

Glacier Consulting, Inc.

**SUCCESS OF MORAL RECONATION THERAPY
(MRT) FOR INMATES VERSUS A CONTROL
GROUP
IN CORRECTIONAL SETTINGS:
ANALYSIS WITHIN THE KENTUCKY
DEPARTMENT OF CORRECTIONS PRISON
SYSTEM¹ UNDER THE NOA COUNSELING
MODEL**

**Robert A. Kirchner, Ph.D.
Susan Greenough
Glacier Consulting, Inc.**

¹ This report is a Second in a series of studies focused on implementation of Moral Reconciliation Therapy throughout the Kentucky Correctional System addressing criminal behavior and drug abuse disorder problems of inmates. The evaluators would like to thank Noa Counseling Director Lada Gasparac and her staff for the assistance they provided in their busy schedules to make this evaluation a success. This report was prepared by Glacier Consulting, Inc., a non-profit research organization dedicated to providing information on what works in treatment of criminal offenders. The views of the authors do not represent the opinions, policies, or official positions of the Kentucky Department of Corrections.

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Executive Summary

Glacier Consulting Inc. (GCI) was contracted to conduct a continuing program evaluation of the Noa Counseling, LLC (Noa Counseling) program to judge the efficacy and effectiveness in the delivery of services within the Kentucky Department of Corrections prison system. The initial study and report² of the implementation of the treatment protocol Moral Reconciliation Therapy (MRT) to enhance population and behavioral management and address mental health issues among inmates at the institutions of the Kentucky Department of Corrections (KYDOC).

The overall finding from the report found that Noa Counseling, while meeting the needs of a high risk, high-need population, produced improvements in the correctional system given the high number of participants assessed with mental health problems. Rehabilitating individuals that abuse drugs and commit criminal activities, along with managing their mental health problems, has resulted in creating useful citizens with increased positive results for public safety of the community. Moreover, the program effectively changed prison culture in which participants were easier to manage, officers experienced a less stressful and safer work environment, participants experienced a safer living environment and experienced motivation to engage/enter additional programs/service, which produced the domino effect once again.

The evaluation presented results of a correctional program, including MRT, that are both efficient in its practices and effective in program delivery. We believe that it could be considered a model for other jurisdictions to improve other programs through the lessons learned by their efforts.

² KIRCHNER, ROBERT A. AND SUSAN GREENOUGH (2017) *SUCCESS OF MORAL RECONCILIATION THERAPY (MRT) IN KENTUCKY CORRECTIONAL SETTINGS: TREATING MENTAL HEALTH AND CREATING BEHAVIORAL CHANGE (COMBINED REPORT WITH INDIVIDUAL INSTITUTION DATA)* JACKSONVILLE BEACH, FL: GLACIER CONSULTING, INC.

The next task for the evaluation team was to test whether these results were significantly different from the “practice as usual” for inmates being released from prison, as well as their behavior while incarcerated. GCI, working with Noa Counseling, identified three prisons to test this hypothesis.

The results across the three institutions were similar and, in each case, the MRT group was significantly different from the control group in producing desired outcomes. The findings are impressive and demonstrate the effectiveness of MRT in each institution in terms of reducing recidivism and lowering the number of disciplinary issues.

The results and findings for each of the prisons are presented next.

ANALYSES AND FINDINGS

Data for this report came from sources that are internal to the Department's systems for tracking the program. Reported data from January 1, 2012 to April 30, 2017 is used for this report that covers the 3 institutions in Kentucky, including:

- Eastern Kentucky Correctional Complex (EKCC)
- Kentucky Correctional Institution for Women (KCIW)
- Kentucky State Reformatory (KSR)

The data provided the necessary information to depict a control population based on 5 selection criteria, together with additional descriptive variables. Each institution has determined their selection criteria of application and enrollment. Program outcomes are then reported along with relational analyses that help understand the trends and patterns relating to the control group and the treatment group for each institution.

To examine the effectiveness of MRT in terms of the data, we have introduced a control group. Does the use of MRT:

- Result in fewer DRs after arrival?
- Lower recidivism (return) rates?

Control Group

For purposes of this report the information relating to the control group for each institution is used as a baseline measure. The control group is similar to all other items or subjects reviewed with the exception that the population does not report receiving MRT. The control group in this context is a group separated from the rest of the experiment where the independent variable being tested cannot influence the results. This isolates the independent

variable's effects on the experiment and can help rule out alternate explanations of the experimental results.

Population Size of the Analysis

The following shows the number of clients in the control pool, control group and those in the MRT group. Clients in the control group who reported prior completion of MRT were removed from the pool.

Figure 1: Number of Clients by Group and Institution

Institution	Control Pool	Control Group	MRT Group
EKCC	1,701	1,336	559
KCIW	1,004	870	359
KSR	2,101	1,786	353

Shared Characteristics of the Population

The client selection criteria used by the institutions include the following variables³:

- **Age**
- **Race**
- **Level of Education**
- **Level of Security**

Each variable is addressed below for each institution in terms of the control group and MRT group. Once we have established shared characteristics between the groups, we can then introduce the variable of MRT.

³ An additional variable is "Mental Health Score"; however, this variable was excluded from this experimental design due to the large percentage of "null" among the control group.

Eastern Kentucky Correctional Complex (EKCC)

Age: With regard to age, the distribution of clients is grouped into the following six categories: < 20 years, 20 – 29, 30 – 39, 40 – 49, 50 – 59 and > 60. The percentage breakdown is shown in Figure 2. As seen in Figure 2, the majority of clients fall within the 2 age groups: ages 20 – 29 and ages 30 – 39. **Figure 2: Percentage of Total Clients by Age Group (EKCC)**

In addition, the age spectrum is quite similar across the groupings. The median age for the control group is a 41 years of age - slightly higher than the median age of 34 years for the MRT Group at EKCC.

EKCC		
Age Group	Control Group	MRT Group
Ages < 20	1.5%	0.0%
Ages 20 - 29	36.8%	37.0%
Ages 30 - 39	31.0%	37.7%
Ages 40 - 49	19.1%	16.6%
Ages 50 - 59	10.2%	7.5%
Age 60 or older	1.3%	1.1%
Total Clients	100.0%	100.0%

Race: Enrollment criteria based on race is presented in Figure 3 below. Race is grouped according to the following categories: White, Black, Asian or Pacific Islander, and Hispanic/Latino. As shown in Figure 3, most of the clients selected are white; black clients are the next largest group. Percentages are statistically similar for the control and MRT groups at EKCC.

Figure 3: Ethnicity Percentage of All Clients (EKCC)

EKCC		
Race	Control Group	MRT Group
White	67.6%	68.3%
Black	29.2%	30.2%
Hispanic/Latino	1.9%	0.7%
Bi-Racial	1.0%	0.7%
Asian or Pacific Islander	0.1%	0.0%
American Indian/Alaskan Native	0.1%	0.0%
Unknown		0.0%
Total Clients	100.0%	100.0%

Education Level: The next selection variable is education level. For purposes of analysis, education level is depicted by group in Figure 4 according to the following categories: 6th grade or less, grades 7-11, grade 12, grades 13-16 and greater than 16.

The distribution of clients based on the number of grades is shown in the Figure 4. The largest group of clients completed 12th grade. The next largest group completed grades 7 – 11.

The distribution is similar for both groups.

Figure 4: Education Level of All Clients (EKCC)

EKCC		
Education Group	Control Group	MRT Group
6th grade or less	1.6%	0.4%
Grades 7 - 11	16.0%	15.7%
Grade 12	60.1%	66.9%
Grades 13 - 16	14.7%	13.4%
Greater than 16 years	1.3%	1.8%
Unknown	6.3%	1.8%
Total Clients	100.0%	100.0%

Level of Security: The final selection variable to be considered as a shared characteristic between groups is level of security (referred to in the data as the “custody level”).

Figure 5: Level of Security Percentage of All Clients (EKCC)

EKCC		
Custody Level	Control Group	MRT Group
Community (Level 1)	7.3%	7.5%
Minimum (Level 2)	7.9%	9.1%
Medium (Level 3)	56.8%	58.9%
Close (Level 4)	13.2%	15.9%
Maximum (Level 5)	2.8%	5.0%
Restricted (Level A)	0.3%	0.0%
Unassigned Custody	11.7%	3.6%
Total Clients	100.0%	100.0%

The figure shows the breakdown of client groups by custody level. The figure shows that more than one-half the clients enrolled in MRT and the client group are designated as medium custody. The distribution across custody levels is similar between the 2 groups.

Measurements for Impact of MRT Using the Control Group

The additional characteristics that often indicate MRT success include the following:

- **Disciplinary Write-ups**
- **Returns**

DR to Population Size Ratio: Disciplinary write-ups (DR) were totaled for the 24 month period during enrollment for both groups. As can be seen in the figure, the MRT had a significantly lower ratio of DRs than did the control group.

Figure 6: Ratio of DRs during the Program to Group Population (EKCC)

EKCC			
Group Type	Disciplinary Write Ups (DR) During the Program	Population	DR Ratio to Population
Control Group	9,912	1,336	7:1
MRT Group	595	559	1:1

T-Test Statistical Assessment for Independent Samples Relating to Disciplinary write-ups (DR) during the 24-month enrollment: To measure statistical significance of DR rates for both the control group and the MRT group at EKCC, a t-test was applied to the independent samples. Here, the number of DRs for the control group ($n = 1,336$) was compared to the DRs for clients of the MRT group ($n = 559$) based on their respective populations. After establishing the null hypothesis (i.e., "MRT had no impact on the subject's chance of a DR"), we can then use the score to either reject the null hypothesis -- in this instance, "MRT made a difference" or we can disregard the increase or decrease as a merely random event. The t-test was used to determine whether or not the difference in the number of DRs is statistically significant at the .05 level, rather than due to chance or other circumstances. The p-value for

EKCC was .000 (less than .05) which enables us to reject the null hypothesis and confirm statistical significance of the MRT variable.

Recidivism of Released Clients: This program outcome measure looks at the number of clients released and the percentage of clients who returned or remained out of the program. The figure shows the percentage of clients in each group who returned. As shown in the figure, the percentage of clients in the MRT Group who return is significantly lower than the control group.

Figure 7: Recidivism Percentage by Group (EKCC)

EKCC		
Return Status	Control Group	MRT Group
Number of Clients Returned	392	45
Total Population	1,336	559
<i>Percent Returned</i>	29%	8%

T-Test Statistical Assessment for Independent Samples Relating to Recidivism: To measure statistical significance of recidivism rates for both the control group and the MRT group at EKCC, a t-test was applied to the independent samples. Here, the number of returned clients for the control group (n = 392) was compared to the returned clients of the MRT group (n = 45) based on their respective populations. After establishing the null hypothesis (i.e., "MRT had no impact on the subject's chance of recidivism"), we can then use the score to either reject the null hypothesis -- in this instance, "MRT made a difference" or we can disregard the increase or decrease as a merely random event. The t-test was used to determine whether or not the difference in recidivism is statistically significant at the .05 level, rather than due to chance or other circumstances. The p-value for EKCC was .000 (less than .05) which enables us to reject the null hypothesis and confirm statistical significance of the MRT variable.

Kentucky Correctional Institution for Women (KCIW)

Age: With regard to age, the distribution of clients is grouped into the following six categories: < 20 years, 20 – 29, 30 – 39, 40 – 49, 50 – 59 and > 60.

As seen in the figure, the majority of clients fall within the 2 age groups: ages 20 – 29 and ages 30 – 39. In addition, the age spectrum is quite similar across the groupings.

The median age for the control group is a 35 years of age – statistically similar to the median age of 32 years for the MRT Group at KCIW.

Figure 8: Percentage of Total Clients by Age Group

KCIW		
Age Group	Control Group	MRT Group
Ages < 20	1.6%	0.0%
Ages 20 - 29	47.8%	32.3%
Ages 30 - 39	30.9%	38.2%
Ages 40 - 49	13.0%	20.1%
Ages 50 - 59	5.7%	8.4%
Age 60 or older	0.9%	1.1%
Total Clients	100.0%	100.0%

Race: Enrollment criteria based on race is presented in Figure 3 below. Race is grouped according to the following categories: White, Black, Asian or Pacific Islander, and Hispanic/Latino.

As shown in Figure 3, most of the clients selected are white; black clients are the next largest group. A higher percentage of blacks are included in the MRT group at KCIW.

Figure 9: Ethnicity Percentage of All Clients (KCIW)

KCIW		
Race	Control Group	MRT Group
White	89.1%	68.3%
Black	7.9%	30.2%
Hispanic/Latino	0.6%	0.7%
Bi-Racial	2.1%	0.7%
Asian or Pacific Islander	0.1%	0.0%
American Indian/Alaskan Native	0.2%	0.0%
Unknown	0.0%	0.0%
Total Clients	100.0%	100.0%

Education Level: The next selection variable is education level. For purposes of analysis, education level is depicted by group in Figure 4 according to the following categories: 6th grade or less, grades 7-11, grade 12, grades 13-16 and greater than 16.

The distribution of clients based on the number of grades is shown in the Figure 4. The largest group of clients completed 12th grade. The next largest group completed grades 7 – 11 for the

control group; the grouping of grades 13 – 16 is the next largest distribution for the MRT group.

The distribution is similar enough to be considered as a shared characteristic between groups.

Level of Security: The final selection variable to be considered as a shared characteristic between groups is level of

security (referred to in the data as the “custody level”).

The figure shows the breakdown of client groups by custody level. The figure shows that more than one-half the clients enrolled in MRT are

designated as medium custody. The distribution across custody levels is not similar between groups – the MRT group includes more difficult populations (as evidenced by the distribution for higher custody level). Medium custody is 3 times the percent for the control group, close custody- even higher.

Figure 10: Education Level of All Clients (KCIW)

KCIW		
Education Group	Control Group	MRT Group
6th grade or less	0.3%	0.0%
Grades 7 - 11	25.4%	16.4%
Grade 12	53.1%	52.9%
Grades 13 - 16	17.0%	24.2%
Greater than 16 years	3.6%	6.1%
Unknown	0.6%	0.3%
Total Clients	100.0%	100.0%

Figure 11: Level of Security Percentage of All Clients (KWIC)

KCIW		
Custody Level	Control Group	MRT Group
Community (Level 1)	27.0%	7.5%
Minimum (Level 2)	11.1%	9.2%
Medium (Level 3)	18.2%	52.6%
Close (Level 4)	2.9%	24.2%
Maximum (Level 5)	0.0%	3.9%
Restricted (Level A)	0.3%	0.0%
Unassigned Custody	40.5%	2.5%
Total Clients	100.0%	100.0%

Measurements for Impact of MRT Using the Control Group

The additional characteristics that often indicate MRT success include the following:

- **Disciplinary Write-ups**
- **Returns**

DR to Population Size Ratio: Disciplinary write-ups (DR) were totaled for the 24 month period during enrollment for both groups. As can be seen in the figure, the MRT had a significantly lower ratio of DRs than did the control group.

Figure 12: Ratio of DRs during the Program to Group Population (KCIW)

KCIW			
Group Type	Disciplinary Write Ups (DR) During the Program	Population	DR Ratio to Population
Control Group	11,597	870	13:1
MRT Group	870	359	2:1

T-Test Statistical Assessment for Independent Samples Relating to Disciplinary write-ups (DR) during the 24-month enrollment: To measure statistical significance of DR rates for both the control group and the MRT group at KCIW, a t-test was applied to the independent samples. Here, the number of DRs for the control group (n = 870) was compared to the DRs for clients of the MRT group (n = 359) based on their respective populations. After establishing the null hypothesis (i.e., "MRT had no impact on the subject's chance of a DR"), we can then use the score to either reject the null hypothesis -- in this instance, "MRT made a difference" or we can disregard the increase or decrease as a merely random event. The t-test was used to determine whether or not the difference in the number of DRs is statistically significant at the .05 level, rather than due to chance or other circumstances. The p-value for

KCIW was .000 (less than .05) which enables us to reject the null hypothesis and confirm statistical significance of the MRT variable.

Recidivism of Released Clients: This program outcome measure looks at the number of clients released and the percentage of clients who returned or remained out of the program. The figure shows the percentage of clients in each group who returned. As shown in the figure, the percentage of clients in the MRT Group who return is significantly lower than the control group percentage who return.

Figure 11: Recidivism Percentage by Group (KCIW)

KCIW		
Return Status	Control Group	MRT Group
Number of Clients Returned	349	19
Total Population	870	359
<i>Percent Returned</i>	40%	5%

T-Test Statistical Assessment for Independent Samples Relating to Recidivism: To measure statistical significance of recidivism rates for both the control group and the MRT group at KCIW, a t-test was applied to the independent samples. Here, the number of returned clients for the control group (n = 349) was compared to the returned clients of the MRT group (n = 19) based on their respective populations. After establishing the null hypothesis (i.e., "MRT had no impact on the subject's chance of recidivism"), we can then use the score to either reject the null hypothesis -- in this instance, "MRT made a difference" or we can disregard the increase or decrease as a merely random event. The t-test was used to determine whether or not the difference in recidivism is statistically significant at the .05 level, rather than due to chance or other circumstances. The p-value for KCIW was .000 (less than .05) which enables us to reject the null hypothesis and confirm statistical significance of the MRT variable.

Kentucky State Reformatory (KSR)

Age: With regard to age, the distribution of clients is grouped into the following six categories: < 20 years, 20 – 29, 30 – 39, 40 – 49, 50 – 59 and > 60. The percentage breakdown is shown in Figure 2 below:

As seen in the figure, the majority of clients fall within the 2 age groups: ages 30 - 39 and ages 40 - 49. In addition, the age spectrum is quite similar across the groupings, with the exception of a higher percentage of older clients in the 60 and over

Figure 14: Percentage of Total Clients by Age Group (KSR)

KSR		
Age Group	Control Group	MRT Group
Ages < 20	0.8%	0.0%
Ages 20 - 29	19.7%	15.0%
Ages 30 - 39	24.4%	33.7%
Ages 40 - 49	24.2%	29.5%
Ages 50 - 59	17.9%	17.6%
Age 60 or older	12.3%	4.2%
Total Clients	100.0%	100.0%
May not add due to blanks in the data.		

grouping. The median age for the control group is at 43 years of age – statistically similar to the median age of 41 years for the MRT Group at KSR.

Race: Enrollment criteria based on race is presented in Figure 3 below. Race is grouped according to the following categories: White, Black, Asian or Pacific Islander, and Hispanic/Latino.

As shown in Figure 3, most of the clients selected are white; black clients are the next largest group. Percentages are statistically similar for the control and MRT groups.

Figure 15: Ethnicity Percentage of All Clients (KSR)

KSR		
Race	Control Group	MRT Group
White	77.3%	68.3%
Black	20.4%	30.2%
Hispanic/Latino	1.6%	0.7%
Bi-Racial	0.5%	0.7%
Asian or Pacific Islander	0.2%	0.0%
American Indian/Alaskan Native	0.1%	0.0%
Unknown	0.1%	0.0%
Total Clients	100.0%	100.0%

Education Level: The next selection variable is education level. For purposes of analysis, education level is depicted by group in Figure 4 according to the following categories: 6th grade or less, grades 7-11, grade 12, grades 13-16 and greater than 16.

The distribution of clients based on the number of grades is shown in the Figure 4. The largest group of clients completed 12th grade. The next largest group completed grades 7 – 11 for the control group; the grouping of

Figure 16: Education Level of All Clients (KSR)

KSR		
Education Group	Control Group	MRT Group
6th grade or less		1.1%
Grades 7 - 11	23.0%	15.6%
Grade 12	49.4%	53.3%
Grades 13 - 16	14.5%	21.8%
Greater than 16 years	2.9%	3.7%
Unknown	7.1%	4.5%
Total Clients	100.0%	100.0%

grades 13 – 16 is the next largest distribution for the MRT group. The distribution is similar enough to be considered as a shared characteristic between groups. *** Table title....

Level of Security: The final selection variable to be considered as a shared characteristic between groups is level of security (referred to in the data as the “custody level”).

Figure 17: Level of Security Percentage of All Clients (KSR)

The figure shows the

breakdown of client groups by custody level. The figure shows that more than one-half the clients enrolled in MRT and the client group are designated as medium custody. The distribution across custody levels is similar between the 2 groups.

KSR		
Custody Level	Control Group	MRT Group
Community (Level 1)	5.0%	3.7%
Minimum (Level 2)	4.8%	7.4%
Medium (Level 3)	61.6%	67.7%
Close (Level 4)	11.2%	17.6%
Maximum (Level 5)	1.5%	3.1%
Restricted (Level A)	0.2%	0.0%
Unassigned Custody	15.7%	0.6%
Total Clients	100.0%	100.0%

Measurements for Impact of MRT Using the Control Group

The additional characteristics that often indicate MRT success include the following:

- Disciplinary Write-ups
- Returns

DR to Population Size Ratio: Disciplinary write-ups (DR) were totaled for the 24 month period during enrollment for both groups. As can be seen in the figure, the MRT had a significantly lower ratio of DRs than did the control group.

Figure 18: Ratio of DRs during the Program to Group Population (KSR)

KSR			
Group Type	Disciplinary Write Ups (DR) During the Program	Population	DR Ratio to Population
Control Group	5,952	1,786	3:1
MRT Group	134	353	< 1:1

T-Test Statistical Assessment for Independent Samples Relating to Disciplinary write-ups (DR) during the 24-month enrollment: To measure statistical significance of DR rates for both the control group and the MRT group at KSR, a t-test was applied to the independent samples. Here, the number of DRs for the control group ($n = 1,786$) was compared to the DRs for clients of the MRT group ($n = 353$) based on their respective populations. After establishing the null hypothesis (i.e., "MRT had no impact on the subject's chance of a DR"), we can then use the score to either reject the null hypothesis -- in this instance, "MRT made a difference" or we can disregard the increase or decrease as a merely random event. The t-test was used to determine whether or not the difference in the number of DRs is statistically significant at the .05 level, rather than due to chance or other circumstances. The p-value for

KSR was .000 (less than .05) which enables us to reject the null hypothesis and confirm statistical significance of the MRT variable.

Recidivism of Released Clients: This program outcome measure looks at the number of clients released and the percentage of clients who returned or remained out of the program. The figure shows the percentage of clients in each group who returned. As shown in the figure, the percentage of clients in the MRT Group who return is significantly lower than the control group percentage who return.

Figure 19: Recidivism Percentage by Group (KSR)

KSR		
Return Status	Control Group	MRT Group
Number of Clients Returned	464	7
Total Population	1786	353
<i>Percent Returned</i>	26%	2%

T-Test Statistical Assessment for Independent Samples Relating to Recidivism: To measure statistical significance of recidivism rates for both the control group and the MRT group at KSR, a t-test was applied to the independent samples. Here, the number of returned clients for the control group (n = 464) was compared to the returned clients of the MRT group (n = 7) based on their respective populations. After establishing the null hypothesis (i.e., "MRT had no impact on the subject's chance of recidivism"), we can then use the score to either reject the null hypothesis -- in this instance, "MRT made a difference" or we can disregard the increase or decrease as a merely random event. The t-test was used to determine whether or not the difference in recidivism is statistically significant at the .05 level, rather than due to chance or other circumstances. The p-value for KSR was .000 (less than .05) which enables us to reject the null hypothesis and confirm statistical significance of the MRT variable.

Conclusion

The shared characteristics between the control groups and MRT groups for the three (3) institutions allowed for assessment of MRT effectiveness in 2 areas –the ratio of DRs during the program to total population and percentage of clients in each group who returned. The results across the three institutions were similar and, in each case, the MRT group was significantly different from the control group in producing desired outcomes. There is a statistically significance difference in the recidivism rates that are not due to chance, indicating that the use of MRT made a statistical difference in the chance of returning. Moreover, when looking at custody levels, especially for EKCC, one sees that MRT treats more difficult populations (as evidenced by the distribution for higher custody level). Overall, findings are impressive and demonstrate the effectiveness of MRT under the NOA model, in each institution in terms of reducing recidivism and lowering the number of disciplinary issues.