# IMPAIRED DRIVING UPDATE™

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## Mileposts

### RID Founder Dies

The founder of Remove Intoxicated Drivers (RID), Doris Aiken of Schenectady, NY, died in hospice at age 90 in March 2017. RID, the first nationwide anti-drunk-driving advocacy group, conducted the first local DWI/DUI victims' panel in the United States. It has grown to 160 chapters in 41 states. Aiken was the sparkplug behind New York's 0.08% BAC DWI/DUI legislation. A television personality, she became enraged when, after a drunk driver killed two teens, the prosecution told her to mind her own business. The next issue of *IDU* will include an in-depth piece on Aiken and RID.

### Drones Used to Reconstruct Car Crashes

The Massachusetts State Police will soon begin using unmanned aerial vehicles (drones) to reconstruct car accidents. From the scene, troopers will pilot the drone to fly a grid and take photographs, assisting authorities to more quickly and efficiently investigate crashes and reopen roads. The department is one of the first police forces in the United States to employ the technology for this purpose and expects to assemble a fleet of drones to assist investigations. (Jordan Graham, *Drone to Give States Eagle Eye on Car Crashes*, Boston Herald, Dec. 2, 2016, *available at* www.BostonHerald.com/news/local_coverage/2016/12/

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# Accuracy of a Screening Classification in a Longitudinal Study of DUI Offenders

by Lisa Degiorgio Worthy, Ph.D., CRC*

***Editor's Note:*** *Few longitudinal studies have examined the accuracy of DUI/DWI screening tools and risk classifications in identifying repeat DUI/DWI offenders. This article fills that gap. The author considers the factors related to reoffending after a conviction for impaired driving. One predictor is the driver's type of chemical dependence. Also, the author finds that race is an important factor: Caucasians are most likely to reoffend. With regard to gender, women are at greater risk for reoffending than men, but not at a statistically significant number. Assessment risk was not an overall predictor of recidivism. Scores were consistent with other corrections measures and treatment completion may be a factor in reducing recidivism among some populations.*

In examining recidivism for DUI/DWI, the few longitudinal studies that have been conducted have not included screening or classification results as predictors in the examination of recidivism. Longitudinal data have been used in several studies to examine attitudes and beliefs of DUI/DWI offenders, parental influences on drinking and driving, and the role of sanctions in reducing recidivism. (Michael Greenberg et al., *Drink-Driving and DUI Recidivists' Attitudes and Beliefs: A Longitudinal Analysis*, 66 J. Studies in Alcohol 640-47 (2005); Mildred M. Maldonado-Molina et al., *The Role of Parental Alcohol Consumption on Driving Under the Influence of Alcohol: Results From a Longitudinal, Nationally Representative Sample*, 43 Accident Analysis & Prevention 2182-187 (2011); Barbara J. Morse & Delbert S. Elliott, *Effects of Ignition Interlock Devices on DUI Recidivism: Findings From a Longitudinal Study in Hamilton County, Ohio*, 38 Crime & Delinquency 131-57 (1992).)

## Prior Recidivism, Risk Prevention, Treatment Studies

A majority of previous studies have examined static factors, including demographic characteristics, prior arrests, BAC, treatment referral, and treatment completion. A few studies examined dynamic factors or needs, including self-esteem, depression, or other mental health conditions. (Janet C'de Baca et al., *A Multiple Factor Approach for Predicting DWI Recidivism*, 21 J. Substance Abuse Treatment 207-15 (2001); Karen Dugosh et al., *Moving Beyond BAC in DUI: Identifying Who Is at Risk of Recidivating*, 12 Criminology & Pub. Policy 181-93 (2013).)

Many studies have examined DUI/DWI recidivism, DUI/DWI risk prediction, and the effect of treatment on re-arrest rates. (*See, e.g.*, Thomas H. Nochajski & Paul R. Stasiewicz, *Relapse to Driving Under the Influence (DUI): A Review*, 26 Clinical Psychology Rev. 179-95 (2006); William J. Rauch et al., *Risk of Alcohol-Driving Recidivism Among First Offenders and Multiple Offenders*, 100 Am. J. Pub. Health 919-24 (2010); C'de Baca et al., *supra*; Dugosh et al., *supra*; Stephen J. Kunitz et al., *Re-arrest Rates After Incarceration for DWI: A Comparative Study in a Southwestern U.S. County*, 92 Am. J. Pub. Health, 1826-831 (2002).)

## Accuracy of Screening Assessments for Recidivism

Screening is one part of a larger process for assessing offender risk. Although screening assessments are typically brief, they can provide general measures alerting evaluators to problem areas and possible protective factors. (Iyiin Chang et al., AAA Foundation for Traffic Safety, *Review of Screening Instruments and Procedures for Evaluating DWI Offenders* (2002).) Screening assessment scores can aid in identifying whether additional or more in-depth assessments are necessary. In conjunction with screening, interviews may provide an opportunity to examine extenuating circumstances or gather additional collateral information to include in the decision-making process. (Bradley Erford, *Assessment for Counselors* (2d ed. 2013).) Information gathered through screening and interviews is used to suggest treatment or facilitate other court-imposed sanctions.

**Limitations of Screening.** Limitations of screening as a tool of assessment include the reliance on self-report and self-disclosure; offenders engage in impression management and positively respond to desirable characteristics and deny "normal human frailties." (Alan Cavaiola, *The Challenges of Screening of DUI Offenders*, 12 Criminology & Pub. Policy 173-77 (2013); Delroy Paulhus, *Measurement and Control of Response Bias*, in J.P. Robinson et al., eds., *Measures of Personality and Social Psychological Attitudes* 17-59 (1990); Laura Wolf Benedict & Richard I. Lanyon, *An Analysis of Deceptiveness: Incarcerated Prisoners*, 13 J. Addictions & Offender Counseling 23-31 (1992).)

More recent research has revealed that self-report measures have predictive validity and may be useful tools in predicting violent behaviors and arrest. (Jeremy F. Mills & Daryl G. Kroner, *Impression Management and Self-Report Among Violent Offenders*, 21 J. Interpersonal Violence 178-92 (2006); Jeremy F. Mills et al., *Predictive Validity Despite Social Desirability: Evidence for the Robustness of Self-Report Among Offenders*, 13 Criminal Behav. & Mental Health 140-50 (2003).)

**Prediction of Long-Term Outcomes.** Lapham and Skipper examined whether screening classifications predicted long-term outcomes for DWI offenders in the area of treatment uses, presence of substance use disorders, and driving over the alcohol limit. Offenders were contacted at five and 15-year intervals. (Sandra C. Lapham & Betty J. Skipper, *Does Screening Classification Predict Long-Term Outcomes of DWI Offenders?*, 34 Am. J. Health Behav. 737-49 (2010).) Results of the study revealed that the group that did not complete the screening process was three times more likely to receive more detoxification services and two times more likely to have a substance use disorder when contacted at the 15-year interval.

Taken together, interviews and self-report measures, despite limitations, provide valuable information about offenders that can influence DUI/DWI recidivism and treatment recommendations and referrals.

The work summarized below sought to expand on previous longitudinal studies by examining screening risk

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classification, as measured by the Driver Risk Inventory (DRI) as a predictor of DUI/DWI recidivism.

## Study's Methods

This study used five-year longitudinal data submitted by a large southeastern state's DMV and included test results, subsequent motor vehicle convictions, and treatment completion data for 12,956 offenders. All offenders in the state charged with or arrested for DUI-completed the Driver Risk Inventory (DRI), a self-report measure with 140 items that comprise five domains:

1. Alcohol;
2. Drugs;
3. Driver risk;
4. Stress management; and
5. Truthfulness.

**Validity and Reliability of DRI.** The DRI has demonstrated concurrent validity, the ability to distinguish between first-time and repeat offenders, and the ability to identify problem drinkers. (Chang et al., *supra*; Barry Leshowitz & Jonathon M. Meyers, *Application of Decision Theory to DUI Assessment*, 20 Alcoholism: Clinical & Experimental Research 1148-52 (1996); John H. Lacey et al., NHTSA, *Validation of Problem Drinking Screening Instruments for DWI Offenders* (DOT HS 808 881), 1999.)

DRI scales demonstrate satisfactory reliability ($\alpha > 0.80$). (Chang et al., *supra.*) Bishop was able to demonstrate some predictive abilities of the DRI in rapid (within one year) DUI recidivist detection. (Nick Bishop, *Predicting Multiple DUI Offenders Using the Florida DRI, 2007-2008*, 118 Substance Use & Misuse 423-29 (2011).) Moreover, NHTSA stated that the DRI is the only major DUI/DWI assessment that addresses driver risk. (C.L. Popkins et al., NTSA, *Assessment and Classification Instruments Designed to Detect Alcohol Abuse* (DOT HS 807 475), 1988.) The DRI risk ranges represent the degree of problem severity. Data analyses, in combination with field reports from experienced evaluators, have confirmed that these risk ranges provide accurate identification of problem behavior. (Behavior Data Systems, Driver Risk Inventory, *available at* www.BDSLtd.com.)

For this examination, an overall risk variable was created to help identify first-time offenders who presented greater risk. Approximately 16% (1,693) of first-time offenders were classified as High Overall Risk; the remaining were classified as Low Overall Risk.

Tables 1 through 5 summarize demographic characteristics and consequences of first-time offenders' current arrest, BAC, convictions, and completed treatments. Approximately 72% of the offenders were male, 70% were Caucasian, 58% were single, and over 80% had a high school education or higher. The average age of offenders was 34-years-old. BAC results are presented in Table 5 and are briefly summarized here.

**BAC Results.** About 6% of offenders reported a BAC < 0.08%, 21% reported BAC from 0.08% to 0.14%, 23% reported BAC 0.15% to 0.19%, and 17% reported BAC > 0.20%. Approximately 24% of offenders refused to provide a breath test at the time of their DUI arrest. Additionally, 91% met the criteria for substance abuse diagnosis and 9% met the criteria for a substance dependence diagnosis. (Items adapted from the *DSM-IV-TR* were embedded in the DRI to assess substance abuse and dependence. Although a more current version of the *Diagnostic Statistical Manual of Mental Disorders* was released in 2013, the data supplied by the test developer relied on the *DSM-IV-TR*.) Responses were based on offenders' self-reports.

**Recidivism Rate.** Most first-time offenders in the sample were convicted of DUI, DUI with damage, or DUI with personal injury. (*See* Table 3.) Since the original charge/conviction, there were 870 second DUI convictions and 57 third DUI convictions. This represented about an 8% recidivism rate (using confirmed DUI convictions) over a five-year interval. The majority of treatment completions were for DUI school or substance abuse treatment. These two interventions were commonly co-occurring interventions, meaning individuals were required to attend DUI school and substance abuse treatment.

**Table 1: First-Time Offenders—Nominal Variables**
(N = 10,426)

| | | | Low Risk | | High Risk | |
|---|---|---|---|---|---|---|
| **Gender** | **N** | **%** | **N** | **%** | **N** | **%** |
| Male | 7,551 | 72.4 | 5,644 | 72.5 | 1,907 | 72.2 |
| Female | 2,875 | 27.6 | 2,142 | 27.5 | 733 | 27.8 |
| **Race/Ethnicity** | | | | | | |
| Caucasian | 7,372 | 70.7 | 5,360 | 69.1 | 2,012 | 76.4 |
| African American | 1,035 | 9.9 | 819 | 10.6 | 216 | 8.2 |
| Hispanic | 1,718 | 16.5 | 1,400 | 18.1 | 318 | 12.1 |
| Other | 264 | 2.6 | 177 | 2.2 | 87 | 3.3 |
| **Married** | | | | | | |
| Single | 6,091 | 58.4 | 4,527 | 58.3 | 1,534 | 59.6 |
| Married | 2,180 | 20.9 | 1,653 | 21.3 | 527 | 20.1 |
| Divorced | 1,504 | 14.4 | 1,134 | 14.6 | 370 | 14.1 |
| Separated | 436 | 4.2 | 321 | 4.1 | 115 | 4.4 |
| **Driving-Related Consequences** | | | | | | |
| Current DUI reduced to reckless | 546 | 5.4 | 351 | 4.6 | 195 | 7.6 |
| Pending DUI | 271 | 2.6 | 180 | 2.3 | 91 | 3.5 |
| License revocation | 9,003 | 86.4 | 6,675 | 86.5 | 2,328 | 88.9 |
| DUI school attendance | 544 | 5.3 | 355 | 4.6 | 189 | 7.2 |
| ***DSM-IV*** | | | | | | |
| Substance Abuse Diagnosis | 9,819 | 94.2 | | | | |
| Substance Dependence Diagnosis | 910 | 8.7 | | | | |

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**Table 2: First-Time Offenders–Continuous Variables**
(N = 10,426)

| | Min | Max | Mean | SD |
|---|---|---|---|---|
| **Demographic** | | | | |
| Age | 12 | 84 | 34.4 | 12.14 |
| **Arrest History** | | | | |
| DUI reduced | 0 | 7 | 0.05 | 0.23 |
| Arrests | 0 | 4 | 1.03 | 0.27 |
| Alcohol-related arrests | 0 | 7 | 0.12 | 0.49 |
| Drug-related arrests | 0 | 7 | 0.10 | 0.45 |
| At-fault accidents | 0 | 7 | 0.27 | 0.58 |
| Moving violations | 0 | 7 | 0.96 | 1.40 |
| Misdemeanors | 0 | 7 | 0.32 | 0.79 |
| Felony | 0 | 7 | 0.15 | 0.55 |
| **Scales** | | | | |
| Alcohol | 0 | 51 | 8.09 | 8.91 |
| Driver Risk | 0 | 60 | 8.41 | 7.90 |
| Drug | 0 | 45 | 3.61 | 7 |
| Stress Management | 0 | 239 | 136.96 | 47.05 |
| **Overall Risk** | | | | |
| | 5 | 19 | 9.3 | 2.3 |

**Table 3: First-Time Offender Convictions**
(N = 10,426)

| | Conviction 1 | | Conviction 2 | | Conviction 3 | |
|---|---|---|---|---|---|---|
| **Arrest Code** | **N** | **%** | **N** | **%** | **N** | **%** |
| 172 | 10 | <1 | 0 | 0 | 0 | 0 |
| 647 | 9,137 | 87.6 | 696 | 80 | 38 | 66.7 |
| 648 | 1,250 | 12 | 168 | 19.3 | 16 | 28.1 |
| 649 | 26 | <1 | 5 | <1 | 3 | 5.3 |
| 657 | 1 | <1 | 1 | <1 | 0 | 0 |
| 658 | 2 | <1 | 0 | 0 | 0 | 0 |
| 659 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | **10,426** | **100** | **870** | **100** | **57** | **100** |

## Identification of Potential Risk Predictors

The focus of this examination was to identify potential risk predictors, including the overall risk score for first-time offenders and establish accuracy of the DRI risk classification. To that end, comparisons of Low Overall Risk and High Overall Risk offenders were conducted using descriptive statistics, accuracy studies, and prediction modeling. This broad view was undertaken to explore whether, beyond the overall risk score, there were differences between Low Overall Risk and High Overall Risk among first-time offenders.

## Treatment Completion, Race, Ethnicity, Gender Effects on Convictions

Results revealed that offenders in the High Overall Risk category were more likely to be Caucasian and to have had a DUI reduced to reckless driving in the past. Prediction study results indicated that race/ethnicity, as well as substance dependence diagnosis, had a negative and statistically significant effect on DUI convictions. Gender, substance abuse diagnosis, and the overall risk score were not statistically significant in the model. With regard to race, estimates of second DUI convictions were approximately 58% lower for non-White offenders than White offenders. Those identified as having a substance dependence diagnosis had a 74% decrease in expected rates of a second DUI conviction. Women were more likely to reoffend; however, this result was not a statistically significant level. Analyses to examine the accuracy of risk classifications using the DRI were significant and predicted revocations better than chance and represented a small effect on DUI recidivism prediction.

Results of the study found that, overall, about 8% of first-time offenders who completed treatment had a second conviction for a DUI-related offense; this is relatively low compared to other longitudinal studies. Among first-time offenders in the sample, 16% were classified as High Overall Risk and 11% had a second DUI conviction, but offender risk was not a significant predictor of recidivism in the model.

**Demographic Characteristics, Charge Reduction.** There were some interesting findings regarding demographic characteristics of offenders. Among High Overall Risk offenders, there were more Caucasian offenders and offenders who had a DUI charge reduced to reckless driving. This may suggest that reducing charges, as a criminal justice policy, may not be an effective deterrent and may even normalize DUI/DWI as "just another" driving violation.

**Overall Model of Risk Prediction.** As a model of recidivism prediction, gender, race, substance abuse diagnosis, substance dependence diagnosis, and risk classification contributed to an overall model of risk prediction that was statistically significant; however, when examined independently, only race/ethnicity and substance dependence were statistically significant independent factors related to recidivism.

For the practitioner, gathering information about demographics and substance use and misuse is important in risk

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**Table 4: First-Time Offenders—Intervention Type**
(N = 10,426)

| Intervention Type | Intervention 1 | | Intervention 2 | | Intervention 3 | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| 4-hour behind the wheel course | 0 | 0 | 2 | <1 | 2 | <1 |
| Traffic/Law Substance Abuse School | 1 | <1 | 30 | 1.6 | 8 | 1.2 |
| ADI School | 288 | 2.8 | 92 | 4.8 | 22 | 3.4 |
| 3N3 Course | 0 | 0 | 0 | 0 | 0 | 0 |
| DUI School | 9,906 | 95 | 585 | 30.4 | 119 | 18.1 |
| Substance Abuse Treatment | 207 | 2 | 855 | 44.4 | 404 | 61.6 |
| Traffic Collision Avoidance Course | 2 | <1 | 17 | <1 | 2 | <1 |
| BDI Course | 22 | <1 | 330 | 17.1 | 82 | 12.5 |
| BDI Course (2) | 1 | <1 | 15 | <1 | 17 | 206 |
| **TOTAL** | **10,426** | **100** | **1,926** | **100** | **656** | **100** |

**Table 5: First-Time Offenders—BAC Results**
(N = 10,462)

| BAC | N | % |
|---|---|---|
| 0% to 0.07% | 619 | 5.9 |
| 0.08% to 0.14% | 2,194 | 21 |
| 0.15% to 0.19% | 2,434 | 23.3 |
| 0.20% to 0.24% | 1,285 | 12.3 |
| 0.25% and greater | 529 | 5.1 |
| Not available | 1,220 | 11.7 |
| Refused | 2,145 | 23.6 |

classification, as well as scores from DRI. Of particular interest to evaluators and clinicians was the finding that non-Whites were 58% less likely to reoffend after treatment than White offenders in the sample. Moreover, offenders with a substance dependence diagnosis were 74% less likely to reoffend after treatment completion. This may suggest that DRI is also an important screening tool for identifying individuals with significant substance use disorders.

**Treatment Completion.** An examination of the treatment completion data submitted by the state motor vehicle department showed a majority of offenders, 95%, completed DUI school. About 44% completed substance abuse treatment concurrently. Perhaps the combination of the two interventions and the types of approaches used in treatment were more effective for non-White male offenders or individuals with substance dependency problems. This may account for differences in estimated rates of recidivism. Feedback from early reviews suggested that the DRI may be an effective self-report diagnostic tool that predicts successful treatment outcomes and, as a consequence, results in lower recidivism. This is certainly a possible explanation and warrants further exploration. Results demonstrated that using risk classifications can aid clinicians in predicting recidivism.

## Limitations of Study

There are some notable limitations related to this study, including test administration, psychometric properties, and methodology. As noted earlier, the authors and test developer have limited knowledge or input into how the test is administered to offenders by the various agencies. Also, the treatment completion data were simply categorical and indicated the treatment setting. For example, most offenders completed outpatient substance abuse treatment or a psychoeducational intervention (DUI school); however, the specific approach (e.g., motivational interviewing, cognitive behavioral therapy) used was not recorded. Additionally, no information on whether offenders participated in individual therapy, group therapy, or a combination of individual and group therapy was documented. Also missing from the treatment information was whether offenders participated in self-support or mutual support groups such as SMART Recovery or Alcoholics Anonymous.

Without these elements, causal relationships between the most effective treatment approaches, treatment combinations, and intensity cannot be established. One additional limitation was the restrictive procedure for selecting participants for analysis; only offenders with treatment completion dates and a DUI conviction were included. Recidivism for this study was defined as subsequent conviction for a DUI; offenders charged with but not convicted of a DUI were excluded and offenders with a DUI arrest reduced to a reckless driving charge were excluded from this analysis. These sample restrictions limit generalizations and may underestimate recidivism rates.

## Implications

There have been many longitudinal DUI/DWI studies that have examined predictors, attitudes, beliefs, and screening classification, but this is the first study to examine the accuracy of a screening tool in identifying DUI reoffenders using confirmed convictions and treatment completion information. The Driver Risk Inventory appears to be an accurate instrument for assessing risk of reoffending. Recidivism prediction results revealed that 8% of offenders were convicted of a second DUI within five years. Women were more likely to have a second DUI conviction than men, which is a departure from other studies and may indicate a possible change in DUI reoffender profiles. Clinical staff may find these results are relevant and provide an opportunity to examine treatment approaches and reflect on treatment intensity and unique personal needs. Given that non-Whites and those diagnosed as substance dependent were less likely to reoffend, the approaches or combination of treatment and education may have a greater effect with these offender populations and alternative approaches may need to be considered for use with other demographic groups. ■