Missouri Treatment Courts
Implementing RNR in a Drug Court Setting: The 4-Track Model in Practice
Outcome and Cost Study Summary

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BACKGROUND

Drug courts are designed to guide offenders with substance use disorders into treatment that will support recovery and improve the quality of life for the offenders and their families. Benefits to society include substantial reductions in crime and decreased drug use, resulting in reduced costs to taxpayers and increased public safety (e.g., GAO 2005; Kralstein, 2010).

More recently, research has focused not just on *whether* drug courts work but *how* they work, and *who* they work best for. Research based best practices have been developed (e.g., Volume I of NADCP's Best Practice Standards was published in 2013 and Volume II in July 2015). These Best Practice Standards present multiple research-based practices that have been associated with significant reductions in recidivism or significant increases in cost savings or both. The Standards also describe the research that illustrates for whom the traditional drug court model works best, specifically, high-risk/high-need individuals. The Standards recommend that drug court programs either limit their population to high-risk/high-need individuals, or develop different tracks for participants at different risk and need levels (i.e., follow a risk-need responsivity model). That is, drug courts should assess individuals at intake to determine the appropriate services and supervision level based on their assessment results (e.g., Andrews, Bonta, & Wormith, 2006; Lowenkamp & Latessa, 2005). This research has led to the development of more sophisticated drug court programs, including programs that have implemented multiple tracks for their participants based on the four "quadrants" of risk and need (high-risk/high-need, high-risk/low-need, low-risk/high-need, and low-risk/low-need). The first known programs to implement all four tracks based on the risk-need quadrants were the Greene County Adult Treatment Court (GCATC) and the Jackson County Adult Treatment Court (JCATC) in the state of Missouri.[1] In these two programs, judicial officers and coordinators worked with their teams and with community organizations to develop appropriate supervision, treatment and other complementary services for participants at each risk and need level.

In October 2014, the Office of State Courts Administrator (OSCA) in Missouri, in partnership with NPC Research, received a grant from the Bureau of Justice Assistance (BJA), to perform process, outcome and cost evaluations of these two treatment courts in Greene and Jackson County counties that had implemented a 4-track model following the principles of risk-need-responsivity (RNR). The scope of work for the BJA grant also included the expansion of this model into four additional Missouri drug courts. The Missouri Drug Courts Coordinating Commission (DCCC) was interested in the costs associated with implementing this model and subsequently contracted with NPC to evaluate the costs and potential benefits in two of the expansion sites, Boone County Adult Treatment Court (BCATC) and Osage-Gasconade County Adult Treatment Court (OGCATC).

All four programs that participated in the study use a specialized screening tool, the Risk and Needs Triage (RANT®), a scientifically validated screening tool developed by the Treatment Research Institute (TRI), to place offenders in one of the four risk-need "quadrants" (See Table 1). Participants are then placed in one of four tracks according to quadrant assignment, with each track tailored to the risk and

[1] The treatment court in St. Louis MO also has multiple tracks but most tracks are separated based on issues like co-occurring disorders and use of MAT rather than risk and need, and all four quadrants are not represented

needs of participants in each quadrant with the expectation that this will improve effectiveness and be more cost and resource efficient. The evaluation in these four sites was intended to determine whether this expectation is accurate. That is, the study across these four sites (in Greene, Jackson, Boone and Osage-Gasconade counties) is designed to answer the question, does implementing separate tracks based on participant risk and need in treatment courts actually result in more efficient use of program resources and in improved participant outcomes? This report contains a summary of the methods used and results across all four study sites.

Table 1. The Risk and Need Quadrants

	High-Risk (HR)	**Low-Risk (LR)**
High-Need (HN)	Quadrant 1 (Q1) High-risk/high-need	Quadrant 2 (Q2) Low-risk/high-need
Low-Need (LN)	Quadrant 3 (Q3) High-risk/low-need	Quadrant 4 (Q4) Low-risk/low-need

METHODS

Detailed process and outcome evaluations were conducted to determine the effectiveness and any efficiency gained by separating participants into separate tracks and how best to replicate the practices. A cost-benefit analysis was conducted to determine what resources are needed to operate alternative tracks, any cost efficiencies in delivering services according to participant risk/need level and any savings due to improved outcomes. Two of the study sites, located in Greene and Jackson Counties, had implemented the 4-track model prior to the BJA grant. For these two sites the four tracks were in operation long enough to track program participants for at least 2 years post-entry (3 years in Greene) allowing NPC to examine the 4-track process and costs, as well as recidivism outcomes and recidivism related costs. The other two study sites, in Osage-Gasconade and Boone counties, did not implement the four tracks until after they received funding from the BJA grant. This allowed NPC to examine the program process and costs prior to 4-track implementation as well as after. However, the 4-track model in these two sites was not in operation long enough to study participant recidivism.

Specifically, the study in these four sites was designed to address the following research questions:

1. Did the program tailor the treatment court requirements and services to each of the four quadrants? That is, did the program provide services differently in each of the four tracks?
2. Did graduation rates differ before and after 4-track implementation?
3. What are the costs of program participation before and after implementing the 4-track model?
4. Did placing participants into the four tracks according to assessed risk and need result in reduced recidivism including rearrests and reincarceration compared to traditional drug court and compared to individuals who were eligible for the treatment court but who did not participate?
5. Were there any cost savings or offsets due to improved participant outcomes after 4-track implementation?

In all four sites, NPC selected a sample of treatment court participants at two time points: 1) Participants before the implementation of the 4-track model, and 2) Participants after the four tracks were implemented. In the two sites with 4-track models implemented before the BJA grant (Greene and Jackson counties), comparison groups of individuals eligible for treatment court but who did not participate in the programs were selected at both time points (pre- and post-4-track implementation) and were matched to their respective participants using Mahalanobis Distance Matching (Rubin, 1980). All individuals in the four sample groups were followed through administrative datasets for 2 years post-entry.[2] Outcomes examined included graduation rates, rearrests and associated charges, and time incarcerated after program entry.

[2] Outcomes were available up to four years for some participants, but the number of participants was two small in both sites for valid analysis. Jackson County had a large enough sample at two years post entry and Greene County had three years post entry which are presented in the site-specific report for Greene. However, for the purposes of presenting equivalent time periods in the summary report, both Greene and Jackson recidivism is shown at 2 years post entry.

NPC calculated program investment cost as well as the cost of recidivism-related outcomes including the costs of rearrests, new court cases, time incarcerated and time on supervision. The cost approach used by NPC Research is called Transactional and Institutional Cost Analysis (TICA). The TICA approach views an individual's interaction with publicly funded agencies as a set of transactions in which the individual utilizes resources contributed from multiple agencies. In order to maximize the study's benefit to policymakers, a "cost-to-taxpayer" approach was used for this evaluation. The central core of the cost-to-taxpayer approach in calculating benefits (avoided costs) for drug courts specifically is the fact that untreated substance use disorders will cost tax dollar-funded systems money that could be avoided or diminished if substance abuse were treated. The TICA approach also looks at publicly funded costs as "opportunity resources." That is, resources that are not spent on a particular transaction (e.g., time in jail) are available to be used in other contexts or for other individuals.

Detailed methods used in each of the study sites can be found in the four site-specific reports. The reports can be found online at www.npcresearch.com under "Reports and Publications."

The process evaluation in each site evaluated the program's adherence to the overall drug court model, including the 10 Key Components of Drug Courts (NADCP, 1007) and the Best Practice Standards (NADCP 2013, 2015) as well as the quality of the implementation of the four tracks. As a part of the process evaluation, focus groups were conducted with participants in each of the four quadrants. A brief summary of the focus group results from one site (Greene County) are provided here to paint the picture of the qualitative differences in the participants assigned to each of the four quadrants.

- **Quadrant 1:** Participants in Quadrant 1 (high-risk/high-need) were more likely to complain about the services and staff, but were also more likely to disagree with each other and "call each other out" on the truthfulness of those complaints. Quadrant 1 participants were also more likely to state that the program had saved their lives.
- **Quadrant 2:** Quadrant 2 participants were quieter than the Quadrant 1 participants and more supportive of each other. They were more likely to be appreciative of the treatment services they were receiving and more relaxed in their interactions with each other.
- **Quadrant 3:** Quadrant 3 participants were forthright in stating that they needed to work on their criminal thinking. They reported feeling out of place in substance use or mental health treatment groups when required to attend them in past, and appreciated that they were no longer required.
- **Quadrant 4:** Quadrant 4 participants were dressed noticeably different than the other three quadrants, in business dress rather than casual clothing. They stated they were scared of the other participants (in the other quadrants) when they came to court or attended other meetings where the participants were all combined. They expressed a deep appreciation for being able to have their own separate court sessions and education groups.

RESULTS

Table 2 provides the number and percentage of participants assigned to each quadrant after 4-track implementation for each of the four treatment courts. As the table illustrates, the number of participants in each quadrant varies considerably. Quadrant 1 (high-risk/high-need) has by far the most participants. In three of the four sites, Quadrant 3 (high-risk/low-need) is the next largest and Quadrants 2 and 4 (the low-risk quadrants) have the least amount of participants. This indicates that the majority (between 70% and 90%) of individuals referred to all four treatment courts are high-risk. This could be due to the program eligibility and referral process (e.g., if referrals are made after conviction and only for those with certain criminal histories) or also be the nature of the offender population in each program jurisdiction.

Table 2. Participant Quadrant Assignment Numbers

Quadrant	Boone *N* (%)	Greene *N* (%)	Jackson *N* (%)	Osage-Gasconade *N* (%)
1: High-Risk/High-Need	88 (79%)	285 (61%)	148 (41%)	11 (79%)
2: Low-Risk/High-Need	5 (5%)	22 (5%)	26 (7%)	2 (14%)
3: High-Risk/Low-Need	12 (11%)	114 (24%)	104 (29%)	0 (0%)
4: Low-Risk/Low-Need	6 (5%)	45 (10%)	83 (23%)	1 (7%)
Total	**111 (100%)**	**466 (100%)**	**361 (100%)**	**14 (100%)**

Table 3 displays the criminal history (the number of prior arrests) for post-4-track participants overall and by charge type in the 2 years before treatment court entry by quadrant for each site. On average, participants in these treatment courts had between one and two arrests in the 2 years prior to treatment court entry. One of the strongest predictors of rearrest (and therefore a key risk factor) is number prior arrests. For this reason, one would expect participants in the high-risk quadrants for have more priors than participants in the low-risk quadrants. Due to small sample sizes in the low-risk quadrants for Boone and Osage-Gasconade, only Greene and Jackson have prior arrest results for low-risk participants. The GCATC participants in the low-risk quadrants do have fewer priors than the high-risk quadrants. The JCATC quadrant assignment does not follow this pattern. In fact, the average number of prior arrests for participants in the low-risk/low-need quadrant is higher for some charges, such as property

charges, than for participants in the high-risk quadrants. Also notable in Jackson is the average number of prior arrests for participants in Q1 (HR/HN) are lower than the Q1 participants at every other site. This indicates that the JCATC participant population is slightly lower risk than the other three sites, though this does not take into account any other risk factors that may result in a score of high risk on the RANT.

Table 3. Participant Characteristics by Quadrant by Site: Criminal History

	Q1: HR/HN				Q2: LR/HN				Q3: HR/LN				Q4: LR/LN			
	B n=88	G N=169	J N=148	O-G N=11	B n=5	G N=15	J N=26	O-G n=2	B n=12	G N=76	J N=104	O-G n=0	B n=6	G N=37	J N=83	O-G n=1
All Charges																
Any Arrest	2.05	1.80	1.11	2.18	--	0.50	1.10	--	2.33	1.19	0.92	--	--	1.05	0.70	--
Charge Type																
Person	0.15	0.17	0.03	0.36	--	0.00	0.00	--	0.50	0.14	0.03	--	--	0.27	0.00	--
Property	0.78	0.70	0.22	0.18	--	0.14	0.39	--	0.42	0.39	0.10	--	--	0.11	0.05	--
Drug	1.11	0.67	0.72	1.55	--	0.07	0.68	--	1.25	0.40	0.70	--	--	0.57	0.58	--
Other	0.21	0.30	0.14	0.18	--	0.29	0.04	--	0.25	0.29	0.12	--	--	0.19	0.07	--
Charge Level																
Felony	1.30	1.27	0.91	1.45	--	0.21	0.78	--	1.17	0.79	0.78	--	--	0.65	0.48	--
Misdemeanor	0.95	0.84	0.36	1.55	--	0.29	0.33	--	1.83	0.59	0.33	--	--	0.57	0.31	--

Note. Quadrants with fewer than seven participants were suppressed due to sample sizes too small for valid analyses and to protect the confidentiality of the individuals.

Table 4 presents the demographic profiles for post-4-track participants separated by quadrant. There were differences in demographics between quadrants. Low-need participants (Q3 and Q4) were more likely to be African American and more likely to be male than high-need participants (Q1 and Q2) while low-risk/high-need participants (Q2) were more likely to be female. Additionally, low-risk participants (Q2 and 4) were older on average than high-risk participants (Q1 and Q3). Participants in the high-risk quadrants were more likely to be unemployed and unstably housed. In general, the low-need participants had the highest likelihood of using marijuana, while the high-risk participants were more likely to use opioids and methamphetamines than the low-risk participants. Some of these findings (particularly the high percentage of African-American participants in Q3) indicate that there may be inequity in who gets in to treatment courts in Missouri. If Missouri treatment courts focus only on high-risk high-need participants, they may be excluding African-American participants that are low need from important services that may benefit them.

Table 4. BCATC Participant Characteristics by Quadrant: Demographics

	Q1: HR/HN				Q2: LR/HN				Q3: HR/LN				Q4: LR/LN			
	B n=88	G N=169	J N=148	O-G N=11	B n=5	G N=15	J N=26	O-G n=2	B n=12	G N=76	J N=104	O-G n=0	B n=6	G N=37	J N=83	O-G n=1
Gender																
Male	58%	67%	55%	43%	--	53%	45%	--	92%	74%	68%	--	--	62%	66%	--
Female	42%	33%	45%	57%	--	47%	55%	--	8%	26%	32%	--	--	38%	34%	--
Race/Ethnicity[a]																
White	78%	96%	76%	100%	--	93%	81%	--	42%	80%	52%	--	--	91%	53%	--
African American	20%	3%	22%	0%	--	7%	19%	--	50%	17%	47%	--	--	9%	43%	--
Other	2%	1%	2%	0%	--	0%	0%	--	8%	4%	1%	--	--	0%	4%	--
Age at Entry Date																
Average age (yrs)	30	30	30	29	31	35	37	30	31	32	30	--	30	32	36	--
Employment and Housing Status at Entry																
Unemployed	60%	50%	49%	57%	--	36%	24%	--	42%	46%	42%	--	--	29%	22%	--
Unstably Housed	59%	67%	71%	71%	--	36%	40%	--	42%	58%	61%	--	--	26%	38%	--
Drug of Choice																
Marijuana	42%	19%	51%	0%	--	50%	40%	--	75%	22%	75%	--	--	41%	60%	--
Alcohol	17%	4%	8%	21%	--	17%	4%	--	25%	14%	9%	--	--	14%	16%	--
Opioids	21%	11%	9%	21%	--	0	4%	--	0%	3%	1%	--	--	0%	0%	--
Amphetamines	17%	31%	24%	21%	--	17%	20%	--	0%	22%	7%	--	--	9%	12%	--
Cocaine or crack	2%	0%	2%	36%	--	0%	12%	--	0%	3%	4%	--	--	0%	4%	--

Note. Quadrants with fewer than seven participants were suppressed due to sample sizes too small for valid analyses and to protect the confidentiality of the individuals.

Answers to Research Questions

A summary of the study results is presented in this report organized by each research question. Detailed methods and results can be found in reports for each site at www.npcresearch.com under "Reports & Publications."

1. Were the treatment court requirements and services tailored to each of the four quadrants?

Fidelity to the 4-track model (matching program requirements and services to individual participants risk and need) varied widely among the four study sites. In Greene County, GCATC participants in the high-risk quadrants (Q1 and Q3) received greater amounts of supervision (and more jail sanctions) while participants in the high-need quadrants (Q1 and Q2) had the highest amounts of substance use treatment (group counseling, individual counseling, day treatment and residential treatment). Participants in Q4 (LR/LN) had the lowest amounts of all types of treatment. The GCATC appropriately matched services to the risk levels and criminogenic and clinical needs of its participants. Table 4 provides an example from the GCATC of the data, demonstrating how the program requirements and treatment services varied by quadrant. Appendix A contains more detail about the program requirements for each quadrant, including requirements for each program phase.

The other three treatment courts implemented the 4-track model with varying amounts of fidelity. In Jackson County, while the policy and procedure manual had information indicating that the program requirements varied by quadrant, the data showed that the court requirements (e.g., frequency of court sessions, drug testing, program length of stay) were the same in all quadrants. However, the JCATC treatment services did vary according to quadrant, and appeared to be appropriately matched to participant needs. In Boone County, the policy and procedure manual listed the same requirements for every quadrant, and administrative data from the program showed that participants in all quadrants engaged in the same court requirements and treatment services. The Osage/Gasconade Treatment Court policy and procedure manual describes the four quadrants with different requirements according to risk and need. Unfortunately, the sample size after the implementation of the 4-track model was too small for valid analyses, and almost all the participants in the sample were high-risk/high-need.

Table 5. Program Requirements Varied by Quadrant after 4-Track Implementation (Example from GCATC)

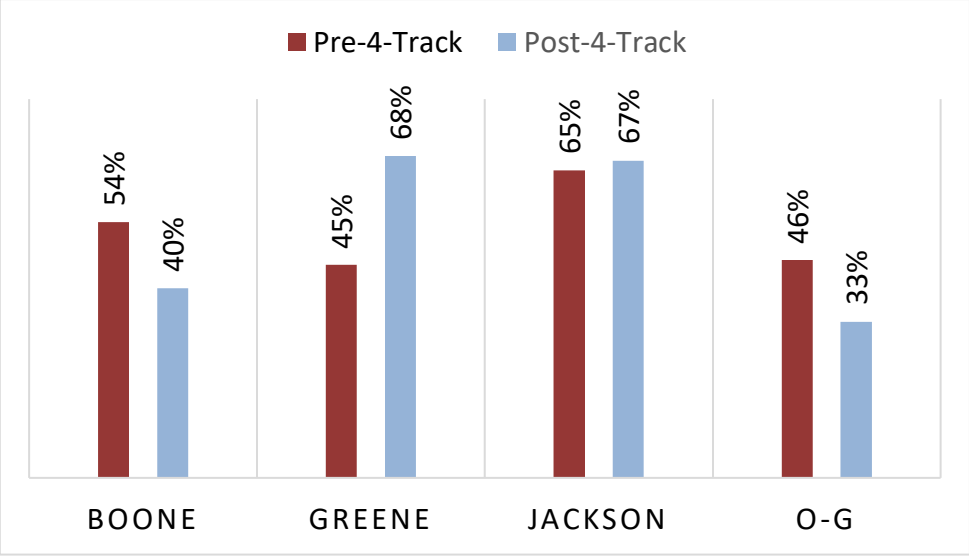
Program Activities per Participant	Q1: HR/HN *N* = 161	Q2: LR/HN *N* = 15	Q3: HR/LN *N* = 73	Q4: LR/LN *N* = 37
Length of Stay (Days)	518	625	645	701
Court Appearances[a]	*26*	*7*	*32*	*8*
Drug Tests	77	90	98	90
Jail Sanctions (Days)	57	21	39	8
Group Counseling (15 Minute Units)	97.38	70.67	69.10	39.50
Individual Counseling (15 Minute Units)	32.42	45.07	23.82	12.03
Day Treatment (Days)	80.50	152.13	45.38	53.64
Residential Treatment (Days)	46.24	76.40	16.79	24.11

[a] Court appearance data was not entered into the program database. Numbers of court appearance are estimates based on requirements for each phase and length of stay.

2. Did graduation rates differ before and after 4-track implementation?

As expected from the findings described for the first research question on adjusting treatment court requirements to fit risk and need, the findings for graduation rate varied across sites. While the graduation rate for GCATC (the site that implemented the 4-track model with strong fidelity) increased significantly after 4-track implementation, the JCATC (where treatment services varied but court requirements remained the same) had very little difference in graduation rate (65% versus 67%), though the graduation rate for the JCATC at both time points is quite high compared to the average national graduation rate of 57% (Marlowe, Hardin, & Fox, 2016). [3] The graduation rate in Boone County and Osage-Gasconade County were lower after 4-track implementation, however Boone County did not actually implement the 4-track model and Osage-Gasconade had a very small sample size (*N* = 9 exited) and all but two were high-risk/high-need.

Figure 1. Post-4-Track Participants Had a Significantly Higher Graduation Rate than Pre-4-Track Participants



[3] http://www.ndci.org/wp-content/uploads/2016/05/Painting-the-Current-Picture-2016.pdf

3. What are the costs of program participation in the 4-track model?

Table 6 provides an example of program costs by quadrant from the GCATC as the program that demonstrated the highest fidelity to the 4-track model in providing supervision and treatment according to risk and need level. The average cost per participant for the GCATC program is $13,565 (averaged across quadrants). As expected, based on relative risk and need, program costs are examined by quadrant, Quadrant 4 (low-risk/low-need) has the lowest cost per participant, and Quadrant 1 (high-risk/high-need) has the highest program cost per participant. The two high-need quadrants (1 and 2) have the highest costs for treatment and for the program overall and the two low-need quadrants have the lowest costs. This illustrates how the GCATC program is applying the principles of RNR and appropriately providing more intensive services for the high-risk/high-need participants and fewer services for the low-risk/low-need participants. This pattern demonstrates an efficient allocation of funds, spending more on participants who have the highest service needs while spending less on those who require fewer services.

Table 6. Program Costs per Participant Post-4-Track Implementation (GCATC)

Transaction	Avg. Cost per Participant All GCATC	Avg. Cost per Participant Q1	Avg. Cost per Participant Q2	Avg. Cost per Participant Q3	Avg. Cost per Participant Q4
Case Management Days	$3,974	$4,377	$4,740	$3,361	$1,468
Court Appearances	$1,699	$1,565	$587	$3,570	$186
Treatment[b]	$8,289	$10,120	$9,576	$4,541	$6,956
Drug Tests	$956	$865	$1,009	$1,103	$1,009
Jail Sanctions	$71	$1,672	$613	$1,172	$243
Program Fees[c]	($1,424)	($1,096)	($2,088)	($1,640)	($2,161)
TOTAL	**$13,565**	**$17,503**	**$14,437**	**$12,107**	**$7,701**

Table 7 provides the average cost per participant across all quadrants for each of the four 4-track treatment courts. Cost per participant range from roughly $5,000 to $15,000 per participant. The key transactions driving these total program costs are case management, court appearances and treatment. In the two sites, GCATC and OGCATC, case management was more intensive, particularly in the high-risk participants, and since the majority of clients were high-risk, this increased the average cost per participant. In court appearances, where more representatives from each agency, particularly treatment, attend staffing and court (a best practice known to improve participant outcomes) the court appearance costs are higher. In addition, with the very small caseload in the OGCATC, some costs are higher due to many team members focusing on a small number of individuals. If the OGCATC increased their caseload while keeping the same number of team members, there would be an economy of scale that may bring costs down. The GCATC has the highest treatment costs due to more intensive treatment being provided to high-need participants compared to the other sites as well as the relatively higher cost of treatment in Greene County.

Table 7. Average Program Costs per Participant Post-4-Track Implementation (All Sites)

Transaction	Avg. Cost per Participant All BCATC	Avg. Cost per Participant All GCATC	Avg. Cost per Participant All JCATC	Avg. Cost per Participant All OGATC
Case Management Days	$1,544	$3,974	$2,125	$4,115
Court Appearances	$2,078	$1,699	$554	$8,456
Treatment[b]	$2,537	$8,289	$2,087	$1,658
Drug Tests	$1,342	$956	$755	$291
Jail Sanctions	$20	$71	$56	$1,803
Program Fees[c]	($485)	($1,424)	($277)	($1,279)
TOTAL	**$7,036**	**$13,565**	**$5,300**	**$15,044**

Table 8 provides the cost per participant for Q1 (HR/HN) only. Because most treatment courts that have not implemented the 4-track model attempt to target high-risk/high-need participants, these costs may be most representative of the cost of adult treatment court programs in Missouri in general. Treatment court cost per participant in these four sites range from just under $6,000 to just over $16,000. These costs fall well within the range of costs per treatment court participant across the United States, which range from roughly $4,000 per participant to over $30,000 per participant (e.g., Carey et al., 2017; Carey et al., 2014; Carey & Waller, 2011; Carey, Waller, & Weller, 2011). To further put these costs in perspective, in 2005, the Institute for Public Policy at the University of Missouri produced a Drug Court Financial Sustainability Study that calculated an estimate of treatment court costs per participant including direct costs, treatment costs, and opportunity costs (IPP, 2005). The total cost provided in the IPP report, when all costs associated with drug court were added together, came to an average of $8,619 per participant in 2005 dollars. Using the Consumer Price Index (CPI) to update 2005 to 2018 dollars results in a cost per participant of $11,205. The current study performed by NPC also includes what was termed by IPP as direct costs, treatment costs and opportunity costs in calculating the total costs per program participant. An average of the costs presented in Table 8 across programs results in a current cost per HR/HN participant of $9,976. [4] This average cost is close to the original amount from the IPP report and lower than the cost when updated to 2018 dollars, indicating that program costs have not changed markedly over the years.

Table 8. High Risk/High-Need ONLY: Average Program Costs per Participant Post-4-Track Implementation (All Sites)

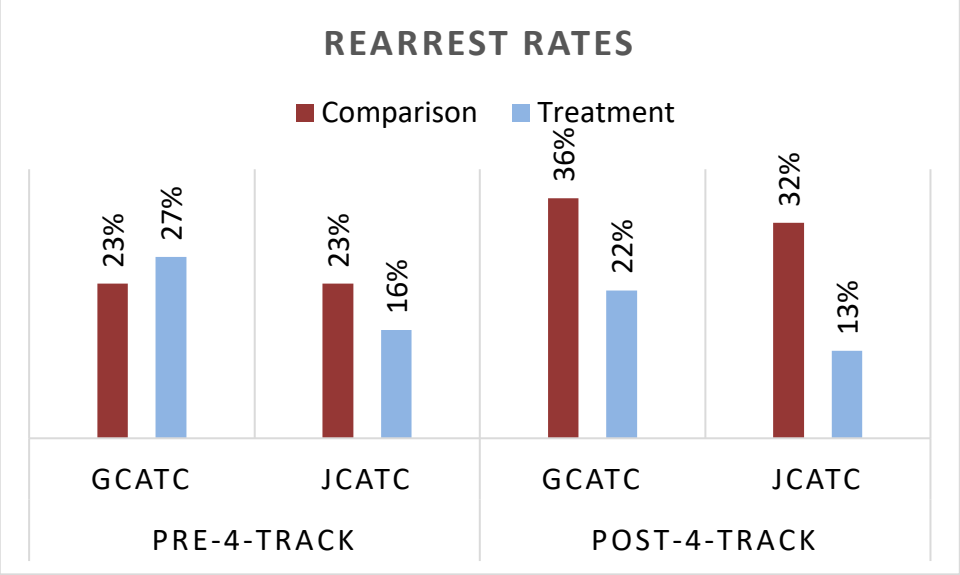
Transaction	HR/HN ONLY BCATC *N* = 79	HR/HN ONLY GCATC *N* = 161	HR/HN ONLY JCATC *N* = 110	HR/HN ONLY OGCATC *N* = 7
Case Management Days	$1,339	$4,377	$2,233	$3,362
Court Appearances	$2,030	$1,565	$582	$9,727
Treatment[b]	$2,568	$10,120	$2,322	$2,002
Drug Tests	$1,253	$865	$740	$383
Jail Sanctions	$24	$1,672	$81	$2,305
Program Fees[c]	($442)	($1,096)	($304)	($1,430)
TOTAL	**$6,772**	**$17,503**	**$5,654**	**$16,349**

[4] The OGCATC was excluded from the average due to the very small sample size.

4. Did placing participants into the 4-tracks according to assessed risk and need result in reduced recidivism?

Yes. The treatment courts in Greene and Jackson counties had participants who entered the program long enough before the evaluation to examine outcomes for at least 2 years post entry. At 2 years from program entry, both treatment courts show marked improvement in recidivism post-4-track implementation. In Greene County (GCATC) the pre-4-track participants had a slightly higher rearrest rate than their comparison group (a 15% *increase* in rearrest rate) while the post-4-track participants had a significantly lower rearrest rate (a 64% reduction in rearrest rate). In Jackson County (JCATC) the pre-4-track participants had a significant reduction in recidivism (44%) while the post-4-track participants had an even greater reduction in recidivism (146%). In both programs there was a significant interaction between treatment court participation and pre- and post-4-track implementation, indicating that the 4-track model was instrumental in improving participant outcomes.

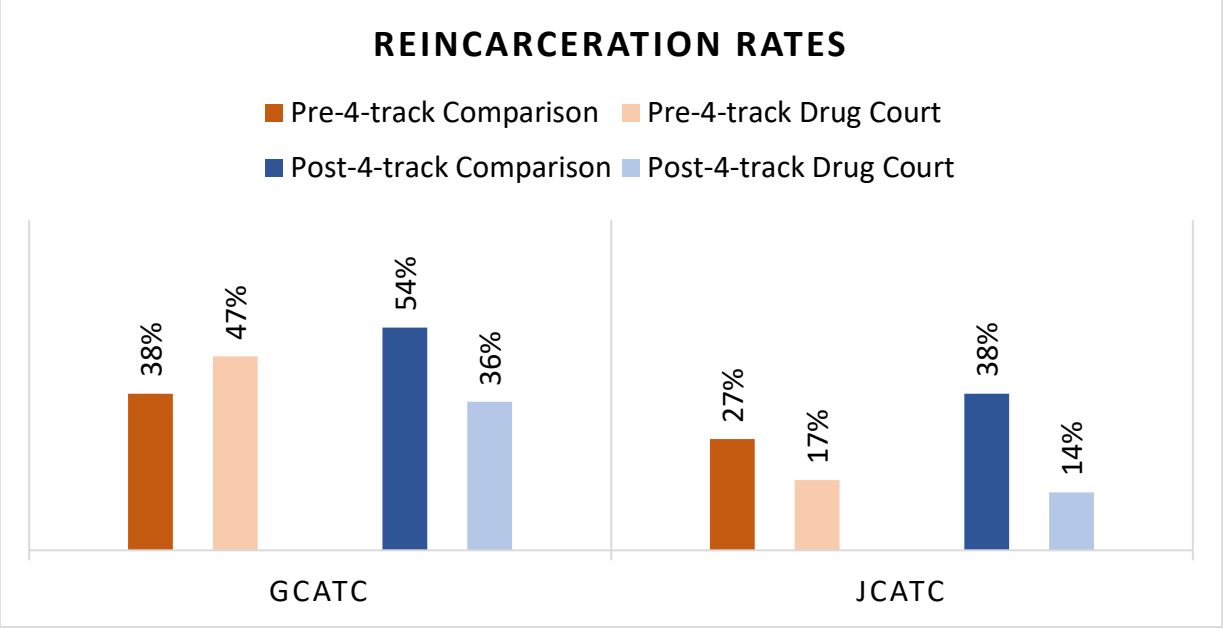
Figure 2. Post-4-Track Participants Had Greater Reductions in Recidivism



In addition, a review of rearrest rates by charge 2 years after treatment court entry showed lower rates of person and property crimes for post-4-track participants compared to their comparison group. Further, participants in Greene County were half as likely to be rearrested for drug charges (15% for GCATC participants versus 30% for the comparison group) while participants in Jackson County were 6 times less likely to be arrested with a drug charges than the comparison group (4% versus 24%).

An examination of reincarceration rates showed similar results. In Greene County, GCATC participants pre-4-track implementation had slightly higher reincarceration rates than the comparison group (an increase of 19%) while participants post-4-track implementation had significantly lower reincarceration rates (a reduction of 50%). In Jackson County, JCATC participants pre-4-track implementation had lower reincarceration rates than the comparison group (a reduction of 145%) but post-4-track participants had even lower reincarceration rates than pre-4-track participants (a reduction of 171%).

Figure 3. Post-4-Track Participants Were Reincarcerated Significantly Less Often



5. Were there any cost savings or offsets due to improved participant outcomes after 4-track implementation?

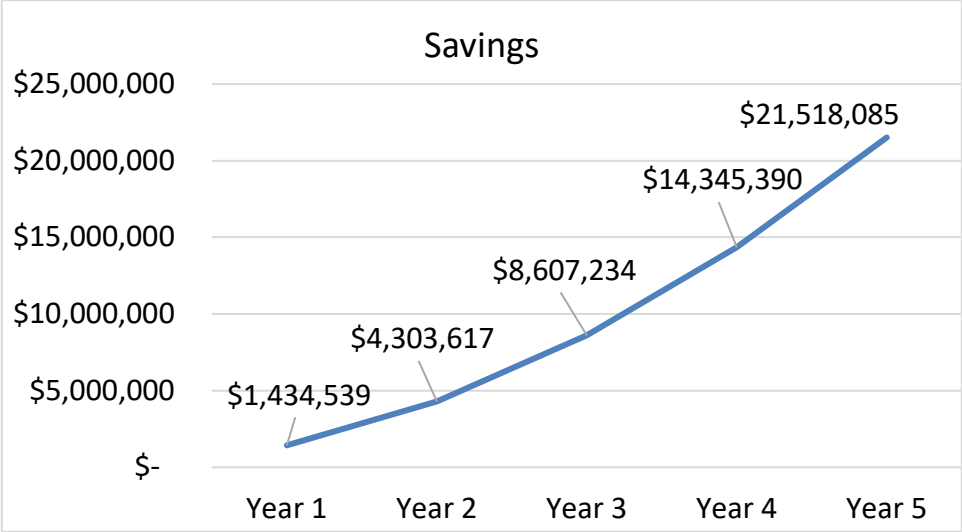
Yes. Table 9 presents the savings for each outcome transaction per participant for GCATC and JCATC participants post-4-track implementation. Savings were calculated by subtracting the outcome costs for treatment court participants from the outcome costs for comparison group members. If treatment court participants cost less than the comparison group, the difference is defined as a cost-offset, or savings related to treatment court participation. Table 9 demonstrates that there is a savings for every outcome transaction at both sites. Total savings per participant over 2 years from treatment court entry come to $3,893 per participant for the GCATC and $5,336 per participant for the JCATC. If participants continue to have lower recidivism over time, as has been demonstrated in studies of long-term outcomes for treatment courts (e.g., Carey & Finigan, 2004), these savings for the GCATC and the JCATC should continue to accumulate.

Table 9. Cost Savings per Person over 2 Years – Pre- and Post-4-Track Implementation

Transaction	GCATC Per Person (*n* = 253)	JCATC Per Person (*n* = 259)
Rearrests	$15	$28
Circuit Court Cases	$129	$596
Probation and Parole Days	$926	$895
Jail Days	$389	$319
Prison Days	$1,228	$2,611
Property Victimizations	$284	$427
Person Victimizations	$922	$460
TOTAL	**$3,893**	**$5,336**

Figure 4 illustrates how the savings per participant can continue to grow over time and with the number of new participants that enter the program each year. If the GCATC and JCATC programs continue to serve a cohort of roughly 300 new participants annually, the savings per participant (including savings related to fewer victimizations) results in a combined savings of $1,384,350 per cohort per year, which can then be multiplied by the number of years the programs remains in operation and for additional cohorts of 300 per year. After 5 years, the accumulated savings come to over **$21 million**.

Figure 4. Growth in Cost Savings Due to Positive Criminal Justice Outcomes for Post-4-Track GCATC over 5 Years



If participants in the GCATC and the JCATC continue to have positive outcomes in subsequent years, then these cost savings can be expected to continue to accrue over time, repaying the program investment costs and providing further savings in the form of opportunity resources to public agencies. These findings indicate that the 4-track model is both beneficial to participants and beneficial to Missouri taxpayers.

Conclusion

The findings across these four treatment court programs demonstrate that separating participants into four tracks with differing treatment and supervision requirements based on individual risk and need is related to higher graduation rates, lower recidivism and considerable cost savings.

A finding of interest is also the characteristics of participants who fall into each of the risk-need quadrants. Specifically, because Missouri treatment court programs without the 4-tracks focus only on high-risk/high need participants, the finding that a higher percentage of African-American participants fall into Quadrant 3 (high-risk/low-need) indicates that some African-American participants who are low clinical need but have high criminogenic need may be excluded from important treatment court services that may benefit them.

Overall, the findings from these four treatment courts provide compelling support for using RNR in a treatment court setting through implementing separate tracks according to risk-need quadrant. When supervision and services are provided based on participants' individual risk and need, this results in a significant increase in public safety due to lower criminal recidivism as well as substantial cost savings to the taxpayer.

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APPENDIX A: SAMPLE COURT SUPERVISION AND TREATMENT REQUIREMENTS BY QUADRANT (GREENE COUNTY ADULT TREATMENT COURT)

Quadrant/Track Requirements (Greene County)

Quadrant ("Q")	Staffing Requirements	Court Requirements	Probation/ Supervision Requirements	Treatment Requirements	Other Requirements
Q1 (HR/HN) Men Only	Two times per month (1st and 3rd weeks)	Two times per month (1st and 3rd weeks). Reduced to 1x per month in phases 3, 4, & 5.	Weekly upon entry, reduced over course of program.	Based on assessed level of care, specific to each participant.	Criminal-thinking interventions in Phase 1, self-help groups in Phase 2 or 3.
Q1 (HR/HN) Women only	Two times per month (2nd and 4th weeks - Alternates with Q1 male court dates)	Two times per month (2nd and 4th weeks - Alternates with Q1 male court dates)	Weekly upon entry, reduced over course of program.	Based on assessed level of care, specific to each participant.	Criminal-thinking interventions in Phase 1, self-help groups in Phase 2 or 3.
Q2 (LR/HN)	No staffing - PO's and tx communicate by phone and email as needed; the PO's and tx touch base the day before court	On the 5th Wednesday of any month with a 5th Wednesday (approx. 4 times per year). *Seen with Q4 participants	Weekly upon entry, quickly reduced over course of program.	Treatment groups are separate from other quadrants.	Self-help groups specific to individual
Q3 (HR/LN)	Two times per month	Two times per month (2nd and 4th weeks)	Weekly upon entry, reduced over course of program.	No formal substance abuse treatment. Focus on secondary prevention services, early interventions, and trauma services. Weekly individual session for 1st month.	Criminal-thinking interventions early (Phase 1 or 2).
Q4 (LR/LN)	No staffing - PO's and tx communicate by phone and email as needed; the PO's and tx touch base the day before court	On the 5th Wednesday of every month with a 5th Wednesday (seen with Q2 participants)	Weekly upon entry, quickly reduced over course of program.	No formal substance abuse treatment. Focus on secondary prevention services, early interventions, and trauma services. Weekly individual session for 1st month. Groups separate from other quadrants.	
Non-compliance docket (All quadrants)	As needed at other staffings	Two times per week	N/A	N/A	N/A