

Office of Research and Strategic Planning

RESEARCH BRIEF

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The Predictive Utility of Risk and Needs Assessment

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Highlights:

- **The Level of Service/Case Management Inventory (LS/CMI) is a highly effective predictor of recidivism among day report center and institutional corrections populations**
- **LS/CMI risk scores are strongly correlated with many different offender outcomes including new arrests, jail bookings, incarcerations, and successful completion of day report center programs**
- **LS/CMI risk and needs information can play an important role in guiding decisions about the level of supervision and the types of services that offenders receive in West Virginia**

EXECUTIVE SUMMARY

Risk and needs assessment plays a crucial role in determining the services offenders receive while in correctional custody and their level of supervision after release. According to the principles of effective correctional intervention, clients assessed as having a higher risk of recidivism should receive both a greater treatment dosage and a higher level of case supervision. This strategy of providing more services to higher risk individuals is frequently described as adhering to the “risk principle” (Andrews and Dowden, 2006). In order to adhere to the risk principle, however, correctional programs must first ensure that they are accurately assessing offenders’ risk and needs.

The Level of Service/Case Management Inventory (LS/CMI), and its predecessor the Level of Service Inventory-Revised (LSI-R), are two of the most prominent and widely-used tools for assessing offenders. Both have been subjected to extensive empirical research and have been shown to accurately predict the likelihood of recidivism for a variety of offender populations (Vose, Cullen and Smith, 2008). The LS/CMI is currently used by all correctional agencies in West Virginia to assess risk for recidivism. The tool is completed through a process that involves an offender interview combined with the use of official records. The collective information is used to calculate risk scores that indicate an overall risk for recidivism as well as

identify specific criminogenic needs (i.e., dynamic risk factors shown to be empirically related to recidivism). These factors include: education/employment, family/marital relationships, substance abuse, procriminal attitudes, antisocial peers, leisure/recreation activities, antisocial personality, and past criminal behavior. LS/CMI scores are utilized to make a variety of decisions including level of supervision and services to be provided to protect public safety.

Several recent and forthcoming studies conducted by researchers from the Office of Research and Strategic Planning (ORSP) assess the effectiveness of the LS/CMI for predicting recidivism by offenders in WV. These studies investigate the statistical relationships between various offender characteristics (including LS/CMI scores) and the likelihood of committing a new offenses during a 24 month follow-up period.

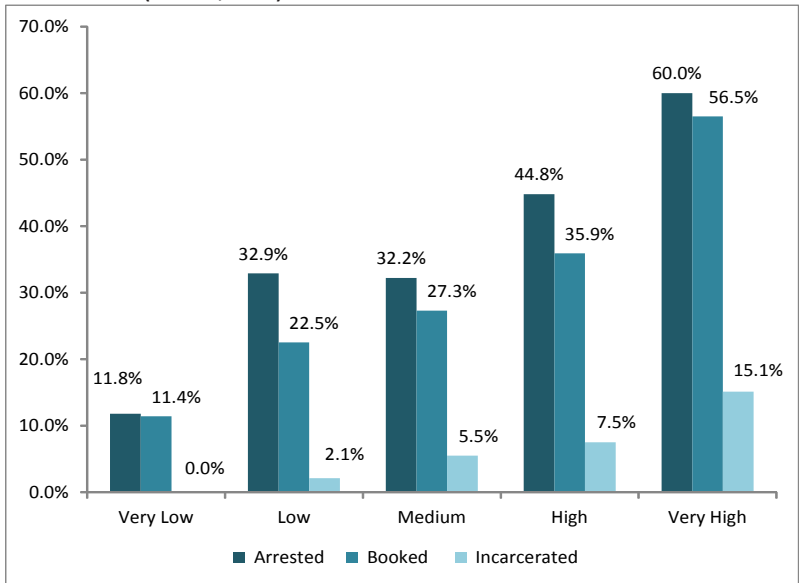
KEY FINDINGS

West Virginia recidivism research and validation results provide strong evidence that the LS/CMI is an accurate predictor of recidivism for offenders released from a variety of correctional settings, specifically day report center programs and Division of Corrections facilities (see, Spence & Haas, 2014; Spence & Haas, Forthcoming; Orsini, Haas & Spence, Forthcoming). **Selected observations include:**

- Risk scores are strongly predictive of recidivism, even when controlling for other factors such as age, gender, and ethnicity.
- On average, logistic regression models predict that each 1 point increase in an offender’s total risk score increases the odds of a jail booking by about 3-4% and the odds of incarceration by about 5-9%.
- LS/CMI risk scores are the strongest predictor of recidivism for both DRC clients and DOC inmates. Using only LS/CMI risk scores, it is possible to correctly predict recidivism in 60-70% of cases. The inclusion of other variables (i.e., offender age, race, etc.) increases predictive accuracy

Figure 1

Post-Release Outcomes for Day Report Clients by LS/CMI Risk Level (N = 2,030)



Source: Spence and Haas (2014).

Important Terminology...

Recidivism: The commission of a new offense after release. Recidivism is measured as the occurrence of new arrests, jail bookings and incarcerations within a 24-month period.

Evidence-based practices: Correctional practices that have been shown to reduce recidivism through the results of controlled studies.

Risk and Needs Assessment: A process designed to measure risk for committing new crimes and identify the criminogenic needs that contribute to recidivism.

Risk-Needs-Responsivity (RNR) Principles: Guiding principles for the treatment and supervision of offender populations and supported by empirical research. These principles specify that level of supervision should focus on higher risk offenders, interventions should target individual needs, and programs should consider offender learning styles, motivation level, and demographic characteristics in the delivery of services.

Quality Assurance for Treatment Intervention Programs and Supervision (QA-TIPS): A process developed by WV to better ensure the proper implementation and integrity of the LS/CMI and its related components. It is designed to provide specific feedback to users and identify areas for improvement in offender assessment and case planning.

Table 1

Post-Release Outcomes for DOC Inmates by LS/CMI Risk Level (N = 1,288)

LS/CMI Risk Level	Very Low (n = 5)	Low (n = 66)	Medium (n = 430)	High (n = 629)	Very High (n = 158)	Total (n = 1,288)
Booked	2 (40.0%)	19 (28.8%)	140 (32.6%)	267 (42.4%)	78 (49.4%)	506 (39.3%)
Reincarcerated	1 (20.0%)	4 (6.1%)	38 (8.8%)	112 (17.8%)	32 (20.3%)	187 (14.5%)
Any Recidivism	2 (40.0%)	19 (28.8%)	141 (32.8%)	280 (44.5%)	80 (50.6%)	522 (40.5%)

Note: * p < 0.05, ** p < 0.01, *** p < 0.001. Source: Orsini, Haas and Spence (Forthcoming).

by only an additional 10%.

- Risk scores are also predictive of the likelihood that DRC clients will complete their programs successfully, with each 1 point increase in risk score decreasing the odds of successful completion by about 5%.
- DRC clients with higher risk scores tend to recidivate more quickly, with most new offenses occurring within the first 6-12 months post-release.
- LS/CMI subcomponent scores are significantly correlated with recidivism for both DRC clients and DOC inmates. Subcomponent scores for procriminal attitudes and family/marital issues are less strongly correlated with recidivism compared to findings from other states and jurisdictions.

RECOMMENDATIONS

While the ORSP studies provide evidence that the LS/CMI is an effective predictor of recidivism for the offender population in WV, they also indicate specific areas for improvement. Primary recommendations for improving the accuracy of assessments, applying assessment results in practice, and refining quality control activities are described below.

- **Conduct assessments early in admission.** Early assessment is crucial for providing high risk/needs offenders with an appropriate level of supervision and treatment. Developing case treatment and supervision plans *prior to* an assessment can lead to substantive violations of the RNR principles.

Table 2

DRC Program Completion Rates by LS/CMI Risk Level (N = 2,030)

LS/CMI Total Risk Score	Successful Program Completions (%)
Very Low	80.9
Low	63.6
Medium	55.7
High	41.5
Very High	34.7
Chi-Square Value (χ^2)	66.5***

Note: * p < 0.05, ** p < 0.01, *** p < 0.001. Source: Spence and Haas (2014).

- **Conduct re-assessments often to monitor changes in risk and needs.** The LS/CMI is designed to capture dynamic risk factors that change over time. Reassessments is vital for identifying changes in offender risk/needs and for incorporating this information into treatment and supervision. Scores from reassessments further provide a means for appraising the impact of rehabilitation programs.
- **Focus training and provide tools for better assessing procriminal attitudes and family/marital factors.** Research has consistently shown that the presence of procriminal attitudes is one of the strongest predictors of offender recidivism. However, the studies conducted by the ORSP indicate this domain

Table 3

Bivariate Correlations for LS/CMI Section Scores with Jail Bookings and Incarcerations

LS/CMI Section	DOC Inmates (N = 1,288)		DRC Clients (N = 2,030)	
	Jail Booking	Incarceration	Jail Booking	Incarceration
Anti-social Attitudes	0.021	0.013	0.010	0.010
Anti-social Companions	0.098***	0.125***	0.102**	0.142**
Anti-social Personality	0.100***	0.111***	0.105**	0.077*
History of Criminal Behavior	0.067*	0.066*	0.201**	0.159**
Family/Marital	0.013	0.044	0.061*	0.034**
Education/Employment	0.111*	0.089**	0.132**	0.107**
Leisure/Recreation	0.070*	0.057*	0.089**	0.063*
Substance Abuse	0.063*	0.095**	0.109**	0.084**

Note: * p < 0.05, ** p < 0.01, *** p < 0.001. Source: Spence and Haas (2014), Orsini, Haas and Spence (Forthcoming).

is less predictive than other dynamic risk factors. This suggests assessors are having difficulty in assessing offender attitudes. Similar results are found for family/marital relationships. It is recommended that trainers work to improve assessment in these areas among staff, and consider the adoption of supplemental tools and strategies to more accurately assess procriminal sentiments and family/marital relationships.

- **Utilize quality assurance procedures.** The LS/CMI quality assurance process (QA-TIPS) is designed to ensure proper implementation and integrity of the LS/CMI and its related components. LS/CMI results in WV indicate that the QA process is highly beneficial. It is recommended that treatment and supervision staff continue their participation in the QA-TIPS program to better ensure that all certified LS/CMI Users retain their skills and follow proper procedures.
- **Develop methods to focus resources on high risk offenders and adhere to the risk principle.** Adhering to the “risk principle” entails high risk offenders receiving more intensive treatment and supervision compared to low risk offenders. Supervision officers and treatment staff should develop methods for identifying and monitoring high risk offenders. Greater dosage should be provided to high risk offenders. Treatment services provided to low risk offenders should be kept to a minimum.

Forthcoming Reports from the Office of Research and Strategic Planning...

Recidivism by Direct-Sentence Clients Released from Day Report Centers in 2011: Predictors and Patterns over Time. This report provides an in-depth investigation of the factors that predict the occurrence and timing of recidivism by DRC clients.

Predicting Recidivism of Offenders Released from the West Virginia Division of Corrections: Validation of the Level of Service/Case Management Inventory. This report assesses the validity of the LS/CMI risk assessment tool for predicting recidivism by offenders released from DOC facilities in WV. Subanalyses also provide a validation of the LS/CMI for both male and female subpopulations and violent offenders.

Normative Comparisons of Risk and Needs Assessment Information in West Virginia. This report describes the patterns observed in the LS/CMI assessments of offenders in WV and compares them with samples of offender populations in other states.



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The Division of Justice and Community Services is the designated state criminal justice planning agency. The Division is responsible for fostering public safety in West Virginia by providing planning, system coordination, grant administration, training & technical assistance, monitoring, research, statistical services, and law enforcement training.

The Office of Research and Strategic Planning's mission is to generate statistical and analytical products concerning crime and the criminal justice system for the public and justice system professionals and policy-makers, establishing a basis for sound policy and practical decisions for the criminal justice system in West Virginia.