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

Sources: Evans, 1991, Traffic Safety and the Driver
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

Adapted from NHTSA, 1993-2015

- % of motor vehicle fatalities that involved an alcohol-impaired driver (BAC of .08 and up for 2001 on; .10 and up for 2000 and earlier)
- % of motor vehicle fatalities that involved a driver who had been drinking (BAC over .01)
Repeat DUI Offenders
Treatment Target:

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

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

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

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

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

2. 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

Underlying Vulnerability

If Yes

Premorbid Addiction Syndrome

1. Proximal Antecedents
   (e.g., biopsychosocial events)

   Repeated Object Interaction & Desirable Subjective Shifts

Expressions, Manifestations and Sequelae of Addiction Syndrome

Expression

- Drinking
- Gambling
- Smoking
- Intravenous Drug Using

Unique Manifestations & Sequelae

- 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
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

Element Domains
Disordered Gambling

Underlying Predispositions

Exposure

Subjective Shift Threshold

Expression

No Object Opportunity

No Addiction

No Addiction

Unique Consequences

Unique Consequences

No Addiction

Common Adverse Consequences

Underlying Predispositions

Expression

No Object Opportunity

Unique Consequences
Underlying Predispositions

Alcohol Use Disorder

Disordered Gambling

Disordered Gambling

Exposure

Alcohol Use Disorder & Cocaine Use Disorder

Disordered Gambling & Substance Use Disorder

Exercising and Eating

Treatment Self or Other Directed
Underlying Predispositions

Trigger Exposure

Relapse

Expressing Disordered Gambling

Exercising and Eating
Underlying Predispositions

Expression

Disordered Gambling & Alcohol Use Disorder
Underlying Predispositions

Exposure

Expression

Disordered Gambling & Alcohol Use Disorder

Treatment
Self Directed or Other Directed

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”
Caveat:
Association Does Not Equal Causation
Correlate Does Not Equal Determinant
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)
Lifetime Prevalence of Psychiatric Disorder among MDUIL Sample & NCS-R (Kessler et al., 2005)

(Kessler et al., 2005; Shaffer, Nelson, LaPlante, LaBrie, Albanese, & Caro, 2007)
IMPORTANCE OF AND BARRIERS TO SCREENING
Comorbidity & DUI Recidivism

(Nelson, Belkin, LaPlante, Bosworth, & Shaffer, 2015)
Comorbidity & DUI Recidivism

(Nelson, Belkin, LaPlante, Bosworth, & Shaffer, 2015)
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%

(McMillan, Timken, Lapidus, C’de Baca, Lapham, & McNeal 2008)
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

(Lapham et al., 2006; Lapham et al., 2001; Nelson et al., 2015; Shaffer et al., 2007)
Generalized Anxiety Disorder  Major Depressive Disorder  Dysthymia  Bipolar I Disorder  Bipolar II Disorder  Panic Disorder  Alcohol Abuse  Alcohol Dependence  Post Traumatic Stress Disorder  Substance Abuse  Substance Dependence  Personality  Tobacco Use  Oppositional Defiant Disorder  Intermittent Explosive Disorder  Conduct Disorder  Personality Disorder  Psychosocial Risks  Peer Networks  Psychosis  Gambling Disorder  Obsessive Compulsive Disorder  Attention Deficit Hyperactivity Disorder... and more
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.
Develop

Test usability

Implement and Test

Follow-Up
CARS Research
Implementation Trial
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: Screener 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

- Gambling Disorder
- Tobacco Dependence
- Drug Use Disorder
- Alcohol Use Disorder

- Past Year Met Criteria (Full CARS)
- Past Year Screen
- Lifetime Screen
Implementation Trial: First-Time & Repeat Offender Lifetime Screener Findings

Gambling Disorder

Tobacco Dependence

Drug Use Disorder

Alcohol Use Disorder

First-Time Offender: Lifetime Screen  Repeat Offender: Lifetime Screen

*p<.05; **p<.01; ***p<.001
Implementation Trial:
First-Time & Repeat Offender Past Year Screener Findings

Gambling Disorder

Tobacco Dependence

Drug Use Disorder

Alcohol Use Disorder

First-Time Offender: Past Year Screen  Repeat Offender: Past Year Screen

*p<.05; **p<.01; ***p<.001
Implementation Trial: Repeat Offender Screener & Full CARS Findings

- Social Phobia
- PTSD
- Generalized Anxiety
- Panic Disorder

- Past Year Met Criteria (Full CARS)
- Past Year Screen
- Lifetime Screen
Implementation Trial:
First-Time & Repeat Offender Lifetime Screener Findings

**Social Phobia**
- First-Time Offender Lifetime Screen: 20%
- Repeat Offender Lifetime Screen: 30%

**PTSD**
- First-Time Offender Lifetime Screen: 10%
- Repeat Offender Lifetime Screen: 40%

**Generalized Anxiety**
- First-Time Offender Lifetime Screen: 25%
- Repeat Offender Lifetime Screen: 50%

**Panic Disorder**
- First-Time Offender Lifetime Screen: 30%
- Repeat Offender Lifetime Screen: 60%

*p<.05; **p<.01; ***p<.001
Implementation Trial:
First-Time & Repeat Offender Past Year Screener Findings

- Social Phobia
- PTSD
- Generalized Anxiety
- Panic Disorder

* p<.05; ** p<.01; *** p<.001
Implementation Trial:
Repeat Offender Screener & Full CARS Findings

- Mania
- Suicidal Ideation
- Depression (excl. mania)
- Depression (incl. mania)

Past Year Met Criteria (Full CARS)  Past Year Screen  Lifetime Screen
Implementation Trial:
First-Time & Repeat Offender Lifetime Screener Findings

0% 20% 40% 60% 80% 100%

Depression (incl. mania)
Depression (excl. mania)
Suicidal Ideation
Mania

First-Time Offender Lifetime Screen
Repeat Offender Lifetime Screen

*p<.05; **p<.01; ***p<.001
Implementation Trial:
First-Time & Repeat Offender Past Year Screener Findings

- **Depression (incl. mania)**: 20% for First-Time Offender, 40% for Repeat Offender
- **Depression (excl. mania)**: 10% for First-Time Offender, 20% for Repeat Offender
- **Suicidal Ideation**: 5% for First-Time Offender, 10% for Repeat Offender
- **Mania**: 2% for Both First-Time and Repeat Offenders

*p<.05; **p<.01; ***p<.001
Implementation Trial:
First-Time & Repeat Offender Lifetime Screener Findings

- Psychosis
- Eating Disorder
- Obsessive Compulsive Disorder
- Intermittent Explosive Disorder

*\(p<.05\); **\(p<.01\); ***\(p<.001\)
Implementation Trial:
First-Time & Repeat Offender Past Year Screener Findings

- Psychosis
  - *p<.05

- Eating Disorder
  - **p<.01

- Obsessive Compulsive Disorder
  - **p<.01

- Intermittent Explosive Disorder
  - *p<.05

*p<.05; **p<.01; ***p<.001
Implementation Trial:
First-Time & Repeat Offender Lifetime Screener Findings

- Attention Deficit Hyperactivity Disorder
- Oppositional Defiant Disorder
- Conduct Disorder

*First-Time Offender Lifetime Screen* vs. *Repeat Offender Lifetime Screen*

*p<.05; **p<.01; ***p<.001*
Implementation Trial:
Repeat Offender Personality Screener Findings

Cluster A (schizotypal, schizoid, paranoid)
Cluster C (avoidant, dependent, obsessive-compulsive)
Borderline
Antisocial

Probable Case
Possible Case
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
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
“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
  – 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.
References

References