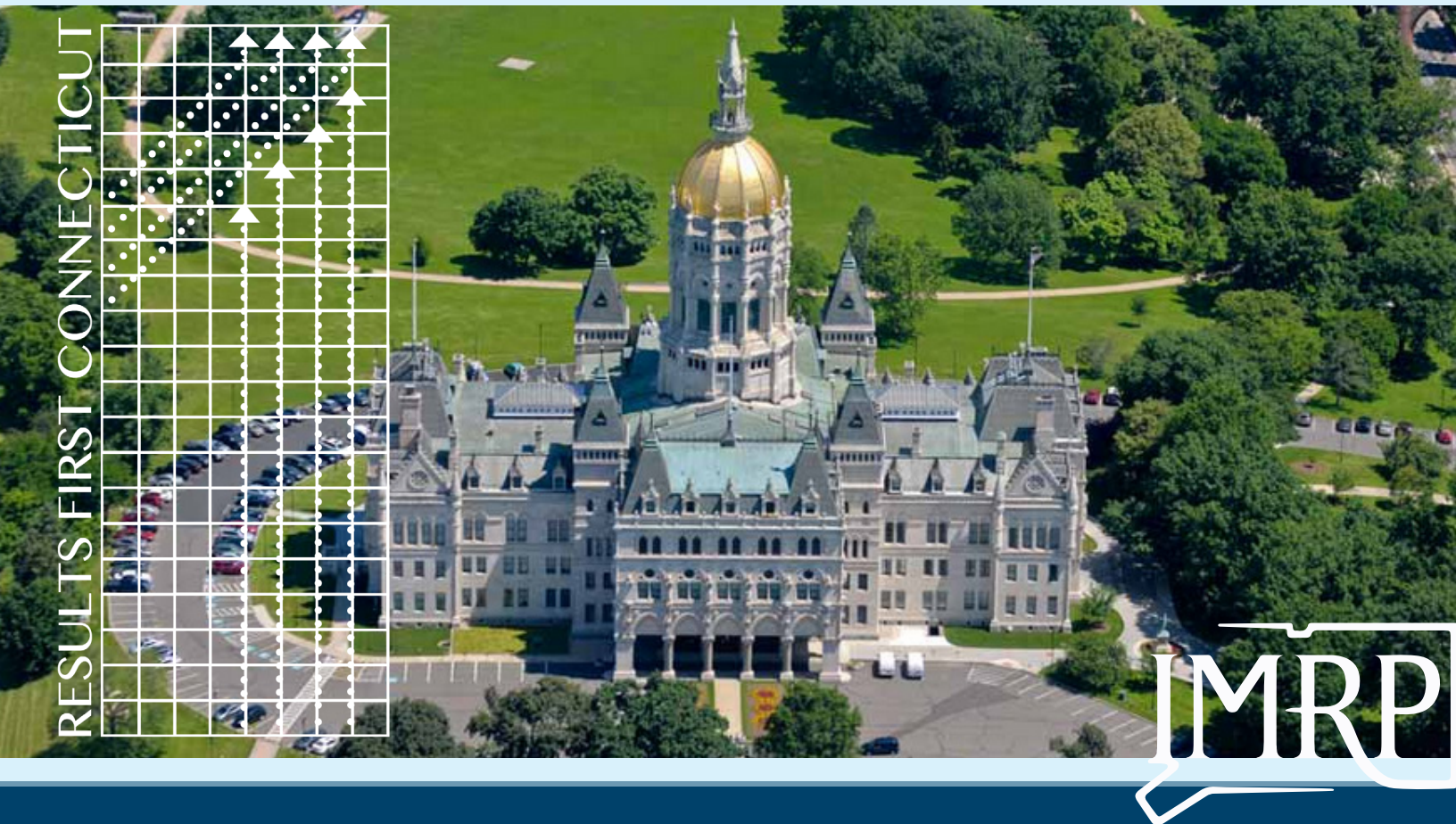


RECIDIVISM AMONG ADJUDICATED YOUTH ON PAROLE IN CONNECTICUT



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EXECUTIVE SUMMARY

Study Requirement

Public Act 14-217 required the Institute for Municipal and Regional Policy (IMRP) to evaluate the effectiveness of juvenile parole services in the Department of Children and Families (DCF) and make recommendations for cost-effective program improvements. As directed, the IMRP focused its research on establishing a baseline rate of recidivism among adjudicated (convicted) juvenile offenders committed to DCF, which could be utilized in the Results First Initiative model.

In addition, PA 14-217 established the Juvenile Justice Policy and Oversight Committee (JJPOC) with a comprehensive statutory mandate to evaluate juvenile justice policies, define recidivism, and adopt recommendations to reduce recidivism among juvenile offenders. In order to assist the JJPOC, the IMRP study included considerations of the state's Raise the Age legislation, which transferred 16- and 17-year-olds from the adult to the juvenile court system and became effective in phases in 2010 and 2012, years included in this study's sample offender population.

Recidivism Definition and Measures

Juvenile recidivism was defined as a new criminal activity resulting in arrest of a youth under 18 after previous adjudication of a criminal charge. The purpose of the study is to determine the rate at which juvenile offenders committed to DCF and under parole supervision are rearrested for a new crime either after discharge from the Connecticut Juvenile Training School (CJTS) or after placement in a residential program or a family-setting under parole supervision.

The JJPOC adopted three measures of recidivism that were proposed for this study: rearrest, re-adjudication (conviction), and re-incarceration or any new sentence or sanction imposed. This report focused on the rearrest measure, the first point of contact with the justice system.

Rearrest among the DCF-committed juvenile offender population was tracked at specific periods, ranging from three to 48 months. The baseline rearrest rate is presented at 24 months after discharge from CJTS or placement in a residential program or family-setting under parole supervision. The baseline rate will serve as the basis for future measurement or comparisons and for inclusion as a parameter in the Results First model.

Study Cohort Groups

The population included in this study were adjudicated juvenile offenders committed to DCF for 18 months to four years. In Connecticut, the juvenile justice system had jurisdiction over youth under 16, until the implementation of the state's Raise the Age legislation added 16-year-olds, effective January 1, 2010 and 17-year-olds, effective July 1, 2012. Therefore, the study population changed at two points due to the staggered implementation of the Raise the Age law.

Study Issues

The IMRP study was organized around the following six issues:

1. The rate or extent of recidivism among DCF-committed juvenile offenders
2. Whether and how recidivism rates differ among juveniles with different demographic characteristics
3. Whether and how recidivism rates differ among juvenile offenders with prior criminal histories
4. The crimes DCF-committed juvenile offenders were rearrested for
5. Whether recidivism is related to DCF-committed juvenile offenders based on their criminal history, demographic characteristics, program participation, or other factors
6. Whether and how implementation of Raise the Age affected the recidivism rate.

Recidivism Rate Key Findings

- In 2012, the baseline rate of rearrest among DCF-committed juveniles on parole was:
 - 32 percent at six months
 - 52 percent at 12 months and
 - 77 percent at 24 months.
- Between 2002 and 2014, the rearrest rate fluctuated. From 2007 to 2010, the first year of implementation for Raise the Age, the rate dropped from almost 80 percent to 60 percent respectively, but increased beginning in 2011 continuing through 2014.
- After enactment of Raise the Age, recidivism among 16-year-olds decreased at the six month release threshold, but the decrease was not sustained at later release thresholds.
- Almost three-quarters of the rearrested juveniles were reconvicted, but this rate appears to be decreasing.
- By comparison, the baseline rate of rearrest as of 2015 among juveniles supervised by the Judicial Branch-Court Support Services Division (JB-CSSD) and on probation is 58 percent and has remained relative stable over the same period.
- The 18-month release threshold (18 months after discharge from either CJTS, a residential program, or parole supervision) appeared to be significant as the rate of rearrest jumped at that point.

In addition to the findings above, the report includes descriptive statistics below that characterize the juvenile offenders committed to DCF from January 1, 2000 to December 31, 2014, whose cases were the subject of this review. Rearrest rates for different groups over different time periods appear in Section 5, but the study does not arrive at comparisons within a descriptive group due to data limitations.

- Most (70%) were male. Due to data limitations, with a few exceptions, this report does not include separate recidivism analyses of disaggregated male and female offenders.¹
- Minority youth (72%) were disproportionately represented in the DCF-committed population.
- Forty-two percent of the youth resided in the state's four largest urban areas.
- Beginning with the implementation of Raise the Age, the average age of youth increased from 15 years to 16 years.
- Almost half of the adjudicated boys committed to DCF had six to 10 prior arrests and over 60 percent of the girls had between one and five.
- Almost 80 percent of DCF-committed juveniles were assessed (using the Juvenile Assessment Generic instrument) as high or very high risk.

An analysis of recidivism rates among the study's three different groups based on their prior arrest(s) or DCF commitments indicated there were no consequential differences since the numbers of youth who either had (1) no prior arrest or commitment or (2) a prior arrest and commitment were small. Most youth in the study population had a prior arrest but no prior DCF commitment.

Our statistical analysis of the effect that Raise the Age implementation had on recidivism found mixed results. In a comparison of all adjudicated 16-year-old juveniles who were committed to DCF to convicted 17-year-old adults who were sentenced to one or more days in jail or prison, our analysis showed a significant decrease in recidivism six months after release, but found no significant changes at the 12-, 18-, or 24-month release thresholds. With respect to the implementation of Raise the Age legislation, study data suggest that a system-wide response (in both DCF and the juvenile court system) led to a shift in the disposition of DCF-committed juvenile. A comparison of all 16-year-olds adjudicated as juveniles with all 17-year-olds adjudicated as adults after the initial implementation of the Raise the Age found no significant differences in recidivism at the six-, 12-, or 18-month release thresholds, but found an increase in recidivism 24 months after release. The effect on the rate of recidivism diminished and did not continue past the six-month mark.

It appears that as older offenders, 16- and 17-year-olds began to be committed to DCF, more were placed in CJTS, rather than sent to residential or family treatment programs. But it is too early to assess what affect Raise the Age may have on the recidivism rate once these offenders are released from DCF commitment. Prior to Raise the Age, most juveniles were initially placed in community-based residential programs, but after Raise the Age the trend shifted, and most were placed directly in CJTS.

¹Of the 3,324 youth in the data sample from DCF, 2,596 (78%) were male and 728 (22%) were female. Consistent with Connecticut recidivism studies to date, this report's analyses are not disaggregated by gender but are based on calculations of the combined male and female population. However, since the placement, treatment, and outcomes for DCF-committed girls may differ significantly from that for males, researchers recommend that further research is warranted after disaggregation by gender. If the sample size for either gender is too small to draw conclusions, additional years of data collection may be required to expand the sample population enough to generate meaningful analytic results.

IMRP researchers caution that some data patterns were anomalous and, where possible, plausible explanations for the patterns are presented. IMRP researchers suggest exercising caution in interpreting the results. Researchers believe, in some analyses, the total number of youth was so low it may bring into question whether the pattern would be consistent with a larger sample. It is important to note that of all adjudicated juvenile offenders, those who are committed to DCF represent the smallest cohort group (approximately three percent) of the total population of juvenile offenders; most juvenile offenders are sentenced to probation or other sanctions or diverted from further involvement with the juvenile court.

Recommendations

- I. With the baseline recidivism rate analysis included in this report, IMRP and DCF should proceed to assess juvenile parole services programs for the DCF-committed offender population that are the subject of this study. As required by PA 14-217, IMRP must assess the juvenile parole services programs and develop findings based on the Pew-MacArthur Results First Initiative's cost-benefit analysis model.
- II. IMRP and DCF should collaborate to (1) collect and analyze program-specific data, (2) examine program evaluations and the cost-benefit analyses to identify program changes that improve their outcomes and cost-effectiveness, and (3) recommend any necessary statutory or program changes to implement improvements.
- III. On a continuing basis, DCF and JB-CSSD should cooperate with the Results First Initiative and IMRP to obtain and review all evidence-based program outcomes and cost data to evaluate the effects of specific programs on juvenile recidivism and determine program cost-benefit analyses.
- IV. In addition to post-commitment program evaluations, researchers should review data that potentially identifies predictive factors for reoffending among DCF-committed youth, such as the impact of youths' education, employment, and health and that of their families and communities. The results of a validated risk assessment tool can be an indicator for juveniles' likelihood to reoffend. Expanded analysis of these factors should be used to develop recidivism reduction strategies.
- V. DCF should solicit input from IMRP researchers and the Results First team in the development of its information technology system improvements to ensure that necessary program data is identified, collected, and made available under the appropriate agreements and conditions for additional research and analysis.
- VI. IMRP should continue studying juvenile recidivism to determine the long-term effects of Raise the Age might be on affected youth. Additional research should assess juveniles committed to DCF as 17-year-olds after the July 1, 2012 effective date of Raise the Age; analyze their 24-month recidivism rate; and provide the basis for developing recidivism reduction strategies, particularly among the older youth.

Continued study is also warranted on the data disaggregated by gender since placement, programs, and treatment differ significantly for these male and female juveniles and any difference in their recidivism rates should be examined.

VII. IMRP endorses the findings of Georgetown University's 2013 Final Report for the State of Connecticut Department of Children and Families and the action plan adopted by DCF to better meet the needs of the state's DCF-committed juvenile offenders.

SECTION 1: INTRODUCTION

Juvenile justice systems use several key metrics to track outcomes for youth under system supervision, including educational attainment, behavioral health improvements, and skill development and employment, all of which are critical to ensuring a youth's long-term success. (The National Reentry Resource Center, *Measuring and Using Juvenile Recidivism Data to Inform Policy, Practice and Resource Allocation*, July 2014). Recidivism, however, is the most commonly used measure of justice system effectiveness. Juvenile justice agencies are often judged to be successful or not, based on the recidivism rates for their adjudicated (convicted) youth. These rates represent the extent to which adjudicated adolescents commit crimes after receiving juvenile justice services that can include incarceration, confinement in a residential center, parole supervision, or treatment services. This is not to say that recidivism prevention is the exclusive purpose of the juvenile justice system or of any single juvenile justice agency; rather it acknowledges a fundamental expectation of the public and policy makers that juvenile justice agencies prevent future crime through the rehabilitation of incapacitated and supervised young offenders. (Council of Juvenile Correctional Administrators, November 2009).

Recidivism has become an accepted measure of success (effectiveness) of the justice system and is at the core of any effort to evaluate criminal justice outcomes. Recidivism is broadly defined as re-engaging in criminal behavior after receiving a sanction or intervention. Simply put, recidivism is “a falling back or relapse into prior criminal habits, especially after punishment.” (Blumstein & Larson, 1971). For this study, recidivism is defined as re-engaging in criminal behavior after receiving a sanction or intervention.

Juvenile Parole Recidivism Project Scope

In 2014, the Connecticut General Assembly passed PA 14-217, An Act Implementing Provisions of the State Budget for the Fiscal Year Ending June 30, 2015, that required the Institute for Municipal and Regional Policy, at Central Connecticut State University, to assess the effectiveness of Department of Children and Families' juvenile parole service programs for juvenile offenders committed to the department's custody. Pursuant to section 84(a) of the act, “[s]uch assessment shall consider findings from the Pew-MacArthur Results First Initiative's cost-benefit analysis model with respect to such programs. After conducting such assessment, [IMRP], in consultation with the department, shall recommend program changes that may be implemented to improve the cost-effectiveness of such programs.”

The final report was due on June 30, 2015 and IMRP was required to address (1) a description of the assessment, (2) identification of any program changes implemented by DCF as a result of the assessment, and (3) recommendations deemed appropriate concerning additional statutory or program changes that may improve the cost-effectiveness of the juvenile parole services. IMRP was mandated to consult with DCF in developing recommendations. The IMRP final report must be submitted to the Appropriations

Committee and the Committee on Children of the Connecticut General Assembly and to the Results First Policy Oversight Committee. However, due to delays in compiling data and the extensive recoding of the data, the IMRP report was not issued on June 30, 2015.

Public Act 14-217 also created the Juvenile Justice Policy and Oversight Committee. The JJPOC was required to make recommendations concerning the juvenile justice system to (1) improve public safety; (2) promote the best interests of children and youths who are under the supervision, care or custody of the DCF or JB-CSSD; (3) improve transparency and accountability of state-funded services for children and youths in the juvenile justice system with an emphasis on goals identified by the JJPOC for community-based programs and facility-based interventions; and (4) promote the efficient sharing of information between DCF and JB-CSSD to ensure the regular collection and reporting of recidivism data and promote public welfare and public safety outcomes related to the juvenile justice system. The law established short- and long-term goals for the JJPOC including, but not limited to, defining recidivism and the measures to track the rate among juvenile offenders.

IMRP researchers consulted with the JJPOC, juvenile justice system administrators, advocates, and experts in developing the scope for the effectiveness evaluation and concluded it was necessary to first establish a baseline rate of recidivism among this population. A primary reason is that recidivism is one of the three principal measures in the Results First Initiative cost-benefit analysis tool, and as of 2014 the model had state level baseline recidivism statistics for all adult and juvenile populations except for the juvenile parole population. In addition, the JJPOC was mandated to define, measure, and track recidivism among juvenile offenders. The IMRP research would inform the JJPOC's Recidivism Workgroup's recommendations regarding strategies to reach the goal of reducing recidivism among juvenile offenders. IMRP researchers, therefore, set out for the first time in Connecticut to assemble and analyze DCF data on the juvenile offenders in its custody to measure the recidivism rate.

IMRP researchers hope this report assists in policymaking and resource allocation on several major reforms, including establishing evidence-based, data-driven recidivism reduction strategies, reducing the number of incarcerated youth and closing CJTS, evaluating and possibly expanding the network of residential programs for juvenile offenders and possibly raising the age of juvenile justice jurisdiction to 21, as proposed by Governor Dannel P. Malloy. It can also be extremely useful in evaluating case management practices and supervision protocols and for determining the effectiveness of treatment and services, especially those with long-standing status.

SECTION 2: BACKGROUND

Results First Initiative

The Pew-MacArthur Results First Initiative works with states (including Connecticut) and county jurisdictions to implement an innovative evidence-based policymaking approach and benefit-cost analysis model that helps them invest in policies and programs that are proven to work. It is intended to identify program opportunities that allow decision makers to effectively invest limited resources to produce better outcomes and potential savings. The econometric model that is integral to the Results First Initiative applies the best available national rigorous research on program effectiveness to predict the public safety and fiscal outcomes of each program category in Connecticut, based on the state's unique population characteristics and the costs to provide these programs here. For each potential investment, the model produces separate projections of benefits that would accrue to program participants, nonparticipants, and taxpayers. These are summed to estimate a total state bottom-line benefit. The model then calculates the cost of producing these outcomes and the return on investment that Connecticut would achieve if it chose to appropriately fund each program and implement it with fidelity. Programs may then be compared on common terms as to long-term cost effectiveness.

Important juvenile recidivism data by risk level is a necessary element of the Results First econometric model. Now, with the data in this report, IMRP can apply the Results First model to those programs that (1) are evidence-based as substantiated by rigorous research and included in the model and (2) have costs expressed appropriately (i.e., marginal costs per participant).

The next phase of the study is expected to produce information to update the juvenile program statistics in the model allowing it to analyze Connecticut programs, giving agency administrators the data to inform and produce improved outcomes. IMRP Results First staff expect to develop, in consultation with DCF, the recommendations for changes that may be implemented to improve the cost effectiveness of such programs, as required by the original 2014 legislation.

Connecticut Policy Landscape

Approach

Over the past two decades, Connecticut has re-invented its approach to juvenile justice. Connecticut's system has been credited with being more successful, humane, and cost-effective than it was in the 1980s. The reforms were driven by a collaboration between policy makers, administrators, service providers, advocates, and experts and academics. It has resulted in a decrease in the number of court-involved and confined youth, improved conditions of confinement, and a focus on evidence-based treatment strategies. These changes and reforms were accomplished without any significant increase in juvenile crime. (Justice Policy Institute, *Juvenile Justice Reform in Connecticut*, 2013.)

Connecticut has addressed the growing body of knowledge about youth development, adolescent brain research and delinquency; adopted its lessons; and used the information to fundamentally re-invent its approach to juvenile justice (Justice Policy Institute). JB-CSSD began by (1) implementing an evidence-based, data-driven, and continuous quality improvement approach to policymaking; (2) adopting community supervision procedures; (3) operating pretrial detention facilities with limited length of stay protocols; and (4) developing a treatment and service network with evidence of effectiveness. JB-CSSD improved its collection, management and analyses of data regarding young offenders participating in diversion programs and supervised on probation, which represents the majority of pre-trial and adjudicated youth.

Results First Model

The Results First project, as well as the JJPOC, required a similar analysis of data on the court-involved juveniles committed to DCF for inclusion in and application of its benefit-cost analysis model. Commitment to DCF is considered the most serious punishment for adjudicated (convicted) juvenile offenders and often includes incarceration at the Connecticut Juvenile Training School for boys or the Pueblo Unit for girls, placement in a residential program, or supervision and services for youth on parole in their family setting (biological family, foster care or independent living). DCF operates juvenile correctional facilities (CJTS and the Pueblo Unit²); has adopted length of stay guidelines; and contracts for a network of community-based residential and outpatient programs, several of which are evidence-based. DCF also administers juvenile parole supervision.

These youth arguably present DCF with the highest treatment and supervision needs and are at the highest risk of reoffending. IMRP researchers found there was almost no accurate quantitative program information on adjudicated youth committed to the Department of Children and Families. The available program data was limited to admission and discharge dates, program provider name, and payment date. DCF data does not include (in automated format) information that tracks referrals, client participation or completion status, or provider and client performance based on contractual outcomes. This information is required for the Results First Model analysis. IMRP acknowledges DCF may collect and review this type of information from sources other than its database, but for the purposes of this project the data were not available.

To continue its reform of the juvenile justice system, Connecticut needs to evaluate the effectiveness of DCF's juvenile justice facilities, programs, services, and supervision. The first step in evaluating effectiveness is a comprehensive understanding of the population that is served and establishment of a baseline measure for specific performance and outcomes. The study of DCF-committed juvenile delinquent population is an important element in the development of Connecticut's juvenile justice reform efforts.

²The Pueblo Unit is closed and CJTS is slated to close in 2018.

Georgetown University Juvenile Justice System Improvement Program Study

In 2012, Connecticut participated in the Juvenile Justice System Improvement Program (JJSIP) sponsored by the Center for Juvenile Justice Reform, Institute for Public Policy, at Georgetown University. The final report, Connecticut Parole Report (June 2013), commonly referred to as the “Georgetown report”, summarized DCF’s juvenile parole processes, protocols, and strategies. The report addressed three specific areas related to juvenile parole: (1) use of the Standardized Program Evaluation Protocol (SPEP); (2) DCF’s risk assessment instrument and strategies; and (3) DCF’s graduated responses policy and parole revocation procedures. The report also addressed the organization of DCF’s juvenile justice services, data management and quality assurance, and re-integration of youth from congregate care facilities to the community.

Juvenile Justice Policy and Oversight Committee

In 2014, the Juvenile Justice Policy and Oversight Committee was statutorily established and given a broad mandate to continue the state’s efforts to reform the juvenile justice system using a data-driven, evidence-based approach to policymaking and resource allocation (PA 14-217). One of the JJPOC’s first priorities was to track the rate of recidivism among the juvenile offender population. In July 2015, the JJPOC adopted the definition used in this report, which is consistent with the definition of recidivism used by the Office of Policy and Management’s (OPM) Criminal Justice Policy and Planning Division to track the rate among adult offenders and JB-CSSD to track the rate among adult and juveniles on probation. For the purposes of this report, “recidivism” is broadly defined as re-engaging in criminal behavior after receiving a sanction or intervention.

Raise the Age Legislation

Finally, in other developments that affected the study of juvenile recidivism, the Connecticut General Assembly enacted legislation that shifted the jurisdiction over 16- and 17-year-old offenders from the adult criminal court to the juvenile court. The Raise the Age law (PA 07-4, June Special Session, §§ 73-78) became effective on January 1, 2010. However, in 2009, legislation was passed that delayed the jurisdictional change (raising the age) for 17-year-olds until July 1, 2012 (PA 09-7, September Special Session §§ 69-93). Thus, the data sample in this study covered a population that, over time, included different ages.

Data

Adult criminal justice agencies have, for many years, been sharing data and tracking the rate of recidivism and conducting policy evaluation. IMRP’s recidivism analysis required data from DCF, JB-CSSD, and the Department of Correction (DOC). JB-CSSD has measures in place for standardized data collection, validation, and external oversight that have resulted in data-driven practices and policy evaluation. DOC’s electronic data system is outdated, but the agency has become adept at over-riding system limitations

and can provide accurate and reliable data. DCF data collection and maintenance practices and systems currently are designed to focus on case management, rather than research support. While DCF reported that it regularly reviews juvenile justice and parole programs, its data system did not include the data variables needed for a consistent and comprehensive evaluation of the outcomes of DCF juvenile justice and parole policies and programs. An enhanced data system would improve and simplify both functions for DCF.³

DCF provided data on all (3,324) adjudicated juvenile offenders committed to its custody from 2000 through 2014. DCF data included information on intake and assessment, placements, programs⁴, parole supervision, and child welfare information. JB-CSSD provided juvenile and adult court, assessment, and probation supervision data; and DOC provided adult incarceration history (movement) data. (See Appendix A for a description of agency databases.)

This project, for the first time in Connecticut, systematically collected and validated DCF data, and combined DCF, JB-CSSD, and DOC data to conduct a comprehensive analysis of the rate of recidivism among delinquent youth committed to DCF. IMRP researchers believe the results provide an understanding of a subgroup of the state's juvenile offender population that is largely at the highest risk of reoffending and presents the highest vulnerabilities and needs for treatment. Though not included in the original intent of the study, this report also addresses the effect of the Raise the Age law on recidivism among DCF-committed juvenile offenders.

IMRP merged and de-identified the DCF, JB-CSSD, and DOC data. Each youth in the sample was given a unique identification number and their names and other identifying information were deleted. Improving data management and sharing and conducting ongoing policy evaluations are included among the recommendations in this report.

Under some conditions, the DCF data seem to be in line with what was expected based on JB-CSSD analysis of juveniles on probation and trends in existing literature. For example, the DCF data in this study showed that most juvenile offenders were male and a large percentage identified as a minority race/ethnicity, resided in urban areas, and were assessed as high risk.⁵ Juvenile offenders committed to DCF had a rate of rearrest over 70 percent.

Another factor affecting the size of the study population is the state's Raise the Age law. Passed in 2007 (PA 07-4, June Special Session), the Raise the Age legislation shifted jurisdiction of 16- and 17-year-olds from the adult criminal court to the juvenile court. For 16-year-olds the change became effective on January 1, 2010, and for 17-year-olds it began

³DCF has a Request for Proposal (RFP) pending to solicit a contractor to overhaul its existing data systems.

⁴Program data that DCF provided was limited to start and ending dates, the provider organization, and some payment information.

⁵Seventy percent of the sample youth had Juvenile Assessment General (JAG) assessment data, which is a validated tool used by JB-CSSD. Of those that were assessed with the JAG, a majority were assessed as very high or high risk, which was consistent with system expectations and current literature.

on July 1, 2012, due to a postponement enacted in 2009 (PA 09-7, September Special Session). Because the scope of the study population (cases from 2000 through 2014) covers both before and after the effective dates of Raise the Age, researchers were able to document to some extent the recidivism rate of this changing population. The staged rollout provided quasi-experimental variation and provided a treatment group and a comparison (or control) group that allowed for rigorous statistical evaluation of changes in the recidivism rate among juvenile offenders affected by RTA. The data used for this analysis go through December 31, 2014, which at the most would allow for an 18-month review of the 17-year-olds transferred from the adult criminal system to the juvenile justice system in July 2012, but there is significantly less time during which to track the rates of recidivism for many of the older adolescents. For this first phase, IMRP did not collect data on 18-year-old adults, which forced researchers to rely on the period when 17-year-olds were processed as adults. That period is up to June 30, 2012, constraining the analysis to a 30-month recidivism window.

SECTION 3: STUDY SCOPE

Methodology

Given the efforts to improve the juvenile justice system including juvenile parole services, IMRP researchers focused this study on the remaining area that had not yet been completed: collecting and analyzing DCF data on juveniles on parole to establish a baseline recidivism rate for that population. An established baseline rate will provide the basis for future measurements or comparisons and for analyzing the cost effectiveness of programs and performing cost-benefit analyses using the Results First model. The interest in this measure was based on the following.

- JB-CSSD has been tracking the rate of recidivism among juveniles on probation for more than 10 years. JB-CSSD has an extensive body of research and data analyses on the juvenile offenders under its care and experience participating in the network of evidence-based diversion programs and probation services. This study would add to juvenile justice-related data the rate of recidivism for DCF-committed youth and an analysis of their characteristics.
- As stated in Georgetown University's *Final Report for the State of Connecticut Department of Children and Families* (the "Connecticut Parole Report" or the "Georgetown Report," [2013]), existing research on juvenile parole and ongoing DCF initiatives and plans are based only on national best practices, rather than ongoing, comprehensive data analyses of the DCF-committed juvenile population. IMRP researchers believe that conforming to national best practices involves data-driven program evaluation and incorporating rigorous evaluation procedures into the program design.
- Finally, recidivism is the most commonly used performance measure to evaluate the success (effectiveness) of correctional and supervision policies and practices. It is also a necessary component of the Results First cost-benefit model, which bases cost-effectiveness largely on a program's ability to reduce recidivism. Therefore, IMRP researchers sought to establish, as a first step, a baseline recidivism rate before any meaningful examination of the effectiveness of DCF's parole services could be completed. In addition, there was an immediate need to access DCF data and conduct a detailed analysis of delinquent youth committed to DCF and supervised on parole. By expanding to additional policy areas and applying the Results First model, IMRP can examine outcomes other than recidivism, including education, employment, health and family and community impact.

Recidivism Definition and Measures

For the purposes of this study, "recidivism" is broadly defined as re-engaging in criminal behavior after receiving a sanction or intervention. Three generally recognized measures of recidivism are: rearrest, re-adjudication (conviction), and an imposed sentence or sanction. Specifically, this study examines the rate at which a juvenile offender who is committed to DCF and under parole supervision is rearrested and adjudicated for a new

crime. IMRP researchers used rearrests, tracked at specified periods, ranging from three to 48 months to measure the rate of recidivism among DCF-committed juveniles.

Definitions of Recidivism

Recidivism is an important performance measure for justice agencies. The National Institute of Justice (NIJ) defines recidivism as one of the most fundamental concepts in adult criminal and juvenile justice. It refers to a person's relapse into criminal behavior, often after the person received sanctions or underwent intervention for a previous crime. Simply, recidivism is defined as "a falling back or relapse into prior criminal habits, especially after punishment." (Blumstein & Larson, 1971).

Recidivism has become an accepted measure of success (effectiveness) of the justice system because:

- It is relatively easy to track and calculate a baseline rate and continue tracking on an annual or other timeframe basis.
- It reflects whether a program or service is effective in preventing youth or adults from being arrested for new crimes.
- It is a general reflection of whether youth or adults involved with the justice system learn to make better decisions in their lives. (California Administrative Office of the Courts, Center for Families, Children and the Courts, *Defining Recidivism in Juvenile Justice*, April 2012).

Recidivism is often reported as a single, statewide rate. This is useful to establish a baseline and track changes. However, the single measure is too imprecise to draw meaningful conclusions about the offender population or system processes and insufficient for assessing the impact of changes to policy and practices. The first step in making recidivism a meaningful performance measure is to move beyond the idea of a single measure of success or failure. Instead, recidivism should be viewed as one of a series of different performance indicators that must be carefully calibrated to the outcome that is intended to be measured. Reducing recidivism is the responsibility of multiple state agencies and a network of community-based and nonprofit organizations and many different actors, and the definition of success must allow for a range of outcome measures that are responsive to this fact. (R. King and B. Elderbroom, 2014)

The Urban Institute's Justice Policy Center (October 2014) found recidivism failure rates should serve as the foundation of recidivism research, but it is critical to move beyond them to improving recidivism as a performance measure. To improve descriptive reporting of recidivism, analysis should also include desistance (success), time to failure (release threshold), crime severity, and behavioral changes as indicators of success. Justice systems can also use several metrics to track outcomes for persons under supervision, including educational attainment, employment or job skills training, behavioral health improvement or pro-social skills development. All are critical to short- and long-term successful reentry into the community.

The United States Department of Justice, Bureau of Justice Statistics', landmark national annual reports on recidivism rates of prison release cohorts measured recidivism as a re-arrest, reconviction, and re-incarceration for a new crime. Individuals were tracked for at least three years after release from prison. This has become the standard research timeframe (often called the "release threshold"). A longer observation period provides valuable information on the link between supervision length and rates of re-offending.

Connecticut first adopted a definition of recidivism and three primary measures to track a baseline rate among adult offenders in 2001.⁶ The state's Judicial and Executive Branch criminal justice agencies agreed on the definition and measures. Since that first report, OPM's Division of Criminal Justice Policy and Planning must track and report annually the rate of recidivism among adult offenders. The definition used is new criminal activity by a person after a criminal conviction that resulted in either imprisonment or other sanction (e.g., probation, diversionary sentence, fine, etc.).

In July 2015, JJPOC, in accordance with PA 14-217, adopted a definition of recidivism for the juvenile offender population that is similar to the definition used for the adult offender population, but uses the terminology of the juvenile justice system. Juvenile recidivism is defined as new criminal activity resulting in arrest of a youth under 18 after a previous adjudication (judicial or non-judicial) of criminal charge(s).

For the purposes of this study, IMRP examined the rate at which adjudicated (convicted) juvenile offenders committed to DCF are re-arrested and adjudicated for new crimes. As will be discussed in the analyses section, during the time period under analysis, DCF-committed youth could be (1) confined at CJTS for boys or the Pueblo Unit for girls (since closed); (2) admitted to a community-based, privately operated residential program; or (3) placed in a family setting under parole supervision. Youth may be committed directly from the juvenile court to any of the three settings based on their needs, risk, and criminal history and/or criminal offense; except that girls were not confined directly from court to the Pueblo Unit. During their period of DCF commitment, youth may also move between the settings in response to their behavior (prosocial or antisocial). Some youth had multiple moves while others did not. (See Appendix B for an overview of the juvenile justice process from arrest to sentencing and through parole supervision and sentence discharge.)

CJTS and the Pueblo Unit, as correctional facilities, have been the most secure placement setting. Confined youth have no access to the community, except perhaps for short furlough periods. Residential programs have varying levels of security from hardware secure to staff secure, and youth have limited access to the community. Youth in residential programs may attend local public schools, recreate or work in the community and attend outpatient programs. Youth in a family setting (e.g., biological family, foster family, or independent living) under parole supervision have the fewest restrictions on their access to the community. Youth under parole supervision may have curfews or other restrictions on being in specific locations (e.g., the victim's neighborhood); but they live, work, attend school, and recreate in their communities and have the most opportunity to re-offend.

⁶ Connecticut General Assembly, Legislative Program Review and Investigations Committee, *Recidivism in Connecticut* (December 2001).

Recidivism Measures

The terms “definition” and “measure” are often confused. Definition has to do with the meaning or concept of a word or phrase, while measure is a systematic way to assign a value (count or score) to a specific sample. The term “measure” refers to the type of data that will be used to assign values to youth who are rearrested and those who are not. These data types, which are discussed later in this section, include, but are not limited to: court records of arrests, adjudications (conviction) and dispositions (sentence); demographics (i.e., age, gender, race/ethnicity, town of residence); movement and placement type, dosage and success/failure rate; and assessment sub-scores and scores (i.e., substance use/abuse, mental health, education level, violence, and overall risk).

Many measures are used to verify the success of a policy, practice, or program in the juvenile justice system. A measure is typically dependent on what an evaluation attempts to quantify and is usually specific to the established goal of the program or practice. For example, a substance abuse treatment program may measure success in terms of the number of youth abstaining from drug use for a specific period while a vocational training program may measure success as a youth getting a job or a professional license to work in a specific industry. In fact, program completion itself is often a common measure of success. While there are specific outcomes for each program, it can be argued the overarching goal of juvenile justice programs is to promote prosocial behaviors and thereby reduce antisocial acts such as behavior that results in recidivism.

There are three measures of recidivism that provide the most comprehensive review of how a rearrested offender is processed: rearrest, re-adjudication (conviction), and sentence or sanction imposed. The selection of one of the three greatly affects that reported recidivism rate. For example, police exercise discretion to arrest a juvenile and the court has options regarding pre-trial detention, disposition, and sentencing in every case. Each measure has strengths and weaknesses; but combined, the three are a more comprehensive and accurate means to measure the recidivism rate among juvenile offenders on parole. These are also the same measures that have been used for the past decade to track recidivism among adult offenders and juveniles on probation. To enable structured comparisons in this study, the IMRP used a definition, measures, and methodologies that are similar to those used throughout the Connecticut justice system to track and analyze recidivism. While direct comparison of DCF-committed juveniles to adults or juveniles on probation cannot be made, some inferences can be drawn, which will be discussed in greater detail later in this report.

Four caveats are related to the measures of recidivism used in this study. First, it is virtually impossible to know all youth who commit new offenses, what crimes they commit, or how many offenses they commit during the follow-up period. This is because not all youth involved in criminal activity are detected or arrested; not all crimes are reported; and some youth may commit crimes in another state, which is not included in Connecticut’s data. A percentage of youth offending, therefore, is not readily apparent to the justice system. Consequently, the number of arrests, convictions, and sentencing decisions used

to measure recidivism are indicators of youth behavior based on decisions made by agents of the justice system only about the youth who come to their attention and are formally processed.

Second, there is also the influence of change and discretion, both in terms of who gets caught and for what. These decisions are also subject to local practices of police decision-making; differences in policing and policies across jurisdictions; and informal and formal agreements, such as plea bargaining, among members of the juvenile justice system. Consequently, there is opportunity for bias built into any measure of recidivism. A fact to keep in mind, then, is that every measure of recidivism based on an official record (e.g., arrest, disposition, or sentence) always involved the behavior of a youth and a formal decision made by at least one official of the justice system. Variations occur in any of the several decision points in the case processing system, the source of information about the decision, the state or local policies governing that decision, and the practices within justice agencies that influence that decision.

Third, it is also important to consider the specific decision point (e.g., arrest, disposition, sentencing) has an impact on the number (and percentage) of youth identified as recidivating. Recidivism research in Connecticut and other jurisdictions shows that the average percentage of youths found to be re-adjudicated (reconvicted) of a new offense shrinks when compared to the average percentage of youth rearrested. This shrinkage has to do with the necessary decisions to remove, either by dismissal or diversion, some cases at each discretionary decision point and allow others to continue to the next stage of the justice process. Decision makers screen out cases for which evidence is insufficient to support the charges or an informal or diversionary option appears more suitable, given the offense, accompanying circumstances, and the youth's needs. Juvenile court discretion and the practice of plea bargaining also impact sentencing trends.

Lastly, any analysis of the rate of recidivism among juvenile offenders over a period should account for youth aging out of the juvenile justice system into the adult justice system. It is important to note that a youth's juvenile delinquency record (criminal history) is sealed and not available to the adult criminal court except under specific circumstances. A youth with a juvenile justice history who is later arrested as an adult is generally presented to the criminal court as a first-time offender (e.g., a person with no criminal record.) To process first-time offenders and/or offenders charged with low level offenses, the Connecticut adult justice system relies on a network of pre-trial diversion programs and alternative to incarceration options as well as probation supervision. It is accepted that young adult offenders with histories of juvenile delinquency are processed through the network of diversion and alternative sanctions.

Research Questions

The initial study scope outlined a recidivism analysis based on the following six questions.

1. To what extent were juvenile offenders committed to DCF arrested for new criminal activity, re-adjudicated delinquent (convicted) and recommitted to DCF or other imposed sanction?
2. How did recidivism rates differ among different groups (e.g., demographic, criminal history, and other characteristics) of DCF-committed juvenile offenders?
3. How did recidivism rates vary among different categories (e.g., youth with no prior DCF commitment versus youth with one or more prior commitments) of DCF-committed juvenile offenders?
4. What crimes were DCF-committed juvenile offenders arrested for?
5. Was recidivism related to DCF-committed juvenile offenders' criminal histories, demographics, program participation or other factors?
6. How, if at all, did Connecticut's Raise the Age legislation affect the rate of recidivism among DCF-committed juvenile offenders?

The recidivism analysis provides quantitative data that helps answer questions such as who reoffends, what types of new crimes are committed, and how many juvenile offenders are re-adjudicated delinquent and recommitted. However, it is beyond the scope of this study to provide information as to *why* juveniles commit new crimes.

In addition, this study will not address the costs associated with recidivism. Rather than cause any further delay in the distribution of the recidivism rate data, IMRP researchers continue to work with the Connecticut Results First staff to provide the appropriate applicable data for the Results First cost-benefit analysis of juvenile justice programs. IMRP will share the baseline recidivism trend analysis and the data sharing collaborations among juvenile justice agencies to continue to conduct more detailed effectiveness and cost-benefit analysis research on juvenile justice programs.

The data presented in this report is critical to understanding recidivism among DCF-committed juvenile offenders. Without a comprehensive understanding of this population, policies, protocols, decision-points, sanctions, supervision criteria, and client-program matching are dubious and fully informed quality assurance and improvements cannot be done. Evidence-based best practices would require, for example, the following data collection and analysis practices:

- Use criminal history and other factors (e.g., disciplinary record, program outcomes, and community reintegration) as important predictors of risk, need, and future behavior.
- Develop high quality risk assessment instruments, structured decision-making protocols, and graduated sanctions policies depend on accurate and comprehensive data analysis.

- Use program and client outcome data analysis to conduct appropriate and effective matching of clients to treatment providers.
- Implement quality assurance and improvement processes that are integral to system and organizational success and based on data analysis.
- Use data-driven and evidence-based public policy evaluation and development and public resource allocation.

DCF-Committed Offender Population

Cohort groups for this study were selected to address the staggered implementation of the Raise the Age (RTA) legislation. On January 1, 2010, 16-year-olds were transferred to the juvenile justice system and on July 1, 2012, 17-year-olds were transferred. Consequently, tracking the recidivism rate of juvenile offenders adjudicated through the juvenile justice system prior to and after RTA reform implementation dates provides important information on such a significant policy change. It also allowed researchers to analyze and draw conclusions based on the available data on the impact of the Raise the Age law on juvenile recidivism.

For the purposes of this study, six juvenile offender cohort groups were tracked and compared: the pre-RTA and post-RTA groups of: (1) youth under 16, (2) 16-year-old youth, and (3) 17-year-old youth.

- Cohort Group 1: youth under 16 years adjudicated delinquent and committed to DCF between January 1, 2000 and December 31, 2009 (pre-RTA) (N=2,104);
- Cohort Group 2: youth under 16 years adjudicated delinquent and committed to DCF between January 1, 2010 and December 31, 2014 (post-RTA) (N=510);
- Cohort Group 3: 16-year-old youth processed through the adult criminal justice system between January 1, 2000 and December 31, 2009 (pre-RTA) (N=103);
- Cohort Group 4: 16-year-old youth processed through the juvenile justice system and committed to DCF between January 1, 2010 and December 31, 2014 (post-RTA) (N=304);
- Cohort Group 5: 17-year-old offenders processed through the adult criminal justice system between January 1, 2000 and June 30, 2012 (pre-RTA) (N=60); and
- Cohort Group 6: 17-year-old offenders processed through juvenile justice system and committed to DCF between July 1, 2012 and December 31, 2014 (post-RTA) (N=109).

A juvenile offender may have had more than one arrest during the study period. The arrests may result in adjudications (convictions) and different types of sentences, including commitment to DCF. For the study, a youth was counted only once. Therefore, the first DCF commitment for each youth within each cohort group was the youth's "start date." The arrest and subsequent adjudication that resulted in that DCF commitment was the youth's first case in the study period. All arrest incidents after that start date were considered new criminal activity and analyzed as recidivism. The adjudication and sentence after arrest were considered a single case. This allowed recidivism to be analyzed as (1) whether a

youth had a subsequent arrest, (2) the number of subsequent arrests, and (3) the time between arrests.

Cohort Group 1, the pre-Raise the Age under 16-year-old juvenile offenders, will establish the baseline recidivism rate prior to implementation of Raise the Age. The other five cohort groups will provide comparisons to determine patterns or changes to the trend and the effect of the Raise the Age on juvenile recidivism.

All cohort groups were tracked for a similar period after their first DCF-commitment date on or after January 1, 2000. The youth in each group were also tracked after the date of discharge from confinement at CJTS/Pueblo Unit or admission to a community-based residential program to parole supervision in their communities. This period is known in juvenile justice literature as the “release threshold;” that period when an offender is in the community and “at risk” of repeating criminal activity. The release threshold is typically tracked at intervals of three months, six months, and one year up to three years after the discharge date.

Data were available for a longer period post-DCF commitment and discharge from confinement for Cohort Groups 1 and 2: the under 16-year-olds pre- and post-RTA. There was, however, sufficient data to compare the 16- and 17-year-old cohort groups pre- and post-RTA for at least the first 12 months after the DCF commitment date. There is less time to compare these groups from the confinement discharge and parole release date. For example, a 17-year-old committed to DCF on January 1, 2014 who is confined at CJTS for 10 months would not have been released to parole supervision in the community until October 2014. In this example, the release threshold period for this youth would be only two months in this study (until December 31, 2014).

Youth in each cohort group may have been arrested and even committed to DCF prior to either the study start date of January 1, 2000, or their individual start (commitment) date. To account for prior criminal history, the six cohort groups were categorized as:

- Category A: youth whose first arrest resulted in commitment to DCF (no prior arrests);
- Category B: youth with prior arrests that resulted in sanctions other than DCF-commitment, such as probation, and the first DCF-commitment occurred on or after January 1, 2000; and
- Category C: youth with prior arrests and at least one prior DCF-commitment before January 1, 2000.

SECTION 4: DATA ANALYSIS – RECIDIVISM

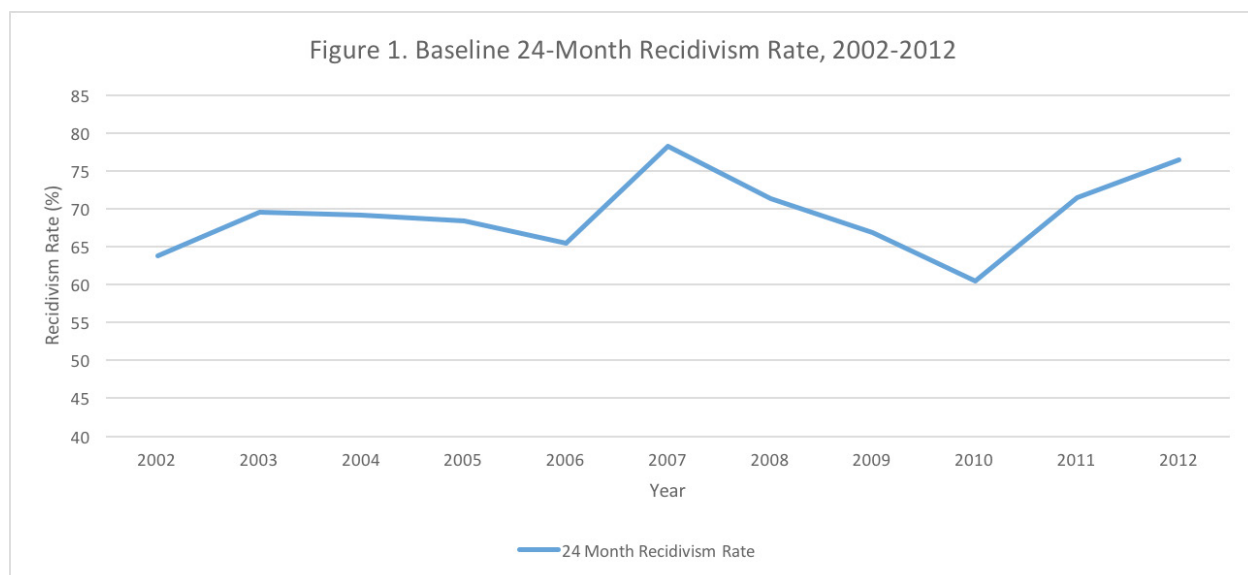
Baseline Recidivism Rate

Question 1: To what extent were juvenile offenders committed to DCF arrested for new criminal activity, re-adjudicated delinquent (convicted) and recommitted to DCF or other imposed sanction?

The annual baseline rate of recidivism among DCF-committed juvenile offenders should be considered in context. Most DCF-committed youth have multiple prior arrests; present the highest risk and need levels; and often spend some portion of their commitment (sentence) incarcerated at CJTS or confined in a residential program and then, under parole supervision, re-enter their family settings, schools, and communities. Community re-integration is often cited as a pivotal process and a point of great vulnerability for reoffending for juvenile offenders.

The annual baseline line recidivism rate is calculated as the percentage of youth re-arrested within 24 months of the DCF commitment start date. Rearrested youth are counted in the year of their start date, which is their first DCF commitment during the study period. The first rearrest during the time in which the youths were released in the community with the opportunity to reoffend (referred to as the “community exposure period”) was counted. For youth committed directly to CJTS the community exposure “clock” started on the date of their discharge from the facility. Whereas for youth placed in a residential program or supervised on parole while living in a family setting, the start date is their DCF commitment date. Figure 1 illustrates the trend in the baseline rate between 2001 and 2012. Because there were so few juvenile offenders committed to DCF in 2013 and 2014 who were rearrested, this report cannot calculate their recidivism rate. This is primarily because those offenders did not meet the 24-month release threshold within the period under review for this study.

This is consistent with the criteria used by JB-CSSD to track the annual baseline recidivism rate for juvenile probationers and by OPM’s Criminal Justice Policy and Planning Division for adult inmates. This permits some comparison among the trends of different populations, although IMRP researchers acknowledge that the populations are substantively different.



Number of Observations

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
# who Recidivated	312	293	240	250	179	211	188	160	187	154	136	2310

The trend in the baseline recidivism rate (rearrest) of DCF-committed juveniles was relatively stable between 2002 and 2007, averaging 67 percent. In 2007, the rate jumped to 78 percent of the youth committed to DCF in that year who were rearrested with a 24-month period. During and after Raise the Age implementation, the baseline recidivism increased and did not return to the pre-Raise the Age levels, except for 2010. In 2010, the first year of Raise the Age implementation that transferred 16-year-olds to the juvenile justice system, the baseline recidivism rate dropped to 60 percent, which is the lowest annual rate during the period under review.

Fluctuations in the baseline rate during the 11 years under review may be explained by policy and procedural changes implemented by DCF and/or public or political responses to specific incidents and reforms. In 2006, DCF adopted evidence-based practices and programs, which may have resulted in a learning curve among service providers and/or changed which youth were referred to the programs.

The spike in 2007 may also be explained by the political and media fallout from the Cheshire home invasion murders that occurred on July 23, 2007. In response to the heinous, high-profile crime, then-Governor Jodi Rell shut down the state’s parole system. For several months, the Board of Pardons and Paroles did not grant parole to eligible inmates and many adult offenders on parole were returned to prison. The state legislature responded by enacting several “tough on crime” measures. The juvenile and adult justice systems responded by constricting discretion in favor of more conservative, punitive measures; more surveillance of offenders under community supervision (e.g., probation, parole, early release programs) and more technical violations and violation of probation warrants were issued. The system readjusted in 2009 and 2010, as shown in the decreasing trend.

Also, in 2007, the Raise the Age legislation (PA 07-04, June Special Session) was passed.

In 2009, DCF changed its protocols for determining the length of incarceration for youth at CJTS. The average period of incarceration dropped from more than one year to nine months and eventually to its current average of less than six months. In 2015, DCF codified this practice into a CJTS length-of-stay guideline that is currently in effect.

However, by 2012, the last year of Raise the Age implementation when jurisdiction of 17-year-olds was transferred, the baseline rate jumped to 77 percent. Due to data limitations, IMRP researchers were not able to provide the baseline recidivism rate for 2013 and 2014.⁷ Obviously, calculating the rate for those and future years is invaluable information for policy makers and system administrators. It is also critical to determine whether implementation of Raise the Age is a factor in the increased rate of rearrest.

OPM's Criminal Justice Policy and Planning Division regularly collects and analyzes criminal justice data on adult offenders in the state's prison system and produces an annual *Recidivism in Connecticut* report. The most recent report (February 2015), found the recidivism rate among adult offenders was relatively stable, and had dropped considerably during the past 15 years. Within 24 months of discharge, 56 percent of adult offenders were rearrested.

As distinct from DCF-committed juveniles on parole, JB-CSSD tracks the baseline recidivism rate for juveniles on probation. Figure 2 depicts the recidivism rate for those on probation from 2007 through 2014. The trend is consistent showing a steady, but moderate decrease, over the past eight years. JB-CSSD reports the rate had dropped about 10 percent in the past 10 years. The annual rearrest rate among juveniles on probation for 2014 was 58 percent.

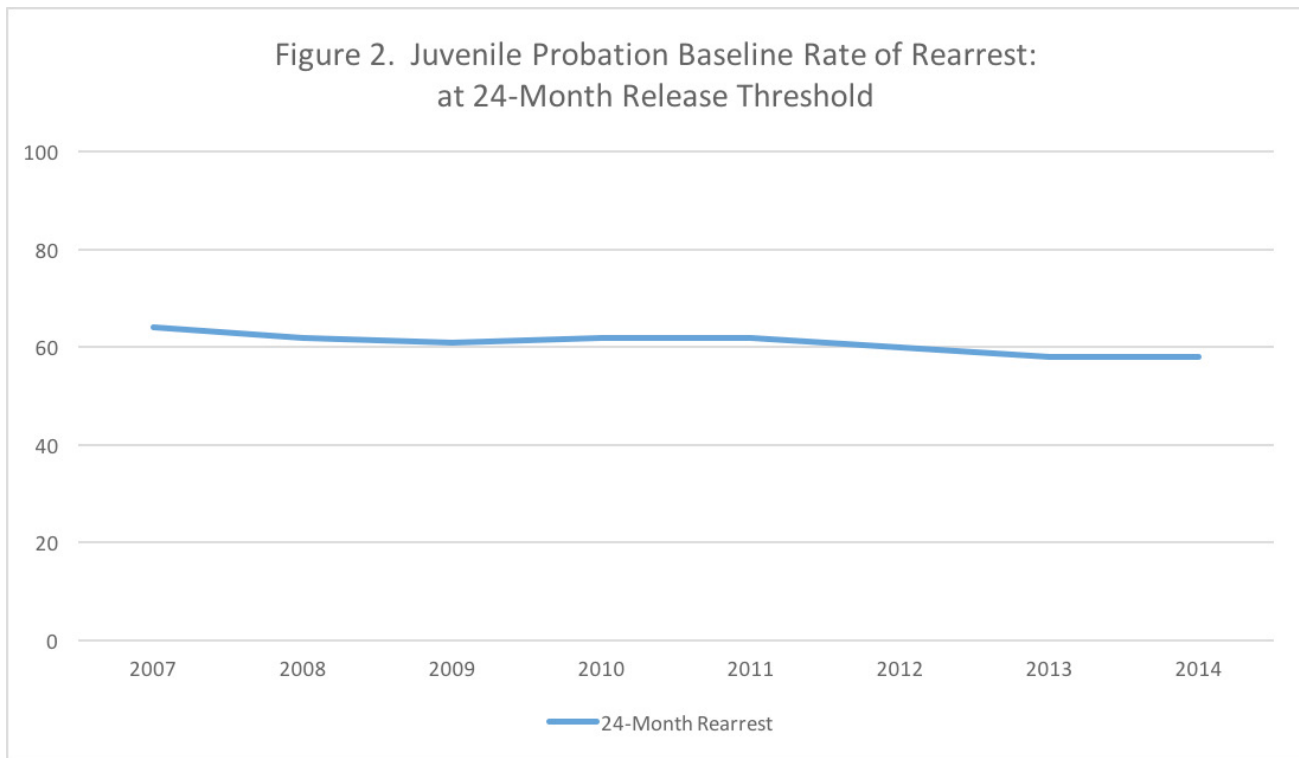
Further investigation into the disparity and causes of the differences in recidivism rates among DCF-committed youth, adults, and juveniles on parole would benefit officials dealing with these populations.

Figure 2 also illustrates the difficulty in reducing the rate of recidivism. JB-CSSD has a well-established culture of rigorous policy evaluation and development, implements and tracks performance outcomes of evidence-based programs, and has a validated risk assessment instrument. Independent evaluations of JB-CSSD policies and programs have found significant improvements in supervision and treatment of the juvenile probation population. Yet, the rate of recidivism drops slowly, which is not a trend unique to Connecticut or JB-CSSD. Recidivism is the hardest "needle" to move.

However, given that, the stability of the JB-CSSD trend line versus the variability of the DCF trend line may be attributed to the volatility between the JB-CSSD juvenile

⁷ IMRP received data through December 31, 2014, which did provide a sufficient period to conduct the 24-month re-arrest analysis.

probation and the DCF-committed juvenile offender populations. Or, it may be a function of each agency’s management and supervision policies and protocols for the population. It could be affected by other outside factors, such as socioeconomic or environmental, into which the offenders are released. Finally, it may be a combination of these factors.



Recidivism Release Threshold

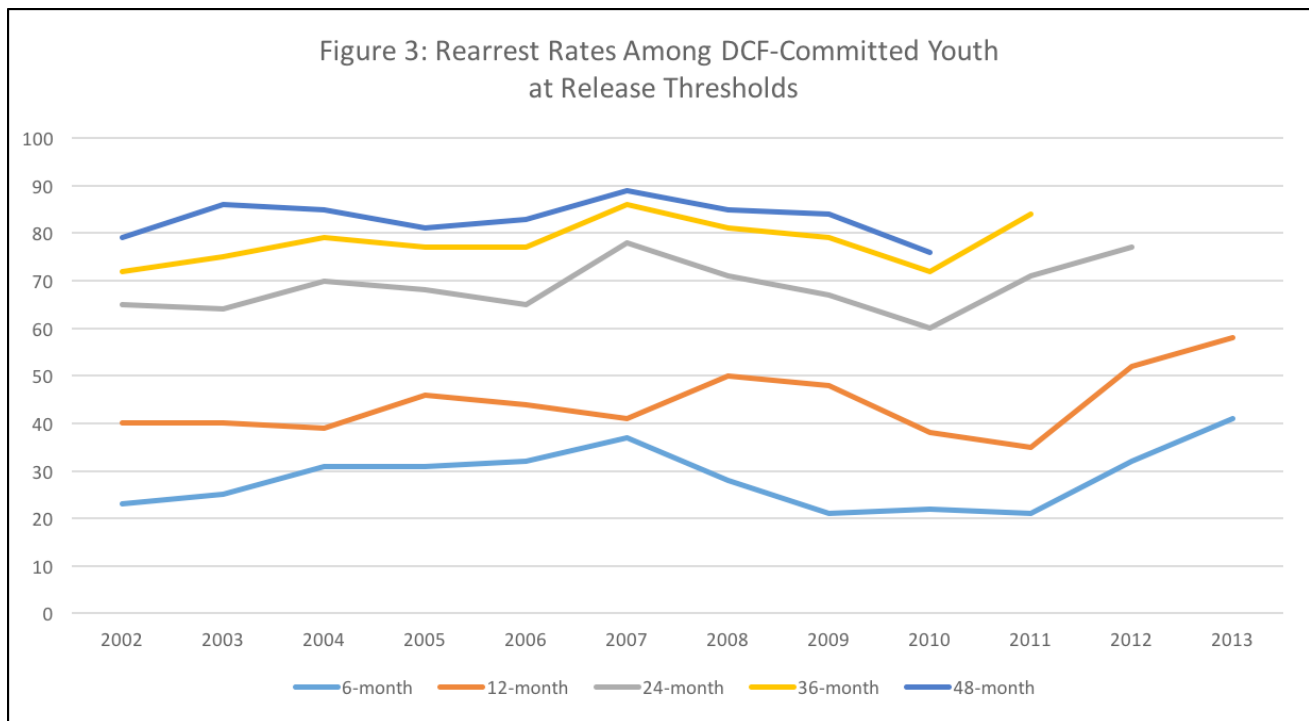
The period a juvenile offender is in the community either under supervision or no longer under commitment (sentence) is referred to as the “release threshold.” During this period, the offender is in the community with the opportunity to commit new crimes. The release threshold is typically tracked at specific time intervals. This study tracks the recidivism rate at different intervals from three months to 48 months.

Figure 3 shows the rearrest trend for all DCF-committed youth at each release threshold from 2002 through 2014. The release threshold for juveniles initially incarcerated at CJTS starts at their discharge date from the facility. Youth who were initially confined in a residential program or supervised in a family setting were tracked from the date of their commitment to DCF. There are three central findings.

- First, the overall fluctuation in the rate of rearrest is consistent across release thresholds and over the period under analysis. The exceptions appear in 2005 when the rearrest rate at 48 months dropped precipitously, but the trend line returned to the consistent pattern. Also, in 2013, the rearrest rate again dropped at the 12-month release threshold, which could be a result of the small sample size and an insufficient period during which to track those offenders.
- The rearrest rate among DCF-committed juveniles increased between 12 months and 24 months. Presumably, this may indicate the 18-month release threshold is a pivotal point for more focused intervention or a different strategy of supervision and

reintegration among this population. This is an area for further examination.

- Finally, as is shown in Figure 3, the rearrest rate among DCF-committed youth trended downward between 2007 and 2010, but in 2010, when implementation of the Raise the Age legislation began, the rearrest rate increased. The rate increased significantly at the 12- and 24-month release thresholds and that pattern appeared to be holding at the 36- and 48-month thresholds. IMRP analyzed data only through December 31, 2014, so most of the older adolescents in the sample did not reach those thresholds. Continuing to track the recidivism rates will provide a more complete examination of the overall trend and the correlation, if any, with the Raise the Age legislation.



Prior to Raise the Age implementation, approximately one-half of the youth were arrested within the first year of release to the community (12-month release threshold). During the law's implementation (2010 through 2012), that rate increased to about 60 percent, but decreased in 2013. At the 36-month threshold, over 85 percent of the youth had been rearrested compared to about 70 percent in 2009.

This may reflect a predictable adjustment by the juvenile justice system to the influx of older adolescents. The increased rate of rearrest occurred concurrently with the shift of 16- and 17-year-olds from the adult criminal system to the juvenile justice system.

The increase in the rearrest rate may also be inherent to older adolescents. OPM's Criminal Justice Policy and Planning Division reported 80 percent of young adults (16 through 24) were rearrested with 36 months (*Annual Recidivism Report, 2009 and 2010*).

The prevalence of offending tends to increase, peaking in late adolescence (ages 15 to 19) and then declining in their early 20s. The bell-shaped age trend, called the age-crime

curve, is universal in Western populations. The curve varies in significant ways: violent offenders peak later than property offenders; girls peak earlier than boys; and the curve is higher and wider for young males (especially minorities) growing up in disadvantaged neighborhoods. (National Institute of Justice, *From Juvenile Delinquency to Young Adult Offending*, March 11, 2014)

Question 2: How did recidivism rates differ among different groups (e.g., demographic, criminal history and other characteristics) of DCF-committed juvenile offenders?

The rate of rearrest of DCF-committed youth at each of the release thresholds was further examined by age groups, race, and risk assessment levels.

Age Groups

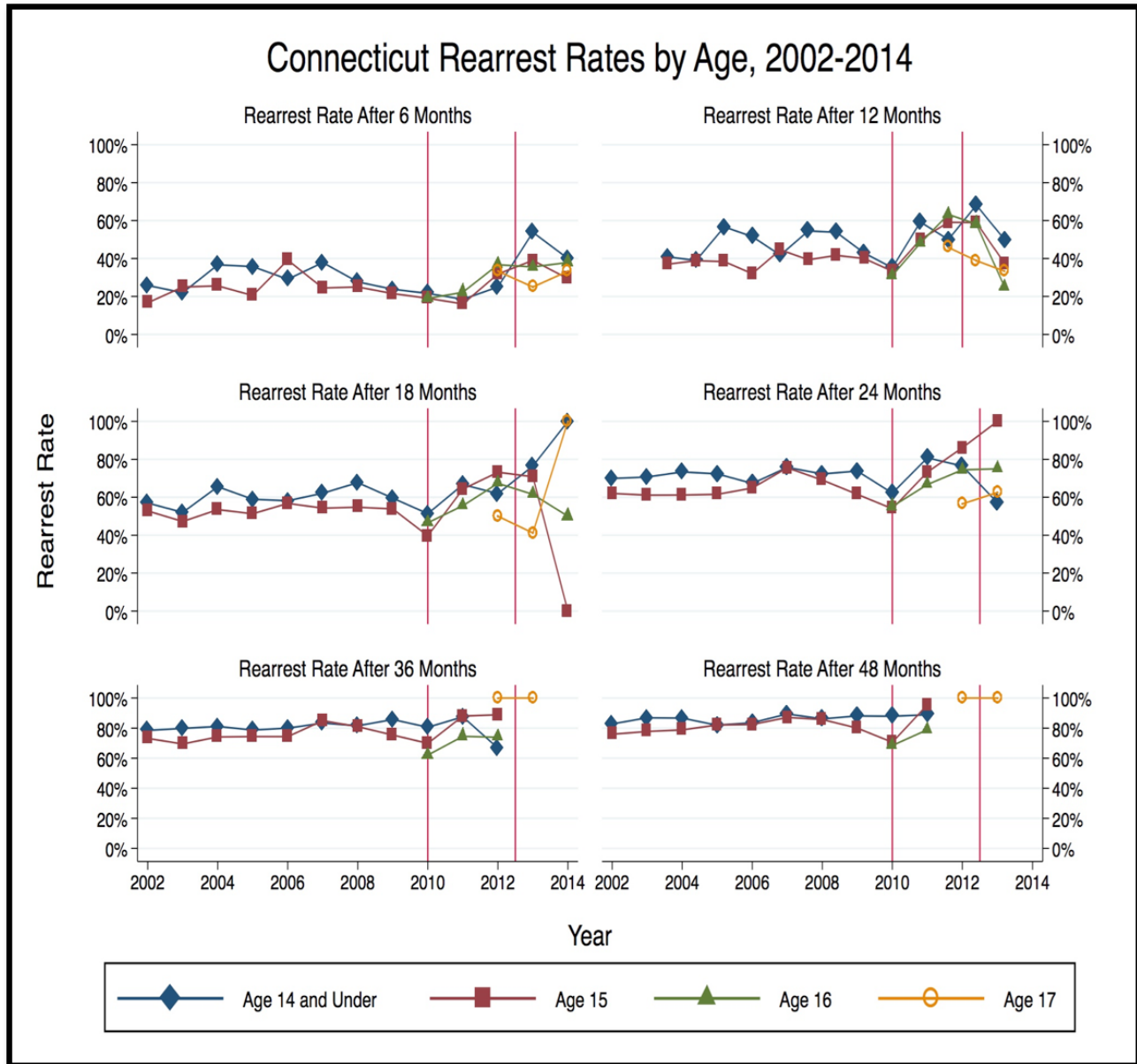
Figure 4 depicts the rate of rearrest among each age group at each release threshold. Young adolescents (age 14 and under) are generally rearrested at slightly higher rates than 15-year-olds at each release threshold. It can be inferred the youngest youth are more vulnerable than older adolescents. In the examination of risk level data, most children 14 years old and younger were assessed at medium and low risk. There is consensus in research and literature that placing younger and low risk youth in placements and programs intended for higher risk youth is detrimental to their success, especially as measured by recidivism.

The age range or developmental period during which a youth is exposed to a specific risk factor is important to individuals working to tailor prevention programs to specific factors. Violence prevention and intervention efforts hinge on identifying risk and protective factors and determining when they emerge during adolescent development. To be effective, such efforts must be appropriate to a youth's stage of development. A program that is effective in childhood may be ineffective in adolescence and vice versa. Moreover, the risk and protective factors targeted by violence prevention may be different from those targeted by intervention programs which are designed to prevent the recurrence of violence. (Youth Violence: A Report of the Surgeon General, 2001)

Figure 4 shows the limitation of the data for 17-year-olds. There was a slight decrease in the recidivism rate among these oldest adolescents at the six-month and 12-month release thresholds, but the rate spiked at 18 months, 36 months, and 48 months. IMRP researchers caution that this may be a result of the small group of 17-year-olds represented in the study population and the relatively short period since Raise the Age was fully implemented for this age group. Analysis of additional data on a larger sample of older adolescents for a longer period could indicate how differences in treatment or programs offered by DOC and DCF impact the recidivism rate.

The rate of rearrest dropped for 14-, 15- and 16-year-olds at the 18-month release threshold. In fact, the rate for 15-year-olds dropped to zero in 2013 and 2014. This is obviously a specious pattern in the data. IMRP researchers could not, however, discern if this is a function of a very small number in this subgroup or missing or incorrect data.

Figure 4



Otherwise, in general, the rearrest rates at each release threshold appear as expected based on patterns among other offender groups and the current literature. For the release thresholds considered here, rearrest rates increase the longer the juveniles are in the community. An examination of the relative difference in the time trends among the age groups in the difference-in-differences analysis is presented later in this section (and in Appendix D). That analysis will provide estimates of the causal effect of the Raise the Age law on recidivism.

Race and Ethnicity

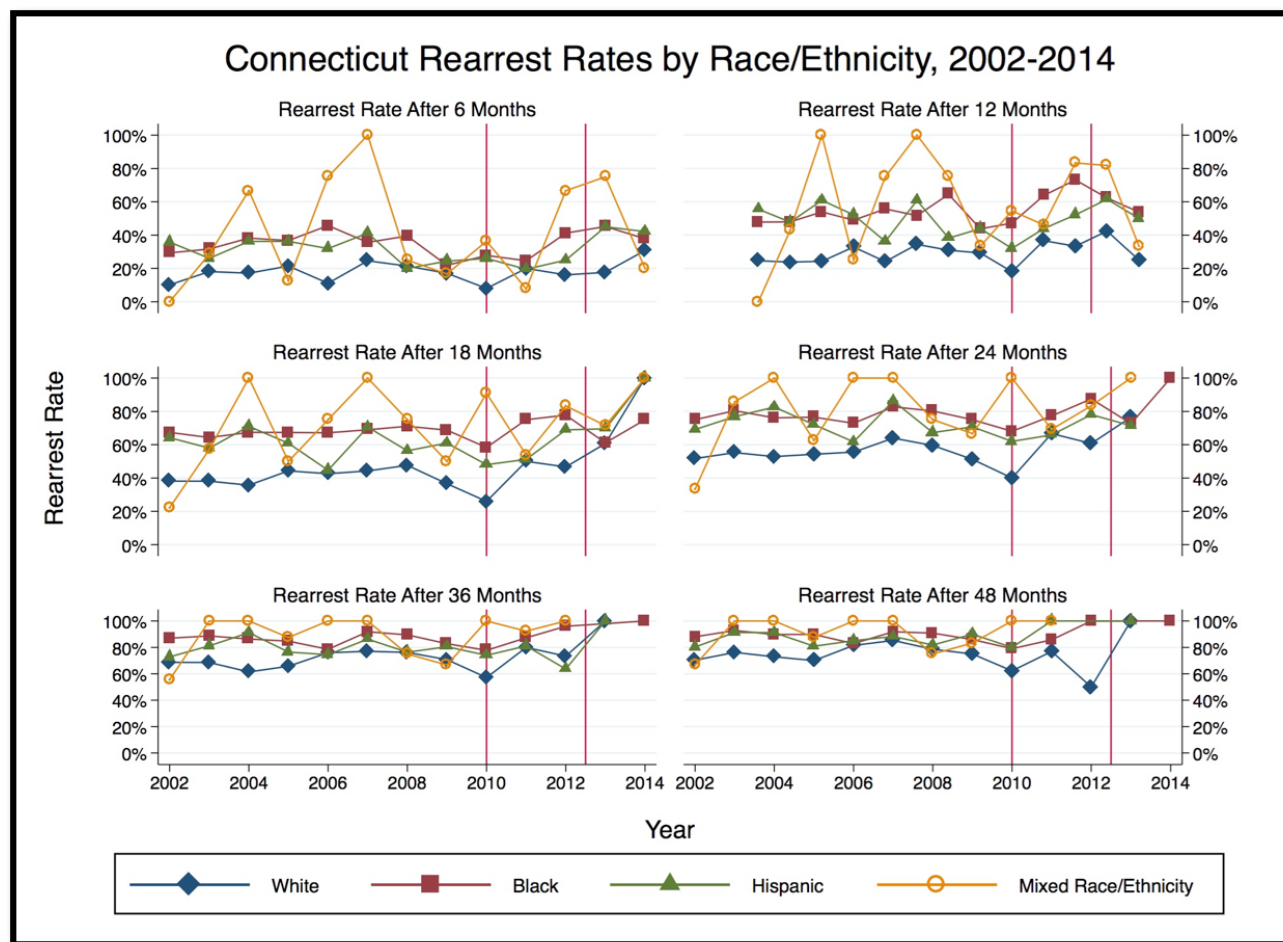
Figure 5 shows the same rate of rearrest at the six release threshold levels broken down by the racial/ethnicity category. Consistent with other research, youth identified as a minority racial group (African-American and Hispanic) were rearrested at higher rates than

white youth, especially during the earlier release threshold points. The difference in the rates lessens as the youth are in the community for longer periods. It is important to note, most youth in the total population are identified as white.

This trend may be impacted by enforcement practices, socioeconomic conditions or other factors. Almost half of the youth in the sample reside in urban areas, where arrests per capita are much higher than elsewhere in the state. At the 24-month, 36-month, and 48-month release thresholds there is full saturation for all racial/ethnicity groups.

The trend among the mixed race/ethnicity youth is erratic at the earliest release thresholds and is more stable and like the other groups at the later release thresholds. IMRP believes this is a function of the extremely small number of youth in that category.

Figure 5



Risk Levels

JB-CSSD and DCF assess youth for their risk of reoffending and treatment needs. JB-CSSD uses the Juvenile Assessment Generic (JAG) instrument to assess the risk, criminogenic, and protective factors present in the lives of youth entering the juvenile delinquency system. JAG scores were available for about 70 percent of the youth in the

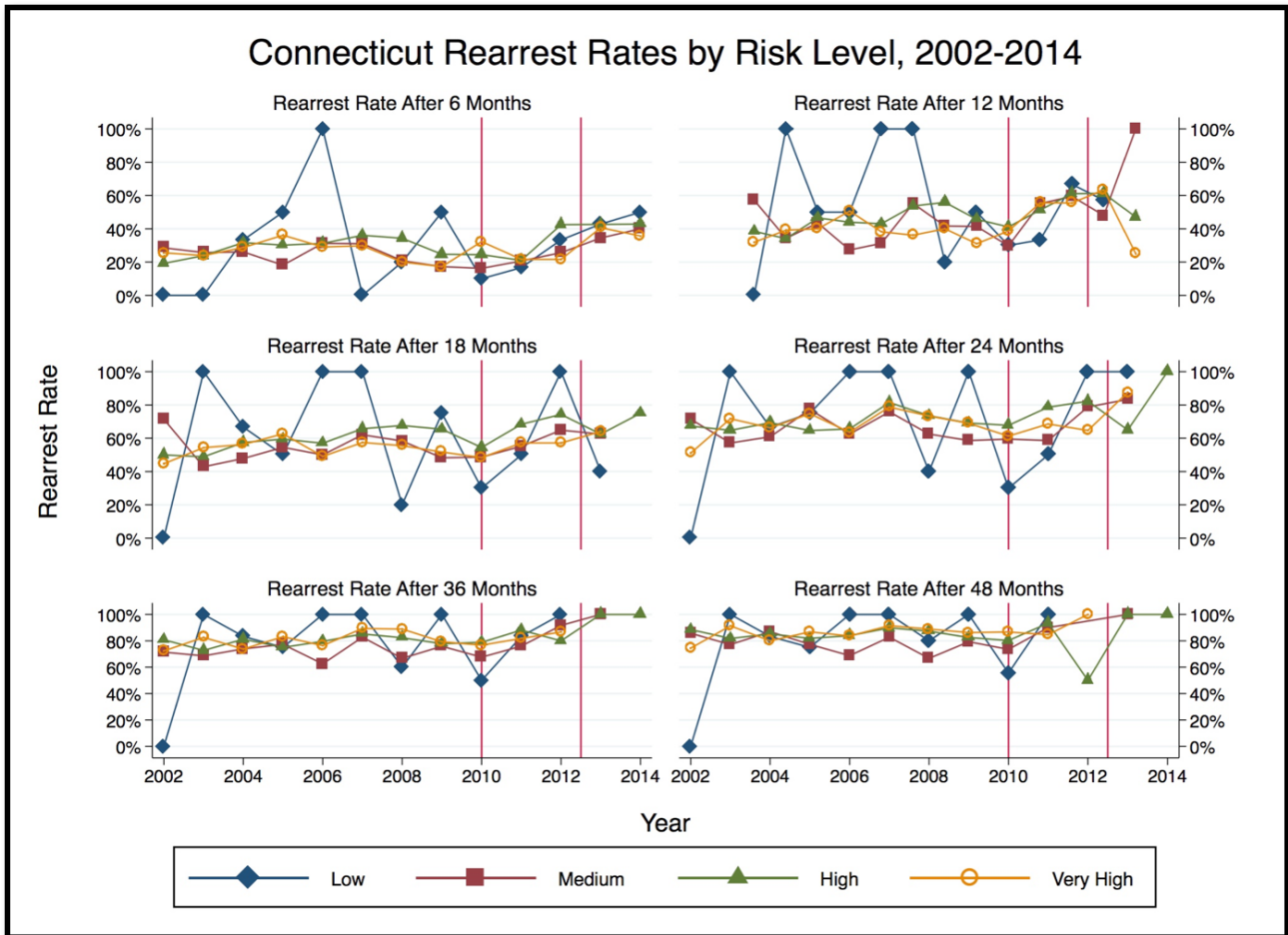
DCF sample. Given that DCF commitment is the most serious sanctions and is ostensibly reserved for adjudicated youth with the highest risk and highest needs, it seems reasonable to expect that these youths would undergo validated assessments during the juvenile court adjudication process before the DCF commitment decision is made. IMRP researchers acknowledge, however, there may be procedural and resource explanations for the youth not being assessed prior to DCF commitment. Because the DCF assessment score data are not reliable and several different instruments were used during the study period, DCF uses the JAG as a proxy tool. DCF reported that it would prefer to assess youth prior to the commitment decision. However, with limited exceptions, the juvenile court and public defender's office have not allowed DCF to be involved in the process until after the commitment is ordered.

Figure 6 shows trends by JAG risk levels. Most youth in the sample were assessed as very high or high risk level. The risk levels, except for low risk, basically track each other; the risk levels and rearrest trends are plausible; but indicate no real discernible pattern. Very high and high risk levels youth are rearrested at slightly greater rates and the rates among all levels incrementally increase at each release threshold.

Some oddities in the trends can be attributed to the small sample size. Most obvious are the extreme fluctuations in the trend for low risk youth. There were very few low risk youth in the sample. There is a 100 percent rearrest rate among medium risk youth at the 12-month release threshold. This too is a result of an extremely small number of youth.

Considering the apparent meaning of risk level data, the very high risk (yellow line) youth should consistently be rearrested at higher rates than high level (green line), but it is not until the 28- and 36-month release threshold that this pattern appears. IMRP researchers suggest this could be a result of (1) unreliable or incomplete assessment data, particularly during the early 2000s; (2) the small sample size; (3) a lack of a measurable difference between high and very high risk youth; or (4) a combination of these factors. It is important to note the JAG was not intended or designed to be an assessment tool for parole supervision or incarceration management; it is a tool to predict problem behavior and the needs of youth supervised on probation. For the purposes of this report, the JAG data was used as a proxy measure because DCF assessment data was not reliable and DCF changed its risk assessment tool during the period under review. Therefore, IMRP researchers make no statements on the effectiveness, reliability, or suitability of the JAG tool or JB-CSSD's administration of the tool.

Figure 6



Reconviction Rates

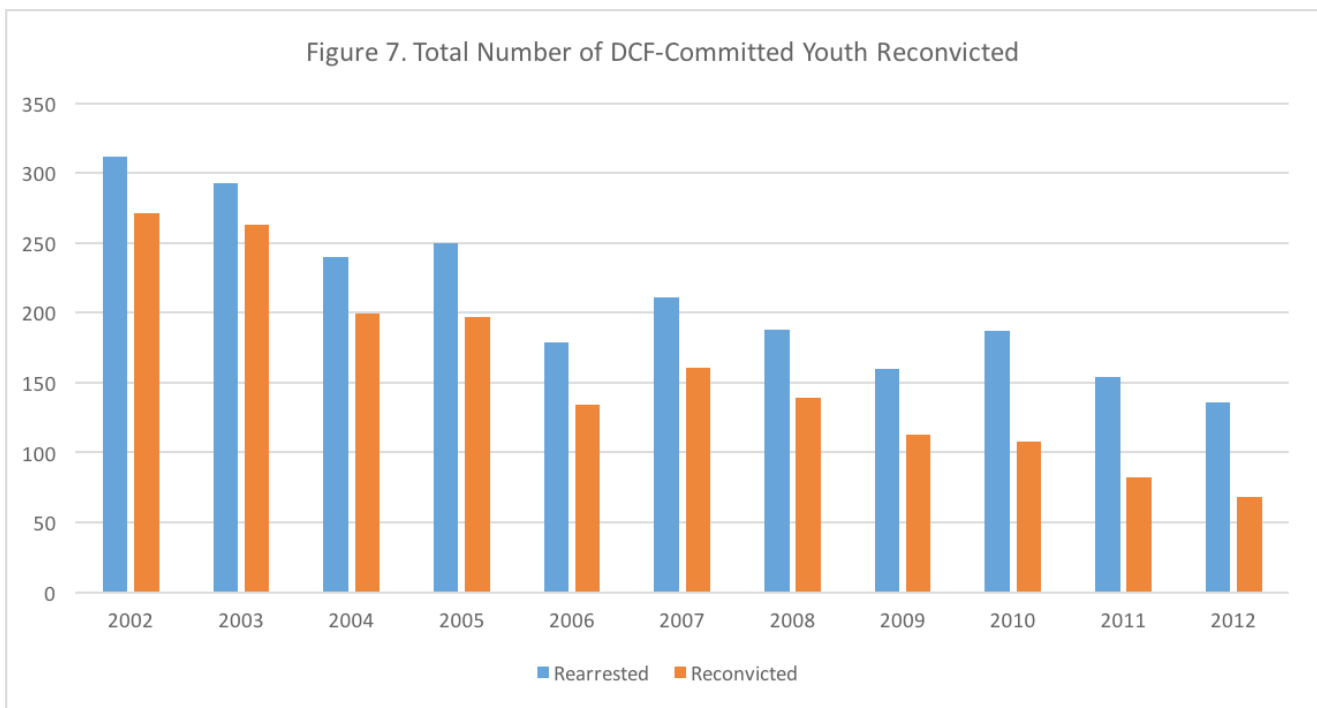
The second measure of recidivism is reconviction. This is tracked by the rate at which rearrested DCF-committed juveniles are reconvicted of those charges. This measure examines the effect of the juvenile court and the plea-bargaining process on recidivism. Law enforcement practices and arrest rates are not directly driven or impacted by the juvenile court, but the court had a direct responsibility for the adjudication of cases.

Based on prevailing literature, there are reasons to believe that the adjudication (conviction) rate would be higher in juvenile court. First, criminal court judges may be reluctant to burden a young offender with an adult criminal record and incarcerate them with hardened adult offenders. This factor leads to convictions in cases involving only the most serious offenses. Second, juvenile criminal histories are not included in adult criminal court. Young adult offenders with a juvenile criminal history are most often viewed as “first time” offenders because their prior arrest and juvenile court records are not considered. The young adult offender, therefore, is more likely to be placed in a pre-trial diversion or alternative sanction program. Finally, the juvenile court process is much less formal than the adult criminal court. Certain due process and other procedures, including jury trials, are not provided. Adjudications in juvenile court may be more certain than in adult courts.

Figure 7 illustrates the rate at which DCF-committed youth who were rearrested were reconvicted. Youth are counted in their study start year; the year in which they were first committed to DCF. This includes reconviction in juvenile and adult court; some juveniles turned 18 prior to rearrest and were processed as adults while some were rearrested and processed as juveniles. Further analysis will examine juvenile and adult rearrest and reconviction patterns as juvenile offenders age out of the juvenile system to the adult system.

During the entire period under review, almost three-quarters of the rearrested youth were reconvicted. This may be because, as previously pointed out, DCF-committed juvenile offenders present the highest risk of reoffending and highest need for interventions and services.

As shown in the graphic, the rate of reconviction has been steadily decreasing since 2002; 87 percent of rearrest youth were reconvicted in 2002 compared to 50 percent in 2012. There was a jump in the reconviction rate in 2007, similar to the pattern seen in the rearrest rate. IMRP researchers believe this may have been a system reaction to the passage of the Raise the Age legislation.



Number of Observations

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
# Rearrested	312	293	240	250	179	211	188	160	187	154	136
# Reconvicted	271	263	199	197	134	161	139	113	108	82	68
% Reconvicted	87%	90%	83%	79%	75%	76%	74%	71%	58%	53%	50%

In comparison, 16-year-old juveniles on probation processed in the juvenile court (post-RTA) were slightly less likely to receive a conviction than were those processed in adult court (pre-RTA). The odds of a 16-year-old processed as a juvenile receiving a conviction were 11 percent less than the odds of a 16-year-old processed as an adult. (*Raise the Age: Evaluating Connecticut’s Experience*, State University New York-Albany, preliminary draft 2016).

Question 3: How did recidivism rates vary among different categories (e.g., youth with no prior DCF commitment versus youth with one or more prior commitments) of DCF-committed juvenile offenders?

As discussed in Section 3, in addition to disaggregating juveniles by age (cohort groups), youth in the sample were also separated by category based on their prior criminal histories before the DCF commitment start date. Only one youth was committed to DCF based on the first arrest and had no prior criminal history (Category A).

The largest group (Category B) of 3,099 youth had at least one prior arrest, but no DCF commitment prior to January 1, 2000. The youth in this group received dispositions and sentences other than DCF commitment such as probation for their prior arrests.

There were 15 youth who were arrested and committed to DCF prior to January 1, 2000 (Category C). However, because Categories A and C included only 16 youth, a comparison analysis between the three categories has a reduced chance of detecting a true effect. This study, therefore, does not include analysis based on the three categories.

Table 1. Categories of DCF-Committed Youth Based on Prior Criminal History	
Category Definition Based on Criminal History Prior to Youths' DCF-commitment Study Start Date*	Total Youth
A: No prior arrest OR DCF commitment before DCF-commitment start date	1
B: At least one prior arrest, BUT no DCF commitment before DC-commitment start date	3,099
C: At least one prior arrest and DCF commitment	16
*Study start date is youths' DCF-commitment date between January 1, 2000 and December 31, 2014	

SECTION 5: DATA ANALYSIS – PROFILE OF DEPARTMENT OF CHILDREN AND FAMILIES-COMMITTED JUVENILE OFFENDERS

In general, profiles of juvenile offenders are drawn from arrests, court dispositions, risk assessment, and incarceration and supervision data. These profiles are used to reflect the characteristics of youth who are or will become involved with the juvenile justice system, but they might not accurately reflect the characteristics of all youth who commit crimes. However, juvenile profiles are commonly used (1) as a basis for the development of evidence-based delinquency prevention, treatment and service programs; (2) to validate risk assessment and evaluation instruments; (3) to establish community supervision protocols and incarceration criteria; and (4) to conduct quality assurance and improvements. Further study based on these profiles can be helpful to the state’s juvenile justice system administrators and stakeholders.

Often high-profile, violent incidents shape public perceptions of juvenile offenders. It is important for elected officials, juvenile justice administrators and professionals, and the media and public to have an accurate view of the crimes committed by juveniles, the proportion and characteristics of youth involved in crime, and trends in these behaviors. Studies have established that the number of youthful offenders who formally enter the justice network is small in comparison with the total number of violations committed by juveniles (Thornberry, Huizinga & Loeber, 2004). Many youths who commit crimes, even serious crimes, never enter the juvenile justice system. (Office of Juvenile Justice Delinquency Prevention, July 2006).

This discussion is based on the committed juvenile offender data that was provided by DCF and JB-CSSD. Descriptive statistics were used to develop a profile of adjudicated (convicted) juvenile delinquents committed to DCF. Some characteristics of the juvenile offender appeared to have changed during and after implementation of the Raise the Age (RTA) legislation when jurisdiction over older adolescents was shifted from the adult criminal court to the juvenile court. The period between January 1, 2000 and December 31, 2009 is referred to in this report as “pre-RTA” and “post-RTA” is January 1, 2010 through December 31, 2014.

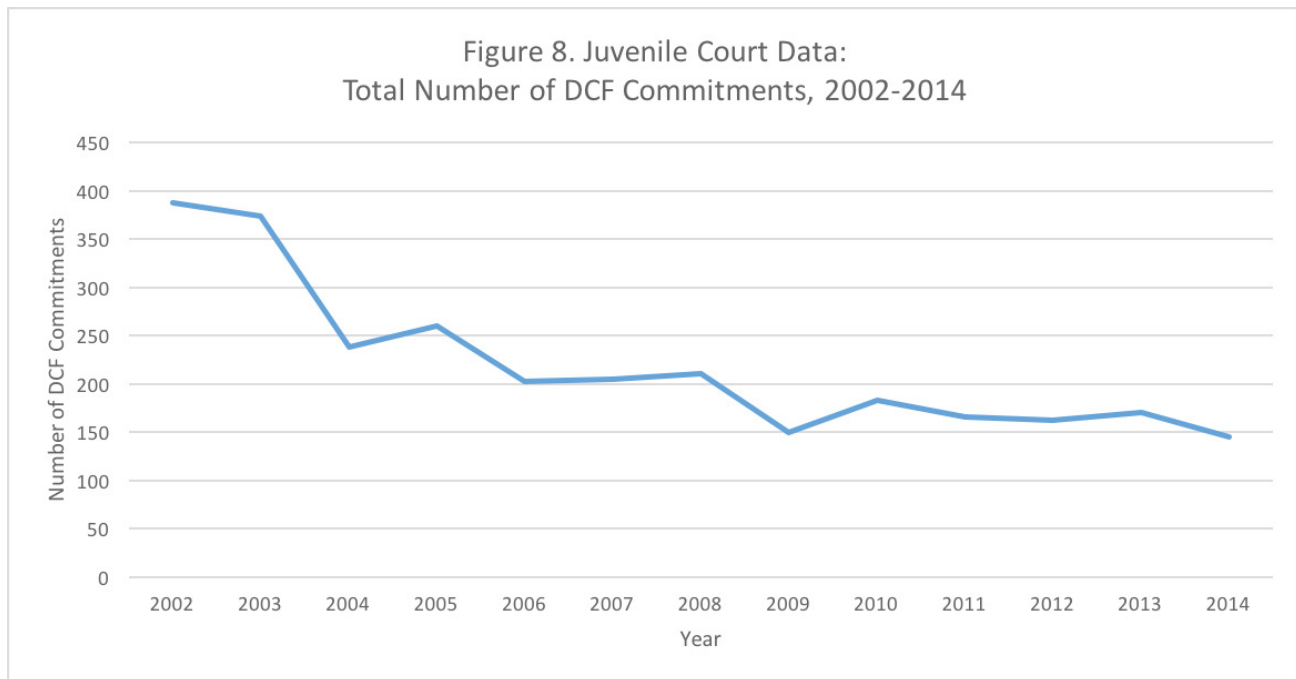
DCF Commitments

Figure 8 shows the number youth committed to DCF annually from 2002 through 2014. The steady decline in the number of youth committed to DCF has been attributed to a series of juvenile justice reforms in Connecticut. Central to these reforms was implementation of the Raise the Age legislation transferring jurisdiction of 16- and 17-year-olds from the adult court to the juvenile court (Justice Policy Institute, 2013). Other proposed reforms included:

- policy and procedural changes that reduced over-reliance on confinement;

- establishment of a network of community-based, nonresidential programs for delinquent and behaviorally troubled youth;
- improved conditions at juvenile correctional facilities, and diverting youth from the juvenile court system through restorative justice initiatives and decriminalization of status offenses; and
- a reduction in school-based arrests.

The decline in the number of committed youth also follows Connecticut and national crime rates that consistently have trended downward for decades. Criminologists and other scholars examining the issue have cited several reasons for the declining crime rate: increased police officers; mass incarceration; the United States population has gotten progressively older; governments have stepped up aid programs (e.g., unemployment, food stamps, rent controlled housing); gentrification of urban areas; and legalizing abortion has led to fewer unwanted, “high risk” children being born. Determining causal relationships, if any, between these factors and the decline in the number of juveniles committed to DCF, however, was not within the scope of this project.⁸



Using juvenile court data provided by JB-CSSD, Figure 8 shows the trend in the number of youth committed to DCF each year. It is important to note some youth are arrested and committed to DCF multiple times during the period. Each youth is counted only once in this graphic. A youth’s first commitment to DCF is counted in the year in which it occurred. This graphic shows the number of youth committed to DCF for each year under review has dropped from almost 400 in 2002 to fewer than 149 in 2014. This is a decrease of more than 70 percent over the 13-year period. There was a slight leveling of

⁸ In December 2015, Connecticut Governor Dannel P. Malloy announced the Connecticut Juvenile Training School and the Pueblo Unit at the Albert J. Solnit Center would close by July 2018. The governor called for DCF to develop a plan to close the facilities. In August 2016, DCF released its plan, over which the Juvenile Justice Policy and Oversight Committee raised concerns. What is not known is what, if any, impact the closing the facilities will have on the number of juveniles committed to DCF and the recidivism rate among DCF-committed juveniles.

the trend during the implementation of Raise the Age, but overall it is trending consistently downward.

The study sample of DCF-committed youth consisted of 3,324 juvenile offenders between January 1, 2000 and December 31, 2014. It is important to note individual youth, not commitments, were counted. A youth's first commitment was the "start date." Figure 8 shows the number of youth included in the sample by the commitment year 2002 through 2014.

Cohort Groups

The analysis is focused on the six cohort groups identified for the study and any differences pre- and post-RTA. Table 2 shows the number of youth within each cohort group.

Age of First DCF Commitment*	Total Youth**	Percentage
Group 1: Under 16 prior to January 1, 2010 (pre-RTA)	2,104	66%
Group 2: Under 16 after January 1, 2010 (post-RTA)	510	16%
Group 3: 16 prior to January 1, 2010 (pre-RTA)	103	3%
Group 4: 16 after January 1, 2010 (post-RTA)	304	10%
Group 5: 17 prior to July 1, 2012 (pre-RTA)	60	2%
Group 6: 17 after July 1, 2012 (post-RTA)	109	3%
TOTAL	3,190	100%
*First DCF commitment within study period: January 1, 2000 through December 31, 2014.		
**Missing data on 134 (4%) of youth.		

As expected, Cohort Groups 1 and 2 (youth with no prior DCF-commitment) represent the largest number of youth: a total of 2,614 (82%). Juvenile court jurisdiction over youth under age 16 remained unchanged by implementation of the RTA law. How youth under 16 were and are processed after RTA should be the subject of further research and analysis.

Question 5: Was recidivism related to DCF-committed juvenile offenders' criminal histories, demographics, program participation or other factors?

Demographics

Table 3 shows the profile of the 3,324 youth in the sample based on gender, age, and race and ethnicity. These descriptive statistics and patterns are consistent with state and national research on juvenile and adult offender populations. As expected, most youth (78%) were male. Further study on data disaggregated by gender will determine differences, if any, in the recidivism rates of male and female juveniles.

Youth identified as minorities were overrepresented (72%) in the sample. Forty percent of the youth were black and 28 percent Hispanic. White youth represented 28 percent of the population and all other races only 4 percent. Finally, given the recent implementation of the RTA law, most (78%) of the youth were under 16.

Table 3. DCF-Committed Youth: Race/Ethnicity, Gender and Age Breakdown					
Race/Ethnicity		Gender		Age at First Arrest*	
White	947 (28%)	Male	2,596 (78%)	Under 14	579 (17%)
Black**	1,341 (40%)			14	871 (26%)
All Other Races^	129 (4%)	Female	728 (22%)	15	1,164 (35%)
Hispanic^^	907 (28%)			16	407 (12%)
				17+	169 (5%)

* Date of first arrest data was not available for a small number of youth in the sample. Percentages will not total 100%.
 **Includes 68 youth who identified as mixed race African American and Caucasian.
 ^Other includes youth who identified as Asian (9), Native American (6) and all other races (114).
 ^^Includes 47 youth who identified as mixed race African American and Latino.

Sources of Data: Judicial Branch Court Support Services Division and Department of Children and Families

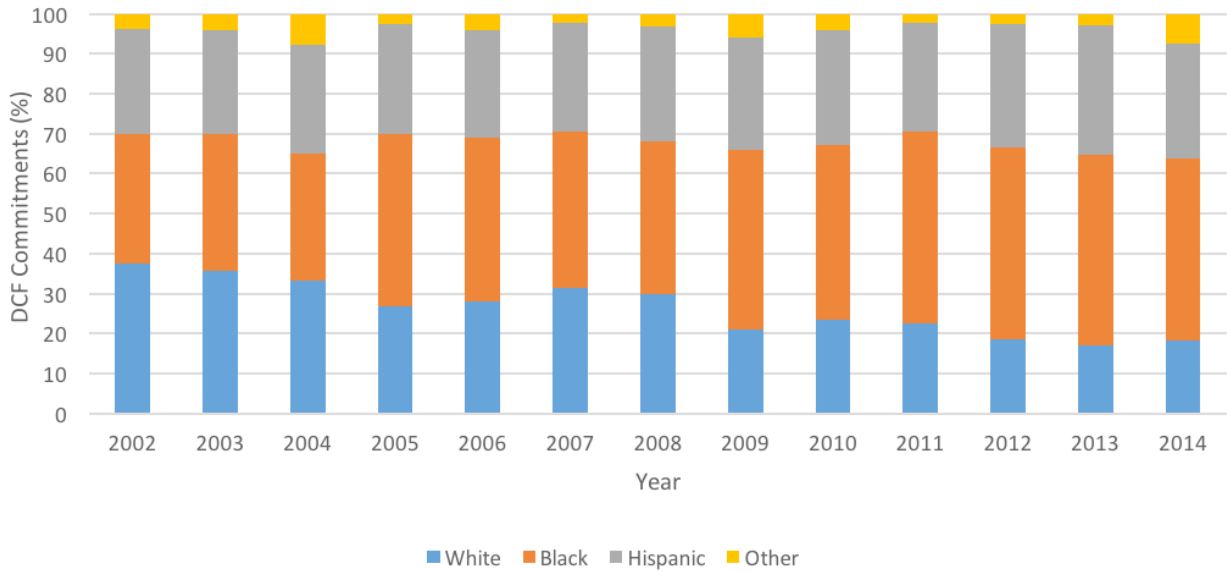
Race/Ethnicity

Figure 9 illustrates the race and ethnicity of the DCF-committed youth included in the analysis. There is a cumulative increase in the disparity between white youth and minority youth (the combination of black, Hispanic, and other ethnicities). Minority youth represented less than 60 percent of all DCF-committed youth in the early 2000s; but in 2013, they represented 80 percent of the total. This rate dropped in the two most recent years to slightly more than 70 percent; but in comparison, the percentage of white youth committed to DCF dropped from a high of 40 percent in 2001 to a low of 17 percent in 2013.

The disparity is driven primarily by the number of African-American youth committed to DCF. Consistent over the 15-year period, almost half of the youth committed to DCF were African-American. The percentage of youth committed to DCF who are Hispanic fluctuated between one-quarter and one-third.⁹ Youth identified as other races, including Asian and American Indian, represent less than 10 percent of the total youth committed to DCF each year. This trend remained consistent pre- and post-RTA.

⁹ For the purposes of this report, Hispanic has been included as a racial category due to the data collection categories. Mixed race and other racial categories (Asian, American Indian, etc.) were not included because the total number (N=) of youth in those categories was low.

Figure 9. Percentage of DCF Commitments by Race, 2002-2014



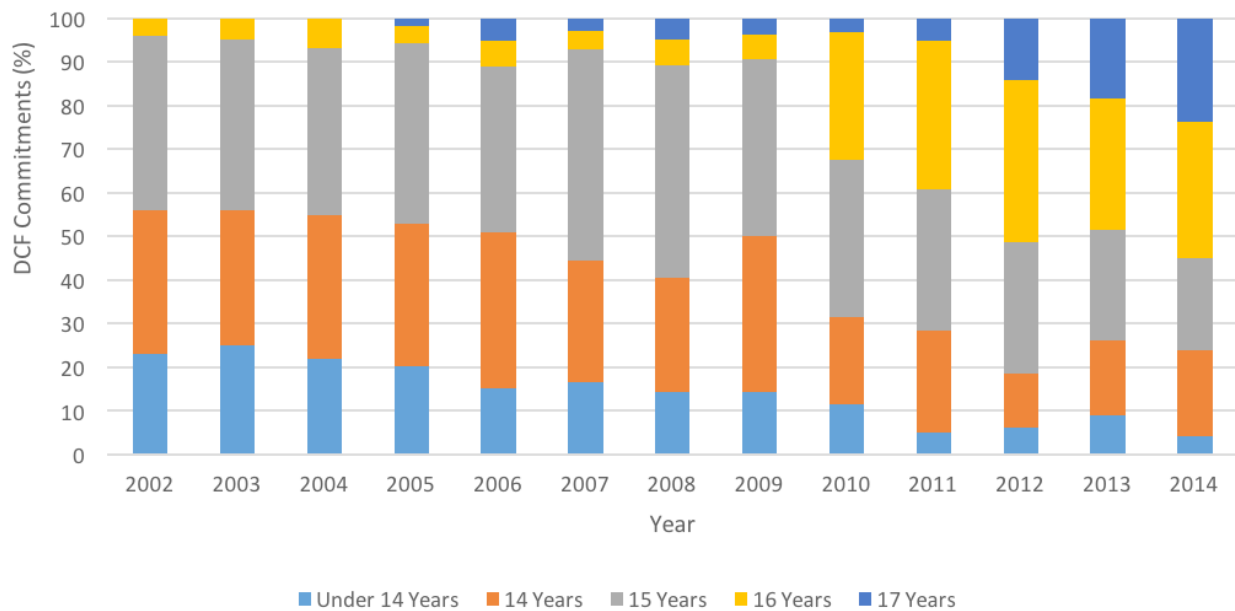
Number of Observations

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
White	138	132	80	74	61	66	66	33	45	39	30	30	27	821
Black	119	127	77	119	90	82	85	72	83	83	78	83	67	1165
Hispanic	97	97	65	76	59	57	64	45	55	47	50	57	42	811
Other	14	15	19	7	8	5	7	9	8	4	4	5	11	116
Total	368	371	241	276	218	210	222	159	191	173	162	175	147	2913

Age

Figure 10 breaks down the DCF-committed youth by age groups: under 14 years; 14 years; 15 years; 16 years; and 17 years. IMRP researchers used the age of the youth at the time of arrest that resulted in the first commitment to DCF during the study period.

Figure 10. Percentage of DCF Commitments by Age, 2002-2014



Number of Observations

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Under 14 Years	86	93	52	56	33	35	32	23	22	9	10	16	6	473
14 Years	120	115	80	90	78	59	58	57	38	40	20	30	29	814
15 Years	148	144	92	114	83	103	108	65	69	56	49	44	31	1106
16 Years	14	18	16	11	13	9	13	9	56	59	60	53	46	377
17 Years		1	1	5	11	6	11	6	6	9	23	32	35	146
Total	368	371	241	276	218	212	222	160	191	173	162	175	147	2916

As expected, most of the youth committed to DCF were under 16 pre-RTA. Between 2000 and 2010, approximately 80 percent of committed youth were 14- and 15-years-old. Predictably, in January 2010, the percentage of 16-year-olds increased and the percentage of 17-year-olds followed beginning in July 2012. By 2014, 16- and 17-year-olds accounted for more than half of the youth committed to DCF.

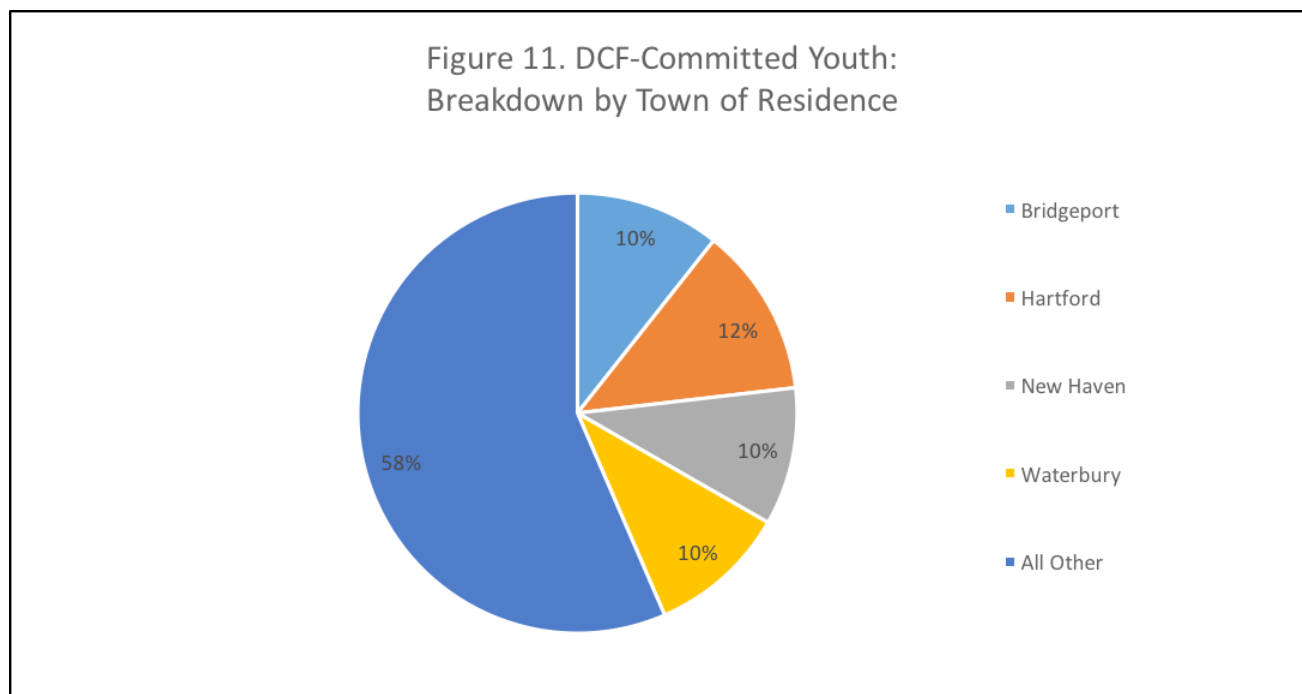
Between 2000 and 2009 (the pre-RTA-period), only 5 percent of all youth committed to DCF were 16-year-olds. These adolescents had committed their crimes prior to their 16th birthday, but turned 16 before the DCF-commitment date. Between 2010 and 2014 (post-RTA-period), the percentage of 16-year-olds committed to DCF averaged 32 percent, which is a 540 percent increase.

During the pre-RTA period (January 2000-July 2012), 17-year-olds represented only 3 percent of the total DCF-commitment population. Again, the youth committed their crimes when they were under 16, but were 17 by the time they were committed to DCF. Between 2012 and 2014 (post-RTA-period), 20 percent of the youth committed to DCF were 17-year-olds. This represents a 566 percent increase.

The actual number and the relative number of youth 14 years old and younger committed to DCF dropped significantly over the 15 years. After full implementation of RTA, youth 14 years old and younger account for about 20 percent of the total DCF-committed population. Presumably, the number of these youngest children committing crimes did not substantially decline and the type of offense these children were arrested for also did not significantly change. What did change is the state's policy that the age at which a youth was considered a juvenile increased and the system had to accommodate the inclusion of 16- and 17-year-olds in the juvenile justice system. Therefore, public policy decisions were made to divert the youngest offenders from moving further into the juvenile justice system and to treat the youngest offenders differently rather than imposing the most punitive sentence of commitment to DCF. Simply put, the behavior and needs of the youngest offenders most likely did not change; but the system's capacity changed and therefore its response adjusted.

Town of Residence

Arrested youth are adjudicated at the juvenile court located in their town where they live rather than the town in which the crime occurred. Figure 11 depicts the breakdown in the number of DCF-committed youth by their town of residence. Most of the DCF-committed youth (58%) resided in the 165 towns other than one of Connecticut's four largest cities. Forty-two percent of the DCF-committed delinquent youth resided in the state's four largest cities: 10 percent (341 youth) in Bridgeport, 12 percent (400 youth) in Hartford; 10 percent (324 youth) in New Haven; and 10 percent (327 youth) in Waterbury. Urban youth are over-represented in the sample compared to the breakdown of the state population as a whole in these age groups.



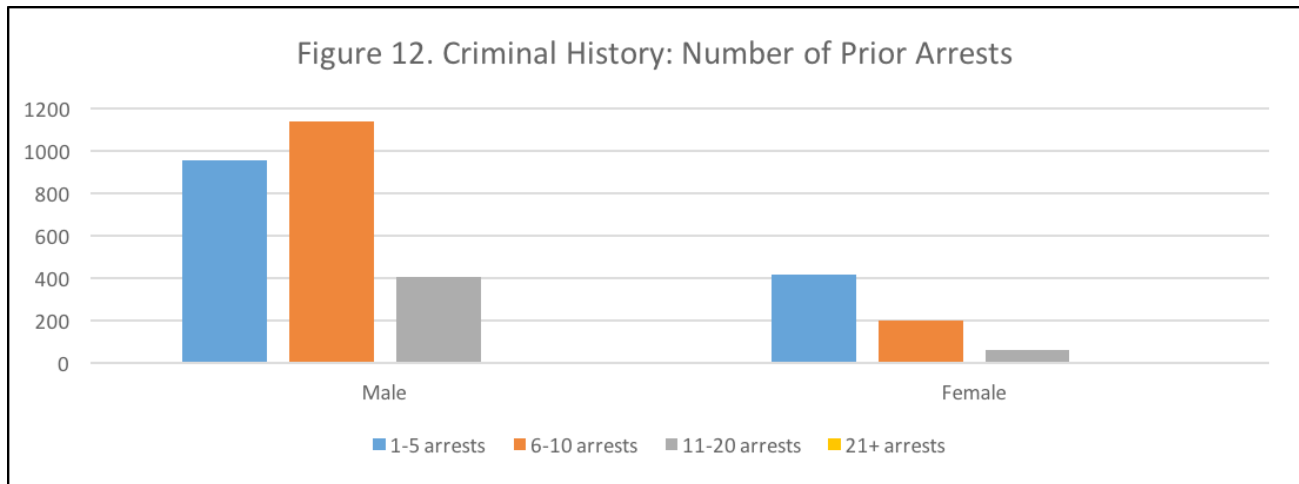
Prior Criminal History

Criminal history was defined as any arrest prior to the arrest that resulted in the DCF-commitment start date. For example, if a youth was arrested in 1999 and arrested again in 2001 and committed to DCF, the 1999 arrest is a prior arrest and the 2001 arrest is the starting incident for this study.

Table 4 and Figure 12 show the number of arrests by gender prior to the offenders' DCF-commitment start date for this study. Only one youth did not have any prior arrest before the first DCF commitment start date. The majority (85%) of the DCF-committed youth had between one and 10 prior arrests. About 5 percent had 11 or more prior arrests, including 11 youth each with more than 20 prior arrests.

Number of Arrests	Male		Female		Total Youth*	
	Number	Percentage	Number	Percentage	Number	Percentage
1-5	954	38%	419	61%	1,373	43%
6-10	1,135	45%	202	29%	1,337	42%
11-20	407	16%	63	9%	470	5%
20+	7	<1%	4	<1%	11	<1%
	2,503		688		3,191	

*Data on prior arrests missing for 134 youth.



The prior arrest data appear to be consistent with DCF-commitment being the most severe punishment for adjudicated (convicted) juvenile offenders. Connecticut’s juvenile justice system is focused on reducing the number of court-involved youth and limiting youth who move to the deep end of the system (e.g., DCF commitment). In general, youth are committed to DCF after their criminal behavior has escalated, a pattern similar to the adult criminal justice system. The exception is youth who commit serious and/or violent crimes or have other severe legal and extralegal factors that require commitment to DCF.

At this point in the study, IMRP researchers were not able to provide data on the types of crimes committed by sample youth. This analysis requires identifying the most serious charge at each arrest and disposition. This is made more difficult by the fact that most youth have multiple charges at arrest and disposition. IMRP researchers are collaborating with JB-CSSD to identify the primary charges. For this report, the severity of offenses was examined using the felony, misdemeanor, and unclassified status as a proxy for offense category.

Risk Scores

JB-CSSD and DCF assess youth for their risk of reoffending and treatment needs. JB-CSSD uses the Juvenile Assessment Generic (JAG) instrument to assess the risk, criminogenic, and protective factors present in the lives of youth entering the juvenile delinquency system. The JAG, implemented as part of the Connecticut Probation Risk Reduction Program, which was normalized for the state juvenile and adult probation

populations and based on national research on best practices and evidence-based programs, provides a comprehensive approach to reduce recidivism. The risk reduction approach had three basic elements of offender treatment: assessment of risk and criminogenic needs; effective interventions in case management, supervision standards and programming; and evaluation to ensure expected program outcomes. (Justice Research Center, *Evaluation of Connecticut Motivational Interviewing and Strength-Based Case Management Initiatives*, May 2012). The JAG has been in use for more than 15 years.

Since the early 2000s, DCF has used and continues to use several different assessment instruments. The following are the assessment instruments used by DCF and the years during which they were administered.

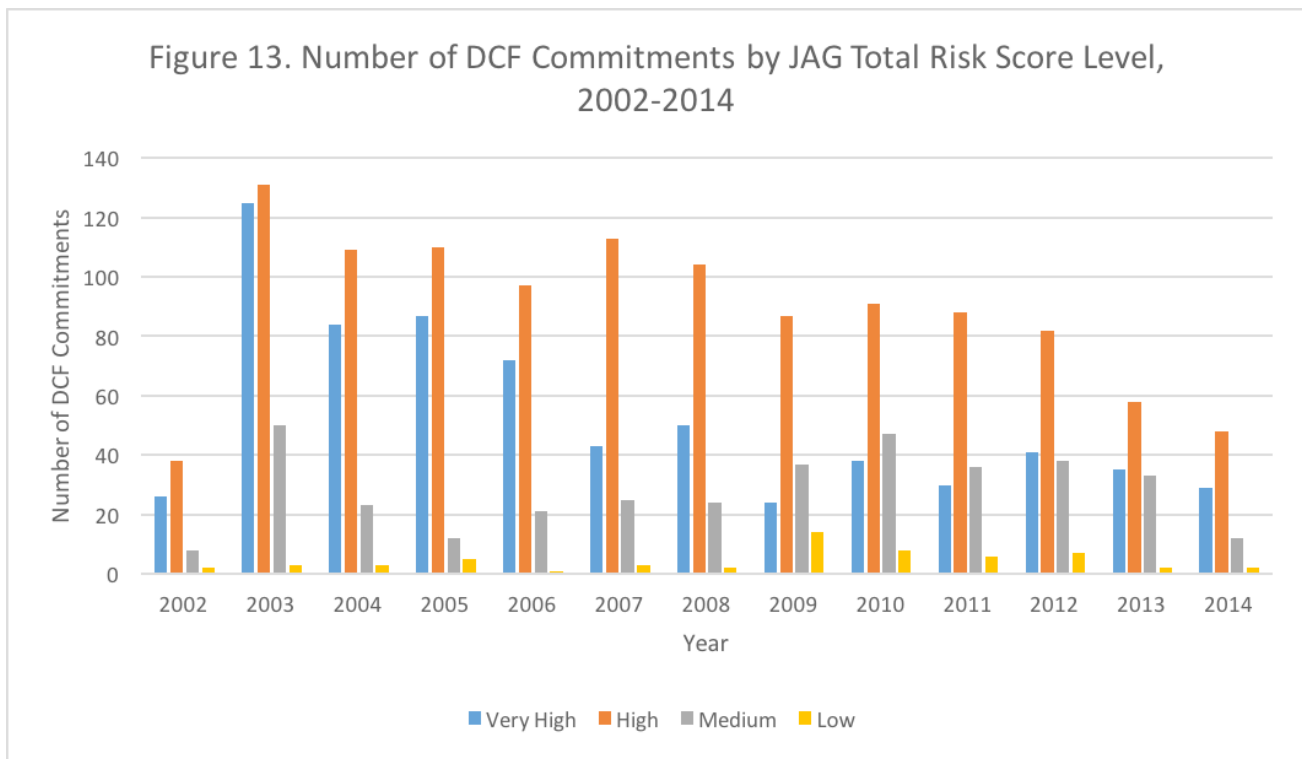
- Clinical Intake Interview (Old Form) - 2002 - 2009
- Health Assessment Record - 2003-2013
- Intake/Parole Assessment of Needs - 2003-2007
- Intake/Parole Assessment of Risk - 2001-2007
- Massachusetts Youth Screening Instrument-2 (MAYSI-2) Questionnaire - 2002-present
- Clinical Assessment - 2004 – present (guided interview given only to youth committed to CJTS)
- Mental Status / Safety Assessment - 2006 - present
- Prison Rape Elimination Act (PREA) Assessment - 2014 - present
- Risk Assessment Instrument - 2005 to present
- Suicide Ideation Questionnaire (SIQ) (High School) - 2014 - present
- SIQ JR (Grades 7-9) - 2014 - present
- Youth Compass Assessment - 2007 – 2011

Some DCF assessment tools are evidence-based, but have not been normalized for Connecticut's juvenile delinquent population. The instruments are used to identify risk and needs in specific areas. For example, the Massachusetts Youth Screening Instrument (MAYSI) is a brief screening tool to identify potential mental health needs of adolescents involved with the juvenile justice system. The Suicide Ideation Questionnaire is used to screen adolescents for suicidal ideation, which is one aspect of suicidal behavior that may point to suicidal intentions. The Prison Rape Elimination Act instrument is used to determine a confined youth's (inmate) potential vulnerability to a sexual assault or risk of sexually abusive behavior. While these instruments collectively may provide information necessary to the safe and effective management of confined youth, the instruments' data do not assess risk and criminogenic needs.

Additional barriers to using the DCF assessment data are that the data from each instrument cannot be combined or compared. According to DCF, the data were not reliable and not consistently collected. For example, the Youth Compass Assessment was not supported by the developer. IMRP researchers found a high rate of missing assessment data.

Therefore, for the purposes of this report, only JAG data were used to identify the risk level for the six cohort (treatment) groups. The JAG data closest to the youths' start dates were used.

Figure 13 and Table 5 show the number of youth in the sample broken down by JAG risk levels. The majority (78%) of youth in the sample had a JAG assessment that was very high (49%) or high risk (29%). Only 20 percent were either medium or low risk, which appears to be consistent with commitment to DCF, that is, the most severe punishment for adjudicated young offenders.



Number of Observations

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Very High	26	125	84	87	72	43	50	24	38	30	41	35	29	684
High	38	131	109	110	97	113	104	87	91	88	82	58	48	1156
Medium	8	50	23	12	21	25	24	37	47	36	38	33	12	366
Low	2	3	3	5	1	3	2	14	8	6	7	2	2	58
Total	48	184	135	127	119	141	130	138	146	130	127	93	62	1580

Year		JAG Risk Levels								Total*
		Very High		High		Medium		Low		
		N=	%	N=	%	N=	%	N=	%	
Pre-RTA	2003	125	40%	131	42%	50	16%	3	1%	309
	2004	84	38%	109	50%	23	11%	3	1%	219
	2005	87	41%	110	51%	12	6%	5	2%	214
	2006	72	38%	97	51%	21	11%	1	<1%	191
	2007	43	23%	113	61%	25	14%	3	2%	184
	2008	50	28%	104	58%	24	13%	2	1%	180
	2009	24	15%	87	54%	37	23%	14	9%	162
Post-RTA	2010	38	21%	91	49%	47	26%	8	4%	184
	2011	30	19%	88	55%	36	23%	6	4%	160
	2012	41	24%	82	49%	38	23%	7	4%	168
	2013	35	27%	58	41%	33	26%	2	2%	128
	2014	29	32%	48	53%	12	13%	2	2%	91
Total		699		1,177		370		59		2,389

*JAG data were missing on 1,019 youth in the sample.

As shown in Figure 13, the number (and percentage) of DCF-committed youth assessed as very high and high risk decreased during the period under review. Very high risk youth decreased 63 percent between 2005 and 2011. High risk youth decreased 33 percent from 2007 to 2013. In comparison, youth assessed as medium risk increased 136 percent from 2006 to 2013. During Raise the Age implementation years (2010 through 2012), there were more medium risk youth than very high risk youth committed to DCF. This trend reversed beginning in 2013, when the number (and percentage) of very high risk youth was greater than medium risk youth.

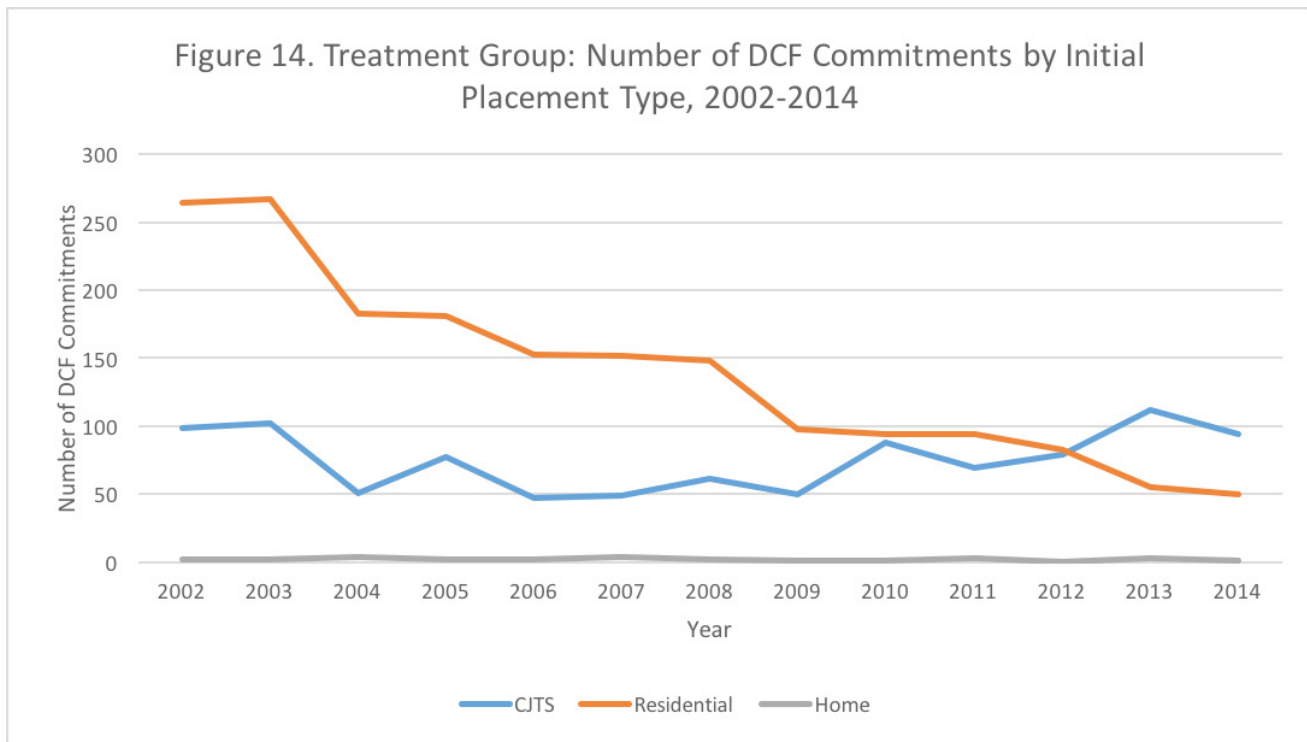
During the years under review, most of the sample youth were assessed at JAG very high and high risk levels. The race and ethnicity of youth assessed as high or very high risk tracked the race and ethnic distribution of the study population.

Initial Placement

DCF-committed youth may be incarcerated at CJTS; confined in a residential program; or supervised on parole in a home setting including the youth’s biological home, foster home, or independent living. Youth may rotate between these placement types depending on their pro- and anti-social behavior and treatment and service needs.

The initial placement of DCF-committed youth is shown in Figure 14. Prior to Raise the Age implementation, more than 70 percent of the youth were placed directly from court into a residential program. During that same period, about 25 percent of all DCF-committed youth were initially incarcerated at CJTS and fewer than 4 percent each year were supervised on parole in a home setting. There was a consistent decrease in the number of youth committed to DCF that is reflected in the graphic, but prior to RTA, the trends remained consistent.

During and post-Raise the Age implementation (2010 through 2014), the number (and percentage) of DCF-committed youth initially incarcerated at CJTS increased. Beginning in 2012, most youth went from court directly to CJTS rather than to a residential program. This may be a result of the risk and needs presented by the older adolescents (16- and 17-year-olds) as they transferred into the juvenile justice system.



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
CJTS	99	102	51	77	47	49	61	50	88	69	79	112	94	978
Residential	264	267	183	181	153	152	148	98	94	94	83	55	50	1822
Home	2	2	4	2	2	4	2	1	1	3	0	3	1	27
Total	365	371	238	260	202	205	211	149	183	166	162	170	145	2827

SECTION 6: REMAINING RESEARCH QUESTIONS

Question 4: What crimes were DCF-committed juvenile offenders rearrested for?

At this point in the study, IMRP researchers were not able to provide data on the types of crimes committed by sample youth who recidivated. With additional data, this question can be examined further.

Question 6: How, if at all, did Connecticut's Raise the Age legislation affect the rate of recidivism among DCF-committed juvenile offenders?

The first objective of this project was to establish, for the first time, the baseline rate of recidivism among adjudicated juvenile delinquents committed to DCF. This required IMRP researchers to describe the DCF-committed offender population and trends in their rates of repeat criminal activity. Simply, this analysis looked at the youths' demographic characteristics, (e.g., age, race, gender, etc.) and their behavior, which may be subject to change due to factors such as the economy, social mores, education attainment, employment, family dynamics, etc. The descriptive statistical analysis, however, does not address why these trends in the youths' behavior occurred.

The second part of the analysis (presented below) examined the initial impact of Connecticut's Raise the Age law on the rate of recidivism among DCF-committed juvenile offenders. The focus of this analysis was the impact of Raise the Age on the system outcome, which for this report was defined as the rate of recidivism among DCF-committed youth. Specifically, how did rearrest outcomes differ when older adolescents who would otherwise have been processed as adults were processed as juveniles instead? The methodology used (difference-in-differences analysis) is described briefly in this section and in greater depth in Appendix C.

The key findings of the analysis of the impact of the Raise the Age law on the rate of recidivism among DCF-committed youth are listed below. See Appendix D for the details describing and supporting the difference-in-differences analysis of the effect of the RTA law on 16- and 17-year-olds.

- For the most part, the 16- and 17-year-old groups pre- and post-Raise the Age were similar in demographic profiles and criminal history (severity and type of offense and number of prior arrests and convictions). There was no evidence that the demographics or behavior of older adolescents changed during or after Raise the Age implementation. Our statistical analysis proceeds from the premise that the primary factor that changed was that the Raise the Age law shifted the older adolescents from the adult criminal to the juvenile justice system.
- The Raise the Age law was implemented in two stages with two different implementation dates: January 1, 2010 for 16-year-olds and July 1, 2012 for 17-year-olds. This staged roll out divided the older adolescent cohorts into two subgroups:

16-year-olds and 17-year-olds. Fifteen-year-olds were not impacted directly by the law as they were always within the jurisdiction of the juvenile justice system, and 17-year-olds through June 30, 2012 were always in the adult system. This allowed for the control groups to be compared to the treatment group.¹⁰

- The first step in the analysis was to compare the broadest cohort groups – adjudicated juveniles committed to DCF to 16- and 17-year-old adult offenders – to understand the impact of the Raise the Age law on the system, not on the youth.
 - Adjudicated juveniles committed to DCF were compared to 16- and 17-year-olds processed as adults. These two groups were not substantively or statistically similar in terms of criminal behavior or the juvenile and adult justice systems’ responses. Generally, the adult justice system treated 16- and 17-year-olds as less serious and most as first-time offenders and it imposed diversionary, alternative, or the least severe sanctions. By contrast, the juvenile justice system considered this group as older and presenting the highest risk and it imposed the most severe sanction (e.g., DCF commitment).
 - The 16- and 17-year-old adult population was a much larger group (approximately 76,000 adolescents from 2002 through 2014) than the DCF-committed juveniles (approximately 3,300).
 - A comparison of the entire 16-year-old juvenile and 17-year-old adult cohort groups after Raise the Age law shows a significant increase in recidivism at the 24-month release threshold (but no significant changes at earlier or later thresholds).
- The next step in the analysis examined two subgroups of the cohorts that were more comparable. Adjudicated 16-year-old juveniles committed to DCF were compared to convicted 17-year-old adults sentenced to one or more days in jail or prison.
 - In comparing these two groups, our analysis found a decrease in the rate of recidivism at the six-month release threshold (but no significant effects at later release thresholds).
- Recidivism trends appeared not to correlate with police practices with regard to arrest. Therefore, the role of process and procedures in the juvenile and adult justice systems, including arrest, prosecution, and court decisions, warrants further investigation.

Connecticut’s phasing in of cohort groups by age under the Raise the Age law allows for the rigorous study of the *causal effect*, rather than correlation, of the law on recidivism. As was stated previously in this report, the amended law authorized 16-year-olds to enter the juvenile justice system on January 1, 2010, as initially planned; however, 17-year-olds could not be processed as juveniles until July 1, 2012. This phasing in of different age cohorts that are subjected to the juvenile versus adult system permits the study of these two statutory changes at different stages, allowing for multiple control groups to be established and the rigorous measurement of the causal effect of the law on recidivism.

¹⁰ The Raise the Age staged roll out, primarily due to state fiscal constraints in 2007, was the best implementation model for evaluating the impact of the policy. Short of randomization, in which subjects are assigned by chance and is often considered unethical in delivery of social services, a pilot program followed by staggered implementation by start date, location, provider, etc., is considered a “best practice” design for rigorous policy evaluation.

SECTION 7: RECOMMENDATIONS

I. With the baseline recidivism rate analysis included in this report, IMRP should proceed to assess juvenile parole services programs for the DCF-committed offender population that are the subject of this study. As required by PA 14-217, IMRP must assess the juvenile parole services programs and develop findings based on the Pew-MacArthur Results First Initiative's cost-benefit analysis model.

This analysis is intended to provide the IMRP with the Connecticut-specific recidivism rate necessary for the application of the Results First econometric model to the juvenile justice system. Fully implemented, the model provides program evidence and cost-benefit analyses to those involved in administrative, policy, and budget decisions for justice-involved juveniles. The recidivism rate will also be provided to the Juvenile Justice Policy and Oversight Committee for its ongoing work in coordinating the state's public policy on juvenile justice.

The IMRP team has consistently partnered with DCF to provide the assistance the department needs to prepare and complete its program inventory, as it is required to do pursuant to PA 15-5, June Special Session. IMRP expects to continue working with the department in its efforts to improve the integration of program and financial information. IMRP researchers recommend DCF and JB-CSSD continue to cooperate with the Results First Initiative and the researchers obtain and review program outcome and expenditure data to evaluate the effects of specific programs on juvenile recidivism and determine program cost-benefit analyses.

Finally, this recidivism analysis should be packaged succinctly and disseminated to the appropriate audience to influence the direction of policy and practice. To maximize the impact of recidivism as a performance measure, the analyses should be provided at least annually and provide a variety of recidivism information with summarized findings and recommendations. (Urban Institute, Justice Policy Center, *Improving Recidivism as a Performance Measure*, October 2014).

II. IMRP and DCF should collaborate to (1) collect and analyze program-specific data, (2) examine program evaluations and the cost-benefit analyses to identify program changes that improve their outcomes and cost-effectiveness, and (3) recommend any necessary statutory or program changes to implement improvements.

This program assessment requirement was the second part of the 2014 legislative directive. However, specific program participation and outcome data (as articulated in study Question 5) was not available to the IMRP researchers. The evidence from and effects of DCF programs on juveniles committed to its care would provide the basis for the analyses required to consult with the department and recommend program changes to improve the cost-effectiveness as well as the results of such programs.

IMRP is in discussions with DCF to (1) obtain the data needed to update the Results First juvenile justice model and (2) assist the department in its efforts to develop and collect better program-specific data. A comprehensive inventory of evidence-based programs will provide the basis for the required assessment and recommendations to the department and legislature on improvements to policy and practice.¹¹

III. On a continuing basis, DCF and JB-CSSD should cooperate with the Results First Initiative and IMRP to obtain and review all evidence-based program outcomes and cost data to evaluate the effects of specific programs on juvenile recidivism and determine program cost-benefit analyses.

Ongoing data collection and analysis is necessary for any performance measure. Without year-to-year data, policymakers and system administrators are unable to draw conclusions about the effectiveness of the agencies or the programs they implement. It is necessary to develop protocols to ensure data are consistent, accurate, and timely. This requires (1) assignment of unique identifiers to link data across juvenile justice agencies and other child service agencies; (2) development and maintenance of databases that allow for analysis of various populations over an extended period; (3) accounting for potential changes in the juvenile offender population over time, including collecting data on other factors known to predict recidivism; and (4) updating of data files as youth move through different stages of the juvenile justice system.

In addition to improving the descriptive reporting of recidivism data, there is a need to conduct statistical analyses that answer policy-relevant questions. The statewide rate of rearrest or recommitment to DCF does not help to answer critical questions related to the effectiveness of correctional interventions and treatment and whether juvenile justice policies are having their intended effect. Recidivism will be a more useful performance measure that can be used to evaluate the impact of policy and funding decisions when recidivism outcomes can be compared across juvenile and adult offender populations.

IMRP researchers recommend the methodology used in this project be standardized and streamlined to save operational costs in the medium term so that data-driven, evidence-based policies may ultimately save Connecticut taxpayers money through what can be gleaned from the analysis and more effective outcomes and efficient processes and services. Further, IMRP researchers recommend development of a Memorandum of Agreement template that resolves cross-agency data confidentiality and sharing issues and streamlines data requests by academic and research entities conducting policy evaluation and other juvenile justice-related research.

IV. In addition to post-commitment program evaluations, researchers should review data that potentially identifies predictive factors for reoffending among DCF-committed youth, such as the impact of youths' education, employment, and health and that of their families and communities. The results of a validated risk assessment tool can be an

¹¹ According to the department, in order to implement this recommendation, DCF would need additional funding dedicated to this effort.

indicator for juveniles' likelihood to reoffend. Expanded analysis of these factors should be used to develop recidivism reduction strategies.

IMRP researchers believe this report is best used as a foundation for understanding the previously unstudied DCF-committed juvenile offenders. Using descriptive statistics and statistical analyses, this report shed light on the recidivism patterns among the smallest, but arguably the highest risk and highest need, subgroup of the juvenile offender population. The analysis is critical to an overall, in-depth understanding of recidivism among all juvenile justice-involved youth, not just those committed to DCF. Therefore, because this study covers only those juveniles who were committed to DCF, additional research should identify and investigate outcomes of the other system responses to the policy change made with the Raise the Age legislation (e.g., probation and diversion). IMRP researchers should also identify and investigate post-release factors associated with recidivism.

Through a greater understanding of the predictive factors among this population, policymakers and system administrators may begin to establish more refined performance measures beyond the focus on recidivism. There are four steps to make recidivism a meaningful performance measure. The first step in is to move beyond the idea of a single measure of success or failure. There is no "right" measure of recidivism. Recidivism analysis should include a series of different performance indicators that are carefully calibrated to the outcomes they are intended to measure. Recidivism reduction is the primary responsibility of all juvenile justice agencies and the network of privately operated residential and outpatient programs and is tangentially impacted by other agencies such as the state departments of Education (SDE) and Labor (DOL), and the definition of success must allow for a range of outcome measures that are responsive to this fact.

To be effective in reducing future delinquency, juvenile justice systems must intervene with higher-risk groups. This requires an accurate assessment of youths' risk of future delinquency so that resources can be targeted toward the individuals at highest risk and be focused on the assessed criminogenic needs of individual youth (*Connecticut Parole Services*, 2013). It is critical, therefore, for DCF to adopt an accurate, reliable risk and needs assessment process that identifies the most relevant risk factors, assigns appropriate weights to those factors, and determines effective thresholds for classifying placements into groups with distinct likelihoods of future delinquency.

V. DCF should solicit input from IMRP researchers and the Results First team in the development of its information technology system improvements to ensure that necessary program data is identified, collected, and made available under the appropriate agreements and conditions for additional research and analysis.

The findings of this report support the need for improvements in DCF's data infrastructure. IMRP has offered to collaborate with the department to identify the data and systems that can benefit both the Institute's and department's interests in case management, contract compliance, financial controls, research, and analysis. Any

improvement, which is currently a planned automated data system to replace Condoit and LINK, should include expanded data collection, incorporate case management and policy evaluation processes, and build on the most current technologies. IMRP acknowledges that DCF has limited state resources, as do all state agencies, with which to continue its responsibilities including any redesign of its automated data management infrastructure. However, this project can highlight areas for improvement and possible solutions to DCF's data system and support any movement toward evidence-based policy and program evaluation. This type of evaluation that includes cost-benefit analysis can, indeed, promote a more effective allocation of resources, thereby allowing the new automated data management system to in some ways pay for itself.

System Improvements. DCF recently issued a Request for Proposal (RFP) for improving its automated data systems and significantly improve its capabilities to collect accurate and reliable data. DCF has also entered an agreement to utilize in the future the new electronic record (CMIS-R) being built by the Judicial Branch. DCF had agreed with JB-CSSD to share data and analyze it to measure juvenile recidivism rates.

This report serves to establish that DCF does have a minimum level of data on DCF-committed youth that can be used to conduct recidivism analysis and, to a more limited extent, some policy and program evaluation analysis. IMRP researchers found that DCF has information technology staff experienced in managing the Condoit and LINK data and quantitative analysis. DCF program staff are clearly beginning to understand and appreciate the need for ongoing policy and program evaluation and DCF administrators have authorized the release of a substantial amount of client-level data. While “scrubbing” the data was a significant and time-consuming undertaking, IMRP researchers merged and analyzed DCF, JB-CSSD and DOC data and are optimistic that data from other agencies (e.g., SDE, DOL, and the Department of Social Services) can also be included.

There is consensus that a data system should be the foundation of a robust quality assurance and quality improvement effort. The Georgetown University report, *Connecticut Parole Services* (2014), also included recommendations to improve the DCF data system.

In developing an improved data system, DCF has the unique opportunity to create a system that is more transparent and understandable and is intended for case management and policy evaluation. The department should ensure that its vendor provides detailed codebooks, variable documentation that allows for historical changes to be recorded, and consistent data entry methods (e.g., drop down menus or forced selection menus). IMRP researchers believe DCF, JB-CSSD, and other juvenile justice agencies and service providers, with the vendor, should develop an identifier linking clients/youth between agencies and throughout the juvenile justice process.

Staff training and oversight are important factors in implementing a new automated data system. It is vital that facilities, parole supervision, child welfare, supervisors and managers, and administrators buy-in to the new data system to ensure the data system users are, in fact, using the system properly and consistently. Strict oversight of system usage will reduce unnecessary errors in data entry and the collection processes.

Data sharing. Data sharing is a common problem among state agencies. Historical cultural differences and separate data systems not created or intended for policy and outcome analysis slows, and in some cases, obstructs information sharing and fusion of data. Often there is a disagreement about “who owns the information” and the distinct roles and responsibilities of state agencies, even when the research is focused on improving state policy and resource allocation and improving the lives of the involved populations (e.g., juvenile offenders and their families and communities). Intergovernmental and integrated data systems can yield powerful insights that promote a more holistic understanding of the served population’s experiences. There is an emerging track record of the information being used to improve policy, service delivery, and program evaluation to support data sharing practices.

Data sharing concerns between IMRP and DCF resulted in initial challenges and delays. However, once they were resolved, the working relationship between IMRP and DCF administrators, program staff, and information technology staff improved. This study has provided a unique opportunity to collaborate with DCF to establish a process for future research and initiate a culture of rigorous policy evaluation within the department. DCF is continuing to participate in a more detailed analysis of the data and has agreed to proceed with a second phase of this study involving the merging of education, labor and health data. IMRP researchers are extremely optimistic that this project has paved the way for future collaboration on policy evaluation and established the protocols for data sharing between DCF, other juvenile and adult justice agencies, and researcher entities.

VI. Additional research should assess juveniles committed to DCF as 17-year-olds after the July 1, 2012 effective date of Raise the Age; analyze their 24-month recidivism rate; and provide the basis for developing recidivism reduction strategies, particularly among the older youth.

As indicated in this report, a larger sample population of 17-year-old offenders within the 24-month release threshold, along with analyses of the results of evidence-based programs for them, will support a stronger assessment of the impact of Raise the Age. In this study, IMRP researchers found:

- The profile and criminal behavior of older adolescents (ages 16 and 17) has not changed. The Raise the Age law shifted the criminal jurisdiction of the older adolescents.
- Older adolescents as a subgroup of adult offenders had the highest rate of recidivism (over 70 percent).
- The Raise the Age law appeared to decrease the recidivism rate among rate among 16-year-old juveniles at the six-month release threshold after discharge from incarceration or placement in a residential program or on parole.
- That effect on the rate of recidivism did not continue past the six-month release threshold and 16-year-old juveniles were rearrested at the same rate as 17-year-old adults.
- Prior to Raise the Age, the juvenile justice system processed and implemented

programs for younger adolescents. After the law's implementation, there was an influx of older adolescents into the juvenile justice system.

- According to the Connecticut General Assembly's Office of Fiscal Analysis budget books, from state fiscal years 2007 through 2013, several million dollars were appropriated to DCF for support services for an expanded juvenile justice population related to Raise the Age. DCF added programs to expand services during that period.
- Additional research would show whether and how programs that focus on older teens impact recidivism, but it is unclear from this study if the network of community-based residential programs and out-patient services in effect during this period were adjusted to meet the needs of the older adolescent offenders.

Additional study of the state's experience with the original Raise the Age law is warranted to assess outcomes and possibly modify programs that accommodated that change. This is especially important and would be helpful in light of proposals to shift 18-, 19-, and 20-year-olds into the juvenile justice system.

Continued study is also warranted on the data disaggregated by gender since placement, programs, and treatment differ significantly for these male and female juveniles and any difference in their recidivism rates should be examined.

VII. IMRP endorses the findings of Georgetown University's 2013 Final Report for the State of Connecticut Department of Children and Families and the action plan adopted by DCF to better meet the needs of the state's DCF-committed juvenile offenders.

IMRP researchers believe, based on the data analyses in this report, that the recommended protocols, tools, and policies set out in the Georgetown report represent a foundation for improving the effectiveness and efficiency of DCF parole services. Their recommended strategies called for DCF to:

1. Use the Standardized Program Evaluation Protocol (SPEP) (a program-rating scheme for assessing any type of therapeutic intervention program) in parole supervision programs and out-patient services and at CJTS and residential programs, including develop data elements required for SPEP scoring.
2. Adopt a validated risk assessment instrument and strategies.
3. Improve and adhere to a graduated responses policy and juvenile parole revocation processes and procedures.

Areas for improvement within DCF for these recommendations to be implemented and to result in desired outcomes were also identified in the Georgetown report. IMRP researchers believe many of these areas for improvement can be addressed by better data management and collection and a new automated information system.

APPENDIX A

DATA SOURCES

As stated, for this report, IMRP researchers obtained and analyzed data from three state agencies: JB-CSSD, DCF and DOC. At the time of this iteration of the report, IMRP researchers are continuing to analyze the extensive data set. Further analysis will be released in an addendum to this report.

DCF Data

DCF provided juvenile justice data from the Condoit database and child protective services from the LINK database. All juvenile justice youth receiving services are also tracked in the LINK database, which included program name, start and end dates for enrollment, and provider payment information. DCF also provided data from the Compass database, but explained the database was no longer supported by the consultant and the data was unreliable. Compass data was, therefore, not used.

The Condoit database provided information on the youth adjudicated as delinquent and committed to DCF. The Condoit database contained the following files: Intake; Assessment; Treatment Plan; Permanency Plan; Alias and Gang Information; Case File (except juvenile court information); Movement; and CJTS Discipline and Seclusion.

The LINK database provided information regarding all other contact with DCF for child protective services including, but not limited to, abuse and neglect investigations, placement in foster care or other out-of-home setting, termination of parental rights and orders of temporary custody. LINK files included: Education Profile; Medical Profile; Legal; Payment; Placements/Services; Intake; Assessment; and Case Planning.

LINK tracks payments made to contracted private providers for residential programs and outpatient services for juvenile justice and child protection services youth. The payment data included the provider name, the start and end dates of service, and the amount paid by DCF. DCF does not collect completion, outcome or dosage data on the programs or the youth served. DCF explained that information may be contained in the automated case narrative files in both Condoit and LINK, but refused to provide the files due to confidentiality issues surrounding the inclusion of persons other than the sample youth (e.g., parents, siblings, relatives, co-defendants, etc.) that are contained in the files. The necessary program data may also be contained in DCF's paper files, but IMRP researchers know from past experiences data collection from agency paper files is a lengthy process that often produces limited and unreliable results. IMRP researchers, therefore, did not review DCF paper files on the youth in the sample.

JB-CSSD Data

JB-CSSD provided juvenile court data that included arrest, disposition and sentence information. JB-CSSD also provided juvenile probation and intake and assessment data

on each youth referred to the juvenile court for adjudication and each youth confined in a Juvenile Detention Center (pre-trial).

Juvenile court data were provided on the youth in the sample and adult court data for those who aged out (turned 18) during the study period. Adult court data were provided on 16- and 17-year-olds processed as adults prior to the Raise the Age implementation dates. Data was provided for these offenders from January 1, 2007 through December 31, 2014.

DOC Data

DOC provided movement data on any youth in the sample who was incarcerated between January 1, 2007 and December 31, 2014. The movement file included information on transfers among institutions and to outside locations (e.g., court, medical appointments, etc.), early release and parole discharges, sentence completion discharges and readmissions. JB-CSSD collects DOC inmate numbers in the CMIS-R system. JB-CSSD provided all available DOC inmate numbers for the study sample and that data was submitted to DOC. DOC then provide the movement file on the study sample to IMRP.

Additional Data

IMRP researchers have planned for a second phase of this project. The second phase would require additional data. First, data from the State Department of Education (SDE) and Department of Labor (DOL) would allow for an examination of the impact education and employment have on the rate of recidivism. IMRP is currently negotiating with the agencies for the release of that data. Second, adding 18-year-old adult offenders and probationers to the control group (pre-Raise the Age young adult offenders) will allow for a more rigorous determination of the impact of the Raise the Age law. It may also assist in the policy debate on Governor Dannel P. Malloy's proposal to raise the age of juvenile jurisdiction to 21, which is anticipated to be part of the Governor's legislative agenda for the 2017 session. Finally, updating the data set to include DCF, JB-CSSD and DOC data for 2015 and 2016, is necessary to more fully analyze the recidivism rates and patterns of 17-year-old juvenile offenders committed to DCF. The 17-year-old cohort group entered the juvenile system beginning on July 1, 2012, and including data from 2015 and 2016 would increase the length of time for analysis of the recidivism rate by release threshold periods (the length of time an offender is in the community with the opportunity to reoffend) and the reliability of the baseline recidivism rate.

APPENDIX B

DCF COMMITMENT AND PAROLE PROCESS

This appendix provides a summary of the Connecticut juvenile justice process from arrest to Department of Children and Families commitment.

Arrest

A youth enters the juvenile justice system through an arrest. The first decision point for police is to arrest or not. In Connecticut, a juvenile involved in criminal activity, particularly nonviolent, less serious crime, can be diverted from entering the juvenile justice system through a referral to a Juvenile Review Board (JRB) or through other restorative justice initiatives. Referred youth who complete the JRB or restorative justice process have their charges dismissed, but youth who fail to successfully complete the process are referred to the juvenile court. The JRB referral and service process is not standardized throughout the state. Some police make use of the JRB while others do not. Not all towns have a JRB and not all JRBs have similar access to services.

Youth under the age 18, who are not referred to a JRB or other restorative justice program, may be charged with a crime through a custodial arrest or the issuance of a juvenile summons. Police issue the summons listing the charges against the youth and the juvenile court data at which the youth and parent/guardian must appear. Juveniles are required to appear in the juvenile court for their town of residence rather than the town in which the crime was committed. A juvenile summons must be signed by the youth's parent/guardian, which is an acknowledgement the summons was issued, rather than an admission of guilt. The youth is turned over to the custody of his/her parent/guardian. If a responsible adult cannot be in a reasonable period, the police may make a custodial arrest and/or contact DCF.

A custodial arrest undertaken by state or municipal police requires the youth be taken to a police department to be processed (commonly referred to as booked). The parent/guardian is notified of the arrest and the youth may be released to the parent/guardian or, at the officer's discretion, to his/her own custody. If the police determine there is a need for the youth to be detained further, the police must show statutory grounds for pre-trial confinement. Moreover, the police are required to obtain a juvenile court order signed by a judge authorizing the youth be placed in a juvenile detention center; JB-CSSD operates juvenile detention centers in Hartford and Bridgeport. A youth may also be arrested by warrant, which may specify conditions of detention or release.

The statutory grounds (CGS §46b-133) for pre-trial detention of a youth required a judge to find probable cause to believe the youth committed the crime and determine no less restrictive alternative setting was available. In addition, there was an assessment of:

- the youth's flight risk (failure to appear in court);
- severity of the charges against the youth;

- the suitability of the youth's family setting; and/or
- pending warrants for the youth from another jurisdiction.

Pre-trial Detention

Youth who are confined in a detention center are presented in juvenile court for a detention hearing on the next business day. During this hearing, the court determines whether to release the youth to a responsible adult with specific conditions such as a curfew, school attendance, no contact with a victim or co-defendants, etc., and under the supervision of JB-CSSD Juvenile Probation Division. A pre-trial court date is also scheduled during the hearing.

If the detention order is continued, the youth is returned to the detention center. Every 10 days, a detention hearing is held to review the necessity and appropriateness of confinement. A juvenile court judge may release the youth to his/her home, or based on evaluation and assessment, to a treatment or service program. If the youth is not released, the cycle continues with a detention release hearing every 10 days. Worth noting is that during a detention release hearing the burden of proof shifts from the youth, who at the first detention hearing must show why s/he should be released, to the state to show why the youth should remain in pre-trial confinement.

In addition to two detention centers that JB-CSSD operates in Bridgeport and Hartford, the agency also contracts less secure, community-based detention centers. These include one center each in Hartford and New Haven and two centers in Hamden.

Case Disposition

JB-CSSD juvenile probation supervisors review all juvenile summonses. Youth charged with minor offenses may be referred for non-judicial processing by juvenile probation officers, which is like the JRB process. Youth successfully completing the non-judicial process have their charges dismissed. Youth who fail the non-judicial process are referred to the juvenile court for adjudication.

Youth charged with a crime either by summons or custodial arrest typically have their first juvenile court data (arraignment) within one month of the arrest date. At the arraignment, a team is convened, comprised of the prosecutor and defense attorney, JB-CSSD juvenile probation officer and, in some cases, a DCF juvenile justice social work (formerly referred to as juvenile parole officer) and any other professionals. The team determines the appropriateness of charges, reviews sentencing options best suited for the youth and the circumstances of the case, agrees on evaluations and assessment to be conducted on the youth by the juvenile court or private evaluators, determines appropriate and necessary DCF services, and assesses the youth's competency to understand the charges against him/her and to participate in any court-ordered treatment and/or sanction. The process continues until a consensus is reached on the disposition of the case (plea bargaining).

If a youth accepts the disposition and plan, s/he enters a guilty plea and is sentenced to the sanctions agreed upon during negotiations.

Charges against a youth may also be “nolled” (*nolle prosequi*), which means the prosecutor has decided not to prosecute. It amounts to a dismissal (discontinuation of prosecution) of all or some charges by the prosecutor. The prosecution most commonly invokes “nolle” of charges in the interests of justice and/or the youth and/or based on re-evaluation of evidence, emergence of new evidence and/or failure of witnesses to cooperate.

In the event both sides do not reach a consensus on a plea deal, the case is scheduled for trial in juvenile court. There are typically several pre-trial hearing dates prior to the actual trial. At any time during the process, the youth may agree to a negotiated plea bargain and the trial process stops. However, a plea bargain cannot be entered once a juvenile court judge renders a verdict after trial.

All juvenile court hearings are conducted by a judge. There are no jury trials. A judge may enter a guilty or not guilty verdict or may dismiss the charge(s). A youth found not guilty after a trial is released from the jurisdiction of the juvenile court and any services provided because of the arrest are discontinued. A youth found guilty after a trial is sentenced and may appeal that decision.

Transfer to Adult Court. Children and adolescents under 18 charged with a serious and/or violent crime may be transferred from the juvenile court jurisdiction to the adult criminal court. Youth charged with Class A or B felonies are automatically transferred to the adult criminal court. During the adult criminal court process, a prosecutor can discretionarily transfer the case to the juvenile court for disposition. Once the case is sent back to the juvenile court it may not be transferred again to the adult court for any reason.

Youth charged with any other felony offense (Class C or Unclassified) may be discretionarily transferred by the juvenile court after a hearing to the adult criminal court if it is determined that the transfer is in the best interest of the youth and the community. The juvenile court may, however, determine the case will remain in the jurisdiction of the juvenile court. The hearing is held within 10 days of the youth’s first court hearing (arraignment).

Youth transferred to the adult criminal court are adjudicated and sentenced as adults. In these cases, youth under 18 sentenced to a period of incarceration are remanded to the custody of the Department of correction. Males are incarcerated at Manson Youth Institution (MYI) and females at York Correctional institution.

Sentencing

There are several sentencing options available to the juvenile court including:

- verbal warning to refrain from criminal behavior without further sanctions (like

- unconditional discharge in the adult system);
- performance of community service for a specific number of hours;
- a specific period of probation supervision (the most common sanction);
- restitution (a specific amount is set);
- conditions such as participation in counseling, attend school, involvement in afterschool activities, curfew and obey house rules; or
- commitment to custody of DCF.

Many sentenced include graduated sanctions that allow probation officers to change the conditions of probation to respond to the problematic behavior and/or violations of probation without having to go to juvenile court.

Youth found guilty after trial or who enter a negotiated guilty plea are sentenced by a judge during a dispositional hearing. The sentence negotiated during plea bargaining or recommended through the pre-trial assessment and evaluation process is imposed by the judge.

JB-CSSD completes a risk assessment for youth for whom probation is the most appropriate sanction. JB-CSSD recommends to the judge the length of the probationary period. The juvenile court judge may give JB-CSSD discretion to grant an early discharge from probation to a youth who has successfully completed all recommended treatment, program and/or services, complied with all conditions and has remained crime free. JB-CSSD may also request a hearing in front of the juvenile court judge to request early release from probation or to increase the period of probation if the youth is not complying or is violating supervision conditions. The youth's defense attorney may also request the hearing.

Youth who are found guilty after trial are first scheduled for a pre-dispositional study (PDS) by a JB-CSSD probation officer prior to the sentence being imposed. During the PDS process, the juvenile probation officer gathers descriptive information about the youth including, but not limited to: assessments and evaluations; medical and mental health diagnoses and treatment; school attendance, performance and education attainment; past criminal history and sentencing; family setting and relationships; involvement with and prior commitments to DCF. The PDS provides the juvenile court judge with as much information as possible to impose a sanction that will assist the youth to return to or remain in the community and provide any necessary program or service referral(s) to address the youth's risk and treatment needs.

In the cases in which commitment to DCF is the likely sentence, a case review team is impaneled to determine if commitment is the appropriate sanction for the youth. The case review team is comprised of the prosecutor, defense attorney, DCF juvenile justice social worker (parole officer), JB-CSSD juvenile probation officer, school representative and a representative from any other discipline whose input would provide insight and benefit the youth. The case review team's consultation about the youth are confidential.

If the case review team determines that commitment to DCF is appropriate it may recommend placement in CJTS or another less secure residential placement setting or to keep the youth in a family setting under parole supervision. It is at this point in the process that the youth is further evaluated and all records pertaining to him/her are reviewed and approved. The team recommends the most appropriate residential setting placement or CJTS.

Adjudicated delinquent youth are committed to DCF for either 18 months or up to four years for more serious offenses.

DCF Commitment

While in DCF custody, a youth may be:

- confined at the Connecticut Juvenile Training School (CJTS) for boys or the Pueblo Unit at the Albert J. Solnit Center¹² for girls;
- placed in a secure or unsecure, community-based residential placement setting such as a treatment program or group home; or
- placed under parole supervision while residing in a family setting (youth's family home, foster home, independent living).

Youth on parole remain committed and are supervised by DCF juvenile justice social workers (parole officers) in accordance with conditions of parole and other treatment and service referrals until the term of commitment imposed by the court expires. Juvenile justice social workers (JJSW) are responsible for community reintegration particularly of youth who had been incarcerated and/or confined in a residential program. JJSW are required to attend placement planning and pre-release transition activities at CJTS or the residential program facilities to allow for a gradual and structured return of the youth to his/her community.

JJSW monitor a juvenile parolee's compliance with the conditions of parole supervision and the case plan. Supervisory contacts between JJSWs and juvenile parolees are required once every month and youth on parole in the community are contacted every two weeks.

JJSWs follow a process of contact-driven supervision, surveillance and condition enforcement, which is the traditional model of parole services. DCF has been shifting from the Outreach Tracking and Reunification Programs, which were supervision and surveillance driven, to the Fostering Responsibility, Education and Employment (FREE) service, which continues services that began in congregate care for a period during the re-entry phase. DCF also maintains a series of community-based programs such as Multi-Systemic Therapy (MST) and Multi-Dimensional Family Therapy (MSDT).

¹² The Pueblo Unit was closed in 2016 and is no longer operational.

Juvenile parolees can be arrested for new offenses and in that case the process begins again. Juvenile parolees may also violate the conditions parole, called technical violations. Technical violations are not new crimes, although a series of technical violations can escalate into new criminal behavior. JJSW can respond to a new arrest or technical violation through incarceration at CJTS¹³, confinement in a residential program, or imposing new conditions of supervision. Girls were confined at the Pueblo Unit, but prior to the release of this report the unit was closed.

Youth are discharged from DCF commitment at the end of the court-imposed commitment period.

¹³ Prior to its closing, girls were incarcerated at the Pueblo Unit.

APPENDIX C

TECHNICAL ANALYSIS METHODOLOGY

This appendix describes the statistical model being run, and additional “robustness checks” and procedures performed in the evaluation of the Raise the Age law on recidivism.

The research design relied on a difference-in-differences (DID) strategy that compared the pre- and post-Raise the Age changes that the 16-year-olds experienced as a result of the authorizing statute requiring the use of 15-year-olds with at least one DCF commitment and who were always in the juvenile system, and 17-year-olds who were always in the adult system as control groups. Alternative specifications included those two age cohorts and included the 14 and under population with at least one commitment in the juvenile system.

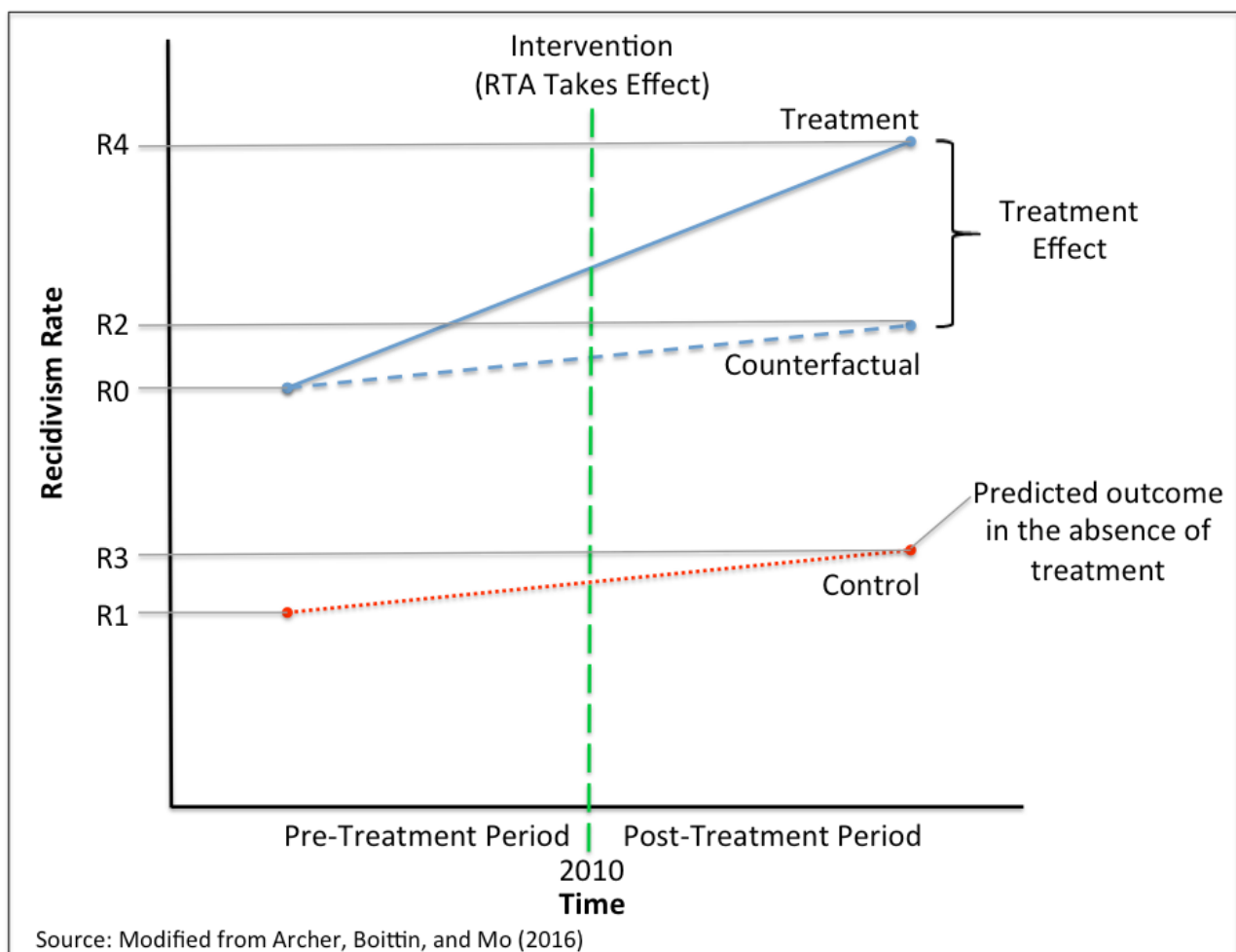
In an ideal world, in order to determine the impact that Raise the Age had on recidivism, 16-year-olds would be randomized into the adult and juvenile systems. The assignment to the adult system, before the change in the law, would be the control group, while those assigned to the juvenile system would be in the treatment group. Randomizing the 16-year-olds would provide two primary advantages. First, it would permit the comparison of the treatment and control groups to assess the effect of Raise the Age. Second, it is expected that randomly selecting individuals who were covered under the Raise the Age Law would allow for all observed and unobserved differences to be “controlled for,” since the treatment and control groups would be similar in terms of their characteristics. For example, one would expect roughly the same percentage of males and females to be assigned to the juvenile and adult system if there was random assignment to the treatment and control groups. The difference in recidivism rates between the treatment and control group would show the impact of the Raise the Age Law on recidivism. However, a randomized experiment of this kind, although the “gold standard” for determining the causal impact of being assigned to the juvenile or adult system, is not feasible because it raises a number of ethical and legal issues. The alternative is to use a quasi-experimental difference-in-differences research design.

Figure C-1 presents an example of the difference-in-differences method.¹⁴ The x-axis has time, with the vertical striped green line representing the intervention, the introduction of 16-year-olds into the Connecticut juvenile justice system prompted by the Raise the Age law effective in January 2010. The y-axis has the recidivism rate, the outcome of interest for the study. The dotted red line and solid blue line respectively represent the control and treatment groups. The dashed blue line represents the counterfactual for the treatment group, or the trend that the 16-year-olds in the adult system would have followed had they remained in the adult system. The percentage of recidivists in the treatment group is represented by R4, and the percentage of recidivists in the control group is represented by

¹⁴ For a discussion of the difference-in-differences approach, see the description of the method in Archer, Boittin, and Mo, 2016, “Reducing Vulnerability in Human Trafficking: An Experimental Intervention Using Anti-Trafficking Campaigns to Change Knowledge, Attitudes, Beliefs, and Practices in Nepal,” USAID Research and Grants Innovation Grants Working Papers Series.

R3. R1 represents the percentage of recidivists in the control group prior to the passage of Raise the Age. Since we cannot know the actual counterfactual – recidivism of 16-year-olds in the juvenile system before Raise the Age, and their recidivism in the adult system after passage of the law – the differences-in-differences method estimates that counterfactual, with R0 representing the pre-treatment outcome and R2 representing the post-treatment outcome for that counterfactual. A key assumption of the difference-in-differences method is that changes observed in the control group over time would have been the same in the treatment group if the treatment had not taken place. This assumption is referred to as the parallel time trends assumption; thus, in Figure C-1, although the recidivism rates are distinct, the counterfactual follows a parallel trend line as the control group. The difference between the counterfactual and treatment estimates (R4 minus R2) is the treatment effect, which gives the impact of the Raise the Age Law on the recidivism of 16-year-olds.

Figure C-1: Illustration of the Difference-in-Differences Method



The conventional DID estimator relied on a linear parametric model that compared changes in laws over different time periods. To estimate the effect of the RTA law on recidivism, the model estimated is the following:

$$Y_{it} = \alpha + \beta T_{it} + \gamma A_{it} + \delta T_{it} A_{it} + \eta X_{it} + \varepsilon_{it}$$

where the outcome of interest, Y_{it} , is whether an individual, i , reoffends within some period, t , and is rearrested. T_{it} is a binary treatment indicator equal to 1 if the offense took place under the Raise the Age law for 16 year olds (on or after January 1, 2010), or 0 if not, and A_{it} is a binary indicator equal to 1 if the individual is 16 years old, or 0 if not. The matrix, X_{it} , included fixed effects for year, in order to account for unobserved confounders, such as shocks unique to a particular year, the passage of legislation that might be correlated with the treatment in a specific year, and local-level factors. ε_{it} is a disturbance term, and clustered robust standard errors were used in all specifications. Standard errors were clustered at the year level to capture potential autocorrelation and heteroskedasticity. δ is the quantity of substantive interest, which gave the effect of the Raise the Age law on rearrest.

APPENDIX D

DIFFERENCE-IN-DIFFERENCES FOR THE IMPACT OF RAISE THE AGE LAW

The Effect of the RTA Law on 16-Year-Olds

To examine the impact of the Raise the Age law, which requires 16-year-olds be processed as juveniles, IMRP researchers relied on a difference-in-differences approach. This quasi-experimental method allows for isolating the impact of the law in a causal manner, because counterfactuals (“control groups”) are available to permit the measurement of recidivism in the absence of the law.

The effects of the Raise the Age law on 16-year-olds are compared before and after the law’s effective date, but the problem is that numerous unobserved and unmeasured factors in addition to the law could affect recidivism. The difference-in-differences approach not only takes account of trends before and after the law, but also accounts for differences in the trends for groups that serve as the counterfactual. In the case of this study, IMRP researchers compared the results of 16-year-olds, who are transferred from the adult system to the juvenile system with two groups that are not transferred as a consequence of RTA: 15-year-olds who were overwhelmingly already in the juvenile system (except for those who committed very serious offenses) and 17-year-olds prior to July 1, 2012, who were always in the adult system. Having these counterfactual groups allows for the “differencing out” of unobserved factors unrelated to the Raise the Age law that could affect recidivism.

Table 6 shows the justice system (juvenile or adult) that processed individuals under age 18 before and after RTA’s passage. Sixteen-year-olds are in the age cohort that undergoes the change imposed by the Raise the Age law of being sentenced to the juvenile system starting on January 1, 2010. The other groups are unaffected directly by the law; 17-year-olds remain in the adult system through June 30, 2012, while those under 16 years old remain in the juvenile system. Both before and after the Raise the Age law, it is worth noting that all age groups could automatically be sentenced to the adult system for serious crimes and for motor vehicle offenses.

Table 6: Connecticut Sentencing Regime for Youth Under Age 18

Age	Pre-RTA (before Jan. 1, 2010)	Post-RTA (on or after Jan. 1, 2010)
14 & Under	Juvenile System*	Juvenile System*
15	Juvenile System*	Juvenile System*
16	Adult System	Juvenile System*
17	Adult System	Adult System (before July 1, 2012**)

*Juveniles could be sentenced to the adult system for very serious crimes. Jurisdiction for these crimes involved either automatic transfer to the adult court for the most serious, violent crimes or discretionary transfer for other serious offenses.
 **Starting on July 1, 2012, the RTA law mandated that 17-year-olds, except those charged with the various serious offenses, were transferred to the juvenile court.

Before discussing the results, a brief discussion of comparison groups is in order. IMRP researchers first examined the extent to which offenders close in age in the juvenile and adult system are similar on “pre-treatment” characteristics – demographic and criminal history variables – before RTA goes into effect. Table 7 shows how youth in the juvenile and adult system in 2009 differ on key criminal history characteristics, the year before RTA goes into effect. The first four rows show differences between the criminal history of 15-year-olds who had an arrest resulting in a commitment to DCF in 2009 with 16-year-olds who served at least one day of jail time in the adult system.

Table 7: Comparison of 15- to 17-Year-Olds in 2009
 15-Year-Olds: One or More Arrest Resulting in a Commitment to DCF
 16- and 17-Year-Olds: Served at Least One Day of Jail Time in the Adult System

Criminal History Offense Category*	Mean of 15-Year-Olds in the Juvenile System	Mean of 16-Year-Olds in the Adult System	Mean of 17-Year-Olds in the Adult System	Mean Difference	p-value
Violent	0.260	0.235		-0.025	0.445
Property	0.258	0.169		-0.089	0.004
Drug	0.048	0.062		-0.014	0.451
Other**	0.788	0.638		-0.150	0.000
Violent		0.235	0.271	-0.036	0.346
Property		0.169	0.189	-0.020	0.554
Drug		0.062	0.125	-0.063	0.013
Other**		0.638	0.552	0.086	0.045

* Motor vehicle crimes were omitted.

** Offenses such as risk of injury to a minor, perjury, weapons possession, conspiracy to commit a crime.

In general p-values close to or greater than 0.1 show that the groups do not differ in statistically significant ways. In comparing this group of 15-year-olds to 16-year-olds, they do not differ significantly in having criminal histories of violent and drug crimes. The respective difference in means for violent crime is 2.5 percentage points (with 26.0 percent of 15-year-olds and 23.5 percent of 16-year-olds having at least one violent crime in their criminal history) and 1.4 percentage points for drug crimes (with 4.8 percent of 15-year-olds and 6.4 percent of 16-year-olds having at least one violent crime in their criminal history). The groups differ both substantively and statistically in terms of having a history of property and “other” crimes, with respective mean differences of 8.9 and 15.0 percentage points. “Other” crimes include offenses such as risk of injury to a minor, perjury, weapons possession, and conspiracy to commit a crime.

In comparing 16- to 17-year-olds, the mean differences between the two groups are more similar. The 17-year-olds have a higher percentage of violent, property, and drug crimes in their history, but have a smaller percentage of “other” crimes in their criminal history. The two groups do not differ in statistically meaningful ways in their criminal history of violent and property crimes, and “other” crimes border on statistical significance at the 0.05 level. One possibility is that the crimes are more varied for 17-year-olds because they

have had an additional year to engage in crime. The groups also differ in their criminal history with drug crimes, with the 17-year-olds having twice the percentage of drug offenses in their criminal histories as the 16-year-olds (12.5 percent versus 6.2 percent, respectively). This trend parallels the other literature that has found an increasing frequency of drug crime as age increases for individuals at this stage nearing adulthood. More generally, the results are relatively similar when other comparison groups are included.¹⁵

Once again, having equivalence between the treatment and control groups is important to be able to make a causal (rather than correlational) statement about the effect of the “treatment” – in this case being assigned or transferred as a 16-year-old to the juvenile system from arrest through post-conviction. Because of the quasi-experimental design of the project, there are only a few assumptions (many of which are testable) necessary for the data to make valid causal inferences about the effect of the law on recidivism outcomes.

A second important test is to examine behavior before the RTA law went into effect in 2010. For this, IMRP researchers examined the rearrest trends prior to RTA’s implementation for all age cohorts. With relatively few exceptions, the time trends show a parallel pattern pre-RTA when evaluating a variety of rearrest release thresholds ranging from six to 48 months. The stability and robustness of the overall trend of rearrest rates tracking one another prior to the passage of the law further supports the plausibility of the age cohorts as reasonable control groups for the 16-year-olds undergoing the direct change in response to RTA’s justice system change that took effect on January 1, 2010.

IMRP presents the results of the core specifications. Table 8 shows the samples for each core specification. All specifications are compared with individuals in the juvenile system who have at least one DCF commitment at age 16 or under. This group is compared with those in the adult system who have at least one arrest at age 16 or 17 (Specifications 1 and 3) and with those in the adult system who have at least one arrest and have served at least one day in prison at age 16 or 17. Specifications 1 and 2 rely on a sample of 15-, 16-, and 17-year-olds, and Specifications 3 and 4 rely on a sample of everyone under age 18.

¹⁵ More specifically, we achieve similar balance between the treatment and control groups when we compare the criminal history of all 15-year-olds in the DCF sample arrested in 2009 to 16-year-olds in the adult system with one or more days of jail time; 15-year-olds in the DCF sample committed in 2009 to 16-year-olds in the adult system convicted of a crime; and when comparing 16- and 17-year-olds in the adult system convicted of a crime in 2009.

Table 8: Samples for Core Specifications			
Specification	Age Sample	Adult System Sample	Juvenile System Sample
1 (Table 9)	15-17	<ul style="list-style-type: none"> Pre- and Post-RTA 17-year-olds with at least 1 arrest in the adult system Pre-RTA 16-year-olds with at least 1 arrest in the adult system 	<ul style="list-style-type: none"> Pre- and Post-RTA individuals with at least 1 DCF commitment at age 15 Post-RTA individuals with at least 1 DCF commitment at age 16
2 (Table 10)	Under 18	<ul style="list-style-type: none"> Pre- and Post-RTA 17-year-olds with at least 1 arrest in the adult system Pre-RTA 16-year-olds with at least 1 arrest in the adult system 	<ul style="list-style-type: none"> Pre- and Post-RTA individuals with at least 1 DCF commitment at age 15 Post-RTA individuals with at least 1 DCF commitment at age 16
3 (Table 11)	15-17	<ul style="list-style-type: none"> Pre- and Post-RTA 17-year-olds with at least 1 arrest <i>and 1 day served in prison</i> in the adult system Pre-RTA 16-year-olds with at least 1 arrest <i>and day served in prison</i> in the adult system 	<ul style="list-style-type: none"> Pre- and Post-RTA individuals with at least 1 DCF commitment at age 15 Post-RTA individuals with at least 1 DCF commitment at age 16
4 (Table 12)	Under 18	<ul style="list-style-type: none"> Pre- and Post-RTA 17-year-olds with at least 1 arrest <i>and 1 day served in prison</i> in the adult system Pre-RTA 16-year-olds with at least 1 arrest <i>and day served in prison</i> in the adult system 	<ul style="list-style-type: none"> Pre- and Post-RTA individuals with at least 1 DCF commitment at age 15 Post-RTA individuals with at least 1 DCF commitment at age 16

Table 9 shows regression results from difference-in-differences specifications showing the impact of the January 1, 2010 Raise the Age law on the recidivism of 16-year-olds. The outcomes for the specifications are rearrest within 6-, 12-, 18-, 24-, 36-, and 48-month release threshold periods, and the regression includes 15- to 17-year-olds in the sample. The 17-year-olds had at least one arrest in the adult system between January 1, 2007 and June 30, 2012.¹⁶ The column for each outcome shows estimates from a linear

¹⁶ The data DOC provided IMRP starts in January 1, 2007. IMRP researchers limit the sample to only 17-year-olds who had their first arrest on or before June 30, 2012, because Raise the Age went into effect for 17-year-olds on July 1, 2012, making them ineligible to be a comparison group in the adult system. There were 1,185 16-year-olds in the adult system who had their first arrest between January 1, 2010, and June 30, 2012. These adults mostly had motor vehicle violations or serious violations. These observations were dropped from the sample in all results.

probability model (ordinary least squares) that includes year fixed effects. Year fixed effects create a dummy variable for each year to control for time-related influences that could have an impact on recidivism outcomes. For this report, IMRP researchers did not have a variable that was sufficiently “scrubbed” for town of offense or residence for both treatment and control groups for analysis. An addendum to this report will have specifications that will include town and year fixed effects. While it is likely those results will be different, IMRP researchers do not expect those specifications to have a large substantive impact on the results since most of the crime in Connecticut takes place primarily in a few urban centers.

Estimates from these specifications measured the impact of the January 1, 2010 effective date of the Raise the Age law on rearrest by comparing recidivism rates of pre-Raise the Age 16- and 17-year-olds in the adult system, with rearrest rates of 15-year-olds pre- and post- Raise the Age, and 16-year-olds post-Raise the Age.

Table 9: Difference-in-Differences Results for the Impact of the Raise the Age Law on the Rearrest of 16-Year-Olds, 2007-2014 (Includes 15-17-Year-Olds) Adult System: Arrest at Age 16 or 17; Juvenile System: DCF Commitment at Age 15 or 16

	Rearrest rate at 6 months	Rearrest rate at 12 months	Rearrest rate at 18 months	Rearrest rate at 24 months	Rearrest rate at 36 months	Rearrest rate at 48 months
Estimate	0.0257	0.0843	0.117	0.173*	0.203**	0.228***
Std. Error	0.0200	0.0722	0.0685	0.0716	0.0681	0.0345
p-value	0.254	0.295	0.150	0.0600	0.0306	0.00273
n	26,529	26,500	26,471	26,437	26,288	25,569

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

All regressions include robust standard errors clustered by year and include year fixed effects.

Table 9 shows the causal effect of the January 1, 2010 Raise the Age law on rearrest within the six previously mentioned release thresholds. The sample includes those who have at least one arrest at age 16 or 17 in the adult system with post-RTA 16-year-olds in the juvenile system, and the group of juveniles who had at least one DCF commitment at age 15. The estimate gives the percentage point difference in the rearrest rate for 16-year-olds during the Raise the Age period of the study (January 1, 2010 until December 31, 2014) relative to the control group. Although the estimate for rearrest within six to 18 months is not statistically significant at conventional levels ($p = 0.25, 0.30,$ and 0.15 for 6, 12, and 18 months, respectively), worth noting is that estimates across all rearrest time periods are all positive, indicating that the Raise the Age law *increased* rearrest rates among the 16-year-olds in the juvenile system.

Starting with rearrest at 24 months, all results are statistically significant at conventional levels, and there is a steady increase in the rearrest rate of the treatment group by 2.5 to 3 percentage points every 12 months after. The rearrest rate for the treatment group is 17.3 percentage points higher than the control group for the 24-month release threshold; the difference increases by 3.0 percentage points when the recidivism

period is lengthened to the 36-month release threshold, the largest increase in the time periods included. The difference climbs to 22.8 percentage points when the rearrest window increases to the 48-month release threshold.

To examine the robustness of these results, IMRP researchers also ran the same specification, but included the 14-and-under population. Table 10 shows the results of this expanded comparison group.

Table 10: Difference-in-Differences Results for the Impact of the Raise the Age Law on the Rearrest of 16-Year-Olds, 2007-2014 (Includes Youth Under 18 Years Old)
Adult System: Arrest at Age 16 or 17; Juvenile System: DCF Commitment at Age 16 or Under

	Rearrest rate at 6 months	Rearrest rate at 12 months	Rearrest rate at 18 months	Rearrest rate at 24 months	Rearrest rate at 36 months	Rearrest rate at 48 months
Estimate	0.0239	0.0830	0.107	0.169*	0.207**	0.236***
Std. Error	0.0249	0.0740	0.0830	0.0805	0.0698	0.0355
p-value	0.381	0.313	0.253	0.0896	0.0311	0.00265
n	26,901	26,872	26,841	26,804	26,639	25,889

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

All regressions include robust standard errors clustered by year and include year fixed effects.

The results are substantively and statistically very similar to the initial comparison group. The difference between the treatment and control groups becomes statistically significant at conventional levels starting at the same period for rearrest (24-month release threshold). All estimates of the average treatment effect that achieve statistical significance at conventional levels differ by 0.08 percentage points or less.

The previous two tables include the population of 16- and 17-year-olds with at least one arrest, and thus include those who were on probation or incarcerated. Tables 11 and 12 also compare those incarcerated in the adult system with those in the juvenile system with at least one DCF commitment.

Table 11: Difference-in-Differences Results for the Impact of the Raise the Age Law on the Rearrest of 16-Year-Olds, 2007-2014 (Includes 15-17-Year-Olds)
 Adult System: Arrest at Age 16 or 17 & at least one prison day;
 Juvenile System: DCF Commitment at Age 15 or 16

	Rearrest rate at 6 months	Rearrest rate at 12 months	Rearrest rate at 18 months	Rearrest rate at 24 months	Rearrest rate at 36 months	Rearrest rate at 48 months
Estimate	-0.129*	-0.0539	0.00726	-0.0132	-0.0485	-0.0786
Std. Error	0.0549	0.0498	0.0888	0.0684	0.0541	0.0823
p-value	0.0659	0.328	0.938	0.855	0.412	0.383
n	2,175	2,156	2,142	2,127	2,078	1,942

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

All regressions include robust standard errors clustered by year and include year fixed effects.

Table 11 shows that when utilizing this comparison, the Raise the Age law reduced the rearrest rates of 16-year-olds by 12.9 percentage points relative to the control group when rearrest within six months is the outcome. That effect was short-lived. Although the estimates are negative, with the exception of the 18-month release threshold, the difference between the treatment and control groups do not achieve statistical significance at conventional levels (p-values range from 0.33 to 0.94).

Table 12: Difference-in-Differences Results for the Impact of the Raise the Age Law on the Rearrest of 16-Year-Olds, 2007-2014 (Includes Youth Under 18 Years Old)
 Adult System: Arrest at Age 16 or 17 & at least one prison day;
 Juvenile System: DCF Commitment at Age 15 or 16

	Rearrest rate at 6 months	Rearrest rate at 12 months	Rearrest rate at 18 months	Rearrest rate at 24 months	Rearrest rate at 36 months	Rearrest rate at 48 months
Estimate	-0.105**	-0.0568	-0.0119	-0.0195	-0.0511	-0.0782
Std. Error	0.0392	0.0351	0.0858	0.0542	0.0367	0.0727
p-value	0.0436	0.166	0.895	0.734	0.222	0.331
n	2,552	2,533	2,519	2,504	2,453	2,294

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

All regressions include robust standard errors clustered by year and include year fixed effects.

Table 12 expands the sample to include all under the age of 18, and the results are similar. The only period where there is a statistically distinguishable difference between the treatment and control group is the six-month rearrest period. The recidivism reduction resulting from Raise the Age goes from 12.9 percentage points when only 15- to 17-year-olds are included in the sample to 10.5 percentage points. The reduction is similarly short-lived; none of the remaining differences for other rearrest time periods are statistically distinguishable from zero (p-values range from 0.17 to 0.90).

IMRP researchers will include results comparing committed youth who spent at least one day at CJTS with the same adult comparison groups in this section in an addendum to this report.

The Effect of the Raise the Age Law on 17-Year-Olds

Measuring the effect of the law on 17-year-olds presents a greater challenge, largely because of data limitations. While the 16-year-olds always have a comparison group (either 15-year-olds in the juvenile system or 17-year-olds in the adult system through June 30, 2012), the 17-year-olds do not have a comparison group in the data given to the IMRP research team in the adult system. The natural comparison group would be 18-year-olds in the adult system. IMRP researchers plan to gather demographic and recidivism data on 18-year-olds in the adult system to make a rigorous comparison of the impact of the law that follows the difference-in-differences approach utilized to study the impact of the Raise the Age law on the 17-year-old population.

Due to the combination of the need for strong assumptions required of a statistical model that would predict recidivism with the absence of a control group and the high rates of missing data provided to the IMRP team, IMRP researchers believe it would be premature to attempt a regression model that might predict the effect of the Raise the Age reform mandating that 17-year-olds be placed in the juvenile system. Such an analysis would likely lead to misinformation about the impact of the law on recidivism. A difference-in-differences specification with 18-year-olds in the adult system would be a more suitable approach to shedding light on this question in a more rigorous manner.

In addition to lacking a comparison group that was always in the adult system for the period of study, the recent implementation of the 17-year-olds also presents challenges. Specifically, since the Raise the Age law first mandated that most 17-year-olds had to enter the juvenile justice system on July 1, 2012, IMRP researchers do not have a sufficiently long period to observe recidivism for this age cohort. The length of the recidivism period will depend partly on the number of 17-year-olds committed to the juvenile system. However, since the current data ends in December 2014, the longest window during which this group could be observed is 30 months, and even that length is unlikely due to the lack of enough statistical power to detect meaningful effects.

To mitigate these concerns, IMRP researchers make two proposals. First, it would be helpful to increase the time series of the data beyond December 2014, to extend to the most recent date possible. This additional data would add to the time series and increase statistical power. These measures would improve the precision of estimates in the analysis. Second, as mentioned before, having comparable JB-CSSD and DOC data on the 18-year-olds in the adult system with the data on the younger cohorts would allow for a rigorous research design to examine the effect of the Raise the Age law on this age cohort.