

Screening for **Mental Health** Issues among **DUI Offenders**

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Sources of Support

- The Foundation for Advancing Alcohol Responsibility (FAAR) is providing five years of support for the development and testing of *CARS*.
- The National Institute of Alcohol Abuse and Alcoholism provided support for the study of repeat DUI offenders through the grants:
 - *Toward Evidence Based Treatments to Reduce DUI Relapse (R01 AA014710-01A1)*, and
 - *DUI Offending: The Intersection of Criminality and Psychopathology (R03 AA017516)*.

Most Important Disclosure

- Researcher, *NOT* Clinician, Counselor, Doctor
- This means:
 - I can tell you what systematic research tells us about addiction and DUI
 - I can suggest how this research might apply to practice
 - I DO NOT claim that this research should be substituted for your clinical judgment and experiences
 - I might bore you with numbers, but I will be *really really* excited about them

Outline

- Why we need treatment for DUI
 - Mental health and DUI
 - Addiction and Comorbidity
- Importance of and barriers to screening
- Computerized Assessment and Referral System (CARS) Research
 - Screening results
 - First-Offender vs. Second-Offender
 - Self-Administered vs. Interviewer Administered
 - Comorbidity and Outcomes

WHY WE NEED DUI TREATMENT

On Driving

1885: First combustion engine auto

1904: *Quarterly Journal of Inebriety*

"Twenty-five fatal accidents occurring to automobile wagons...in nineteen of these accidents the drivers had used spirits within an hour...of the disaster."

— 76% rate of alcohol-related fatalities

DUI-related Costs

- DUI is the second most common type of crime in the US (FBI, 2014)
- In 2013, 10,076 people died in alcohol-related motor-vehicle accidents in which the driver had a BAC of .08 or higher (NHTSA, 2014)
 - 31% of total motor vehicle fatalities in the US
- Annual economic cost of \$49.8 billion (NHTSA, 2014)

Repeat DUI Offenders

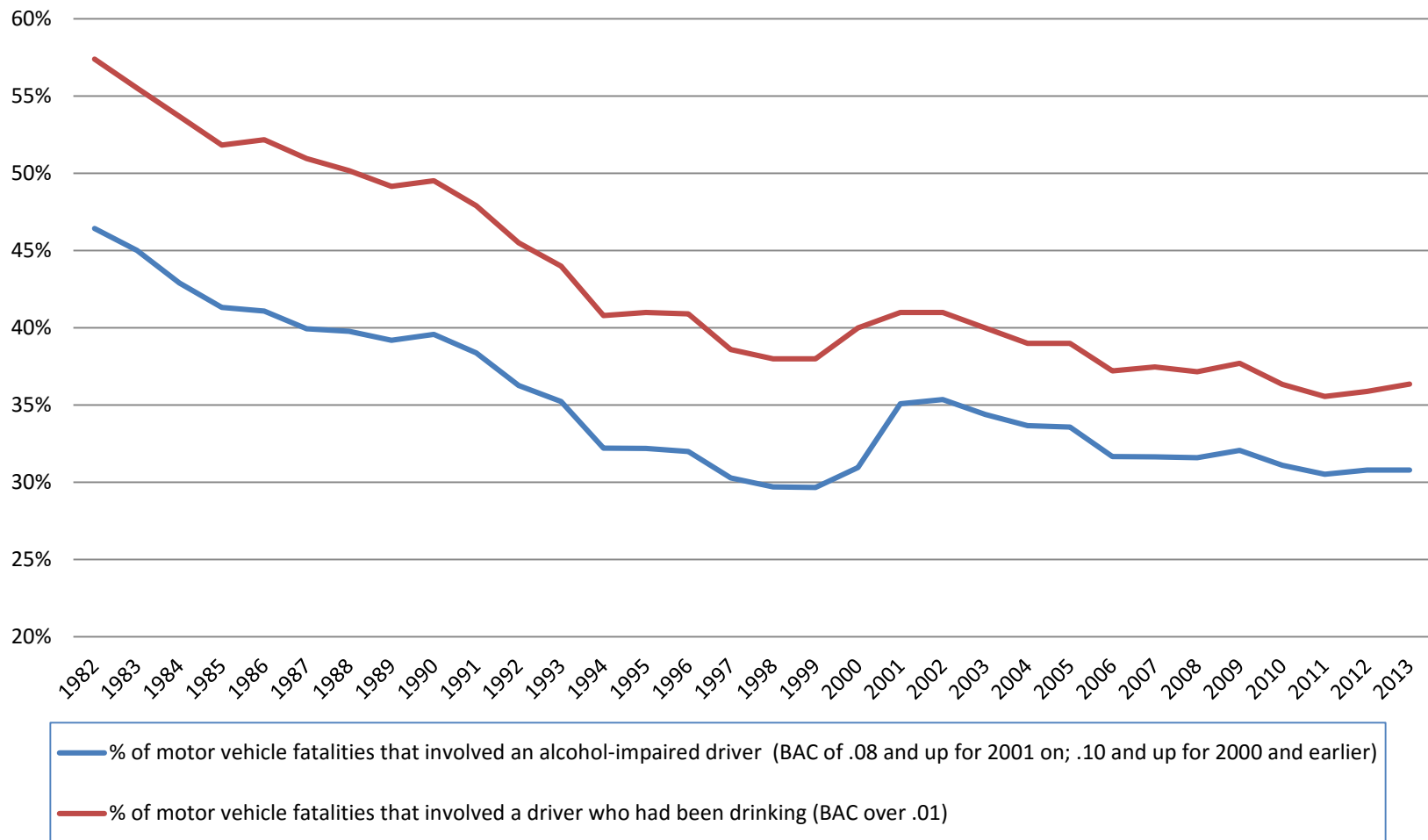
During 2008, the NHTSA reported that re-offenders represent 33% of those who are arrested for DUI (NHTSA, 2008).

Legal Initiatives to Reduce DUI

- Licensing Sanctions
 - Up to 75% continue to drive (Ross & Gonzales, 1988)
- Vehicle Sanctions
- Mandatory Sentencing
- Ignition Interlock
 - Recidivism returns to pre-interlock levels after removal (Elder, Voas, et al., 2011)



Percent of Total Traffic Fatalities that are Alcohol-Related



Repeat DUI Offenders



Treatment Target:

MENTAL HEALTH AND DUI

Alcohol & Other Problems

“Treatment programs focusing exclusively on changing alcohol consumption behavior are not likely to reduce accident risk for some of the offender groups” (p. 443).

Wells-Parker, E., Cosby, P., & Landrum, J. (1986). A Typology for Drinking Driving Offenders: Methods for Classification and Policy Implications. *Accident Analysis and Prevention*, 18(6), 443-453.

Addiction Syndrome Model

- Expressions of addiction are opportunistic and associate with vulnerable hosts
- Behavioral (e.g., gambling disorder) & chemical (e.g., alcoholism) expressions primarily have common bio-psycho-social etiology and shared consequences
- Psychiatric disorder usually precedes addiction, but sometimes emerges after addiction

Shaffer, H. J., LaPlante, D. A., & Nelson, S. E. (2012). *The APA Addiction Syndrome Handbook* (Vol. 1 & 2). Washington, D.C.: American Psychological Association Press.

Addiction Syndrome Model

- Variety of related signs & symptoms reflect an underlying disorder
 - Craving, Tolerance, Withdrawal
- Not all signs & symptoms are present at all times
- Unique & shared components co-occur
- Distinctive temporal progression

Shaffer, H. J., LaPlante, D. A., & Nelson, S. E. (2012). *The APA Addiction Syndrome Handbook* (Vol. 1 & 2). Washington, D.C.: American Psychological Association Press.

Addiction Syndrome

- Variety of related signs & symptoms reflect an underlying disorder
- Not all signs & symptoms are present at all times
 - Diagnostic criteria for substance use disorders require that patients meet a certain number of criteria, not all of them
- Unique & shared components co-occur
- Distinctive temporal progression

Addiction Syndrome

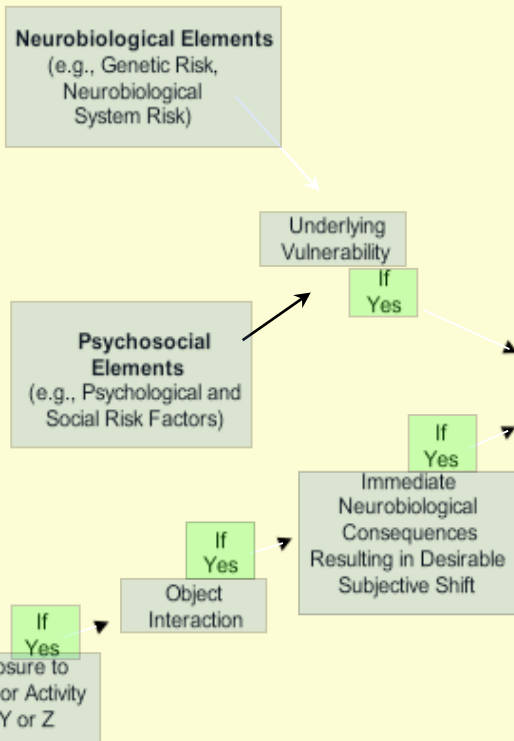
- Variety of related signs & symptoms reflect an underlying disorder
- Not all signs & symptoms are present at all times
- Unique & shared components co-occur
 - Non-specific neurobiological system risks; shared psychosocial risk factors; shared experiences
 - Chasing behavior in gambling; Sepsis in intravenous drug use
- Distinctive temporal progression

Addiction Syndrome

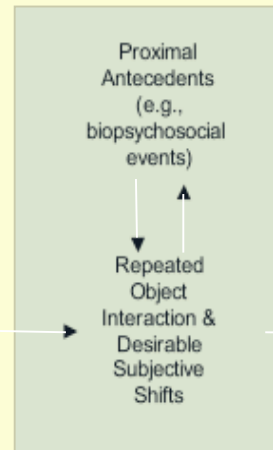
- Variety of related signs & symptoms reflect an underlying disorder
- Not all signs & symptoms are present at all times
- Unique & shared components co-occur
- Distinctive temporal progression
 - Similar etiology; similar relapse rates across addictions

Addiction Syndrome

Distal Antecedents of the Addiction Syndrome



Premorbid Addiction Syndrome



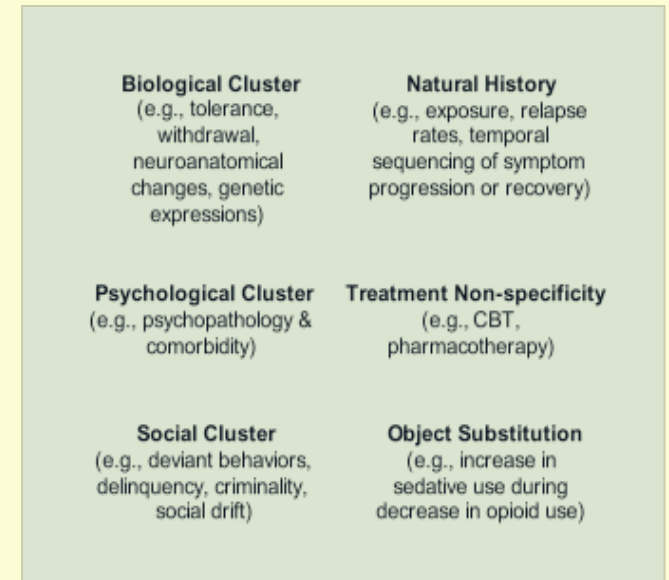
Expressions, Manifestations and Sequelae of Addiction Syndrome

Expression

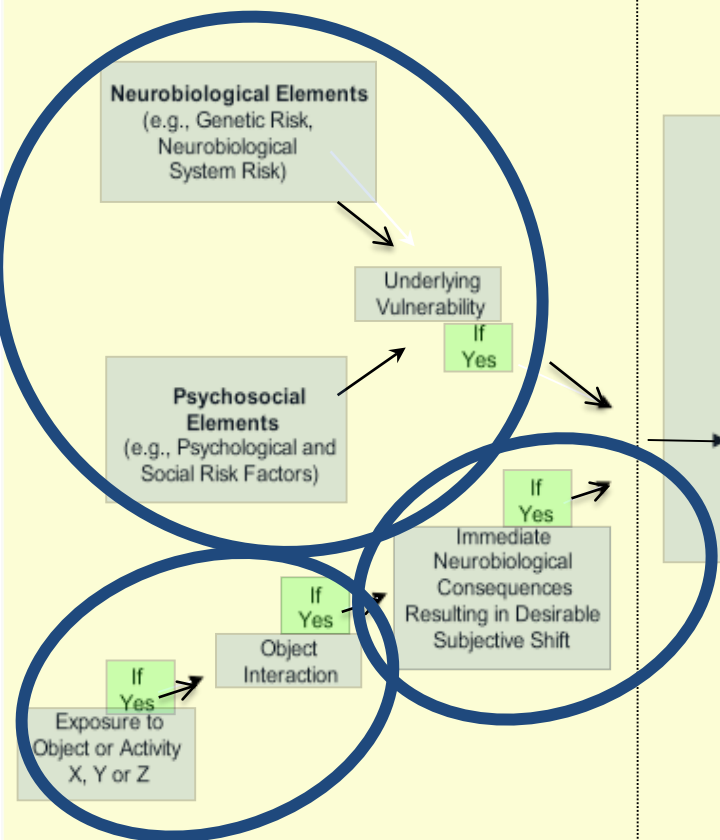
Unique
Manifestations
& Sequelae



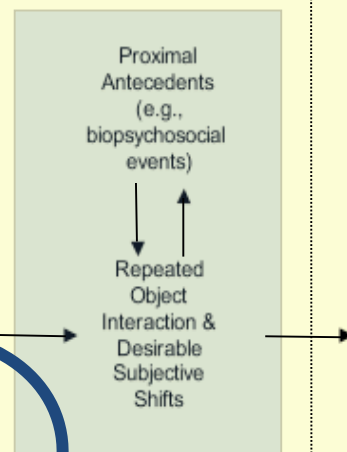
Shared
Manifestations
& Sequelae



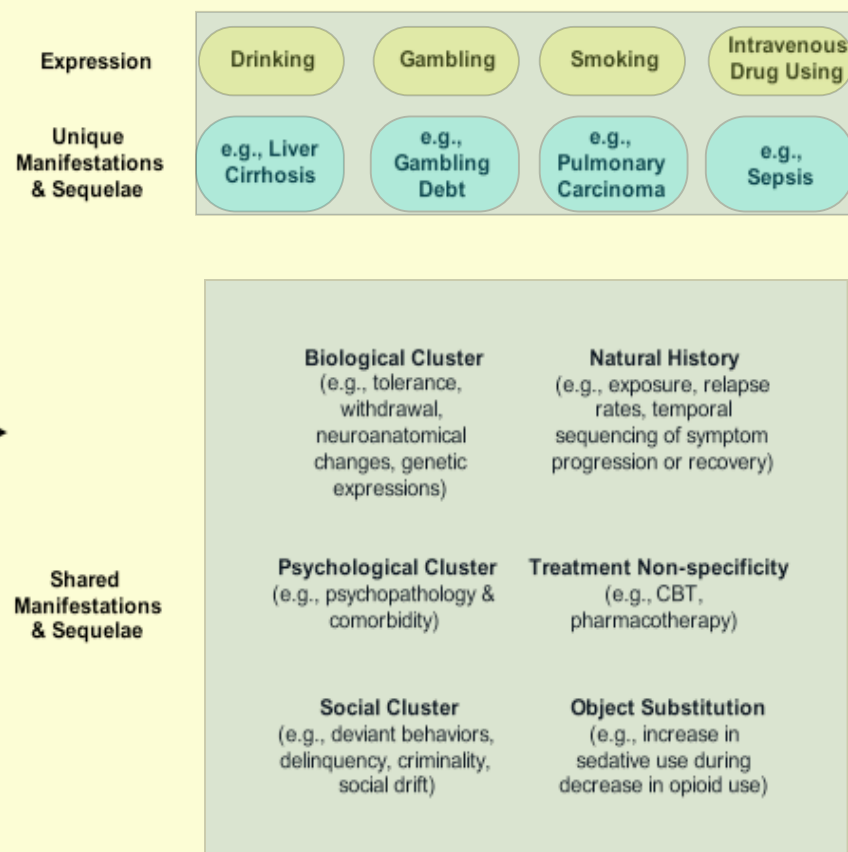
Distal Antecedents of the Addiction Syndrome



Premorbid Addiction Syndrome



Expressions, Manifestations and Sequelae of Addiction Syndrome



Distal Antecedents of the Addiction Syndrome

Premorbid Addiction Syndrome

Expressions, Manifestations and Sequelae of Addiction Syndrome

Neurobiological Elements
(e.g., Genetic Risk, Neurobiological System Risk)

Underlying Vulnerability

If Yes

Psychosocial Elements
(e.g., Psychological and Social Risk Factors)

If Yes

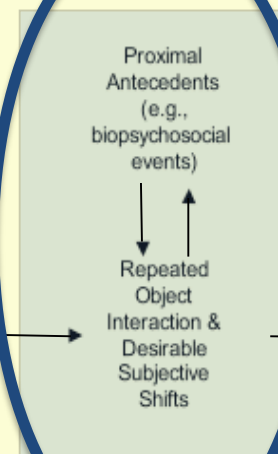
Immediate Neurobiological Consequences Resulting in Desirable Subjective Shift

If Yes

Object Interaction

If Yes

Exposure to Object or Activity X, Y or Z



Expression

Unique Manifestations & Sequelae

Shared Manifestations & Sequelae

Drinking

Gambling

Smoking

Intravenous Drug Using

e.g., Liver Cirrhosis

e.g., Gambling Debt

e.g., Pulmonary Carcinoma

e.g., Sepsis

Biological Cluster
(e.g., tolerance, withdrawal, neuroanatomical changes, genetic expressions)

Natural History
(e.g., exposure, relapse rates, temporal sequencing of symptom progression or recovery)

Psychological Cluster
(e.g., psychopathology & comorbidity)

Treatment Non-specificity
(e.g., CBT, pharmacotherapy)

Social Cluster
(e.g., deviant behaviors, delinquency, criminality, social drift)




Object Substitution
(e.g., increase in sedative use during decrease in opioid use)

Illustrating the Addiction Syndrome




An Animated Etiologic Model of How Different Expressions of Addiction Emerge

Element Domains

Biogenetic Elements

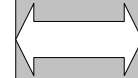
-  Neurophysical Reward Systems
-  Neurochemical Action
-  Genetics

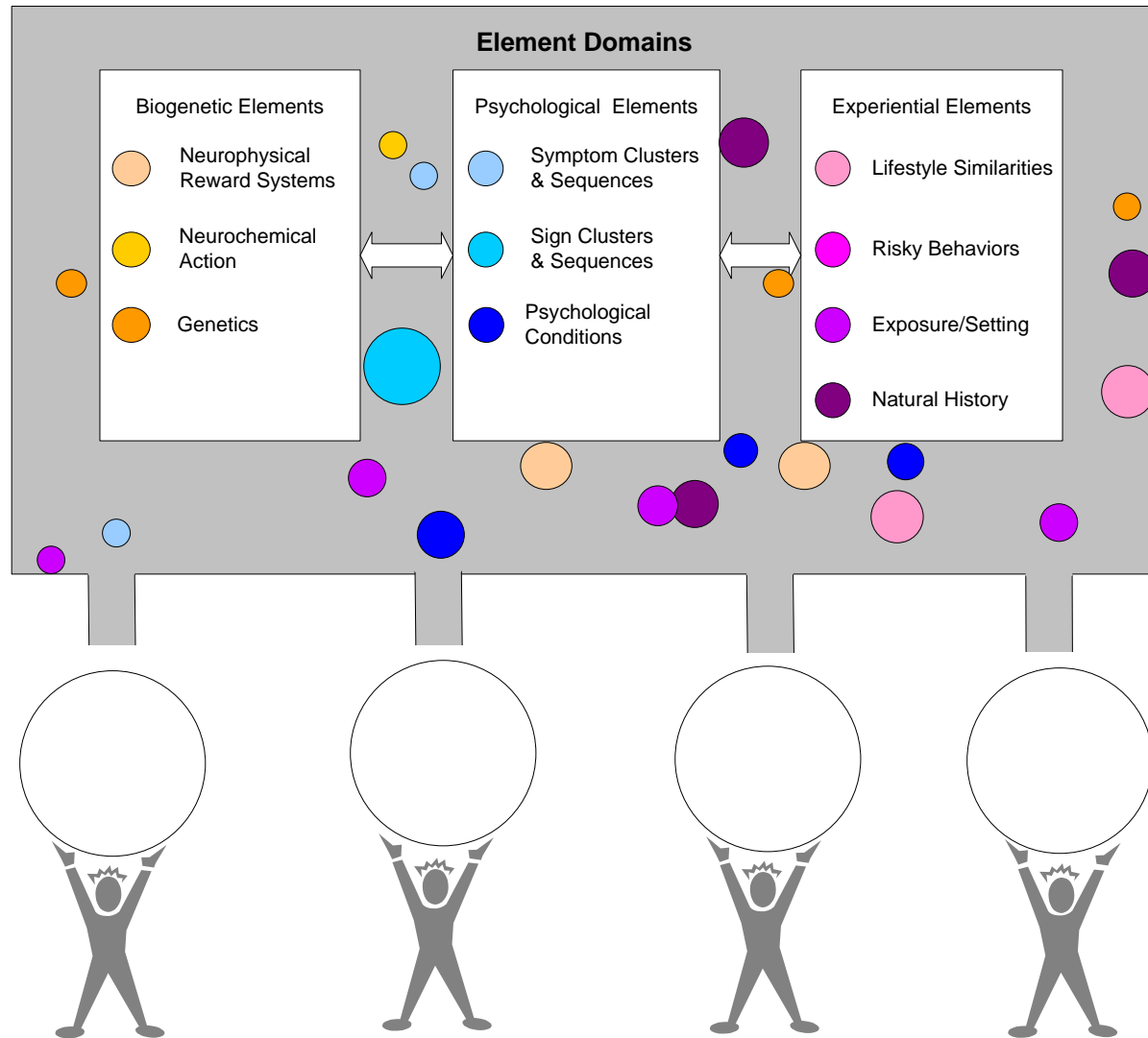
Psychological Elements

-  Symptom Clusters & Sequences
-  Sign Clusters & Sequences
-  Psychological Conditions (e.g., cognitive deficiencies)

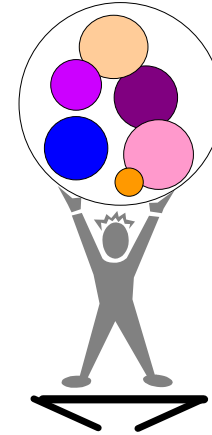
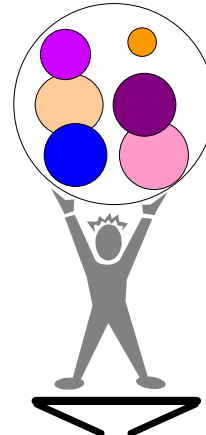
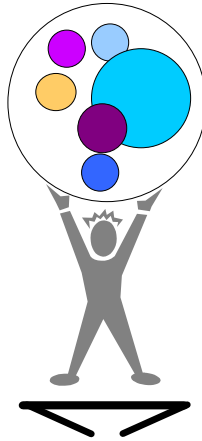
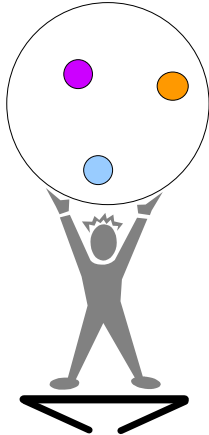
Experiential Elements

-  Lifestyle Similarities
-  Risky Behaviors
-  Exposure/Setting (e.g., macro to micro)
-  Natural History





Underlying
Predispositions



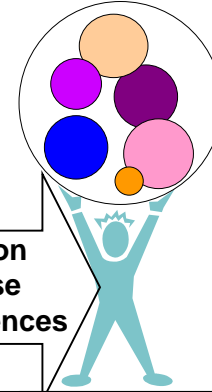
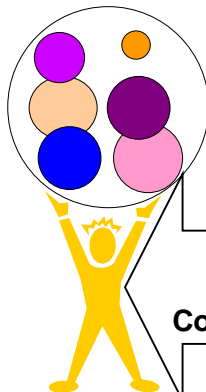
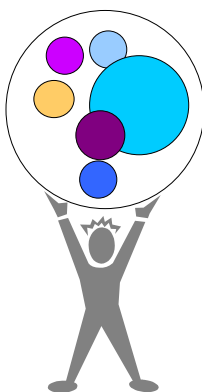
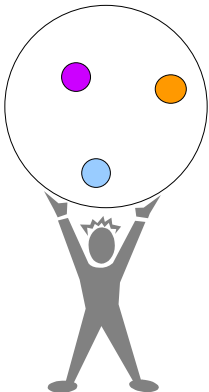
Exposure



No Object
Opportunity



Subjective
Shift
Threshold



Expression

No Addiction

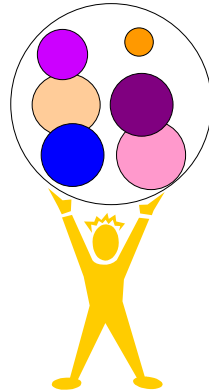
No Addiction

Unique
Consequences

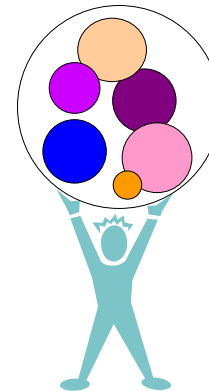
Common
Adverse
Consequences

Unique
Consequences

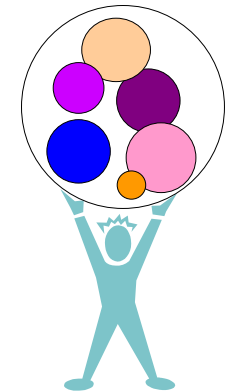
Underlying
Predispositions



Alcohol Use
Disorder

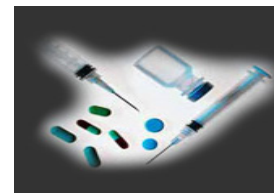


Disordered
Gambling



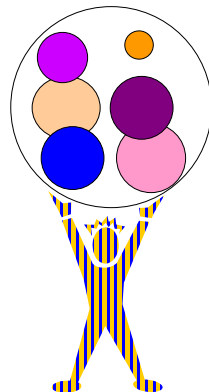
Disordered
Gambling

Exposure

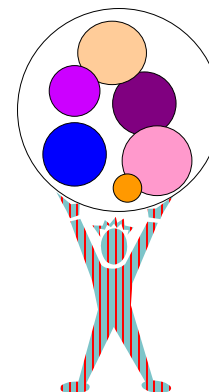


Treatment
*Self or Other
Directed*

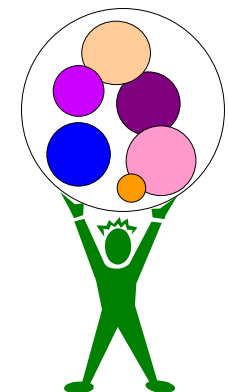
Expression



Alcohol Use
Disorder &
Cocaine Use
Disorder



Disordered
Gambling &
Substance Use
Disorder

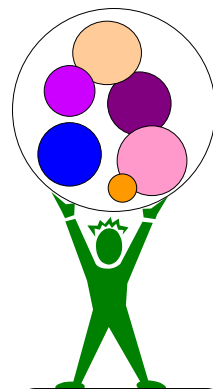


Exercising
and
Eating

Underlying
Predispositions

Trigger
Exposure

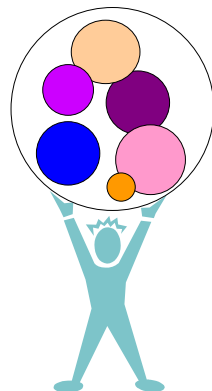
Expression



Exercising
and
Eating



Relapse

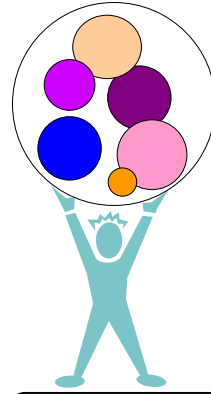


Disordered
Gambling

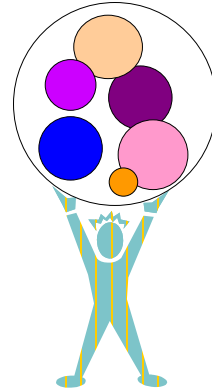
Underlying
Predispositions

Exposure

Expression



Disordered
Gambling

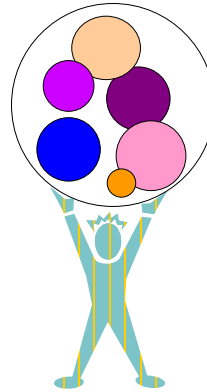


Disordered
Gambling &
Alcohol Use
Disorder

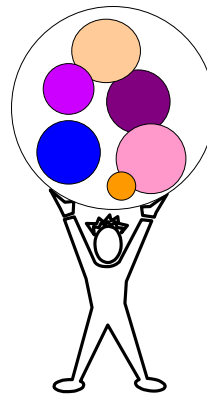
Underlying
Predispositions

Exposure

Expression



Disordered
Gambling &
Alcohol Use
Disorder



Remission

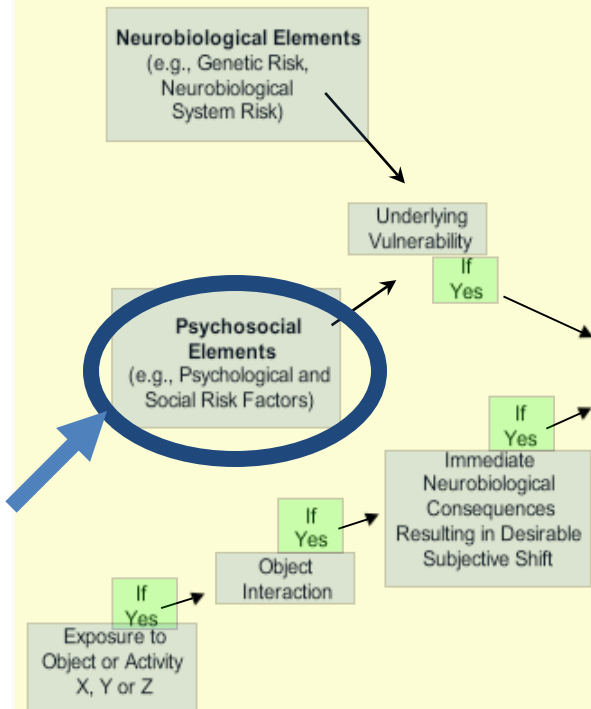
Syndrome Model Implications for Recovery

- Addiction is recursive
 - Treating underlying vulnerabilities can alter people's risk for continued and new addictions
 - However, the consequences of addiction are often risk factors for new or different expressions of addiction
- Some people can and do recover from addiction without treatment.
- Some risk factors for addiction are static (they can't be changed) but others are dynamic. People can change some of their risks for addiction.

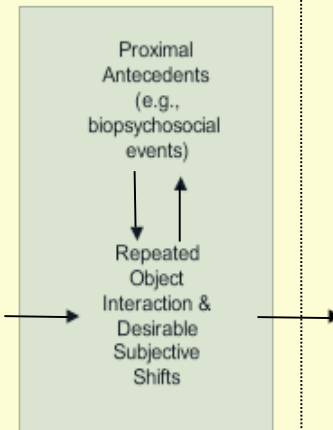
Implications for Treatment

- Treating addiction as a syndrome suggests that it is multidimensional
 - Addiction will not respond favorably to a single treatment modality
 - Addiction will not respond favorably to treatments that ignore underlying problems - just say “no”

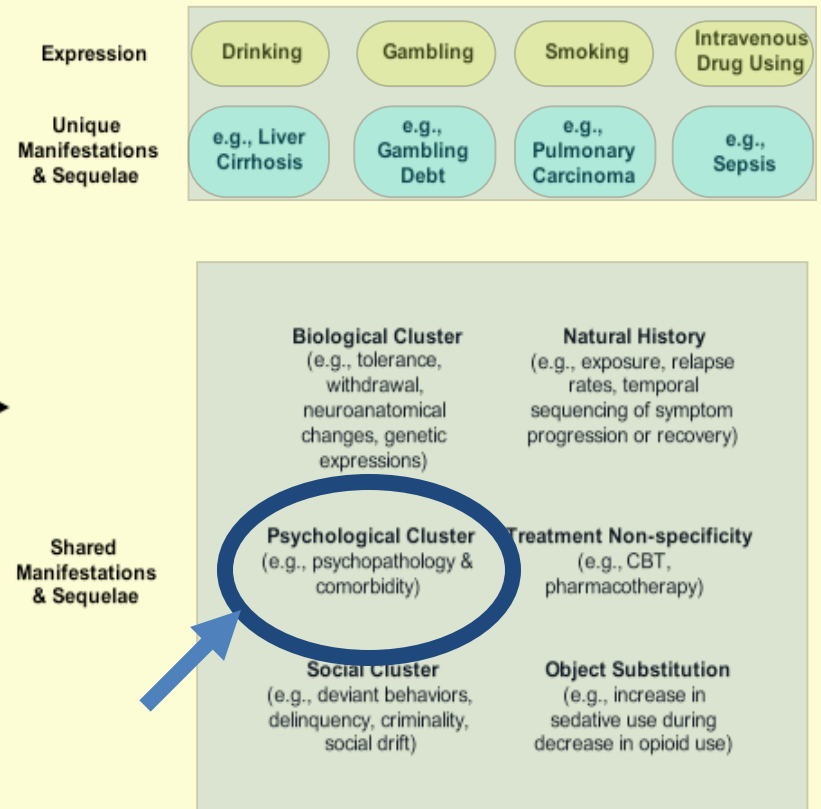
Distal Antecedents of the Addiction Syndrome



Premorbid Addiction Syndrome



Expressions, Manifestations and Sequelae of Addiction Syndrome



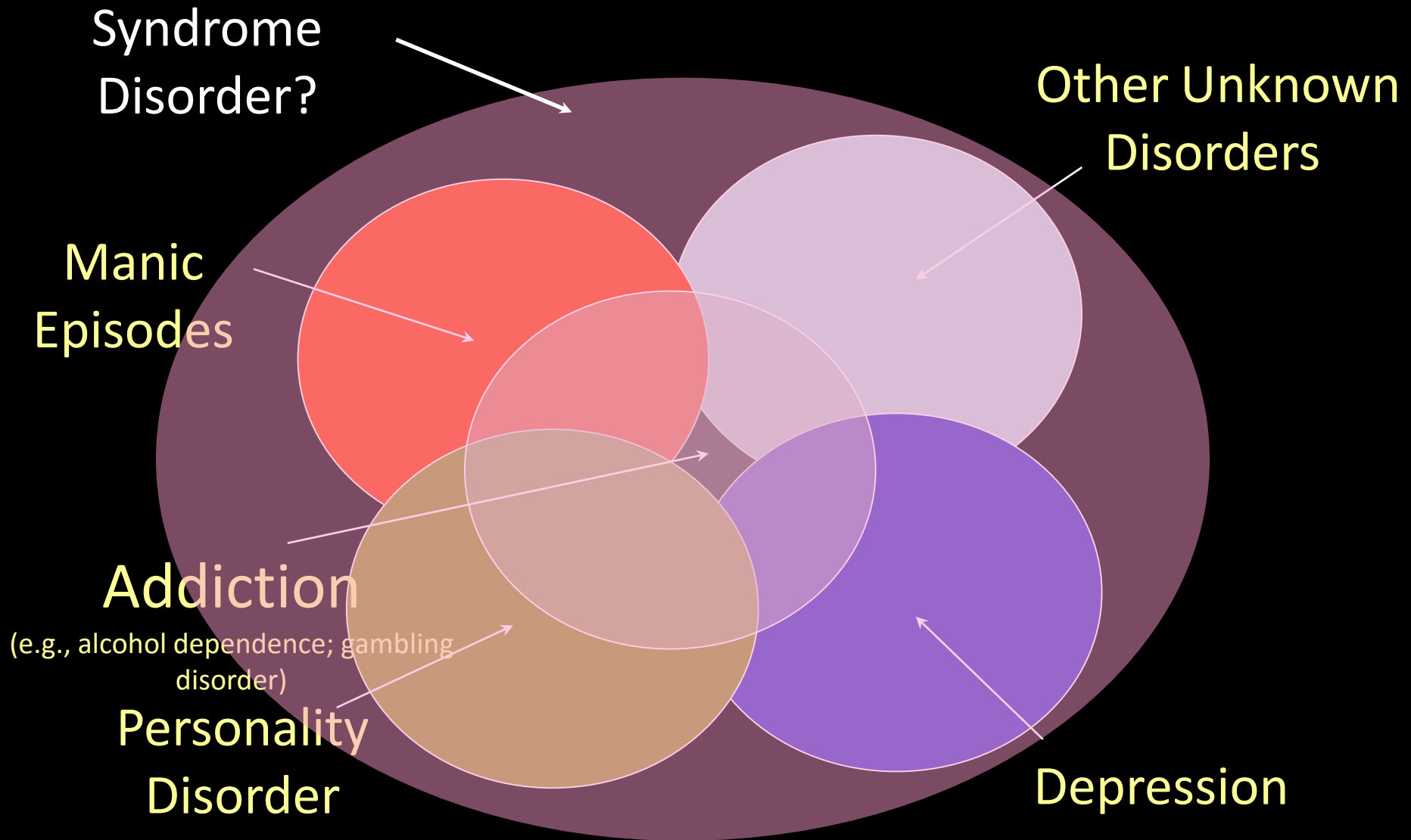
Caveat:

Association Does Not Equal Causation

Correlate Does Not Equal Determinant



When is Addiction Addiction?

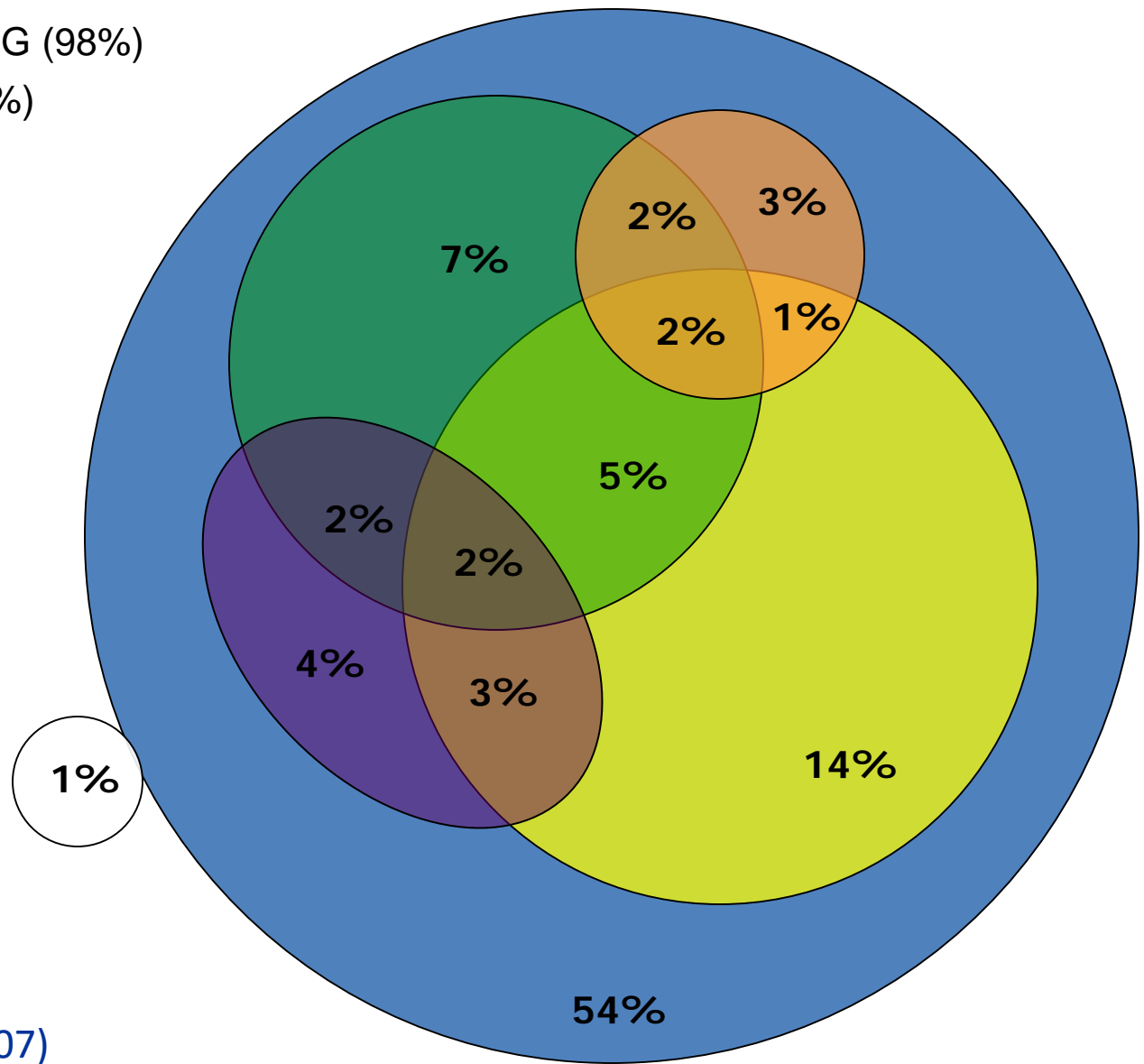


WHEN IS DUI, DUI?

- AA/AD, DA/DD, ND, &/or PG (98%)
- CD &/or ADD &/or IED (27%)
- PTSD &/or GAD (20%)
- MDD &/or DYS (12%)
- Bipolar (8%)
- No Disorders (1%)

Lifetime Prevalence

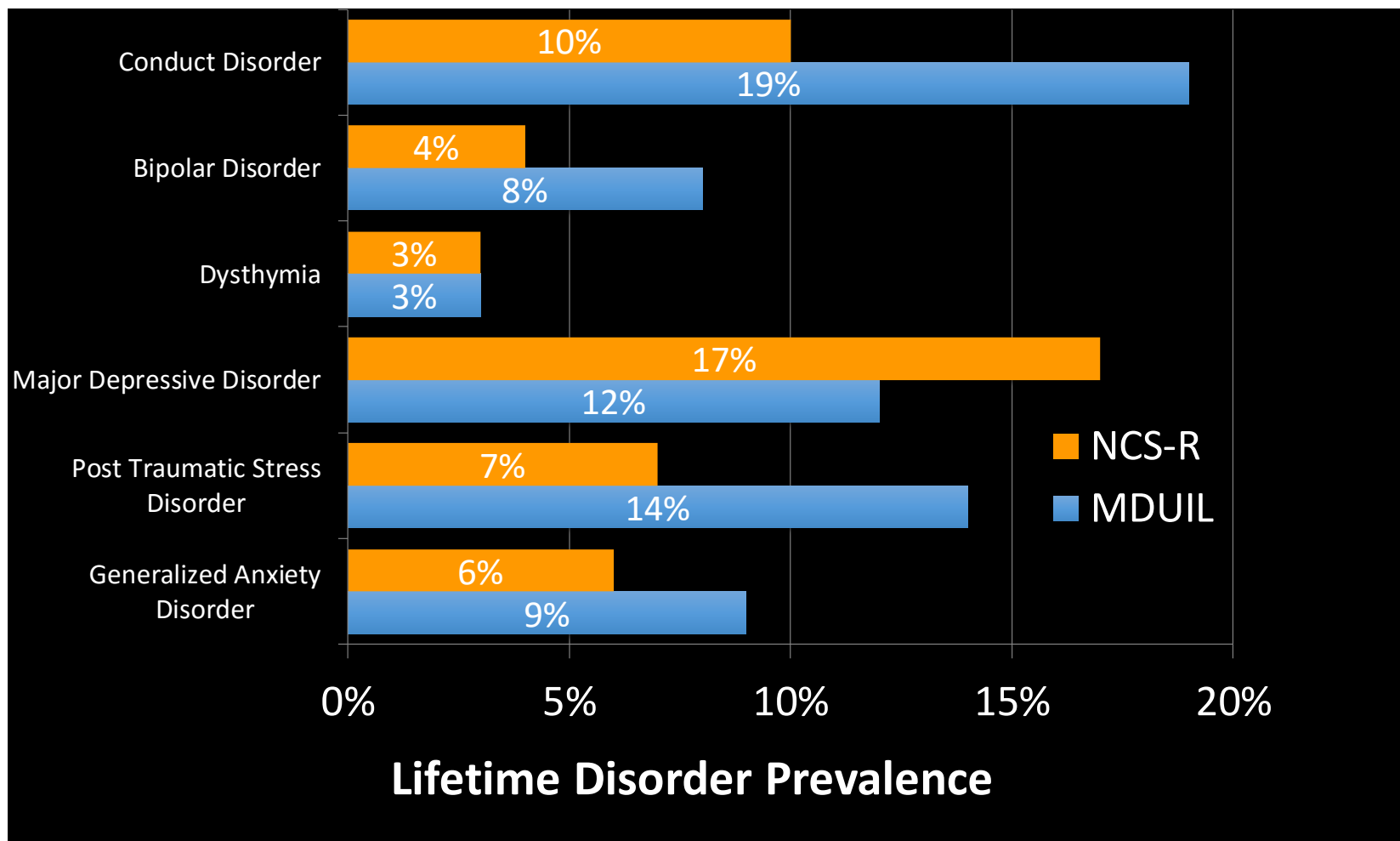
% represents given
combination of disorders



(Shaffer, Nelson, LaPlante,
LaBrie, Albanese, & Caro, 2007)

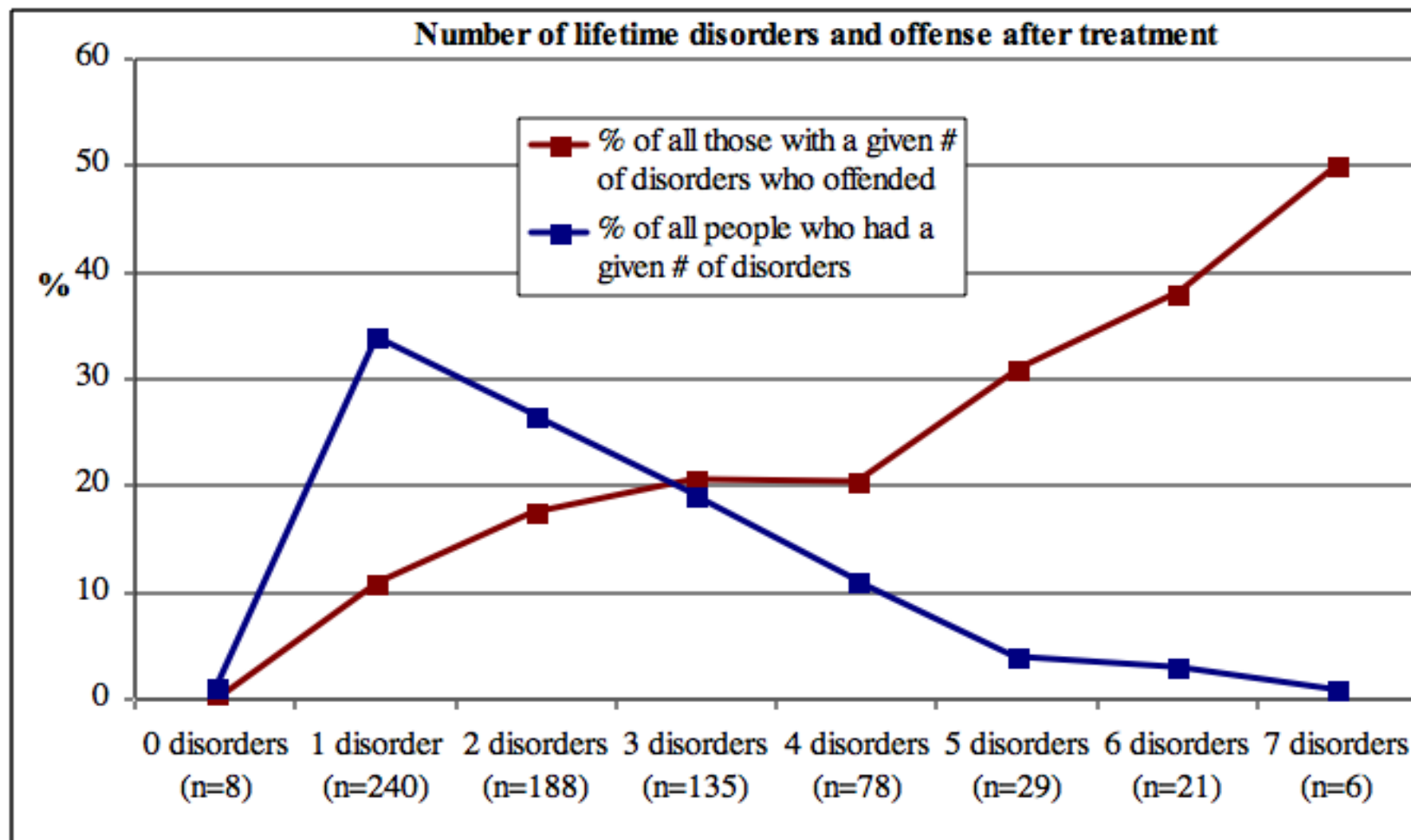
AA/AD = Alcohol abuse or dependence; DA/DD=Drug abuse or dependence; ND=Nicotine dependence;
PG=Pathological gambling; CD=Conduct disorder; ADD=Attention deficit disorder; IED=Intermittent explosive
disorder; PTSD=Post-traumatic stress disorder; GAD=Generalized anxiety disorder; MDD=Major depression;
DYS=Dysthymia; Bipolar=Bipolar I or II.

Lifetime Prevalence of Psychiatric Disorder among MDUIL Sample & NCS-R (Kessler et al., 2005)

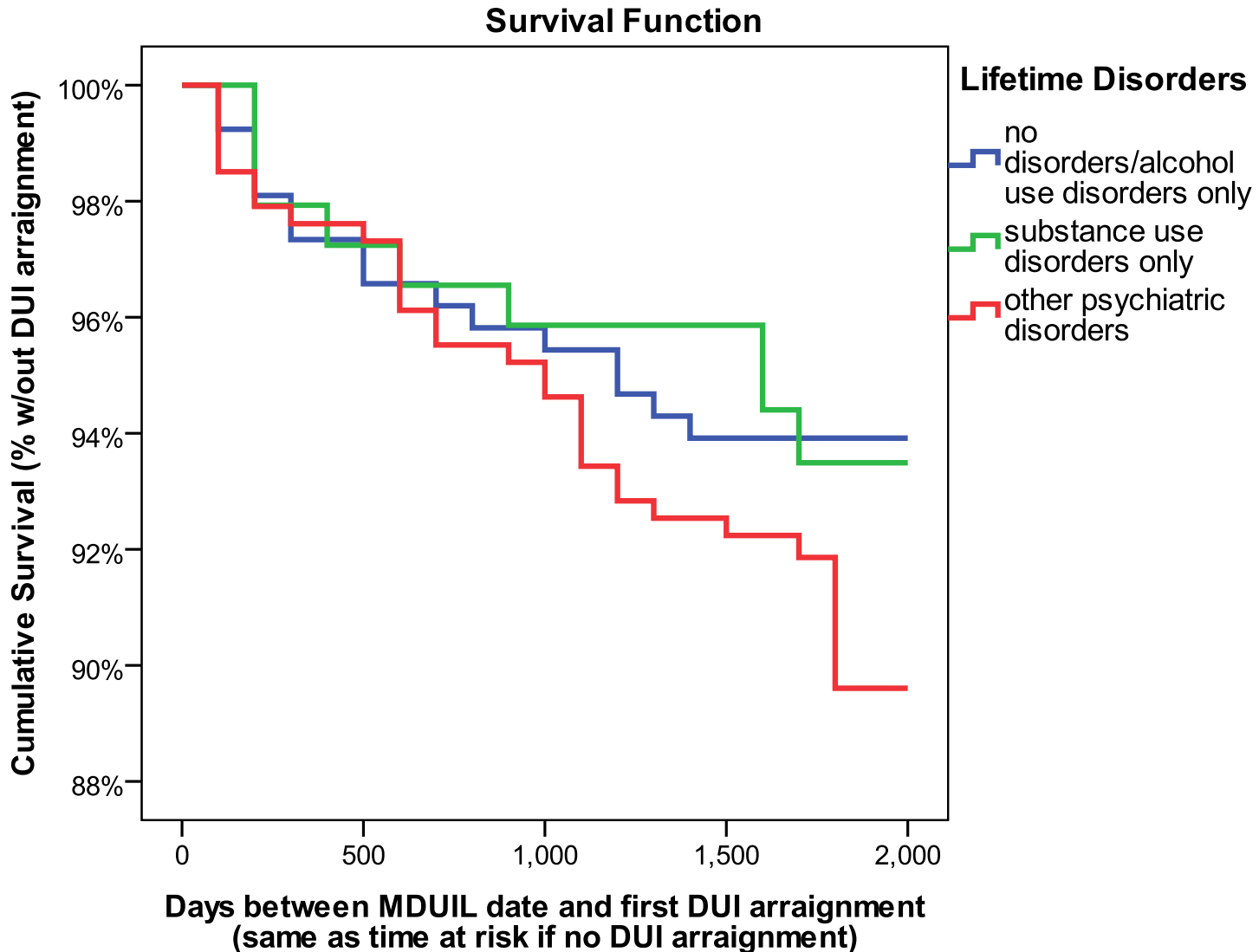


IMPORTANCE OF AND BARRIERS TO SCREENING

Comorbidity & DUI Recidivism



Comorbidity & DUI Recidivism



Barriers to Mental Health Screening

- Awareness
- Training
- Time / Resources
- Lack of Immediate Output

DUI treatment providers don't always have the training or resources to identify and address mental health issues in their clients.

A Comparison of Alcohol Treatment Program Diagnoses and CIDI Mental Health Diagnoses

Diagnoses obtained through CIDI (composite international diagnostic interview) compared to diagnoses obtained at any time during mandatory alcohol treatment among 233 repeat DUI offenders.

- Bipolar Disorder
 - Provider Estimate: 0.9%
 - CIDI: 6.0%
- Depression
 - Provider Estimate: 10.3%
 - CIDI: 24.5%
- OCD
 - Provider Estimate: 0.0%
 - CIDI: 2.6%
- Drug Use Disorder
 - Provider Estimate: 27.0%
 - CIDI: 10.7%

The Need for Screening in DUI Populations

- Psychiatric comorbidity in DUI populations
- Mental health issues linked to recidivism
- Screening for mental health issues beyond alcohol-use disorders is rare within DUI treatment programs
- DUI treatment providers rarely have the training or experience to identify mental health issues among their clients





FOUNDATION FOR
ADVANCING ALCOHOL
RESPONSIBILITY.ORG



HARVARD
SCHOOL OF PUBLIC HEALTH



CHA Division on
Addiction
Cambridge Health Alliance



HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL

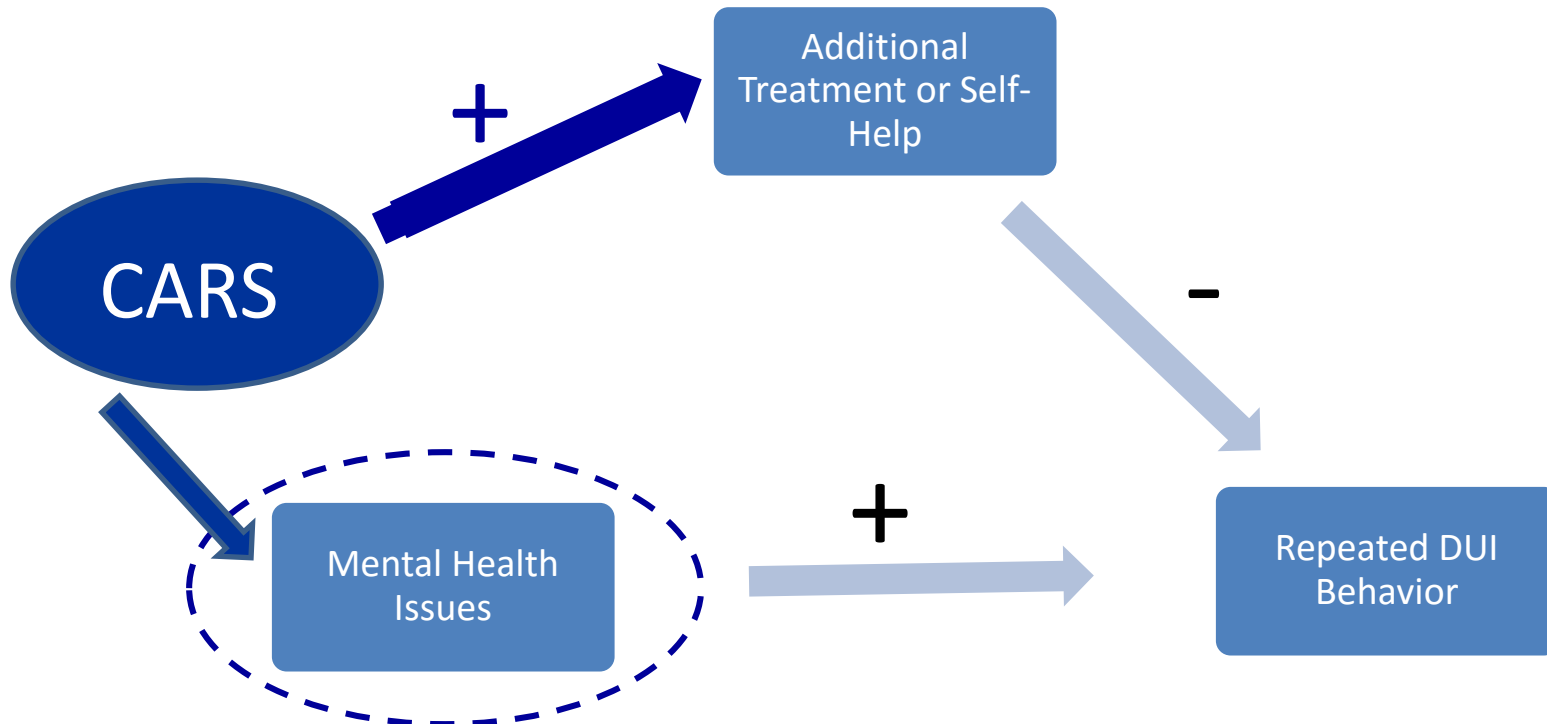


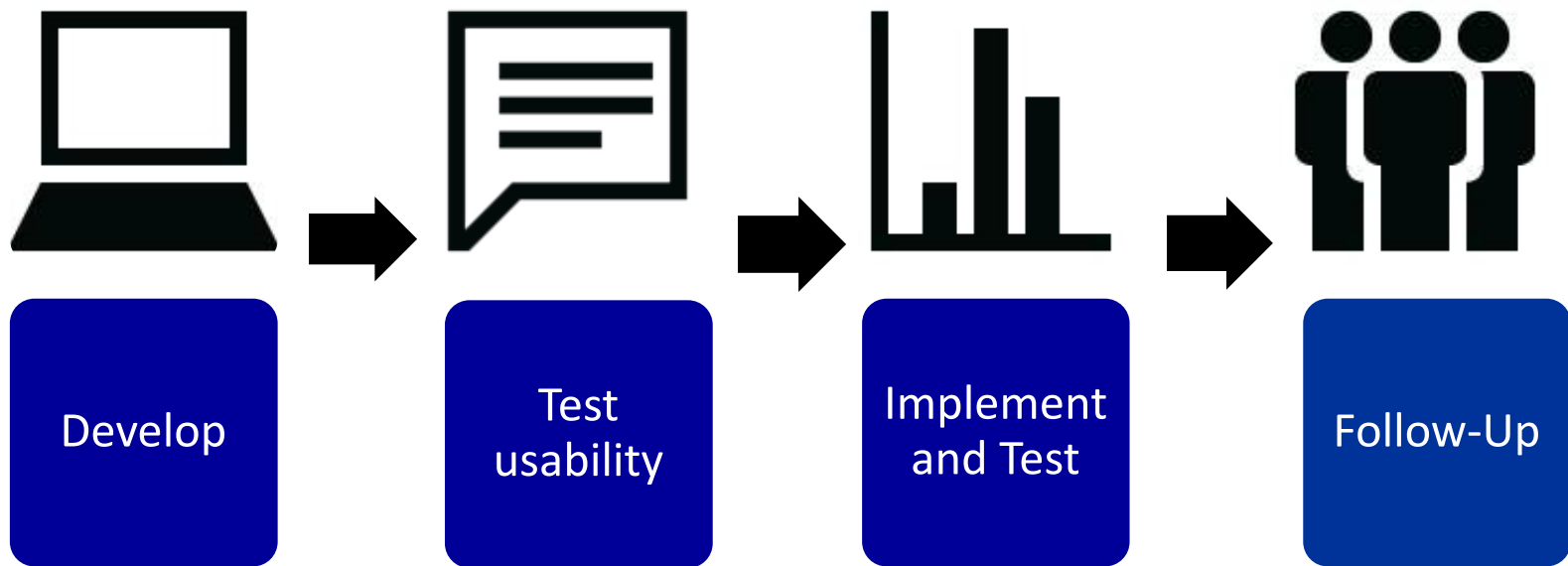
CARS: The Computerized Assessment and Referral System

- Standardized mental health assessment adapted from the Composite International Diagnostic Interview (CIDI: Kessler et al., 2004)
- Diagnostic report generator that gives providers and clients:
 - Immediate diagnostic information for DSM-IV Axis I disorders
 - Geographically and individually targeted referrals

What Is the purpose of CARS?

- Identify mental health issues that influence DUI.
- Identification of these issues is a first step toward intervening to reduce their impact on DUI and improve offenders' chance of rehabilitation.





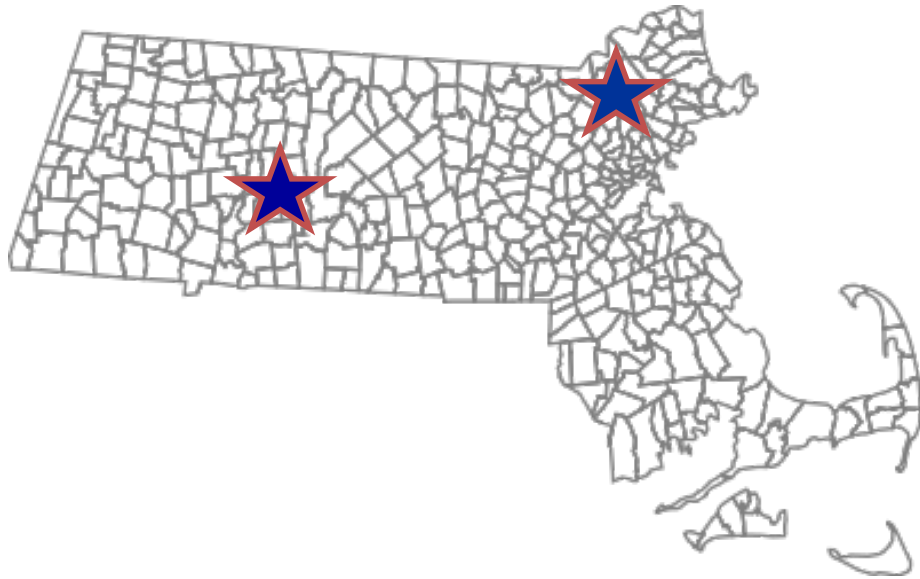
CARS Research



Implementation Trial



Implement
and Test

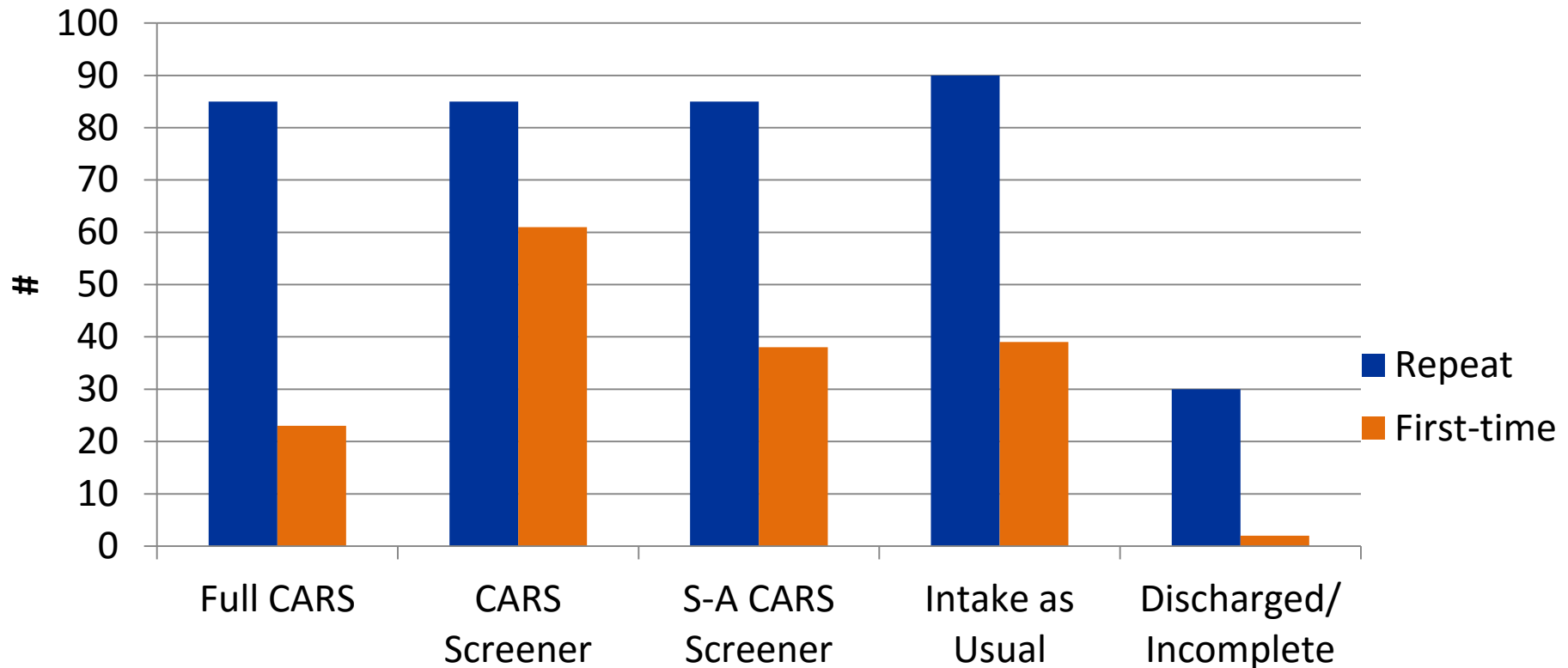


Implementation Trial

- First offender and repeat offender programs
- Randomization w/in program
- CARS Screener vs. Comprehensive CARS
- Self-administered CARS Screener vs. Interviewer-Administered CARS Screener
- Follow-up Outcomes (6 months+)

Implementation Trial Findings

- **375** repeat DUI offenders enrolled (**51.6%** of all)
- **163** first-time DUI offenders enrolled (**71.2%** of all)



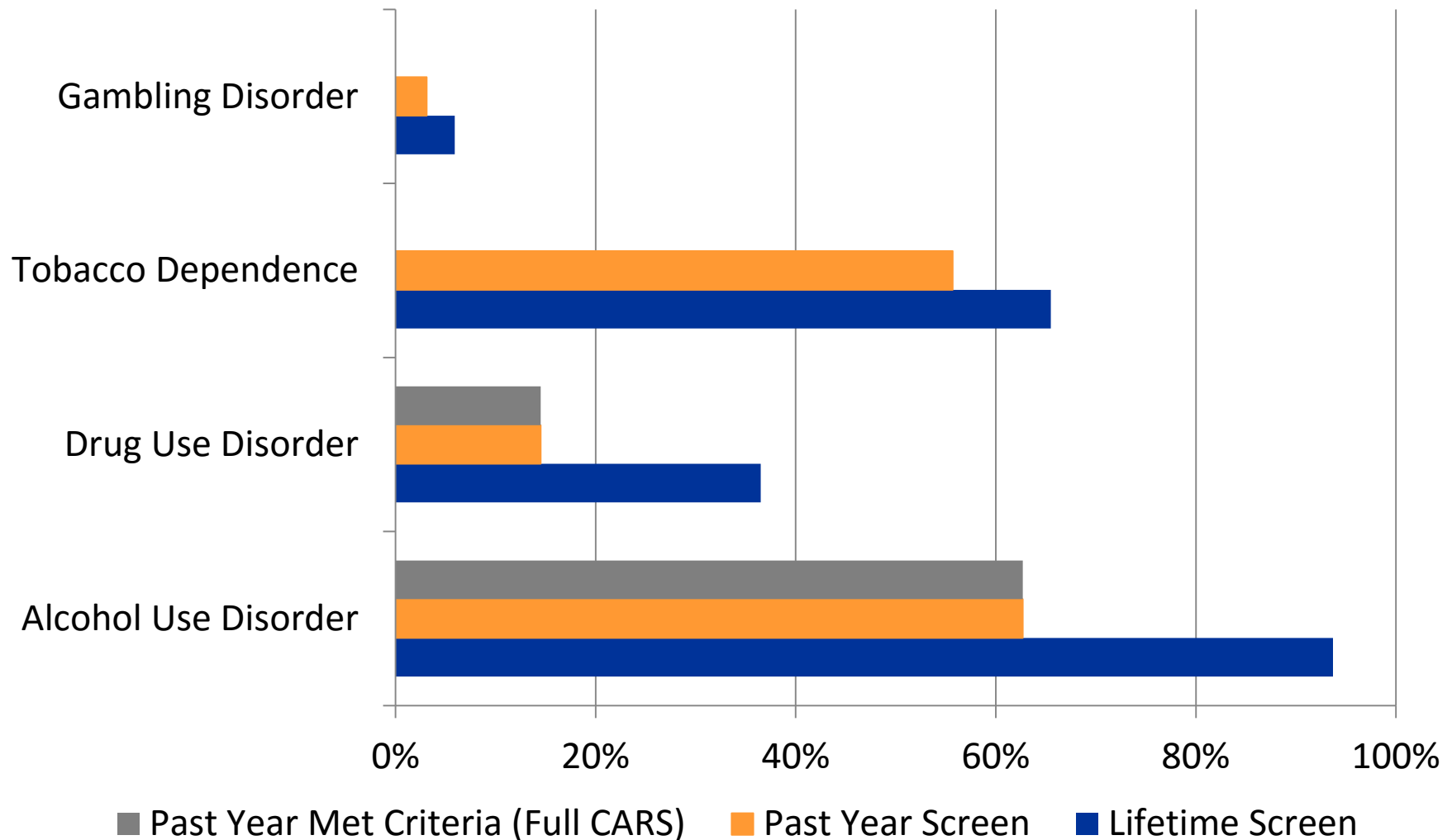
- **CARS** data available for **255** repeat offenders and **122** first-time offenders

Implementation Trial:

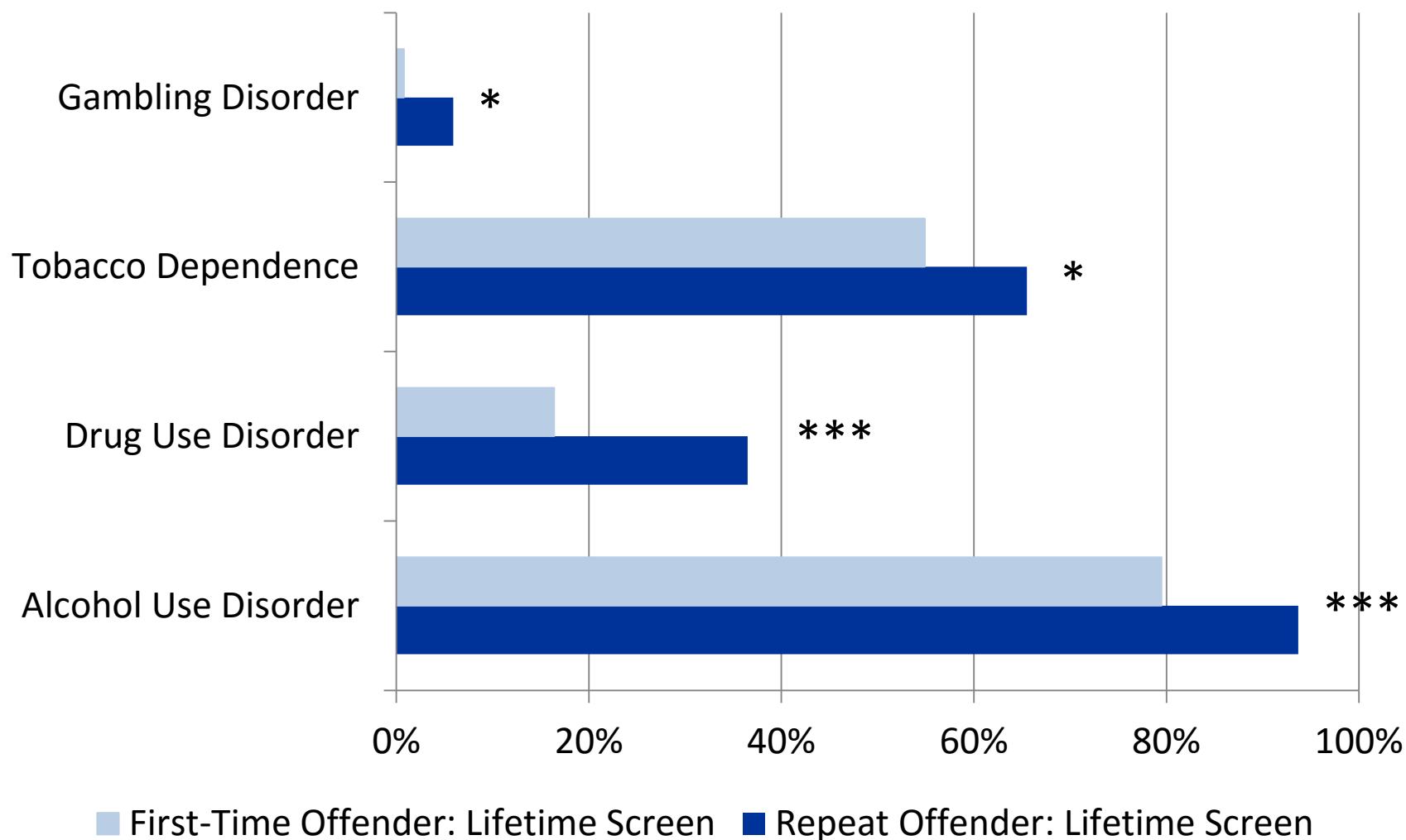
Screeners Findings

- Positive screen indicates that further assessment is required, NOT that the respondent qualifies for the disorder.
- Full CARS provides diagnostic information

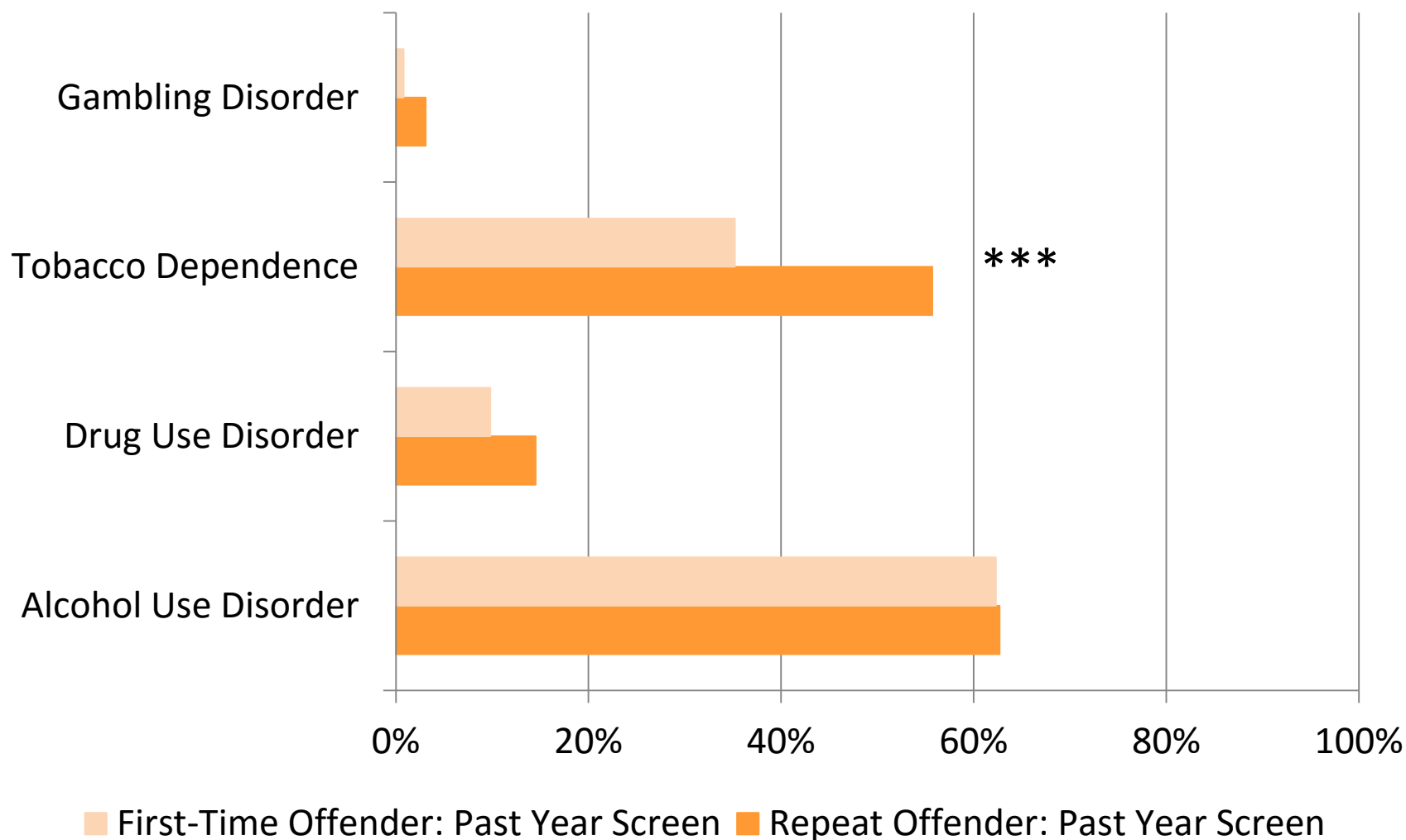
Implementation Trial: Repeat Offender Screener & Full CARS Findings



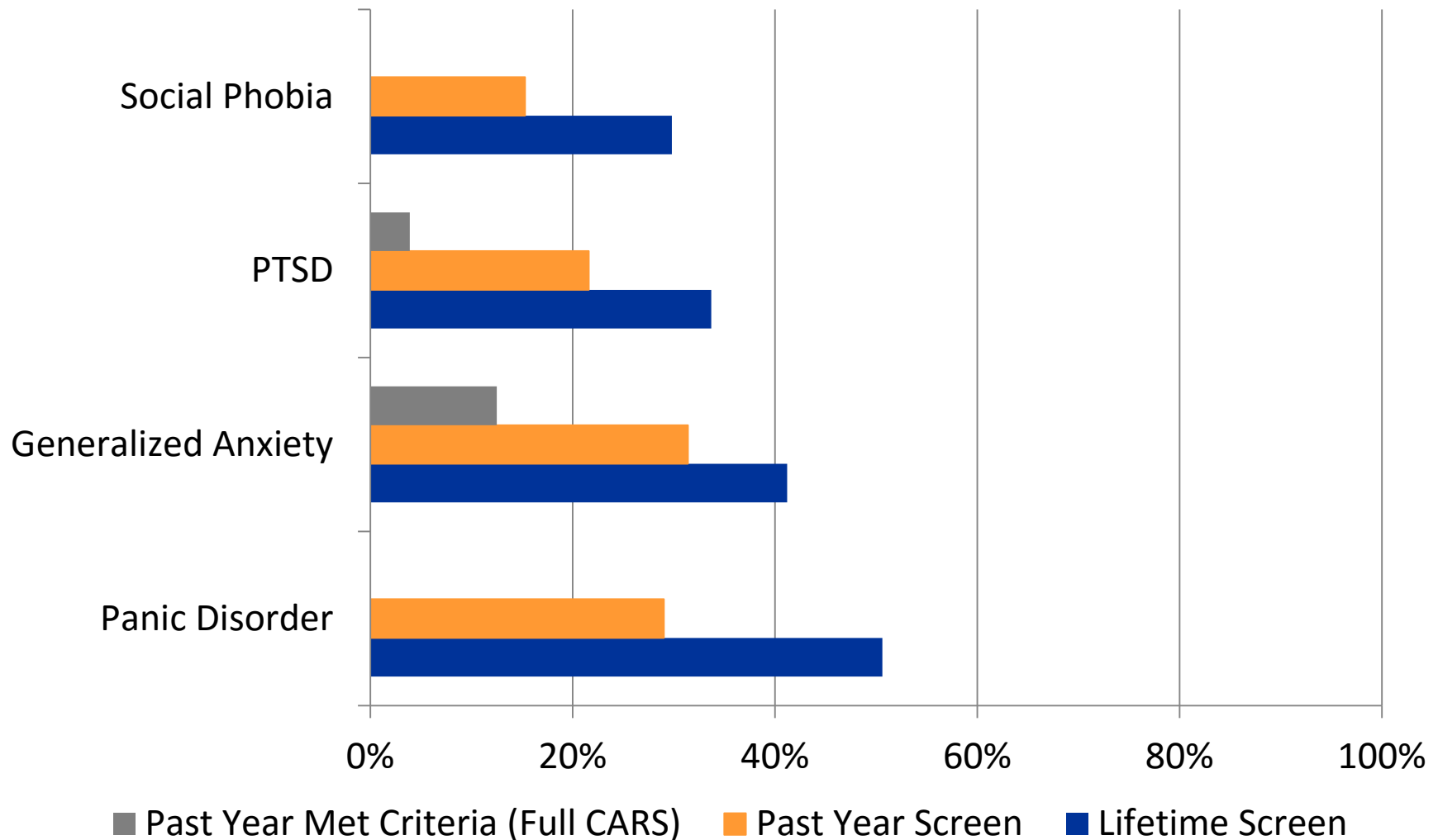
Implementation Trial: First-Time & Repeat Offender Lifetime Screener Findings



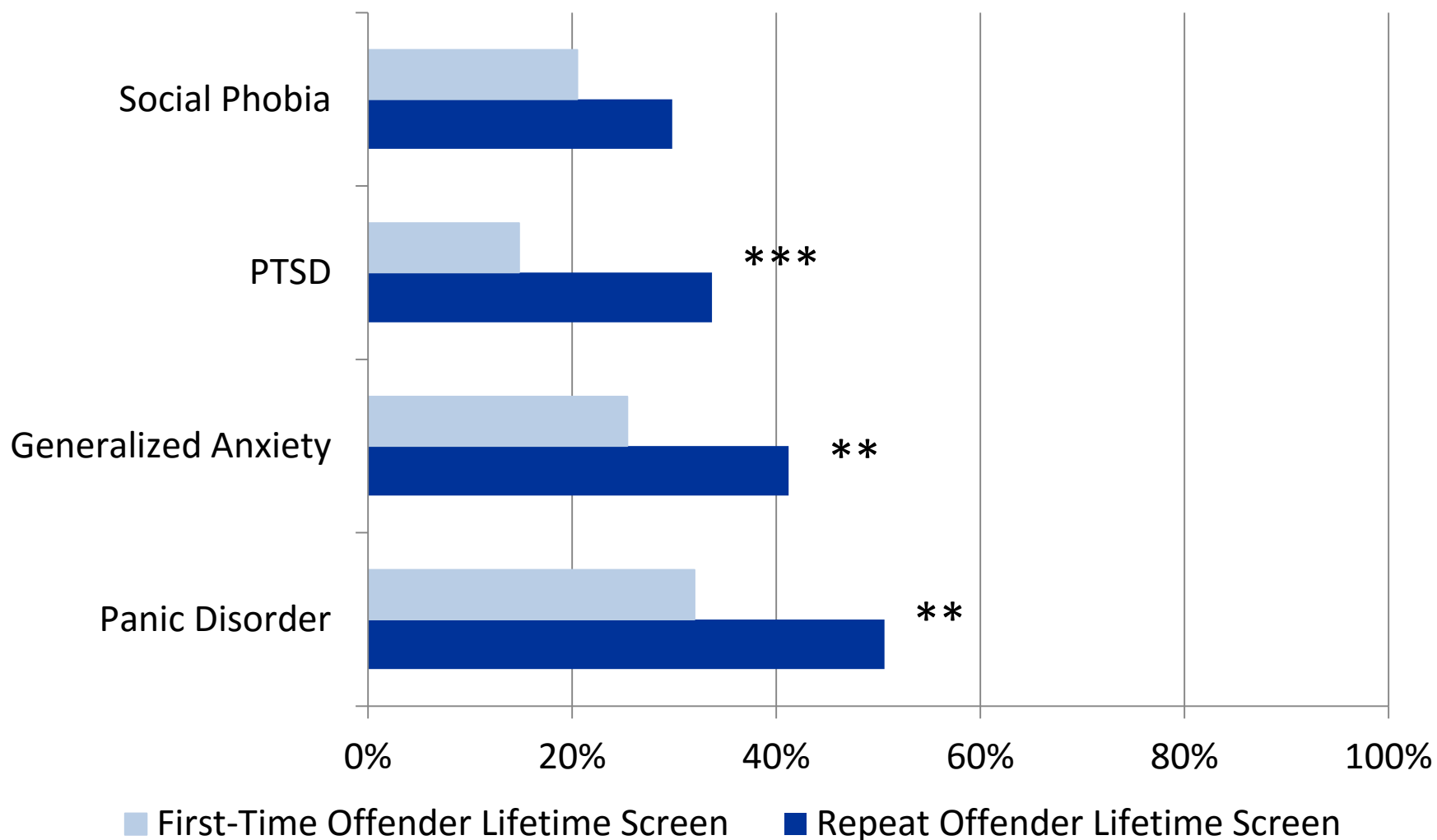
Implementation Trial: First-Time & Repeat Offender Past Year Screener Findings



Implementation Trial: Repeat Offender Screener & Full CARS Findings

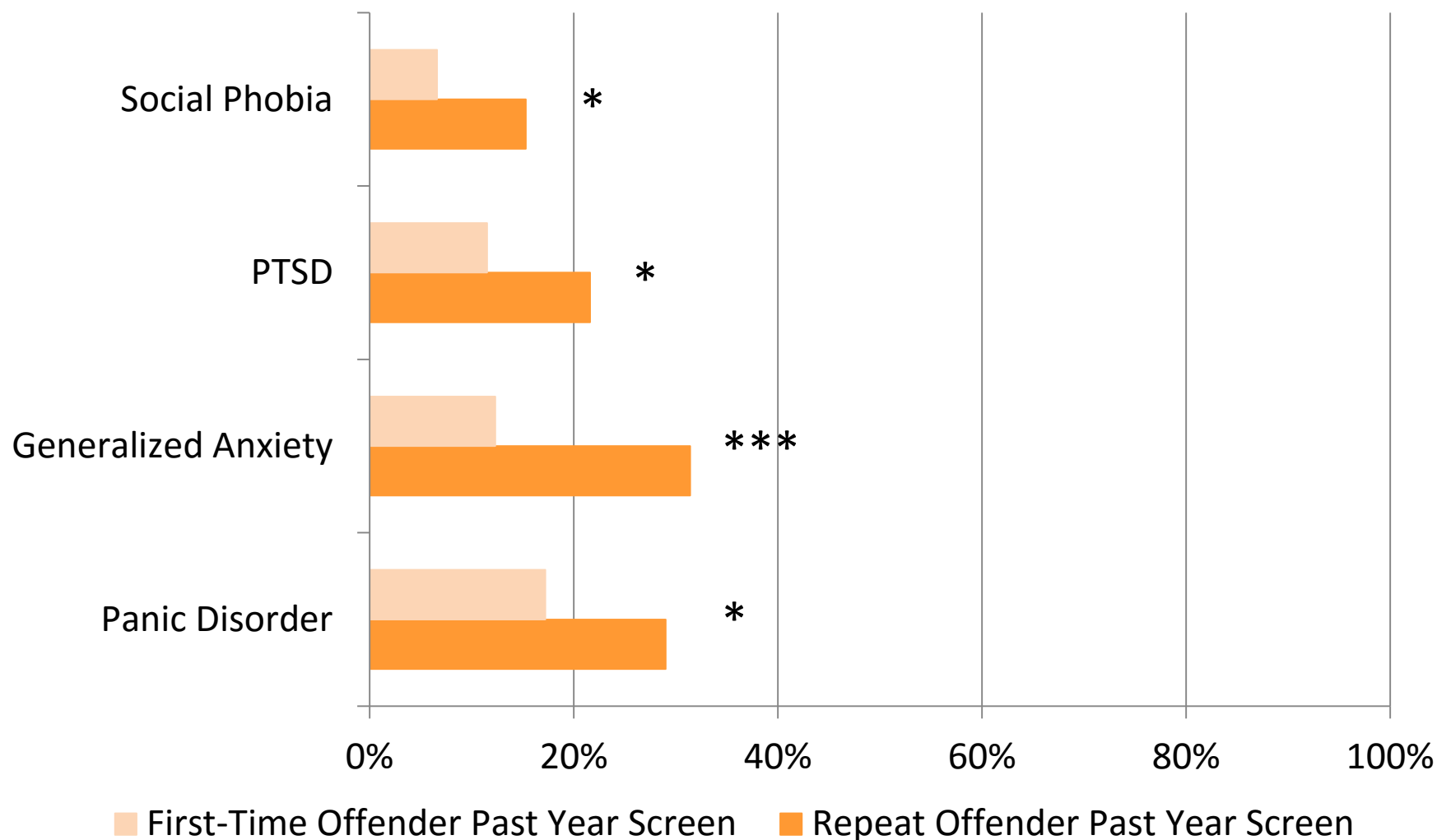


Implementation Trial: First-Time & Repeat Offender Lifetime Screener Findings



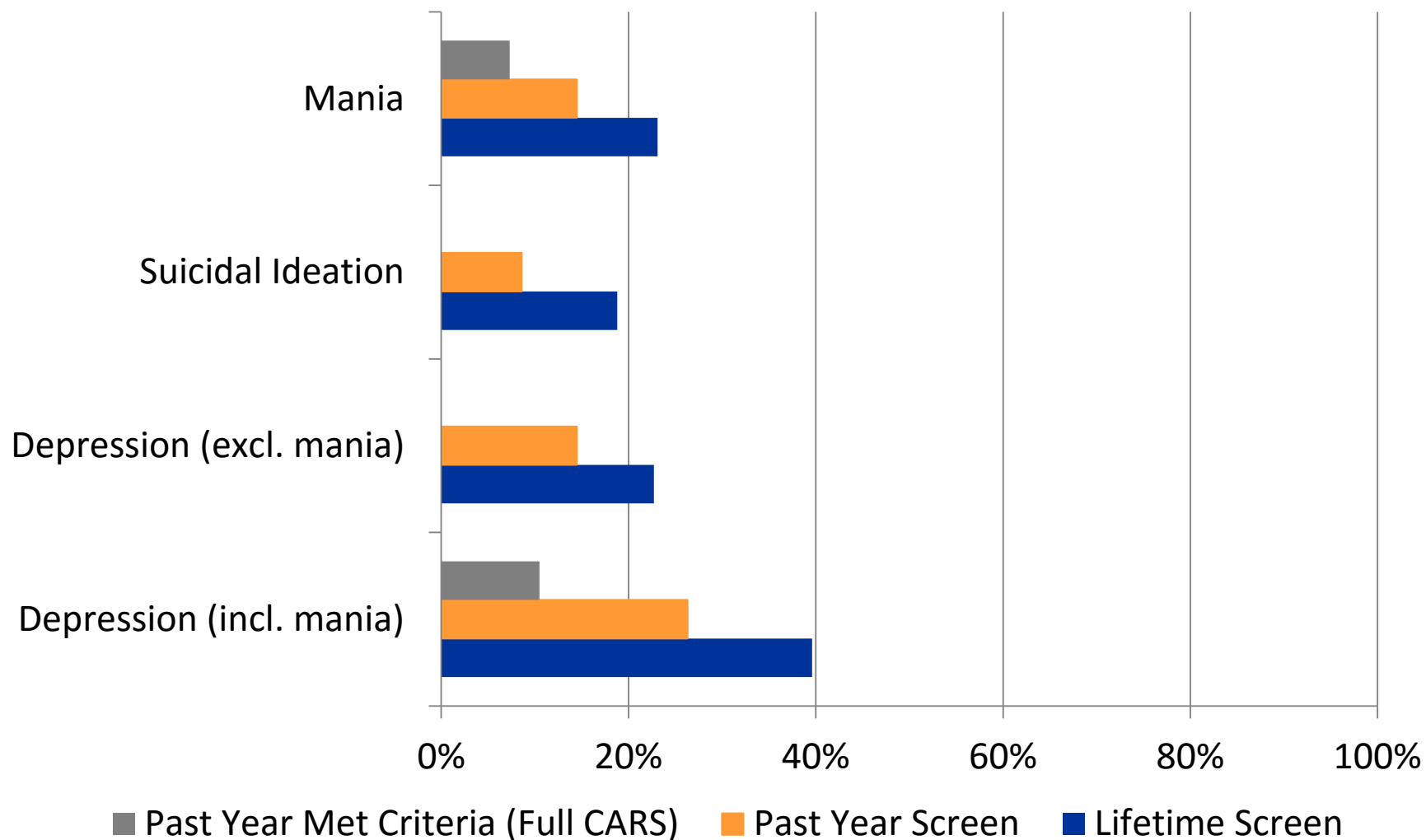
*p<.05; **p<.01; ***p<.001

Implementation Trial: First-Time & Repeat Offender Past Year Screener Findings

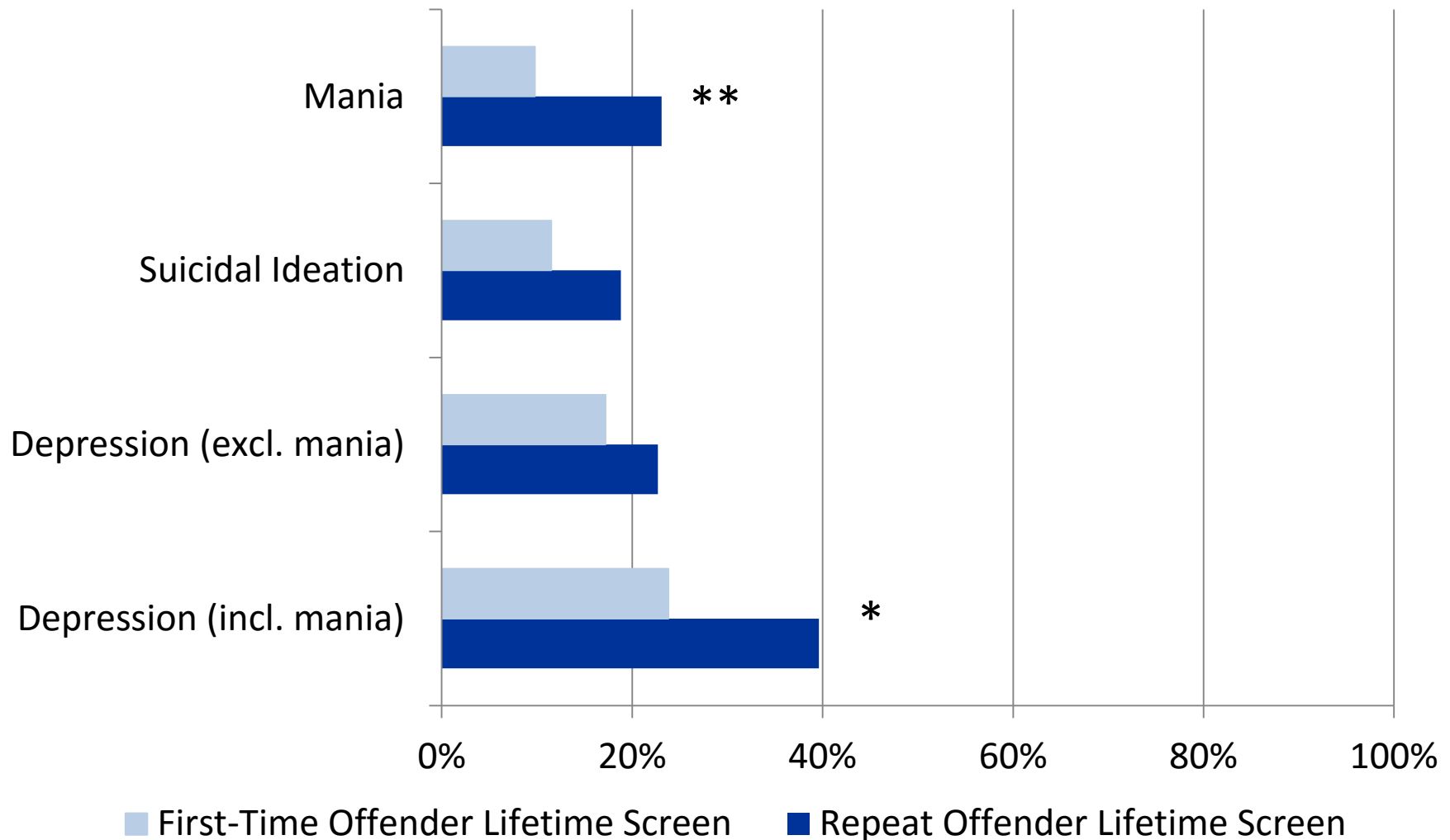


*p<.05; **p<.01; ***p<.001

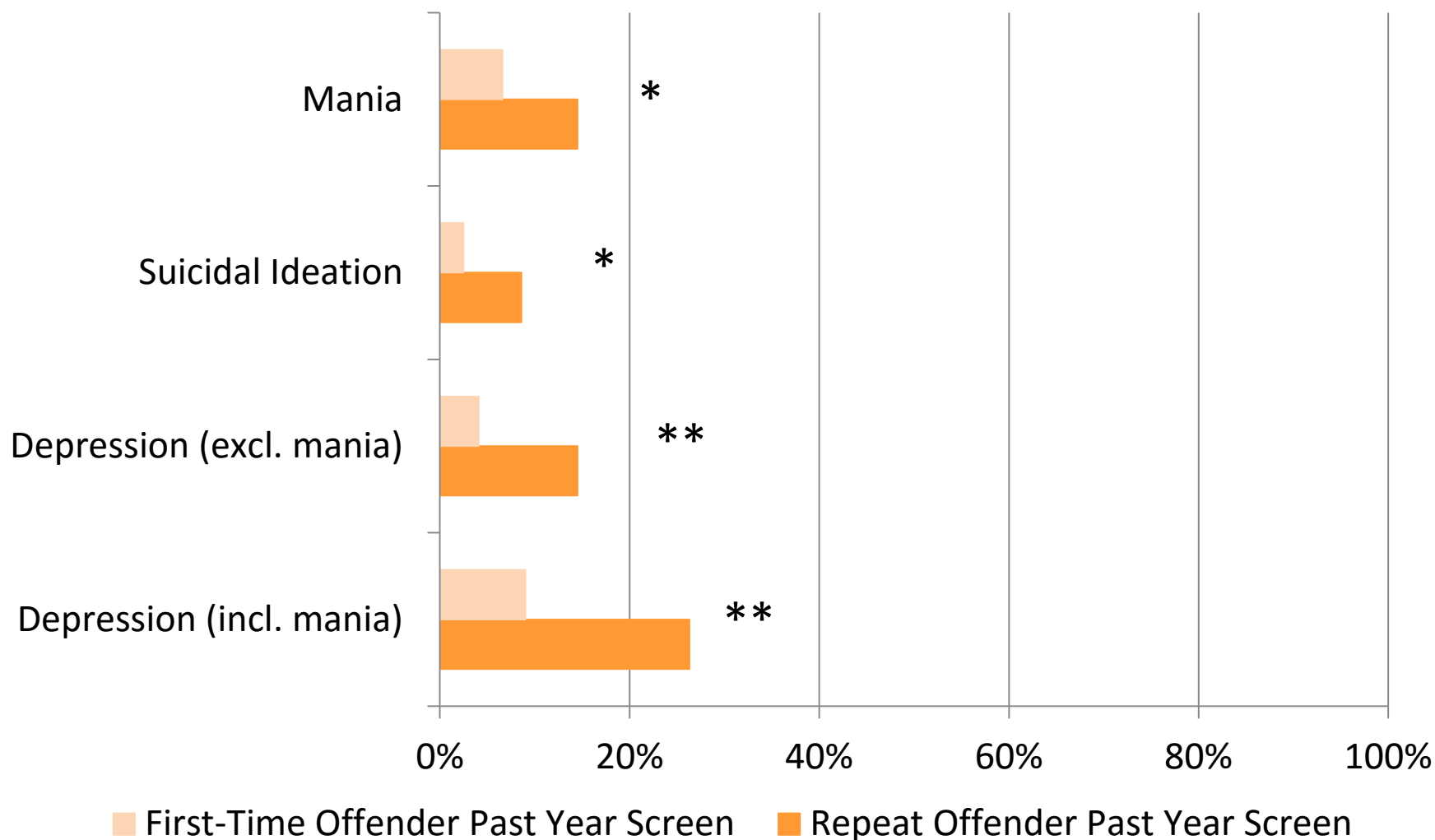
Implementation Trial: Repeat Offender Screener & Full CARS Findings



Implementation Trial: First-Time & Repeat Offender Lifetime Screener Findings

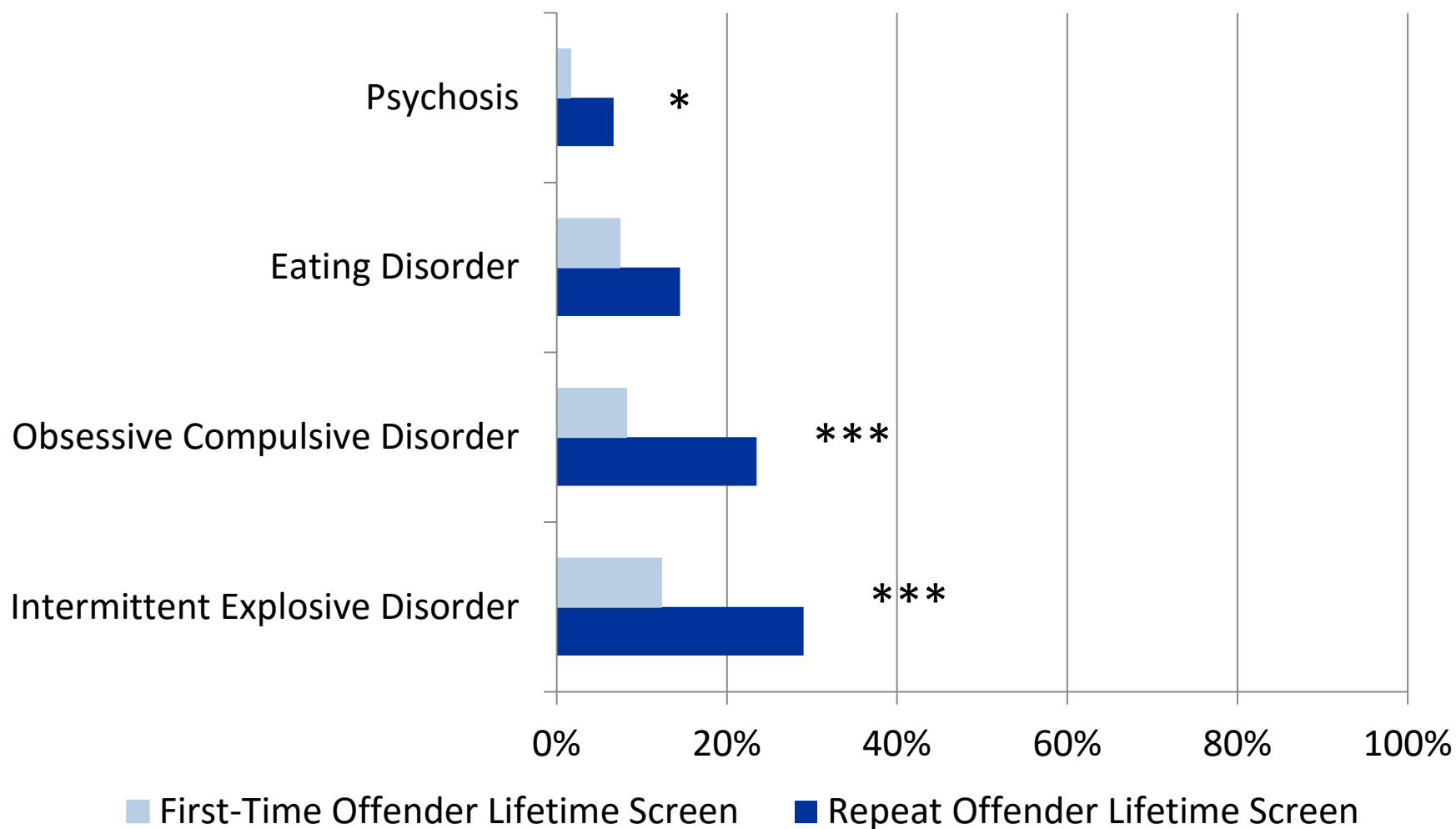


Implementation Trial: First-Time & Repeat Offender Past Year Screener Findings



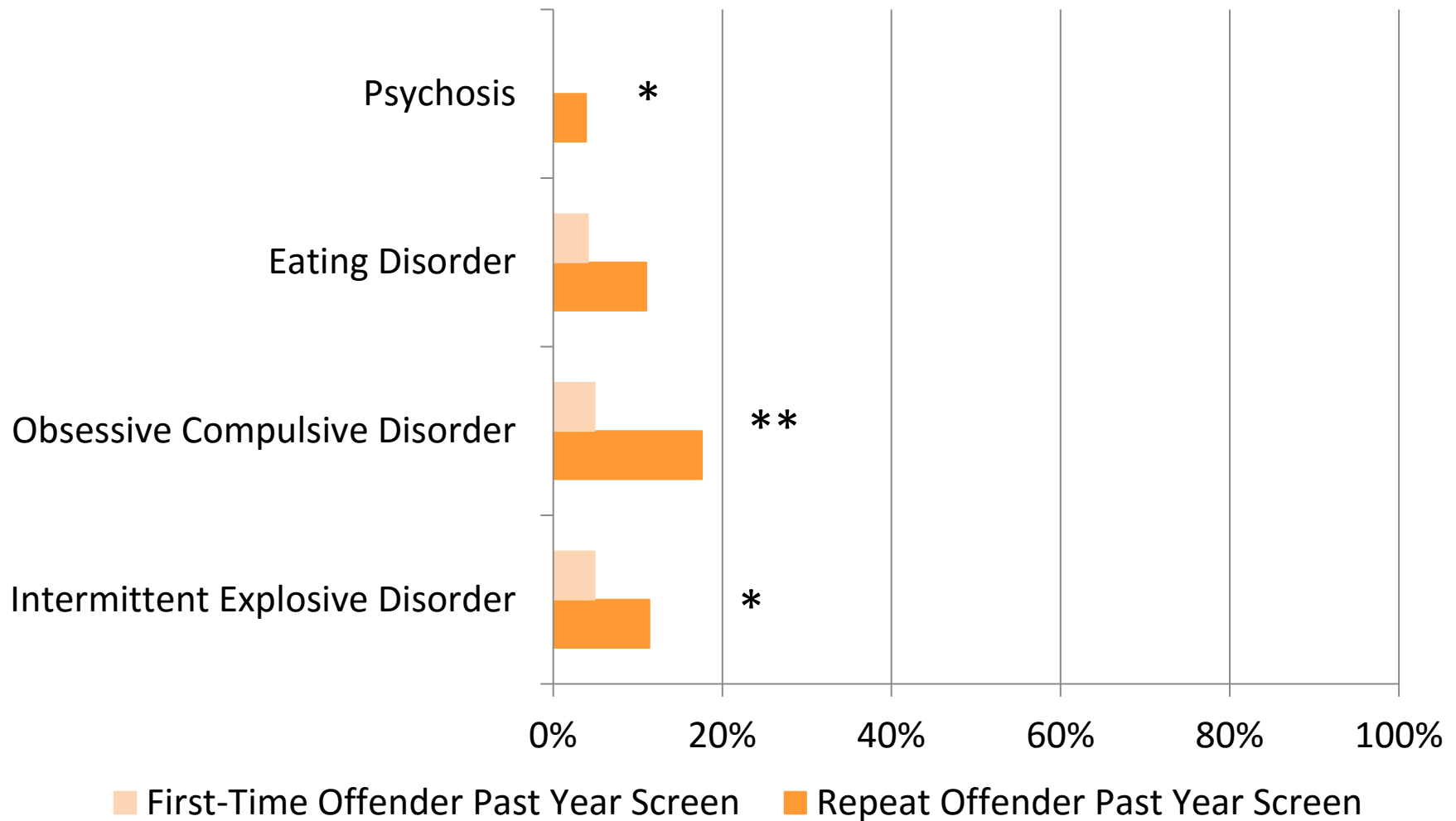
*p<.05; **p<.01; ***p<.001

Implementation Trial: First-Time & Repeat Offender Lifetime Screener Findings

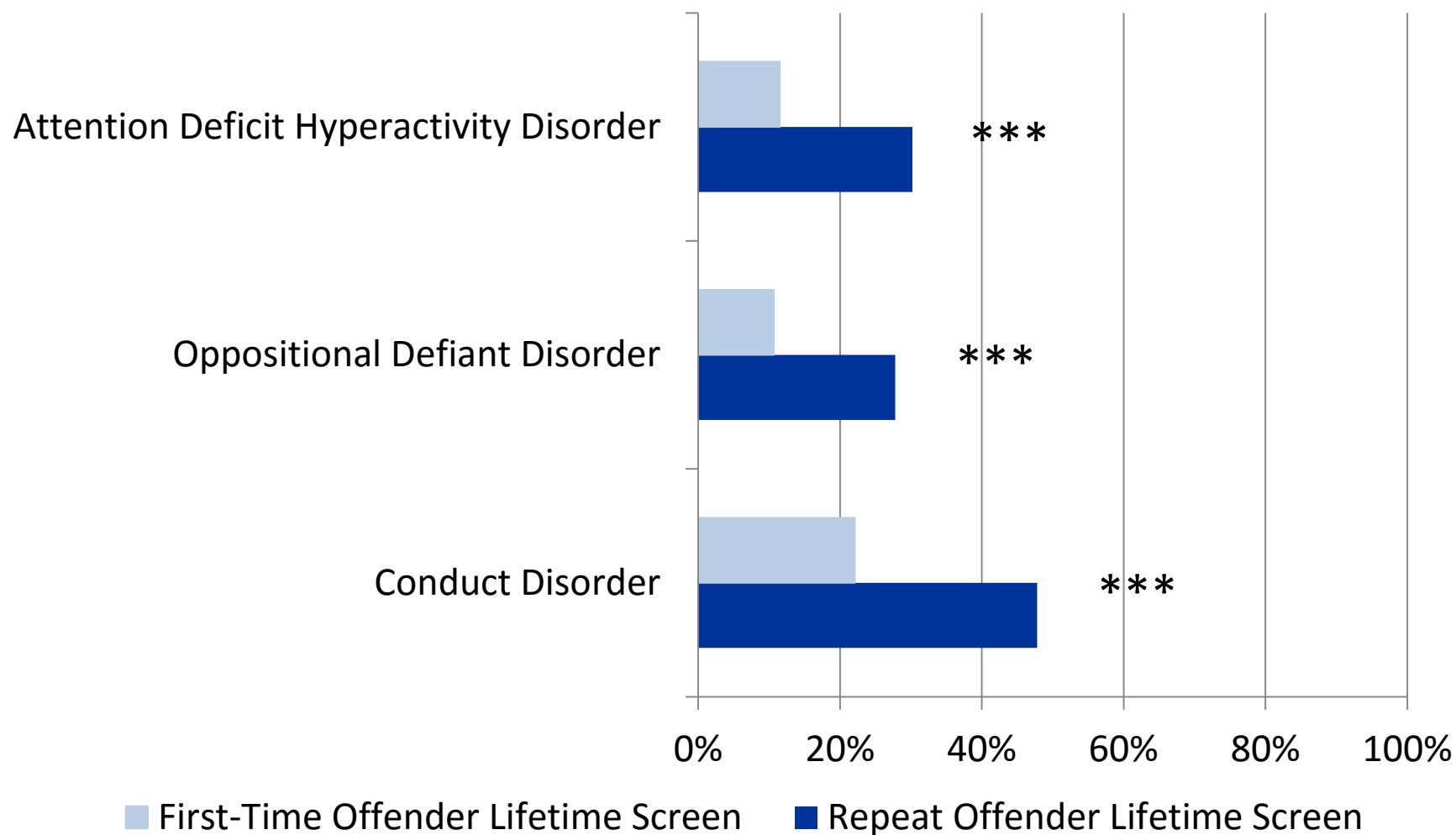


Implementation Trial:

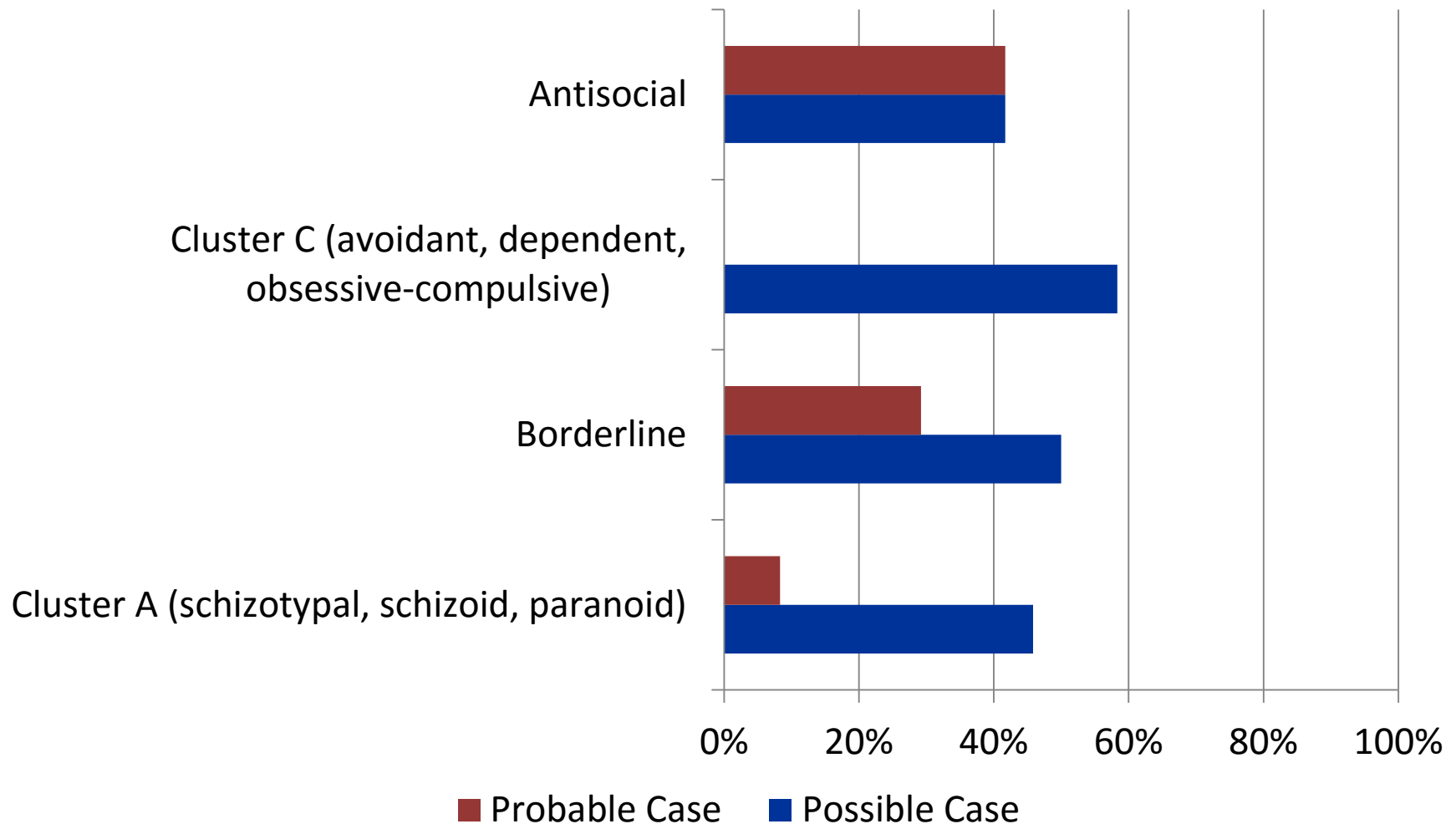
First-Time & Repeat Offender Past Year Screener Findings



Implementation Trial: First-Time & Repeat Offender Lifetime Screener Findings



Implementation Trial: Repeat Offender Personality Screener Findings



Implementation Trial:

Self-Administered vs. Interviewer-Administered

- Past year screening results for interviewer-administered (IA) and self-administered (SA) CARS did not differ significantly.
- Lifetime screening results for IA and SA CARS did not differ significantly, with 3 exceptions (out of 40 tests).
 - Repeat DUI offenders were more likely to screen positive for **bipolar** and **conduct disorder** in the SA condition than in the IA conditions.
 - First-time DUI offenders were more likely to screen positive for **alcohol use disorder** in the IA conditions than in the SA conditions

Implementation Trial: Conclusions To Date

- Continued evidence of comorbidity in the repeat DUI population
 - Particularly anxiety-related disorders

Implementation Trial: Conclusions To Date

- Results from self-administered screener do not differ fundamentally from those for the interviewer-administered screener
 - SA screener might be more sensitive for some disorders
- Both counselors and clients are able to use CARS in a DUI program setting.

Caveat: Self Report vs. Behavior

ARE YOU DRUNK?

☐ YES

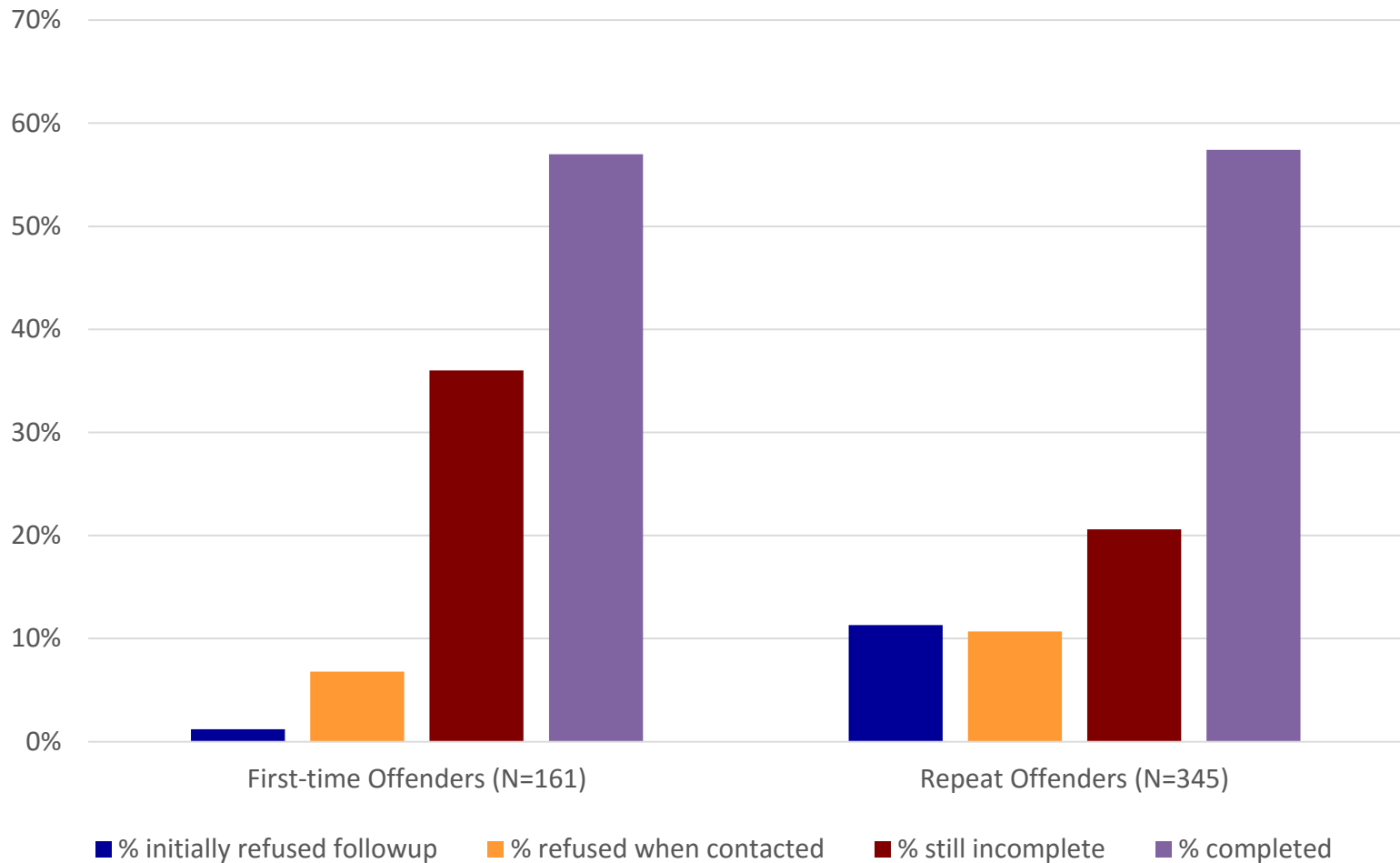
☐ NO

X

CARS: Follow-Up

- Currently conducting follow-up interviews with first-time and repeat offenders
- Key measures:
 - Alcohol and drug use
 - Treatment
 - Lapses and relapses
 - Probation violations
 - Behavioral changes
 - Mental health check-in

CARS: Follow-Up Interviews



- **198** complete repeat offender follow-up interviews (**65%** of those who agreed to follow-up)
- **93** complete first-time offender follow-up interviews (**58%** of those who agreed to follow-up)

CARS: Follow-Up Outcomes

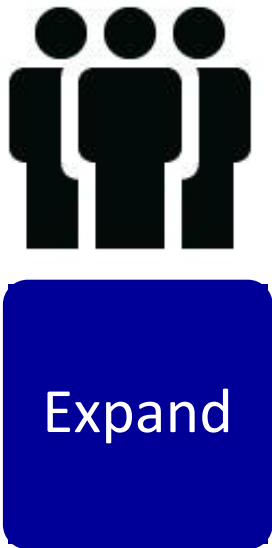
- Positive PY anxiety screen at baseline predicts:
 - Probation violation
- Positive PY mood disorder screen at baseline predicts:
 - Drug use
 - Absence of self-reported DUI behavior
 - Probation violation
- Positive LT childhood disorder screen at baseline predicts:
 - Drug use
 - Probation violation

CARS

Pilot Sites and Distribution



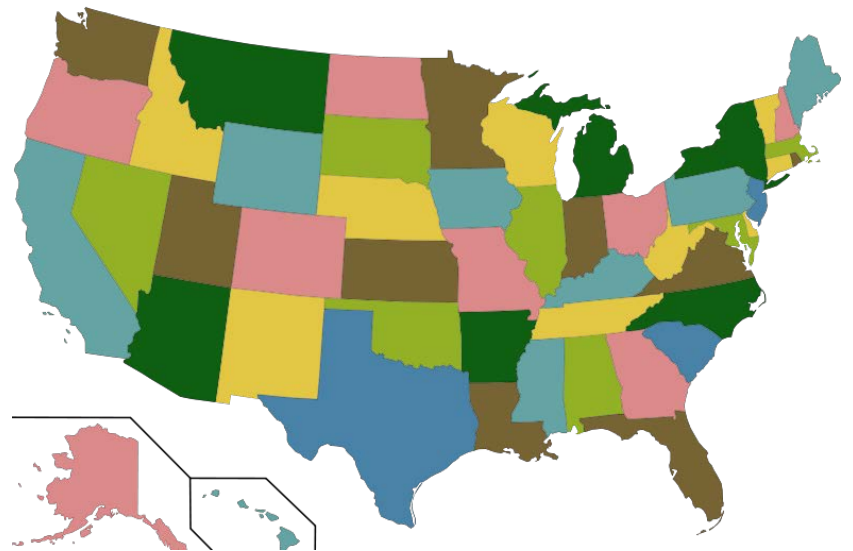
National Pilot Sites



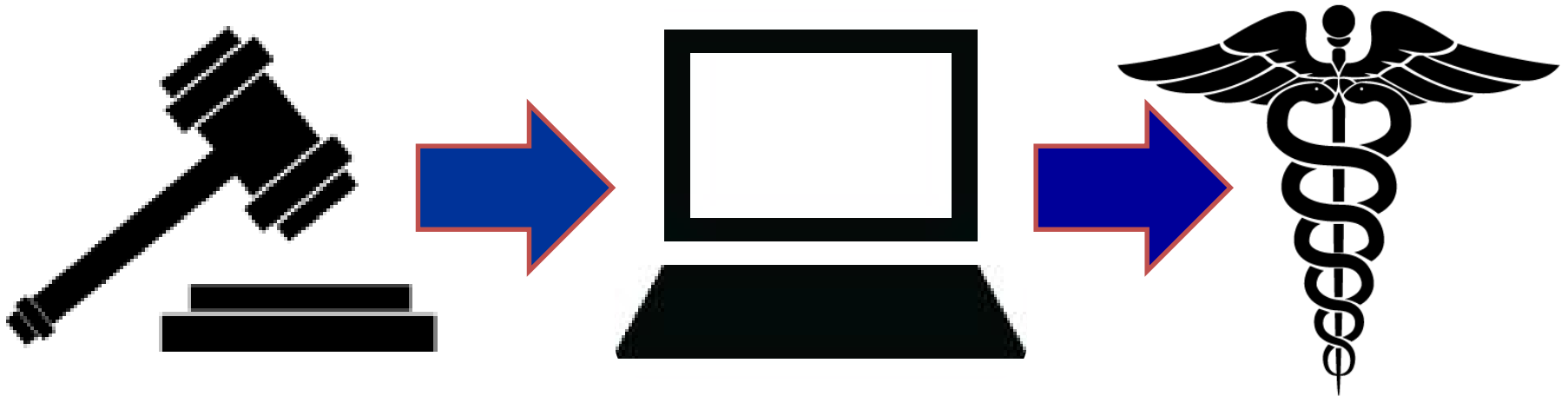
- Move beyond Massachusetts
 - 5 pilot sites throughout US
- Move beyond 1st offender and 2nd offender programs
 - Pre-sentencing
 - Initial sentencing
 - Probation
 - Aftercare
 - DWI Courts

National Pilot Sites

- Pilot site implementation (Summer/Fall 2016)
- CARS public distribution (2017)



Moving Beyond Post-Conviction DUI Programs



The time between sentencing and DUI treatment represents an assessment opportunity for at-risk clients

Time to Treatment

- In our study, 48% of repeat offenders entered the mandatory inpatient treatment program more than 12 months after their offense
- 33% entered 6-12 months after their offense
- Only 12% entered within 2-6 months of their offense

Diagnosis and Treatment

Karl Menninger

“Treatment depends upon diagnosis, and even the matter of timing is often misunderstood. One does not complete a diagnosis and then begin treatment; the diagnostic process is also the start of treatment. Diagnostic assessment is treatment; it also enables further and more specific treatment.”

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- CARS Advisory Panel
- Staff and clients of:
 - Massachusetts Driving Under the Influence of Liquor Treatment Program
 - Advocates, Inc.
 - High Point
 - Lowell House
 - Behavioral Health Network

Additional Resources

- www.divisiononaddiction.org
 - Division on Addiction's main website
 - Current projects and publications
- www.basisonline.org
 - Brief science reviews and editorials on current issues in the field of addictions
 - Addiction resources available, including self-help tools
- <https://www.facebook.com/divisiononaddiction>
 - The Division's facebook page
- [@Div Addiction](https://twitter.com/DivAddiction)
 - The Division's twitter account
- snelson@hms.harvard.edu
 - Email me with any additional questions

The Computerized Assessment & Referral System:

Implementation Q & A



Do I need to use full **CARS** or just the **CARS** screener?

- **CARS** is adapted from the Composite International Diagnostic Interview (CIDI).
- To generate full DSM-IV diagnostic level information consistent with the diagnoses generated by the CIDI, full **CARS** is necessary.
- The **CARS** screener identifies mental health risk areas and takes less time than full **CARS**.
 - The screener takes between 15-50 minutes to complete.

Do I need to use full CARS or just the CARS screener?

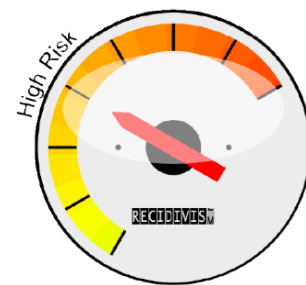
- Which version you use depends on your resources and goals
- We are currently testing how well the screener identifies mental health risk areas compared to full CARS.
- Possible to use the screener and then follow-up at a later time or with select clients with further CARS modules.

Is **CARS** a risk/needs assessment?

- Not in the traditional sense.
- However, **CARS** identifies specific mental health disorders for which an offender is at-risk
- These identified mental health issues and the generated report in turn inform the user about the offender's treatment needs.

Can **CARS** predict DUI recidivism?

- The primary purpose of **CARS** is to
 - identify mental health issues that might influence DUI behavior, and
 - facilitate additional treatment for those issues.
- Currently, **CARS** identifies DUI risk based on known predictors from the research literature
- As we collect data from **CARS**, we will be able to modify this risk scale using empirical data to linking specific mental health profiles to recidivism risk.



How does **CARS** compare to the APPA Impaired Driving Assessment?

- The primary purpose of the APPA's tool is to predict DUI recidivism and match this to level of supervision. A secondary use is to identify possible service needs, one of which is mental health.
- The primary purpose of **CARS** is to identify mental health issues among DUI offenders and facilitate treatment referral for those issues. A secondary use will be to predict DUI recidivism risk from those mental health profiles.
- If resources are available, the two could be used in a complementary fashion.

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