



## A quasi-experimental evaluation of a juvenile justice reinvestment initiative

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### ABSTRACT

There is an increasing movement throughout the United States and abroad to develop cost-effective and evidence-based strategies that enhance public safety, decrease recidivism, and reduce the number of inmates held in correctional facilities. One such recent approach to achieve these goals is the use of justice reinvestment strategies, which promote the reallocation of funds initially designated for imprisonment into other community-based alternatives. Although the available research generally indicates many of the reinvestment initiatives undertaken so far are effective in achieving these goals, much less empirical attention focuses on what aspects of these programs are effective. In response, this study fills a critical gap in this literature by evaluating how different treatment services and offender risk levels influence the recidivism of youth involved in a justice reinvestment program in Ohio. The findings of this study indicate youth who were incarcerated were nearly two times as likely to recidivate during a one-year follow-up compared to similarly matched youth who participated in the justice reinvestment programming. This study also found that the effectiveness of treatment was also moderated to a large extent by treatment modality and offender risk level. The policy implications of these findings and recommendations for future research are also discussed.

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There is an increasing movement throughout the United States and abroad to develop cost-effective and evidence-based strategies that enhance public safety, decrease recidivism, and reduce the number of inmates held in correctional facilities. One such recent approach to achieve these goals is through the use of justice reinvestment strategies. Justice reinvestment involves reallocating funds that were initially designated for imprisonment into other community-based alternatives in an effort to reduce the incarcerated population and the costs associated with such confinement (Austin et al. 2013; Clear 2011). The available research indicates that many of the reinvestment initiatives undertaken so far have been effective in achieving these goals (e.g., Armstrong et al. 2011; Butts and Evans 2011; Latessa, Lovins, and Lux 2014; Latessa and Lowenkamp 2008; Maloney and Holcomb 2001; Moon, Applegate, and Latessa 1997; Tyler, Ziedenberg, and Lotke 2006). However, it should be noted that reinvestment strategies are not consistent across jurisdictions and much less empirical attention focuses on what aspects of these programs are effective. Such knowledge would certainly be useful to policy-makers and corrections officials in designing and implementing their specific justice reinvestment strategy.

In response, this study fills a critical gap in this literature by evaluating how different treatment services and offender risk levels influence the recidivism of youth involved in a justice reinvestment program in Ohio. This study first examines the context in which imprisonment has emerged as a dominant penal policy in the United States and then explores the reinvestment approach that was undertaken in Ohio to reduce the number of youths incarcerated in the state's juvenile correctional facilities.

## The 'get tough' movement

The push for justice reinvestment is not unwarranted given the more recent demand for changes in correctional policy and empirical evidence in support of these strategies. Following the 1970s, the United States experienced a sharp escalation in rates of incarceration (Clear 1994; Cullen and Gilbert 1982). This time frame was marked by a very conservative, 'nothing works' approach to corrections rooted in the philosophies of deterrence and incapacitation (LaVigne et al. 2014). Criminal justice reforms seemed to coincide with this punishment orientation. In the last two decades of the twentieth century, state prisons experienced a 50% increase in the rate of incarceration (Wooldredge 2012). Thus, it was believed that rehabilitative efforts were ineffective and that the only solution to dealing with the offender population was by 'locking 'em up and throwing away the key' (Cullen and Gilbert 1982).

These 'get tough' policies and practices extended beyond the adult system to also impact juvenile offenders. In particular, states that initially promoted indeterminate sentencing – in which the length of sentence was dependent on the amount of time needed to rehabilitate the youth, increasingly began to adopt determinate sentencing. As a result, youthful offenders were given a fixed sentence length based on the committed offense and corresponding statute (Moon, Applegate, and Latessa 1997). Further, legal reforms were designed to get tough on juvenile crime and expand the types of offenses and offenders who were eligible to be transferred from juvenile to adult court without consideration of individual circumstances. Finally, in 1980, an amendment was passed that permitted the institutionalization of status offenders who violated court orders (Moon, Applegate, and Latessa 1997).

Consequently, many attribute the mass incarceration of more than 100,000 juveniles by the end of the 1990s to these conservative policies and practices (Sickmund et al. 2013). Moreover, these drastic increases in incarceration were occurring despite evidence of a decline in youth crime rates (Holman and Ziedenberg 2006). Although these facilities were intended to hold youth at high risk of recidivism or those unlikely to appear in court, the facilities instead became crowded with non-violent juveniles who often did not meet these criteria (i.e., 70%; Holman and Ziedenberg 2006). Following the 1990s, approximately 39% of all juvenile detention and confinement facilities had more residents than available beds (Sickmund 2002).

The mass incarceration of Americans, both young and old, was not inconsequential. Many features of prison have been found to produce undesirable effects. First, prisons are portrayed as 'schools of crime'. As such, these institutions create a learning environment in which low-risk offenders are able to learn more extensive criminal behavior by socializing with higher risk offenders (Gendreau and Smith 2012). In addition, offenders are also cut off from potential conventional connections within the free community and their risk for recidivism upon release may be increased (Cullen and Jonson 2012). Second, prisons are artificial environments. The skills that offenders learn in treatment while incarcerated may not necessarily generalize or be easily transferable to more natural settings once released back into the community (Gendreau and Goggin 2013). Third, prisons are often characterized by a 'one-size-fits all' approach (Clear 2007). This contradicts with the concept that the causes of crime differ for each offender and should therefore be addressed through individualized treatment (Cullen and Gendreau 2001). Subsequently, treatment in prison often does not target the specific factors that influence each offender's criminal behavior (i.e., criminogenic needs), and the environment itself appears to be detrimental to the rehabilitative effects of treatment.

These effects have been found in both adult and juvenile populations. A growing amount of literature suggests that incarceration of youth can lead to harmful psychological and behavioral outcomes (Holman and Ziedenberg 2006; Lane et al. 2002; Mulvey 2011). Juveniles who are placed in confinement

tend to demonstrate increased aggressive behaviors due to increased exposure to antisocial peers as well as inmate norms that support violence (see Lambie and Randell 2013). Research suggests that the incarceration of youth does not decrease future delinquency and can negatively impact mental and physical well-being (Holman and Ziedenberg 2006; Mulvey 2011). Considering the past reliance on incarceration to address juvenile delinquency, these effects are alarming and urge policy-makers to consider making a shift.

Criminal justice policies and practices that encompass the deterrence and incapacitation philosophies have failed to target the known criminogenic needs associated with recidivism. Despite the belief by deterrence advocates that the use of incarceration will reduce recidivism, the research shows that the overall impact of imprisonment may be iatrogenic and may actually increase criminal behavior among some offenders (Cullen, Jonson, and Nagin 2011). Studies have shown that between 50 and 70% of youth released from correctional facilities are rearrested between one and two years post-release (see Austin, Johnson, and Weitzer 2005). In contrast, correctional research has provided evidence revealing that offender treatment programs in a community setting produce greater reductions in recidivism than does incarceration (see Andrews and Bonta 2010). Thus, incarceration of youth may not be effective in achieving its intended effect, and there is a need for correctional systems to explore other alternatives.

The more recent shift away from a 'nothing works' ideology toward the adoption of rehabilitative efforts has provided some desirable results. Not only is there meta-analytic support for reductions in recidivism through rehabilitative efforts in general (see Lipsey and Cullen 2007), but there are also findings favorable to the treatment of youth in the community. There is mounting evidence to suggest that youth who receive rehabilitative services locally experience greater reductions in antisocial behavior compared to those in placement settings (Dembo et al. 2005; Lipsey 1992). Further, these community-based alternatives reduce incarceration, while also serving to reduce long-term recidivism among youth (Armstrong et al. 2011). The corrections literature indicates that serving juveniles in the community can be a successful approach that accomplishes the goals of reducing the number of incarcerated youth while also producing positive behavioral outcomes.

## Alternatives to incarceration

In response to the financial and social costs of imprisonment, the United States has more recently experienced a shift in correctional practices that focus on prevention efforts within the community. In the 2000s, many jurisdictions began to launch justice reinvestment strategies as a mechanism for promoting these efforts and for building on the growing demand for evidence-based practices within corrections (Butts and Evans 2011; LaVigne et al. 2014). Specifically, these justice reinvestment initiatives have aimed to reduce the use of incarceration and instead allocate that designated funding to local, community-based alternatives (see Clear 2011).

Further, these reinvestment strategies often involve multiple stakeholders (e.g., judges, prosecutors, defense attorneys, and victims' advocates) in order to gain support for these policy modifications and incorporate legislative initiatives that promote the use of evidence-based programming (LaVigne et al. 2014; Taxman, Pattavina, and Caudy 2014). As part of this process, states have incorporated various incentives to motivate county officials to serve youth locally. These tactics include: (1) financially reimbursing counties for costs incurred to manage youth locally; (2) requiring the county to pay part of the cost of confining a child in a state institution; (3) increasing the costs for counties to send youth to state institutions; and (4) providing funding to develop programs locally (Petteruti, Velázquez, and Walsh 2009). Other implemented strategies have also incorporated allocating state funding based on reductions in recidivism and revocations for technical violations (LaVigne et al. 2014).

By incentivizing these stakeholders, states can more easily implement key policy reforms to meet the goals of the justice reinvestment model. These reforms have already been seen across multiple states including Arkansas, Delaware, Georgia, North Carolina, and Ohio. Of the states that have implemented a justice reinvestment strategy, Ohio has been particularly noticeable in its evaluation efforts (Armstrong et al. 2011).

## Justice reinvestment in Ohio

Ohio was no exception to the 'get-tough' era, and by the early 1990s the state experienced a rapid increase in committed youth. In 1992, the Ohio Department of Youth Services (DYS) facilities were running at 181% of their capacity (National Center for Justice Planning 2012). The following year – in response to the severe overcrowding concerns – Ohio developed the Reasoned and Equitable Community and Local Alternatives to the Incarceration of Minors (RECLAIM) program in an attempt to divert youth from their state institutions. Through the RECLAIM initiative, Ohio's counties were financially incentivized not to send youth to the state DYS system, but rather to treat them with correctional interventions in their local community (Moon, Applegate, and Latessa 1997).

After much initial success in reducing the juvenile correctional population (see Lowenkamp and Latessa 2005; Moon, Applegate, and Latessa 1997), in 2009, the state recognized that 6 out of the 88 Ohio counties constituted 63% of DYS' total commitments, but were only receiving about 26% of all RECLAIM funding (National Center for Justice Planning 2012). In response, Ohio decided to extend this reinvestment initiative by developing an additional Targeted RECLAIM program. Targeted RECLAIM was established to provide more economic resources to those larger counties that were responsible for committing the largest proportion of youth into the DYS system.

In Targeted RECLAIM, participating counties are required to submit yearly proposals for the funding of various evidence-based services to DYS. In these proposals, counties are given the opportunity to advocate for which programs or services they believe are needed in their jurisdiction (e.g., residential programs, cognitive-behavioral interventions, and family interventions). Once approved by the state, counties are able to use this money to pay for these interventions that will serve the youthful offenders in their communities locally. As part of this contract, counties are given targeted goals for reducing their DYS commitments. Counties that fail to reach these goals are placed at risk to receive reduced funding in the following year.

Another requirement for counties accepting these funds for services is to participate in quarterly work group meetings to discuss and address barriers to program implementation. In order to ensure quality assurance, the University of Cincinnati and Case Western Reserve University also serve as support to program providers (Labrecque and Schweitzer 2012). Types of support include, but are not limited to, monthly coaching sessions, skill competency booster sessions, direct observation of services with feedback, modeling of service delivery, co-facilitation of services, and regular implementation meetings to problem-solve and ensure effective implementation of services.

Support for the effectiveness of Targeted RECLAIM can be found in two places. First, since its inception, the DYS population has continued to decrease. Overall, admissions have decreased from 1,579 in 2009 to 522 in 2013 (Ohio Department of Youth Services 2013). Further, in the six counties alone, there was a reduction of 712 admissions in fiscal year 2013 ( $n = 277$ ) compared to the fiscal year 2009 ( $n = 989$ ; Ohio Department of Youth Services 2013). Second, there are now two outcome evaluations that have concluded Targeted RECLAIM is more effective in reducing recidivism than being placed in DYS custody (Labrecque and Schweitzer 2012; Lovins 2011). Given the successes of the program, in 2012 Targeted RECLAIM was extended to include eight more counties and in 2013, one more additional county was added. Thus, Targeted RECLAIM now includes 15 Ohio counties.

## Current study

Targeted RECLAIM has been successful in restructuring the investment of funds to particular counties in Ohio and in reducing the number of commitments. Further, there is promising research regarding subsequent reductions in recidivism (Labrecque and Schweitzer 2012; Lovins 2011). However, what has not yet been fully explored is the impact of risk level on the success of youth involved in this program. This is an important concept to address, given that the 'what works' literature emphasizes the need to focus treatment primarily on moderate to high-risk youth in order to achieve greater reductions in recidivism (see Andrews and Bonta 2010). Therefore, inclusion of this measure will help to further inform

policy-makers and practitioners of the implications of treatment dosage based on level of risk. Further, Targeted RECLAIM has provided counties with an opportunity to select from a variety of evidence-based treatment options. However, little is known about which treatment approach may be most effective for these varying levels of risk. As such, emphasis should also be placed on analyzing which program types may produce the greatest behavioral change generally, and particularly for those youth who pose greater risk to the community. Likewise, this study fills a critical gap in the literature by evaluating how different treatment services and offender risk levels influence the recidivism of youth involved in the Targeted RECLAIM program.

## **Method**

### ***Participants***

The participants in this study are youth offenders (ages 12–21) who were brought before the juvenile justice system in the state of Ohio. The experimental group of this evaluation consists of youth who participated in a Targeted RECLAIM service in 2012 ( $n = 730$ ). County officials selected program participants based on the individual risk and needs of the offender, as well as the availability of programming. A matched comparison control group was selected from those youth who were released from the DYS custody during the same time period ( $n = 698$ ). The DYS sample was used as a comparison group because without the availability of the Targeted RECLAIM services, many of the youth in the experimental group may have alternatively been incarcerated in the DYS system.

### ***Sample demographics***

Descriptive characteristics of the sample include gender (1 = *male*, 0 = *female*), race (1 = *white*, 0 = *non-white*), age, and risk level. Youth were classified into one of the three risk categories: *low-*, *moderate-*, or *high-risk* to reoffend according to the standardized cut-off scores of the Ohio Youth Assessment System (OYAS) as defined by Latessa, Lovins, and Ostrowski (2009).

### ***Treatment services***

There are many different types of services offered through Targeted RECLAIM funds. This study has grouped these services into three general types: residential programs, cognitive-behavioral therapy (CBT) programs offered in the community, and family interventions in the community. A brief description of these services is now provided.

#### ***Residential programs***

The residential programs that receive funding through the Targeted RECLAIM program vary considerably in terms of what types of services are offered within the facility, how youth are admitted to the program, and how long youth remain in the institution.<sup>1</sup> A full analysis outlining the differences between these programs is beyond the scope of the current study. However, in general the residential programs offer more intensive services – in terms of dosage and number of services offered – and are designed to target higher risk youth compared to the other Targeted RECLAIM options. Some of the treatment services offered within these facilities include: orientation classes, educational services, mental health services, vocational and job readiness services, substance abuse treatment, recreational services, as well as other cognitive-behavioral structured treatment curricula.

#### ***CBT community***

There are three CBT programs offered in the community that received funding through the Targeted RECLAIM program: Thinking for a Change, Aggression Replacement Training®, and Effective Practices in Community Supervision.

### ***Thinking for a change***

Thinking for a Change (T4C) is a cognitive-behavioral problem-solving program that consists of both cognitive restructuring and social skills interventions (Bush, Glick, and Taymans 1997). Thinking for a Change is comprised of 25 lessons and is designed to target pro-criminal attitudes and anti-social thinking for change. Thinking for a Change has been endorsed by the National Institute of Corrections and has received favorable evaluation results (see Golden 2002; Wingard 2008).

### ***Aggression Replacement Training***

Aggression Replacement Training (ART<sup>®</sup>) is a cognitive-behavioral program that teaches participants new thoughts, attitudes, and skills necessary to prevent aggressive behavior (Goldstein, Glick, and Gibbs 1998). The ART<sup>®</sup> curriculum is comprised of three coordinated components: Skillstreaming, Anger Control Training, and Moral Reasoning Training. Aggression Replacement Training has also received favorable evaluation results (Gundersen and Svartdal 2006; Washington State Institute for Public Policy 2004).

### ***Effective Practices in Community Supervision***

The Effective Practices in Community Supervision (EPICS) model was designed to teach community supervision officers how to restructure the content of their face-to-face interactions with offenders in order to better adhere to the principles of effective correctional intervention (Smith and Lowenkamp 2008). Specifically, this model encourages officers to increase the intervention dosage of treatment to the higher risk offenders, to focus on criminogenic needs, and to use a cognitive-behavioral approach in their interactions with offenders. There have been several evaluations of the EPICS model to date, which have revealed a wide range of positive outcomes, including increased time spent on criminogenic needs (Smith et al. 2012), improved offender–officer relationships (Labrecque, Schweitzer, and Smith 2013a), increased use of core correctional skills (Labrecque, Schweitzer, and Smith 2013b), improved offender attitudes (Labrecque et al. 2013), and reduced recidivism (Latessa et al. 2013).

### ***Family interventions***

There are two family interventions offered in the community that received funding through the Targeted RECLAIM program during the current report time frame: Multisystemic therapy (MST) and High-Fidelity Wraparound.

### ***Multisystemic therapy***

MST is a family treatment program that seeks to teach parents the skills needed to deal with adolescent problems and reduce conflict within the family (Henggeler et al. 2009). The MST program is designed for high-risk delinquents and seeks to enlist the support of the school, peers, and other key community agents to help maintain the benefits of the treatment (Culpit et al. 2005). There is some meta-analytic support that suggests the program is effective in reducing recidivism (Curtis, Ronan, and Borduin 2004), especially when ‘competent’ therapists deliver the interventions (Washington State Institute for Public Policy 2004).

### ***High-fidelity wraparound***

High-fidelity wraparound is a family intervention where services are ‘wrapped around’ the child and the family in their natural environment (see Winters and Metz 2009). Wraparound planning is a strength-based approach that occurs in the community and coordinates services across various agencies. Evaluations of wraparound services indicate the practice is ‘promising’ (Winters and Metz 2009).

### ***Recidivism***

Recidivism is the outcome of interest in this study and is defined here as any incarceration to either the DYS or Ohio Department of Rehabilitation and Correction (DRC) within one-year of completing or being terminated from a Targeted RECLAIM service(s) (for the experimental group) and within one year

of being released from DYS custody (for the control group). Reincarceration was selected because one of the major purposes of Targeted RECLAIM is to reduce the number of incarcerations in the juvenile and adult prison systems.

## Analyses

This study analyzes the aforementioned data in the following three ways. First, it provides descriptive information of the Targeted RECLAIM participants, including demographic, risk, and treatment information. Second, the recidivism rates of the treatment and matched comparison groups are examined in order to determine if participating in a particular Targeted RECLAIM service influences the likelihood for subsequent incarcerations. Finally, several moderator analyses are conducted in order to determine if offender risk level and type of treatment service influence the effect of group type on outcome.

## Results

There were a total of 747 juveniles who were involved with Targeted RECLAIM in 2012. However, 17 of these youth did not have any OYAS risk assessment information available; therefore, these individuals were excluded from the analyses in this study. A description of the included sample is presented in Table 1. Generally speaking, the majority of the youth are male (87.3%), non-white (67.9%), and of moderate-risk to reoffend (44.1%).

During the study period, there were more youth enrolled in Targeted RECLAIM services ( $N = 730$ ) than were released from DYS system ( $N = 697$ ). As Table 1 also shows, there are also significant differences between the two groups on the characteristics of gender, risk level, and age. Specifically, the youth from the DYS group were more likely to be older males who were rated by the OYAS as being lower risk to reoffend.<sup>2</sup> In order to construct a comparison group that was as similar as possible to the Targeted RECLAIM group, a one-to-one nearest neighbor matching method was used (see Rubin 1973) to match control cases to treatment cases on the theoretically relevant variables of gender, race, risk level, and age. Given the difference in overall sample size between groups, this matching was completed with replacement, which is particularly helpful in situations like these where there are few control cases compared to treatment cases (see Dehejia and Wahba 1999). This means some youth in the DYS sample are represented more than once. Specifically, the total DYS comparison sample is represented by a total of 552 unique individuals.

Given the matching procedure used here, the Targeted RECLAIM and matched DYS comparison group are identical on the characteristics of gender (87.3% male), race (32.1% white), and risk (26.6% low-risk, 44.1% moderate-risk, and 29.3% high-risk). However, it must also be noted that the Targeted RECLAIM youth are significantly younger than DYS youth on the variable years of age,  $t(1454) = 17.64$ ,  $p < .001$ . Inspection of the two group means indicates that the average age for Targeted RECLAIM youth ( $M = 15.4$ ) is significantly lower than the age ( $M = 16.7$ ) of the DYS youth.

**Table 1.** Descriptive characteristics and comparisons between Targeted RECLAIM and Non-matched DYS samples.

Characteristic	Targeted RECLAIM ( $N = 730$ )		Non-matched DYS ( $N = 697$ )	
	<i>n</i>	%	<i>n</i>	%
Male*	637	87.3	644	92.4
White	234	32.1	257	36.9
Risk level*				
Low	194	26.6	314	45.1
Moderate	322	44.1	232	33.3
High	214	29.3	150	21.5
Mean age* (SD)	15.4	1.4	16.8	1.4

\* $p \leq .01$ .

**Table 2.** Recidivism by group type and risk level.

	Targeted RECLAIM		DYS		$\chi^2(1)$
	<i>n</i>	%	<i>n</i>	%	
Low-risk	10	5.2	18	9.3	2.46
Moderate-risk	24	7.5	47	14.6	8.37*
High-risk	28	13.1	41	19.2	2.92
Total	62	8.5	106	14.5	13.02*

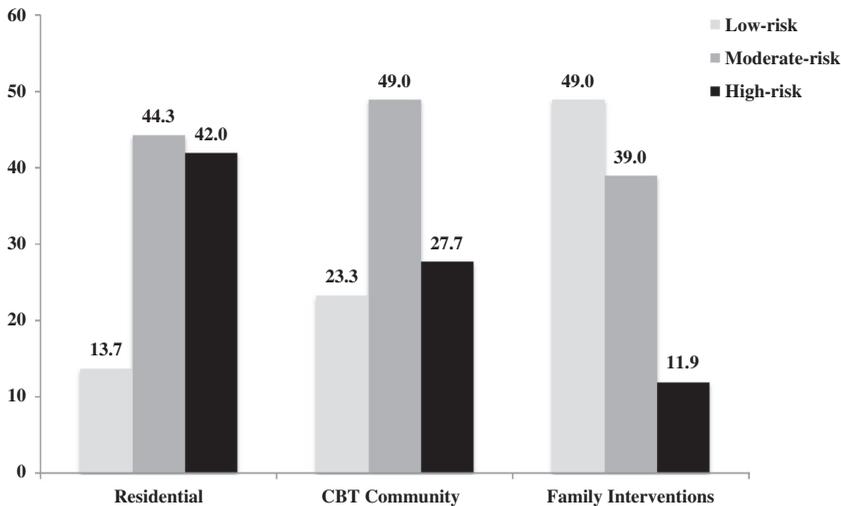
\* $p \leq .01$ .**Figure 1.** Percentage of Targeted RECLAIM youth by treatment-type and risk level.

Table 2 examines the incarceration rates by group type and risk level. Of the 1,460 youth included in the treatment and comparison groups, 14.5% of the DYS sample (or 106 youth) was incarcerated during the follow-up compared to only 8.5% of the Targeted RECLAIM youth (or 62 youth). This means the DYS youth were 1.7 times more likely to be incarcerated during follow-up than the Targeted RECLAIM youth ( $p < .01$ ).

Of the 388 low-risk youth included in the treatment and comparison groups, 9.3% of the DYS sample (or 18 youth) was incarcerated during the follow-up period compared to only 5.2% of the Targeted RECLAIM youth (or 10 youth). Of the 644 moderate-risk youth included in the treatment and comparison groups, 14.6% of the DYS sample (or 47 youth) was incarcerated during the follow-up period compared to only 7.5% of the Targeted RECLAIM youth (or 24 offenders). Of the 228 high-risk youth included in the treatment and comparison groups, 19.2% of the DYS sample (or 41 offenders) was incarcerated during the follow-up period compared to only 13.1% of the Targeted RECLAIM youth (or 28 offenders). This means that there were 4.1% fewer incarcerations for low-risk Targeted RECLAIM youth compared to low-risk DYS youth, 7.1% fewer moderate risk, and 6.1% fewer high risk.

Figure 1 presents the percentage of the Targeted RECLAIM youth that have been assigned to the three types of service (*residential*, *CBT community*, and *family interventions*). The figure shows that the residential programs are comprised of the largest percentage of high-risk youth (42.0%), CBT services in the community the highest percentage of moderate risk youth (49.0%), and family interventions the highest percentage of low-risk youth (49.0%).

Table 3 presents the incarceration rates by group and treatment type. This table indicates that across all three types of service, there is a substantial benefit associated with being in the Targeted RECLAIM group as opposed to the DYS group. The overall reduction in recidivism attributable to these three

**Table 3.** Recidivism by group type, treatment type, and risk level.

	Targeted RECLAIM		DYS		$\chi^2(1)$
	<i>n</i>	%	<i>n</i>	%	
Residential	43	13.7	56	17.8	2.03
Low-risk	8	18.6	5	11.6	0.82
Moderate-risk	14	10.1	24	17.3	3.05
High-risk	21	15.9	27	20.5	0.92
CBT community	9	4.4	35	17.0	17.21**
Low-risk	2	4.2	3	6.3	0.21
Moderate-risk	3	3.0	23	22.8	17.68**
High-risk	4	7.0	9	15.8	2.17
Family interventions	10	4.8	22	10.5	4.87*
Low-risk	0	0.0	10	9.7	10.51**
Moderate-risk	7	8.5	6	7.3	0.09
High-risk	3	12.0	6	24.0	6.82**

\* $p \leq .05$ ; \*\* $p \leq .01$ .

treatment modalities is 4.1% for the residential programs, 12.6% for the CBT services in the community, and 5.7% for the family interventions.

Table 3 also presents the incarceration rates for the two groups separated by treatment type and risk level. When the differences for the residential program are examined by risk, only the moderate- and high-risk groups actually show reductions in recidivism (reductions of 7.2 and 4.6%, respectively). Low-risk youth in residential programs actually fared worse compared to DYS releases (7.0% increase in incarceration during follow-up). The CBT services in the community were effective for all of the risk groups, but seem to have a much higher effect (19.8% reduction) with moderate-risk youth, compared to the high-risk (8.8% reduction) and low-risk (2.1% reduction) groups. Finally, family interventions were effective for the low- and high-risk groups. Although the largest percentage difference was found with the high-risk offenders (12.0% reduction), this finding must also be tempered with the fact that only 25 offenders were assigned to this group. Also, the finding that moderate-risk youth were more likely to be reincarcerated must also be interpreted cautiously, as the actual difference in recidivists is only one (7 for Targeted RECLAIM group and 6 for DYS group).

## Discussion

The negative effects of the 'get tough' movement and the mass incarceration of youth as a means to deter delinquency have been well documented (Holman and Ziedenberg 2006; Lane et al. 2002; Mulvey 2011). The results of this study add to this literature by showing that even when controlling for the effects of gender, race, and risk, youth who were sent to DYS custody were almost two times more likely to be incarcerated during follow-up compared to those similarly matched youth who participated in the Targeted RECLAIM program. Another way to interpret this finding is that without Targeted RECLAIM services available, feasibly some of these youth would have alternatively been sentenced to DYS. And if the Targeted RECLAIM youth went to DYS, it would be expected that they would be reincarcerated at the same rate as the DYS sample. However, the projected estimate found in the current study suggests that there was a 6% reduction in recidivism for the Targeted RECLAIM participants compared to the DYS comparison group during a one-year follow-up period. This finding supports the use of community-based programming provided through Targeted RECLAIM as an effective mechanism for reducing crime. It also adds to support for the urgency to end the mass incarceration of youth in the United States.

This study also found that the effectiveness of Targeted RECLAIM was moderated to a large extent by youth risk level. Specifically, the effectiveness of Targeted RECLAIM was more pronounced for the moderate-risk (7.1% reduction) and high-risk youth (6.1% reduction), compared to the low-risk youth (4.1% reduction). Further, in terms of types of treatment services and assignment, the Targeted RECLAIM program appears to adhere to the risk principle, where higher risk youthful offenders receive a higher

dosage of treatment service compared to lower risk youthful offenders. Specifically, more high-risk youth are assigned to residential programs, moderate-risk to CBT services in the community, and low risk to family interventions.

Finally, and arguably most important, the incarceration rates varied in terms of effectiveness based on type of service and risk level of offender. It is important to note that all three of the treatment modalities examined were found to be effective in reducing recidivism. However, there also appears to be disparity in the effectiveness of the programs investigated (i.e., 4.1% reduction for the residential programs, 12.6% for the CBT services in the community, and 5.7% for the family interventions). Further, although the CBT services and family interventions had reduced levels of incarceration across all three of the risk levels, it is very alarming that low-risk offenders in the residential programs had worse outcomes (7.0% increase in recidivism) compared to the matched DYS releases. These results suggest low-risk youths may be better served with less intense interventions (e.g., CBT services, family interventions). Moreover, this widening of the treatment net is of considerable concern given that slightly more than one quarter of the sample (26.6%) was low risk.

The treatment services also had a differential effect on outcome based on youth risk level. For example, CBT services in the community (i.e., T4C, ART<sup>®</sup>, and EPICS) produced the best results with moderate- and high-risk offenders. Family services (i.e., MST, Wraparound) also had larger effects high-risk offenders, despite targeting primarily low-risk offenders for participation. Not surprisingly, these findings suggest that adherence to the risk principle is paramount as states consider justice reinvestment initiatives.

Although it is too early to draw definitive conclusions about which type (e.g., residential, CBT community, and family interventions), mode (e.g., T4C, ART<sup>®</sup>, EPICS, MST, and Wraparound), location (e.g., in-patient and out-patient) or which specific treatment provider works best to reduce recidivism, this type of investigation is bound to be fruitful in the future. Further research in this area may ultimately help identify the interventions that are more (or less) effective, as well as inform decision-makers as to which youthful offenders (e.g., risk) will achieve the best result in the specific programs (i.e., cost-effective, largest reductions in recidivism).

Although the results from this study are certainly encouraging, there are a number of limitations that should be understood before proceeding with any potential policy changes. First, this study was specific to a sample of juvenile offenders in the state of Ohio and therefore these results may not necessarily generalize to other states or adults. Second, program participation was not a randomly assigned condition in this study. Rather, county officials determined which youth would participate in the available Targeted RECLAIM programming based on their internal criteria. Although the current study sought to address this issue by matching participants to youth released from DYS on a number of theoretically relevant variables, there is reason to suspect that there are unobserved group differences that may have some bearing on the results. Further, although this study found that the Targeted RECLAIM program produced fewer recidivists than did placement in DYS, it is ultimately unknown if better results could have been achieved through the application of less punitive options (e.g., standard probation, no formal intervention). If juvenile justice policies are to be selected based on their ability to achieve the best reductions in crime, future studies will have to more adequately address these alternative comparison groups. Finally, this study used a follow-up period of one year. The use of an increased follow-up period would provide more confidence in the ability of Targeted RECLAIM to serve as a viable alternative to incarceration to reduce crime. Such an evaluation would be beneficial from a public safety and economic standpoint.

Limitations notwithstanding, this study was unique in the fact that it includes a population of juvenile offenders from a large state juvenile justice system, youth risk level and treatment type information, appropriate control measures, and a recidivism outcome. This study, therefore, fills a critical gap in the juvenile justice reinvestment literature and is important because it provides policy-makers and corrections officials with knowledge about how different treatment services and risk levels may influence the recidivism of youth involved in justice reinvestment programs.

In conclusion, the findings from this study add continued support that reinvestment strategies are an effective method for limiting the use of incarceration and reducing recidivism without compromising

public safety. This study also supports the use of residential programs, CBT, and family interventions in the community, particularly with moderate- and high-risk offenders. Further, this study also suggests that low-risk offenders may not be best served in intensive residential programs. However, there are still many questions that remain regarding the effectiveness of juvenile justice reinvestment strategies in reducing recidivism and thus it should remain a topic of subsequent empirical analysis.

## Notes

1. It may seem somewhat paradoxical that residential treatment programs are included as an alternative to incarceration because such settings are also confining and are more expensive to operate than traditional detention facilities. However, these programs represent a potential long term, rather than short term, economic savings, and are justified by stakeholders on such grounds.
2. There was a significantly higher rate of low-risk offenders in DYS custody than enrolled in Targeted RECLAIM during the current study period. Anecdotally, the reason for this is that many of the low-risk youth sent to DYS were sent there for very serious offenses (e.g., sex offenses and gun offenses) and the counties often feel politically forced to use incarceration in these cases regardless of the offenders risk for committing another offense. A more detailed analysis of how the politics of which offenders are incarcerated is beyond the scope of the current study, but should be investigated further in the future.

## Disclosure statement

No potential conflict of interest was reported by the authors.

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