

Mental Health Indicator Interaction in Predicting Substance Abuse Treatment Outcomes in Nevada

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Presenter Disclosures

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I have no disclosures to make.

Acknowledgements

- **Debra McBride, Chief Nevada Substance Abuse Treatment and Prevention Agency**
- **Maria D. Canfield, Chief, Child and Community Wellness, Reno, NV**
- **Jim Herrell, PhD, U.S. Substance Abuse Mental Health Services Administration (SAMHSA) (Retired)**
- **George E. Bigelow, PhD, Behavioral Pharmacology Research Unit, Johns Hopkins Medical Institutions.**
- **This paper was partially supported by SAMHSA Contract: 270007078 awarded to Caliber Associates**

BACKGROUND

- **Clients with co-occurring mental health and substance abuse issues respond poorly to treatment**
- **A dual diagnosis is the widely accepted standard for identifying mental health problems in substance abuse treatment**
- **Recent mental health history may be another useful indicator of co-occurring mental health and substance abuse problems**
- **State substance abuse treatment programs may fail to detect co-occurring mental health problems due to a lack of service integration**
- **The integration of mental health and substance abuse treatment services has increased in recent years**

PROBLEM

- **Indicators of co-occurring mental health and substance abuse problems routinely collected in Nevada and other State substance abuse treatment systems (N=19) include:**
 - 1. A dual diagnosis, and**
 - 2. A State mental health (cognitive impairment) agency referral.**
- **These indicators have yet to be compared as predictors of treatment outcomes.**

PURPOSE

- 1. To compare mental health problem indices as outcomes predictors individually and combined.**
- 2. To assess the relationship of mental health problem indices to other client risk factors, e.g., sexual abuse.**

HYPOTHESES

With other variables controlled, clients with both MH indices compared to only one or neither indicator will be

·Less likely to complete treatment with significant improvement in functioning, and

·More likely to return to treatment following discharge

Methodology

- **Secondary analysis of Nevada substance abuse treatment data (N=17,591).**
- **Reviewed were admission and discharge records from 1995-2001**
- **Two mental health indices and their interaction were compared as outcome predictors**
- **Logistic and Cox regression analyses used to predict treatment outcomes**

Independent Variables: Mental Health Indicator Groups

- Neither Indicator (N=16072).
- MH Referred Only (N=229).
- Dual Diagnosis Only (N=1016).
- Both MH Indicators (N=274).

DEPENDENT/OUTCOME VARIABLES

- **Treatment completion with improved functioning (33%)**
- **Return to treatment within 215 days (16.5%)**
- **Of all returnees (21%), number of days to return**

Variables Controlled in the Analysis

- **CLIENT**
 - Demographics
 - Victimization/Social Risk
- **Treatment**
 - Prior history
 - Type treatment
 - Length of stay
 - Year of admission

Demographics

- Female=31.9 %
- Non-white=30.2 %
- Mean Age=34.3 (SD=9.32)
- Completed Twelfth grade=69.3%
- Enrolled in school/training=4.9%

Victimization/Social Risk

Victimization

Domestic violence – 34.3%

Physical abuse - 30.1%

Sexual abuse - 17%

Family substance abuse - 65%

Homeless - 30.6%

Employment

• Unemployed – 28.8%

• Not seeking work - 28.3%

Substance Abuse

- **Past 30-Day Use**
 - Less than Daily – 34.9%
 - Daily – 32.7%
- **Primary Substance**
 - Alcohol - 45.5%
 - Crack - 8.2%
 - Cocaine (Not Crack) - 2.9%
 - Marijuana/Hashish - 9.9%
 - Heroin/Morphine - 8.8%
 - Methamphetamine - 21.7%

Type of Treatment

- **Short-term residential - 21.3%**
- **Long-term residential - 10.1%**
- **Intensive day treatment- 10.8%**
- **Non-methadone Outpatient - 49.9%**
- **Methadone outpatient - 7.9.%**

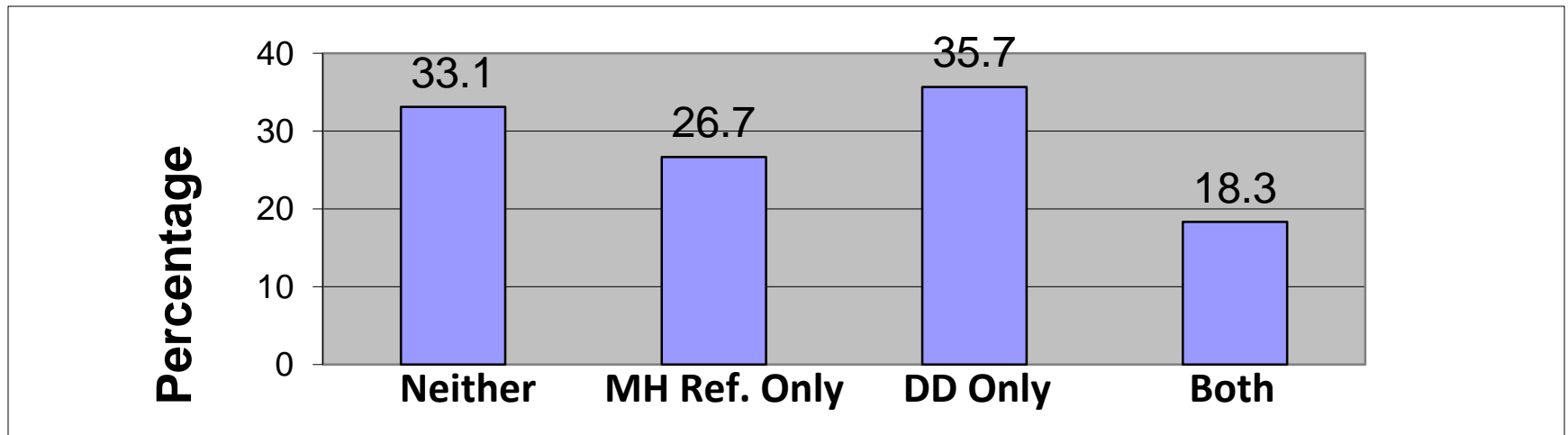
Other Treatment Variables

- **Treated prior to current admission - 48.3%**
- **Year of admission**
 - 1995-1996 - 53.9%**
 - 1997-1998 - 46.1%**
- **Attained 75th percentile LOS - 27.0%**

RESULTS

- **Neither mental health indicator alone significantly predicted any of the three outcomes**
- **Indicator interaction significantly predicted each outcome ($p < .05$)**
- **Having both indices was associated with sexual abuse, domestic violence, homelessness, not seeking work and prior treatment.**

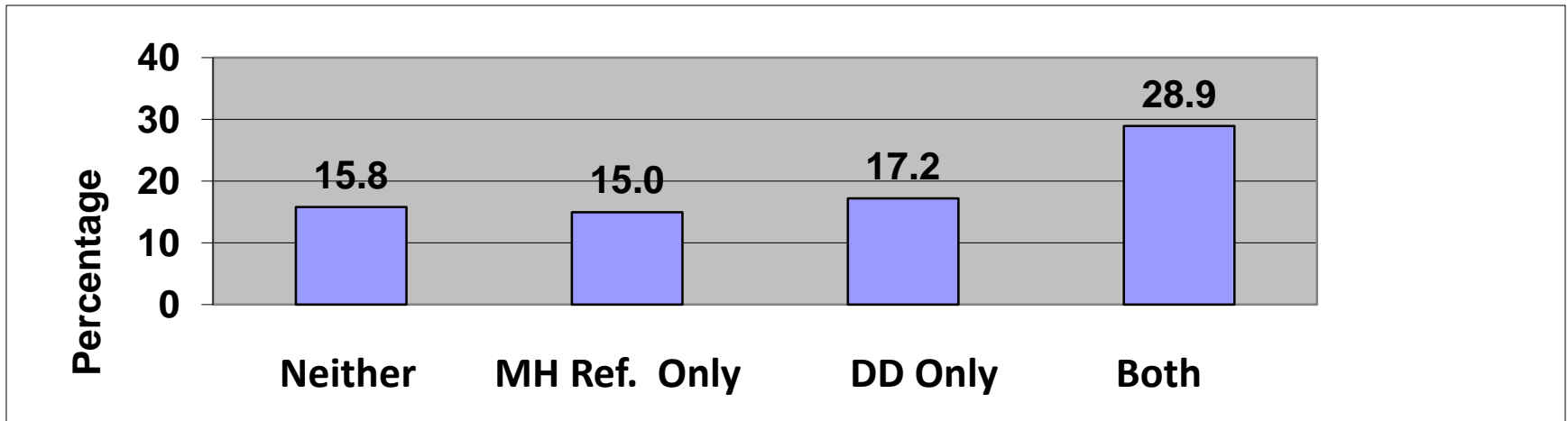
Adjusted Percentage Completed Treatment with Significant Improvement by Group (N=17,024)



LR Analysis of Contributors to TX Completion with Improvement

	B	S.E.	Wald	df	Sig.	OR
<u>MH Referral</u>	-0.308	0.169	3.336	1	0.068	0.735
<u>DD</u>	0.115	0.079	2.113	1	0.146	1.121
<u>MH Referral by DD</u>	-0.598	0.237	6.375	1	0.012	0.55

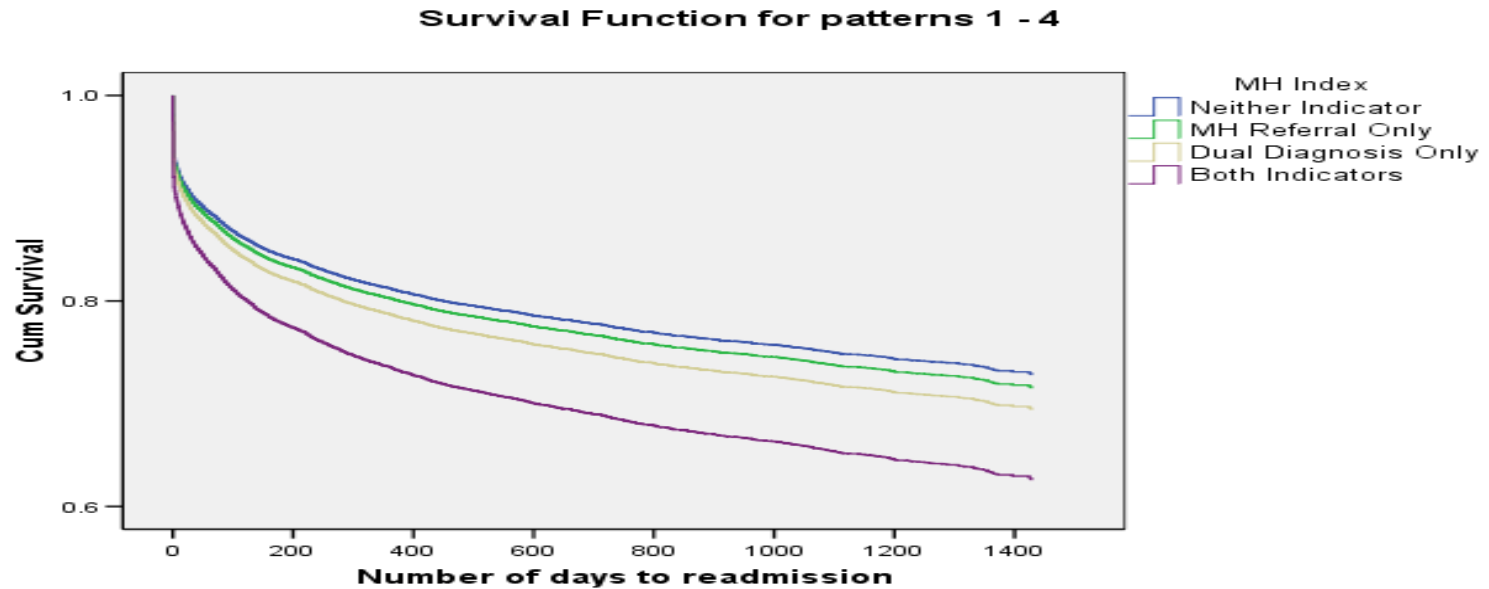
Adjusted Percentage Returned to Treatment Within 215 Days by Group (N=14, 332)



LR Analysis Predicting A Return to TX Within 215 Days of Discharge

	B	S.E.	Wald	df	Sig.	OR
<u>MH referral</u>	-0.064	0.2	0.103	1	0.749	0.938
<u>DD</u>	0.102	0.092	1.228	1	0.268	1.108
<u>MH Referral by DD</u>	0.849	0.263	10.435	1	0.001	2.338

Survival of Analysis of Days to Return to Treatment By Group (N=17,024)



Predictors of Days to Return to Treatment in Cox Regression

	B	SE	Wald	df	Sig.	Exp(B)
MHR Only	0.080616	0.138703	0.33781	1	0.56	1.083955
DD Only	0.114065	0.068961	2.735903	1	0.10	1.120825
BI	0.340891	0.108415	9.886615	1	0.00	1.406199

Victimization/Social Risk

	Neither Indicator	MH Referral Only	Dual Diagnosis Only	Both Indicators	Chi-square		
	<u>(N=16072)</u>	<u>(N=229)</u>	<u>(N=1016)</u>	<u>(N=274)</u>	Chi - Square	df	p
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>			
<u>Domestic violence</u>	<u>32.8</u>	<u>52.2</u>	<u>49</u>	<u>54.7³</u>	<u>196.7</u>	<u>3</u>	<u>0.001</u>
<u>Physical abuse</u>	<u>28.3</u>	<u>54.8</u>	<u>47.6</u>	<u>46.4</u>	<u>276.4</u>	<u>3</u>	<u>0.001</u>
<u>Sexual abuse</u>	<u>15.1</u>	<u>29.7</u>	<u>37.2</u>	<u>46.3^{2,3}</u>	<u>497.9</u>	<u>3</u>	<u>0.001</u>
<u>Family substance</u>	<u>64.1</u>	<u>76.7</u>	<u>78.9</u>	<u>82.2</u>	<u>139.5</u>	<u>3</u>	<u>0.001</u>
<u>Homeless</u>	<u>30.1</u>	<u>46</u>	<u>33</u>	<u>45.4³</u>	<u>55.9</u>	<u>6</u>	<u>0.001</u>
<u>Employment*</u>					<u>386.2</u>	<u>9</u>	<u>0.001</u>
<u>Full-time</u>	<u>37.5</u>	<u>15.7</u>	<u>22.1</u>	<u>4.7</u>			
<u>Not seeking</u>	<u>26.6</u>	<u>45</u>	<u>39.5</u>	<u>63.5^{2,3}</u>			

*Part-time and unemployed categories not shown

Employment

	Neither	MH Referral Only	Dual Diagnosis Only	Both	Chi-square		
	<u>(N=16072)</u>	<u>(N=229)</u>	<u>(N=1016)</u>	<u>(N=274)</u>		df	p
Status							
Full-time	37.5	15.7	22.1	4.7	386.2	<u>9</u>	<u>.001</u>
Part-time	6.0	7.4	6.9	2.6			
Unemployed	28.6	31.9	31.5	27.7			
Not seeking	26.8	44.0	39.5	64.0^{2,3}			

Conclusions

- **MH indicator interaction may improve substance abuse treatment outcomes prediction**
- **Replication is needed to assess interaction effects under different levels of service integration across States**

Limitations

- **Absence of follow-up data for clients that did not return to treatment**
- **Multi-level modeling could not be employed due to provider level sample size limitations**
- **Recent administrative changes in Nevada may limit the applicability of the findings**