

# Recidivism Evaluation of the Colorado Division of Youth Corrections

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*Regarding Committed Youth*

Discharged in Fiscal Years

2010-11,

2011-12,

& 2012-13.

*February 20, 2015*

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**COLORADO**

**Office of Children,  
Youth & Families**

Division of Youth Corrections



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## EXECUTIVE SUMMARY

Each year, on January 1<sup>st</sup>, the Colorado Department of Human Services (Department) submits recidivism results for youth who have discharged from the Division of Youth Corrections (DYC or Division).

### Youth Studied

There were three discrete cohorts of discharged youth that were used to determine recidivism rates. **The Department defines recidivism as the adjudication or conviction of a new misdemeanor or felony offense within the specified time period.**

- Fiscal Year 2012-13: Six hundred sixty six (666) youth discharged from DYC. Of the youth discharged, 85% were male, and 15% were female. This cohort was used to determine the one-year recidivism rate.
- Fiscal Year 2011-12: Six hundred fifty five (655) youth discharged from DYC. Of the youth discharged, 87% were male, and 13% were female. This cohort was used to determine the two-year recidivism rate.
- Fiscal Year 2010-11: Seven hundred ninety three (793) youth discharged from DYC. Of the youth discharged, 86% were male, and 14% were female. This cohort was used to determine the three-year recidivism rate.

Further descriptions of the demographics of the youth studied can be found in the body of this report.

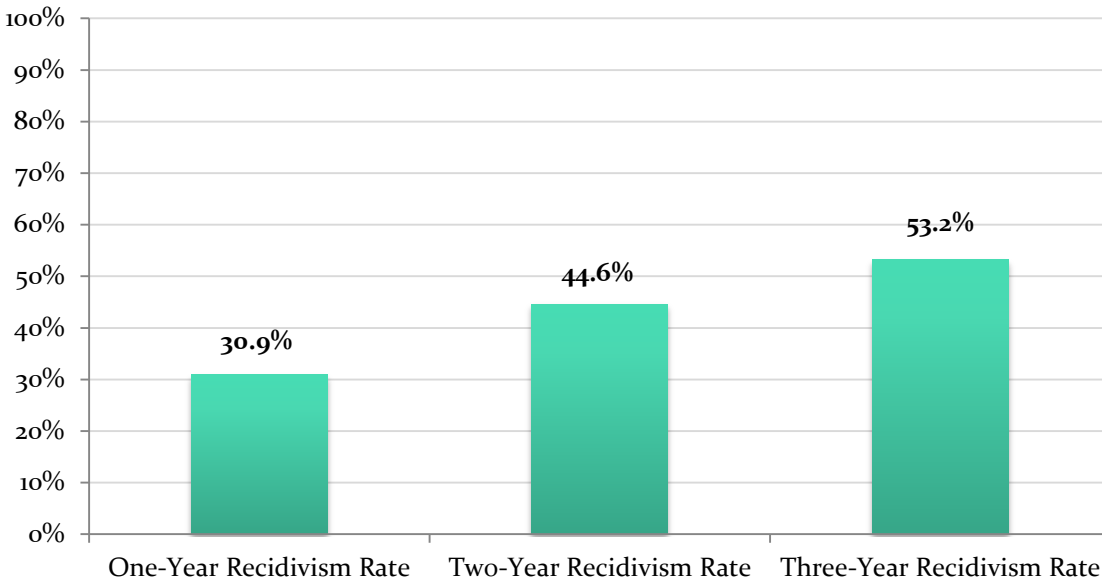
### Recidivism Rates

One-year recidivism rate: For youth who discharged in FY 2012-13, 30.9% (206 out of 666 youth) were guilty of a recidivist act within one year of their discharge date from DYC.

Two-year recidivism rate: For youth who discharged in FY 2011-12, 44.6% (292 out of 655 youth) were guilty of a recidivist act within two years of their discharge date from DYC.

Three-year recidivism rate: For youth who discharged in FY 2010-11, 53.2% (422 out of 793 youth) were guilty of a recidivist act within three years of their discharge date from DYC.

## One, Two, and Three-Year Recidivism Rates



### Risk Reduction

Risk reduction is important because adjudicated youth will be more at-risk statistically for committing another offense; therefore, reducing criminogenic risk is a measurement of success. DYC examines two important variations of risk reduction, and both variations produced positive results.

### Criminogenic Risk

Criminogenic risk is the tendency toward future criminal activity. The Colorado Juvenile Risk Assessment (CJRA) measures change in youth's risk levels for recidivism (low, moderate, high) from time of commitment to time of discharge. At time of commitment, 90.4% of youth were categorized as being in the high risk level category to recidivate; at time of discharge, 64.7% were in the high risk level category. These risk level reductions indicate that services provided to youth during their time with DYC are effectively reducing their likelihood of recidivism in the future.

### Offense Type

The Division also analyzes the type and severity of the offense that a youth was committed upon and compares that offense with the type of recidivist offense if the youth committed a recidivist act. Of the youth discharged in FY 2012-13, 5.7% re-offended with a lesser offense than their commitment offense, and another 69.1% did not re-offend at all.

Please refer to the following sections for more information on Risk Reduction: *Risk Reduction from DYC Commitment to DYC Discharge*, and *Risk Reduction – Offense Severity*.

### **Educational Status at Discharge and Recidivism**

Research has shown that educational attainment and recidivism have an inverse relationship; whereby educational attainment can help to reduce the risk of recidivism. All youth at NYC have access to programming to help them work toward either their GED or diploma and are guided to attain one or the other depending on their age at commitment, school credits already attained, and other pertinent educational factors.

Results from an investigative analysis showed that youth with a GED/diploma recidivated at a statistically lesser amount (25%) compared to youth who had not attained their GED/diploma (34%) prior to discharge.

Please refer to the *Educational Attainment and Recidivism* section for more information.

### **Cross-Over Youth (Child Welfare System and Youth Correction System Involved Youth)**

Research has shown that the effects of foster care/out-of-home care on children can negatively affect interfamilial processes and may facilitate criminal behavior. Results from this study confirm previous findings in the juvenile justice literature. NYC discharges with a history of child welfare out-of-home placements were statistically more likely to recidivate (45% vs. 41%). This report discovered that the number of out-of-home placements did not have an effect on recidivism rates. This finding suggests that any entry into an-out-of-home placement within the child welfare system is a stronger predictor for recidivism than are “multiple” placements within this system.

This conclusion should be interpreted cautiously until future studies can confirm its veracity. The literature indicates that placement stability and the absence of a chaotic placement history are protective factors that serve to insulate the youth from other risk factors.

Please refer to the *Cross-Over Youth – Child Welfare and Youth Corrections* section for more information.

### **National Comparison**

Seven other states also define juvenile recidivism as a new misdemeanor or felony adjudication or conviction. Of the eight total states (Colorado included), Colorado’s rate (31%) appears to reside in the middle of the performance range (19% - 47%). The four states with rates lower than Colorado belong to Maryland (19%), Louisiana (21%), Maine (24%), and Idaho (30%).

Please refer to the *National Comparison* section for more information.



## Ridge View Recidivism

The one-year recidivism rate for the Ridge View cohort was 34.4%. This recidivism rate was slightly higher than the 33.2% rate for all discharged NYC males. As the slight difference in percentages might suggest, there were no statistically significant differences found between youth who spent a majority of their commitment sentence at Ridge View and youth who spent the majority of their commitment sentence elsewhere in the NYC system (state secure placements, other contract placements, etc.).

In short, this report found that youth served by Ridge View did not have statistically better or worse outcomes than youth served in other NYC placements.

Please refer to the *Ridge View Recidivism* section for more information.

## INTRODUCTION

### Legislative Request for Information (RFI) Details

The Colorado Department of Human Services (CDHS), Division of Youth Corrections (DYC or Division) prepares an annual recidivism report on committed youth who have discharged from the Division. The current report is submitted in response to one legislative request for information and one statutorily required report:

1) Department of Human Services, Division of Youth Corrections, FY 2014-15, Request for Information (RFI) Item 7; pursuant to the request for information submitted to the Governor by the Colorado Joint Budget Committee. The text of this Legislative Request for Information reads:

*The Division is requested to continue its efforts to provide outcome data on the effectiveness of its programs. The Division is requested to provide to the Joint Budget Committee, by January 1 of each year, an evaluation of Division placements, community placements, and nonresidential placements. The evaluation should include, but not be limited to, the number of juveniles served, length of stay, and recidivism data per placement.*

2) Section 19-2-411.5, C.R.S. (2014), the legislation authorizing the construction and operation of the Ridge View Youth Services Center. This legislation specifies that:

*On an annual basis, the department of human services shall calculate the recidivism rate for committed juveniles in the custody of the department of human services who complete the program offered by the facility. In calculating the recidivism rate, the department of human services shall include any juvenile who commits a criminal offense, either as a juvenile or as an adult, within three years after leaving the facility. The department of human services shall report the recidivism rate to the general assembly.*

## **BACKGROUND**

### **Definition of Recidivism**

The Division defines recidivism as a new adjudication or conviction resulting from a misdemeanor or felony offense, within the prescribed follow-up time period(s). This definition was changed in FY 2012-13 from defining recidivism as a new filing.

### **Post-Discharge Recidivism**

Post-discharge refers to new offenses after a youth is fully discharged from NYC oversight. Post-discharge recidivism is the main outcome measure utilized by most juvenile justice agencies across the nation. Post-discharge recidivism is the one measure that gauges how well a youth is able to re-integrate into the community, and remain crime-free, without a justice agency's oversight and services. Low rates of post-system recidivism is indicative that the treatment and services provided to the youth were appropriate and effective.

### **Multi-Year Recidivism Rates**

This is the first report that includes recidivism rates for one, two, and three-years post-discharge. This multi-year approach provides a more comprehensive understanding of recidivism rates and the trajectory of outcomes over time.

### **Risk Reduction**

This report also focuses on risk reduction. While recidivism is the primary outcome measure used to gauge success when working with justice-system involved youth, other types of intermediate measures also indicate whether youth leave the custody of agencies better-off than when they arrived. These intermediate risk reduction measures show if the criminal risk that these juvenile offenders pose to society has been mitigated. These intermediate measures (risk reduction), when coupled with outcome measures (recidivism rates); provide a holistic view of an agency's success.

## METHODOLOGY

### A Recidivist Act

A recidivist act is defined as a new adjudication or conviction. Adjudication is the term used when a person under the age of 18 is found guilty of a delinquent offense. This term is similar to a conviction when an adult is found guilty of a criminal offense. Youth are deemed recidivists if they commit a new offense that results in a guilty finding for a misdemeanor or felony charge (adjudication/conviction). The unit of analysis for this study is youth (not the number of recidivist acts). Traffic infractions and petty offenses are not counted as recidivist acts.

### Study Population

In FY 2012-13 six hundred sixty six (666) youth discharged from NYC. These youth were observed for a year after their discharge, which was used to calculate a one-year post-discharge recidivism rate. In FY 2011-12, six hundred fifty five (655) youth discharged from NYC. These youth were observed for two years following their discharge, which was used to calculate a two-year recidivism rate. In FY 2010-11, seven hundred ninety three (793) youth discharged from NYC. These youth were observed for three years following their discharge, which was used to calculate a three-year recidivism rate.

### Study Design

An observational study design was utilized to illustrate the natural progression of youth in the community after they are discharged from NYC without interference. Since a time-sequence post-discharge is how recidivist acts are defined and measured, this study is longitudinal. Consistent with prior reports, a recidivism rate is defined as the frequency of youth with recidivist acts divided by the total number of youth.

### How does NYC track youth after they have discharged?

The Division utilizes court data from the Colorado State Judicial Department (Judicial) to determine whether or not a youth has committed a recidivist act.

Due to several safeguards related to confidentiality and data-sharing, the Division and the Office of the State Court Administrator developed a Memorandum of Understanding (MOU) specifically related to this annual study. This MOU serves as a data-sharing agreement that grants NYC permission to utilize the adjudication/conviction information (extracted from Judicial's data system) for purposes of identifying recidivists. The data that is shared from Judicial is crucial to the creation of this report.

## The Process of Record Matching

Youth are matched between the two data systems (DYC and Judicial) through a two-step process which is both automated and manual. First, youth are matched through a special algorithm that matches name, date of birth, and gender. Second, the youth who do not match are identified by hand. The reasons some youth do not match include; name changes, aliases, nicknames, intake errors, intentional misrepresentation, problems associated with hyphenated names, errors in birthdays, intentional misrepresentation of birthdays, missing/unknown gender information, etc. The matching process continues until all discharged youth from the cohorts of interest are accounted and associated with the Judicial database. For those youth who did not recidivate, their case will still match the Judicial database simply on their original DYC committing offense.

## Methodological Limitations

The Denver County Court System is the only county court system in the State whose data is not captured by the Judicial Department's data system. Therefore, adult misdemeanor convictions processed by Denver County Court are not included in this study. Please refer to the Discussion/Study Limitations Section for more information.

Youth who are discharged from DYC directly to the adult correctional system are not defined as recidivists under the current definition of recidivism. The only way a youth who is discharged to DOC is considered a recidivist is if he/she is charged with an offense while at an adult correctional facility. Please refer to the Discussion/Study Limitations Section for more information.

DYC does not have the ability to say how many individual youth had law enforcement contact within a year of discharging, which did not result in an arrest. Similarly, DYC does not have access to individual level juvenile arrest data, to report youth re-arrest rates in the 365 days following their discharge date. Both of these data points would be beneficial, if accurate and reliable<sup>1</sup>, and would allow a more detailed picture to be drawn about criminal involvement post-DYC. However, investigation is limited by the data and resources available.

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<sup>1</sup> Colorado arrest data obtained through the National Incident-Based Reporting System (NIBRS) and reported out by the Colorado Bureau of Investigations (CBI) have significant limitations.

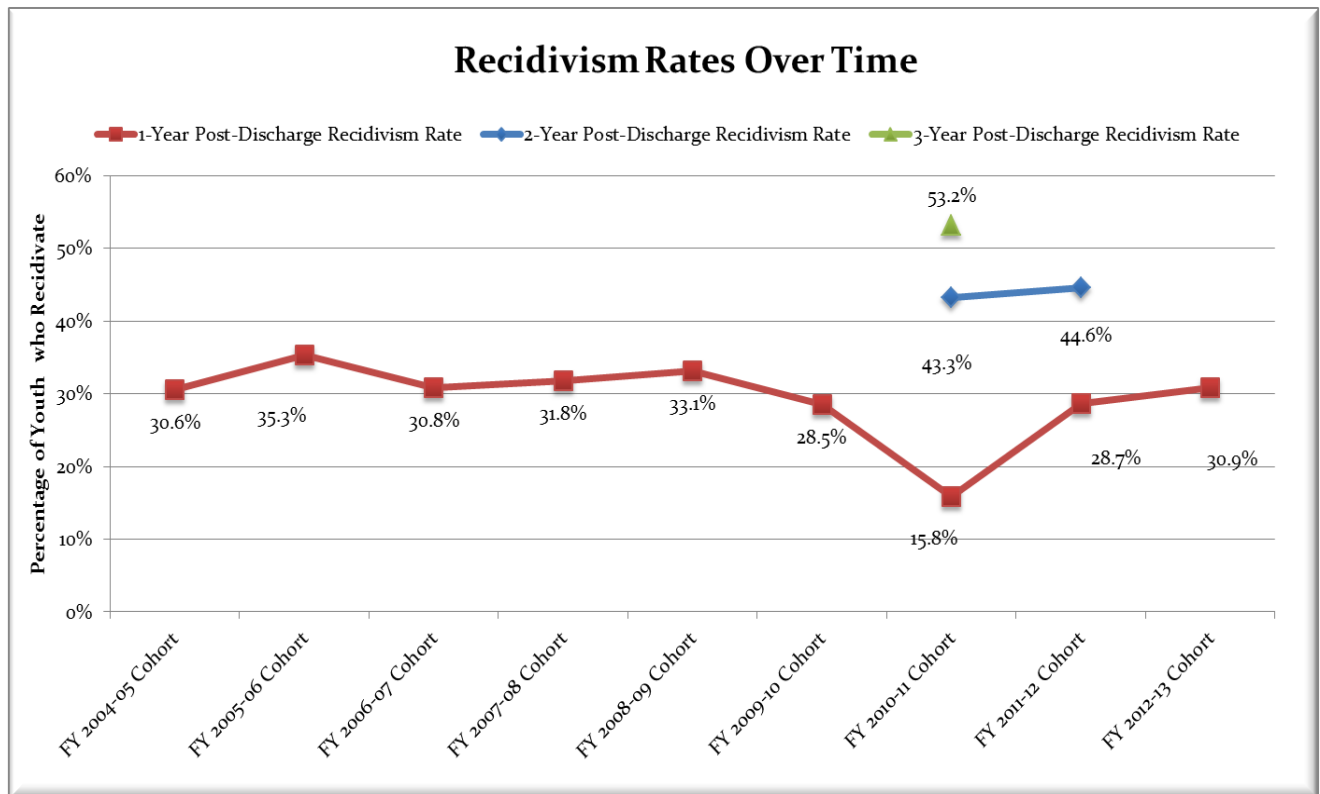
# RECIDIVISM RATES

## ONE, TWO, and THREE-YEAR FOLLOW-UP PERIODS

### Recidivism Trends

Nine years of NYC recidivism rates are displayed in Figure 1. Except for FY 2010-11, the post-discharge recidivism rate has consistently remained between 28-35%. In the past several years, one out of three youth have recidivated within one year after discharge.

**Figure 1: Recidivism Trends (One, Two, and Three-Years Post-Discharge)**



## Multi-Year Recidivism Results

Three cohorts of discharged youth were examined by follow-up period to see how many youth recidivated after one, two, and three years' post-discharge. See Table 1 for details on multi-year recidivism rates.

**Table 1: Recidivism Rates by Discharge Cohort**

Youth Discharge Cohort	One-Year Recidivism Rate	Two-Year Recidivism Rate	Three-Year Recidivism Rate
FY 2012-13 cohort (N = 666)	30.9%	TBD*	TBD*
FY 2011-12 cohort (N = 655)	28.7%	44.6%	TBD*
FY 2010-11 cohort (N = 793)	15.8%	43.3%	53.2%

\*rates TBD; available in subsequent years' reports

### *FY 2010-11 Cohort*

As shown in Table 1, the FY 2010-11 cohort (N = 793) has now been tracked for three years following their discharge. The one-year recidivism rate for this cohort was 15.8%, the two-year rate was 43.3%, and the three-year rate is 53.2%. In sum, over half of this cohort recidivated within three years after discharge.

### *FY 2011-12 Cohort*

The FY 2011-12 cohort (N = 655) has now been tracked for two years following their discharge. The one-year recidivism rate for this cohort was 28.7%, and the two-year rate was 44.6%. The three-year rate will be available in next year's report once the allotted three year time period has concluded.

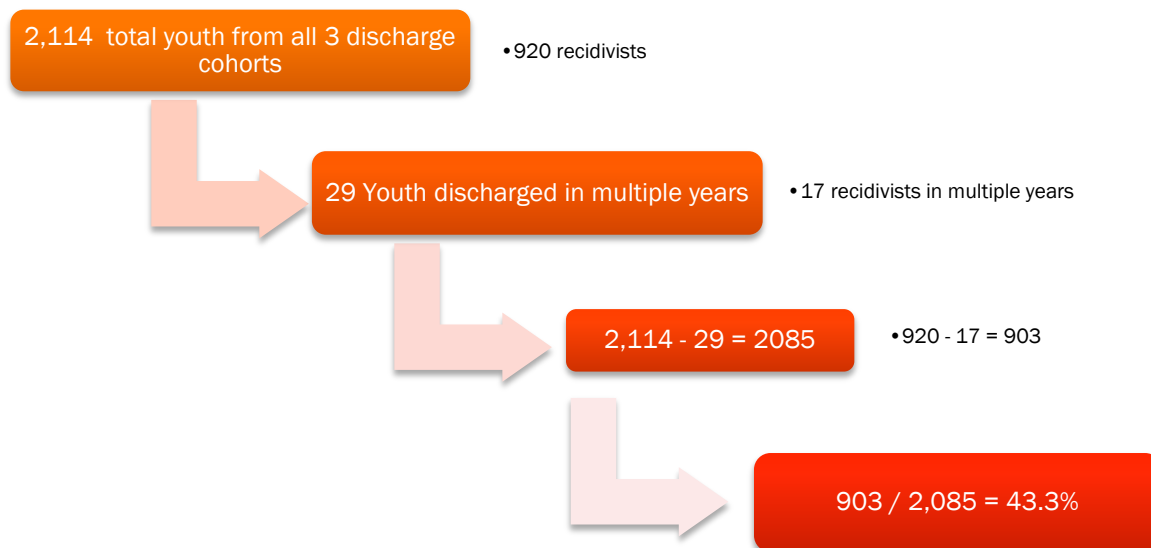
### *FY 2012-13 Cohort*

The FY 2012-13 cohort (N = 666) has been tracked for one year following their discharge. The one year recidivism rate for this cohort was 30.9%. The two-year and three-year rates will be reported once the allotted two and three year time periods have concluded.

### All Three Discharge Cohorts Combined

As shown in Figure 2, the total number of youth discharged in all three years was 2,114. There were 29 youth who discharged more than one time in the three years of interest. Seventeen (17) of the 29 double discharges were recidivists in multiple years; however, they were only counted as a recidivist one time in this overall cohort. When all youth are only counted once there were 903 recidivists among 2085 total youth discharged. The overall recidivism rate for all three discharge cohorts combined was 43.3% (903/2,085).

**Figure 2: Calculation of Three Year Combined Cohorts Recidivism Rate**





### Time-at-Risk (actual increases)

Time-at-risk increases when follow-up periods are extended. Increased time-at-risk results in the detection of more re-offending behavior, and therefore higher recidivism rates. For example, in a one-year follow-up period, a youth has 365 days at-risk, or one year's opportunity to re-offend. However, in a two-year follow-up period, that same youth has twice as much time-at-risk, and double the opportunity to re-offend (730 days). It has been demonstrated that with increased time-at-risk, more youth recidivate.

### Judicial Process Delays Erroneously Decrease Recidivism Rates

A recidivist act, as described in the methodology section of this report, is determined by a guilty finding leading to a new adjudication or conviction. The Judicial process involved in obtaining a guilty finding includes committing an offense, being arrested, having the offense filed in court, and then the court finding the defendant guilty. This process can take a substantial amount of time and due to Judicial delays, many filings remain open when the data used to create this report is extracted from the database. This means that a youth may ultimately be guilty of a new offense but the verdict has not been determined at the time when the data is pulled for analysis. Case findings (i.e., guilty, not guilty) can come days, months, or even years following a filing. Youth who had open cases with missing findings during the one-year follow-up period are not considered to be recidivists—as the definition of recidivism is a new adjudication or conviction (therefore a finding is necessary to determine whether or not a youth recidivated). Although these youth are not captured as recidivists in year-one, they will most likely be captured with extended follow-up periods. When data is more complete, more adjudications and convictions are captured, and this increases recidivism rates.

## Descriptive Statistics

The table below shows basic descriptive differences between those youth who recidivated and those youth who did not recidivate within a year of discharge from FY 2012-13. Only those characteristics that resulted in statistically significant differences between cohorts of youth (i.e., the group of youth who had recidivated and group of youth who did not recidivate) are displayed in the table. For a complete list of characteristics examined please refer to Appendix A.

**Table 2: Characteristic Differences between Recidivists and Non-Recidivists**

	Non recidivists		Recidivists		P-value	
	<i>n</i>	%	<i>n</i>	%		
Mean age at first adjudication	14.8 years		14.4 years		0.00**	
Mean age at commitment	16.8 years		16.6 years		0.01*	
Mean Number of DYC Residential Placements	5.0		5.8		0.01*	
Gender						
	Male	378	66.8%	188	33.2%	
	Female	82	82.0%	18	18.0%	0.00**
DYC Region						
	Central	201	75.0%	67	25.0%	
	Northeast	121	63.4%	70	36.6%	
	Southern	92	65.7%	48	34.3%	0.04*
	Western	46	68.7%	21	31.3%	
DYC Escapes						
	None	256	77.3%	75	22.7%	
	One or More	204	60.9%	31	39.1%	0.00**
Parole Discharge Level <sup>2</sup>						
	Poor/Unsatisfactory	164	61.0%	105	39.0%	
	Satisfactory/Excellent	275	75.1%	91	24.9%	
	Not on Parole at Time of Discharge	21	67.7%	10	32.3%	0.00**
CJRA Overall Risk Level at Discharge						
	Low	43	84.3%	8	15.7%	
	Moderate	133	73.9%	47	26.1%	
	High	278	65.3%	148	35.7%	0.01*
	Total ( <i>N</i> = 666)	460	69.1%	206	30.9%	

\* $p < 0.05$  (indicates a statistically significant difference between recidivists and non-recidivists)

\*\* $p < 0.01$  (indicates a statistically significant difference between recidivists and non-recidivists)

<sup>2</sup> The Parole Discharge Level is the level the client manager determines the youth to be at discharge in regard to parole compliance, which is based on pre-determined criteria.

## Characteristic Differences between Recidivists vs. Non-Recidivists

- The average (mean) age at first adjudication was slightly younger for recidivists (14.4 years) compared to non-recidivists (14.8 years).
- The mean age at commitment was slightly younger for recidivists (16.6 years) compared to the non-recidivist cohort (16.8 years).
- Males had a higher recidivism rate (33.2%) than females (18.0%).
- A proportionate difference in recidivism rates was identified by NYC region.
  - The Northeast Region had the highest recidivism rate (36.6%), and the Central Region had the lowest (25.0%).
- Youth who had an escape while at NYC had a higher recidivism rate post-discharge (39.1%) than youth who did not have an escape while at NYC (22.7%).
- Youth who discharged from parole with a “poor/unsatisfactory” discharge level had a higher recidivism rate (39.0%) than youth who discharged from parole with a “satisfactory/excellent” discharge level (24.9%).
- Youth who scored high risk on their discharge CJRA had higher recidivism rates (35.7%) than youth who scored moderate risk (26.1%) or low risk (15.7%).

## Multivariate Regression – Which Characteristics were MOST predictive of Recidivism?

The use of logistic regression analysis uses statistics to attempt to quantify the degree to which two groups are different. Whereas the prior analysis looked to see if there was a difference in groups who recidivate, this analysis attempts to show how much of a difference there is. The relative risk (or risk ratio), for purposes of this report, can be interpreted as the amount of increased risk for recidivism, when comparing different characteristics found to be predictive of recidivism in descriptive analysis.

**Figure 3: Risk Ratios and Meanings**

Risk Ratio (Risk Direction)	0 - 0.9	1.0	1.1 - 2.9	3.0+
	← Decreased Risk...		Increased Risk .....	→
<b>General Meaning</b>	Decreased Risk	No Decreased or Increased Risk	Increased Risk ( <i>Predictive</i> )	Increased Risk ( <i>Strongly Predictive</i> )
<b>Meaning for this Recidivism Study</b>	Not Applicable to this Study	--Recidivism Risk is the same for both groups  --Same risk of Recidivating	--One group is at <i>Significantly</i> Increased Risk of Recidivism  -- <i>Significantly</i> higher risk of Recidivating	--One group is at <i>Acutely</i> Increased Risk of Recidivism  -- <i>Acutely</i> higher risk of Recidivating

A multivariate stepwise logistic regression model was fit for the variables found to be predictive of recidivism in the descriptive analysis (See Table 2) in an effort to determine which variables are the most important for recidivism when all other predictive variables are considered. The results of this type of analysis are interpreted using a risk ratio (RR). The greater the risk ratio, the more likely the individual with the particular characteristic is to recidivate. Findings suggest that age at commitment, NYC region, escapes, and gender are the most important predictors of recidivism.

## Age at Commitment

For every year greater in age a youth was at the time of commitment, the risk of recidivating decreased by 14% (RR 0.86, 95% CI 0.75-0.99),  $p=0.04$ ), when all other model variables were considered. In other words, the older a youth was at commitment the less likely he/she was to recidivate after discharge. This finding is consistent with other literature about recidivism and age of adjudication [1] [2].

## DYC Region

The State of Colorado is divided into four separate management regions for DYC; Central, Northeast, Southern, and Western. Youth from the Northeast Region had twice the risk of recidivating than youth from the Central Region (RR 2.1, 95% CI 1.3-3.1,  $p=0.00$ ), when all other model variables were considered. Youth from the Southern Region had a 71% greater risk of recidivating than youth from the Central Region (RR 1.7, 95% CI 1.1-2.7,  $p=0.02$ ), when all other model variables were considered. In sum, youth from the Central Region were less likely to recidivate than youth from the Northeast Region or the Southern Region<sup>3</sup>. The Western Region did not have a statistically different risk, which may result from the small number of youth in this region<sup>4</sup>.

## Escapes<sup>5</sup>

Youth with an escape while committed to DYC had over two times the risk of recidivating post-discharge compared to youth who did not have an escape (RR 2.2, 95% CI 1.6-3.2,  $p=0.00$ ), when all other model variables were considered. This finding is consistent with other literature regarding risky behavior and recidivism [3].

## Gender

Male youth were found to have over twice the risk of recidivating post-discharge compared to female youth (RR 2.3, 95% CI 1.3-4.0,  $p=0.00$ ), when all other model variables were considered. This gender difference has been well established in the juvenile justice literature [4] [5].

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<sup>3</sup> As will be highlighted in the Discussion/Study Limitations Section of the Report, Denver County Court data is omitted from this analysis because data from this system is not populated to the Colorado Judicial Database. In terms of the potential impact on recidivism rates, there will be an unknown percentage of misdemeanor cases that will not be captured. Since Denver County Court is located within the Central Region, differences in recidivism rates may be partially attributed to not capturing some Misdemeanor-level cases in Denver.

<sup>4</sup> These findings may be the result of differing Judicial processes in each region, police presence, use of free time, community resources, etc.

<sup>5</sup> An escape defined in this report is any unauthorized abscondence reported by facilities in TRAILS.

# The Relationship Between the CJRA and Recidivism

## Colorado Juvenile Risk Assessment (CJRA) Results

The Colorado Juvenile Risk Assessment is an actuarial instrument that is utilized by DYC to predict a youth's risk of recidivism. It was developed using domains of risk and protective factors that have shown in validation studies to be a useful tool to identify psychosocial criminogenic domains susceptible to recidivist tendencies [6]. Every youth committed to DYC is assessed for criminogenic risk, needs, and protective factors, both from a static<sup>6</sup> and dynamic<sup>7</sup> perspective.

The CJRA is used to initially assess and periodically re-assess risk of recidivism at specified points in time during a youth's time with DYC. Re-assessment of risk and protective factors at critical junctures during a youth's sentence allows assessment staff, client managers, and Multi-Disciplinary Teams to accurately gauge risk of recidivism, and inform treatment decisions on the youth's most current needs. Each youth's path along the commitment continuum of care is different; therefore, the number of CJRA re-assessments required for each youth is dependent upon his/her individual treatment plan. The overall goal is to decrease criminogenic risk domains and increase protective domains before a youth is discharged from DYC.

For most youth, a final CJRA re-assessment is completed upon discharge from DYC. This final risk assessment is called a youth's discharge CJRA. Of the 666 youth, ninety percent (90%;  $n = 599$ ) had a valid discharge CJRA. Valid, in this instance, means that the assessment occurred within 90 days of their discharge date. Although a youth is assessed several times throughout his/her commitment to DYC, the youth's last CJRA is what is given the most weight in regard to predicting future recidivism.

Research indicates that a youth's most recent risk assessment is the most predictive of future re-offending behavior [7]. Instruments used to predict outcomes are most valid when the span of time between assessment and outcome is short. In addition, assessments are a measuring tool; the more often it's measured, the more likely that information related to the youth is known. For these reasons, the results described below are arrived at by using discharge CJRAs in conjunction with new adjudication/conviction information.

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<sup>6</sup> Static risk is based on historical data and cannot be improved with treatment.

<sup>7</sup> Dynamic risk is based on a youth's current living and social factors and can be targeted by treatment goals during commitment to reduce risk.

### Recidivism Rates, by Discharge CJRA Risk Level

The incidence rates of youth who recidivated were statistically different by CJRA risk level ( $\chi^2=7.511$ ,  $df=2$ ,  $p=0.02$ ,  $n = 599$ ). As shown in Table 3, youth who scored high risk had a recidivism rate of 34.1%. Youth who scored moderate risk had a recidivism rate of 25.5%. Youth who scored low risk had a recidivism rate of 18.2%. The overall recidivism rate for the FY 2012-13 cohort was 30.9%.

**Table 3: Recidivism Rates by Discharge CJRA Risk Level (FY 2012-13)**

Discharge CJRA risk level*	Recidivists		Total	
	<i>n</i>	%	<i>n</i>	%
<b>High (risk to recidivate)</b>	133	<b>34.1%</b>	390	100%
<b>Moderate (risk to recidivate)</b>	42	<b>25.5%</b>	165	100%
<b>Low (risk to recidivate)</b>	8	<b>18.2%</b>	44	100%
<b>Total</b>	<b>183</b>	<b>30.9%</b>	<b>599</b>	<b>100%</b>

\*  $p<.05$  (indicates a statistically significant difference between recidivists and non-recidivists).

### Discharge CJRA Level for Recidivists and Non-Recidivists

Human behavior is unpredictable by nature, and therefore incredibly hard to predict [8]. The use of actuarial risk assessments provides some insight as to probability that those who possess certain characteristics might re-offend [9]. The CJRA is based on the Washington State Juvenile Court Assessment, which in validation studies has been shown to be predictive of recidivism [6]. It should be noted that since the majority of youth do not recidivate within one year and the majority of youth are high risk to recidivate upon discharge, we are looking at small but meaningful differences in CJRA risk levels between recidivists and non-recidivists.

Recidivists were found to be statistically more likely to score high risk on their discharge CJRA assessment. Youth who scored high risk were more likely than those who scored moderate or low risk to recidivate. A statistically higher proportion (72.7%) of those youth who recidivated scored high risk to recidivate on their discharge CJRA assessment than youth who did not recidivate (61.8%), as shown in Table 4. Furthermore, almost 62% (61.8%) of those youth who did not recidivate also scored high risk to recidivate on their discharge CJRA. Given that the population is comprised of adjudicated youth it is understood that there will always be a comparatively high risk for recidivism.

**Table 4: CJRA Discharge Levels for Recidivists and Non-Recidivists (FY 2012-13)**

Discharge CJRA risk level*	Non-recidivists		Recidivists	
	<i>n</i>	%	<i>n</i>	%
<b>High (risk to recidivate)</b>	257	61.8%	133	<b>72.7%</b>
<b>Moderate (risk to recidivate)</b>	123	29.6%	42	<b>23.0%</b>
<b>Low (risk to recidivate)</b>	36	8.7%	8	<b>4.4%</b>
<b>Total (N = 599)</b>	<b>416</b>	<b>100%</b>	<b>183</b>	<b>100%</b>

\*  $p<.05$  (indicates a statistically significant difference between recidivists and non-recidivists).

## Risk Reduction from DYC Commitment to DYC Discharge

Since adjudicated youth are at increased risk of committing another offense, criminogenic risk reduction is important because a reduction in criminogenic risk results in a reduction in risk to re-offend. Therefore, one of DYC's key intermediate measures is criminogenic risk reduction.

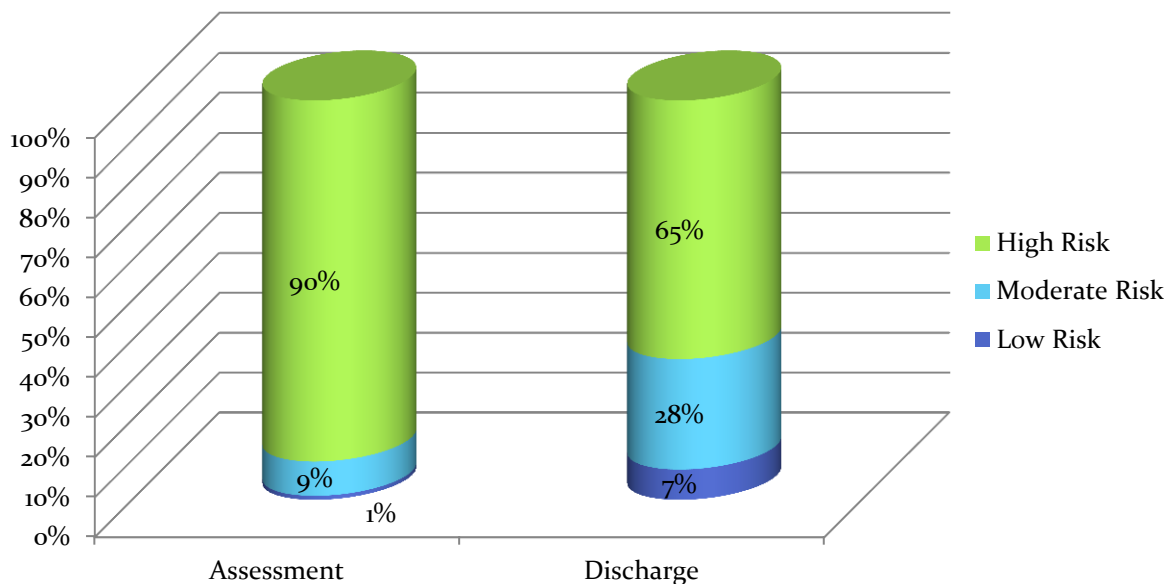
### QUESTION:

How many youth start out at DYC being high risk and are mitigated to moderate or low risk?

### ANSWER:

At time of assessment, 10% of the FY 2012-13 cohort ( $n = 56$ ) were low or moderate risk; 90% were high risk ( $n = 525$ ). For this same cohort, at time of discharge, 35% were assessed as being low or moderate risk ( $n = 205$ ); 65% were high risk ( $n = 376$ )<sup>8</sup>. This represents a statistically significant reduction in CJRA scores from assessment to discharge for the cohort overall ( $\chi^2=168.4$ ,  $p=0.00$ ).

**Figure 4: CJRA Overall Risk Level Changes from Assessment to Discharge (FY 2012-13)**



<sup>8</sup> Only youth with both a valid assessment and discharge CJRA were included in analysis ( $n = 581$ ).



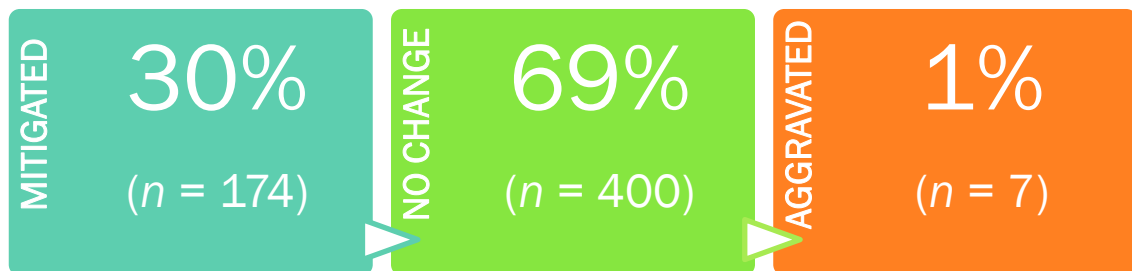
**QUESTION:**

*How many youth start out at NYC being low or moderate risk and are aggravated to high?*

**ANSWER:**

Figure 5 illustrates the aggregated change in overall risk level for this cohort of youth that had a valid assessment and discharge CJRA. The first box shows that 30% ( $n = 174$ ) of youth were mitigated from a higher risk level at NYC commitment to a lower risk level at discharge. The second box shows that the vast majority of youths' (69%,  $n = 400$ ) risk levels did not change from commitment to discharge. A small percentage (1%,  $n = 7$ ) experienced an increase in risk level.

**Figure 5: CJRA Risk Level Changes (mitigated, no change, aggravated) (FY 2012-13)**



This particular finding is important to the *Do no harm* philosophy. In addition to the Division's interest in reducing risk, it is also interested in not increasing the risk of lower level offenders. As the third box of Figure 5 illustrates, this does occur, for 1% of the cases (specifically for 7 youth in this cohort). All seven of these youth were assessed as moderate risk to recidivate and discharged as high risk to recidivate.

## *Domain Risk Level*

The prior section focused on the CJRA overall risk level (i.e.: low, moderate, high), while the current section will focus on domain risk levels within the CJRA. In an effort to reduce their overall likelihood of re-offending, youth committed to NYC have treatment plans developed that specifically address their individual criminogenic needs. The CJRA is rooted in the following 12 criminogenic domains:

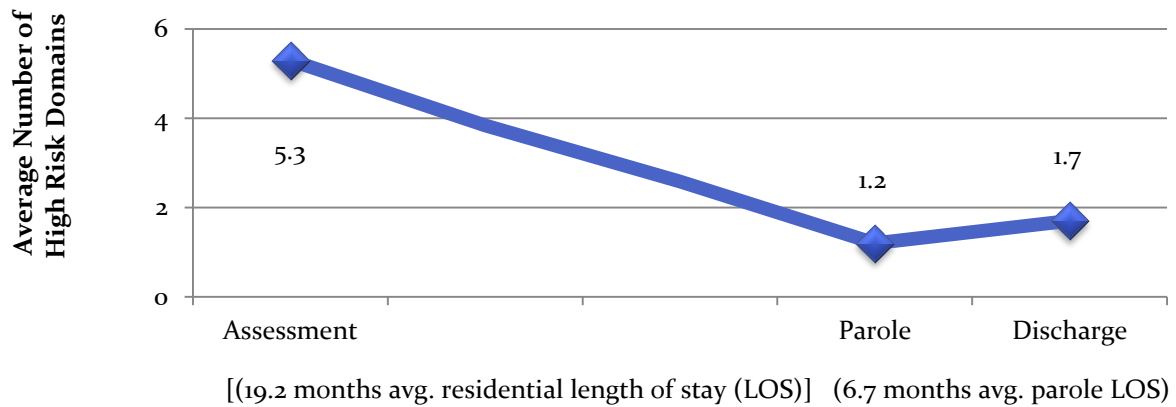
1. Criminal History
2. Gender
3. School
4. Use of Free Time
5. Employment
6. Relationships
7. Living Arrangements (Family)
8. Substance Abuse
9. Mental Health
10. Attitudes and Behaviors
11. Aggression
12. Skills (Social Proficiency)

Of the twelve CJRA domains, NYC focuses treatment plans on eight of those (shaded above), as these domains are most amenable to change. Only the eight shaded domains are pertinent to analysis for this report. The four other domains are either not amendable to treatment interventions (Gender, Criminal History; these are static), are not applicable because they refer specifically to the youth's involvement in the community (Use of Free Time), or do not apply to all youth in the discharge cohort (Employment).

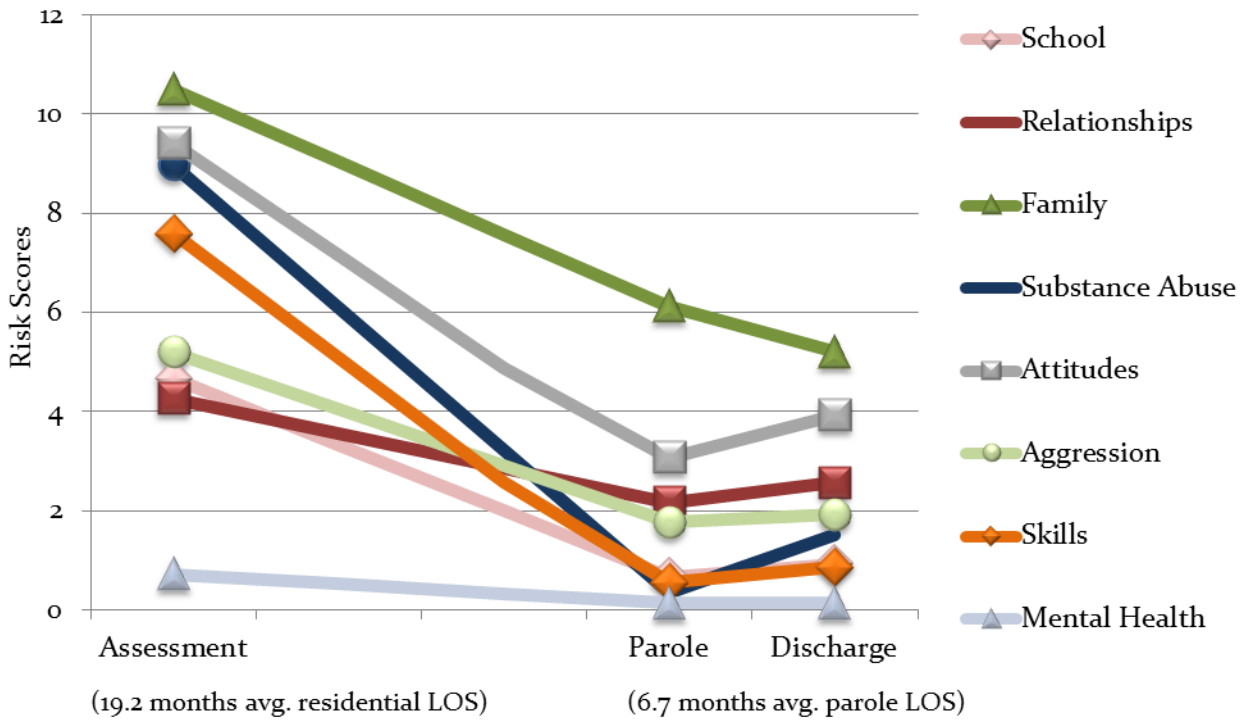
### Reductions in Risk Factors Over Time

The CJRA analysis in this section focuses on CJRA risk scores at three main points in time: initial assessment, at time of parole, and at time of discharge. On average, youth in this cohort were committed to NYC and assessed as being high risk on 5.3 domains (of the 8 domains). At time of parole, this average decreases to being high risk on 1.2 domains, and at time of discharge is slightly higher at 1.7 domains (see Figure 6).

**Figure 6: Average Number of High Risk CJRA Domains Over Time (FY 2012-13)**



**Figure 7: Change in Individual CJRA Domain Risk Scores Over Time (FY 2012-13)**

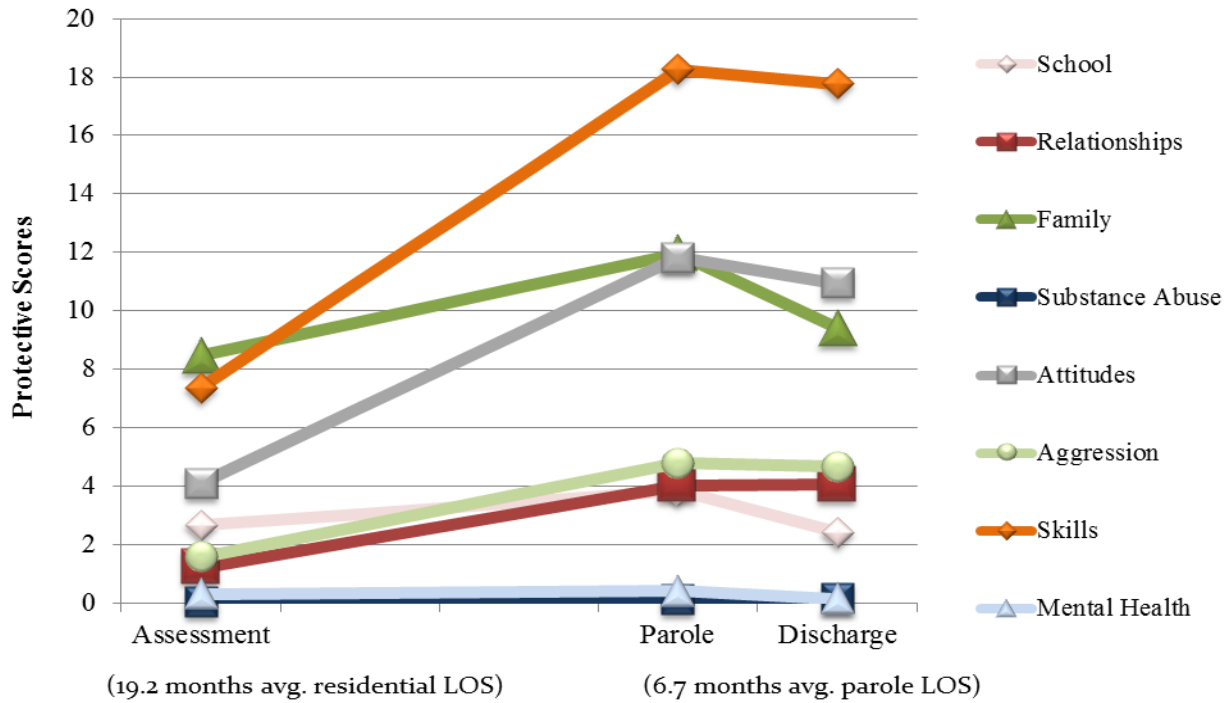


As shown in Figure 7, all eight domains most amenable to change showed statistically significant reductions in risk<sup>9</sup>, from time of assessment to time of discharge, for this cohort of youth. This is shown graphically by the decreasing lines. It is important to point out that between parole and discharge there is an increase in risk scores for select domains. The shift in risk scores, during this period of time, helps to illustrate the difficulties associated with transitioning youth back into the community and their exposure to anti-social influences. For these reasons, it is anticipated that some portion of the domain risk reductions achieved, from time of assessment to time of parole, are not maintained when youth leave the structured and predictable setting of residential commitment and return to their community on parole. Overall, the youth in this cohort show significant reduction in risk during their time with NYC.

<sup>9</sup> Statistical significance was determined using a paired-samples t-test to test the mean cohort scores per time period. A p-value <0.05 was considered significant.

*Increases in Protective Factors Over Time*

**Figure 8: Change in Individual CJRA Domain Protective Scores Over Time (FY 2012-13)**



Although the literature states that more gains (in reducing recidivism) are made by addressing risk than improving assets, bolstering a youth’s positive attributes and resources can certainly be beneficial in the long run. There were six, of eight, domains that showed significant increases in protective factor scores, as shown in Figure 8, from time of assessment to time of discharge.<sup>10</sup> These six domains were: Relationships, Family, Substance Abuse<sup>11</sup>, Attitudes and Behaviors, Aggression, and Skills.<sup>12</sup>

<sup>10</sup> Statistical significance was determined using a paired-samples t-test to test the mean in cohort scores. A p-value <0.05 was considered significant.

<sup>11</sup> The Protective Dynamic Substance Abuse Domain is only worth a total of 2 points. The cohort means were as follows (Assessment= 0.02, Parole=0.10, Discharge=0.14; t=6.1, df=588, p=0.00)

<sup>12</sup> These eight (8) Domains are the most amenable to change and are examined annually by NYC.

Protective factor scores (on average) in the School domain did not change significantly, and protective factor scores (on average) in the Mental Health domain were significantly less at discharge than assessment—the opposite direction of what is intended. It should be noted that this Mental Health domain outcome is likely an artifact of the simplicity of the questions which comprise the dynamic Mental Health domain on the CJRA. The Division is aware that the entirety of the domain is comprised of five questions. One question asks about suicidal ideation, three ask specifically about ADD/ADHD and medication adherence for ADD/ADHD, and the last asks about difficulty working with the youth. The Mental Health domain does not address any other diagnoses other than ADHD. Since medication adherence and access to health care for this population post-discharge is already a known human service barrier, it is understandable that youth score low risk on the Mental Health domain upon discharge [10] [11]. Nonetheless, mental health and assessment of mental health needs may be a topic that needs more examination in the future.

### Recidivism Rates, by Individual CJRA Domain

Table 5 shows the CJRA domains and recidivism rates by Domain Risk Level. There were eight CJRA domains, assessed at the time of discharge, which showed a statistically significant relationship with recidivism<sup>13</sup>. This means that youth who scored high risk were more likely to recidivate post discharge compared to youth who did not score high risk. The current (also known as dynamic) domains that were predictive of recidivism included; Relationships, Family, Substance Abuse, Attitudes, and Aggression. The historic (also known as static) domains that were predictive of recidivism were; Relationship History, Family History, and Substance Abuse History.

**Table 5: CJRA Domains and Recidivism Rates by Domain Risk Level**

CJRA Domain		Recidivism Rate by Risk Level (FY 2012-13 cohort)		Historical Statistical Differences	
		Not High Risk	High Risk	FY 2011-12 cohort	FY 2010-11 cohort
Current/Dynamic	School	No statistical difference in 2015			*
	Relationships*	25%	38%	*	
	Family*	27%	42%	*	*
	Substance Abuse*	28%	49%	*	
	Mental Health	No statistical difference in 2015			*
	Attitudes*	25%	49%	*	
	Aggression*	26%	41%	*	*
	Skills	No statistical difference in 2015		*	*
Historic/Static	Criminal History	No statistical difference in 2015		*	
	School History	No statistical difference in 2015			
	Relationship History*	25%	35%		
	Family History	25%	35%	*	
	Substance Abuse History*	23%	34%		
	Mental Health History	No statistical difference in 2015			

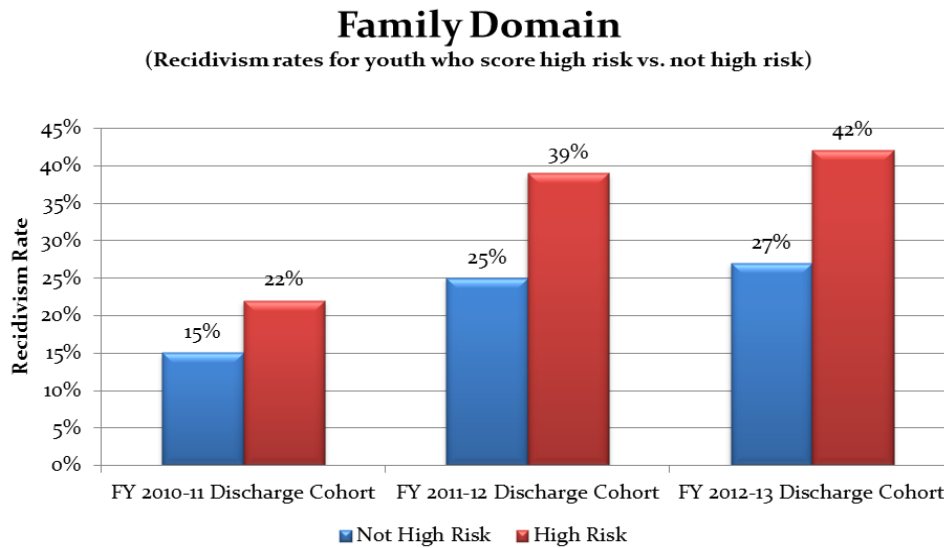
\* p<0.05

<sup>13</sup> Only youth with a valid discharge CJRA were included in analysis (n = 599). A valid CJRA is completed within 90 days prior to or after discharge.

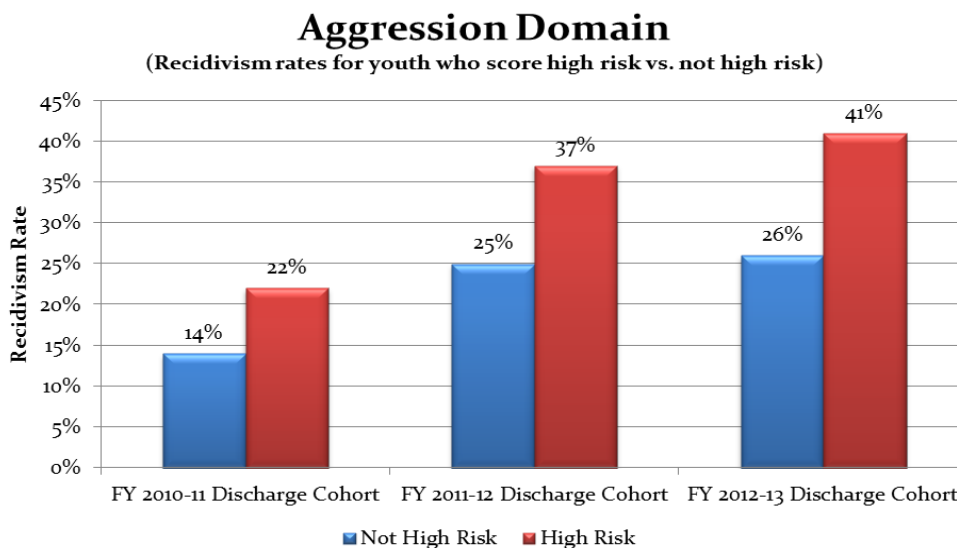
## Consistently Predictive Domains

Two domains in particular have been predictive of recidivism for the past three years' discharge cohorts. These include the Family domain and the Aggression domain, which are both dynamic. These are the only domains that have shown to be consistently predictive of recidivism over time (for the past three years), as shown in Table 5, and Figures 9 & 10. This speaks to the interrelatedness of family and recidivism as well as aggression and recidivism.

**Figure 9: Consistently Predictive Risk Domains for Recidivism – Family Domain**



**Figure 10: Consistently Predictive Risk Domains for Recidivism – Aggression Domain**



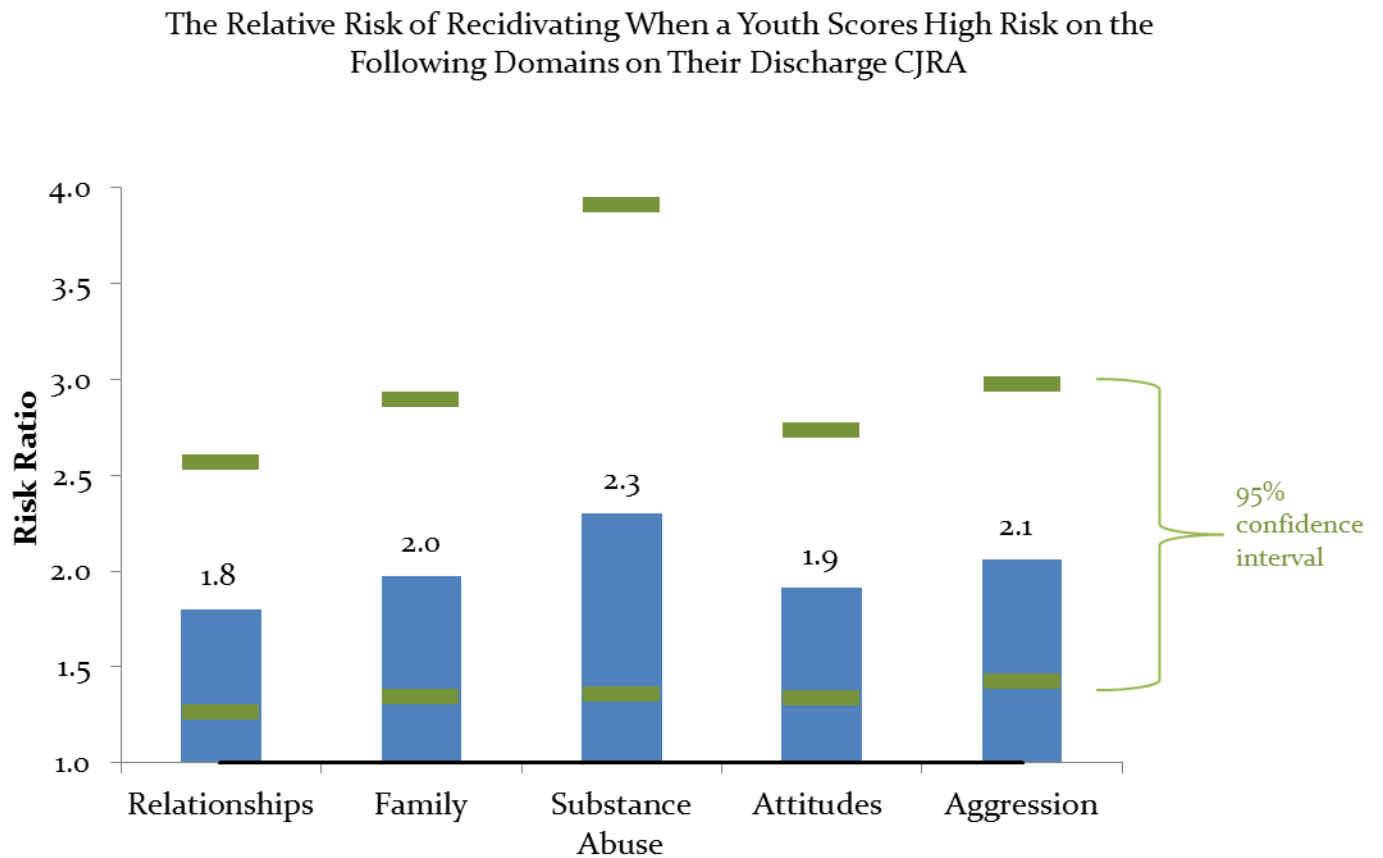


## Relative Risk of Recidivating

### CJRA Domains and Relative Risk

Figure 11 illustrates several important findings, utilizing risk ratio analyses with CJRA data. The risk ratios (RR) are the blue bars, and the green horizontal lines are confidence intervals. Since risk ratios are an estimate of the true risk (which is unknown), the confidence intervals provide a range in which the true result is most likely to lie. The results for each domain are explained one-by-one in the following bulleted paragraph. For a more detailed description of the interpretation of risk ratios, see Figure 3: Risk Ratios and Meanings.

**Figure 11: CJRA Risk Ratios Analysis Results (FY 2012-13)**



- Youth who score high risk on the discharge CJRA dynamic Relationships domain have an 80% greater risk<sup>14</sup> of recidivating within one year post-discharge compared to those youth who do not score high risk (RR 1.8, 95% CI 1.3-2.6).
- Youth who score high risk on the discharge CJRA dynamic Family – Current Living Arrangements domain have twice the risk of recidivating within one year post-discharge compared to youth who do not score high risk (RR 2.0, 95% CI 1.3-2.9).
- Youth who score high risk on the discharge CJRA dynamic Substance Abuse domain have over twice the risk of recidivating within one year post-discharge compared to youth who do not score high risk (RR 2.3, 95% CI 1.4-3.9).
- Youth who score high risk on the discharge CJRA dynamic Attitudes and Behaviors domain have a 90% greater risk of recidivating within one year post-discharge compared to youth who do not score high risk (RR 1.9, 95% CI 1.3-2.7).
- Youth who score high risk on the discharge CJRA dynamic Aggression domain have over twice the risk of recidivating within one year post-discharge compared to youth who do not score high risk (RR 2.1, 95% CI 1.4-3.0).

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<sup>14</sup> Calculation Interpretation: A RR of 1.0 means the risk is equivalent, so a Risk Ratio of 1.8 indicates 80% greater risk (1.8 – 1.0 = 0.8 = 80%)

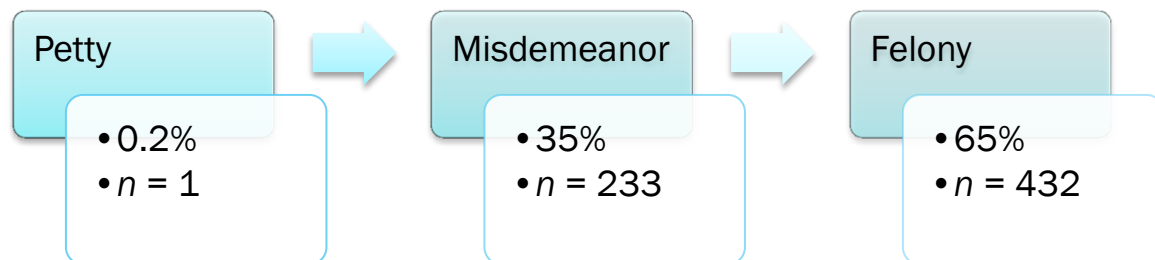
## Risk Reduction – Offense Severity

Reducing the likelihood that a youth re-offends after his/her commitment to NYC ends is the most important outcome measure; however, it is also important to consider intermediate measures when evaluating the effectiveness of the Division's treatment programs and approach. This section examines a youth's committing offense (the offense that resulted in their NYC sentence) versus his/her recidivist offense (their offense after they discharged from NYC). The goal of risk reduction is that recidivist offenses are less severe than committing offenses because a youth has gone through offender treatment programming.

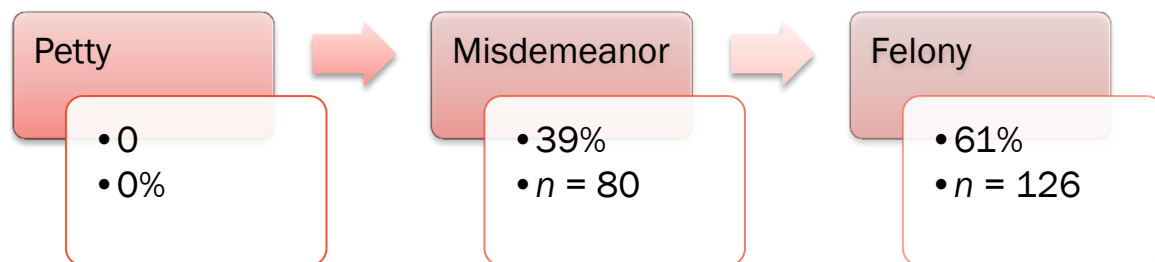
### Committing Offenses vs. Recidivist Offenses

The following analysis examines the most serious offense type for which a youth is committed to NYC (committing offense) and compares it to the most serious recidivist offense that occurs during the one-year follow-up period (recidivist offense).

**Figure 12: NYC Committing Offense Severity (FY 2012-13, N = 666)**



**Figure 13: Recidivist Offense Severity (FY 2012-13, n = 206)**



Of the 666 clients discharged from NYC in FY2012-13, the majority were originally sentenced to NYC on a felony adjudication (65% felony vs. 35% misdemeanor). The same is true for recidivist offenses; the most common recidivist offense was also a felony (61% felony vs. 39% misdemeanor).

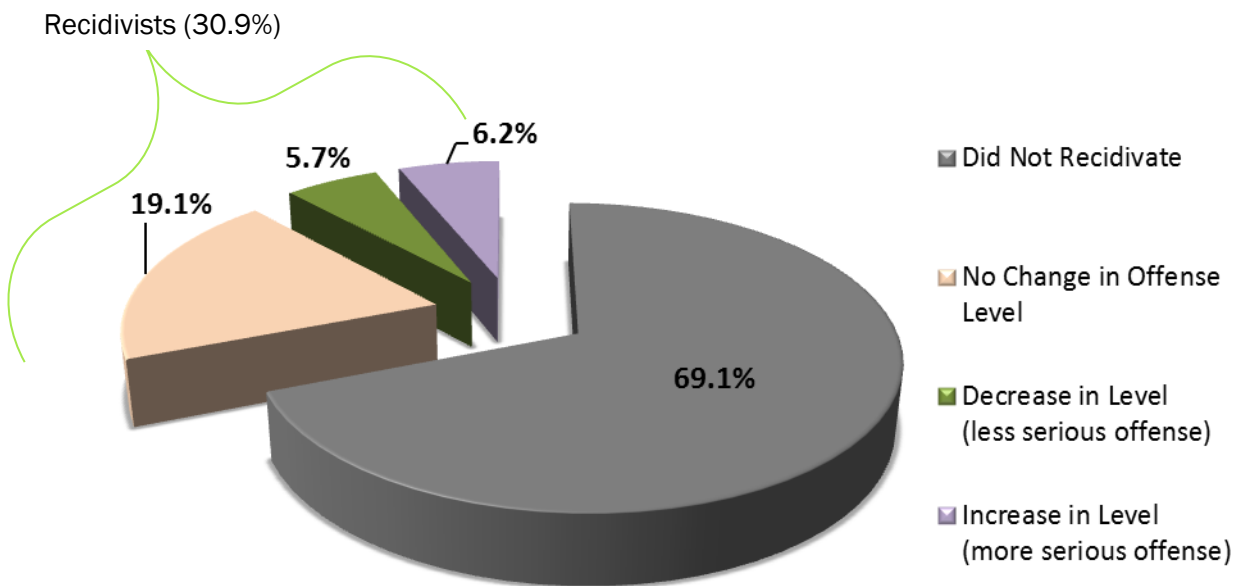
### Types of Recidivist Offenses

As shown in Table 6, the most common felony recidivist offense was a property offense (37% of the felony offenses), and the most common misdemeanor offense was a person related offense (44% of the misdemeanor offenses). Overall, regardless of offense severity, person offenses were the most common recidivist offense (33%), followed closely by property offenses (31%).

**Table 6: Types of Recidivist Offenses**

	Petty Offenses	Felony Offenses	Misdemeanor Offenses	Total (both M & F)
Person	0%	26%	44%	33%
Property	0%	37%	23%	31%
Drug	0%	3%	5%	4%
Weapon	0%	5%	3%	4%
Escape	0%	8%	3%	6%
Identity	0%	5%	3%	4%
Sex Registration	0%	4%	4%	4%
DUI	0%	0%	6%	2%
Other	0%	13%	11%	12%
Total	0%	100%	100%	100%

**Figure 14: Offense Level Risk Reduction**



As shown in Figure 14, of the 666 total discharges, sixty-nine percent (69.1%;  $n = 460$ ) did not recidivate in the twelve months following discharge. The remaining 30.9% did recidivate. Nineteen percent (19.1%) of the recidivist category re-offended with the same level as the original committing offense. Six percent (5.7%;  $n = 38$ ) of youth re-offended with a lesser offense. The remaining six percent (6.2%) exhibited more serious criminal behaviors following discharge (6.2%;  $n = 41$ ).

*Viewed from this perspective, the Division was successful in reducing the level of criminal behavior for 74.8% of youth discharged in FY 2012-13 (those who did not recidivate or had a decrease in offense severity).*

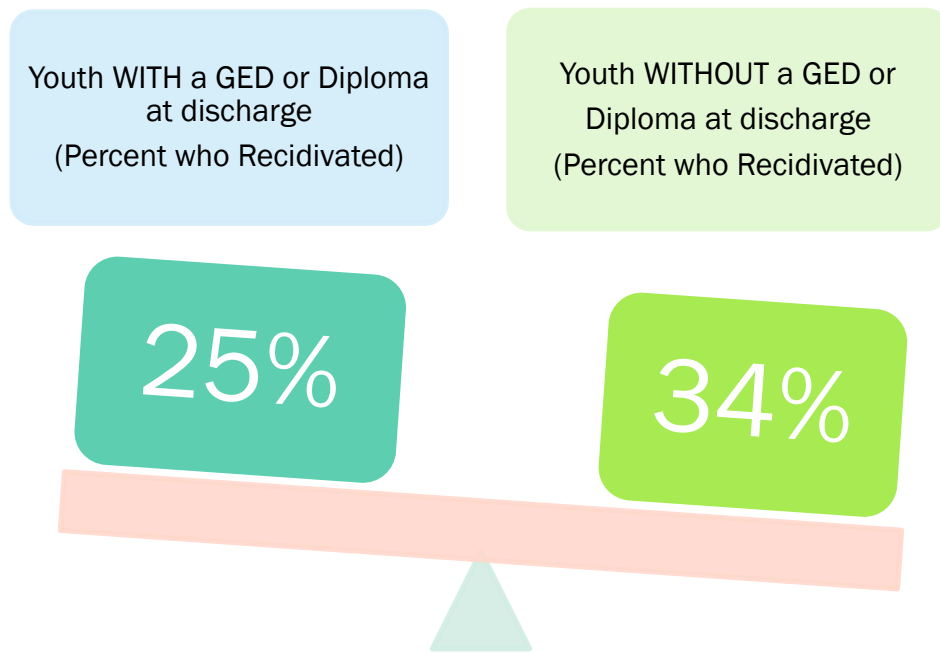
# INVESTIGATIVE SPOTLIGHTS

## Educational Attainment and Recidivism

Research suggests that educational attainment and recidivism are correlated [12]. All youth at NYC have access to programming to help them either work toward their GED or diploma and are guided to attain one or the other depending on their age at commitment, existing school credits, and other pertinent educational factors.

Youth were selected for this analysis ( $n = 410$ ) if they were over the age of 18 at the time of their discharge (because youth under 18 would not be expected to have attained a GED or diploma), and did not discharge to the adult Department of Corrections System or were not deported.

**Figure 15: Recidivism Rate, by Educational Status**



As shown in Figure 15, a larger proportion of youth without a GED/diploma recidivated (34%) compared to youth with a GED/diploma (25%,  $\chi^2 = 4.075$ ,  $p=0.03$ ). In other words, of the youth who attained a GED/diploma by the time they discharged ( $n = 201$ ), 25% recidivated ( $n = 50$ ) and 75% did not ( $n = 151$ ).

## Discharge Placement and Recidivism

Youth who discharged in FYs 2010-11, 2011-12, and 2012-13 (the three recidivism discharge cohorts included in this report) were included in the analysis ( $N = 2,085$ )<sup>15</sup>. The percentage of youth who recidivated, by discharge placement, is reported in Table 7. A statistically significant difference in recidivism rates was found by discharge placement ( $\chi^2 = 64.0$ ,  $df = 25$ ,  $p = 0.00$ ).

**Table 7: Recidivism Rate, by Discharge Placement**

Discharge placement	Percent of discharge placement who recidivated	Total number of youth who discharged to placement
Adoptive Family	100%	1
Group Care	100%	1
Shelter Care	63%	8
Unknown	61%	28
Transfer to Child Welfare System	60%	37
Step-Parent or Guardian	56%	16
Institution (Mental Health/Drug)	56%	18
Juvenile Detention	53%	19
One Parent	51%	383
Both Parents	50%	163
Foster Care Family	50%	2
Other Placements	46%	41
Friend	43%	113
Escape	43%	7
<b>Total Discharge Cohort</b>	<b>43%</b>	<b>2,085</b>
Homeless	43%	7
Relative	43%	268
Adult Jail/Adult Corrections	41%	251
Parent and Step Parent	39%	402
Residential Child Care Facility (RCCF)	38%	8
Independent Living	37%	265
Spouse	13%	8
Job Corps	8%	12
Deceased	0%	5
Deported	0%	22

<sup>15</sup> See Recidivism Rates Section for a description of the 3 year combined cohort.

This analysis shows the recidivism rate depending on discharge placement. It is most interesting to compare the percentage that recidivated for each discharge placement to the overall recidivism rate (43%), in order to see which location was potentially more conducive to success or not.

For example:

- Twelve (12) youth went to the Job Corps Program after discharge and only 8% of them recidivated.
- Similarly, 265 youth went to live independently after discharge, and 37% of them recidivated, which is less than the total average for the discharge cohort (43%).
- For the 37 youth were transferred to the child welfare system upon discharge, 60% recidivated.

In sum, youth could be more (or less) at-risk for committing a recidivist act depending on where they are placed after discharge.



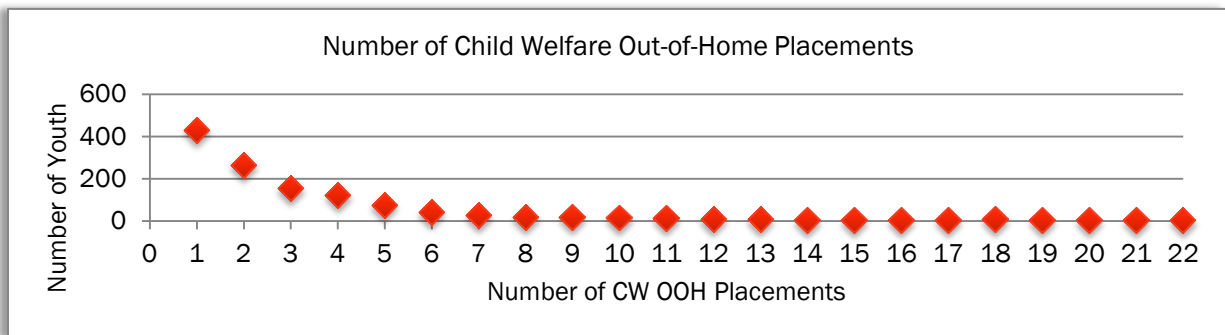
## Cross-Over Youth – Child Welfare and Youth Corrections

This analysis examined the effect of child welfare system (CW) involvement and recidivism. Research has shown that the effects of foster care/out-of-home care on children can negatively affect interfamilial processes and may facilitate criminal behavior [13]. The hypothesis was that youth with a history of Child Welfare out-of-home (OOH) placements may be more at-risk for recidivism. Out-of-home placements include foster care, residential child care facilities, residential treatment centers, kinship care, group home care, etc.

Youth who discharged in FYs 2010-11, 2011-12, and 2012-13 (the three recidivism discharged cohorts included in this report) were included in analysis ( $N = 2,085$ ).

Of the 2,085 youth who discharged over the time period of interest, over half (58%) had at least one out-of-home CW placement. The number of out-of-home placements ranged from 1 to 22 (see Figure 16).

**Figure 16: Number of CW Out-of-Home Placements**



**Table 8: Differences in Recidivism Rates, by Child Welfare Out-of-Home Placement Categories**

	Non-recidivist		Recidivist		p-value
CW OOH placement EVER	<i>n</i>	%	<i>n</i>	%	
None	519	59%	356	41%	0.02*
One or more	663	55%	547	45%	
CW OOH placement by category					
0 placements	519	59%	356	41%	0.15 (not statistically significant)
1 placement	240	56%	189	44%	
2-4 placements	298	55%	242	45%	
5 or more placements	125	52%	116	48%	
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Total ( <i>N</i> = 2,085)	1,182	57%	903	43%	

\**p*<0.05 (indicates a statistical difference among the groups)

As shown in Table 8, youth with a history of child welfare out-of-home placements were statistically more likely to recidivate (45% vs. 41%). Although these percentages are not greatly different, the large number of youth included in analysis allows for small group differences to be discovered.

The number of out-of-home placements did not have a statistically significant effect on recidivism rates. This finding suggests that any entry into an out-of-home placement within the child welfare system is a stronger predictor for recidivism than are multiple placements within this system.

This conclusion should be interpreted cautiously until future studies can confirm its veracity. The literature indicates that placement stability and the absence of a chaotic placement history are protective factors that serve to insulate the youth from other risk factors [14] [15].

## NATIONAL COMPARISONS

A cursory review of recidivism measures used by other states' juvenile justice systems has found that there are seven states considered comparable to Colorado's definition. Table 9 lists the states that were found to be comparable, and lists their respective recidivism rates in ascending order. It is important to acknowledge that juvenile corrections populations and systems are unique; and even if recidivism definitions appear similar, nuances may exist that are unknown at this time<sup>16</sup>.

Of the eight total states listed, Colorado's rate (31%) appears to reside in the middle of the performance range (19% to 47%). The four lowest rates belong to Maryland (19%), Louisiana (21%), Maine (23%), and Idaho (30%). It is difficult to determine why there are performance differences in each of the eight (8) states analyzed. Differences could be the result of offender populations, juvenile justice programming, policing, judicial practices, and various other local practices.

**Table 9: National Comparisons**

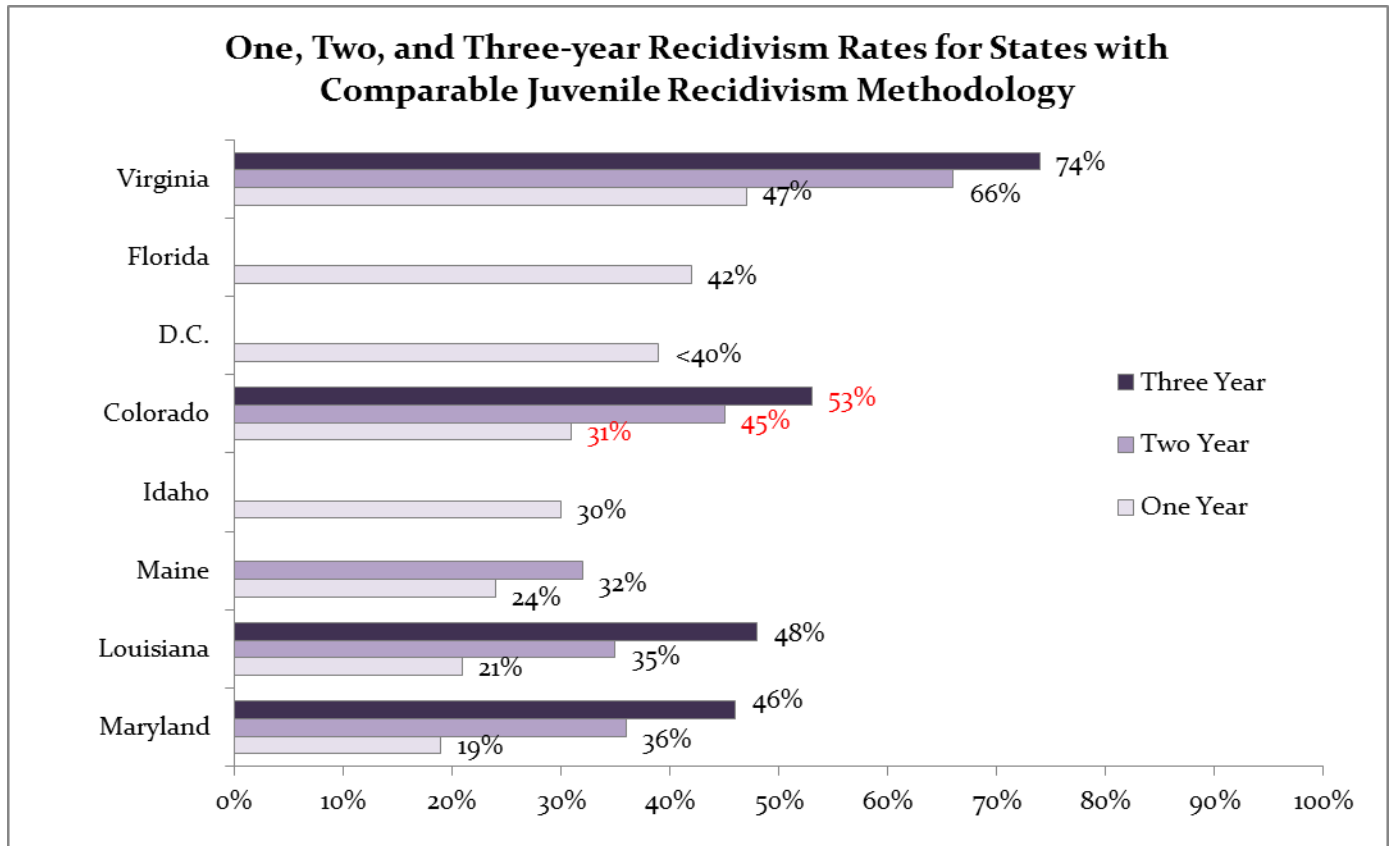
<b>States with Comparable Juvenile Recidivism Measures</b>			
<b>State</b>	<b>One-Year Recidivism Rate</b>	<b>Two-Year Recidivism Rate</b>	<b>Three-Year Recidivism Rate</b>
Maryland	19%	36%	46%
Louisiana	21%	35%	48%
Maine	24%	32%	N/A
Idaho*	30%	N/A	N/A
Colorado	31%	45%	53%
District of Columbia*	< 40% <sup>1</sup>	N/A	N/A
Florida*	42%	N/A	N/A
Virginia	47%	66%	74%

\*Only tracks youth for a one-year follow-up time period.

<sup>1</sup>Precise recidivism data from FY 12-13 has not yet been reported.

<sup>16</sup> For example, staff-to-youth ratios can vary greatly amongst states.

**Figure 17: Graphical Representation of National Comparison**



Several other states (not shown in Table 9 or Figure 17) with similar definitions were also examined; however, specific methodological differences were found that prevented comparison. For instance, both Missouri and North Dakota define recidivism as “a return to the juvenile or adult correctional system,” based on a new adjudication or conviction. Using this definition, individuals who received a new adjudication/conviction, but were sentenced to probation as a result (rather than the juvenile or adult correctional agencies) would not be counted as recidivists—as probation is overseen by the courts, not the correctional agencies. DYC counts all individuals with new adjudications/convictions as recidivists, regardless of the justice system in which they are sentenced. This example serves as a reminder to *interpret the rate comparisons with caution, as recidivism definitions may not be an exact match.*

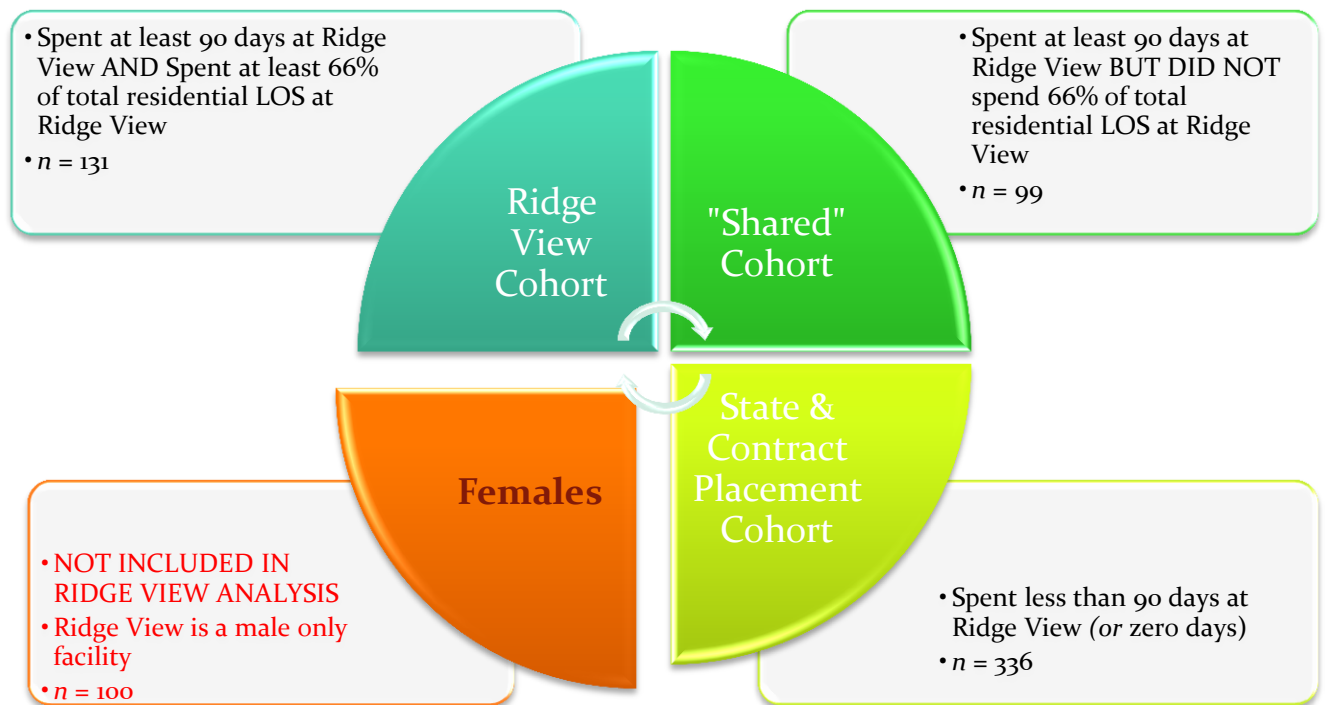
# Ridge View Recidivism Section

Section 19-2-411.5, C.R.S., the legislation authorizing the construction and operation of the Ridge View Youth Services Center, specifies that:

*On an annual basis, the department of human services shall calculate the recidivism rate for committed juveniles in the custody of the department of human services who complete the program offered by the facility. In calculating the recidivism rate, the department of human services shall include any juvenile who commits a criminal offense, either as a juvenile or as an adult, within three years after leaving the facility. The department of human services shall report the recidivism rate to the general assembly.*

This section reports recidivism and other outcome information for youth discharged from DYC who were placed at Ridge View Youth Services Center (RVYSC) for more than 90 days during their commitment to the Division, and who stayed at RVYSC for at least two-thirds (66%) of their total residential commitment period. Since youth are often moved between state and contract facilities, this method allows for comparisons where youth spent “the majority” of their residential commitment sentence. The criteria for, and breakdown of, the three cohorts is illustrated below.

**Figure 18: Ridge View Cohort Methodology for FY 2012-13 Discharges (N = 666)**

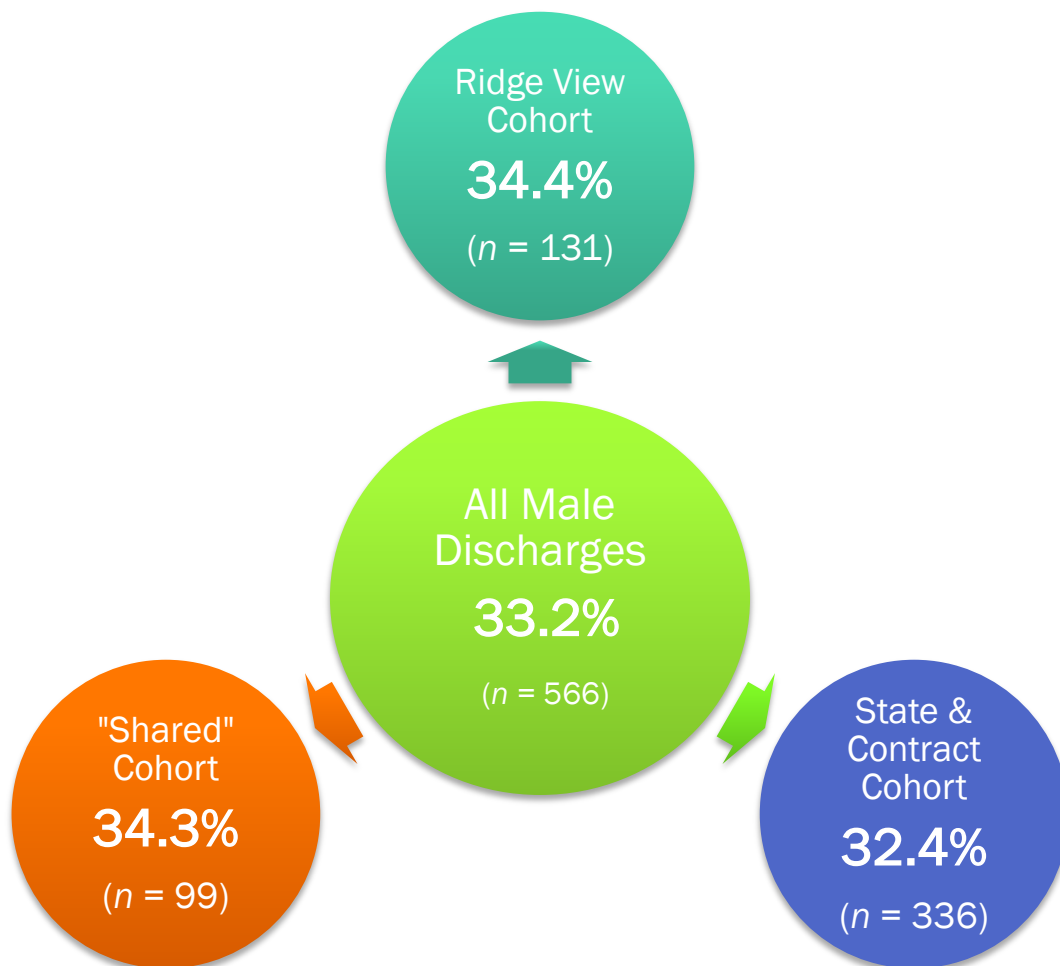


The Ridge View cohort was compared with all other males discharged from DYC during this same time period who did not spend time at RVYSC and to a shared group of males who spent 90 days or more at RVYSC, but did not stay at the program for at least 66% of their total residential length of stay (LOS).

### FY 2012-13 Cohort Comparisons (One-Year Rates)

Statistically, no differences in rates of recidivism one year after discharge were found between any of the three cohorts. Each cohort had a similar percentage of males who were recidivists. As shown in Figure 19, 33.2% of all male discharges recidivated within one year (regardless of where they spent the majority of their time). When results are broken out by cohort; 34.4% of the youth who spent the majority of their commitment sentence at Ridge View recidivated one-year post-discharge, 32.4% of youth who spent the majority of their residential sentence in State and Contract Placements recidivated, and 34.3% of the "Shared" cohort recidivated.

**Figure 19: Recidivism Rates by Ridge View Cohort**



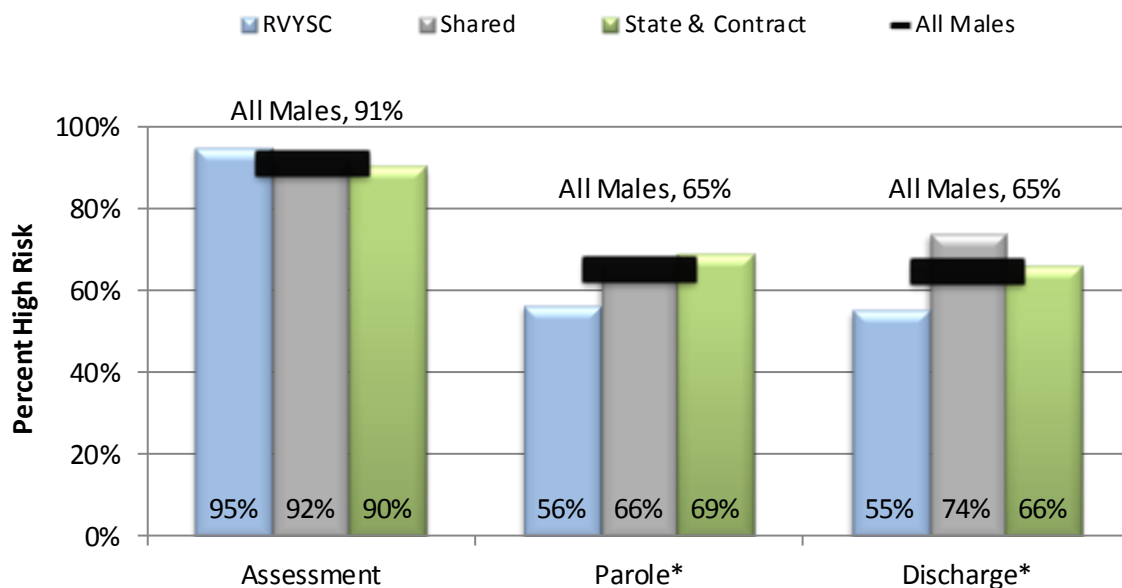
## CJRA Risk Level Results

### Risk Reduction Over Time

As shown in Figure 20, at the time of commitment, there was no statistically significant difference in CJRA risk level between any of the three cohorts, and all cohorts had roughly the same percentage of youth who scored high risk on their initial CJRA. On the Parole CJRA, a statistically significant difference was seen between the groups ( $p=0.09$ ). Fifty-six percent of the Ridge View cohort scored high risk compared to 66% of the “Shared” cohort, and 69% of the State & Contract cohort. There was also a statistically significant difference in risk level on the discharge CJRA between the groups ( $p=0.05$ ). Fifty-five percent of the of the Ridge View cohort scored high risk compared to 74% of the “Shared” cohort, and 66% of the State & Contract cohort. The black line shows the overall percentage of males who scored high risk regardless of cohort.

Overall, this graph shows that males entered into NYC with the same level of risk but over time fewer youth who spent most of their residential commitment at Ridge View scored high risk for recidivism on the CJRA. Interestingly, although there was a difference in risk level for recidivism, there was not a difference in actual recidivism rates between the groups (see Table 10 that follows).

**Figure 20: Risk Reduction Over Time by Ridge View Cohort**



\*  $p < 0.10$ , indicating statistically significant differences between the three groups

## Recidivism Rates Over Time, by Cohort

Recidivism rates over time were not found to differ statistically between the three cohort groups. In other words, the location where the youth spent the majority of his commitment sentence did not appear to have an effect on recidivism, among males in these cohorts.

**Table 10: Ridge View Cohort Recidivism Rates Over Time**

Recidivism Rates	Ridge View	Shared	State & Contract Placement	TOTAL (All Males)
One-Year Rate (FY 2012-13 discharges)	34.4%	34.3%	32.4%	33.2%
Two-Year Rate (FY 2011-12 discharges)	47.9%	46.2%	46.7%	46.9%
Three-Year Rate (FY 2010-11 discharges)	59.1%	61.7%	53.4%	56.2%



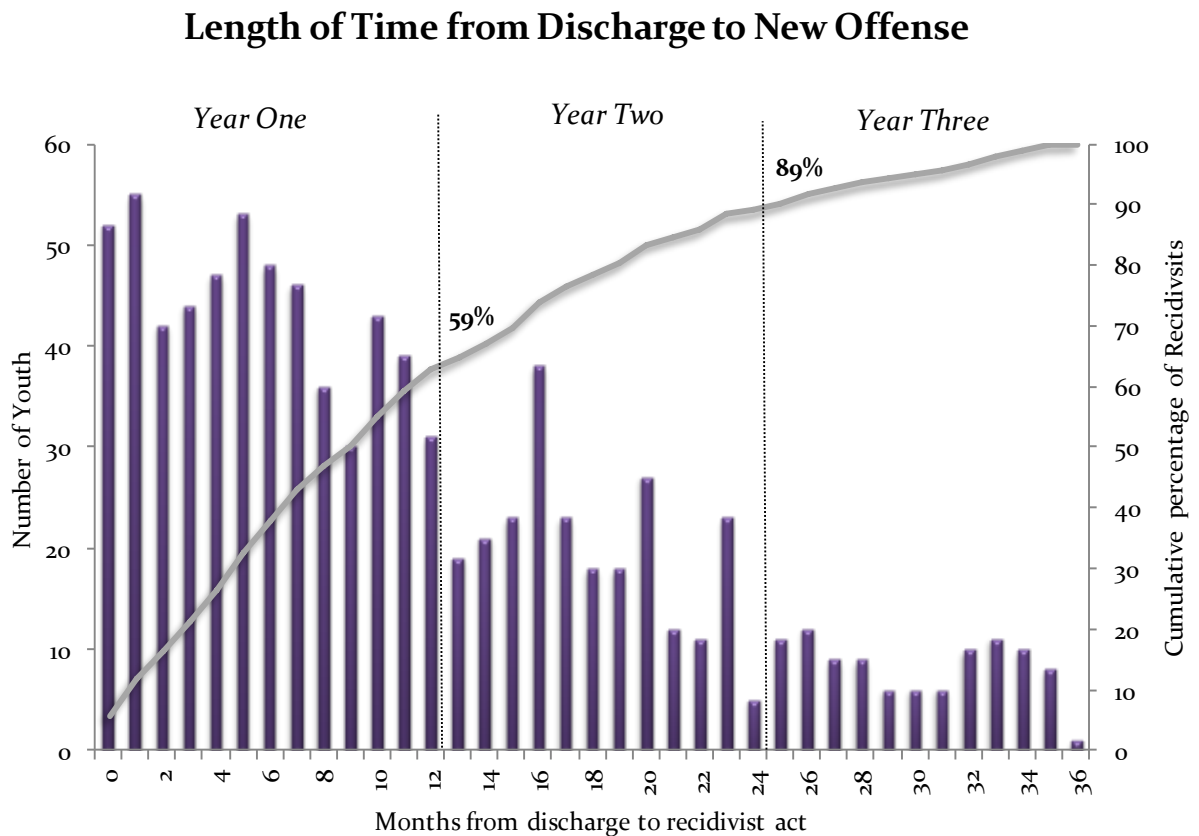
# When do recidivist acts occur?

## A Survival Analysis

### Time to new offense

Youth who discharged in FYs 2010-11, 2011-12, and 2012-13 (the three recidivism discharged cohorts included in this report) were included in analysis ( $N = 2085$ ). Youth who discharged more than one time in the three years were only counted once ( $n = 29$ ). For youth who did recidivate within the allotted time period, Figure 21 explains the points in time when the new offense occurred. As shown in the histogram, the largest number of youth who recidivated did so within the first 12 months (1 year) after discharge (59%). As time goes on and on, fewer and fewer youth commit new offenses.

**Figure 21: Time to Recidivist Act**



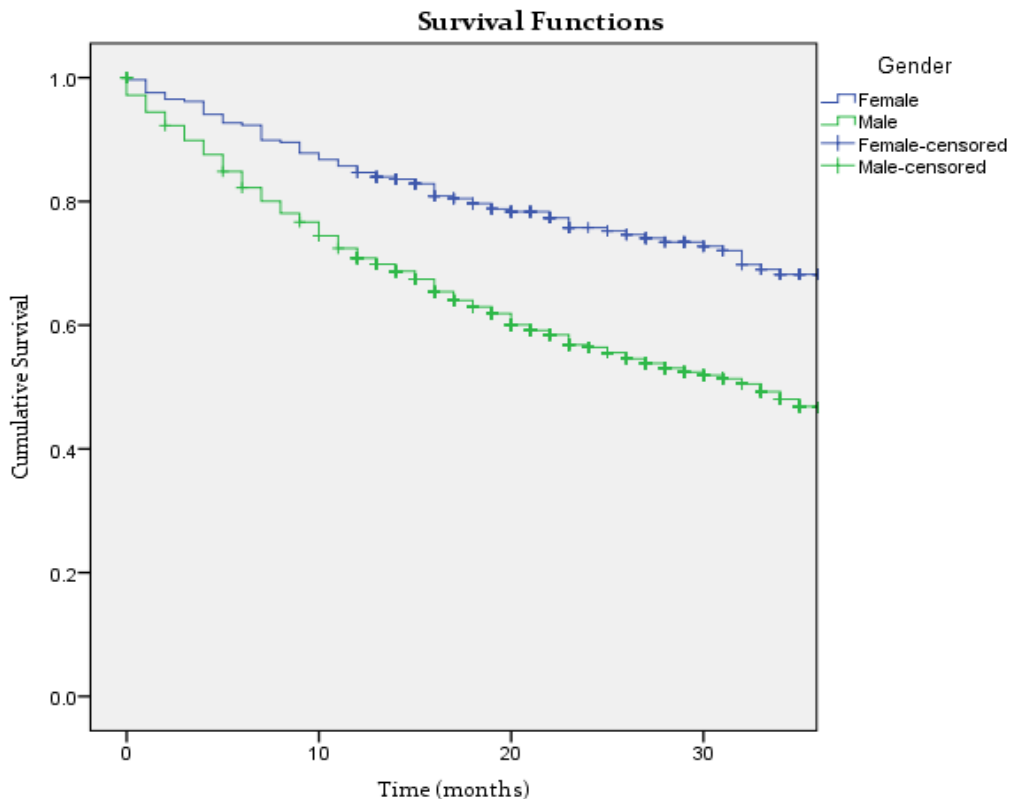
## Survival Analysis

A survival analysis shows the probabilities of survival over time. In this case, survival means the probability of not recidivating over time. On a survival graph, the y-axis (vertical axis) depicts the probability of not recidivating, and the x-axis (horizontal axis) is time (months). The time component is from discharge to recidivist act. For youth who did not recidivate, the time component is from discharge to the end of FY 2013-14 [the end of the time period for the recidivism study (June 30, 2014)].

### *Gender and Survival Over Time*

It has already been established that males and females have statistically different recidivism rates. Females have been shown to recidivate at a lower rate than males. The trajectory of survival curves differed for males and females over time as well. The probability that this group of discharges will not recidivate decreases over time for both genders. However, females have a higher probability of not-recidivating over time than males – as depicted in Figure 22 where the blue line is higher than the green line. Males and females were found to have statistically different survival trajectories ( $p=0.00$ ).

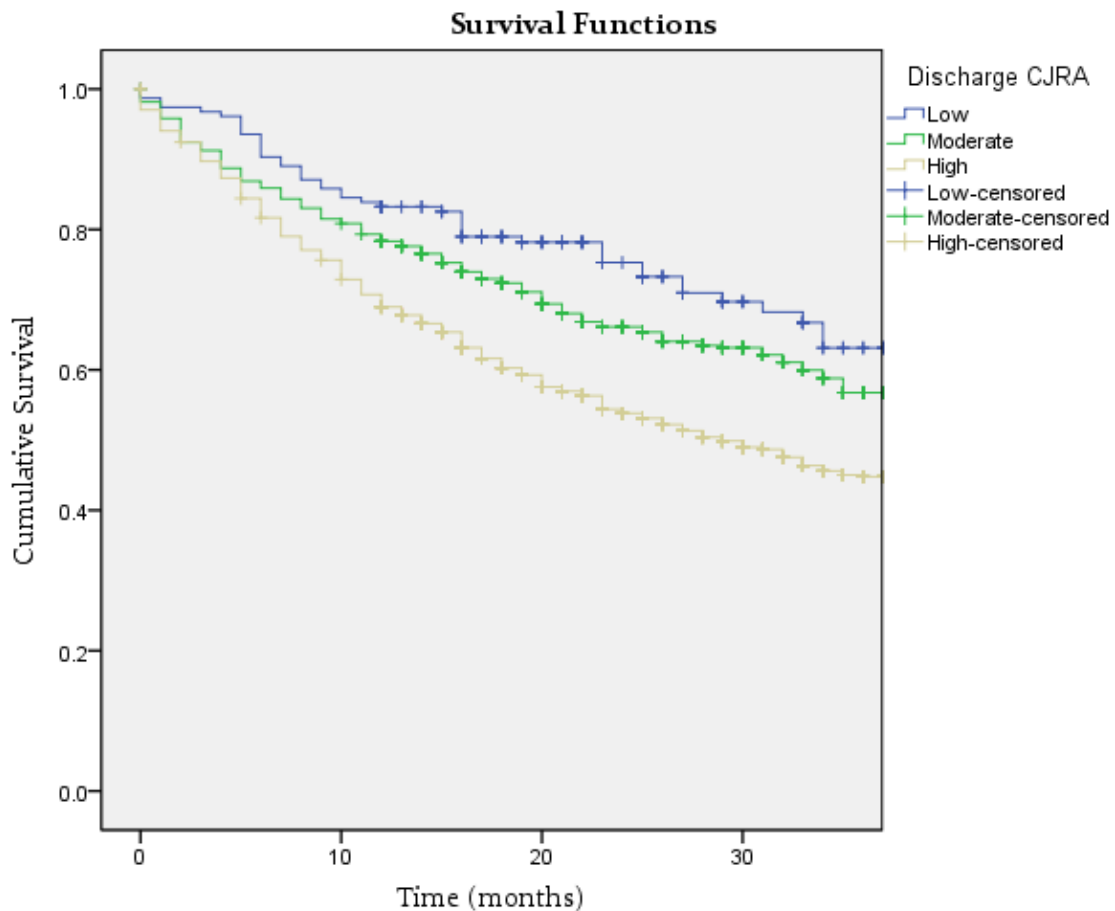
**Figure 22: The Recidivism Survival Curve, by Gender**



### *CJRA Risk Level at Discharge and Survival Over Time*

It has been established that youth with higher CJRA risk levels are more likely to recidivate. This same concept is seen in survival analysis. Youth who score low have a higher probability of not recidivating over time compared to youth who score moderate and youth who score high ( $p=0.00$ ). This is shown in Figure 23 where the blue line is consistently higher than the green line, which is consistently higher than the tan line.

**Figure 23: The Recidivism Survival Curve, by CJRA Risk Level at Discharge**



## DISCUSSION/STUDY LIMITATIONS

### **The rates reported are an under-representation of the true recidivism rate**

All the rates presented in this study are estimates of the true recidivism rate – which is unknown. The rates reported are as close to the true rate as possible; however, they are still an underestimate. Several factors contribute to this underestimate.

#### Denver County Cases Not Included

The Denver County Court System is the only county court system in the State whose data is not captured by the Judicial Department's data system. Therefore, adult misdemeanor convictions processed by Denver County Court are not included in this study. Denver County adult felony convictions are captured, because the Denver District Court processes them, which is a part of the Judicial on-line data system. Denver Juvenile Court processes juvenile misdemeanor and felony adjudications.

#### Youth Discharged to DOC/Adult Corrections

For all intents and purposes, youth who are discharged from NYC directly to the adult correctional system would be considered recidivists by most people's standards. Most of these youth are transferred to DOC because they commit offenses while at NYC (which is captured as pre-discharge recidivism not post-discharge recidivism); however, due to the methodology of the way recidivism is determined (a recidivist act within a time period after discharge), the youth who are at DOC do not have the same opportunities to commit offenses as youth who are in the community. The only way a youth who is discharged to DOC can be considered a recidivist, using the current definition, is if he/she is charged with an offense while at an adult correctional facility.

#### Offenses Committed in Other States

This study only uses data from the Colorado Judicial System. Therefore, if a youth commits an offense in another state, it is not counted.

#### Offenses While on Parole Status

Offenses that are committed while a youth is on parole status are not counted as recidivist acts because they did not occur after the youth fully discharged from NYC. While a youth is on parole status, he/she remains under the supervision of the Division.

## APPENDIX A – Non-Significant Findings

Table A: Factors Not Significantly Predictive of Recidivism (FY 2012-13 Discharge Cohort)

	Non recidivists		Recidivists		p-value	
	n	%	n	%		
<b>Mean Length of Residential Commitment</b>	18.8 months		19.9		0.13	
<b>Mean Length of Parole</b>	6.6 months		7.1 months		0.10	
<b>Mean Number of Detention Admissions Prior to Commitment</b>	4.7		5.2		0.10	
<b>Primary Race/Ethnicity</b>						
	White	173	69.8%	75	30.23%	0.83
	Black/African American	78	69.6%	34	30.4%	
	Hispanic	196	68.3%	91	31.7%	
	Asian/ Native Hawaiian/Pacific Islander	8	80.0%	2	20.0%	
	American Indian/Alaska Native	5	55.6%	4	44.4%	
<b>DYC committing offense charge</b>						
	Felony	309	71.5%	123	28.5%	0.13
	Misdemeanor	150	64.4%	83	35.6%	
	Petty	1	100%	0	0%	
<b>Mental Health</b>						
	No formal mental health intervention required at commitment	197	72.4%	75	27.6%	0.07
	Formal mental health intervention required at commitment	258	66.8%	128	33.2%	
<b>Offense Severity Score at DYC commitment</b>						
	Secure	124	67.5%	53	32.5%	0.81
	Staff-Supervised	176	69.8%	76	30.2%	
	Community	160	70.1%	77	29.9%	
<b>Drug and Alcohol Treatment level at DYC commitment</b>						
	Treatment	301	66.9%	149	33.1%	0.10
	Intervention	82	70.1%	35	29.9%	
	Prevention	77	77.8%	22	22.2%	
<b>Sex Offender</b>						
	Adjudicated Sex Offender	53	68.8%	21	31.3%	0.36
	Underlying Factual Basis Sex Offender	48	71.6%	19	28.4%	
	Requested Treatment Sex Offender	9	75%	3	25%	
	Requested Treatment Sex Offender	2	100%	0	0%	0.48
<b>Prior Number of Adjudications</b>						
	None	136	74.7%	46	25.3%	0.15
	One	127	66.1%	65	33.9%	
	Two	197	67.5%	95	32.5%	
<b>Prior Number of Commitments</b>						
	None	436	69.9%	188	30.1%	0.15
	One	23	56.1%	18	43.9%	
	Two	1	100%	0	0%	
<b>Discharge Placement</b>						
	Home	349	70.4%	147	29.6%	0.20
	Adult Jail/Adult Corrections	66	67.3%	32	32.7%	
	Group Living	5	83.3%	1	16.7%	
	Escape	2	50%	2	50%	
	Other/Unknown	25	74%	9	26%	
<b>Employment/School Enrollment at Discharge</b>						
	Full-time Program	158	64.0%	87	36.0%	0.21
	Part-time Program	69	74.2%	24	25.8%	
	No Program/Unknown	233	71.0%	95	29.0%	

## APPENDIX B - Works Cited

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## **APPENDIX C – Additional Information Requested in RFI**

Information provided in Appendix C addresses the outstanding requests outlined in the legislative request for information. Those outstanding requests include: (1) the number of juveniles served and (2) the length of stay. The third request, (3) recidivism data per placement, was addressed in the body of this report.

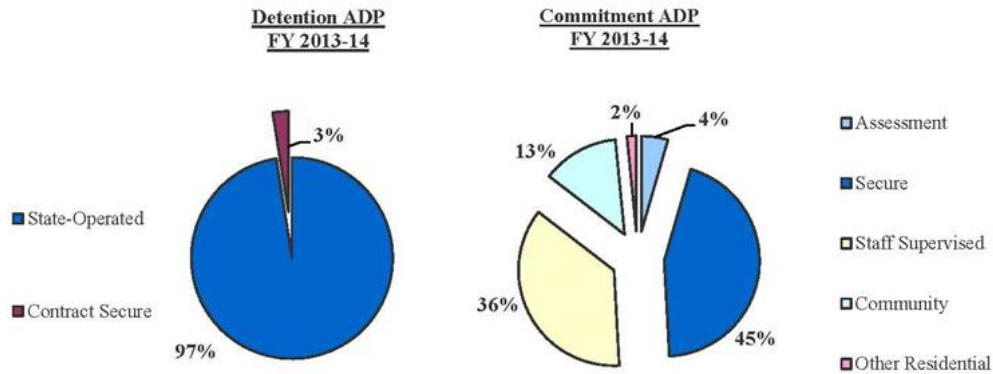
**Number of Juveniles Served and Length of Stay/Service  
FY 2013-14**

<b>DETAINED YOUTH</b>	<b>Clients Served<sup>1</sup></b>	<b>New Admits</b>	<b>ADP</b>	<b>LOS</b>
State-Operated	3,929	6,637	283.4	15.3 days
Contract Secure	106	146	7.3	18.8 days
<b>Total Detained</b>	<b>4,013</b>	<b>6,783</b>	<b>290.6</b>	<b>15.4 days</b>

<b>COMMITTED YOUTH</b>	<b>Clients Served<sup>1</sup></b>	<b>New Commitments</b>	<b>ADP</b>	<b>LOS</b>
Assessment	522		35.9	0.7 month
Secure	1,057		355.9	9.4 months
Staff Supervised	670		289.9	7.2 months
Community	309		103.5	2.4 months
Other Residential <sup>2</sup>	48		12.5	0.2 month
<b>Total Residential</b>	<b>1,612</b>	<b>474</b>	<b>797.6</b>	<b>19.3 months</b>

<b>PAROLED YOUTH</b>	<b>Clients Served<sup>1</sup></b>	<b>New Intakes</b>	<b>ADP</b>	<b>LOS</b>
<b>Total Paroled</b>	<b>803</b>	<b>478</b>	<b>281.3</b>	<b>7.0 months</b>

	<b>Clients Served<sup>1</sup></b>	<b>ADP</b>	<b>LOS</b>
<b>STATEWIDE TOTAL</b>	<b>5,518</b>	<b>1,369.6</b>	<b>26.3 months</b>



<sup>1</sup>Clients Served is an unduplicated count. Categorical totals are not a sum of individual program counts and are not available for all categories.

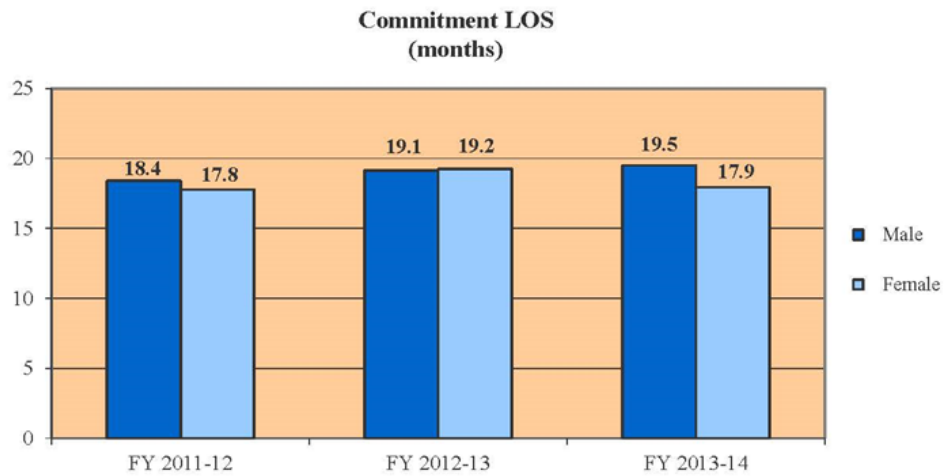
<sup>2</sup>Other Residential includes Group Homes, Job Corps, Hospitalizations, Shelter Care, etc.

NOTE: Categorical sums may vary slightly from given totals due to rounding differences.



**Length of Stay/Service by Demographic Category  
FY 2011-12 through 2013-14**

	FY 2011-12	FY 2012-13	FY 2013-14
<b>GENDER</b>			
Male	18.4	19.1	19.5
Female	17.8	19.2	17.9
<b>TOTAL Commitment LOS (months)</b>	<b>18.3</b>	<b>19.2</b>	<b>19.3</b>
<b>ETHNICITY</b>			
Anglo-American	18.4	18.8	18.9
African-American	19.5	21.5	23.1
Hispanic/Latino	17.3	18.4	18.2
Native American	20.6	17.5	18.9
Asian-American	19.2	20.7	16.1
Other	21.3	19.4	20.1
<b>AGE<sup>1</sup></b>			
11 Years	36.1	N/A	2.0
12 Years	43.1	24.0	38.5
13 Years	34.4	27.7	26.9
14 Years	23.0	23.8	23.9
15 Years	20.6	23.1	21.3
16 Years	18.6	19.7	20.1
17 Years	16.2	16.4	17.4
18 Years	15.8	16.0	17.3
19 Years	17.6	12.9	11.0



<sup>1</sup> Refers to Age at Commitment

**Number of Juveniles Served and Average Daily Population (ADP) by Program  
FY 2013-14**

	Clients Served <sup>1</sup>	ADP
<b>Assessment</b>		
<i>State Operated</i>		
Grand Mesa YSC	46	3.3
Mount View YSC	479	31.4
Platte Valley YSC	55	0.7
Spring Creek YSC	44	0.4
<b>Total Assessment</b>	<b>522</b>	<b>35.9</b>
<b>Secure</b>		
<i>State Operated</i>		
Adams YSC <sup>2</sup>	N/A	0.2
Gilliam YSC <sup>2</sup>	N/A	0.3
Grand Mesa YSC	88	37.0
Lookout Mountain YSC	251	133.2
Marvin W. Foote YSC	22	0.4
Mount View YSC	572	32.0
Platte Valley YSC	203	37.0
Pueblo YSC <sup>2</sup>	N/A	0.5
Spring Creek YSC	137	28.8
Zebulon Pike YSC	73	36.2
<i>Subtotal State Operated</i>	<i>960</i>	<i>305.5</i>
<i>Privately Operated</i>		
Betty K. Marler Center	71	39.9
Robert Denier YSC	41	10.5
<i>Subtotal Privately Operated</i>	<i>112</i>	<i>50.4</i>
<b>Total Secure</b>	<b>1,057</b>	<b>355.9</b>
<b>Staff-Supervised (Contract)</b>		
Alternative Homes for Youth	34	13.4
Childrens Ark at Pueblo	24	7.5
Devereux Cleo Wallace	56	23.5
Gateway Residential-Delta	10	3.3
Hilltop Residential Youth Services	17	3.3
Jefferson Hills Aurora	106	39.0
Mountain Crest/Poudre Valley Health System	29	8.3
Ridgeview YSC	354	169.4
Robert A Brown Center	9	2.8
Southern Peaks	27	7.7
Third Way Center - Lowry	39	11.8
<b>Total Staff-Supervised (Contract)</b>	<b>670</b>	<b>289.9</b>

<sup>1</sup>Clients Served is an unduplicated count. Categorical totals are not a sum of individual program counts and are not available for all categories.

<sup>2</sup>Detention-only facilities periodically and briefly serve committed youth in certain instances.

**Number of Juveniles Served and Average Daily Population (ADP) by Program  
FY 2013-14**

	Clients Served <sup>1</sup>	ADP
<b>Community (Contract)</b>		
Ariel Clinical Services	2	0.7
Community Corrections and Work Release	2	1.1
Dale House Project	31	8.8
Denver Area Youth Services	5	0.9
Gateway Residential Program - Grand Junction	2	0.9
Griffith Centers for Children Inc.	17	6.8
Griffith Centers for Children Inc. Chins Up	1	0.01
Hilltop Residential Youth Services	1	0.2
H.U.S.A.C. A Division of Haven Corporation	1	0.2
Job Corps	10	4.3
Kids Crossing	3	1.1
Mesa County Community Corrections	11	2.5
Mt. Evans Qualifying House	29	9.8
Savio House	3	1.2
Summit Treatment Service	29	9.2
Synergy	10	3.0
Third Way Center	11	3.0
Third Way Center - Pontiac	21	6.5
Third Way Center - York	36	9.8
Third Way Center - Lincoln	38	10.4
Turning Point Center - Prospect	7	3.0
Turning Point - Mathews St.	21	6.2
Whimspire Child Placement Agency	8	2.5
Youthtrack San Louis Valley	9	3.6
Youthtrack Work and Learn	29	7.7
<b>Total Community (Contract)</b>	<b>309</b>	<b>103.5</b>
<b>Total Other Residential<sup>2</sup></b>	<b>48</b>	<b>12.5</b>

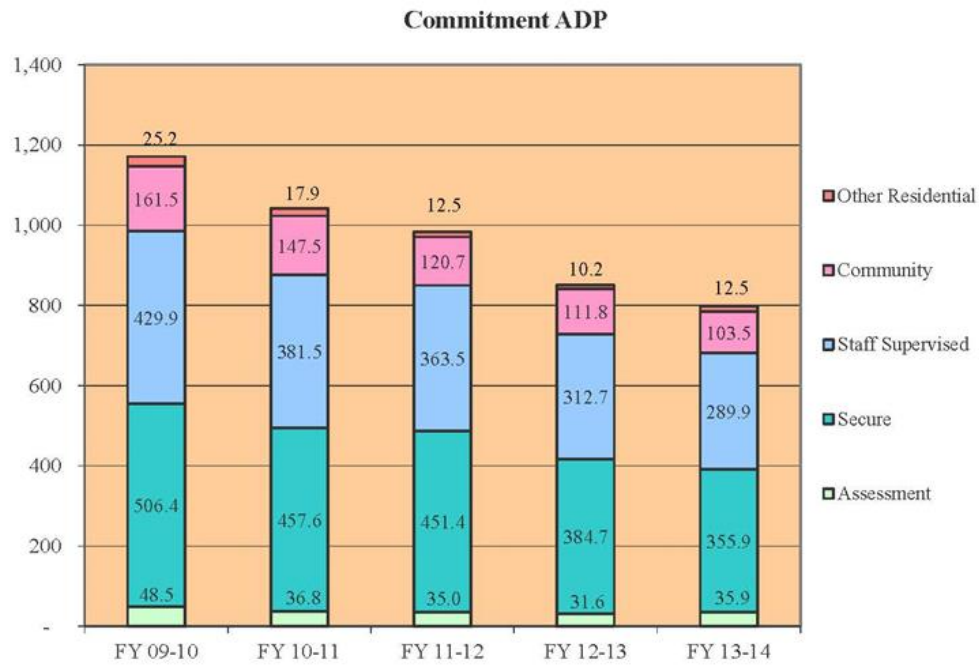
<b>STATEWIDE COMMITMENT</b>	<b>1,612</b>	<b>797.6</b>
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<sup>1</sup>Clients Served is an unduplicated count. Categorical totals are not a sum of individual program counts.

<sup>2</sup>Other Residential includes Group Homes, Job Corps, Hospitalizations, Shelter Care, etc.

**Average Daily Population (ADP) by Program Type  
Fys 2009-10 through 2013-14**

	FY 2009-10	FY 2010-11	FY 2011-12	FY 2012-13	FY 2013-14
Assessment	48.5	36.8	35.0	31.6	35.9
Secure	506.4	457.6	451.4	384.7	355.9
Staff Supervised	429.9	381.5	363.5	312.7	289.9
Community	161.5	147.5	120.7	111.8	103.5
Other Residential <sup>1</sup>	25.2	17.9	12.5	10.2	12.5
<b>Total Commitment ADP</b>	<b>1,171.6</b>	<b>1,041.3</b>	<b>983.1</b>	<b>851.0</b>	<b>797.6</b>



<sup>1</sup>Other Residential includes Group Homes, Job Corps, Hospitalizations, Shelter Care, etc.

**Any questions concerning the data presented in this report may be directed to:**

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Division of Youth Corrections



**<http://www.colorado.gov/cdhs/dyc>**