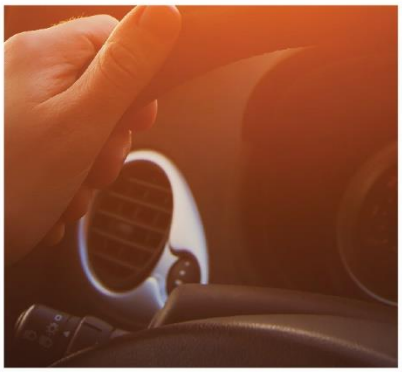
PROGRAM EVALUATION

September 30, 2022


Pilot Project: CARS Program

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Identification of the DUI/DWI While Intoxicated Problem[1]

Driving under the influence or while intoxicated represents a criminal offense and risks the lives of the driver and all others on the road. The National Highway Traffic Safety Administration (NHTSA) reports that approximately 1.5 million people annually are arrested for driving under the influence.[2] The NHTSA also found that in the year 2000, over 1,400 accidents involving fatalities had been caused by a driver who had already been convicted of another DUI or DWI. Recidivism with DUI convictions characterizes a continuing problem in the United States. In 2011, DeMichele proposed a plan to pilot the DWI-R for DWI defenders on community supervision. In the initial plan, up to three jurisdictions were planned to be piloted. From these initiatives, subsequent screening instruments have been used to predict subsequent DUI behaviors and reduce recidivism. Although several instruments have been implemented and subsequently used to reduce these occurrences, none have been implemented to pinpoint mental health diagnoses or possible disorders that may contribute to recidivism.[3] Once convicted, a driver may lose their license, get expensive fines, must complete community service, or go to prison.[4] Penalties are often enforced, but treatment for those convicted is not standard.

[1] "DWI/DUI" terms are used in other states for Driving under the Influence and Driving While Intoxicated. Louisiana has the vernacular Operating while Intoxicated or "OWI," As such, OWI will be used for Louisiana-specific references, and DWI/DUI will be utilized for national or trends not specific or dedicated to Louisiana.

[2] Drunk Driving Prevention. (n.d.). *Drunk Driving Arrest Statistics.* http://www.drunkdrivingprevention.com/drunkdrivingarreststatistics.html#:~:text=Rates%20Of%20Drunk%20Driving%20Arrests,were%20arrested%20for%20drunk%20driving.

[3] DeMichele, M. (2011). DWI Recidivism: Risk Implications for Community Supervision. *Federal Probation, 75*(3). https://www.uscourts.gov/sites/default/files/75_3_3_0.pdf

[4] Drunk Driving Prevention. (n.d.). *Drunk Driving Arrest Statistics.* http://www.drunkdrivingprevention.com/drunkdrivingarreststatistics.html#:~:text=Rates%20Of%20Drunk%20Driving%20Arrests,were%20arrested%20for%20drunk%20driving.

DUI/DWI Problem Nationally

In the United States, about 32 people die in drunk driving crashes a day. This equals about one person every 45 minutes. There was a 14% increase in deaths involving alcohol-impaired driving from 2019 to 2020, representing an increase from 10,196 to 11,654 fatalities.[5] The Southern United States has a significant foundation as the deadliest region for drunk driving in the United States. Seven of the 12 states with the most DUI deaths nationally belong to the Southern Region (Mississippi, Arkansas, Alabama, Louisiana, Texas, South Carolina, and North Carolina).[6] [7]

Operating While Intoxicated Problem within the State of Louisiana

Top 10 Parishes for Operating While Intoxicated Arrests

Parish	Number of Arrests
Jefferson	928
East Baton Rouge	811
Lafayette	715
Calcasieu	682
St. Tammany	634
Caddo	628
Rapides	467
Terrebonne	427
Orleans	426
Ouachita	419

[5] National Center for Statistics and Analysis. (2022, April). *Traffic Safety Facts 2020 Data.* National Highway Traffic Safety Administration. https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813294

[6] BackgroundChecks.org. (2019). *Best and Worst States for Drunk Driving.* Backgroundchecks.org. Which States Have The Most Drunk Driving Problems? | BackgroundChecks.org

[7] FBI Uniform Crime Reports. (2018). *Arrests by State, 2018.* https://ucr.fbi.gov/crime-in-the-u.s/2018/crime-in-the-u.s.-2018/tables/table-69

Between 2010 and 2019, there was a 49% increase in OWI arrests, ranging from 311 per 100K to 158 per 100K.[8] [9] [10] In 2018 alone, Louisiana had over 5,600 arrests for OWI. Alcohol-related fatalities also reached 216 occurrences in the same year, representing a 1.4% increase from the previous year.[11] [12] The Louisiana Department of Transportation and Development (LA DOTD) reports the top 10 parishes for OWI-related arrests in 2021, including Jefferson, East Baton Rouge, and Lafayette.[13]

Methodology

Program Evaluation[14]

The purpose of this study is to examine the implementation of the Computerized Assessment and Referral System (CARS).

Importantly, reasonable accomplishments and limitations must be defined. *Processes* refer to whether or not desired implementations occur. Correspondingly, *outcomes* refer to whether or not implementations were or were not successful. Within the present program evaluation, processes may be assessed (i.e., whether or not court officers accepted the CARS program), but outcomes may not be gauged (i.e., whether implementation of CARS resulted in a reduction of OWI occurrences and whether individuals identified at risk received or utilized therapeutic services) especially in consideration of the period that the present program evaluation occurred.

[8] SafeHome.org Research. (2022, January 23). *DUI Statistics and Trends: 2022 Annual Report.* SafeHome.org. DUI Statistics and Trends: 2022 Annual Report - SafeHome.org
[9] FBI Uniform Crime Reports. (2010). *Arrests by State, 2010.* https://ucr.fbi.gov/crime-in-the-u.s/2010/crime-in-the-u.s.-2010/tables/10tbl69.xls
[10] FBI Uniform Crime Reports. (2019). *Arrests by State, 2019.* https://ucr.fbi.gov/crime-in-the-u.s/2019/crime-in-the-u.s.-2019/tables/table-69
[11] BackgroundChecks.org. (2019). *Best and Worst States for Drunk Driving.* Backgroundchecks.org. Which States Have The Most Drunk Driving Problems? | BackgroundChecks.org
[12] FBI Uniform Crime Reports. (2018). *Arrests by State, 2018.* https://ucr.fbi.gov/crime-in-the-u.s/2018/crime-in-the-u.s.-2018/tables/table-69
[13] LSU Center for Analytics & Research in Transportation Safety. (2021). Cobra Dashboard: DUI Arrests per Parish. http://datareports.lsu.edu/cobradashboard.aspx
[14] Agency for Toxic Substances and Disease Registry. (2015). *Principles of Community Engagement.* National Institutes of Health. Chapter 7: Evaluation Phases and Processes | Principles of Community Engagement | ATSDR (cdc.gov)

Proposed Intervention

As noted previously, the incidence of OWI happenings in the United States and Louisiana represents an ongoing concern. The CARS program as a pilot initiative has been implemented to reduce the occurrence in Louisiana. Its purpose is two-fold, including identifying likely psychological diagnoses in individuals convicted of Operating While Intoxicated and, ultimately, a reduction in Operating while Intoxicated within the State of Louisiana.

Generalized Usage and Application of CARS

How it Works

CARS, or the Computerized Assessment and Referral System, was created to identify mental health and substance use concerns related to DUI behavior.[15] The CARS consists of an interviewer-administered screener, a self-administered screener, and a full assessment.[16] The full CARS assessment can take about 1-3 hours and covers 13 mental disorders (alcohol use, substance use, DUI behavior and recidivism, post-traumatic stress disorder, generalized anxiety disorder, personality disorders, depression, mania, suicidality, panic disorder, intermittent explosive disorder, attention deficit hyperactivity disorder, and conduct disorder) with in-depth modules for further evaluation.[17] CARS also provides referrals to treatment facilities and services based on the individual's location.[18]

It is essential to recognize that the CARS program represents a screening instead of an assessment. *Screening* is defined as a brief evaluation to detect the signs and symptoms of a mental health disorder by a person who is not qualified to diagnose that function. Screening is a triage function. Screening can be administered by someone with primary computer and communication skills without mental health expertise. For a first offense, CARS would be appropriate. However, importantly, CARS does not represent an assessment. *Assessment* is defined as a comprehensive evaluation to

[15] Cambridge Health Alliance. (n.d.). Computerized Assessment and Referral System: User Manual for CARS-5. http://www.carstrainingcenter.org/wp-content/uploads/2020/04/CARS-5-User-Manual-macOS-Edition.pdf

[16] The screenings are triage instruments used to determine who needs the more expensive and time-consuming assessment. The assessment can produce a diagnosis and the required level of care.

[17] DeMichele, M. (2011). DWI Recidivism: Risk Implications for Community Supervision. *Federal Probation, 75*(3). https://www.uscourts.gov/sites/default/files/75_3_3_0.pdff

[18] Cambridge Health Alliance. (n.d.). Computerized Assessment and Referral System: User Manual for CARS-5. http://www.carstrainingcenter.org/wp-content/uploads/2020/04/CARS-5-User-Manual-macOS-Edition.pdf

detect the signs and symptoms of a mental health disorder, by a person who is qualified to diagnose that disorder and determine the level of care the subject needs to alleviate that condition. Importantly, a person administering an assessment must have expertise in the field or a related field (e.g., psychology, substance use). These individuals tend to be more expensive. For example, a person administering a screening may be paid $10-15 per hour, but assisting an assessment (e.g., masters level counselor) will be more expensive ($100-200 per hour).

Literature Review

In a study in 2021 involving data from 381 DUI offenders in Massachusetts and the National Comorbidity Survey-Replication, the CARS team evaluated the validity of the CARS Screener. The CARS team found the screener has high sensitivity and specificity for bipolar disorder, intermittent explosive disorder, depressive disorders, generalized anxiety disorder, alcohol and drug use disorders, gambling disorder, post-traumatic stress disorder, panic attacks, and social phobia.[19] In conclusion, CARS appeared to be an effective tool to help with better understanding and addressing mental health in clients.

In the present literature review, extensive narratives were not provided for each article. Instead, the above represents a general summary of the existing literature. The complete literature review offered the general observations: 1) Of those arrested and convicted of DUIs, about 25% and 30% re-offend, respectively, 2) Upwards of 70-90% of all drunk drivers are male, 3) about 7.9 million adults in the US have comorbid disorders which increases their likelihood to engage in drug or alcohol dependence.[20]

[19] Nelson, S. E., LaRaja, A., Juviler, J., and Williams, P. M. (2021). Evaluating the Computerized Assessment and Referral System (CARS) Screener: Sensitivity and Specificity as a Screening Tool for Mental Health Disorders among DUI Offenders. *Substance use & Misuse,* 56 (12), 1785-1796. https://doi.org/10.1080/10826084.2021.1954024

[20] Wolf, S. (n.d.). *Computerized Assessment and Referral System (CARS): Screening and Assessment of Co-occurring Disorders* [PowerPoint slides]. Retrieved on September 27, 2022, from file:///C:/Users/SS%20LSU/Downloads/screening_assesments_of_co-occuring_disorders%20(4).pdf

An internet search was completed using the following term “CARS” and “Computerized Assessment and Referral System” and “DUI Reduction” and “Acceptance” and “Attorney Acceptance.”

Search Terms		Number of Articles
Computerized Assessment and Referral System	DUI Reduction	30
Computerized Assessment and Referral System	Acceptance	8
Computerized Assessment and Referral System	Attorney Acceptance	2
DUI Reduction	Attorney Acceptance	Many found none relevant to this topic
CARS	DUI Reduction	Many found none pertinent to this topic

Implementation in Louisiana

Identification of Key Personnel

Ms. Catherine Childers was a State Executive Director for Mothers Against Drunk Driving for over 12 years. She now stands as the DWI Policy Specialist with the Louisiana Highway Safety Commission.

Ms. Dortha Cummins also works with the Louisiana Highway Safety Commission as the Deputy Director and has held this position for over four years.

Ms. Jenna Courville is an employee of the Woodlake Addiction

Recovery Center and aided in providing data on the implementation of the CARS screening.

Retired **Hon. Jules Edwards** is the Louisiana Judicial Outreach Liaison.[21] He served on the 15th Judicial District Court from 1993 to 2020, presided as Chief Judge from 2001 to 2003, and will run in the 2022 election for Lafayette City Judge.

Dr. Scott Smith is a practicing licensed professional rehabilitation counselor who works primarily with rehabilitation and vocational clients. He is additionally a Research Consultant for Louisiana State University within the CARTS program.

[21] A State Judicial Outreach Liaison is an active or retired judge who functions as a teacher, writer, consultant, and subject matter expert to share the latest research and best practices on addressing impaired driving and recidivism in their respective States. The SJOLs work with the ABA Judicial Fellows, Regional JOLs, and ABA staff throughout the year to accomplish established goals. https://www.americanbar.org/groups/judicial/jolprogram

Programmatic Evaluation Timeline

The CARS program evaluation began on July 7, 2022. The research was gathered considering what the CARS screening consists of, how it may be used, who may use it, and other background information. On July 20, we began to collect and record raw data by attending court dates in Lafayette Parish. Lafayette District was observed three times during July and August (7/20, 8/10, 8/17), and Lafayette City Court was observed four times (7/26, 8/2, 8/9, 8/16). Raw data were collected at each visit. Additional data for courts within Vermilion and Acadia Parishes were recorded and provided by Woodlake Addiction Recovery Center. Raw data was analyzed on September 26, 2022; the results are in the below sections.

Completion of Program Evaluation

Completion of Court Appearances

Across all service providers, the following court appearances occurred:

Representatives from Woodlake Treatment Center

Woodlake personnel were responsible for completing the CARS screening. They were physically present at court proceedings. The CARS screening was completed, and then Woodlake personnel would provide the results via a printout report to the referring judge.

- February 15, 2022; Lafayette City Court
- February 18, 2022; Lafayette Jurisdiction
- February 22, 2022; Rayne City Court
- February 23, 2022; Crowley City Court
- March 3, 2022; Kaplan City Court
- March 8, 2022; Acadia Jurisdiction
- March 9, 2022; Lafayette Jurisdiction
- March 11, 2022; Lafayette Jurisdiction
- March 16, 2022; Lafayette City Court
- March 21, 2022; Vermilion Jurisdiction
- March 22, 2022; Crowley City Court
- March 23, 2022; Vermilion Jurisdiction

- April 5, 2022; Acadia Jurisdiction
- April 6, 2022; Lafayette Jurisdiction
- April 8, 2022; Lafayette Jurisdiction
- April 14, 2022; Kaplan City Court
- April 25, 2022; Vermilion Jurisdiction
- April 27, 2022; Vermilion Jurisdiction
- May 12, 2022; Kaplan City Court
- May 18, 2022; Crowley City Court
- May 23, 2022; Vermilion Jurisdiction
- May 25, 2022; Vermilion Jurisdiction
- June 2, 2022; Kaplan City Court
- June 21, 2022; Acadia Jurisdiction
- June 28, 2022; Crowley City Court
- July 7, 2022; Kaplan City Court
- July 12, 2022; Acadia Jurisdiction
- July 20, 2022; Crowley City Court
- August 9, 2022; Acadia Jurisdiction
- August 29, 2022; Vermilion Jurisdiction
- September 20, 2022; Acadia Jurisdiction

Representatives from Louisiana State University

A representative from LSU observed several court proceedings, and the representative was not responsible for any screening activities. Instead, the LSU representative recorded raw numbers of defendants and demographical information and then listened to the applicable procedures. The LSU representative did not inform the judge or judicial officers about pending court observation dates. Their purpose was to obtain estimates or counts of occurrences when the sitting judge recommended CARS screening and similarly record demographics and raw counts when the CARS screening was implemented. Neither raw data nor summary statistics were provided to judges or court officers. Somewhat, dissemination of results from the present program evaluation was limited to the current report.

- July 20, 2022; Lafayette Jurisdiction
- July 26, 2022; Lafayette City Court
- August 2, 2022; Lafayette City Court
- August 9, 2022; Lafayette City Court
- August 10, 2022; Lafayette Jurisdiction
- August 16, 2022; Lafayette City Court
- August 17, 2022; Lafayette Jurisdiction

Data Analysis

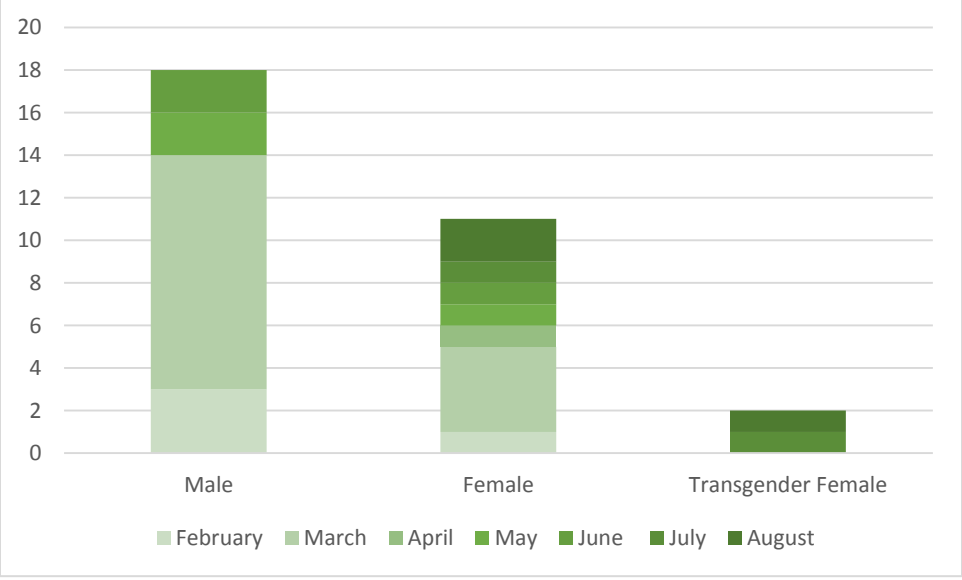
Provision of Data

The purpose of this study is to examine the implementation of the Computerized Assessment and Referral System (CARS). Data were available for February to August of 2022. Data were provided by professional staff at Woodlake Addiction Recovery Center, and the accuracy of the data cannot be verified. This report summarizes the available statistics, and applicable observations are reported.

Data were available from February to August 2022 for six judicial areas in Louisiana, covering Lafayette, Acadia, and Vermilion Parishes. The following sections will examine data in six categories, including sex, region, month, diagnoses, positive screenings, and non-positive screenings. A total of 31 cases implemented the CARS screening for the seven months that data was collected.

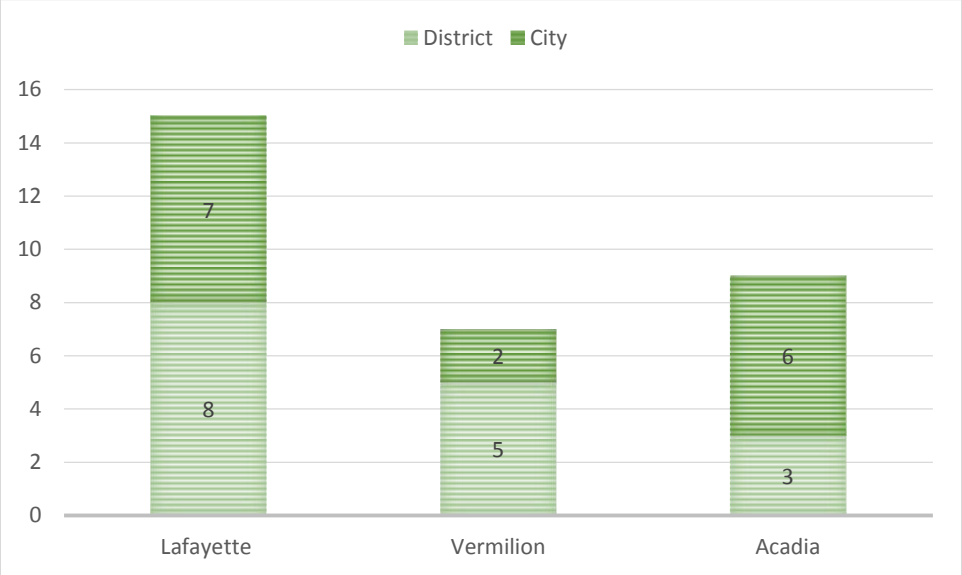
Gender

Demographics were recorded for everyone who participated in the CARS screening. Of the 31 people seen, there were 18 males, 11 females, and two transgender females. Furthermore, about 58% of the participants were male, 35% were female, and 6% were transgender females. Of the positive screenings, five were male, nine were female, and 2 were transgender female—a proportionately more significant number of male offenders than any other gender.



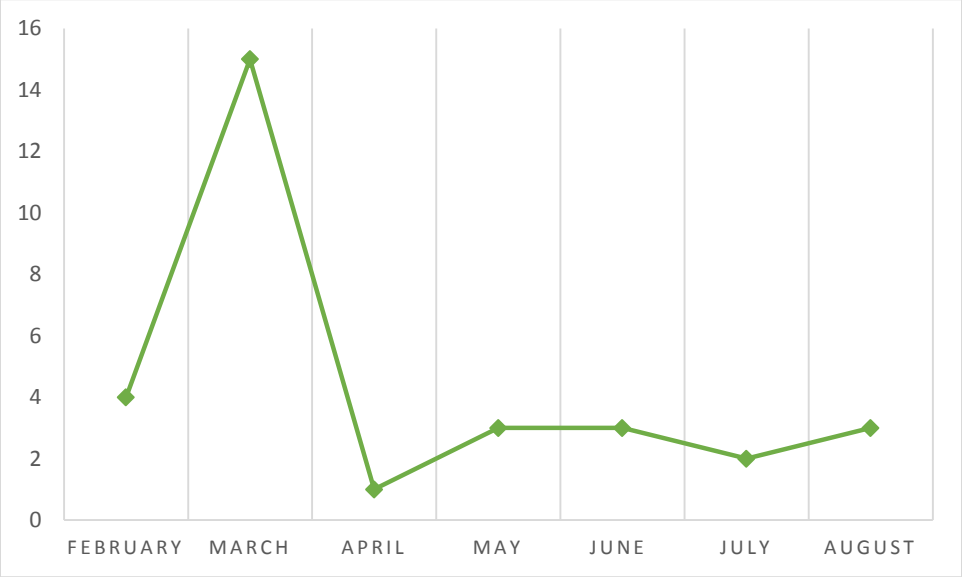
Region

Data was collected from six individual court systems in three parishes. The bar on the graph titled Lafayette includes data from the Lafayette District as well as the Lafayette City Court. The region titled Vermilion includes data from the Abbeville as well as the Kaplan City Courts. The region titled Acadia includes data from the Acadia Jurisdiction as well as the Crowley City Court. Lafayette Parish had 15 participating offenders, with eight coming from the district court and seven coming from the city court. Vermilion parish had seven participating offenders, with five coming from the district court and two coming from Kaplan City Court. Acadia parish had nine participating offenders, with three coming from the district court and six coming from Crowley City Court. Furthermore, Lafayette had the most participants at 48% of the total; Vermilion, 22%; and Acadia, 29%.



Month

On average, there were about 4.4 individuals who completed the CARS screenings per month. The total number of screenings administered ranged from 1-15 per month, with a standard deviation of about 4.8. The most significant number of screenings were administered in March (n = 15), and the smallest number was administered in April (n =1), the month immediately after.

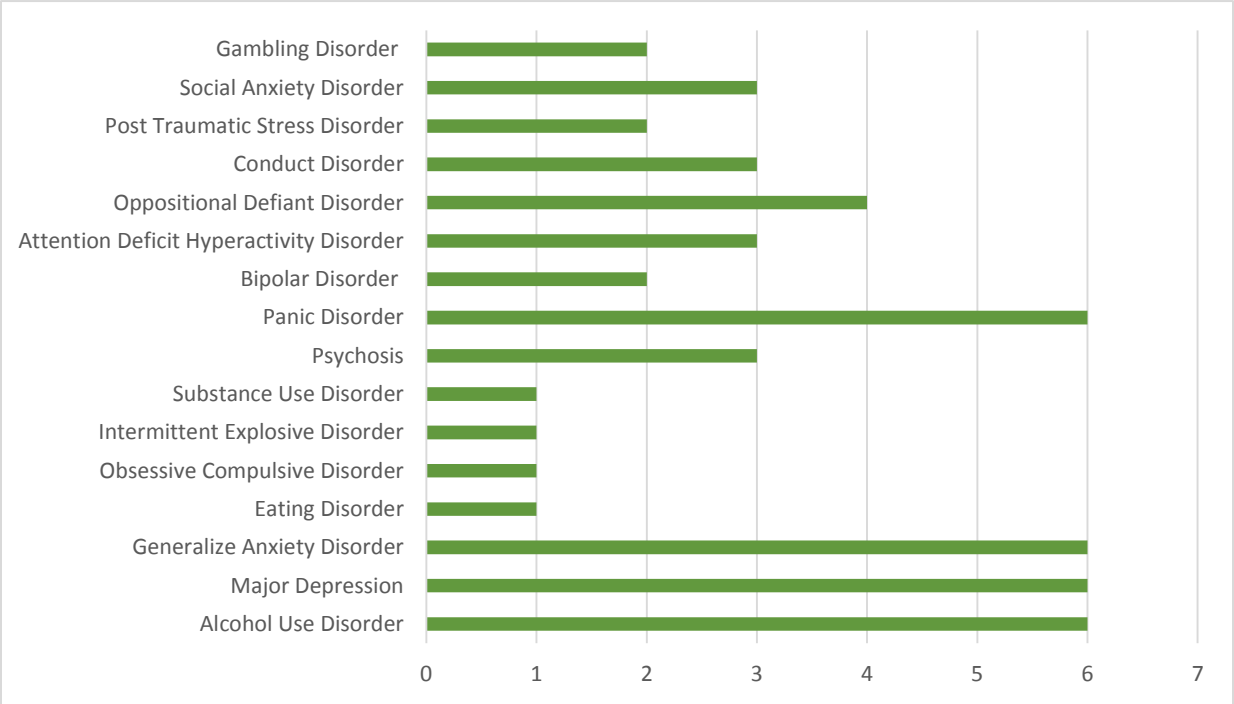


Potential Diagnoses[22]

After completing the CARS screening, a potential diagnosis can be provided if the individual scores positively. There were 31 screenings administered, and 16 individuals screened positively for one or more disorders. The most frequent potential diagnoses noted include alcohol use disorder (n = 6), major depression (n = 6), generalized anxiety disorder (n = 6), and panic disorder (n = 6). The potential diagnoses that were suggested the least were eating disorders, obsessive-compulsive disorder, intermittent explosive disorder, and substance use disorder. Only one individual was positively screened for each of the previously listed disorders. Of the participants, six positively screened for one possible disorder (alcohol use disorder, major depression, and psychosis). Other participants positively screened for multiple comorbid disorders. One individual positively screened for up to 10 different disorders. Other noted disorders include bipolar disorder, attention deficit hyperactivity disorder, oppositional defiant disorder, conduct disorder, post-traumatic stress disorder, social anxiety disorder, and gambling disorder.

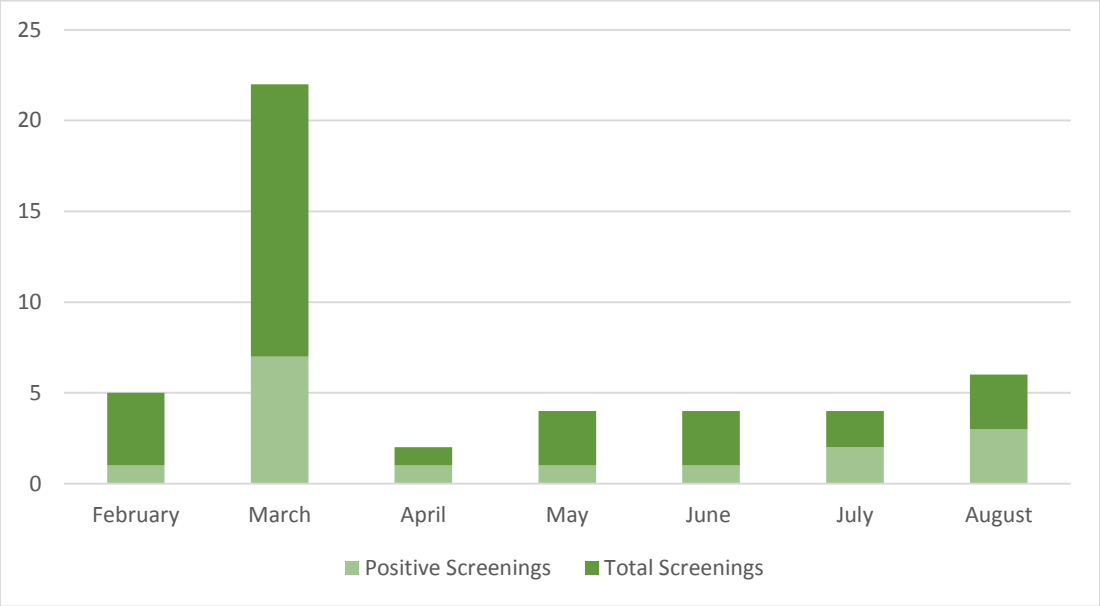
[22] A positive screening result indicates a need for a full clinical assessment.

Disorder	Frequency
Alcohol Use Disorder	6
Major Depressive Disorder	6
Generalize Anxiety Disorder	6
Panic Disorder	6
Oppositional Defiant Disorder	4
Social Anxiety Disorder	3
Psychosis	3
Attention Deficit Hyperactivity Disorder	3
Conduct Disorder	3
Bipolar Disorder	2
Post-Traumatic Stress Disorder	2
Gambling Disorder	2
Eating Disorder	1
Obsessive Compulsive Disorder	1
Intermittent Explosive Disorder	1
Substance Use Disorder	1



Positive Screenings

There were 31 total screenings administered, and 16 resulted in positive screenings. Furthermore, over 51% of all CARS screenings administered were able to examine and identify possible diagnoses for the individual. The largest number of screenings was administered in March; as suspected, the most significant number of positive screenings was also in March. There was an average of 2.4 positive screenings per month. Of the 16 positive screenings, 4 were males, 10 were females, and 2 were transgender females. The individuals who received positive screenings were also ranked on a risk report for recidivism ranging from low to very high. (Note: The screening of "recidivism" is based on the CARS program. Data from Woodlake further reported screening ranges from low, moderate, high, and very high risk.) Comparing positive screenings, more individuals who received diagnoses were ranked as moderate to low risk (n = 9) than high to very high risk (n = 7).

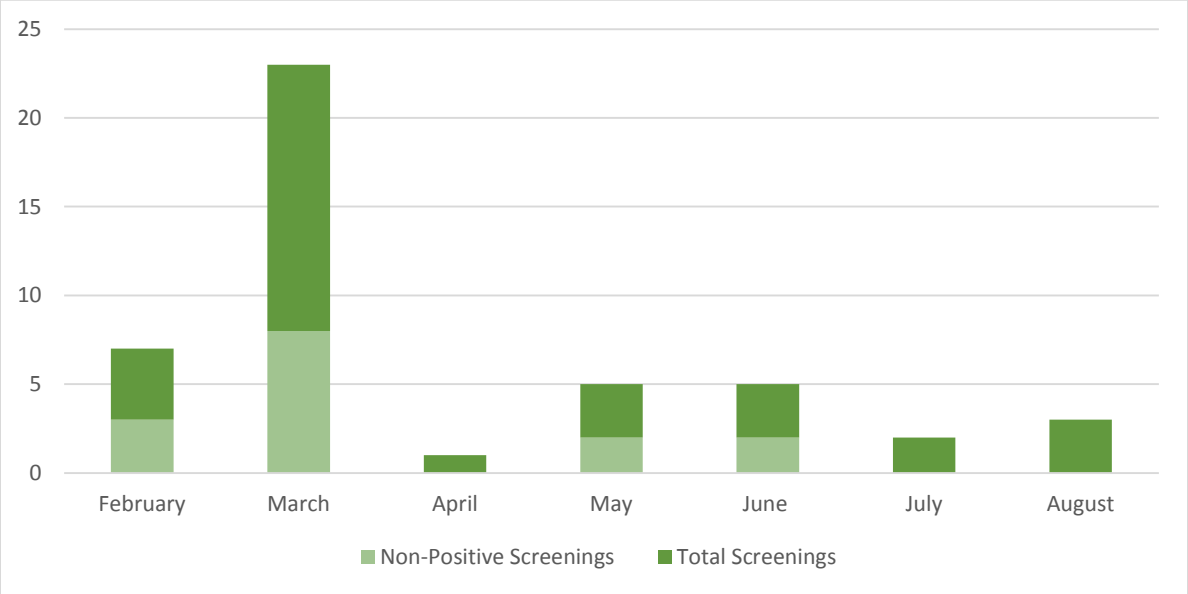


Non-Positive Screenings

Several screenings did not result in a positive identification of a particular psychological disorder, 48% (n = 15). Over 92% of these were males (n = 14), with only one female. There was an average of about two non-positive screenings per month.

Significantly, again, the CARS offers three possible results, including an indicator that a person needs to be evaluated further or an assessment is needed; whether a person has a high, moderate, or low risk for recidivism; and a listing of potential providers or referral sources. As such, among those with non-positive screenings for psychological disorders, nine were considered high risk for recidivism, and six were considered moderate risk but concurrently were not favorable for any identifiable psychological disorders. This suggests persons may not score positive for a particular psychological disorder but may score positive for recidivism risk.

Lastly, the CARS manual and instructions do not designate criteria or metrics for reasons or justifications that a person would be negative for a potential psychological disorder but conversely positive for a recidivism risk. This peculiarity must be recognized and further evaluated as CARS progresses with future implementations.



Recommendations for Future Use

Data Capture

The program design phase of this project did not develop a robust data collection plan, and as a result, this evaluation could not achieve several program objectives. This is a partial listing of the missing kinds of data:

1. The number of Operating While Intoxicated (OWI) cases on each docket.
2. The disposition of each OWI case on each docket.
3. The date each OWI case was continued to if the case was continued.
4. The date of the next hearing in each OWI case on each docket if the case was reset for a different type of hearing.
5. The number of times a prosecutor withdrew a plea offer because the defendant refused to participate in screening before tendering a guilty plea.
6. The number of times a judge rejected a plea agreement because the defendant refused to submit to a screening before tendering a guilty plea.

Probation is a privilege and not a right. A plea agreement is between the prosecuting attorney, defense attorney, and defendant. The defendant agrees to tender a guilty plea to one or more charges of violating one or more criminal offenses, and the attorneys agree to ask the judge to issue a particular sentence. The judge is not required to accept the plea agreement. If the judge rejects the plea agreement, the state and defense may conduct a trial, the defendant can tender a guilty plea, and the state and defense can conduct a sentencing hearing. After receiving the evidence and arguments, the judge can render a sentence.

There is no recorded instance of a prosecutor withdrawing a plea agreement because the defendant refused to participate in screening before pleading guilty. Similarly, there is no recorded instance of a judge rejecting a plea agreement because the defendant refused to participate in screening before pleading guilty. However, the record does indicate a dramatic reduction in the number of screenings during the program's life. This suggests the prosecutors and judges did not require the defendants to participate in the screenings. However, that conclusion remains speculative without knowing the number of OWI cases on each docket and their dispositions. It is possible that there were simply fewer OWI cases on the dockets in the months after February and March

2022. However, this author concludes that the waning support for the screening at the sentencing program is the more likely explanation for the dramatic reduction in screenings after March.

Acceptance by Judges

For the screening at sentencing to be successful, a few factors or gaps need to be considered. Results suggest that judges were not committed to the screening at the sentencing program; however, no facts or data support this deduction. Furthermore, without judges valuing the screening, judges will obviously not recommend or implement it. With the acceptance of judges, the evaluation will become significant.

Acceptance by Defense Attorneys

The current literature and the present study have not evaluated defense attorneys' opinions about the implementation of the CARS screening. To be successful, the CARS screening also needs acceptance from the defense attorney(s) and, similarly, the judges. Like judges, the defense attorney is not a clinician and cannot recommend treatment or intervention for their client. Nevertheless, the acceptance or lack of CARS by those in the criminal justice system, specifically from judges or defense attorneys, can significantly affect the efficacy of the system and the public opinion surrounding it.

Acceptance and Recognition as a Tool by District Attorneys and Assistant District Attorneys

The acceptance of the CARS screening, as stated, is required for its success by multiple court officers. The acceptance and recognition by district attorneys and assistant district attorneys are not presently known through publically-available data or published opinions. To be effective, the CARS system must be accepted by judges, Defense Attorneys, District Attorneys, and Assistant District Attorneys. Educational outreach efforts to these officers of the Court may be beneficial in gaining acceptance and must be considered a priority if CARS is later implemented on a larger scale.

Development of Criteria Guidelines for Identification of CARS "Consumer"

Lastly, CARS needs to be consistently related to the implementation, guidance, and treatment of those charged with impaired driving. If CARS is administered solely based on the discretion of the judge(s) or defense attorney(s), potential bias will most probably

occur. Based upon the present study, results suggest that judges use the CARS system more often in rural courts than in district or city courts. However, admittedly, this observation is limited to the present study. A declarative assumption that CARS screenings are more apt to be used in rural than district or city courts must be based on further studies and observations.

Improve Mandatory Utilization of CARS Program Across all Defendants

The CARS system was created to screen OWI offenders for symptoms or characteristics of other mental health disorders to aid judicial decisions. Positive results mean that the individual presents or engages in behaviors of the disorders named and should seek an assessment or testing from a professional. Furthermore, the CARS system uses the individuals' zip code and provides referrals to treatment programs, hospitals, halfway houses, and even correlating transportation options.

Consideration of Numerical Values Needed for Statistical Evaluation of Programmatic Components with Later Implementation

The following numerical values, whether estimated or real number, will be needed for later programmatic evaluations if the program is re-implemented:

- Number of defendants within each court system every week, the total number
- Number of defendants within each court system every week, defendants with attorneys
- Number of defendants within each court system every week, defendants without attorneys
- Estimated goal (%) of defendants that will be screened within the CARS system
- Before implementation, the projected number (%) of defendants that will be tested positive
- Before implementation, the projected number (%) of defendants that will be tested negative
- Any estimated allowance for referrals to formalized treatment programs (%)

Summary and Conclusions

Implementation Successful

The CARS program was initiated and utilized within court systems across three parishes from approximately March 2022 to October 2022. It was implemented across all court systems in the identified catchment area at various levels.

Defense Attorneys Hesitant to Accept CARS System

Repeatedly, defense attorneys were hesitant to accept the CARS system within the Court and through *ex parte* communication outside the Court. Their primary reasons for non-acceptance included the following: non-consistent use, bias towards males, bias towards individuals with attorneys, and needing to be sure why and how it may be used.

Judges Lack Consistent Use across Court Locations

Caution must be used when evaluating the frequency across the Court system, including City, District, and Regional courts. Across the system, it is not accurate to assume that 20 cases were consistently heard across all systems across the system. Instead, different Court systems may process a significantly different number of cases, with District courts hearing 15-20 cases per month and other Courts (i.e., Kaplan) hearing only 2-3 cases per month. Data is not available to obtain a percentage of time that each Court system used the CARS system, but rather only raw counts are available. Considering the raw number and assuming that smaller population parishes hear fewer cases (i.e., Vermilion and Acadia Parishes), data initially suggest that rural areas used the CARS system more frequently than Lafayette City or District courts.

Males Disproportionately Required to Use CARS System, but Variance May be Due to Simple Disproportionate Percentage of Males as Defendants

It is common knowledge and demonstrated in past research that males tend to be riskier drivers. In the current period, 58% of tested participants were males. Generally, across all defendants in traffic courts, based strictly on observation, there are more males than females. Prospectively, this higher number for males may be strictly based on not a bias but relatively proportionate to the number of male defendants in traffic court.

System Must Account for Defendants with Transgender Features

CARS documentation and a literature review do not contain any information on how the CARS screening may or may not be biased for individuals with transgender identification. It is recommended that future research and initiatives account for potential biases in screening selection and similar results from screening.

CARS System High Interest Initially (February – March 2022) but Interest Quickly Faded (April to August 2022)

With any new fad, music genre, or food product, there is an initial high interest, and then as time fades, so does interest. As an anecdotal example, a child may repeatedly play with a toy after getting it for Christmas, but the child has lost interest in it by New Year's Day. In this circumstance, Judges used the CARS system 15 times in March, but from May to August 2022, Judges only used it an average of 2 times per month. While data is not available to evaluate, compare, and contrast the number of DUI/DWI offenses across these months, it may be assumed that these numbers were relatively consistent, suggesting that interest faded across time, not simply the number of heard cases by Judges. Whether this lack of interest stemmed from a lack of identified purpose by the Judges or hesitancy but judges to implement due to feedback from defense attorneys must be critically evaluated.

Wide Variety of Disorders Identified through CARS System

Using the present system, 16 individual disorders were identified, with the primary disordering encompassing Alcohol Use Disorder, Major Depression, Generalized Anxiety Disorder, and Panic Disorder. Concurrently, alcohol is most often abused by individuals with these disorders to manage or circumvent emotions, feelings, and lack of adjustment skills. This is important because results did not simply reveal the presence of just Alcohol Use Disorder and Substance Abuse Disorder. Furthermore, this is indicative that most individuals who drive while impaired has comorbidities. As such, recommendations to "stop drinking" or the use of the test to monitor drug and alcohol use will not be sufficient. Treatment recommendations must account for multiple diagnoses beyond those limited to substance use and abuse.

When Administered about 50% of Screenings Resulted in Positive Results

About 15% of individuals have some mental disorder within the average population. However, with the present scenario, approximately 3x this rate of disorders was identified. This suggests that individuals with OWI are not simply individuals that "made an honest mistake" but instead, they are individuals with potential, severe mental health difficulties or problems. Hypothetically, these individuals may have a high rate of repeat and aversive driving behaviors without identification and subsequent treatment.

Recommend Additional Pilot Testing, but Standardization and Protocols Must be Established before Implementation

The current program may be permanently terminated or canceled without additional pilot testing due to limited acceptance by Judges, prosecutors, and Defense Attorneys, alongside limited implementation within the present pilot programmatic timeline. The program may possibly facilitate its primary purpose, namely reducing repeat recidivism for OWI offenders. Additionally, as a secondary and essential feature, individuals may be prompted to receive needed treatment, which in turn will coincidently reduce their likelihood of driving drunk or impaired. However, it would not be recommended that the program be implemented without established standardization and protocols. Previously within the present narrative, recommendations have been offered. It is suggested that these recommendations be followed alongside others if additional pilot programs occur in the future

Appendix 1: Literature Review

1. Cambridge Health Alliance. (n.d.). Computerized Assessment and Referral System: User Manual for CARS-5. http://www.carstrainingcenter.org/wp-content/uploads/2020/04/CARS-5-User-Manual-macOS-Edition.pdf
2. Nelson, S. E., LaRaja, A., Juviler, J., and Williams, P. M. (2021). Evaluating the Computerized Assessment and Referral System (CARS) Screener: Sensitivity and Specificity as a Screening Tool for Mental Health Disorders among DUI Offenders [Abstract]. *Substance use & Misuse,* 56 (12), 1785-1796. https://doi.org/10.1080/10826084.2021.1954024
3. Responsibility.org. (n.d.). *CARS—Screening and Assessment Tool for DUI Offender Population.* Retrieved on September 27, 2022, from https://www.responsibility.org/end-drunk-driving/initiatives/cars-dui-assessment-project/#:~:text=CARS%20is%20a%20standardized%20mental,both%20urban%20and%20rural%20locales.
4. Wolf, S. (n.d.). *Computerized Assessment and Referral System (CARS): Screening and Assessment of Co-occurring Disorders* [PowerPoint slides]. Retrieved on September 27, 2022, from file:///C:/Users/SS%20LSU/Downloads/screening_assesments_of_co-occuring_disorders%20(4).pdf
5. Cambridge Health Alliance. (2019). *Revolutionizing DUI Assessment* [Infographic]. Retrieved on September 27, 2022, from https://ladsc.starchapter.com/images/articles/CARS_infographic__2019_.pdf
6. Stodola, M. (n.d.). *Winning the War Against High-Risk Impaired Driving through Assessment-Driven Supervision* [PowerPoint slides]. Retrieved on September 27, 2022, from https://gato-docs.its.txst.edu/jcr:52c5e1b7-b11b-4dc1-a86c-5fc9f96075c5/Screening%20and%20Assessment%20ppt.pdf

Appendix 2: Discussion of Diagnoses

Alcohol Use Disorder[23] [24]

Alcohol use disorder (alcoholism) is a condition in which an individual cannot control alcohol use or stop use despite the adverse effects. Excessive alcohol use crosses the line into alcohol use disorder when these adverse effects cause distress or impairment in the individual's daily life, including work, school, relationships, or physical health. Symptoms of alcohol use disorder can include developing a tolerance, thus requiring more alcohol to feel the effects, being unable to limit use, poor coordination, memory loss, or even brain damage. Long-term health effects can include heart problems, complications with diabetes, increased risk of cancer, congenital disabilities, and liver disease. The cessation of heavy alcohol use can also result in withdrawal symptoms anywhere from hours to 5 days after, including vomiting, sweating, agitation, hallucinations, and sometimes seizures. Common treatments for alcohol use disorder can include behavioral therapies, medications, and support groups.

Major Depressive Disorder[25] [26]

Major depressive disorder[27] can consist of a loss of interest or pleasure, feelings of hopelessness, insomnia, irritability, etc. Other symptoms can include slowed thinking or movements, headaches, suicidal thoughts, trouble making decisions, lack of energy, and reduced appetite. Depression can affect any age, but the following factors can further increase the risk, including low self-esteem, stressful or traumatic events, having a history of depression in blood relatives, alcohol or drug abuse, and chronic illness. Depression can also present itself differently in different individuals. Some experience depression related to the time of year or available sunlight (seasonal depression), some experience catatonia which affects motor activity, and some experience delusions or hallucinations. Treatment for the major depressive disorder can include medications

[23] Mayo Clinic. (2022). *Alcohol Use Disorder.* Retrieved on September 26, 2022, from https://www.mayoclinic.org/diseases-conditions/alcohol-use-disorder/symptoms-causes/syc-20369243
[24] American Psychiatric Association. (2013). Substance-Related Disorders. In *Diagnostic and statistical manual of mental disorders (*5th ed.). https://doi.org/10.1176/appi.books.9780890425596
[25] Mayo Clinic. (2018). *Depression (major depressive disorder).* Retrieved on September 26, 2022, from://www.mayoclinic.org/diseases-conditions/depression/symptoms-causes/syc-20356007
[26] American Psychiatric Association. (2013). Depressive Disorders. In *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596
[27] The CARS assessment lists major depressive disorder as major depression.

such as SSRIs or SNRIs, but antidepressants should be taken as recommended by their doctor.

Generalized Anxiety Disorder[28] [29]

Almost everyone has or will experience anxiety, whether it's anxiety over a first date, a job interview, or just cooking a new meal. Anxiety or nervousness is normal, especially in stressful situations, and can affect any age. However, generalized anxiety disorder consists of persistent stress, such as overthinking, perceiving situations as more threatening than they are, feeling restless, and indecisiveness. Physical symptoms include fatigue, muscle aches, trembling, sweating, and nausea. Anxiety crosses the threshold to a disorder when all the individual does is worry, affecting work, relationships, or health. Common treatments for generalized anxiety disorder can include psychotherapy, medications, and the development of coping mechanisms and support.

Panic Disorder[30] [31]

Most of the public is familiar with the idea of a panic attack. A panic attack consists of a sudden intense feeling of fear. However, there is no danger or probable cause. Symptoms of panic attacks can encompass feelings of impending doom, loss of control, rapid heart rate, dizziness, feelings of detachment, and shortness of breath. Those who experience frequent and unexpected panic attacks might have panic disorder. For a diagnosis of panic disorder, the attack(s) must be followed by a month or more of consistent worry of another attack. It cannot be caused by another substance or medical/mental health condition. Standard treatment for panic disorder can include psychotherapy, medications, and support groups.

[28] Mayo Clinic. (2017). *Generalized anxiety disorder.* Retrieved on September 26, 2022, from https://www.mayoclinic.org/diseases-conditions/generalized-anxiety-disorder/diagnosis-treatment/drc-20361045
[29] American Psychiatric Association. (2013). Anxiety Disorders. In *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596
[30] Mayo Clinic. (2018). *Panic attacks and panic disorder.* Retrieved on September 26, 2022, from https://www.mayoclinic.org/diseases-conditions/panic-attacks/diagnosis-treatment/drc-20376027
[31] American Psychiatric Association. (2013). Anxiety Disorders. In *Diagnostic and statistical manual of mental disorders* (5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Oppositional Defiant Disorder[32] [33]

The oppositional defiant disorder generally appears during preschool but almost always before the early teens. The child must experience symptoms for at least six months, and can vary in severity. Severity can be mild, where symptoms occur in one setting; moderate, where symptoms occur in two different locations; and severe, where symptoms occur in three or more settings. Symptoms can be emotional or behavioral, such as anger and irritability, argumentative or defiant behaviors, and spitefulness. The oppositional defiant disorder cannot be prevented. However, if the child begins blaming others for their actions, complaining about unreasonable demands, or other disruptive and problematic behaviors, the child and their family can begin treatments like parent training or parent-child interaction therapy.

Social Anxiety Disorder[34] [35]

Feeling nervous in social situations is normal, but with a social anxiety disorder (or social phobia), the individual experiences persistent and significant anxiety regarding social situations that affect their daily life, work, and relationships. This can include embarrassment due to the fear of being judged negatively, self-consciousness, fear of interacting with strangers, expecting the worse outcomes, and avoiding places altogether. Medications and therapy are available treatments for social anxiety disorder. Still, it is recommended that the individual become more aware of their condition, such as what situations they feel are more challenging than others, setting realistic goals for socializing, practicing coping strategies, and even preparing for the conversation ahead of time.

[32] Mayo Clinic. (2018). *Oppositional defiant disorder (ODD).* Retrieved on September 26, 2022, from https://www.mayoclinic.org/diseases-conditions/oppositional-defiant-disorder/diagnosis-treatment/drc-20375837
[33] American Psychiatric Association. (2013). Disruptive, Impulse-Control, and Conduct Disorders. In *Diagnostic and statistical manual of mental disorders (*5th ed.). https://doi.org/10.1176/appi.books.9780890425596
[34] Mayo Clinic. (2021). *Social anxiety disorder (social phobia).* Retrieved on September 26, 2022, from https://www.mayoclinic.org/diseases-conditions/social-anxiety-disorder/diagnosis-treatment/drc-20353567
[35] American Psychiatric Association. (2013). Anxiety Disorders. In *Diagnostic and statistical manual of mental disorders (*5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Psychosis[36] [37]

Psychosis is often described as losing touch with reality. The individual may hear or see things that are not real, but psychosis is not a standalone disorder. Psychosis can be a symptom of other mental illnesses, substance use, or traumatic events. Early signs of psychosis can include hanging on to unusual beliefs regardless of what others say, pulling away from peers and family, and trouble thinking clearly. A full psychotic episode or psychosis includes hallucinations (tactile, auditory, or visual) and delusions (beliefs or thoughts that don't make sense to others). Psychosis should be treated as early as possible because the individual cannot control their behavior. Treatment can consist of medications and various therapies.

Attention-Deficit/Hyperactivity Disorder[38] [39]

Attention-deficit/hyperactivity disorder can lead to difficulties with attention, impulsive behavior, work or school performance, and unstable relationships. Symptoms can include problem organizing, poor time management and planning, mood swings, excessive restlessness, a hot temper, and difficulties coping with stress. However, some may experience more hyperactive symptoms, and others may experience inattentive symptoms. Due to these attention issues, those with ADHD can struggle in many different settings, such as missing a work deadline, being unpredictable, or forgetting a dinner date. The most common treatment appears to be medications, specifically stimulants. Still, it is also recommended that the individual become more aware of their ADHD and how it affects their daily life.

[36] WebMD. (2021). *Psychosis and Psychotic Episodes.* Retrieved on September 26, 2022, from https://www.webmd.com/schizophrenia/guide/what-is-psychosis

[37] American Psychiatric Association. (2013). Schizophrenia Spectrum and Other Psychotic Disorders. In *Diagnostic and statistical manual of mental disorders (*5th ed.). https://doi.org/10.1176/appi.books.9780890425596

[38] Mayo Clinic. (2019). *Adult attention-deficit/hyperactivity disorder (ADHD).* Retrieved on September 26, 2022, from HTTPS https://www.mayoclinic.org/diseases-conditions/adult-adhd/diagnosis-treatment/drc-20350883

[39] American Psychiatric Association. (2013). Neurodevelopmental Disorders. In *Diagnostic and statistical manual of mental disorders (*5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Conduct Disorder[40] [41]

Conduct disorder can affect children and teens and consists of violent behaviors and problems with rules or authority. Symptoms or behaviors are categorized into four categories: aggression toward people and animals, destructive conduct, deceitfulness, and severe rules violations. These categories include skipping school, stealing, harming animals or people, bullying/fights, vandalism, and arson. Children with other mental health problems (anxiety, ADHD, learning problems), brain damage, experience with a traumatic event(s), or social issues are more likely to develop conduct disorder, and conduct disorder is more common in boys than girls. Treatment may include family therapy, peer or group therapy, cognitive-behavioral therapy, or medications.

Bipolar Disorder[42] [43]

Bipolar disorder causes severe mood swings, which include periods of mania or hypomania and periods of depression. Periods of depression may consist of losing interest, sadness, fatigue, indecisiveness, or hopelessness, and these symptoms can vary in duration and severity. However, during periods of mania or hypomania, an individual may feel abnormally energetic, exaggerated self-confidence, have less need for sleep, and be talkative. Hypomania is a milder form of focus. Periods of hypomania are shorter than mania, and the symptoms are more favorable. Whereas periods of mania last for at least one week, can cause significant impairment, and inhibit decision-making in the individual. Individuals experiencing mania may go on buying sprees, make foolish investments, and take other risks they would not otherwise. Bipolar disorder consists of bipolar I, bipolar II, cyclothymic disorder, and other bipolar-related disorders. The distinctions depend on the duration and severity of the periods of mania or hypomania and depression. Treatment for bipolar is highly recommended even when the individual feels better and can include medications or various therapies.

[40] Johns Hopkins Medicine. (n.d.). *Conduct Disorder.* Retrieved on September 27, 2022, from https://www.hopkinsmedicine.org/health/conditions-and-diseases/conduct-disorder
[41] American Psychiatric Association. (2013). Disruptive, Impulse-Control, and Conduct Disorders. In *Diagnostic and statistical manual of mental disorders (*5th ed.). https://doi.org/10.1176/appi.books.9780890425596
[42] Mayo Clinic. (2021). *Bipolar disorder.* Retrieved on September 27, 2022, from https://www.mayoclinic.org/diseases-conditions/bipolar-disorder/symptoms-causes/syc-20355955
[43] American Psychiatric Association. (2013). Bipolar and Related Disorders. In *Diagnostic and statistical manual of mental disorders (*5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Post-Traumatic Stress Disorder[44] [45]

A traumatic or terrifying experience triggers post-traumatic stress disorder. Traumatic events can include threatened or actual death, serious injury, or sexual violence and may be experienced directly, witnessed in person, have occurred to a close friend or family member or received repeated exposure to traumatic events (first responders, police officers, etc.). Traumatic events may be a car accident, physical abuse, or being threatened with a weapon. PTSD symptoms are categorized into four groups: intrusive memories, avoidance of related stimuli, negative mood and thoughts, and physical and emotional reactions. An individual with PTSD may experience flashbacks and must relive the traumatic event, avoid places that remind them of the event, and experience feelings of hopelessness, detachment, being easily frightened, or trouble sleeping. Individuals with PTSD are often treated with medications and therapies. Medications prescribed can include antidepressants and anti-anxiety, and cognitive or exposure therapies are utilized to help the individual be more aware of their cognitions.

Gambling Disorder[46] [47]

Gambling disorder is the uncontrollable urge or compulsion to gamble despite its adverse effects on their life. Like drugs or alcohol, gambling stimulates the brain's reward system, which can lead to addiction. Signs or symptoms of gambling disorder may include gambling to escape problems, feeling irritable when trying to quit gambling, risking or losing relationships due to gambling, and asking others to help with financial troubles caused by gambling. Treatment for gambling disorder may be complex because most individuals do not think they have a problem, yet a large part of treatment acknowledges their compulsive gambling. Treatments can include behavioral, cognitive behavioral, exposure therapy, and medications like antidepressants or mood stabilizers.

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[44] Mayo Clinic. (2018). *Post-traumatic stress disorder (PTSD).* Retrieved September 27, 2022, from https://www.mayoclinic.org/diseases-conditions/post-traumatic-stress-disorder/symptoms-causes/syc-20355967#:~:text=Post%2Dtraumatic%20stress%20disorder%20(PTSD)%20is%20a%20mental%20health,uncontrollable%20thoughts%20about%20the%20event.

[45] American Psychiatric Association. (2013). Trauma- and Stressor-Related Disorders. In *Diagnostic and statistical manual of mental disorders (*5th ed.). https://doi.org/10.1176/appi.books.9780890425596

[46] Mayo Clinic. (2018). *Compulsive gambling.* Retrieved on September 27, 2022, from https://www.mayoclinic.org/diseases-conditions/compulsive-gambling/symptoms-causes/syc-20355178#:~:text=Compulsive%20gambling%2C%20also%20called%20gambling,something%20of%20even%20greater%20value.

[47] American Psychiatric Association. (2013). Substance-Related and Addictive Disorders. In *Diagnostic and statistical manual of mental disorders (*5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Eating Disorder[48] [49]

Eating disorders are behaviors that restrict or disturb eating and are associated with distressing emotions or thoughts, such as anorexia nervosa or binge eating disorder. Eating disorders can significantly impair psychological health, physical health, and social functioning. With eating disorders often comes a fixation or preoccupation with weight, shape, and the consequences of eating certain foods. Symptoms may include restricted eating, intense fear of gaining weight, fatigue, decaying teeth, and electrolyte imbalances. Treatments for eating disorders can consist of medications and therapy, whether individual, group, or family.

Obsessive-Compulsive Disorder[50] [51]

The obsessive-compulsive disorder consists of persistent and intrusive urges or thoughts (obsessions) that may lead to repetitive acts or behaviors (compulsions). Examples of obsessions can include the need for things to be symmetrical or the fear of contamination, and symptoms often include intense stress or anxiety when the dependence has not been addressed. Examples of compulsions can include counting things repeatedly, following a strict routine, or consistently washing or cleaning. Symptoms of compulsions may involve washing their hands until their skin is raw, counting in specific patterns or phrases, or arranging objects to all face the same way. Cognitive behavioral therapy or exposure and response prevention are common treatments for the obsessive-compulsive disorder to help individuals take control of their symptoms and become more aware of their triggers. Medications like antidepressants are also prescribed to help control their obsessions and compulsions.

[48] National Institute of Mental Health. (2021). *Eating Disorders.* Retrieved on September 27, 2022, from https://www.nimh.nih.gov/health/topics/eating-disorders
[49] American Psychiatric Association. (2013). Feeding and Eating Disorders. In *Diagnostic and statistical manual of mental disorders (*5th ed.). https://doi.org/10.1176/appi.books.9780890425596
[50] Mayo Clinic. (2020). *Obsessive-compulsive disorder (OCD).* Retrieved on September 27, 2022, from https://www.mayoclinic.org/diseases-conditions/obsessive-compulsive-disorder/symptoms-causes/syc-20354432
[51] American Psychiatric Association. (2013). Obsessive-Compulsive and Related Disorders. In *Diagnostic and statistical manual of mental disorders (*5th ed.). https://doi.org/10.1176/appi.books.9780890425596

Intermittent Explosive Disorder[52] [53]

The intermittent explosive disorder consists of sudden and frequent episodes of aggressive behavior. Aggressive behaviors include road rage, temper tantrums, breaking things, fights, increased energy, shouting, and heated arguments. These explosive episodes usually last for less than 30 minutes and occur repeatedly, but there can be weeks or months between episodes. Intermittent explosive disorder can cause problems in relationships, work, school, and even legally. Outbursts can continue for years, although the severity may decrease with age. Treatment includes talk therapy to help identify triggers and how to control or to cope with the aggression. Antidepressants or mood stabilizers are also prescribed for individuals with the intermittent explosive disorder.

Substance Use Disorder[54] [55]

Substance use disorder is the inability to moderate or control drug, alcohol, or medication intake regardless of its adverse effects on the individual's daily life. Substances can include marijuana, hallucinogenics, benzodiazepines, stimulants, or opioids. Symptoms of substance use disorder or drug addiction can include spending excessive money on the substance, taking risks to get the substance that you would not otherwise, building tolerance and needing larger quantities over time, and failing to quit using. Substance use disorder can also affect many aspects of life, such as missing a deadline for work or school, physical or psychological health issues, and neglected appearance/hygiene. Substance use disorder also puts the individual at risk of getting a communicable disease or other health problems, car accidents, and legal issues. Treatment often involves detox or withdrawal therapy, group or family therapy, and long-term follow-ups to prevent relapse.

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[52] Mayo Clinic. (2018). *Intermittent explosive disorder.* Retrieved on September 27, 2022, from https://www.mayoclinic.org/diseases-conditions/intermittent-explosive-disorder/symptoms-causes/syc-20373921#:~:text=Intermittent%20explosive%20disorder%20involves%20repeated,of%20proportion%20to%20the%20situation.

[53] American Psychiatric Association. (2013). Disruptive, Impulse-Control, and Conduct Disorders. In *Diagnostic and statistical manual of mental disorders (*5th ed.). https://doi.org/10.1176/appi.books.9780890425596

[54] Mayo Clinic. (2017). *Drug addiction (substance use disorder).* Retrieved on September 27, 2022, from https://www.mayoclinic.org/diseases-conditions/drug-addiction/diagnosis-treatment/drc-20365113

[55] American Psychiatric Association. (2013). Substance-Related Disorders. In *Diagnostic and statistical manual of mental disorders (*5th ed.). https://doi.org/10.1176/appi.books.9780890425596