorder criteria in the past 12 months were more likely than other DUI offenders to have received a treatment recommendation (76.0%). Persons who met less than 2 substance use disorder criteria were most likely to be referred to an education intervention (61.6%).

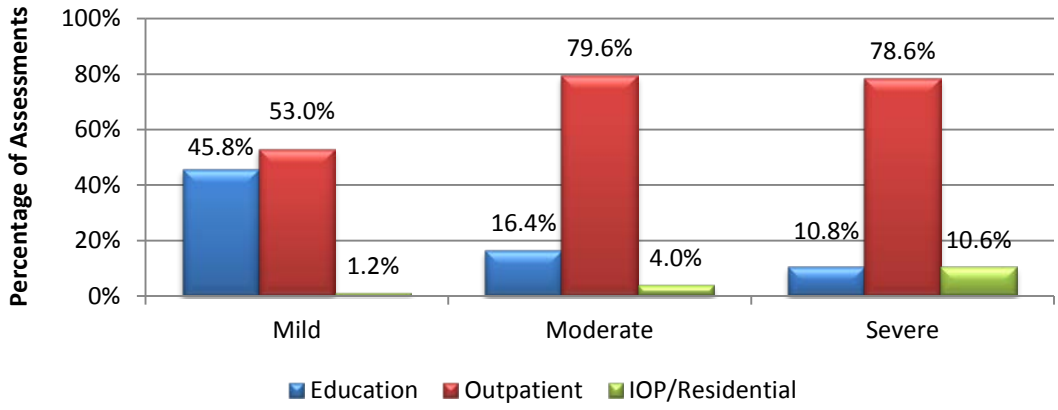
Figure 4.9: Highest Level of Care by DSM-5 Substance Use Disorders*



* Missing Data = 0 Assessments

Figure 4.10 presents the highest level of care recommended by DSM-5 substance use disorder severity. Individuals meeting criteria for a severe substance use disorder were most likely to be referred to either intensive outpatient or residential treatment (10.6%) compared to individuals meeting criteria for a mild or moderate substance use disorder. Individuals meeting criteria for a mild substance use disorder were most likely to be referred to education (45.8%) compared to those with more severe substance use disorders.

Figure 4.10: Highest Level of Care by DSM-5 Substance Use Disorder Severity*



* Missing Data = 0 Assessments

Referral Summary

Most of the persons assessed during 2016 were referred to 20-hour education or an outpatient treatment intervention. Clients whose current DUI was drug-involved were more likely to be referred to a treatment intervention. There is also a relationship between the level of care recommended and DSM-5 criteria, with the intensity of the treatment modality increasing as problem severity increases. The level of care recommended and blood alcohol content are related in a similar manner with referrals to more intensive treatment modalities occurring more frequently as BAC increases.

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SECTION FIVE
COMPLIANCE

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5.1 Compliant vs. Non-Compliant

Of the 17,859 assessment records, 13,413 records (75.1%) were also completed before December 31, 2016. As described in the Background (page 10), this means that the client either met or did not meet the requirements of the intervention to which they were referred and, as a result, was deemed by the DUI assessor as compliant or non-compliant. Figure 5.1 presents assessments by compliance for those records that were completed during 2016. Overall, more than three-fourths (82.0%) of individuals convicted of DUI were compliant with their assigned intervention. Table 5.1 lists the reasons DUI clients were deemed non-compliant and the corresponding percentages.

Figure 5.1:
Compliant vs. Non-Compliant*

* Missing Data = 0 Assessments

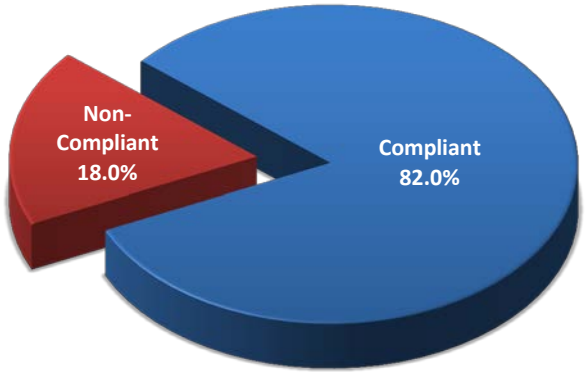
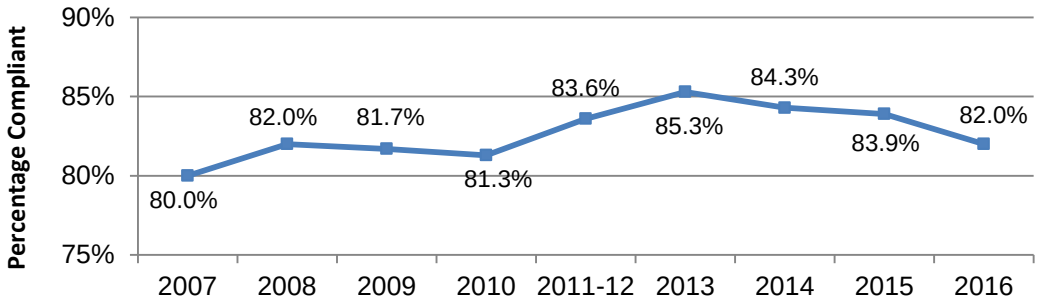


Table 5.1: Reasons for Non-Compliance

Failure to achieve treatment plan goals.	2.5%
Failure to comply with rules of conduct.	0.9%
Failure to comply with attendance requirements.	90.4%
Failure to pay fees.	6.2%

Figure 5.2 presents the percentage of assessments that were compliant with their assigned education and/or treatment intervention. The percentage of compliant DUI clients has decreased since 2013.

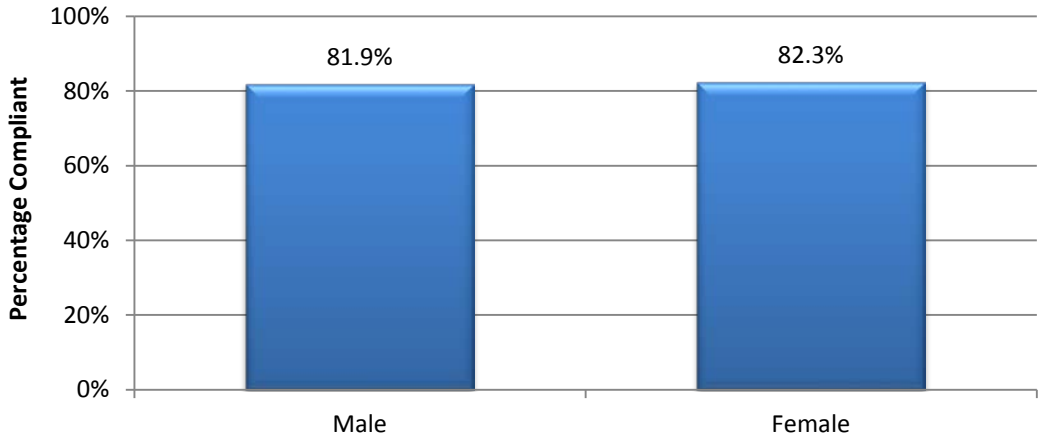
Figure 5.2: Percentage of Assessments that were Compliant 2007 to 2016



5.2 Compliance by Gender

Figure 5.3 presents compliance information by gender of DUI clients. Female clients were slightly more likely to comply with their assigned intervention (82.3%) compared to male clients (81.9%).

Figure 5.3: Compliance by Gender*

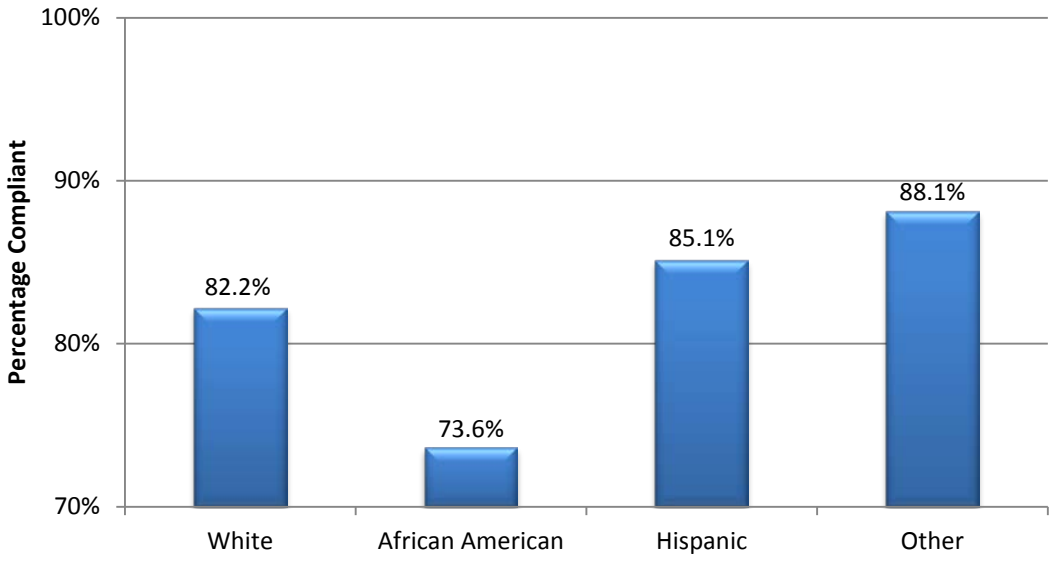


* Missing Data = 0 Assessments

5.3 Compliance by Race/Ethnicity

Figure 5.4 presents compliance by race/ethnicity. African American DUI clients were less likely to comply (73.6%) than clients of other racial/ethnic backgrounds.

Figure 5.4: Compliance by Race/Ethnicity*

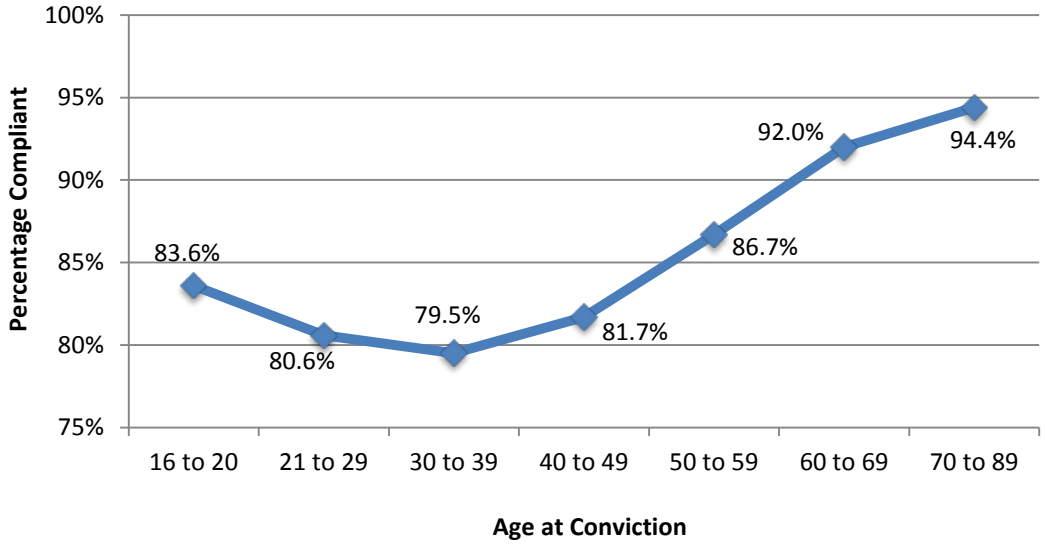


* Missing Data = 2,127 Assessments. Race/Ethnicity is an optional field in KDAI.

5.4 Compliance by Age

Figure 5.5 presents compliance rates by age groups, which indicate that younger DUI clients tended to be less compliant.

Figure 5.5: Compliance by Age*

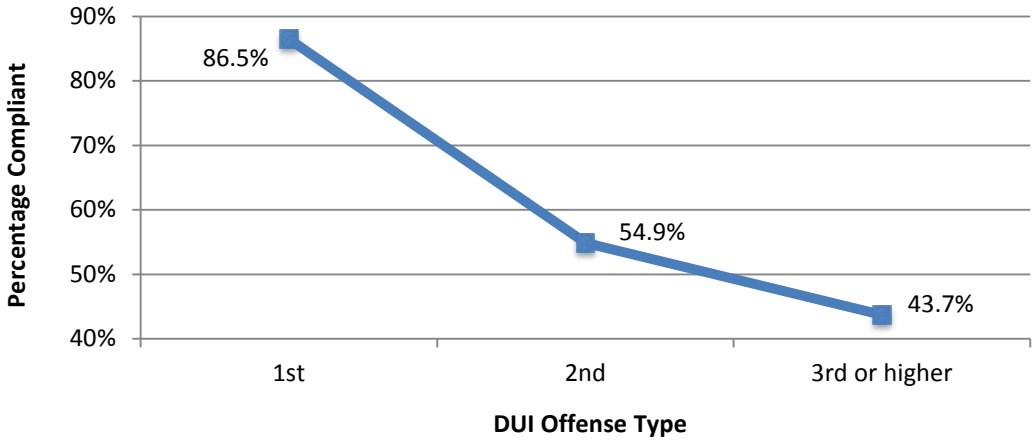


* Missing Data = 3 Assessments

5.5 Compliance by DUI Offense Type

Figure 5.6 presents compliance rates by the client's DUI offense type. DUI clients convicted of a second or higher DUI offense were less likely to be compliant with their assigned intervention than offenders convicted of a first DUI offense.

Figure 5.6: Compliance by DUI Offense Type*

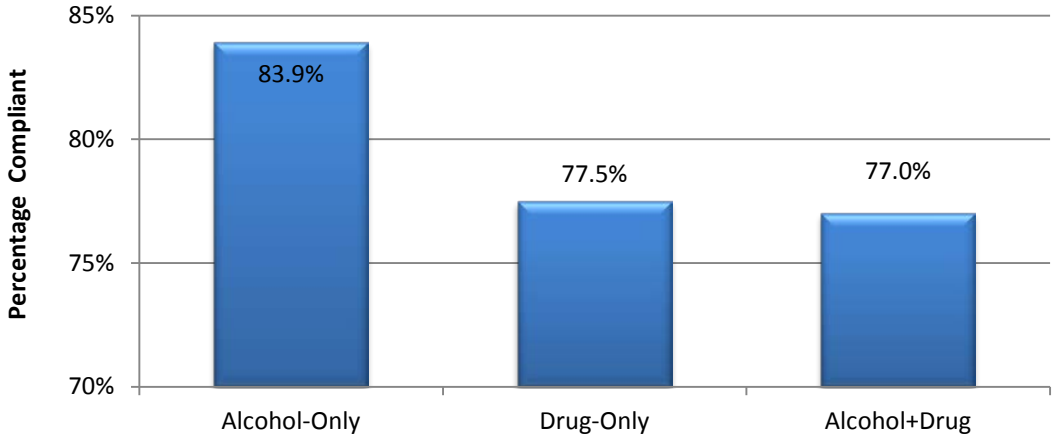


* Missing Data = 0 Assessments

5.6 Compliance by Substance(s) Involved in DUI Arrest

DUI clients who reported driving under the influence of only drugs with their current DUI had lower rates of compliance (77.5%) compared to clients involved in alcohol-only DUIs (83.9%). Clients whose current DUI involved both alcohol and drugs were the least likely to comply (77.0%) with their education and/or treatment recommendations. Figure 5.7 presents compliance rates by the substance(s) involved in the current DUI.

Figure 5.7: Compliance by Substance(s) Involved in DUI Arrest *

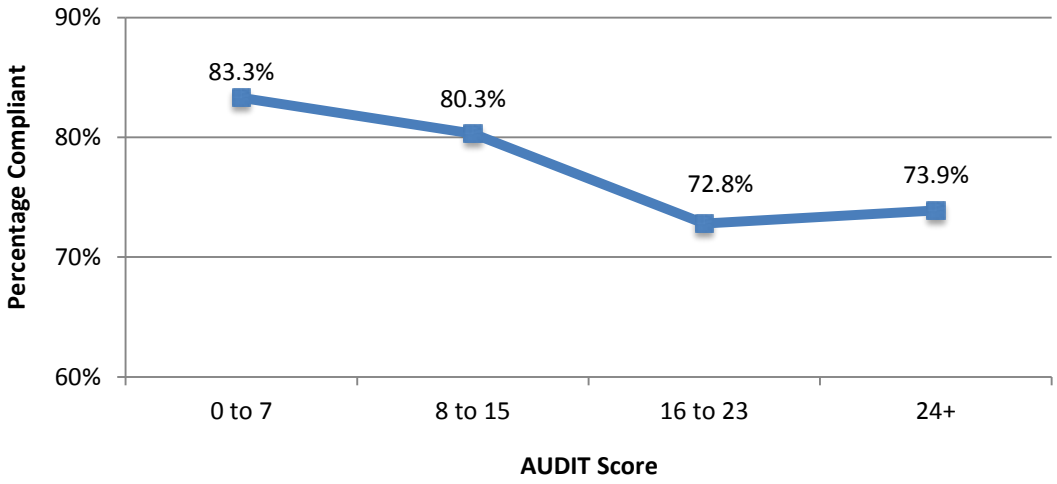


* Missing Data = 4 Assessments

5.7 Compliance by AUDIT Scores

Figure 5.8 presents compliance by AUDIT scores. Scores were grouped into four categories. The four groups represent Negative (clients who scored 0-7), Positive (8-15), 2x Positive (16-23), and 3x Positive (24 and higher). Higher AUDIT scores were associated with lower compliance.

Figure 5.8: Compliance by AUDIT Score*

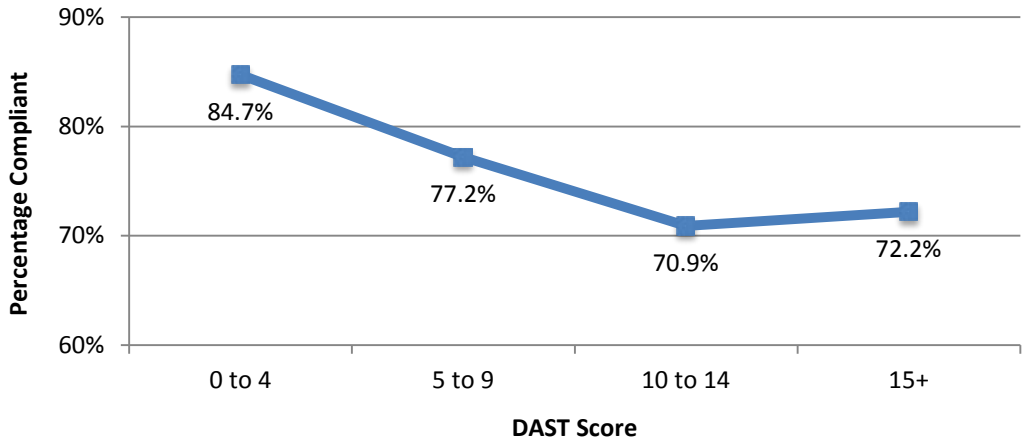


* Missing Data = 0 Assessments

5.8 Compliance by DAST Scores

Figure 5.9 presents compliance by DAST score ranges. DAST scores were also grouped into four categories. The four groups represent Negative (clients who scored 0-4), Positive (5-9), 2x Positive (10-14), and 3x Positive (15 and higher). Higher DAST scores were associated with lower compliance rates.

Figure 5.9: Compliance by DAST Scores*

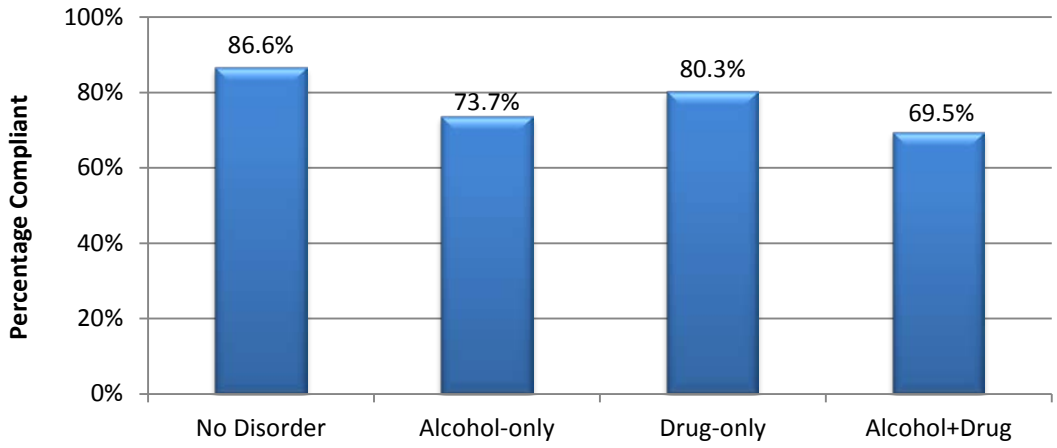


* Missing Data = 0 Assessments

5.9 Compliance by DSM-5 Substance Use Disorders

Figure 5.10 presents intervention compliance by DSM-5 substance use disorder type. DUI clients who met two or more substance use disorder criteria in the past 12 months were less likely to be compliant with their assigned intervention than those with no substance use disorder (77.4% vs. 86.6%). Specifically, individuals who met two or more drug and alcohol use disorder criteria were the least likely to be compliant (69.5%).

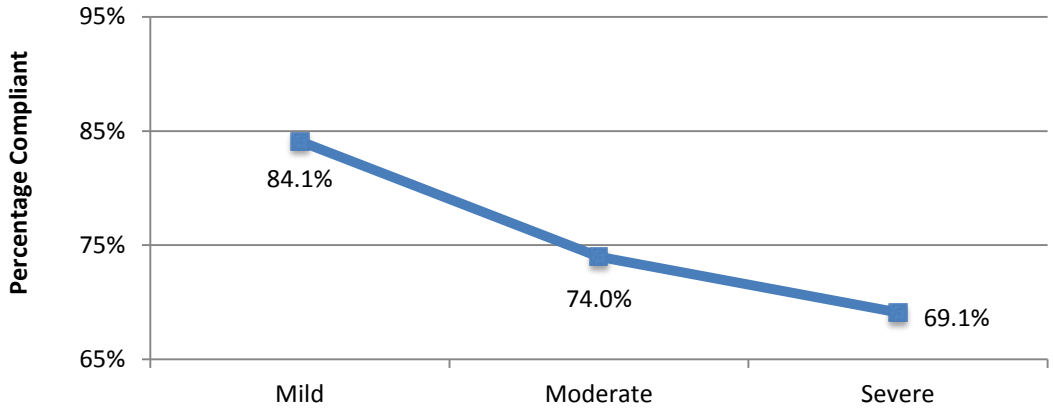
Figure 5.10: Compliance by DSM-5 Substance Use Disorders*



* Missing Data = 0 Assessments

Figure 5.11 presents compliance by DSM-5 substance use disorder severity. As severity increased, likelihood of compliance decreased.

Figure 5.11: Compliance by DSM-5 Substance Use Disorder Severity*

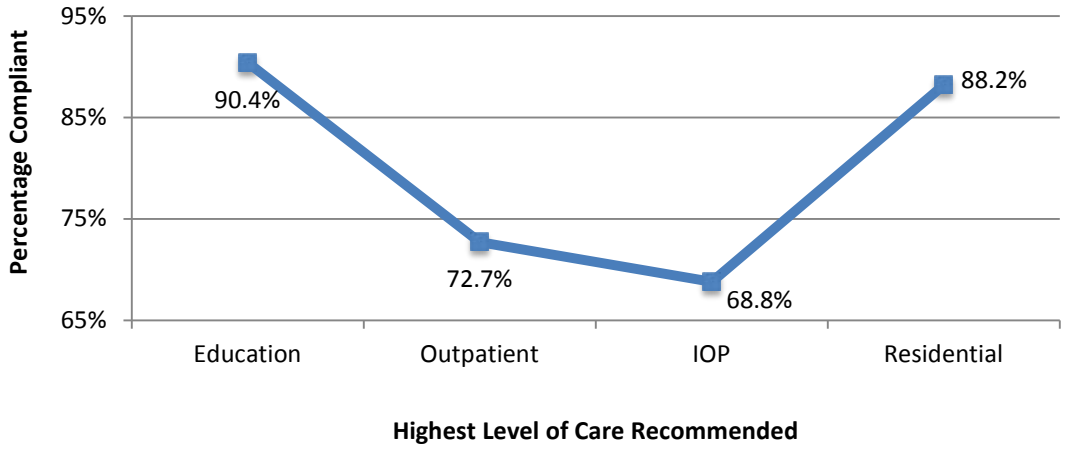


* Missing Data = 0 Assessments

5.10 Compliance by Highest Level of Care Recommended

Figure 5.12 presents compliance by the highest level of care recommended. Individuals referred for education showed the highest percentages of compliance (90.4%), while persons referred for residential treatment were only slightly less likely to be compliant (88.2%) than those referred for education. Persons referred to intensive outpatient treatment were the least likely to be compliant with their intervention (68.8%).

Figure 5.12: Compliance by Highest Level of Care Recommended*



* Missing Data = 0 Assessments

Compliance Summary

Lower compliance is related to having a drug-involved DUI, more DUI convictions, higher AUDIT and DAST scores, more severe substance use disorders, and referrals to outpatient/intensive outpatient treatment. Non-compliant offenders were also more likely to be younger and African American. The most frequently cited reason for non-compliance was failure to comply with attendance requirements.

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SECTION SIX
MHMR REGIONS

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6.1 Assessments

Table 6.1 presents the number of programs and assessment records submitted by community mental health programs (publicly-funded) and privately-owned assessment programs. Community programs submitted an average of 286 assessments per program in 2016, while private programs submitted an average of 124 assessments per program. There were seven privately-owned programs that submitted fewer than ten assessments.

Table 6.1: Community and Privately Funded Program Assessments*

	Community	Private	Total
Assessments Submitted	2,861	14,998	17,859
Number of Programs	10	121	131
Average Assessments per Program	286.1	124.0	136.3

* Missing Data = 0 Assessments

6.2 Mental Health/Mental Retardation (MHMR) Regions

Kentucky has 14 MHMR regions 1 through 15, region 9 no longer exists.

IMPORTANT: MHMR Regions include all programs (public and private) within that geographic region, not just the community mental health center that shares the region name. For tables 6.2 through 6.7, the highest and lowest values for a given field are in italics.

Table 6.2 presents demographic differences between records submitted from each region. There are very few differences between regions.

Table 6.2: MHMR Demographic Differences*

	Average Age	% Under 40 yr	% Male
Region 1 - Four Rivers	36.5	62.1%	74.9%
Region 2 - Pennyroyal	36.3	62.7%	73.4%
Region 3 - River Valley	37.0	60.7%	76.3%
Region 4 - Lifeskills	***34.9***	66.8%	75.5%
Region 5 - Communicare	36.1	66.1%	75.2%
Region 6 - Seven Counties	36.9	61.6%	***76.7%***
Region 7 - North Key	35.0	***68.8%***	72.3%
Region 8 - Comprehend	***38.3***	***53.9%***	72.4%
Region 10 - Pathways	37.1	59.9%	74.7%
Region 11 - Mountain	36.9	59.7%	71.8%
Region 12 - Kentucky River	37.5	62.3%	71.5%
Region 13 - Cumberland	37.3	62.5%	***68.3%***
Region 14 - Adanta	37.1	60.2%	74.0%
Region 15 - Bluegrass	36.1	62.8%	72.9%
All Regions	**36.4**	**63.0%**	**74.1%**

* Missing Data: Age = 3 / Gender = 0

6.3 Past DUI Convictions

Table 6.3 presents the average number of convictions by region and the percentage of assessments for DUI clients presenting for their first (0-1), second (2), or third or more (3+) DUI conviction in their lifetime. First offenders were a majority in all regions, with North Key having the highest percentage of assessments for first-time offenders (73.0%). Pennyroyal had the highest percentage of assessments for DUI clients with a second conviction (27.5%) and Four Rivers the highest percentage of assessments for clients with three or more lifetime DUI convictions (21.4%).

Table 6.3: MHMR Lifetime DUI Convictions

	Average	0-1	2	3+
Region 1 - Four Rivers	***1.93***	54.2%	24.4%	***21.4%***
Region 2 - Pennyroyal	1.67	58.4%	***27.5%***	14.1%
Region 3 - River Valley	1.68	58.5%	27.1%	14.4%
Region 4 - Lifeskills	1.64	65.5%	20.6%	13.9%
Region 5 - Communicare	1.87	53.5%	25.8%	20.7%
Region 6 - Seven Counties	1.53	67.9%	21.2%	10.9%
Region 7 - North Key	***1.39***	***73.0%***	***19.9%***	***7.1%***
Region 8 - Comprehend	1.60	61.2%	26.7%	12.1%
Region 10 - Pathways	1.86	56.7%	23.7%	19.6%
Region 11 - Mountain	1.53	67.1%	20.4%	12.5%
Region 12 - Kentucky River	1.84	53.8%	26.8%	19.4%
Region 13 - Cumberland	1.86	***52.8%***	26.7%	20.5%
Region 14 - Adanta	1.53	69.9%	***19.9%***	10.2%
Region 15 - Bluegrass	1.66	62.7%	23.1%	14.2%
All Regions	**1.64**	63.1%	22.9%	14.0%

* Missing Data = 0 Assessments

Table 6.4 presents information on clients' DUI offense type for assessments conducted in 2016. Similar to lifetime DUI convictions, individuals convicted of a first DUI offense were a majority in all regions. North Key had the highest percentage of assessments for first DUI offenses (83.7%). Pennyroyal had the highest percentage of assessments for second DUI offenses (25.2%). Cumberland had the highest percentage of assessments for third offense or higher DUIs (6.7%).

Table 6.4: MHMR DUI Offense Type

	Average	1st	2nd	3rd or higher
Region 1 - Four Rivers	1.29	75.7%	19.8%	4.5%
Region 2 - Pennyroyal	1.34	***70.7%***	***25.2%***	4.1%
Region 3 - River Valley	1.32	72.3%	23.6%	4.1%
Region 4 - Lifeskills	1.25	78.9%	17.0%	4.1%
Region 5 - Communicare	1.34	71.8%	22.3%	5.9%
Region 6 - Seven Counties	1.27	77.8%	18.2%	4.0%
Region 7 - North Key	***1.19***	***83.7%***	***13.8%***	***2.5%***
Region 8 - Comprehend	1.28	75.4%	20.7%	3.9%
Region 10 - Pathways	1.25	78.0%	19.2%	2.8%
Region 11 - Mountain	1.26	78.7%	16.3%	5.0%
Region 12 - Kentucky River	1.26	78.2%	18.4%	3.4%
Region 13 - Cumberland	***1.38***	71.3%	22.0%	***6.7%***
Region 14 - Adanta	1.26	78.9%	16.6%	4.5%
Region 15 - Bluegrass	1.25	78.3%	17.8%	3.9%
All Regions	**1.27**	**77.2%**	**18.7%**	**4.1%**

* Missing Data = 0 Assessments

6.4 MHMR Regions and Blood Alcohol Content

Table 6.5 presents MHMR regions and blood alcohol content (BAC). The average BAC was consistent generally across regions. Mountain had the lowest average BAC (0.103) and North Key had the highest average BAC (0.155). Mountain had the highest percentage of assessment records for DUI clients with BACs in the 0.08 to 0.15 range (84.9%). Comprehend had the highest percentage of assessment records reporting BACs in excess of 0.24 (10.3%).

Table 6.5: MHMR Regions and Blood Alcohol Content*

		BAC Ranges (g/dL)				
	Avg BAC	**≤ .07**	**.08 - .15**	**.16 - .23**	**.24 - .31**	**≥ .32**
Region 1 - Four Rivers	0.146	3.7%	55.4%	33.5%	6.4%	1.0%
Region 2 - Pennyroyal	0.144	4.9%	57.5%	30.3%	6.6%	0.7%
Region 3 - River Valley	0.146	2.4%	58.3%	32.1%	6.8%	0.4%
Region 4 - Lifeskills	0.137	1.5%	66.2%	26.5%	5.4%	0.4%
Region 5 - Communicare	0.142	***5.6%***	58.0%	28.3%	6.9%	1.2%
Region 6 - Seven Counties	0.138	2.6%	63.7%	27.1%	6.1%	0.5%
Region 7 - North Key	***0.155***	3.2%	***48.5%***	***39.6%***	8.3%	0.4%
Region 8 - Comprehend	0.154	4.0%	49.2%	36.5%	***9.5%***	0.8%
Region 10 - Pathways	0.135	2.2%	62.4%	32.0%	2.8%	0.6%
Region 11 - Mountain	***0.107***	1.7%	***84.9%***	***12.5%***	***0.9%***	***0.0%***
Region 12 - Kentucky River	0.129	***0.8%***	68.9%	25.3%	2.5%	***2.5%***
Region 13 – Cumberland	0.127	1.1%	73.9%	17.0%	6.3%	1.7%
Region 14 – Adanta	0.137	2.4%	65.2%	25.8%	6.3%	0.3%
Region 15 – Bluegrass	0.152	1.9%	53.7%	36.4%	6.8%	1.2%
All Regions	**0.142**	**2.7%**	**60.1%**	**30.2%**	**6.3%**	**0.7%**

* Missing Data = 9,117 Assessments

6.5 MHMR Regions and Screening Instruments

Table 6.6 presents the AUDIT and DAST average scores and percentage of positive assessments for each test by MHMR region. River Valley and Seven Counties had the highest average AUDIT score (6.9) while Mountain had the lowest average (3.2). The average DAST score was highest in the Kentucky River and Cumberland regions (6.3) while the lowest average was in the North Key and Seven Counties regions (2.6).

Table 6.6: MHMR Regions and AUDIT/DAST Scores*

	AUDIT		DAST	
	Average	**% Positive**	**Average**	**% Positive**
Region 1 - Four Rivers	6.8	32.6%	3.1	26.2%
Region 2 - Pennyroyal	5.4	25.5%	3.2	25.9%
Region 3 - River Valley	***6.9***	***39.0%***	2.9	24.6%
Region 4 - Lifeskills	6.2	28.9%	3.9	28.4%
Region 5 - Communicare	6.2	28.4%	3.5	23.5%
Region 6 - Seven Counties	***6.9***	34.2%	***2.6***	18.3%
Region 7 - North Key	6.5	30.1%	***2.6***	***17.3%***
Region 8 - Comprehend	4.2	14.7%	3.1	22.8%
Region 10 - Pathways	5.4	26.2%	5.8	39.3%
Region 11 - Mountain	***3.2***	***11.3%***	4.7	37.3%
Region 12 - Kentucky River	4.3	20.6%	***6.3***	45.2%
Region 13 - Cumberland	3.4	14.4%	***6.3***	***49.3%***
Region 14 - Adanta	5.0	22.5%	5.1	36.2%
Region 15 - Bluegrass	6.3	29.3%	3.0	21.2%
All Regions	**6.0**	**28.4%**	**3.5**	**25.9%**

*Missing Data = 0 AUDIT/ 0 DAST Assessments

Table 6.7 presents the percentage of assessments for DUI clients who met DSM-5 substance use disorder criteria by MHMR region. The Adanta region had fewer assessments for DUI clients meeting DSM-5 substance use disorder criteria (38.8%) than any other region. River Valley had the largest percentage of assessments for DUI clients meeting substance use criteria (64.6%), including the highest percentage assessments for clients meeting criteria for both an alcohol and drug use disorder (10.7%)

Table 6.7: MHMR Regions and DSM-5 Substance Use Disorders*

	No Disorder	Alcohol-only	Drug-only	Alcohol+Drug
Region 1 - Four Rivers	40.1%	36.1%	14.8%	9.0%
Region 2 - Pennyroyal	48.2%	31.4%	15.2%	5.2%
Region 3 - River Valley	***35.4%***	43.3%	10.6%	***10.7%***
Region 4 - Lifeskills	38.3%	38.0%	14.4%	9.3%
Region 5 - Communicare	59.8%	26.8%	8.9%	4.5%
Region 6 - Seven Counties	35.5%	***49.8%***	8.8%	5.9%
Region 7 - North Key	39.7%	46.4%	***8.7%***	5.2%
Region 8 - Comprehend	51.7%	29.7%	13.4%	5.2%
Region 10 - Pathways	50.0%	22.0%	20.9%	7.1%
Region 11 - Mountain	47.5%	17.3%	***31.8%***	3.4%
Region 12 - Kentucky River	43.2%	24.5%	28.8%	3.5%
Region 13 - Cumberland	60.0%	***10.4%***	27.2%	***2.4%***
Region 14 - Adanta	***61.2%***	15.9%	19.0%	3.9%
Region 15 - Bluegrass	56.6%	29.1%	10.8%	3.5%
All Regions	**46.5%**	**34.0%**	**13.9%**	**5.6%**

* Missing Data = 0 Assessments

6.6 MHMR Regions and Level of Care

Table 6.8 presents the highest level of care assigned and overall compliance level by MHMR region. Level of care refers only to the highest level assigned for each assessment. When two or more 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.

Table 6.8: MHMR Regions and Level of Care*

	Education	Outpatient	IOP	Residential	Compliance**
Region 1 - Four Rivers	47.9%	47.8%	3.5%	0.8%	84.4%
Region 2 - Pennyroyal	49.4%	49.8%	0.2%	***0.6%***	82.0%
Region 3 - River Valley	40.2%	55.8%	1.5%	2.5%	74.2%
Region 4 - Lifeskills	35.7%	61.0%	0.7%	2.6%	86.7%
Region 5 - Communicare	49.3%	46.6%	1.5%	2.6%	***71.7%***
Region 6 - Seven Counties	38.0%	59.7%	1.2%	1.1%	83.9%
Region 7 - North Key	38.2%	57.6%	2.6%	1.6%	***88.4%***
Region 8 - Comprehend	39.2%	53.9%	***5.2%***	1.7%	78.1%
Region 10 - Pathways	44.8%	49.9%	1.8%	3.5%	87.6%
Region 11 - Mountain	***57.2%***	***38.1%***	0.9%	***3.8%***	***88.4%***
Region 12 - Kentucky River	***15.6%***	***81.6%***	0.5%	2.3%	82.1%
Region 13 - Cumberland	56.7%	38.8%	2.3%	2.2%	88.1%
Region 14 - Adanta	50.6%	47.0%	***0.0%***	2.4%	87.3%
Region 15 - Bluegrass	46.9%	49.6%	1.7%	1.8%	85.4%
All Regions	**43.6%**	**53.0%**	**1.5%**	**1.9%**	**83.9%**

* Missing Data = 0 level of care assessments
**Of the 17,859 assessments submitted during 2016, only 13,413 were also completed during 2016.

Region Summary

Although there are fewer community mental health centers, these programs submitted a higher average of assessments per year compared to privately-owned programs. There was variability between regions in demographics, past DUI offenses, screening instrument results, intervention referrals, and education/treatment outcomes. Specifically, a higher percentage of assessments from the Seven Counties region and regions in the western part of the state (e.g., River Valley and Lifeskills) were for males. The North Key region had the least average number of lifetime DUIs and the lowest average DAST score. The Mountain region had the highest rate of referral to education and residential in addition to the highest compliance rates compared to other regions in Kentucky.

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SECTION SEVEN

DIVISION OF BEHAVIORAL HEALTH REGIONS

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7.1 Number of Assessments and Demographics by DBH Region

Each DUI regional coordinator is responsible for monitoring and providing support to licensed and certified DUI assessment programs within a specific region of the state. For a map of these regions, please see Appendix F (page 96). Table 7.1 presents the number of assessments, average age of DUI clients, and the percentage of assessments that were for males, White, and married persons by Division of Behavioral Health (DBH) Regions. The Eastern region had assessments for slightly older individuals. Clients assessed for a DUI in the Eastern region were also more likely to be White. Clients in the Western-Central region were slightly more likely to be male.

Table 7.1: Assessments and Demographics by DBH Region

	CENTRAL	EASTERN	WESTERN	WESTERN-CENTRAL
Assessments	4,646	4,039	5,716	3,458
% Male*	72.7%	72.3%	75.1%	76.6%
% White**	83.9%	96.7%	82.0%	75.6%
Average Age***	35.62	37.26	36.04	36.96

* Missing Data = 0 Assessments
** Missing Data = 2,758 Assessments
*** Missing Data = 3 Assessments

7.2 Blood Alcohol Content by DBH Region

For those individuals who reported their Blood Alcohol Content, Table 7.2 presents the average BAC and percentage of assessments that were 0.08 g/dL or higher.

Table 7.2: Blood Alcohol Content by DBH Region*

	CENTRAL	EASTERN	WESTERN	WESTERN-CENTRAL
Average BAC	0.153	0.131	0.142	0.138
% $\geq$ 0.08	97.7%	97.9%	96.7%	97.4%

* Missing Data = 9,117 Assessments

7.3 Screening Instruments by DBH Region

Table 7.3 presents AUDIT and DAST scores by DBH region. The Western-Central region had the highest percentage of assessments for DUI clients with a positive AUDIT score. The Eastern region had the highest percentage of assessments for clients with a positive DAST score.

Table 7.3: AUDIT and DAST Scores by DBH Region

	CENTRAL	EASTERN	WESTERN	WESTERN-CENTRAL
AUDIT*				
Positive	29.5%	19.0%	30.6%	34.2%
Average Score	6.37	4.44	6.29	6.91
DAST**				
Positive	19.9%	39.4%	26.0%	18.2%
Average Score	2.84	5.36	3.40	2.61

* Missing Data = 0 Assessments
** Missing Data = 0 Assessments

Table 7.4 presents the percentage of DUI clients who met DSM-5 criteria for a substance use disorder in the past 12 months. The Western-Central region had the highest percentage of assessments for individuals meeting criteria for an alcohol use disorder only (50.4%) while the Eastern region had the highest percentage of assessments for individuals meeting criteria for a drug use disorder only (23.8%). The Western region had the highest percentage of assessments for individuals meeting substance use disorder criteria for both alcohol and drugs (7.8%).

Table 7.4: DSM-5 Substance Use Disorders by DBH Region*

	CENTRAL	EASTERN	WESTERN	WESTERN-CENTRAL
No Disorder	51.3%	54.1%	44.1%	35.0%
Alcohol Use Disorder Only	34.4%	18.0%	35.2%	50.4%
Drug Use Disorder Only	10.2%	23.8%	12.8%	8.7%
Alcohol & Drug Use Disorder	4.1%	4.1%	7.9%	5.9%

* Missing Data = 0 Assessments

Table 7.5 presents the percentage of assessments for DUI clients with substance use disorders by severity, separated by DBH Region. In 2016, the Western-Central region had the highest percentage of substance use disorders (65.0%).

Table 7.5: DSM-5 Substance Use Disorder Severity by DBH Region*

	CENTRAL	EASTERN	WESTERN	WESTERN-CENTRAL
Mild	26.3%	16.5%	26.9%	25.9%
Moderate	8.7%	8.6%	12.0%	20.4%
Severe	13.6%	20.8%	17.0%	18.7%

* Missing Data = 0 Assessments

7.4 Level of Care and Compliance by DBH Region

Table 7.6 presents the distribution of the highest level of care recommended by DBH region. The Eastern region had the highest percentage of assessments for DUI clients recommended for education and residential treatment. Table 7.6 also presents the percentage of assessments for individuals who were compliant with their education and/or treatment referral. Compliance was highest in the Eastern region.

Table 7.6: Level of Care and Compliance by DBH Region

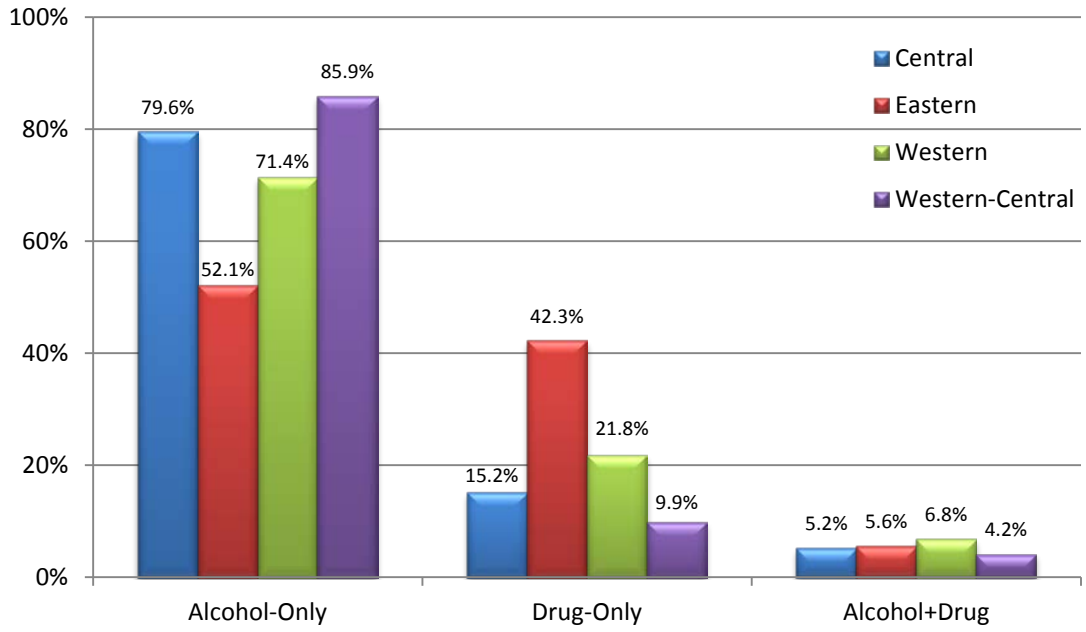
	CENTRAL	EASTERN	WESTERN	WESTERN-CENTRAL
Highest Level of Care*				
Education	43.8%	47.7%	43.7%	38.3%
Outpatient	52.4%	48.3%	53.0%	59.5%
IOP	2.0%	1.3%	1.4%	1.2%
Residential	1.8%	2.7%	1.9%	1.0%
Compliance**	83.9%	84.0%	78.7%	82.7%

* Missing Data = 0 Assessments
** Of the 17,859 assessments submitted during 2016, only 13,413 were also completed during 2016.

7.5 Substance(s) Involved in DUI Arrest by DBH Region

Figure 7.1 presents DUI type by DBH region. The Western-Central region had the highest percentage of assessments for individuals with an alcohol-involved DUI (90.1%). The Eastern region had the highest percentage of assessments for individuals with a drug-involved DUI (47.9%).

Figure 7.1: Substance(s) Involved in DUI Arrest by DBH Region*



* Missing Data = 36 Assessments

Table 7.7 presents the distribution of the types of drugs (other than alcohol) involved in DUIs by DBH region. The Eastern region had the highest percentage of assessments for individuals with DUIs involving marijuana, opiates, sedatives, and other drugs. Although low in overall prevalence, the Western region had the highest percentage of assessments for individuals with amphetamine-involved DUIs and the Central region had the highest percentage of assessments for cocaine-involved DUIs.

Table 7.7: Specific Drugs (other than Alcohol) Involved in DUI by DBH Region

	CENTRAL	EASTERN	WESTERN	WESTERN-CENTRAL
Marijuana	8.2%	14.3%	13.6%	7.5%
Cocaine	1.0%	0.6%	0.3%	0.6%
Opiates	6.9%	20.5%	5.8%	3.9%
Sedatives	3.2%	10.7%	4.9%	1.7%
Amphetamines	0.9%	3.4%	4.7%	0.8%
Other Drugs	4.9%	12.7%	8.7%	3.6%

Division of Behavioral Health Regions Summary

There was similarity across regions, but with a few notable exceptions. First, clients in the Western-Central region were most likely to report meeting DSM criteria for a substance use disorder while the Central region had fewer clients meeting criteria for a severe substance use disorder compared to other regions. Second, the percentage of assessments for individuals who met DSM-5 criteria for only an alcohol use disorder ranged from a low of 22.1% for the Eastern region to a high of 56.3% in the Western-Central region. Next, AUDIT scores in the Eastern region (4.44) were noticeably lower than in other regions, whereas the percentage of persons who scored 5 or higher on the DAST in the Eastern region (39.4%) significantly exceeded the percentages for the other regions of Kentucky. Lastly, the Eastern region also had the highest rate of drug-involved DUIs (47.9%), with most drug-involved clients in that region reporting being under the influence of opiates (20.5%).

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APPENDICES

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Appendix A: AUDIT Responses and Average Scores by Gender

1. How often do you have a drink containing alcohol?

	Males	Females	Total
(0) Never	20.8%	29.0%	22.9%
(1) Monthly or less	25.8%	29.9%	26.8%
(2) 2 to 4 times a month	27.2%	21.9%	25.8%
(3) 2 to 3 times a week	18.0%	13.9%	16.9%
(4) 4 or more times a week	8.2%	5.4%	7.5%
Average Score	1.67	1.37	1.59

2. How many drinks containing alcohol do you have on a typical day when you are drinking?

	Males	Females	Total
(0) 1 or 2	36.6%	53.6%	41.0%
(1) 3 or 4	29.0%	27.0%	28.5%
(2) 5 or 6	19.2%	11.4%	17.2%
(3) 7, 8, or 9	7.8%	4.3%	6.9%
(4) 10 or more	7.3%	3.7%	6.4%
Average Score	1.20	0.77	1.09

3. How often do you have six or more drinks on one occasion?

	Males	Females	Total
(0) Never	38.2%	55.7%	42.7%
(1) Less than monthly	32.9%	28.1%	31.7%
(2) Monthly	14.0%	8.2%	12.5%
(3) Weekly	11.6%	5.7%	10.1%
(4) Daily or almost daily	3.3%	2.3%	3.0%
Average Score	1.09	0.71	0.99

4. How often during the last year have you found that you were not able to stop drinking once you had started?

(0) Never	81.7%	83.0%	82.0%
(1) Less than monthly	10.4%	10.3%	10.4%
(2) Monthly	3.4%	2.7%	3.2%
(3) Weekly	2.6%	2.3%	2.5%
(4) Daily or almost daily	1.9%	1.6%	1.8%
Average Score	0.33	0.29	0.32

5. How often during the last year have you failed to do what was normally expected from you because of drinking?

(0) Never	84.0%	84.8%	84.2%
(1) Less than monthly	11.2%	10.4%	11.0%
(2) Monthly	2.8%	2.2%	2.6%
(3) Weekly	1.2%	1.7%	1.4%
(4) Daily or almost daily	0.7%	0.9%	0.8%
Average Score	0.23	0.24	0.23

6. How often during the last year have you needed an alcoholic drink first thing in the morning to get yourself going after a night of heavy drinking?

(0) Never	93.8%	94.3%	93.9%
(1) Less than monthly	3.1%	2.8%	3.0%
(2) Monthly	1.1%	0.8%	1.1%
(3) Weekly	1.0%	1.1%	1.0%
(4) Daily or almost daily	1.0%	1.0%	1.0%
Average Score	0.12	0.12	0.12

7. How often during the last year have you had a feeling of guilt or remorse after drinking?

	Males	Females	Total
(0) Never	73.6%	73.3%	73.5%
(1) Less than monthly	18.3%	18.1%	18.3%
(2) Monthly	3.7%	3.6%	3.7%
(3) Weekly	2.3%	2.6%	2.4%
(4) Daily or almost daily	2.1%	2.4%	2.1%
Average Score	0.41	0.43	0.41

8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?

	Males	Females	Total
(0) Never	81.6%	80.8%	81.4%
(1) Less than monthly	13.8%	14.2%	13.9%
(2) Monthly	2.7%	2.4%	2.6%
(3) Weekly	1.5%	1.7%	1.6%
(4) Daily or almost daily	0.4%	0.8%	0.5%
Average Score	0.25	0.28	0.26

9. Have you or someone else been injured as a result of your drinking?

	Males	Females	Total
(0) No	90.7%	90.4%	90.6%
(2) Yes, but not in the last year	5.6%	5.1%	5.4%
(4) Yes, during the last year	3.7%	4.6%	4.0%
Average Score	0.26	0.28	0.27

10. Has a relative, friend, doctor, or another health professional expressed concern about your drinking or suggested you cut down?

	Males	Females	Total
(0) No	76.3%	81.4%	77.6%
(2) Yes, but not in the last year	10.2%	8.2%	9.7%
(4) Yes, during the last year	13.5%	10.4%	12.7%
Average Score	0.75	0.58	0.70

Appendix B: DAST Responses by Gender

Percentages represent those who answered “yes” to each specific question except for questions 4, 5, and 7 which are reverse scored.

1. Have you used drugs other than those required for medical reasons?

Males	Females	Total
36.4%	41.7%	37.8%

2. Have you abused prescription drugs?

Males	Females	Total
14.5%	23.1%	16.7%

3. Do you abuse more than one drug at a time?

Males	Females	Total
9.0%	13.8%	10.2%

4. Can you get through the week without using drugs (other than those required for medical reasons)?

Males	Females	Total
3.7%	5.5%	4.2%

Percentage of persons who responded "no"

5. Are you always able to stop using drugs when you want to?

Males	Females	Total
7.5%	12.7%	8.9%

Percentage of persons who responded "no"

6. Do you abuse drugs on a continuous basis?

Males	Females	Total
6.4%	10.3%	7.4%

7. Do you try to limit your drug use to certain situations?

Males	Females	Total
14.9%	17.5%	15.5%

Percentage of persons who responded "no"

8. Have you had "blackouts" or "flashbacks" as a result of drug use?

Males	Females	Total
6.5%	11.5%	7.8%

9. Do you ever feel bad about your drug abuse?

Males	Females	Total
16.9%	25.4%	19.1%

10. Does your spouse (or parents) ever complain about your involvement with drugs?

Males	Females	Total
12.5%	16.8%	13.6%

11. Do your friends or relatives know or suspect you abuse drugs?

Males	Females	Total
16.7%	22.3%	18.1%

12. Has drug abuse ever created problems between you and your spouse?

Males	Females	Total
9.5%	15.2%	11.0%

13. Has any family member ever sought help for problems related to your drug use?

Males	Females	Total
5.2%	7.8%	5.8%

14. Have you ever lost friends because of your use of drugs?

Males	Females	Total
9.1%	14.4%	10.5%

15. Have you ever neglected your family or missed work because of your use of drugs?

Males	Females	Total
10.3%	17.3%	12.1%

16. Have you ever been in trouble at work because of drug abuse?

Males	Females	Total
5.8%	7.4%	6.2%

17. Have you ever lost a job because of drug abuse?

Males	Females	Total
6.1%	7.9%	6.5%

18. Have you gotten into fights when under the influence of drugs?

Males	Females	Total
7.1%	9.8%	7.8%

19. Have you ever been arrested because of unusual behavior while under the influence of drugs?

Males	Females	Total
12.6%	18.1%	14.0%

20. Have you ever been arrested for driving while under the influence of drugs?

Males	Females	Total
24.1%	33.3%	26.5%

21. Have you engaged in illegal activities to obtain drugs?

Males	Females	Total
14.5%	18.4%	15.5%

22. Have you ever been arrested for possession of illegal drugs?

Males	Females	Total
18.6%	19.8%	19.0%

23. Have you ever experienced withdrawal symptoms as a result of heavy drug intake?

Males	Females	Total
10.8%	18.6%	12.8%

24. Have you had medical problems as a result of your drug use?

Males	Females	Total
3.4%	6.9%	4.3%

25. Have you ever gone to anyone for help for a drug problem?

Males	Females	Total
11.1%	18.8%	13.1%

26. Have you ever been in the hospital for medical problems related to your drug use?

Males	Females	Total
3.4%	7.1%	4.3%

27. Have you ever been involved in a treatment program specifically related to drug use?

Males	Females	Total
12.2%	19.7%	14.2%

28. Have you been treated as an outpatient for problems related to drug abuse?

Males	Females	Total
9.7%	16.6%	11.5%

Appendix C: DSM-5 Substance Use Disorder Criteria by Gender

(1) The substance is often taken in larger amounts or over a longer period than was intended

Males	Females	Total
38.4%	38.7%	38.5%

(2) There is a persistent desire or unsuccessful efforts to cut down or control substance use

Males	Females	Total
21.7%	24.8%	22.5%

(3) A great deal of time is spent in activities necessary to obtain the substance, use the substance, or recover from its effects

Males	Females	Total
15.2%	18.7%	16.1%

(4) Craving, or a strong desire or urge to use the substance

Males	Females	Total
21.8%	25.6%	22.8%

(5) Recurrent substance use resulting in a failure to fulfill major role obligations at work, school, or home

Males	Females	Total
15.3%	18.4%	16.1%

(6) Continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance

Males	Females	Total
19.5%	22.1%	20.1%

(7) Important social, occupational, or recreational activities are given up or reduced because of substance use

Males	Females	Total
13.2%	17.5%	14.3%

(8) Recurrent substance use in situations in which it is physically hazardous

Males	Females	Total
54.4%	51.2%	53.6%

(9) Substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance

Males	Females	Total
16.1%	20.9%	17.3%

(10) Tolerance, as defined by either of the following:

(a) a need for markedly increased amounts of the substance to achieve Intoxication or desired effect

(b) markedly diminished effect with continued use of the same amount of the substance

Males	Females	Total
40.5%	38.4%	40.0%

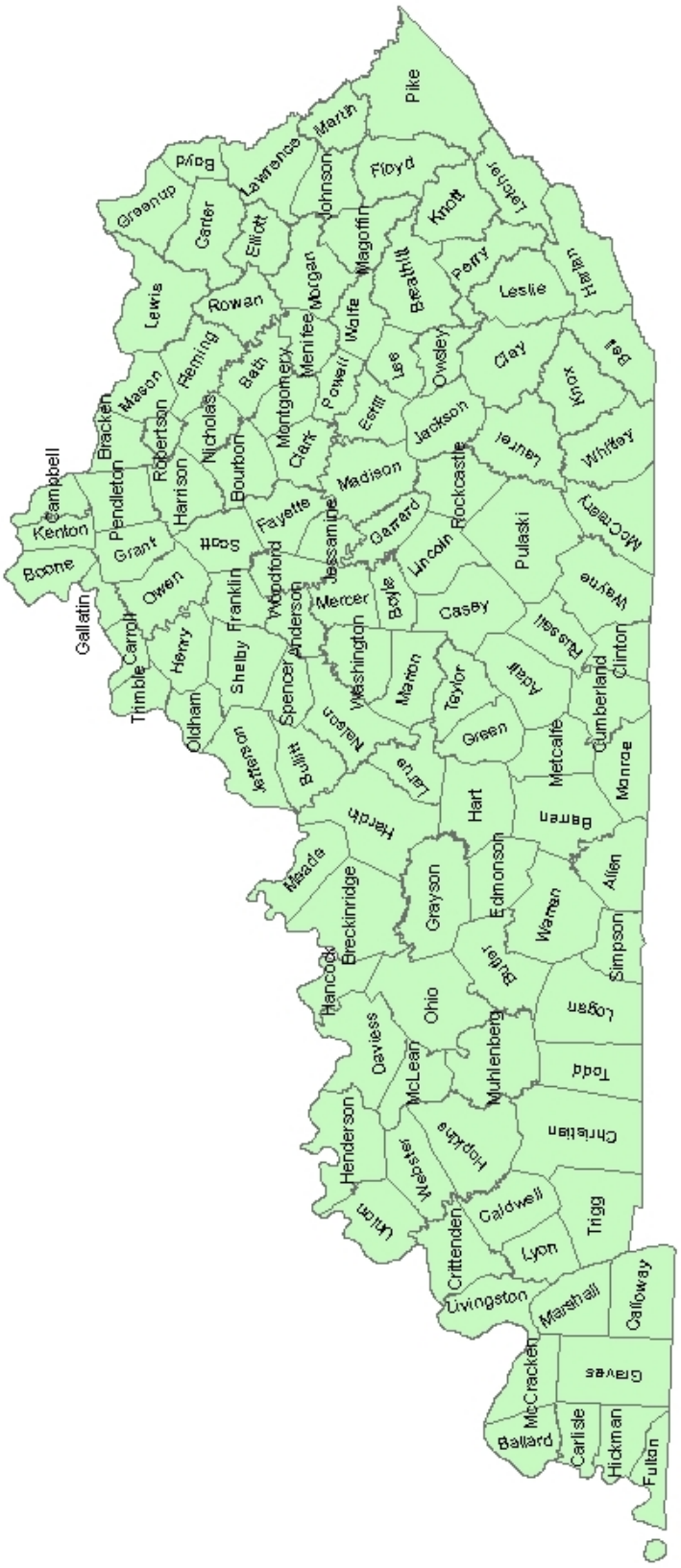
(11) Withdrawal, as manifested by either of the following:

(a) the characteristic withdrawal syndrome for the substance

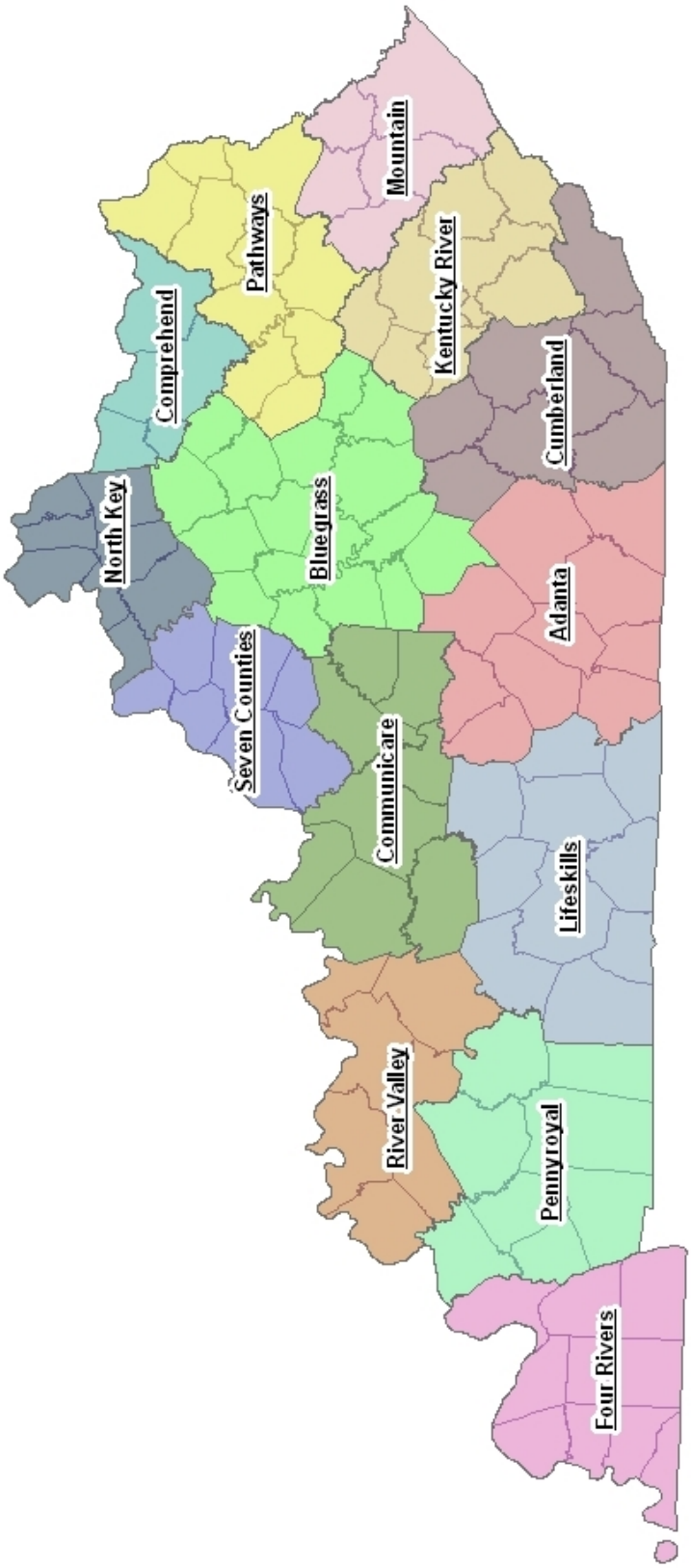
(b) the same (or a closely related) substance is taken to relieve or avoid withdrawal symptoms

Males	Females	Total
15.3%	20.4%	16.6%

Appendix D: Map of Kentucky by County



Appendix E: Map of Kentucky by MHMR Region



Appendix F: Map of Kentucky by DBH Region