

31st Annual

Recidivism Evaluation of the Colorado Division of Youth Services

Regarding Committed Youth

Discharged in Fiscal Years

2018-19,

2019-20,

&

2020-21

July 1, 2023



COLORADO
Division of Youth Services
Office of Children, Youth & Families

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BRIEF OVERVIEW

How Does Colorado Define Juvenile Recidivism?

- Recidivism is defined as a new adjudication or conviction for a misdemeanor or felony offense that occurs after youth are discharged from all DYS supervision. DYS supervision *includes parole services*. **Please see pages 9-10 for a more detailed description.**

What is the Scope of this Study?

- Recidivism rates were calculated at one-, two-, and three-years post-discharge (after all DYS supervision ended). **Please see pages 15-17 for details on these rates.**

Who is Included in this Study?

- Every committed youth who was discharged from all DYS supervision during Fiscal Years (FY) 2018-19, 2019-20, and 2020-21 were included in the calculation of the one-, two-, and three-year recidivism rates.
- An Analysis Cohort of the total 1,136 youth in each of these three discharge years (cohorts) was also followed for one-year post discharge. This Analysis Cohort was used to examine any significant differences between recidivists and non-recidivists in terms of observable characteristics or other factors. **Please see pages 11-12 for a more detailed description.**

Were Any Youth Excluded from this Study?

- No youth were excluded from the three cohorts used to calculate the one-, two-, and three-year recidivism rates.
- Ten (10) youth were excluded from the Analysis Cohort (0.9% of the total population). Each of these ten youth had multiple commitments to DYS that resulted in a recidivist act within one-year of discharge for one commitment, and no recidivist acts within one-year of discharge for another commitment. One of the required assumptions of the tests of statistical significance used in the analyses in this report requires that there be an *independence of observations between groups*. In other words, the same youth cannot be simultaneously placed in both the recidivist and the non-recidivist groups. Thus, scientifically rigorous adherence to best practices in research methodology dictated the removal of these ten youth. **Please see pages 11-12 for a more detailed description of youth excluded from the study.**
- No youth were excluded for unsuccessful program completion, unsatisfactory discharge from DYS, or for any other reason.
- All youth who are committed to DYS will eventually discharge, without exception. Thus, all youth who discharged during FYs 2018-19, 2019-20, and 2020-21 (barring the nine dual-status recidivist/non-recidivist youth) were included in the Analysis Cohort.

EXECUTIVE SUMMARY

Annually, on July 1st, the Colorado Department of Human Services (CDHS or Department) publishes the results of a comprehensive analysis and review of juvenile recidivism for youth discharged from the Division of Youth Services (DYS or Division) in the preceding fiscal years. The current publication marks the 31st edition of the annual recidivism report.

The Division defines recidivism as the adjudication or conviction of a new misdemeanor or felony offense within a specified time period.

YOUTH STUDIED

Recidivism rates were calculated for three unique cohorts of committed youth who discharged from all DHS supervision. DHS supervision includes parole services. These discharged youth were followed for one, two, and three years post-discharge from DHS. These three cohorts include every youth who discharged from DHS. As every youth who is committed to DHS will eventually be discharged without exception, no youth were excluded from the three cohorts used to calculate the one-, two-, and three-year recidivism rates. Please note that due to rounding, data presented in tables and figures may not sum to 100% throughout the report.

- **Fiscal Year 2020-21:** Three hundred seventy-two (372) youth discharged from DHS. Among these discharged youth, 80% were male, and 20% were female. The distribution by sex for youth discharged in FY 2020-21 has a larger percentage of female youth (20%) than has been observed, on average, for many years. Historically, the DHS population has averaged approximately 15% female. When examined by race, this cohort was 38.2% Hispanic/Latinx, 37.9% White, 21.5% Black, and 2.4% “Other.” This cohort was used to determine a one-year recidivism rate.
- **Fiscal Year 2019-20:** Three hundred ninety-eight (398) youth discharged from DHS. Among these discharged youth, 87% were male, and 13% were female. When examined by race, this cohort was 40.2% Hispanic/Latinx, 39.7% White, 19.1% Black, and 1.0% “Other.” This cohort was used to determine a two-year recidivism rate.

- **Fiscal Year 2018-19:** Three hundred ninety-five (395) youth discharged from DYS.ⁱ Among these discharged youth, 85% were male, and 15% were female. When examined by race, this cohort was 42.0% Hispanic/Latinx, 37.5% White, 19.0% Black, and 1.5% “Other.” This cohort was used to determine a three-year recidivism rate.

ANALYSIS COHORT

The number of committed youth who have discharged from DYS has declined dramatically over the past fourteen years, from a high of 950 in FY 2007-08 to the current number of 372 discharged youth in FY 2020-21. This represents a 61% decrease in population size over time. The notable decline in population size has directly impacted the type and quality of analyses that can be conducted in the attempt to better understand and serve youth committed to DYS.

The number of committed youth who discharged from DYS annually declined by 61% between FY 2007-08 and FY 2020-21.

In an effort to combat the challenges associated with a shrinking population of youth who discharge from DYS annually, three years of data were combined to create a single, larger one-year post-discharge cohort. Specifically, each of the youth in the one-year post-discharge cohort for Fiscal Years 2018-19, 2019-20, and 2020-21 were combined to form a single Analysis Cohort of 1,136 unique discharged youth.ⁱⁱ By combining these three cohorts into a single, larger cohort, some of the challenges presented by a shrinking population size were ameliorated and sufficient statistical power was generated in the analyses to detect significant between-groups differences.

- **Analysis Cohort:** One thousand one hundred and thirty-six (1,136) unique youth discharged from DYS between FY 2018-19 and FY 2020-21. Among these unique discharged youth, 84% were male and 16% were female. When examined by race, the Analysis Cohort was 40.1% Hispanic/Latinx, 38.0% White, 20.2% Black, and 1.7% “Other.” This cohort was followed for

ⁱ This number ($n = 395$ discharged youth) differs by one youth from the total cited in the report published on July 1, 2021 ($n = 396$). During FY 2018-19, a single youth was simultaneously sentenced as an adult to the Colorado Department of Corrections (DOC), and to DYS on multiple charges in separate court cases. This youth was already serving a lengthy DOC sentence when committed to DYS on the second court case, and was never in DYS custody. The court was petitioned to remove this youth from DYS records for the second commitment, as DYS never held custody of nor had the opportunity to offer any treatment or services to this youth. The court granted this petition, and DYS records currently reflect a single commitment to and discharge from DYS custody for this youth, thus bringing the total number of youth discharged during FY 2018-19 to 395.

ⁱⁱ For a more detailed description of the Analysis Cohort and how it was comprised, please see the Study Population section on pages 10-11.

one year post-discharge and was used for the majority of the analyses discussed throughout the report.

The Division began measuring and reporting two- and three-year post discharge recidivism rates for youth who discharged during FY 2010-11. Please see Figure 1 on page 5.

RECIDIVISM RATES

One-year recidivism rate

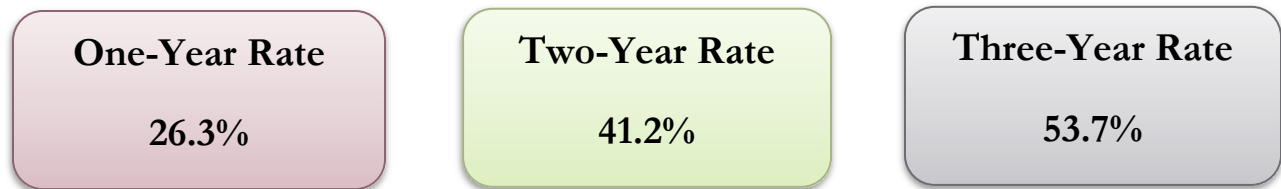
For youth who discharged in FY 2020-21, **26.3%** (98 of 372 youth) were guilty of one or more recidivist acts within one year of discharge from DYS.

Two-year recidivism rate

For youth who discharged in FY 2019-20, **41.2%** (164 of 398 youth) were guilty of one or more recidivist acts within two years of discharge from DYS.

Three-year recidivism rate

For youth who discharged in FY 2018-19, **53.7%** (212 of 395 youth) were guilty of one or more recidivist acts within three years of discharge from DYS.



Analysis Cohort recidivism rate

For youth in the combined one-year post-discharge Analysis Cohort, **30.5%** (347 of 1,136 total youth) were guilty of one or more recidivist acts within one year of discharge from DYS.

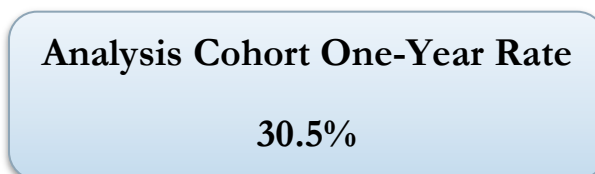
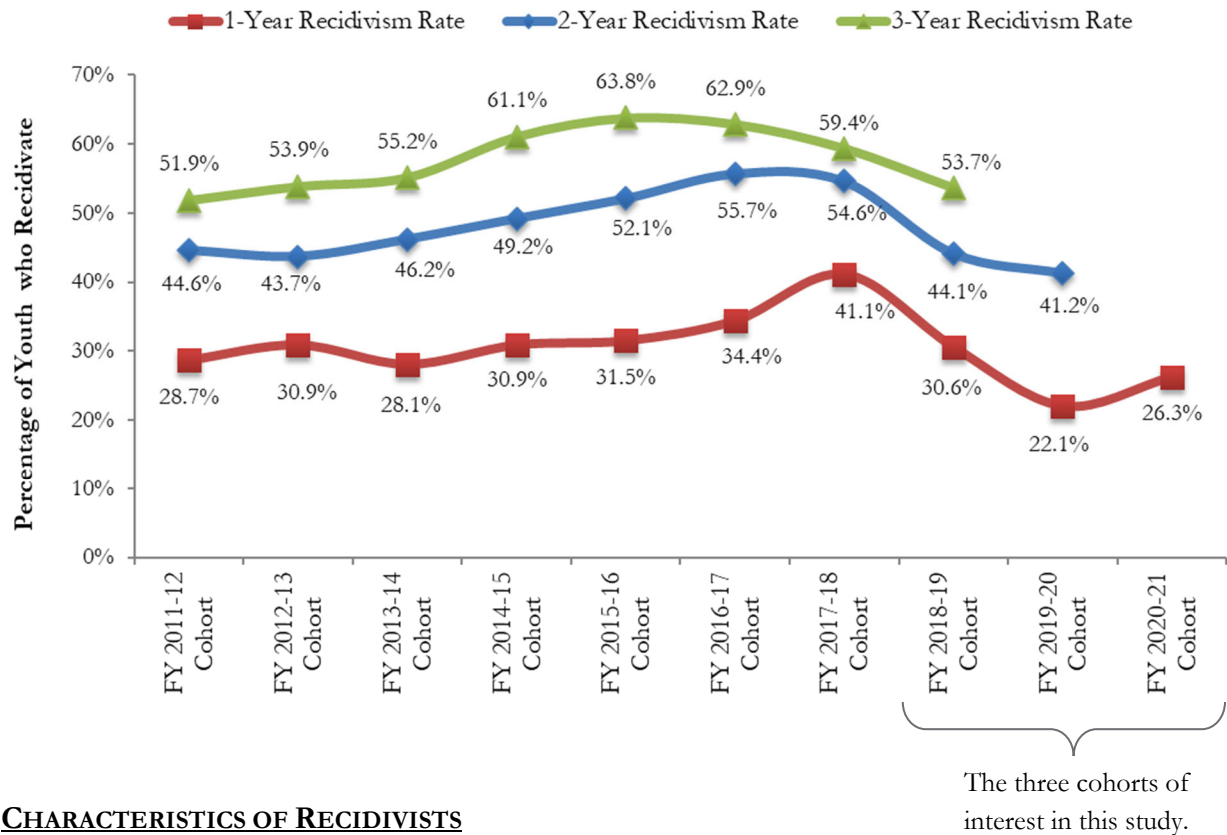


Figure 1: Recidivism Trends (One-, Two-, and Three-Years Post-Discharge)



CHARACTERISTICS OF RECIDIVISTS

Compared to non-recidivist youth, recidivists in the Analysis Cohort were statistically more likely to:

- Have a history of one or more escapes
- Earn a parole rating of Poor to Unsatisfactory at discharge
- Be committed for an offense that did not fall under the Victim Rights Act (VRA)
- Be committed for a non-violent offense
- Have an assessed mental health treatment need at the time of commitment
- Lack of involvement in a prosocial program (i.e.: work or school) at discharge

The characteristics that were the *most predictive* of being a recidivist were earning a Poor to Unsatisfactory parole rating at discharge and being committed to DYS for a non-violent offense (see pages 24-26 for details).

In addition, the majority of recidivist youth were initially committed for a felony offense that did not fall under the Victim Rights Act, and committed an average of 2.6 total recidivist acts during their follow-up period (out to three years post-discharge). The majority of recidivist acts observed in the three discharge cohorts were misdemeanor offenses that also did not fall under the VRA, illustrating a general reduction in the severity of criminal acts from commitment to the end of the follow-up period.

TYPES OF RECIDIVIST ACTS COMMITTED

Colorado Revised Statute C.R.S., 19-2.5-1501(4) was signed into law on March 7, 2018, and states that the annually mandated recidivism report “...must denote the types of criminal offenses committed, delineating between felonies and misdemeanors and between crimes that are included as a ‘crime’ pursuant to Section 24-4.1-302(1) and other crimes.”ⁱⁱⁱ Of the recidivists in the three discharge cohorts, the majority were originally sentenced to DYS on felony adjudications (57.3% felony vs. 42.7% misdemeanor). Of these original commitment offenses, 44.0% were crimes that fell under the VRA. This outcome is consistent with the findings described in previous reports, where property crimes (which do not fall under the VRA) were consistently found to be the most common commitment offense. The majority of all recidivist acts committed over each of the follow-up time periods were misdemeanors (53.2%) compared to felonies (46.8%). Relatively few recidivist acts were crimes that fell under the VRA (30.9%).

The majority of recidivists were committed for a felony offense that did not fall under the Victim Rights Act (VRA), while the majority of recidivist acts were misdemeanors. Only 30.9% of all recidivist acts fell under the VRA.

NATIONAL COMPARISON

No federal or standard definition of juvenile recidivism exists, and most states do not measure or report on juvenile recidivism regularly, if at all. In addition, states that do report recidivism rates frequently use a different definition of recidivism as well as research methods that do not match those used in Colorado. Many states are limited in their ability to produce recidivism rates due to a lack of centralized juvenile and

ⁱⁱⁱ Crimes pursuant to Section 24-4.1-302(1) are offenses that fall under the Victim Rights Act (VRA). Please see Appendix I for a list of VRA offenses.

adult criminal records, the composition of state vs. local supervision for juvenile justice-involved youth, a lack of available staff resources to conduct a rigorous study, or other complications.

No federal or standardized definition of juvenile recidivism exists, and most states do not measure or study juvenile recidivism on a regular basis. States that do report recidivism rates may not be comparable because they use a different definition, serve a different population of youth, or use inclusion criteria that differ from those used in Colorado.

Colorado remains one of the few states to produce an annual report that measures recidivism at one-, two-, and three-years post-discharge using a rigorous definition. Currently, four states and the District of Columbia define, measure, and report juvenile recidivism utilizing a research methodology similar to Colorado, thus providing five data points for a between-states comparison of recidivism rates in years when these data are available at the time this report is published. Each of these comparable states or Districts reported notable declines in their recidivism rates compared to the pre-COVID-19 global pandemic. When comparing the one-year post-discharge recidivism rates between comparable states, Colorado's rate (26.3%) is in the top third of the performance range (15.2% - 41.4%). Maryland (15.2%) reported a recidivism rate that was lower than Colorado, a consistent trend observed for many years. Three additional comparable states that produce annual recidivism rates, Idaho, Florida, and Virginia reported one-year post discharge recidivism rates of 28.0%, 37.0%, and 41.4%, respectively. The District of Columbia did not have a one-year recidivism rate available for comparison at the time this report was published.

C.R.S., 19-2.5-1501(4) Details

The Colorado Department of Human Services (CDHS or Department), Office of Children, Youth and Families (OCYF or Office), Division of Youth Services (DYS or Division) prepares an annual recidivism report on committed youth. The current report marks the 31st year of investigating juvenile recidivism in Colorado, and is submitted in response to C.R.S., 19-2.5-1501(4) (formerly House Bill 18-1010). The educational outcomes requirement is submitted in a separate report.

“On or before July 1, 2018, and on or before each July 1 thereafter, the department of human services shall collect recidivism data and calculate the recidivism rates and the educational outcomes for juveniles committed to the custody of the department of human services who complete their parole sentences and discharge from department supervision. In collecting the recidivism data, the department of human services shall include any juvenile adjudication or adult conviction of a criminal offense within three years after parole discharge.”

Statute C.R.S., 19-2.5-1501(4) specifies that:

“The report must denote the demographic characteristics of the population considered in the report. In reporting on recidivism rates, the report must denote the types of criminal offenses committed, delineating between felonies and misdemeanors and between crimes that are included as a “crime” pursuant to Section 24-4.1-302(1) and other crimes.”

Specific elements can be found on the following pages:

- Demographic characteristics of the population considered in the report: pages 18-23; and Appendices D and E, pages 43-44.
- Criminal offenses committed (felonies, misdemeanors, and crimes pursuant to Section 24-4.1-302(1), C.R.S): pages 27-31.

DEFINITION OF RECIDIVISM^{iv}

The Division defines recidivism as a new adjudication or conviction resulting from a misdemeanor or felony offense at any point within the prescribed follow-up time period(s). This definition allows for a limited between-states comparison of recidivism data, and conforms to the definition endorsed and recommended by the Council of Juvenile Justice Administrators (CJJA, formerly known as the Council of Juvenile Corrections Administrators, or CJCA) [1].

POST-DISCHARGE RECIDIVISM^v

Post-discharge recidivism refers to new misdemeanor or felony adjudications and convictions that occur within the prescribed follow-up time period(s) *after* a youth has completed all treatment and services and is fully discharged from DYS supervision. DYS supervision includes time spent on parole; thus, the post-discharge follow-up time clock starts after all time on parole has ended. Every youth who is committed to DYS will eventually discharge from all DYS supervision without exception. Post-discharge recidivism is the primary outcome measure utilized by juvenile justice agencies across the nation. It serves as a proxy measure for how well youth are able to re-integrate back into the community and remain crime-free upon discharge. Nationally, juvenile justice agencies are using recidivism rates as one tool of many outcome measures to objectively determine whether treatment and services provided to youth were appropriate and effective, and also as a tool to inform policy and practice.

MULTI-YEAR RECIDIVISM RATES

DYS tracks youth for three years post-discharge in order to determine whether they have remained crime-free. Tracking youth for three years post-discharge provides a highly rigorous and comprehensive longitudinal analysis of the overall paradigm of juvenile recidivism in Colorado, as well as the trajectory of outcomes over time. In contrast, the majority of states currently engaged in measuring and reporting

^{iv} Please see Appendix H for a list of DYS Terms and Definitions.

^v The Division also measures rates of pre-discharge recidivism. Pre-discharge recidivism rates refer to new adjudications or convictions for a felony or misdemeanor offense that occurs between the date of commitment to and the date of discharge from the Division (including new deferred agreements). Pre-discharge recidivism can occur while a youth is still in residential placement, or while a youth is serving a parole sentence. Please see Appendix F for pre-discharge recidivism rates.

juvenile recidivism typically only report a one-year recidivism rate, and utilize significantly different research methods when defining and measuring juvenile recidivism compared to Colorado.

METHODOLOGY

RECIDIVIST ACT DEFINED

A recidivist act is defined as a new adjudication or conviction for a misdemeanor or felony offense that occurs after a youth has discharged from the supervision of the Division. Within the Criminal Justice System, an *adjudication* refers to a finding of guilt for a delinquent offense involving a defendant under the age of 18, and is analogous to a *conviction* of an adult defendant found guilty of a criminal offense. Youth are deemed to be recidivists if they commit a new offense that results in a guilty finding for a misdemeanor or felony class charge (adjudication/conviction). Petty offenses are not considered to be recidivist acts, and traffic violations (not to be confused with traffic infractions), are only included in the analyses if they result in a misdemeanor or felony adjudication or conviction. The unit of analysis for this study is youth discharged from the Division (rather than the number of recidivist acts), and all information is reported in the aggregate.

STUDY POPULATION

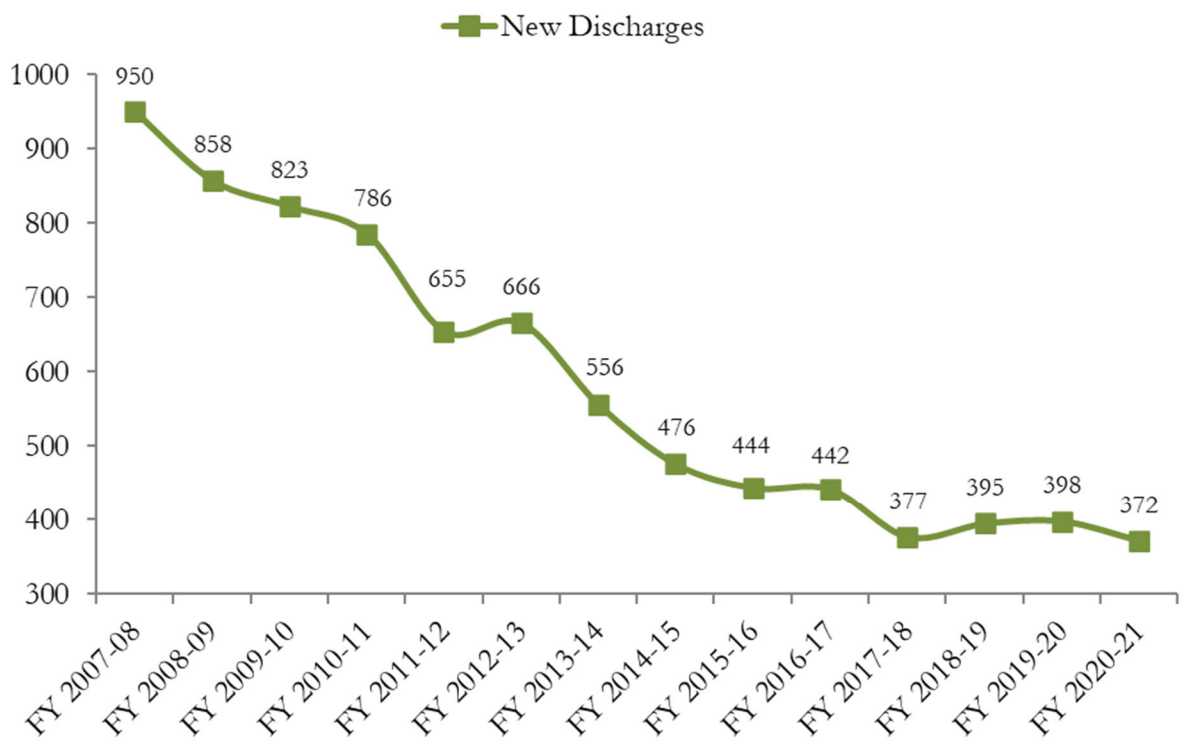
In FY 2020-21, three hundred seventy-two (372) youth discharged from DYS. These youth were observed for one year after discharge, and a one-year post-discharge recidivism rate was calculated. In FY 2019-20, three hundred ninety-eight (398) youth discharged from DYS. These youth were observed for two years after their discharge, and a two-year post-discharge recidivism rate was calculated. In FY 2018-19, three hundred ninety-five (395) youth discharged from DYS. These youth were observed for three years following their discharge, and a three-year post-discharge recidivism rate was calculated. Official court records from the Judicial Department and Denver County Court were used to identify misdemeanor and felony filings with a finding of guilt for all three discharge cohorts.

The number of committed youth who have discharged from DYS has declined dramatically over the past fourteen years, from a high of 950 in FY 2007-08 to the current low of 372 discharged youth in FY 2020-21 (see Figure 2). This represents a 61% decrease in population size over time. The notable decline in population size has directly impacted the Division's ability to detect significant differences between groups, particularly when examined in smaller sub-populations (e.g.: males vs. females, by ethnicity, or among DYS special populations). Increasing the sample size is one accepted means of minimizing these challenges.

An Analysis Cohort was created by first combining each of the *one-year post-discharge cohorts* from three Fiscal Years (FYs 2018-19, 2019-20, 2020-21) into a single, larger cohort ($n = 1,165$ total youth), that is further narrowed down as dictated by the tests of statistical significance and requirements of rigorous scientific research methodology. The specifics of these further reductions in the larger Analysis Cohort follow. A total of 19 unique youth discharged in more than one FY contained within the Analysis Cohort due to consecutive or subsequent DYS commitments, bringing the total of unique youth present in the Analysis Cohort down to 1,146. Of these 19 unique youth with multiple commitments and discharges from DYS,

ten were excluded from the Analysis Cohort due to their dual recidivist and non-recidivist status (0.9% of the total population). Specifically, these ten youth committed a recidivist act within the one-year follow-up period for one of their discharges, but did not commit a recidivist act within the one-year post-discharge follow-up for another discharge from DYS. As these ten youth can be simultaneously categorized as both recidivists and non-recidivists, their presence in statistical analyses would violate the assumptions of the tests performed to identify significant relationships. For the purposes of the demographic analyses, the remaining nine youth who discharged in more than one fiscal year but were exclusively either recidivists or non-recidivists in both one-year post-discharge follow-up periods were retained in the Analysis Cohort, and were only counted once to avoid “double-counting” individual static characteristics (e.g.: sex, race/ethnicity, and age at first adjudication). Thus, the final total of unique youth included in the Analysis Cohort was 1,136^{vi}. The majority of the analyses that follow (excluding the one-, two-, and three-year recidivism rates and the Offense Types section) were conducted on this Analysis Cohort as a means of minimizing the effects of a substantially shrinking population size.

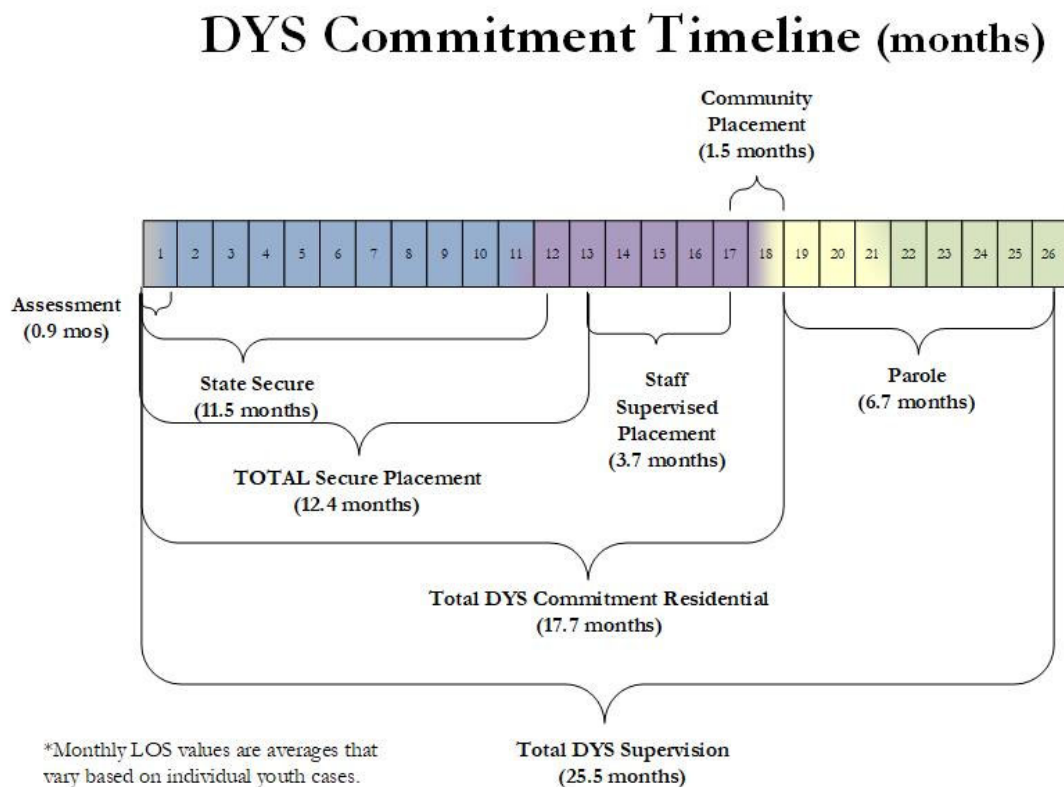
Figure 2: Discharge Population Trends



^{vi} One youth discharged in three different Fiscal Years, while the remaining eight youth only discharged in two different Fiscal Years.

As Figure 3 illustrates, the average total length of DYS supervision for committed youth was 25.5 months in FY 2020-21. *This total commitment Length of Service (LOS-C&P) begins at the time of commitment to DYS and continues through the end of the parole period*, when a youth is officially discharged and all DYS supervision ends. Although youth spent an average of 17.7 months in residential placement (the sum of all residential placements while committed), *the average length of time spent in state secure youth centers is much shorter (11.5 months)*.

Figure 3: DYS Timeline of Care



Youth spent an average of 11.5 months in State Secure placements during FY 2020-21.

STUDY DESIGN

In scientific terms, the analyses that follow utilized a prospective quasi-experimental observational cohort study design with a longitudinal follow-up period measured at three distinct intervals. In other words: every youth who discharged from the Division between FY 2018-19 and FY 2020-21 was included in the study and was followed for a one-, two-, or three-year follow-up period after discharging from supervision

(barring the nine dual-status youth described in the previous section). No youth were randomized to a control or experimental group that received specific treatment or conditions, and no youth were excluded from the study for reasons other than those mandated by the tests of statistical significance applied. This approach allowed for non-intrusive observation of the natural progression of three cohorts of previously adjudicated delinquent youth in the community after they were discharged from DYS. The Division utilized court data from the Colorado State Judicial Department (Judicial) and Denver County Court (DCC) data to determine whether or not a youth had committed a recidivist act during the follow-up period(s).

Due to several safeguards related to confidentiality and data-sharing, the Division developed a Memorandum of Understanding (MOU) specifically related to this annual study with both the Office of the State Court Administrator and the Denver County Court. These MOUs serve as a data-sharing agreement that grant DYS permission to utilize the adjudication/conviction information provided for purposes of identifying youth who recidivate.

DATA SOURCES AND RECORD MATCHING

Please see Appendix B for a detailed description of the original data sources, as well as the methods used to match DYS data to data provided by the Judicial Department and by Denver County Court.

DATA REFRESH

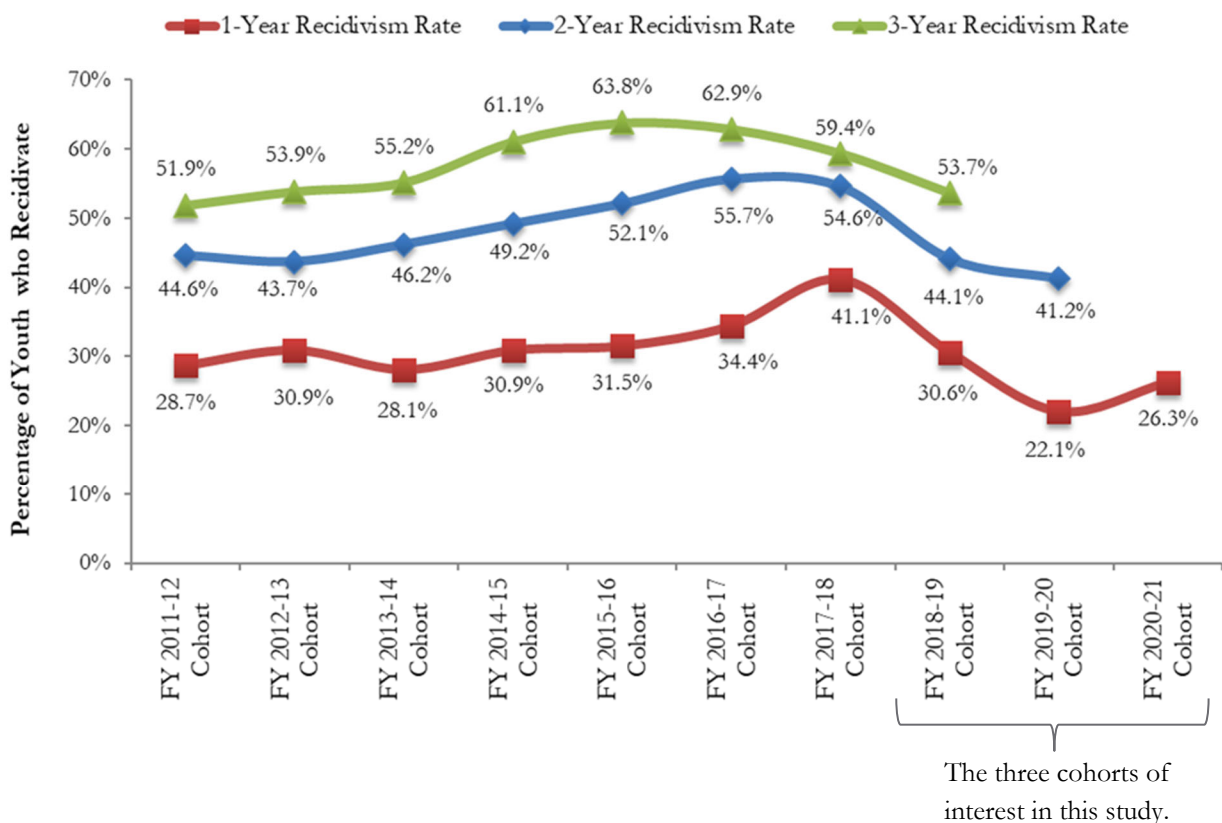
Please See Appendix C for a detailed description and the reasoning behind a recent data refresh and the potential impacts on recidivism rates.

RECIDIVISM RATES

A decade (ten years) of recidivism rates are displayed in Figure 1. The one-year post-discharge rate increased from 22.1% for youth discharged in FY 2019-20 to 26.3% in the current study (a 4.2 percentage point increase). The two-year post-discharge recidivism rate declined from 44.1% for youth who discharged in FY 2018-19, to 41.2% in the current year, while the three-year post-discharge recidivism rate decreased from 59.4% to 53.7%. The two-year post-discharge recidivism rate represents the lowest observed since the Division first began measuring and reporting this rate.

The current one-year post-discharge rate of 26.3% falls below the 10-year average rate of 30.5%. For over a decade, the one-year post-discharge recidivism rate has consistently averaged around 31%. Colorado, along with other states measuring juvenile recidivism, observed reductions in recidivism rates among youth who discharged between FY 2018-19 and 2020-21 (see Figure 1). Analyses of criminal desistance in Colorado (the time at which juveniles cease committing new recidivist acts) and the chronicity (or timing) of reoffending throughout the follow-up periods have demonstrated that the vast majority (80%) of youth who recidivate are most likely to do so within the one-year post-discharge follow-up period, with over half (56%) recidivating within six months of discharge. On average, youth commit fewer than three recidivist acts, 2.6 in the current analysis, when followed out to three-years post-discharge. These nuances, along with the sharp decline in the one-year recidivism rate observed for youth who discharged in FY 2019-20 provide context for the current increase in the one-year rate combined with decreases in the two- and three-year rates. Please refer to the Discussion/Study Limitations section for factors that may have impacted juvenile recidivism rates nationally since the onset of the COVID-19 global pandemic.

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



Two- and three-year post-discharge recidivism rates were initially introduced to the reports published in FY 2014 and FY 2015, respectively, for youth who discharged in FY 2010-11. The two-year post-discharge recidivism rate has averaged 47.5% over ten years of measurement, with a range of 41.2% to 55.7%. The three-year post-discharge recidivism rate averaged 57.2% over nine years of measurement, with a range of 53.2% to 63.8%.

Analysis Cohort recidivism rate

For youth in the combined one-year post-discharge Analysis Cohort, 30.5% (347 of 1,136 total youth) were guilty of one or more recidivist acts within one year of discharge from DYS.

In summary, over half of committed youth are convicted or adjudicated on a new felony or misdemeanor offense within three years of discharging from the Division, on average. The vast majority of recidivists tend to reoffend within the first year of discharge, and commit fewer than three recidivist offenses before ceasing to reoffend. Very few youth commit their first recidivist act within the three-year follow-up period (4%), suggesting that as time passes and youth mature, their propensity for recidivism declines sharply, starting in the two-year follow-up period and continuing through the three-year follow-up, when discharged youth are in their early 20s, on average.

MULTI-YEAR RECIDIVISM RESULTS

Table 1 reports the recidivism rates across all three cohorts of interest in this study. The three unique cohorts of discharged youth were examined by follow-up period to see how many youth recidivated after one-, two-, and three-years post-discharge.

Table 1: Recidivism Rates by Discharge Cohort

Youth Discharge Cohort	One-Year Recidivism Rate	Two-Year Recidivism Rate	Three-Year Recidivism Rate
FY 2020-21 cohort (<i>N</i> = 372)	26.3%	TBD*	TBD*
FY 2019-20 cohort (<i>N</i> = 398)	22.1%	41.2%	TBD*
FY 2018-19 cohort (<i>N</i> = 395)	30.6%	44.1%	53.7%

*Rates TBD; available in forthcoming reports

FY 2020-21 Cohort

The FY 2020-21 discharge cohort (*N* = 372) has currently been tracked for one year following discharge from DYS. The one-year recidivism rate for this cohort was 26.3%. The two- and three-year rates will be reported once the allotted two- and three-year time periods have concluded.

FY 2019-20 Cohort

The FY 2019-20 discharge cohort (*N* = 398) has been tracked for two years following discharge from DYS. The one- and two-year recidivism rates for this cohort were 22.1% and 41.2%, respectively. The three-year recidivism rate will be reported once the allotted three-year time period has concluded.

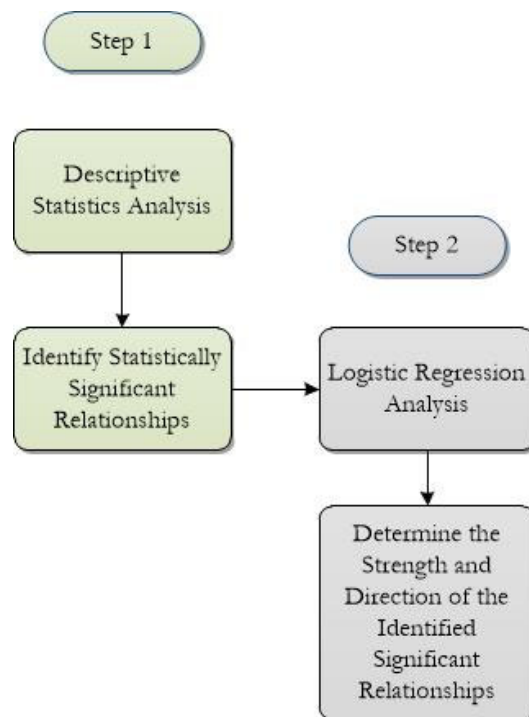
FY 2018-19 Cohort

The FY 2018-19 discharge cohort (*N* = 395) has been tracked for three years following discharge from DYS. The one-, two-, and three-year recidivism rates for this cohort were 30.6%, 44.1%, and 53.7%, respectively.

RECIDIVISM ANALYSIS COHORT

Conducting statistical analysis is a scientific process that must, like all science, adhere to a series of procedures or steps and rules. Each of these steps is guided by the data, and the results of the analyses conducted within each step dictate what additional analyses can follow. Simply put, the analysis begins with basic tests of the relationships between a number of independent variables identified by the literature and larger body of juvenile justice research as contributing to recidivism (the dependent variable in this case: being a recidivist). Any variables found to have a significant relationship can be further examined to determine the strength and direction of the relationship and their ability to predict the likelihood, or odds, of becoming a recidivist, based on the rules governing the variables (See Figure 4).

Figure 4: Statistical Analysis Steps



Step 1: Descriptive Statistics Analyses

The analyses that follow describe some basic descriptive differences between youth who recidivated and youth who did not recidivate within one year of discharge (Analysis Cohort). All differences between recidivists and non-recidivists described in this section were determined to be statistically significant, meaning the observed differences cannot be attributed to chance. For more detailed information on these significant differences, as well as information on some of the non-significant demographics examined,

please refer to Appendices D and E. Taken together, these demographic differences help to describe the various characteristics that are more prevalent among recidivists and non-recidivists.

Demographic Differences Found between Recidivists & Non-Recidivists

An extensive analysis of potentially differential demographic characteristics (variables) was conducted in order to determine which traits best characterized youth who recidivated. In other words, the analysis in this section attempts to define, in very general terms, significant differences between characteristics identified by the literature to be linked to youth who recidivate when compared to youth who did not recidivate. The six characteristics that generated significant findings are described in detail in Appendix D, and are briefly summarized below.

1. Number of Escapes

A larger percentage of recidivists had a history of one or more escapes while committed to DYS, compared to non-recidivists.

Figure 5: Percentage of Youth with a History of One or More Escapes while under DYS Supervision



An escape, for the purposes of this study, is defined as a period of time when a youth absconds from a state secure commitment youth center, a community placement, or from parole for four hours or longer without permission. The majority of these “escapes” can perhaps be better described as “walk aways,” as they most frequently involve youth who “walk away” from a community residential or parole setting rather than escaping in a more traditional sense from a state secure youth center. More than half (58.4%) of all youth in the Analysis Cohort had an escape at some point prior to discharge. A larger percentage of recidivists (70.0%) had one or more escapes compared to non-recidivists (53.2%) (see Figure 5). The relationship between having a history of escapes while committed to DYS and recidivism was statistically significant ($p < 0.001$).

2. Parole Rating at Discharge

A larger percentage of recidivists earned a Poor to Unsatisfactory parole rating at discharge, compared to non-recidivists.

Figure 6: Percentage of Youth Who Earned a Poor to Unsatisfactory Parole Rating at Discharge



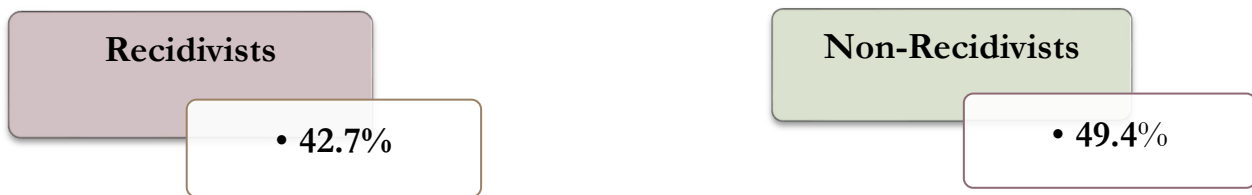
Juvenile offenders in Colorado have a mandatory minimum parole length of six months. Parole refers to the status of an offender conditionally released from a residential placement at the discretion of the Juvenile Parole Board (JPB). The Colorado JPB is established as a Type-1 transfer board and requires gubernatorial appointment. All rendering of findings during juvenile parole hearings are formed independently from the Executive Director of the Department of Human Services. While on parole, each youth is under the supervision of a parole officer (formerly the youth’s client manager) and is required to observe the conditions of release set by the Juvenile Parole Board. The Parole Rating at discharge is the level at which the parole officer determines the youth to be in regard to parole compliance at discharge (based on pre-determined criteria), with a “Satisfactory” or “Excellent” rating indicating a smooth and successful transition back into the community while on parole. The goal of the Division is that each youth earns either a Satisfactory or Excellent parole rating at discharge. Unfortunately, some youth ultimately discharge from parole with a “Poor” or “Unsatisfactory” rating (47.5% in the Analysis Cohort). A Poor or Unsatisfactory parole rating at discharge indicates a level of non-compliance while on parole; however, the Division relinquishes all supervision and authority over youth once the parole sentence has been served and youth are discharged from the Division. A total of 93 youth did not go on parole prior to discharge, and another two youth were deceased prior to completing parole and thus did not receive a parole rating at discharge. These 95 youth were excluded from the analyses. Some youth may never go on parole, as they discharge directly to adult corrections, turn 21 prior to parole being granted, have their sentence terminated by the court, etc.

A closer look at the youth who earned a Poor to Unsatisfactory rating revealed that recidivists comprised a larger percentage (60.2%) compared to non-recidivists (41.4%), and this difference was statistically significant ($p < 0.001$) (see Figure 6). Conversely, recidivists represented a smaller percentage of youth earning either a Satisfactory or Excellent rating compared to non-recidivists. While 58.6% of non-recidivists earned a Satisfactory or Excellent parole rating, only 39.8% of recidivists earned this same rating.

3. VRA Commitment Offense

A smaller percentage of recidivists were originally committed to DYS for an offense that fell under the VRA, compared to non-recidivists.

Figure 7: Percentage of Youth Who Were Originally Committed to DYS for a VRA Offense



Crimes that fall under Colorado’s Victim Rights Act (VRA) can generally be thought of as crimes committed against persons, and that typically include specific types of victims. Examples of these types of crimes include but are not limited to: homicide, assault, sexual assault, kidnapping, crimes against vulnerable populations, and robbery. Please see Appendix I for a complete list of crimes that fall under the Victim Rights Act. The majority of youth in the Analysis Cohort were not committed to DYS for a VRA crime (52.6%), with 47.4% committed for a VRA crime. A smaller percentage of recidivists were committed to DYS for VRA crime (42.7%) compared to non-recidivists (49.4%), and this difference was statistically significant ($p = 0.035$) (see Figure 7). Although this finding may be counterintuitive to some readers, it aligns with the literature on offenders who commit property crimes (which do not fall under the VRA) being *more* likely to recidivate, when compared to offenders who commit crimes against persons [2] [3].

4. Violent Offense

A smaller percentage of recidivists were originally committed to DYS for a violent offense, compared to non-recidivists.

Figure 8: Percentage of Youth Who Were Originally Committed to DYS for a Violent Offense



Violent offenses are generally those that result in personal injury or trauma to the victim(s), and frequently involve the use of weapons and/or the threat of force in the course of a criminal act. In the Federal Bureau of Investigation’s (FBI) Uniform Crime Reporting Program (UCR), violent crime is defined as four specific offenses: murder and nonnegligent manslaughter, rape, robbery, and aggravated assault [4]. Using

the FBI's UCR definition of violent crime, the majority of youth in the Analysis Cohort were not committed for a violent offense (68.8%). Fewer recidivists were committed for a violent offense (24.5%) compared to non-recidivists (34.2%), and this difference was statistically significant ($p = 0.001$) (see Figure 8). This finding is consistent with criminological research that has found that adults convicted on violent offenses typically have lower recidivism rates upon release compared to other released offenders, on average [4] [5] [6]. Please see the Recommendations section for a more information on the research available on recidivism rates among individuals incarcerated for violent offenses.

5. Assessed Mental Health Treatment Need

A smaller percentage of recidivists were assessed to have a mental health treatment need at the time of commitment, compared to non-recidivists.

Figure 9: Percentage of Youth Who Were Assessed to Have a Mental Health Treatment Need at the Time of Commitment

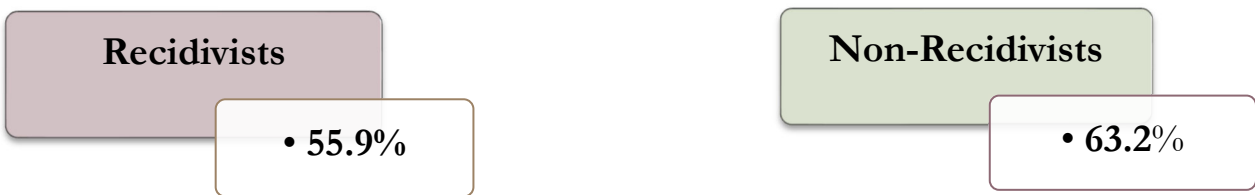


Along with other treatment needs, all youth who are committed to DYS are assessed for mental health treatment needs as a part of an extensive assessment and treatment planning process. Youth mental health treatment need scores are derived from the Colorado Client Assessment Record (CCAR) administered during the assessment process. Only youth with valid assessment CCAR scores were included in the analysis ($n = 1,119$; 98.5% of the Analysis Cohort). The majority of youth in the Analysis Cohort were assessed to have a mental health treatment need at the time of commitment (64.1%). While most youth arrive at DYS with an assessed mental health treatment need, fewer recidivists were assessed to have a mental health treatment need (59.8%), compared to non-recidivists (65.9%), and this relationship was statistically significant ($p = 0.049$) (see Figure 9). Although this finding may be counterintuitive to some readers, it may indicate that the treatment, services, and post-discharge case planning developed by DYS behavioral health staff are effectively setting youth up for success in terms of overcoming or managing mental health challenges when they return to their communities, which may result in lower rates of recidivism.

6. Program at Discharge

A smaller percentage of recidivists had a prosocial program in place at discharge (such as school or a job), compared to non-recidivists.

Figure 10: Percentage of Youth Who Had a Program in Place at Discharge



It is the Division's goal to have every youth engaged in either a full- or part-time program at discharge. A youth is considered to have a program in place at discharge if they are either employed, enrolled in school or vocational training, performing community service, parenting, or have other consistent prosocial responsibilities in place at least part-time. Nearly two-thirds of the youth in the Analysis Cohort had a program in place at discharge (61.0%). A smaller percentage of recidivists had a program in place at discharge (55.9%) compared to non-recidivists (63.2%), and this difference was statistically significant ($p = 0.020$) (see Figure 10).

While the previous analyses provide detailed information regarding six specific demographics found to have a significant relationship with recidivist status, they do not represent the total number of demographics examined annually. Each year, a wide variety of demographic variables are examined for possible significant relationships, including those of interest to current policies, initiatives, etc. In the current report, these additional variables included *but were not limited to*: race/ethnicity, sex, age at first adjudication, the total amount of time spent committed, the length of time spent on parole, the commitment offense type (felony or misdemeanor), prior number of adjudications, age at commitment, overall risk level assessed on the Colorado Juvenile Risk Assessment (CJRA) at discharge, age at discharge, sex offender status, where youth was placed at discharge, whether a youth was assessed to have a substance abuse treatment need at the time of commitment, and whether or not a youth was assessed to have a co-occurring disorder at commitment (co-occurring disorder indicates the presence of both a mental health and a substance abuse treatment need). The results of the analysis of these variables indicated either a non-significant relationship with recidivist status, the variables shared a collinear relationship to one another, or the distribution between groups was too unequal (skewed) to continue. Please see Appendix E for details on the non-significant differences between recidivists and non-recidivists.

Step 2: Logistic Regression Analysis

Three of the six statistically significant differences between recidivists and non-recidivists described in Step 1 each appear to identify youth who may have embraced a more prosocial acceptance of the treatment and services provided by DYS, or who demonstrated a greater ability or willingness to adhere to the rules and expectations while under DYS supervision from the date of commitment through the end of the parole period: number of escapes, parole rating at discharge, and program in place at discharge. Because these three characteristics all appear to generally describe youth who have achieved success while under DYS supervision, they are highly likely to share collinearity with one another, or describe the same variance in recidivist status. Having variables that are highly correlated to one another violates one of the required assumptions of binary logistic regression: that independent variables are not correlated. As such, only the most significant of these three variables, parole rating at discharge, was included in the analyses that follow. The remaining three variables: VRA commitment offense, violent commitment offense, and assessed mental health treatment need, were all retained in the model and analyses that follow.

Which Characteristics Were MOST Predictive of Recidivism? (Presented as Odds Ratios)

There were 1,136 youth in the Analysis Cohort, with 347 re-offending (recidivating) within the one-year follow-up period (30.5%). In the analyses that follow, one variable that was found to have a significant relationship with being a recidivist included *only those youth who actually went on parole*: parole rating at discharge. One additional variable was found to be significant, and included *only those youth who had valid assessed mental health treatment needs scores at the time of commitment*.

Excluding youth who did not ever go on parole *and* youth without a valid mental health treatment needs score was necessary to avoid falsely attributing values of “0” to these youth for inclusion in the equations. Please see the Descriptive Statistics Analyses section for details on why some youth might not go on parole or how a valid assessed mental health treatment needs score is determined. Thus, the sample size for the analyses that follow was 1,028, or roughly 90.5% of the total number of unique youth in the Analysis Cohort. A binomial logistic regression model was created that included four of the six individual-level characteristics that were found to have a significant relationship with being a recidivists described in the previous section: parole rating at discharge, being committed for a VRA offense, being committed for a violent offense, and having an assessed mental health treatment need. The remaining two variables (number of escapes and having a program in place at discharge) were omitted from the logistic regression, as they were found to be collinearly related to other variables in the equation. In other words, the two variables excluded from the model were tested and found to violate one of the *required assumptions* of the binary logistic regression: that independent variables in the model are not correlated to one another. As these variables were highly correlated to additional variables in the model and measured much of the same variation in recidivist status, they not only failed to add any incremental predictive power to the model, but they were also found to be too closely related to one another to provide any new information.

The four-variable model sought to further examine the relationship between these variables and being a recidivist, with the goal of better understanding the factors that contribute to recidivism based on the observed values of the independent variables. In this model, two of the four variables included in the model, parole rating at discharge and not being committed for a violent crime, were found to be predictive of recidivism. A third variable, having an assessed mental health need at the time of commitment, approached, but did not actually reach statistical significance ($p = 0.055$). The significant findings are reported in the pages that follow.

PAROLE RATING AT DISCHARGE

Youth who earned a Poor to Unsatisfactory parole rating at discharge were 2.2 times *more likely* to recidivate, compared to youth who earned a rating of Satisfactory to Excellent.

Earning a Satisfactory to Excellent parole rating at discharge has been consistently predictive of post-discharge success in terms of remaining crime-free for youth committed to DYS. The odds of being a recidivist for youth who discharged with a Poor to Unsatisfactory parole rating were 2.2 times *higher* compared to youth with a Satisfactory to Excellent rating, controlling for all other variables.^{vii} This measure includes adherence to the stipulations of parole as determined by the Juvenile Parole Board, and also includes many measures of prosocial behaviors and attitudes that have been identified as protective factors for juvenile delinquency, such as regular school attendance, avoiding antisocial or criminally involved peers, abstaining from alcohol and other illicit substances, regular employment, adhering to scheduled meetings and curfews, and participation in prosocial activities [7]. A Satisfactory or Excellent parole rating also indicates a more successful reintegration and transition back into the community. Generally speaking, the degree to which youth are able to demonstrate successful compliance with the supervision and structure of their parole has translated to their larger success in avoiding recidivism after discharge.

VIOLENT COMMITMENT OFFENSE

Youth who were committed to DYS for a violent offense were 1.4 times *less likely* to recidivate, compared to youth who were committed to DYS for a nonviolent offense.

^{vii} Satisfactory or Excellent parole rating at discharge compared to Poor or Unsatisfactory: OR = 2.2, 95% Confidence Interval (CI): 1.7-2.8, $p < 0.001$.

The odds of being a recidivist for youth who were committed for a violent offense were 1.4 times *lower* than youth who were not committed for a nonviolent offense, holding all other variables constant. Although this finding may be counterintuitive to some readers, it does align with the literature, which has found that offenders who commit property crimes, which are generally considered to be less violent in nature, are more likely to recidivate, when compared to offenders who commit crimes against persons [4]^{viii} Please see the Recommendations section for more information on the research available on recidivism rates among individuals incarcerated for violent offenses.

Which Characteristics Were Non-Predictive?

When controlling for all other variables, the following characteristics were non-predictive of being a recidivist:

- Being Committed for a VRA offense ($p = 0.948$)
- Assessed Mental Health Treatment Need ($p = 0.055$)

A Note on Males vs. Females

Given the small number of females ($n = 181$ total, $n = 48$ recidivists) in the Analysis Cohort, it was not possible to draw additional meaningful predictive comparisons between male and female recidivists and other variables (such as offense type or class, race, ethnicity, etc.), even after aggregating three years of the one-year post-discharge cohorts into one, larger cohort. In general, descriptive terms, females comprised roughly 16% of the total one-year post-discharge population (males = 84%), and had a recidivism rate of 26.5% compared to males who had a recidivism rate of 31.3%. These recidivism rates align with anticipated results, the larger body of criminological literature, and previous DYS recidivism studies. Males have consistently been shown to have higher recidivism risk and rates, on average, compared to females. The difference in recidivism rates between male and female youth was not found to be statistically significant in the current analysis, due to the small number of females in the population.

^{viii} Violent Commitment Offense: OR = 1.4, 95% Confidence Interval (CI): 1.01-2.09, $p = 0.471$.

OFFENSE TYPES

VRA AND OTHER CRIMES

This section of the analysis focuses exclusively on recidivists, and examines both the commitment offense (the offense that resulted in a DYS sentence) as well as all associated recidivist act(s). All recidivists in the one-, two-, and three-year cohorts were included in the analysis, for a total of 459 unique recidivists.^{ix} Collectively, the 459 unique recidivists in the three discharge cohorts were either adjudicated or convicted for 1,202 recidivist acts over the follow-up periods, or under 3 recidivist acts per recidivist ($\mu = 2.6$). Among recidivists, over three-quarters, 75.8% ($n = 348$) committed three or fewer recidivist acts, while a handful of outliers ($n = 8$) committed 10 or more recidivist acts. Further investigation into those recidivists with the largest number of recidivist acts revealed a pattern in which each of these youth committed offenses that resulted in multiple same-day filings for a single court case number. In addition, most of these youth committed more severe offenses (e.g.: felonies, violent assaults, aggravated offenses, controlled substance offenses, weapons offenses, etc.) which resulted in a large number of same-day filings for a single court case number (eight same-day filings is the largest outlier). Fortunately, these eight (8) outliers represent just 1.7% of recidivists, and fewer than 1% of all youth who discharged from DYS between FY 2018-19 and FY 2020-21.

Type of Commitment Offenses vs. Recidivist Offenses

The following analysis examines the type of offense for which a youth was committed to DYS and compares it to the recidivist offense(s) that occurred during the follow-up periods. The types of offenses examined delineate between those that fall under the VRA, and other felonies and misdemeanors.

Of the 459 *recidivists* in the three discharge cohorts followed for one, two, and three years post-discharge, the majority were originally sentenced to DYS on felony adjudications: 57.3% ($n = 263$) vs. 42.7% ($n = 196$) misdemeanor adjudications (see Figure 11). Of these same commitment offenses, the majority were crimes that did not fall under the VRA (56.0%; $n = 257$), while 44.0% ($n = 202$) were VRA offenses (see

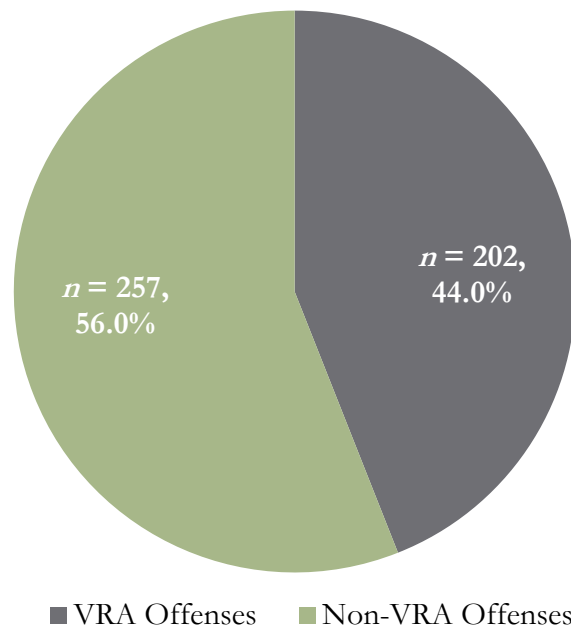
^{ix} The recidivists analyzed in this section are not the same as those in the Analysis Cohort presented in previous sections. The analysis in this section includes all youth identified as recidivists in the one-, two-, and three-year post-discharge cohorts, and follows them for *one, two, and three years post-discharge*, respectively. The Analysis Cohort follows all youth who discharged from the Division over three Fiscal Years for *one year post-discharge*, and does not follow youth out to three years post-discharge. Thus, data presented in this section will not match previously presented data as it was drawn from a different data set and covers a different period of time. For recidivist youth who discharged in more than one year, only their most recent commitment and subsequent discharge were included in the analysis.

Figure 12). This finding is consistent with those described in previous reports, where property crimes (which do not fall under the VRA) were consistently found to be the most common commitment offense.

Figure 11: Commitment Offense for Recidivists: Felonies and Misdemeanors (N= 459)



Figure 12: Commitment Offense for Recidivists: VRA and Other Offenses (N= 459)



A further examination of non-VRA commitment offenses ($n = 257$) revealed that the majority (58.8%, $n = 151$) were felony offenses (see Figure 13). Looking specifically at those 202 commitment offenses that fell under the VRA, the majority (55.4%) were felonies compared to misdemeanors (44.6%) (see Figure 14).

Figure 13: Commitment Offense for Recidivists: Non-VRA Offenses (*N* = 257)

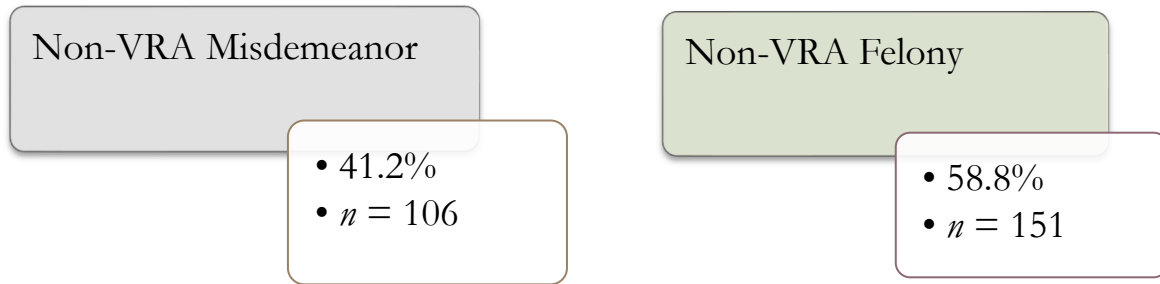
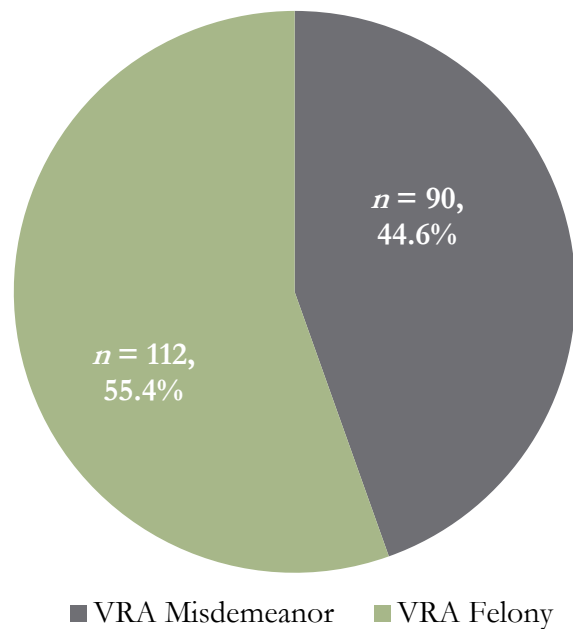


Figure 14: VRA Commitment Offense for Recidivists (*N* = 202)



A single commitment offense was examined for all youth in this report, while recidivists can and do reoffend with multiple recidivist acts. Thus, the number of recidivist acts reported in this section (*n* = 1,202) will naturally be greater than the number of commitment offenses in each category examined. Contrary to what was observed with commitment offenses, the majority of recidivist acts committed over each of the follow-up time periods were misdemeanors (53.2%) compared to felonies (46.8%) (see Figure 15). This finding represents a positive outcome for the Division; among youth who recidivate, the majority reoffend with less serious crimes than their commitment offenses. Generally speaking, misdemeanors are considered to be less serious offenses than felonies.

Among youth who reoffend, the majority of recidivist acts were less serious than commitment offenses (53.2% misdemeanors vs. 46.8% felonies).

Relatively few recidivist acts were crimes that fell under the VRA (30.9%), with over two-thirds (69.1%) of all recidivist acts being non-VRA offenses (see Figure 16). Looking at those 830 recidivist acts that did not fall under the VRA, the majority were misdemeanors (56.5%) compared to felonies (43.5%) (see Figure 17).

Figure 15: Recidivist Acts ($N = 1,202$)



Figure 16: Recidivist Acts: VRA and Other Offenses ($N = 1,202$)

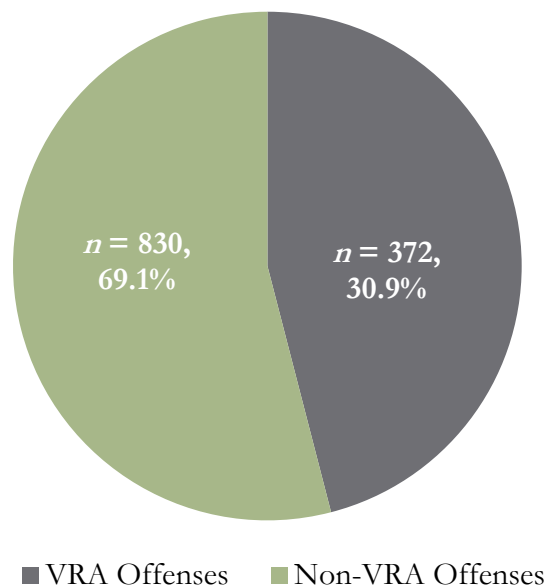
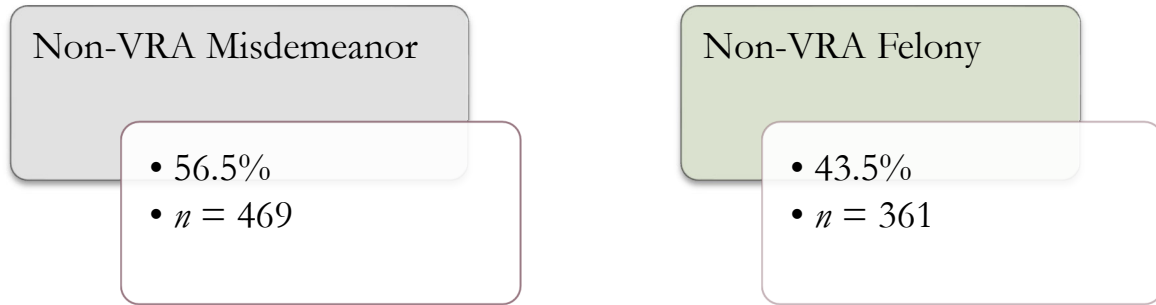
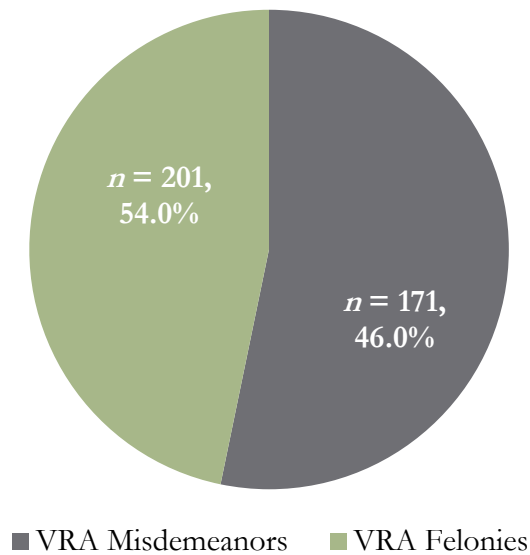


Figure 17: Non-VRA Recidivist Acts (N = 830)



Looking exclusively at those 372 recidivist acts that fell under the VRA, the majority were felonies (54.0%) compared to misdemeanors (46.0%) (see Figure 18).

Figure 18: VRA Recidivist Acts (N = 372)



NATIONAL COMPARISON

This section provides a comparison of Colorado’s one-, two-, and three-year post-discharge juvenile recidivism rates to other states that utilize the same definition of recidivism (an adjudication or conviction for a felony or misdemeanor offense that occurred after discharging from supervision) and employ a similar research methodology in order to achieve a better understanding of how Colorado compares nationally. For an in-depth discussion regarding the comparability of juvenile recidivism rates across the nation, please refer to Appendix G, where specific examples of differing definitions and methods are described.

One in four states does not regularly collect or report juvenile recidivism data, and fewer than 50% provide a comprehensive picture of juvenile reoffending. *Colorado is among the minority of states that does both.*

Methods of National Comparison

The comparison process involved an extensive review of currently available juvenile recidivism reports or publications that conveyed each state’s juvenile recidivism rates and research methodology. A state was considered ideal for comparison if it met the following conditions: 1) utilized a similar methodology to those used in Colorado, 2) had a similar definition of a recidivist act, 3) reported on multiple years of recidivism, and 4) maintained consistency in how recidivism measures were reported in the most recent years. Data from youth who discharged in FY 2018-19 through FY 2020-21 were used in the national comparison.

Results of National Comparison

Each state identified as a possibility for comparison varied in its definition of recidivism, the time period used to capture recidivism, and in the overall availability of data on recidivism rates. It is important to acknowledge that for the purposes of this analysis, definitions of recidivism were matched as closely as possible rather than exactly. Each juvenile correctional system, however, may be structured differently or have population-specific considerations which make it unique. Juvenile recidivism data from Maryland, for example, include youth who were committed to their Department of Juvenile Services (DJS) for placement in an out-of-home treatment program. These committed youth include those from out of state (if they were committed by a Maryland court), youth placed in treatment programs ranging from foster care to secure confinement, and youth placed in programs that were operated by either DJS or contracted providers. Youth placed in out-of-home foster care may present a lower overall risk for committing a

future offense resulting in an adjudication than youth with prior juvenile justice involvement and adjudication(s), which may, in turn, have an effect on the annual recidivism rate.

Table 2 represents the five other states that were identified as methodologically comparable to Colorado in terms of defining and measuring juvenile recidivism. The District of Columbia is not a state, but it regularly reports juvenile recidivism rates that were deemed to be comparable to those used in Colorado and was included with state-level data. Respective recidivism rates are reported for each state in ascending order. Several states, including the District of Columbia, Florida, and Idaho, do not regularly release two- and three-year recidivism rates.

Table 2: National Comparison of Recidivism Rates by Year of Discharge

States with Comparable Juvenile Recidivism Measures			
State	One-Year Recidivism Rate	Two-Year Recidivism Rate	Three-Year Recidivism Rate
Maryland ¹	15.2%	21.1%	N/A
Colorado	26.3%	41.2%	53.7%
Idaho ^{2,3}	28.0%	N/A	N/A
Florida ²	37.0%	N/A	N/A
Virginia ⁴	41.4%	58.3%	75.7%
District of Columbia ²	TBD ⁵	N/A	N/A

¹Maryland reports reconvictions/adjudications with a two-year lag, thus the reported one-year rate corresponds to committed youth who were released from programs in FY19-20. A three-year rate is not yet available.

²State tracks youth for a one-year follow-up time period.

³Idaho defines "discharge" as the start of parole; the recidivism measurement period includes parole.

⁴Virginia reported reconviction rates for parole releases between 2018 - 2020. More recent data was not available.

⁵The one-year recidivism rate was not available at the time this report was published.

When comparing the one-year post-discharge recidivism rates between comparable states, Colorado's rate (26.3%) resides in the top third of the performance range (15.2% - 41.4%). Maryland had a rate lower than Colorado (15.2%). The District of Columbia did not have a recidivism rate available for comparison at the time this report was published.

It is important to note that Idaho currently defines "discharge" as the start of parole, as their juvenile parole services are handled at the county level rather than by the Idaho Department of Juvenile Corrections. Thus, youth on parole are considered "discharged" from their agency and are currently included in their recidivism data collection process. While this difference in when the one-year post-discharge recidivism follow-up period begins clearly differs from Colorado's, it was determined that there were sufficient similarities and adequate rigorous design elements to warrant keeping Idaho among the pool of states with similar research methodologies. Both Maryland and Virginia have a two-year lag period for their respective recidivism rates. While the rates reported in Table 2 are updated with the most current

data available from these states, the data represents youth data compiled from FY 2019-20 (Maryland) and FY 2018-20 (Virginia).

In addition, many states re-extract filings and adjudication or conviction records each year and re-match them to their list of youth who have discharged in a given FY. Re-matching records increases the accuracy of capturing any youth who had an open case without a finding of guilt at the time the original data was extracted, but has since been adjudicated or convicted, and correctly identifying these youth as recidivists in the appropriate FY. While this method is more accurate, it effectively re-calculates the one-, two-, and three-year rates produced in prior years. Thus, individual state data presented in Table 2 may not always match data reported in prior years, as they are obtained directly from each state's official data released and reported in the most recent year.

Data from all other states (not shown in Table 2) were sought out and examined when available, but were ultimately excluded because they could not be found; did not report a recidivism rate; or due to significant differences in their population, definition, or measurement of recidivism. For instance, Ohio defines a recidivist act as a "return to the Department of Youth Services (DYS) or incarcerated in the Ohio Department of Rehabilitation and Correction within one, two, and three years of release from a DYS correctional facility." Using this definition might result in a misinterpretation of the true comparability of this state's recidivism rate and Colorado's. Similarly, other states may serve a very different population than those served in Colorado. For example, some states may only serve youth until they reach the age of majority (17 to 19 years of age, depending on the state), may only serve a specific sub-set of offenders, or may include probation or diversion youth.

RECOMMENDATIONS

Recommendations Resulting from the Current Study

The results derived from this current study indicated that two characteristics were the most predictive of recidivism for committed youth in Colorado. These two predictive characteristics are listed in order of their respective influence in the section that follows.

Poor or Unsatisfactory Parole Rating at Discharge

The results of this study indicated that youth who earned a Poor or Unsatisfactory parole rating at time of discharge were *more than twice as likely* (2.2 times more likely) to recidivate compared to youth who earned a Satisfactory to Excellent parole rating. This factor clearly points to the importance of the parole transition period and the overall community re-integration process. Successful and smooth community re-entry is key to preventing recidivism. The Division already operates under the notion that “Transition planning begins at Assessment,” and strives to identify, invite, and maintain the participation of a multi-disciplinary team of professionals and other important members in the parole planning process: the youth, their family, clinical staff, education staff, client manager/parole officer, parole board, community ties, mentors, program staff, etc. This proactive approach puts parole planning front and center, as a priority for all parties involved.

Another important element to highlight is the Division’s efforts over the last six fiscal years: to implement a more advanced Parole Practice Framework that allows for targeted responses (e.g.: services, interventions, incentives, and privileges) to youth behavior exhibited while on parole. This framework allows for monitoring youth success and compliance while on parole, and includes a menu of responses that coincide with both violation behavior and positive behavior. To guide parole officers in the use of graduated responses during community supervision, examples of potential behaviors and responses have been created. Behaviors and responses are categorized together, with positive behavior eliciting positive responses and violation behavior eliciting violation responses. The Parole Practice Framework standardizes the expectations of parolee behavior and conforms to best practices for long-term behavior change.

How a youth adjusts to living in the community has been a consistent predictor of recidivism for nearly two decades. The results of many years of analyses, including the current analysis, have pointed to the importance of this parole adjustment period (and earned rating thereof) in predicting future recidivism. Currently, the Division’s client managers/parole officers assign this rating to youth upon discharge, based on youth behavior and adjustment to parole. If a similar rating system could be implemented earlier in the parole process (perhaps mid-way through parole, or even 30-60 days into parole), youth flagged as

“adjusting” either Poorly or Unsatisfactorily to the parole period could potentially have certain services bolstered or new services put in place to improve the re-entry process. These additional services or adjusted interventions may impact future discharge ratings and ultimately, the likelihood of future offending.

Being Committed to DYS for a Non-Violent Offense

Youth in the Analysis Cohort who were committed for a violent offense were 1.4 times *less likely* to recidivate compared to youth committed for a nonviolent offense. This finding is consistent with criminological research that has found that adults convicted on violent offenses had lower recidivism rates upon release compared to other released offenders [4]. Despite the fact that roughly 55% of currently incarcerated older adult offenders in the United States were convicted for violent crimes, national studies conducted by the Bureau of Justice Statistics revealed that recidivism rates for adults convicted of violent offenses were actually lower than those among the general population [5] [6]. The common assumption that incarcerated violent offenders present an increased risk to the community or to general public safety when released has generally not been supported by the criminological research or literature. In fact, some longitudinal research has demonstrated that a very small percentage of incarcerated offenders “specialize” in a specific type of crime, meaning that offenders with a history of violent offenses are no more or less likely to reoffend with a crime of violence compared to those with no history of violent offenses, and are most likely to reoffend with a “public order” offense [6].

Each youth committed to the Division is assessed for specific treatment and/or offense-specific needs, as well as for risk and protective factors associated with the risk for recidivism. For the current cohorts of youth discharged during FY 2018-19 through 2020-21, the Colorado Juvenile Risk Assessment (CJRA) was used to assess both overall risk for recidivism and domain-specific risks and protective factors over time (typically at assessment, parole, and at discharge). In addition, the CJRA was also used as a tool in the development of the individualized treatment plan for each committed youth. More recently, the Division has moved away from the CJRA and adopted the Youth Assessment and Screening Instrument (YASI) to assess risk and to assist in targeted, individualized treatment planning. Future recidivism reports will include outcome measures specific to the YASI assessment, as these data become available for youth in future discharge cohorts.

After undergoing the extensive assessment period, committed youth receive offense-specific and individualized treatment planning and support, including, but not limited to, opportunities for restorative justice as well as empathy building exercises. These individual case plans and targeted treatments for violent offenders or those with specific victims or offenses play an important role in a youth’s time spent under DYS supervision. These programs, treatments, and opportunities for growth may influence violent offenders to understand the full impact their offenses had on their family, neighbors, and communities, and may encourage them to pursue a more prosocial or positive life course trajectory free from future criminal activities [8] [9].

The True Recidivism Rate is Unknown

Recidivism is defined by Colorado’s youth services system as a new felony or misdemeanor conviction or adjudication for an offense committed within a specified follow-up time period. Given this definition, recidivism rates are close estimates. The rates reported are as close to the true rate as is currently possible; however, they are still an underestimate. Several challenges exist that prevent the exact accuracy of reporting recidivism rates. These challenges are inherent in *all recidivism research*, and are not unique to Colorado.

1) Offenses Committed in Other States Not Captured

This study only uses data for offenses committed within the state of Colorado; therefore, if a youth commits an offense in another state, it remains undetected and is not included in the analysis. While it would be ideal to include offenses committed in other states, obtaining highly confidential data annually from 49 states, most of which do not measure juvenile recidivism regularly, is simply not possible.

2) Time-at-Risk (actual increases)

Time-at-risk increases when follow-up periods are extended (such as the two- and three-year follow-up periods). Increased time-at-risk results in “net widening,” during which more re-offending behavior is detected, and results in increased 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. Similarly, in a two-year follow-up period, that same youth has twice as much time-at-risk, thus doubling the opportunity to re-offend (730 days). It has been demonstrated that with increased time-at-risk, an increased number of youth recidivate. Further, as time passes and youth gain a longer distance from the services and treatment they received during their commitment to DYS, the less of an impact those protective factors have compared to more current and potentially negative peer or social influences.

3) Judicial Process Delays Affect Recidivism Rates

A recidivist act, as described in the Methodology section of this analysis, 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, various court proceedings

^x Please refer to reports published in prior years for a list of long-standing limitations and recommendations.

(hearings, trials, etc.) and then being found guilty by the court. This process can take a substantial amount of time, and due to several possible delays, many filings remain open (a finding of guilt or innocence has not yet been determined) when the data used to create this report is extracted from the Judicial database.

4) Impact of the Global COVID-19 Pandemic

The impact of the pandemic on recidivism is largely unknown at this point in time. Future evaluations and analyses may lend insight as more data is collected and reviewed in the coming years. Criminologists around the nation and the world will undoubtedly be studying the impact of the COVID-19 pandemic on offending behavior and public safety metrics for years to come. As the post-pandemic era unfolds, additional insights and observations will be possible as states and agencies are able to contextualize and analyze data collected during the pandemic.

APPENDIX A – Works Cited

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RECORD MATCHING BETWEEN DYS, JUDICIAL, AND DENVER COUNTY COURT

Matching records provided by the Judicial Department and Denver County Court to youth discharged from DYS is a complex and labor-intensive process that is challenged by an inability of data systems across State agencies to “talk” to one another using a common identifier, such as an identification number. In addition, typical matching techniques used to identify adult offenders are simply not applicable to a juvenile population. Specifically, the typical forms of identification commonly present in the adult population (e.g.: driver’s license, social security number, etc.), are often rare or nonexistent for system-involved juveniles at their point of entry. Although DYS client managers ensure that the vast majority of youth discharge with these critical documents in-hand (state issued photo identification or driver’s license, social security number, birth certificate, etc.), these forms of identification are frequently absent from Judicial records. Thus, youth discharged from DYS must be matched to a multitude of court filings using less straightforward means. For this study, youth were matched between these three data systems through a two-step process. This process is both automated and manual, utilizing DYS data for discharged youth during the time period of interest, and a master dataset provided to DYS by Judicial Department staff that contains seven FYs of Judicial filings and also includes all applicable court filings from DCC. Any questions regarding the methods used to generate and compile the master dataset of court records from Judicial and DCC should be directed toward those two agencies.

Initially, youth are matched by DYS staff through an algorithm that compares elements of a youth’s name and date of birth. Next, any remaining youth who do not match are identified by hand until all discharged DYS youth are accounted for in the master dataset provided by the Judicial Department. This hand-matching process is hindered by the vast number of aliases; misspellings; hyphenated names; attempts at intentional misrepresentation of identity; and data entry errors for dates of birth, social security numbers, etc. present in both datasets. Finally, all cases in the analysis data are reviewed to ensure the automated portion of the match did not result in any “false matches” in which two separate youth with similar names and identical dates of birth are incorrectly matched together. As a fidelity measure, each youth’s commitment case is identified in the master dataset, thus providing great confidence that all youth are being appropriately matched across systems.

BRIEF HISTORY ON DENVER COUNTY COURT RECORD INCLUSION

The current report marks the fourth year that *adult misdemeanors* filed in the Denver County Court System (DCC) were included in the report analyses. DCC is the only county court system in the State whose data is not captured by the Judicial Department’s data system, the primary source of the data used annually to measure juvenile recidivism in Colorado. Denver County adult *felony* convictions are processed by the Denver District Court, which is a part of the Judicial Department’s data system, and *these convictions have always been included in the analyses*. Similarly, Denver Juvenile Court processes juvenile misdemeanor and felony adjudications, therefore *all juvenile adjudications from Denver have always been included in the analyses*. Many

former DYS youth included in the multi-year follow-up periods are 18 years of age or older, and thus could have been convicted of a misdemeanor in DCC. In March of 2019, a Memorandum of Understanding (MOU) was reached with DCC regarding the sharing of adult misdemeanor conviction data, specifically with the Division. Subsequently, another multi-party MOU was executed in September of 2021 in support of the Juvenile Justice Reform Act's uniform recidivism reporting requirements. As a result, the former data sharing process and the record matching responsibilities changed. The most recent agreement specifies that the adult misdemeanor convictions filed in DCC are provided to analysts in the Judicial department, who then merged the DCC filings with Judicial filings to create a single, master dataset, which is then shared with each of the juvenile justice agencies mandated by statute with measuring and reporting juvenile recidivism statewide. The inclusion of adult misdemeanors filed in DCC allows for a more complete analysis of juvenile recidivism in Colorado by all agencies, and eliminates a long-standing limitation to reports produced in previous years.

APPENDIX C: Data Refresh

All discharged youth in the one-, two-, and three-year post-discharge cohorts were re-matched to the filings data provided by the Judicial Department in September of 2022 to ensure that every filing with a finding of guilt was captured for the current report. One limitation of this approach is that it is no longer possible to re-create the recidivism rates from prior years using the current data, as *the filings data provided in September of 2022 are more current and thus contain information that was not yet available in prior years*. In addition, recidivism rates will necessarily be higher using the more recent data than those reported in prior years, as more recidivist acts are detected using these new records. For example, many filings that were “open” at the time the discharge cohorts were originally matched to the filings data in prior years (an arrest was made, charges were filed, but a formal finding of guilt or innocence was yet to be determined) will now have “closed” with a finding of guilt, and are considered to be recidivist acts. In this way, youth who were correctly identified as non-recidivists in the one-, two-, and three-year cohorts using the most current data available in prior years will now be correctly identified as recidivists within these same cohorts as a result of re-matching with more recent data. Re-matching discharged youth to Judicial filings each year provides the most current and accurate data on juvenile recidivism in Colorado available for analysis.

APPENDIX D – Significant Findings – Analysis Cohort

Table 3: Significant Demographic Differences between Recidivists and Non-Recidivists

	Non-Recidivists		Recidivists		<i>p</i> -value ¹	% of Total
	<i>n</i>	%	<i>n</i>	%		
Total (<i>N</i> = 1,136)²	789	100%	347	100%		100%
1. Number of Escapes³						
None	369	46.8%	104	30.0%	<0.001	41.6%
One or more	420	53.2%	243	70.0%		58.4%
2. Parole Rating at Discharge^{4,5}						
Poor to Unsatisfactory	293	41.4%	201	60.2%	<0.001	47.5%
Satisfactory to Excellent	414	58.6%	133	39.8%		52.5%
3. VRA Commitment Offense						
Non-VRA Offense	399	50.6%	199	57.3%	0.035	52.6%
VRA Offense	390	49.4%	148	42.7%		47.4%
4. Violent Commitment Offense						
Non-Violent	519	65.8%	262	75.5%	0.001	68.8%
Violent	270	34.2%	85	24.5%		31.3%
5. Assessed Mental Health Treatment Need⁶						
No Assessed Need	265	34.1%	137	40.2%	0.049	35.9%
Assessed Need	513	65.9%	204	59.8%		64.1%
6. Program in Place at Discharge						
No Program in Place	290	36.8%	153	44.1%	0.020	39.0%
Program in Place	499	63.2%	194	55.9%		61.0%

¹ *p* < 0.05 indicates a statistically significant difference.

² Nineteen youth had more than one discharge during the follow-up periods. Of these 19 youth, nine were found to be exclusively identified as either a recidivist or a non-recidivist in both discharge years, and were included in the analyses. These nine youth were only counted once within the demographics analyses. The remaining nine "dual status" youth were excluded as they could be simultaneously described as both recidivists and non recidivists.

³ An escape is defined as a period of time when a youth absconds from a commitment facility, a community placement, or from parole for four hours or longer without permission.

⁴ The Parole Discharge Rating is the level at which the parole officer determines the youth to be at discharge in regard to parole compliance, which is based on pre-determined criteria.

⁵ Includes youth who went on parole. A total of 95 youth did not go on parole (93), or were deceased (2) prior to completing parole. These 95 youth were excluded from the analyses.

⁶ Includes only those youth with valid CCAR Overall Problem Severity scores administered at assessment. Seventeen youth were excluded from the analysis.

APPENDIX E – Non-Significant Findings – Analysis Cohort

Table 4: Non-Significant Demographic Differences between Recidivists and Non-Recidivists

	Non-Recidivists		Recidivists		<i>p</i> -value ¹	Total
	<i>n</i>	%	<i>n</i>	%		
Total (N= 1,136)	789	100%	347	100%		100%
1. Sex						
Male	656	68.7%	299	31.3%	0.20	84.1%
Female	133	73.5%	48	26.5%		15.9%
2. Age at Discharge						
	19.2		19.0		0.33	19.1
3. Age at Commitment						
	16.9		16.8		0.71	16.9
4. Age at First Adjudication						
	15.2		14.9		0.67	15.1
5. Length of Service Total Commitment²						
	27.0		26.6		0.57	26.9
6. Length of Service Parole³						
	7.0		6.9		0.82	7.0
7. Commitment Offense Type						
Felony	485	61.5%	194	55.9%	0.08	59.8%
Misdemeanor	304	38.5%	153	44.1%		40.2%
8. Prior Number of Adjudications						
None	144	18.3%	55	15.9%	0.33	17.5%
One or more	645	81.7%	292	84.1%		82.5%
9. CJRA Overall Risk Level at Discharge⁴						
Not High	174	26.2%	73	23.9%	0.44	25.4%
High	491	73.8%	233	76.1%		74.6%
10. Black, Indigenous, and People of Color (BIPOC)/Non-BIPOC						
Non-BIPOC	291	36.9%	141	40.6%	0.23	38.0%
BIPOC	498	63.1%	206	59.4%		62.0%
11. Discharge Placement						
Parents/Guardian or Independent Living	463	58.7%	152	56.2%	0.43	57.9%
Other Placement	326	41.3%	195	43.8%		42.1%
12. Assessed Substance Abuse Treatment Need⁵						
No Assessed Need	132	16.9%	50	14.5%	0.31	16.1%
Assessed Need	651	83.1%	296	85.5%		83.9%
13. Co-Occurring Disorder⁶						
No co-occurring disorder at commitment	352	44.6%	166	47.8%	0.32	45.6%
Co-occurring disorder at commitment	437	55.4%	181	52.2%		54.4%

¹*p* < 0.05 indicates a statistically significant difference.

²Length of Service Total Commitment includes all time spent under DYS supervision from the date of commitment, including time spent in community placements, through the end of parole (discharge).

³Includes youth who went on parole. A total of 95 youth did not go on parole (93), or were deceased (2) prior to completing parole. These 95 youth were excluded from the analyses.

⁴Only valid CJRAs administered at discharge were included in the analysis. A discharge CJRA is considered to be valid if it is both complete and was administered within 90 days of discharge. A total of 971 youth in the Analysis Cohort had a valid discharge CJRA (85%).

⁵Includes youth with a valid substance abuse treatment need assessment administered at commitment (*n* = 7 cases excluded).

⁶Includes youth with both a valid substance abuse treatment and mental health needs assessments administered at commitment.

Additional variables were examined for analysis, but were not tested as the distribution of data between groups was either nonlinear, too unequal to continue, or the variables were closely correlated to one another and, in essence, measured the same variance in the dependent variable (recidivist status). These variables included, *but were not limited to*: number of secure need factors, sex offender status, commitment offense type (person or other), commitment type (special or not special sentence), number of recommitments, number of parole suspensions, total residential length of service, and number of parole revocations.

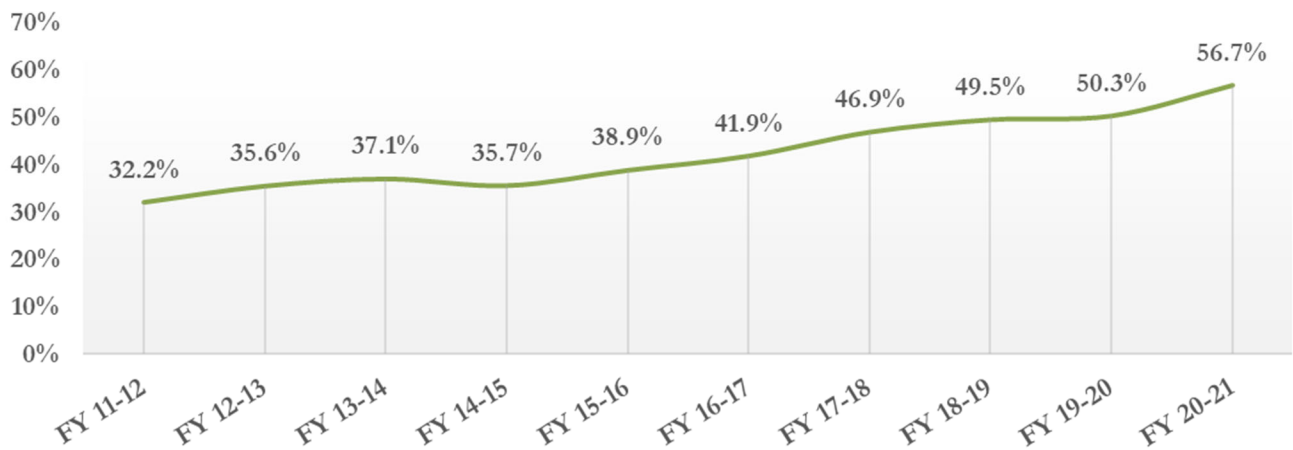
APPENDIX F – Pre-Discharge Recidivism Rates

In May 2019, Senate Bill 19-108 was signed into Colorado law, creating a Juvenile Justice Reform Committee (JJRC) that was responsible for guiding the implementation of reforms to state agencies serving juvenile justice-involved youth populations. As a part of this bill, a common definition of recidivism was required among agencies, along with requirements for shared outcome measures for youth served by Diversion, Juvenile Probation, and the Division of Youth Services. The shared definition of recidivism that was adopted remained consistent with the Division’s existing definition of pre- and post-discharge recidivism.

Pre-discharge recidivism is defined as a new adjudication or conviction for a felony or misdemeanor offense that occurs between the date of commitment to and the date of discharge from the Division of Youth Services^{xi}.

Ten years of pre-discharge recidivism rates are presented below.

Figure 19: Pre-Discharge Recidivism Rate Trends



^{xi} New deferred agreements are also included as recidivist acts. Deferred is treated as a “guilty” finding, for both pre- and post-discharge recidivism. This methodology is *consistent* across Colorado juvenile justice agencies that measure and report juvenile recidivism rates, as agreed upon as part of the uniform reporting mandates.

APPENDIX G – Juvenile Recidivism in the United States

Many states define, track and report juvenile recidivism differently than Colorado. Specific examples of some of the different definitions of recidivism used in other states include, but are not limited to: a return to secure custody for a new juvenile commitment (excludes all offenses that result in any alternatives to juvenile incarceration and all adult offenses), new criminal filings (includes those where charges were dismissed or an individual is acquitted of charges), new adjudications (excludes any adult convictions), etc. Other states also frequently utilize a different research methodology for their recidivism studies, such as restricting the population to only youth who discharged with a “successful” rating (thus excluding “unsuccessful” completers, who may be at increased risk for recidivism), excluding those who discharge to adult jail or corrections, using a follow-up period that is restricted to community-based supervision or parole services, including only individuals charged with felony offenses, or those charged in certain courts. None of these, or other, types of research methods is comparable to those used in Colorado.

A 2013 study of how juvenile recidivism is measured and reported in the United States conducted by the Pew Charitable Trusts surveyed executive branch agencies responsible for juvenile state commitment facilities in each of the 50 states and the District of Columbia.^{xiii} The extensive Pew study examined current practices in the data collection, measurement, performance, and reporting of juvenile recidivism data. The results found that executive branch agencies within individual states utilize very different definitions and methods to study juvenile recidivism, and revealed a need for more policy-relevant data collection and reporting practices. [10] Approximately one in four states does not regularly collect and report juvenile recidivism data, and fewer than half use measures that provide a comprehensive picture of youth reoffending. In this context, a comprehensive measure of youth reoffending refers to comparing youth to previous cohorts, following youth through adult corrections and probation, and tracking youth beyond the juvenile parole period (e.g.: utilizing a longitudinal research design). Using these terms as defined by the Pew study, Colorado is one of the few states conducting regular research with rigorous data collection, measurement, performance evaluation, and reporting of juvenile recidivism information.

More recently, the bipartisan Juvenile Justice Reform Act (JJRA) of 2018 was signed into law in December 2018. This bill reauthorized the Juvenile Justice and Delinquency Prevention Act (JJDP) for the first time since 2002, and included a requirement that the federal Office of Juvenile Justice and Delinquency Prevention (OJJDP) develop a comprehensive national system for measuring recidivism [11]. This

^{xiii} It should be noted that states may have more than one executive branch agency reporting juvenile recidivism data, such as municipalities that serve youth exclusively in their communities, individual youth centers or programs within a larger juvenile justice system, etc. In this way, the term “executive branch agencies” is not equivalent to individual states, nor are these terms mutually exclusive.

forthcoming national system may include a universal definition and uniform method for data collection; however, individual states currently differ in a number of key factors in terms of defining, measuring, and reporting juvenile recidivism [10]. These differences can complicate between-states comparisons, as outlined in Table 5.

Table 5: Recidivism Data Collection and Reporting Practices in Juvenile Corrections

Defining Recidivism	
Measures of Reoffending	Number of Agencies^{1, 2}
Arrest	16
Adjudication or Conviction	28 ³
Commitment (juvenile or adult)	25
Length of Follow-Up	
12 months	21 ³
24 months	15 ³
36 months	19 ³
Follow Offenders into the Adult System	30 ³
Measuring Performance	
Compare to the Previous Year Release Cohorts	32 ³
Compare Rates by Offender Risk	21 ³
Reporting	
At Least Annually	33 ³
Results Released to All Three Branches of Government	21 ³

¹Executive branch agencies should not be confused with individual states

²Sub-categories are not mutually exclusive

³Indicates methods and practices currently used in Colorado

APPENDIX H – Terms and Definitions

Disclaimer: *These definitions are provided for quick reference purposes only. Please refer to the Colorado Revised Statutes for more complete definitions of legal categories and conditions.*

Adjudication - The result of an adjudicatory hearing in which the court determines that it has been proven beyond a reasonable doubt that a juvenile has committed a delinquent act, or that a juvenile has pleaded guilty to committing a delinquent act.

Assessment - Youth committed to DYS are assessed to determine a youth's classification and risk level, as well as needs for appropriate services, placement, and program referral.

Colorado Juvenile Risk Assessment (CJRA) - An assessment tool used to determine risk of recidivism. The comprehensive, empirically validated risk assessment allows the Division to identify and respond to the criminogenic factors directly contributing to youth offending behavior.

Commitment - Commitments are dispositions of juvenile cases resulting in the transfer of legal custody to the Department of Human Services by the court as a result of an adjudicatory hearing on charges of delinquent acts committed by the youth.

Community Residential Placement - DYS contracts with a number of private vendors to provide community-based programs to youth presenting the lowest risk of re-offending and youth transitioning from more secure programs.

Discharge - Time at which youth have completed their commitment and are no longer under the supervision and custody of the Division; most often directly following the completion of the parole period.

Length of Service: Commitment (LOS-C) - All commitment LOS figures are measured in months and are calculated for those discharged youth who spent time in the residential program for which LOS is reported (e.g., assessment, secure, staff secure, and community programs). LOS-C figures should be interpreted with caution. LOS-C is the sum of all residential placement time youth experience over the course of their commitment, but does not equate to time spent in state secure youth centers. LOS-C is the aggregate of time spent in all program types and levels.

Length of Service: Commitment & Parole (LOS-C&P) - The average amount of time in DYS custody and under DYS supervision (sentence start date to discharge date, including parole time), for all youth discharged from DYS during the reporting period, not including escape time.

Length of Service: Parole (LOS-P) - The average amount of time spent on parole status. Parole LOS is measured in months and is based on discharged youth.

Length of Service: State Secure (LOS-SS) - The amount of time spent in a state secure commitment youth center during the reporting period. All commitment LOS figures are measured in months and are based on discharged youth.

New Commitment - Commitment of youth who were not previously committed, or who were previously committed but had been discharged from DYS.

Other Residential - Placements include Job Corps, Group Homes, Hospitalization, etc.

Parole - The status of an offender conditionally released from a residential setting by discretion of the Juvenile Parole Board. Colorado juvenile offenders have a mandatory minimum parole length of 6 months. While on parole a youth is placed under the supervision of a parole officer and is required to observe conditions of release set by the parole officer and the Juvenile Parole Board.

Parole Revocation - The administrative action of the Juvenile Parole Board, which removes a youth from parole status in response to a violation of lawfully required conditions of parole, including the prohibition against commission of a new offense.

Parole Suspension - The administrative action of the Juvenile Parole Board, which removes a youth from parole status in response to a violation of lawfully required conditions of parole, including the prohibition against commission of a new offense. Reconsideration of parole must occur within 90 days on a date determined by the Juvenile Parole Board.

Pre-Discharge Recidivism – A new adjudication, or conviction for a felony or misdemeanor offense that occurred between the date of commitment and the date of discharge from the Division of Youth Services.

Prior Adjudications - Adjudications that occurred prior to the current detention or current commitment sentence.

Recidivism - An adjudication or conviction for a new felony or misdemeanor offense that occurred within one, two, or three years following discharge from the Division of Youth Services.

Regional Management Structure - Decentralized DYS management structure comprised of four geographic regions in the state.

Residential Programs - Programs that provide 24-hour care.

Secure Residential Youth Center - A youth center with physical security features such as locked doors, sally-ports, and correctional fencing.

Staff-Supervised Residential Program - Privately owned and operated, staff-supervised programs provide 24-hour line of sight supervision of youth.

Youthful Offender System (YOS) - a maximum security prison in Pueblo, Colorado, that houses male and female offenders between ages 14–25. Inmates at YOS have all been convicted of a felony (for crimes committed when youth were between 14 – 19 years old) and sentenced as adults (prior to their 21st birthday) to the state's Department of Corrections system.

YTD - Year to Date

CRIMES THAT FALL UNDER COLORADO’S VICTIM RIGHTS ACT

- Murder in the first degree, in violation of section 18-3-102;
- Murder in the second degree, in violation of section 18-3-103;
- Manslaughter, in violation of section 18-3-104;
- Criminally negligent homicide, in violation of section 18-3-105;
- Vehicular homicide, in violation of section 18-3-106;
- Assault in the first degree, in violation of section 18-3-202;
- Assault in the second degree, in violation of section 18-3-203;
- Assault in the third degree, in violation of section 18-3-204;
- Vehicular assault, in violation of section 18-3-205;
- Menacing, in violation of section 18-3-206;
- First degree kidnapping, in violation of section 18-3-301;
- Second degree kidnapping, in violation of section 18-3-302;
- (I) Sexual assault, in violation of section 18-3-402;
- (II) Sexual assault in the first degree, in violation of section 18-3-402, as it existed prior to July 1, 2000;
- Sexual assault in the second degree, in violation of section 18-3-403, as it existed prior to July 1, 2000;
- (I) Unlawful sexual contact, in violation of section 18-3-404; or
- (II) Sexual assault in the third degree, in violation of section 18-3-404, as it existed prior to July 1, 2000;
- Sexual assault on a child, in violation of section 18-3-405;
- Sexual assault on a child by one in a position of trust, in violation of section 18-3-405.3;
- Sexual assault on a client by a psychotherapist, in violation of section 18-3-405.5;
- Invasion of privacy for sexual gratification, in violation of section 18-3-405.6;
- Robbery, in violation of section 18-4-301;
- Aggravated robbery, in violation of section 18-4-302;
- Aggravated robbery of controlled substances, in violation of section 18-4-303;
- Incest, in violation of section 18-6-301;
- Aggravated incest, in violation of section 18-6-302;
- Child abuse, in violation of section 18-6-401;
- Sexual exploitation of children, in violation of section 18-6-403;
- Crimes against at-risk adults or at-risk juveniles, in violation of section 18-6.5-103;

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- Any crime identified by law enforcement prior to the filing of charges as domestic violence, as defined in section 18-6-800.3;
- An act identified by a district attorney in a formal criminal charge as domestic violence, as defined in section 18-6-800.3;
- Any crime, the underlying factual basis of which has been found by the court on the record to include an act of domestic violence, as defined in section 18-6-800.3, pursuant to section 18-6-801;
- Stalking, in violation of section 18-3-602 or 18-9-111;
- A bias-motivated crime, in violation of section 18-9-121;
- Careless driving, in violation of section 42-4-1402, that results in the death of another person;
- Failure to stop at the scene of an accident, in violation of section 42-4-1601, where the accident results in the death or serious bodily injury of another person;
- Any criminal attempt, as described in section 18-2-101, any conspiracy, as described in section 18-2-201, any criminal solicitation, as described in section 18-2-301, and any accessory to a crime, as described in section 18-8-105, involving any of the crimes specified in 24-4.1-302(1);
- Intimidating a witness or a victim, in violation of section 18-8-704;
- Retaliation against a witness or victim, in violation of section 18-8-706, Retaliation against a judge, in violation of section 18-8-615, Retaliation against a juror, in violation of section 18-8-706.5;
- Retaliation against a prosecutor, in violation of section 18-8-616;
- Aggravated intimidation of a witness or a victim, in violation of section 18-8-705;
- Tampering with a witness or victim, in violation of section 18-8-707;
- Indecent exposure, in violation of section 18-7-302; or
- Violation of a protection order issued under section 18-1-1001, against a person charged with committing sexual assault, in violation of section 18-3-402, sexual assault on a child, in violation of section 18-3-405, sexual assault on a child by one in a position of trust, in violation of section 18-3-405.3, sexual assault on a client by a psychotherapist, in violation of section 18-3-405.5, or stalking in violation of section 18-3-602;
- Human trafficking, in violation of section 18-3-503 or 18-3-504;
- First degree burglary, in violation of section 18-4-202;
- Child prostitution, in violation of section 18-7-40; Soliciting for child prostitution, in violation of section 18-7-402; Procurement of a child for sexual exploitation, in violation of section 18-6-404; Pimping of a child, in violation of section 18-7-405; Inducement of child prostitution, in violation of section 18-7-405.5; or Patronizing a prostituted child, in violation of section 18-7-406.
- Posting a private image for harassment in violation of section 18-7-107 or posting a private image for pecuniary gain in violation of section 18-7-108;

Last Updated: January 2018

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

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Colorado Department of Human Services
Office of Children, Youth & Families
Division of Youth Services

<https://cdhs.colorado.gov/about-cdhs/news/cdhs-publications-and-reports>

6th Annual

Educational Outcomes Evaluation of the Colorado Division of Youth Services

Regarding Committed Youth
Discharged in Fiscal Year 2021-22

July 1, 2023



COLORADO
Division of Youth Services
Office of Children, Youth & Families

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Executive Summary of Educational Outcomes

The educational outcomes presented in this report were measured in two ways: academic achievement and academic growth. Importantly, results shared in this report represent the statewide aggregate of a discharge cohort of students. The cohort of students includes two hundred forty-two (242) unique committed and paroled youth who were discharged from the Division of Youth Services during Fiscal Year 2021-22 (July 1, 2021 - June 30, 2022).

Academic Achievement Results

- 64.9% of youth discharged from the Division with either a High School Diploma (HSD) or General Education Diploma (GED) in-hand. For the 35.1% that did not achieve a HSD/GED, a vast majority of students (84.7% or 72 of 85) had circumstances that provided valid reasoning for non-attainment (e.g., were too young, were actively enrolled in school, or discharged directly to the adult correctional system).
- Nearly eighty percent (77.7%), or 188 of 242 youth, obtained a certification or participated in various CTE classes while committed to the Division. These vocational skills give students an opportunity to prepare for college and careers; provides students who have already attained a High School Diploma or GED with additional skills, knowledge and training to be successful in future careers; and also widens career choices for individuals that participate in programming.
- The Division had seventeen (17) students in the cohort of interest who pursued post-secondary education opportunities, specifically enrolling in college courses. All seventeen students were enrolled at Colorado State University - Pueblo (CSU-P).
- Adding context to achievement results:
 - Nearly 30% of youth (28.9%) were involved in Special Education programming and had an Individualized Education Program (IEP). This is more than double the percentage of students requiring special education supports and services in public schools across the nation (13.7%) and in Colorado (12.4%).
 - Complex and multifaceted needs were exhibited by the DYS committed cohort studied for this report, and include: special education programming (28.9%), substance abuse treatment needs (88.0%), mental/behavioral health intervention (61.6%), and co-occurring substance abuse and mental health needs (55.0%). These complex treatment needs play a central role in the ability of youth to achieve academically.

Academic Growth Results

- Students in the FY 2021-22 discharge cohort show modest gains, with mixed outcomes across academic subjects.
- Students in the discharge cohort demonstrated strong growth in reading. Academic growth was primarily distributed across the highest three growth quintiles, indicating average to exceptional growth for a majority of the cohort (77.5% of students with matched exams), and growth approached the 60th percentile (59.5%).
- Growth in Math was average, approaching the 52nd percentile. Exams were less likely to meet growth expectations in Math (57.6% of exams approached, but did not yet meet growth expectations). Growth was primarily distributed around the third (middle) quintile, with 27.4% of youth demonstrating above average growth (61st to 80th percentile), and 24.5% of youth demonstrating below average growth (21st to 40th percentile).
- Importantly, this discharge cohort represents the first cohort presented in this report for which the majority of matched exams were completed during the height of the COVID-19 pandemic (193 of 295 matched exams; 65.4% completed during academic years 2019-20, and 2020-21). Trends will be monitored closely to determine if and how the pandemic impacted the academic growth and achievement of DYS youth.

Introduction

This report serves as the sixth annual report on educational outcomes for committed youth served, and subsequently discharged from the Division of Youth Services. The inaugural report was released in July 2018.

Statutory Reporting Requirements

Section 19-2.5-1501(4), C.R.S.

The Colorado Department of Human Services (CDHS or Department), Office of Children, Youth and Families (OCYF or Office), Division of Youth Services (DYS or Division) has prepared a report on educational outcomes for discharged youth in response to Section 19-2.5-1501(4), C.R.S.. Associated legislation (House Bill 18-1010) was signed into law on March 7, 2018.

“On or before July 1, 2018, and on or before each July 1 thereafter, the department of human services shall collect recidivism data and calculate the recidivism rates and the educational outcomes for juveniles committed to the custody of the department of human services who complete their parole sentences and discharge from department supervision.”

DYS Educational Programming – Committed Youth

The Division of Youth Services is responsible for the care and supervision of detained youth, committed youth and paroled youth. At each youth services center, youth are provided access to educational services; however, the oversight and implementation of the educational services is differentiated based on the specific population that is served by the youth center. The Division operates three general youth center types: detention-only, commitment-only, and multi-purpose youth centers.¹

Per the Children’s Code², the education of detained youth is managed and staffed by the local school district, which works in cooperation with the Division of Youth Services youth center administration. The youth are enrolled in the school district until their release from detention. Conversely, the oversight and implementation of education services provided to committed youth is the responsibility of the Division of Youth Services, as opposed to local school districts. DYS either contracts with educational providers or hires state teachers and staff at each secure, state-owned and operated youth center serving committed youth.

¹ Assessment centers are included in the “multi-purpose” youth center category.

² Section 19-2.5-1511, C.R.S. states: “the school district in which the facility is located [will] cooperate to ensure that each juvenile who is in detention is offered educational services at the grade level identified for the juvenile.”

LISTING OF YOUTH CENTERS CURRENTLY SERVING COMMITTED YOUTH

- Campus at Lookout Mountain (CALM³):
 - Aspire Youth Services Center
 - Clear Creek Youth Services Center
 - Golden Peak Youth Services Center
 - Summit Youth Services Center
- Campus at Mount View (CAMV⁴):
 - Betty Marler Youth Services Center
 - Willow Point Youth Services Center
- Grand Mesa Youth Services Center
- Platte Valley Youth Services Center
- Spring Creek Youth Services Center

Once youth are committed to the Division of Youth Services, they undergo a battery of assessments at a DYS assessment center. Following the assessment period (on average, less than a month), most youth are placed in a secure, state-owned and operated commitment youth center, which is overseen by DYS; a smaller percentage of youth are placed in a contract program and enrolled in a Facility School overseen by the Colorado Department of Education (CDE). CDE Facility Schools are overseen by the Office of Facility Schools, which is one of three offices under the Exceptional Student Services Unit at CDE. These schools are licensed by the CDHS Office of Early Childhood as Residential Child Care Facilities (RCCFs).



IMPORTANT NOTE: The remainder of this report pertains to the educational outcomes of committed youth served by the Division. To provide a complete and clear picture of Division-wide educational programming, detention education services were briefly summarized on the previous page.

³ CALM, formerly Lookout Mountain YSC, converted to a campus comprised of committed youth served by Aspire YSC, Clear Creek YSC, Golden Peak YSC, and Summit YSC beginning November 2020.

⁴ CAMV, formerly Mount View YSC, converted to a campus comprised of two youth centers serving committed youth, Betty Marler YSC and Willow Point YSC, as of May 4, 2022. A third youth center (Rocky Mountain YSC) is also on campus, but not listed as it only serves detained youth.

Cohort Summary

This report focuses on two hundred forty-two (242) unique committed and paroled youth who were discharged from the Division of Youth Services during Fiscal Year 2021-22 (July 1, 2021 - June 30, 2022).

YOUTH DEMOGRAPHICS

Of the youth in this reporting cohort, the vast majority were male (88.8%), with females representing eleven percent (11.2%). In terms of ethnicity and race, 31.8% were White youth, while 68.2% were Black, Indigenous, and People of Color (BIPOC); specifically Hispanic/Latinx 46.3%, Black 19.4%, Asian 2.1%, Native American/Alaskan Native 0.4%⁵. On average, youth were 16.8 years old at time of DYS commitment, and 19.0 years old at the time of discharge. Table 1 contains a summary of this demographic information.

Table 1: Cohort Demographics (N=242)

Demographic	Percentage of Cohort ⁴ (or Average for Age)	Number of Youth
Gender	Male: 88.8% Female: 11.2%	215 27
Ethnic/Racial Grouping	BIPOC: 68.2% White: 31.8%	165 77
Ethnicity/Race	Hispanic/Latinx: 46.3% White: 31.8% Black: 19.4% Asian: 2.1% Native American/Alaskan Native: 0.4%	112 77 47 5 1
Age at Commitment	16.8 years (youngest 13.0 years; oldest 20.2 years)	
Age at Discharge	19.0 years (youngest 14.9 years; oldest 21.0 years)	

⁵ Due to rounding, totals may not sum to 100% throughout the report.

YOUTH TREATMENT NEEDS

Complex and multifaceted needs were exhibited by the DYS committed cohort studied for this report, and include: 88.0% with substance abuse treatment needs, 61.6% with mental/behavioral health intervention required, and 55.0% with co-occurring substance abuse and mental health treatment needs. These complex treatment needs play a central role in the ability of youth to achieve academically. The obstacles associated with high need youth are consistent and well-documented in the research and literature, dating back more than two decades (Krezmien et al., 2008).

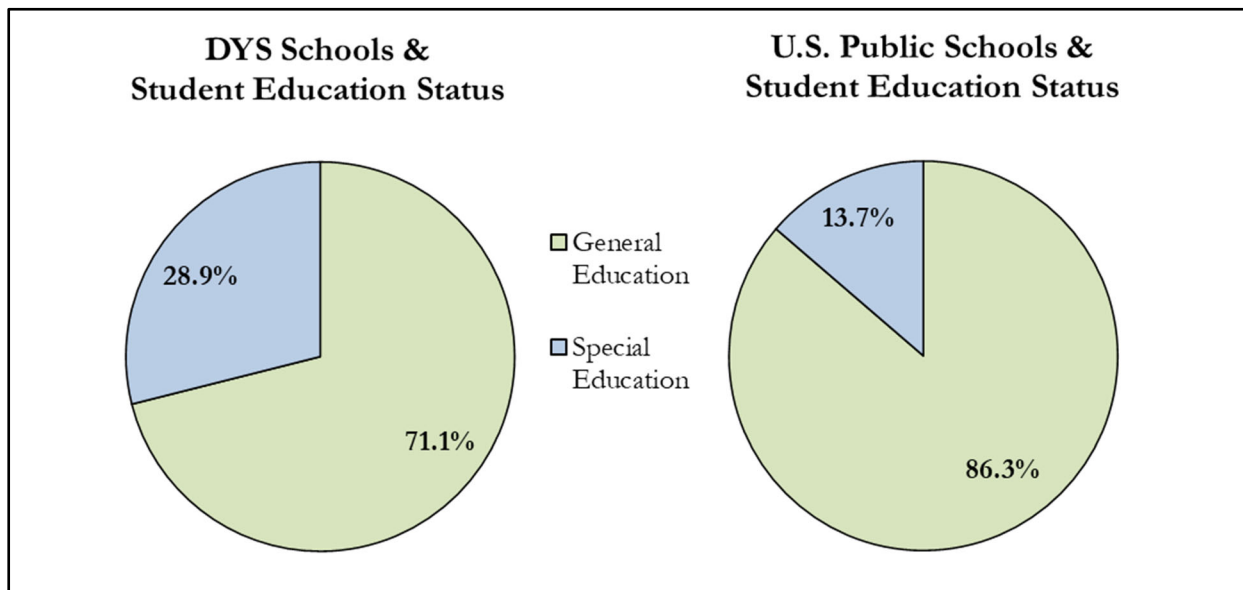
Students with an Individualized Education Program (IEP)

The vision of the Division of Youth Services Special Education Team is to provide individualized support and rigorous education opportunities, utilizing a holistic approach, in order to develop resilient, independent, lifelong learners achieving their best personal outcomes. The Individuals with Disabilities Education Act (IDEA) and Colorado's Exceptional Children's Education Act (ECEA) have established the Individualized Education Program (IEP) as the structure for planning and implementing goals and objectives for children with disabilities.

Each IEP indicates a primary disability that is impacting the youth's ability to access general education, and the IEP may include a secondary disability. The Colorado Department of Education (CDE) recognizes fourteen disabilities that have been identified under the Exceptional Children's Education Act.

Of the 242 cohort youth, 70 were involved in Special Education programming (28.9%) and had an Individualized Education Program (IEP). For context, the National Center for Educational Statistics reports 13.7% of all public school youth as being provided special education supports and services. Additionally, according to the Colorado Department of Education (CDE) enrollment data for 2022-23, 12.4% of public school students received special education supports/services (Colorado Department of Education, 2023). This means that DYS schools have more than double the percentage of students requiring special education programming in public schools. This comparison is illustrated in Figure 1 that follows.

Figure 1: Youth Receiving Special Education Services



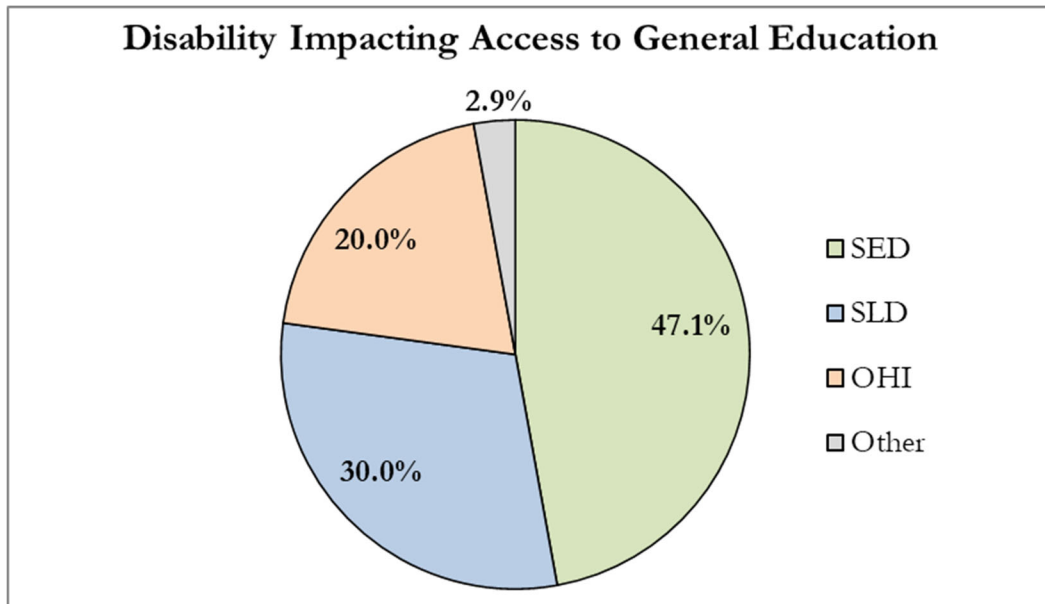
Among those receiving special education services nationally in public schools, the most predominant disability category is specific learning disability (SLD). However, among this specific cohort of DYS youth (N=70 with an IEP), the data show that serious emotional disability (SED, emotional or social functioning which prevents the child from receiving reasonable educational benefit from general education) is the predominant disability, with thirty-three (33) youth or 47.1% having this listed as the primary disability on their IEP. Twenty-one (21) youth or 30.0% had a specific learning disability (SLD), fourteen (14) youth or 20.0% had an other health impairment (OHI), and two (2) youth or 2.9% had another type of disability. In addition to these primary disabilities, many youth had a secondary disability listed on their IEP.

For a count of cohort youth, listed by the primary disability found on individual IEPs, see Table 2. To view a more general breakdown of primary disabilities within the cohort, refer to Figure 2.

Table 2: Disabilities Recognized by the Exceptional Children’s Education Act

Disability Category	Number of DYS Special Education Youth with Primary Disability	Percent of DYS Special Education Youth with Primary Disability
Autism Spectrum Disorder (ASD)	0	0.0%
Deaf-Blindness	0	0.0%
Developmental Delay (DD)	0	0.0%
Hearing Impairment, Including Deafness	0	0.0%
Infant/Toddler with a Disability	N/A	N/A
Intellectual Disability (ID)	0	0.0%
Multiple Disabilities (MD)	1	1.4%
Orthopedic Impairment (OI)	0	0.0%
Other Health Impairment (OHI)	14	20.0%
Serious Emotional Disability (SED)	33	47.1%
Specific Learning Disability (SLD)	21	30.0%
Speech or Language Impairment (SLI)	0	0.0%
Traumatic Brain Injury (TBI)	1	1.4%
Visual Impairment, Including Blindness	0	0.0%
TOTAL	70	100%

Figure 2: Primary Disability Listed on Individualized Education Program (N=70)



EDUCATIONAL OUTCOMES

The mission of DYS educational programming is to assure students have the skills and aptitudes to access the lives they dream of having, while concurrently supporting DYS' vision to achieve youth success and safer Colorado communities. In order to meaningfully measure the educational outcomes of committed youth, two indicators are presented in the following pages: one measure of academic achievement, and one measure of academic growth.

Academic achievement and growth are both important in the education realm, but each provides different information. Achievement shows a student's point-in-time accomplishment, measured against a specific standard, while growth shows student progress made over time. When achievement and growth are measured and reported together, it lends deeper insight into the impact educational programming has on student learning (Douglas, 2013).

The data used to determine the educational outcomes for youth, who have been committed to the Division, complete their parole sentences, and discharge from department supervision, includes two quantifiable measures:

(1) Academic Achievement:

Academic Achievement in the form of a High School Diploma (HSD) signifying that high school requirements have been completed; or in the form of high school equivalency tests, such as the General Education Diploma (GED⁶) or the High School Equivalency Test (HSET), signifying the successful completion of the tests. Meeting this end-result promotes access to the workforce and access to college for youth.

(2) Academic Growth:

Academic Growth in the form of standardized test score results acquired from the Measures of Academic Progress (MAP) assessments. The DYS Education Program uses these standardized test scores from the MAP assessments to better understand student strengths, and areas of need in the classroom, while also monitoring for educational growth.

While all DYS commitment schools prepare students for and offer students state-mandated testing (e.g., the SAT; the PSAT; and the CMAS), the refusal rate for these tests is high, and the high mobility of students often prevents the testing results from being used in meaningful ways.

ACADEMIC ACHIEVEMENT:

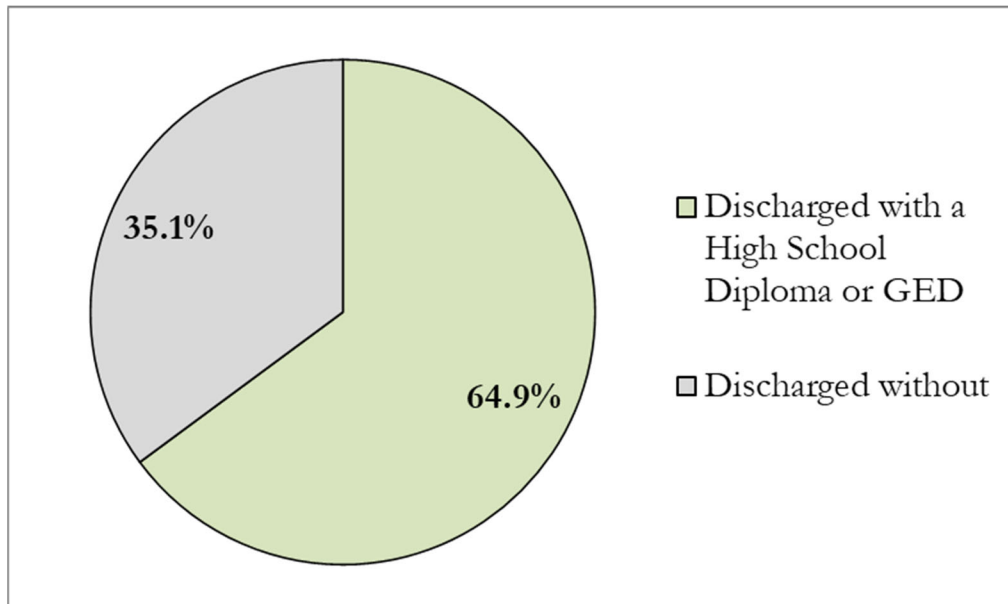
Attainment of a High School Diploma (HSD) or General Education Diploma (GED)

For the 242 youth that were discharged in fiscal year 2021-22, the following results emerged in regard to educational attainment:

- Sixty-five percent (64.9%) discharged with a High School Diploma or a General Education Diploma (157 in total; 78 with a HSD and 79 with a GED);
- Thirty-five percent (35.1%) discharged without a High School Diploma or a General Education Diploma (85 in total).

⁶GED is the most common form of high school equivalency achieved by DYS youth; therefore, this report refers to only High School Diplomas and GEDs achieved in subsequent pages, for ease of reporting.

Figure 3: Youth Achieving a High School Diploma or GED (N=242)



Of the 85 youth who did not attain a HSD or GED prior to Division discharge, seventy-two (72) met circumstances to be considered and discussed. These circumstances pertain to age at discharge, school/class enrollment upon discharge, and discharge placement.

- **Age:** a youth would generally be too young to possess a High School Diploma or GED if younger than 18 years of age. In the U.S. public school system, the majority of students are age 18 at time of high school graduation. On average, youth in this cohort were 19.0 years old at the time of discharge (youngest in cohort was 14.9 years old; the oldest in cohort was 21.0 years old).
 - 38 (of 85) youth were under the age of 18;
- **School or Class Enrollment:** many youth are actively working towards their High School Diploma or GED at the time of discharge. Youth often discharge back into traditional schools, alternative schools, or are enrolled in college courses.
 - 24 (of 85) youth were actively enrolled in school or classes, working towards HSD/GED attainment;
- **Discharge Placement:** in the days and months leading up to either an adult system transfer (e.g., DYS discharge) or deportation, youth often reside in detention or jail placements awaiting movement. In these circumstances, the Division has reduced opportunity and access to youth to provide educational services that would meaningfully impact educational attainment. Furthermore, youth who discharged directly into the adult corrections system

(Department of Corrections, or DOC), are not released back into the community; where educational attainment directly influences successful reintegration.

- 10 (of 85) youth were discharged directly to the adult corrections system.

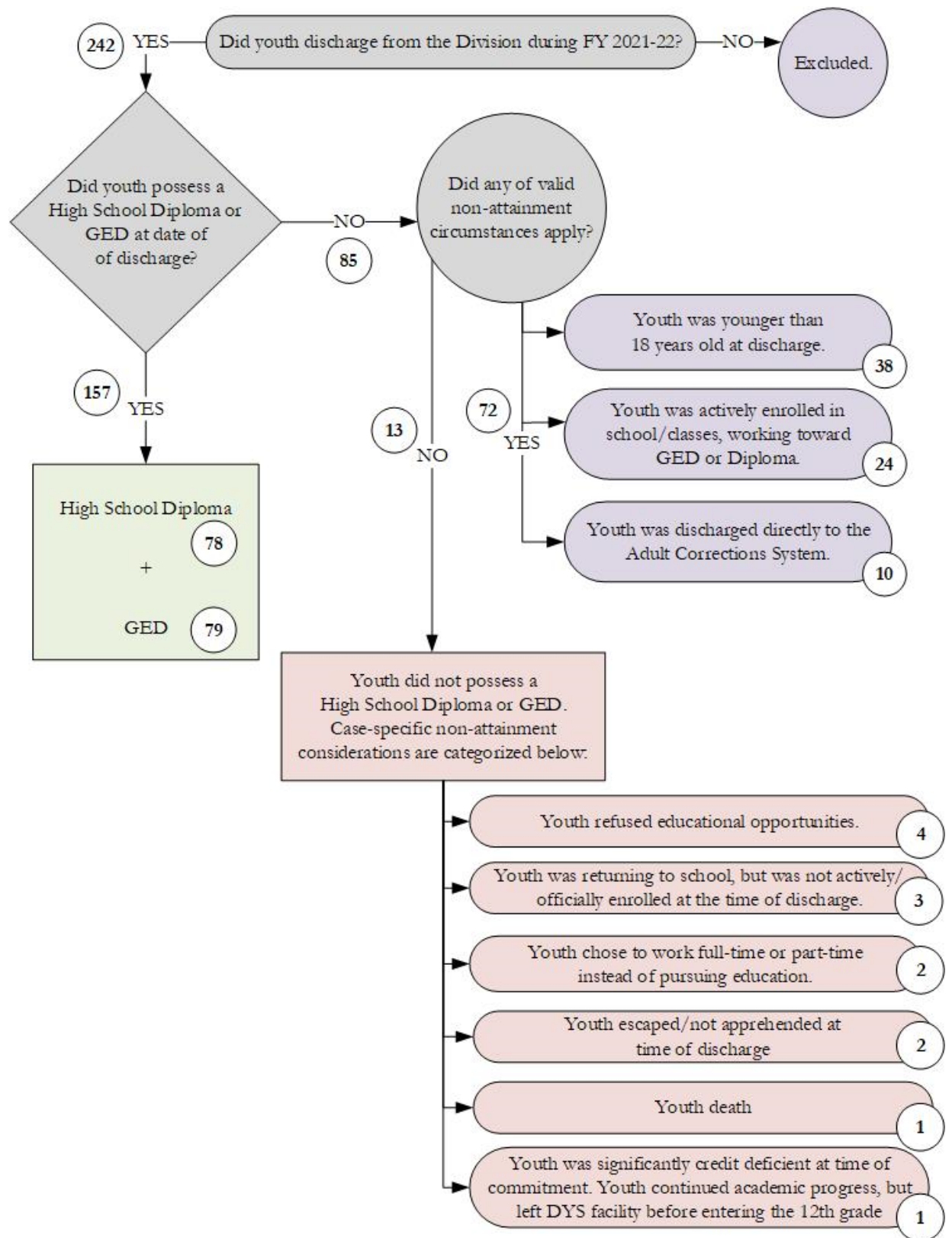
Taking these circumstances into account, seventy-two (72 of 85; 84.7%) youth had common and valid reasons for non-attainment. The remaining thirteen (13; 15.3%) youth who were discharged without a HSD or GED did not fall under the same aforementioned circumstances. Their case-specific considerations, in relation to non-attainment, are as follows:

- Four (4) youth refused educational opportunities;
- Three (3) youth were returning to school, but not actively enrolled at the time of discharge;
- Two (2) youth chose to work full-time or part-time instead of pursuing an education;
- Two (2) youth escaped and had not been apprehended by time of discharge;
- One (1) youth death; and
- One (1) youth was significantly credit deficient at time of commitment. Due to being age 17 and in 11th grade, the determination was made to continue academic progress in high school versus a GED track. Youth left DYS commitment facility before entering the 12th grade.⁷

Figure 4 provides a visual flowchart of educational attainment results and non-attainment considerations.

⁷ Other case complexities existed as well (i.e., short commitment sentence, low reading and math skills making youth inappropriate for the GED track).

Figure 4: Academic Achievement Flowchart



Career and Technical Education Opportunities

The Division offers an array of Career and Technical Education (CTE) opportunities to committed youth. The benefits of CTE programming include: (a) giving students an opportunity to prepare for college and careers; (b) providing students who have already attained a High School Diploma or GED with additional skills, knowledge and training to be successful in future careers; and (c) widening career choices for individuals that participate in programming while improving soft skills necessary for college and careers.

In total, nearly eighty percent (77.7%), or 188 of 242 cohort students obtained a certification or participated in various CTE classes while committed to the Division.

The following list of CTE offerings includes all coursework and content available to be taught if fully staffed and all coursework available online to this cohort. This cohort of DYS youth had various access to courses based on the staffing for their particular youth service center.

- TestOut - A+/Computer Technician Certification
- American Hotel and Lodging Educational Institute (AHLEI) Certifications
 - Breakfast Attendant
 - Front Desk Representative
 - Guest Room Attendant
 - Guest Services Professional
 - Guest Services Gold
 - Kitchen Cook
 - Maintenance Employee
 - Restaurant Server
- American Meat Science Association Certifications
 - Culinary Meat Selection and Cookery
 - Food Safety and Science
 - Meat Evaluation
- American Screen Printers Association Certification
- BASF - Plant Science Certification
- Benz School of Floral Design - Principles of Floral Design Certification
- Bring Your "A" Game Workplace Skill Builder Work Ethic Proficiency Certification
- Bicycle Technology Program
- Business Principles and Management course
- Career Exploration course
- Center for Financial Responsibility - Personal Financial Literacy Certification
- Character Leadership Development course
- Colorado Department of Regulatory Agencies
 - Barbering License
 - Hairstylist License
- Colorado Department of Transportation - Flagger Traffic Safety Certification
- American Red Cross - CPR / First Aid Certification
- Computer Applications with Google Apps Program
- Construction Trades Program
- CTECH Certifications
 - Home Entertainment Technology
 - Introduction to Telecommunications
 - Telecommunications Technician - Copper Network Cabling
 - Telecommunications Technician - Fiber Optic Network Cabling
- Culinary Arts Program
- Driver's Education with Simulator course
- Ducks Unlimited - Ecology Conservation Management Certification
- ELANCO - Veterinary Medical Applications Certification
- Electrical Trades Program
- Employability Skills course
- Equipment and Engine Training Council - Principles of Small Engine Technology Certification
- Express Employment Professionals Certifications
 - Business Office Technology
 - Career Preparedness
- Family / Life Skills course
- Financial Literacy course
- Graphic Design Program
- Home Builders Association of Alabama - Residential Construction Skills Certification

- Horticulture Program
- Life Choices course
- National Horse Judging Team Coaches Association - Equine Management and Evaluation Certification
- National Collegiate Livestock Coaches Association - Principles of Livestock Selection and Evaluation Certification
- On-Campus Work Experience / Food Services
- OSHA Certifications
 - General Industry Certification
 - General Industry Agriculture
 - General Industry Automotive
 - General Industry Construction
- General Industry Cosmetology
- General Industry Culinary
- General Industry Healthcare
- General Industry Manufacturing
- General Industry Veterinary
- Principles of Management
- Rosetta Stone Language Training Program
- ServSafe Certification
- Southwest Airlines - Professional Communications Certification
- Virtual Welding Technology Program
- WorkKeys Career Readiness Certification

Post-Secondary Enrollments

The Division had seventeen (17) students in the cohort of interest who pursued post-secondary education opportunities, specifically enrolling in college courses. All seventeen students were enrolled at Colorado State University - Pueblo (CSU-P). The Division offers CSU-Pueblo courses to youth at each school serving committed youth, regardless of youth center location.

MAP Overview

Academic growth for students served by the Division is measured using the Measures of Academic Progress (MAP) Growth assessments from NWEA™ (formerly Northwest Evaluation Association). These assessments “offer educators efficient and very accurate estimates of student achievement status within a subject.” The test results “compare achievement status—and changes in achievement status between test occasions—to students’ performance in the same grade at a comparable stage of the school year.”

The Division chose the NWEA MAP product for a variety of reasons, chief among them being that the tool is recognized by CDE for Colorado-identified Alternative Education Campuses (AECs) as a means of reporting student growth (Ernst, July 2012, p.1). Additionally, NWEA MAP assessments are widely used and understood by education providers. Lastly, DYS schools and the education system overall must provide annual data to CDE for Title 1 Delinquency funding received. This federal funding comes to DYS through CDE and is used to “improve educational services for children and youth who are neglected (N) or delinquent (D) so that they have the opportunity to meet challenging State academic content and achievement standards.” Annual Title 1 reporting requirements include grade-level improvements for youth who are in the facility for 90 days or more, as determined by a pre- and post-test in both reading and mathematics. Utilizing NWEA MAP assessments fulfills this reporting need.

While DYS has been using NWEA MAP assessments since 2013, other education providers throughout the state do not use the same interim measures. CDE Facility Schools began mandating the use of the iReady assessment suite in 2017 for interim monitoring at their schools, in addition to the state-mandated testing required of all Colorado public schools. Ultimately, as Colorado schools have local control and their own budgetary considerations influencing tools purchased and implemented, the choice of assessments varies and creates a disconnect in the ability to compare student growth, in and between systems.

To assure connection and continuity at DYS, the MAP assessment (subsequently referred to as “test” or “exam”) is administered to all newly committed youth at the youth centers which provide initial assessment services, as required by the Colorado Children’s Code and the Child Find process. The tests given have traditionally included three subject areas: (1) Reading, (2) Language Usage, and (3) Mathematics. Beginning in Fiscal Year 2019-20, the Division transitioned away from the use of the MAP exam to gauge growth in Language Usage, narrowing the scope of subjects to Reading and Math.

Expert Consultation

For purposes of this report, coupled with the agency's overall ability to relay student academic growth outcomes to various audiences, DYS sought the expert advice of several entities. These entities included NWEA (MAP tool authors); leading researchers at New America Schools in Denver, CO; the Colorado League of Charter Schools; Momentum Strategies and Research; and the Colorado Department of Education. In consultation with these experts, the Division received advice in regard to recommended MAP data usage, analysis approach, methodology, comparative data sets, and results presentation.

In terms of placing DYS student MAP growth in context with other student populations, one primary comparison is included in this report:

- 1) Student growth comparisons using norms generated from national Alternative Education Campuses (AEC norms).

In general terms, the DYS committed population most closely mirrors the “high risk students” or alternative school population (i.e., AEC), which allows for a valid and defensible comparison. Following consultation with AEC evaluators in 2019, DYS obtained and utilized national growth norms for AEC students. This year's report incorporates growth norms developed in 2017⁸ by Alternative Education Campus evaluators and NWEA.

Student growth calculations normed on the Alternative Education Campus have increased rigor, setting higher growth expectations while accounting for a broader array of achievement levels. Therefore, the Division presents AEC growth comparisons within this report. The Division will continue to use NWEA achievement percentiles until more rigorous options applicable to a population with diverse academic needs for gauging achievement are available.

⁸ DYS transitioned from 2009 norms utilized in the 2nd annual report to 2017 norms to ensure accurate comparisons, aligning with analyses conducted by Colorado AEC schools. Publicly-available AEC norms distributed by CDE via the AEC accountability site (https://www.cde.state.co.us/accountability/revised-nwea_map_growth_norms).

MAP Assessments: Methodology & Analysis

This section provides the methodology used by the Division of Youth Services to prepare the academic growth results presented in this report. A detailed Technical Methods section is available in the report appendices (Appendix B).

The DYS educational services programming conducts ongoing testing of students using the MAP. All MAP assessments completed by DYS youth are stored in the online MAP Administration and Reporting Center (MARC) system, maintained by NWEA. The MARC system represents the central exam administration and collection site for all DYS student exams. DYS staff conduct regularly scheduled downloads of all data from the MARC system, and transfer data to an intra-organizational database to support internal data tracking, and reporting.

Academic achievement and growth calculations shared in this report include data stored in the NWEA MARC system, extracted following the end of the traditional school year (July 24th). Summer term 2021 data were extracted from the MARC system on August 18th, 2022. As previously described, the select population for this report cohort includes 242 committed youth discharged from the Division during Fiscal Year 2021-22. DYS Education collected 22,202 exams from academic years 2013-14 to 2021-22, of which 1,686 exams were specifically associated with the cohort. These exams were completed in six (6) Youth Services Centers (YSC) and/or campuses:

- Campus at Lookout Mountain⁹
- Campus at Mount View⁸
- Grand Mesa YSC
- Platte Valley YSC
- Spring Creek YSC
- Zebulon Pike YSC¹⁰

⁹ See page 7 for additional details and context regarding campuses and youth centers serving committed youth.

¹⁰ Beginning June 2020, Zebulon Pike initiated transition to a detention-only youth center, ending the collection of commitment educational outcomes data at that center, and Spring Creek began serving a commitment-only population. Included in this analysis are exams of students that came from Zebulon Pike YSC, therefore remaining relevant to this specific section of the report as a youth center *formerly* serving committed youth.

RIT NORMS

How are RIT scale norm scores calculated?

MAP exams are comprised of several concepts. For example, when completing a Math MAP exam, a student may be required to demonstrate knowledge in concepts like algebraic methods, data analysis, and probability, along with other concepts. RIT student status scale scores are the foundation of MAP academic achievement and growth calculations, and they are available for grades K-12 in Reading Information (Reading), and Mathematics. MAP growth targets for Alternative Education Campus students are not available for 12th graders and DYS coded all RIT scores exceeding 11th grade proficiency to indicate the RIT score projected proficiency at or above the 12th grade.

How are RIT scale norm scores used by DYS educators?

DYS educational staff members use academic proficiency references to determine the appropriate curriculum for youth, a standard method utilized by Alternative Education Campuses.

When is the initial MAP exam given to students?

Per statute, the initial educational assessment (i.e., MAP exam) must take place within 45 days of commitment. To standardize and expedite the MAP assessment administration process for all newly committed youth, administrators assign an *initial* designation of school grade, utilizing birthdate and academic year.

ADDITIONAL DATA CONSIDERATIONS

Commitment Date & Discharge Date

Only those MAP exams associated with youth discharged in FY 2021-22 are included in this report. All valid exams available for the discharged cohort were included in analyses, excluding MAP exam data following the DYS commitment and parole window.

Academic Terms Defined

The Division's Data Management & Analysis staff re-coded all MAP exams according to the following academic timeline (i.e., terms):

- Fall term: August 15th - November 30th
- Winter term: December 1st - February 28/29th
- Spring term: March 1st - June 15th
- Summer term: June 16th - August 14th

Standardized Adaptations to Annual Calculation Methods

Matched exams crossing academic years, comprising annual academic growth measurements including Fall-to-Fall, Winter-to-Winter, and Spring-to-Spring term designations are incorporated into these analyses. The Division of Youth Services schools operate year-round, including during the Summer. However, this represents a non-traditional academic schedule and comparative statistics to gauge academic growth using the Summer term are not available. When annual and quarterly growth were available for the same exam (i.e., Fall-to-Winter growth was available, and Winter-to-Winter growth was available), in accordance with recommendations available from AECs to utilize the longest academic period of growth available, DYS utilized *annual* academic growth (Ernst, July 2012, p.4). For comparison, academic growth within a school year provides context regarding periodic growth. However, aggregate growth for the cohort, incorporating all available measurements of growth, is also included in this report.

MAP RESULTS

Of the 242 discharged students, 237 students completed an initial exam (97.9%). Exams for three of these 237 students did not meet the strict criteria for evaluation/analysis and, as such, were excluded from analysis. As a result, 964 MAP exams completed over the course of academic years 2016-17 through 2021-22, ranging from two paired exams to a total of nine valid MAP exams for 234 students, are included in this evaluation.

Data Consideration: Defining the Initial Exam

Outcome analysis involves the use of data collected across two time points and includes students with (at least) two valid exams: an initial valid exam and a subsequent valid follow-up exam.

The students without a valid initial exam included those who:

- had a verified HSD or GED;
- had scored at a 12th grade equivalency or above;
- had consistently refused testing;
- were transferred from DYS to the Youthful Offender System (YOS), operated by the Department of Corrections (DOC), prior to initial exam.

Four percent (4.1%) of students (or 10 of 242) had already attained a High School Diploma (HSD) or General Equivalency Diploma (GED) at the time of DYS commitment. As of the 2021-22 fiscal year, students that tested into the 12th grade or higher were technically considered exempt from additional MAP exam testing. However, students currently falling under these circumstances are still offered additional testing and are included on exam rosters; ultimately though, it is the student's decision to participate or refuse.

AEC Growth Calculations (National Alternative School Norms for Comparison Purposes)

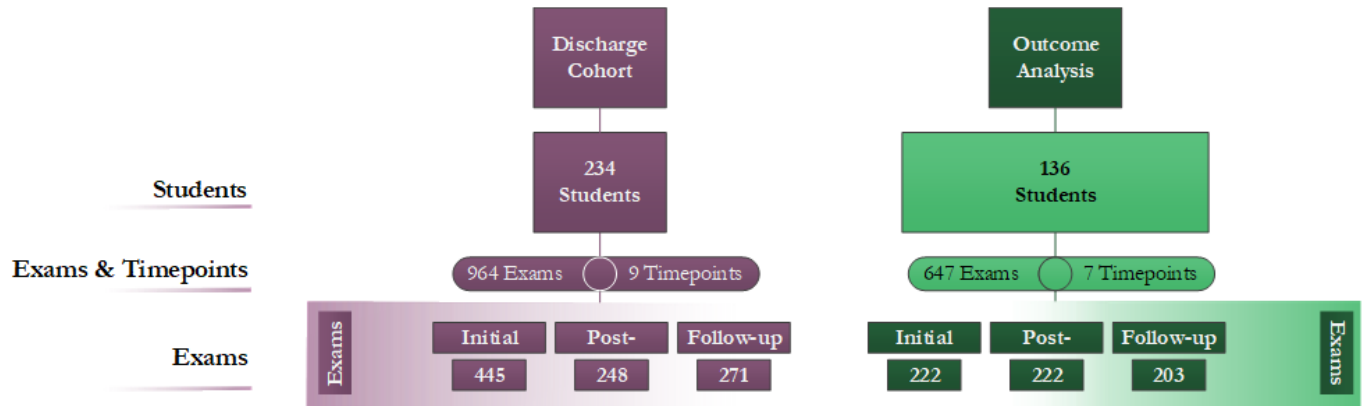
The Division used student growth norms developed by administrators supporting AECs to understand growth relative to typical academic growth for youth in a non-traditional setting. Student growth norm scores were measured from the beginning of the academic year (Fall term) to the second term of the school year (Winter term), and subsequently, to the third term (Spring term).

To ensure uniformity in comparisons with standardized norm calculations (NWEA), student growth norms and growth targets were calculated using the current grade-level of the student, rather than the demonstrated grade-level proficiency. This concept is important to the interpretation of the following findings; DYS holds students demonstrating academic deficiencies who are grade-levels behind youth of the same age to the same standards of their grade-level appropriate peers. Each exam score that does not yet reflect the amount of growth expected of youth of the same age is presented in this report as “Did Not Yet Meet Expectations.”

Of all youth included in the FY 2021-22 discharge cohort, the initial and follow-up exams of 136 students (56.2% of the cohort) met sufficient validity standards for inclusion in calculations of student academic growth. Paired exams collected across invalid academic terms (Spring-to-Fall, Winter-to-Fall, etc.) were removed from analysis, narrowing the scope of *valid* matched pairs to 647 exams for 136 students (reduced from 964 exams collected for 234 students). The norms used to calculate academic growth follow a traditional school setting (Fall-to-Winter, Winter-to-Spring, etc.), and comparison statistics are not available to gauge growth across invalid academic terms. Of the 647 MAP exams included in the matched sample (444 matched across two time points, and 203 follow-up exams), 222 exams collected across school subjects (34.3%) represented an initial MAP

exam with a subsequent post-, or follow-up exam(s) sufficient for inclusion in this report’s outcome analysis.

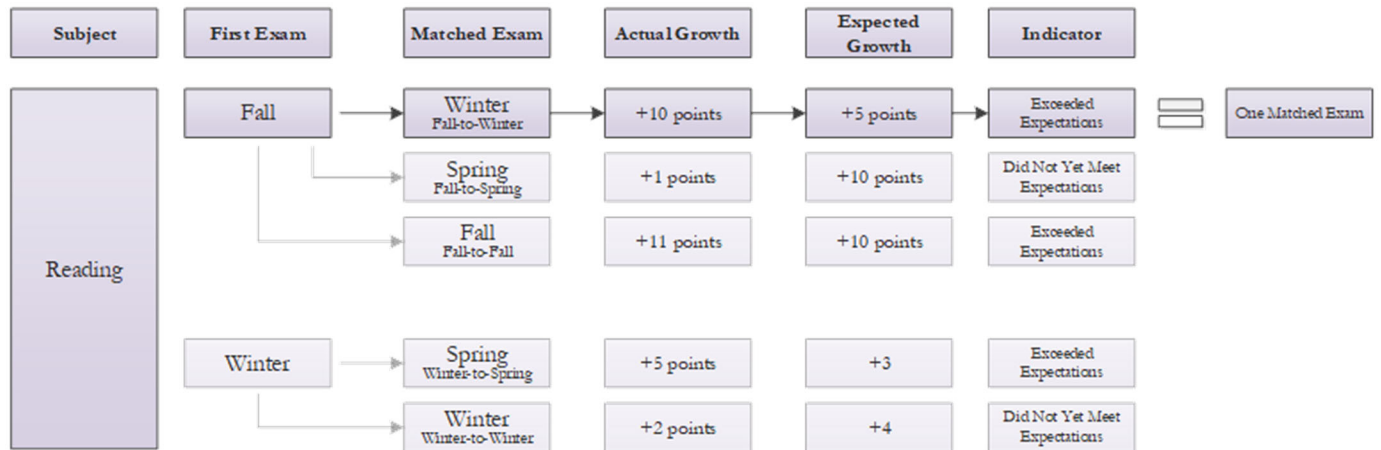
Figure 5: MAP Results Presentation and Interpretation Guidance



When measuring growth from one academic term to a subsequent academic term, each exam may represent a reference point for calculating growth to one or more exams completed in subsequent academic terms. For instance, an exam completed in the Fall term may be used for comparison with an exam completed in Winter, an exam completed in Spring, and an exam completed during the following Fall. Calculations conducted across each of the aforementioned academic terms may inform the academic growth of the student according to each time point.

To illustrate the following comparative analyses of matched exams, Figure 6 presents a demonstrative series of Reading exams completed by one youth. Each exam following the exam completed in the Fall term can be compared to the Fall exam to determine the youth’s academic growth at different points in the school year. The difference between the student’s score on the first exam, and each subsequent exam represents the youth’s “Actual Growth” across each of the defined academic terms. This level of growth is compared to the typical or “Expected Growth” to gauge the youth’s growth in comparison to other students. As illustrated in Figure 6, the total number of matched exams identified as suitable for matched analyses (647), narrows according to the academic terms of analysis. Following Figure 6 from left-to-right, following completion of the initial MAP exam, a matched exam completed in the Winter term represents a matched pair. Although the student completed **two** exams (Fall and Winter), this report presents **one** indicator of growth for the two matched exams. Additionally, for each matched pair, there is a single indication of whether the youth Exceeded, Met, or Did Not Yet Meet typical growth from one academic term to the next.

Figure 6: Coding Matched Exams



In the model described here, the expected growth associated with each term is particular to each academic subject, the grade-level of the student, and the paired academic terms. The Division of Youth Services identified 295 matched pairs meeting sufficient criteria for analysis (see Table 3). When calculating growth across academic years in the case that an exam represented a match to both an exam completed in a term within the same academic year (term growth calculation), and an exam in the following academic year (annual growth calculation), the annual growth calculation was prioritized. 130 annual growth calculations are included in the following analyses (Fall-to-Spring, Fall-to-Fall, Winter-to-Winter, and Spring-to-Spring).

Table 3: Matched Exams by Academic Growth Period

Growth Term	Matched Exams
Fall-to-Winter	89
Fall-to-Spring	26
Fall-to-Fall	35
Winter-to-Spring	76
Winter-to-Winter	39
Spring-to-Spring	30
Total	295

DYS ACADEMIC GROWTH

COMPARISON RESULTS

Across subjects, students demonstrated the strongest growth in Reading, 52.9% of Reading exams exceeded expected growth, and 5.8% met the AEC growth standard. While exams met or exceeded AEC expected growth targets in Reading, Math growth was less likely to meet growth targets for students in the current cohort. More than half of Math exams (57.6%) did not yet meet expectations (see Figure 7).

Figure 7: Student Growth Across Academic Subjects

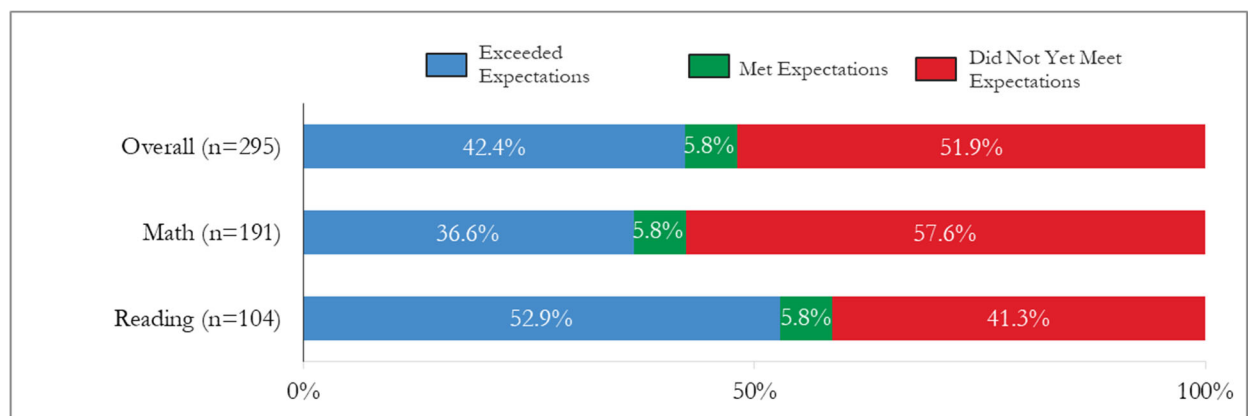
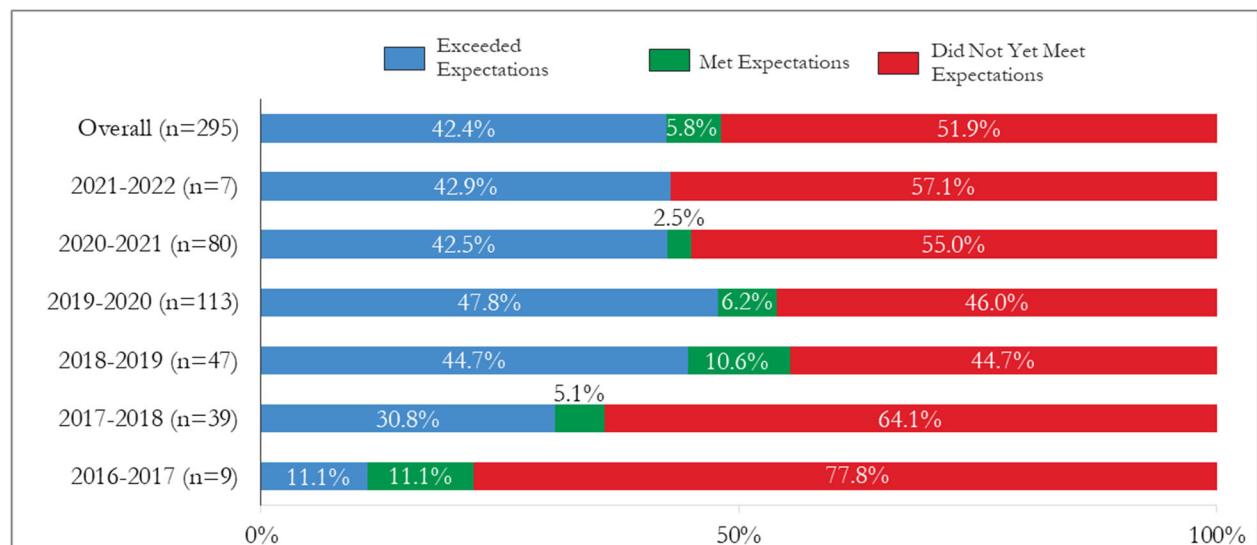


Figure 8: Student Growth by Academic Year

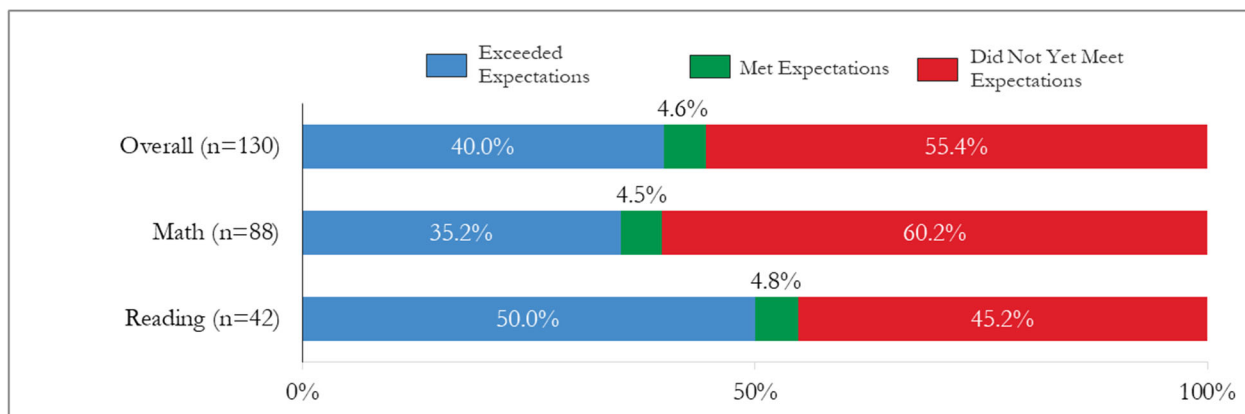


The strongest growth was demonstrated in 2018-19; a total of 55.3% of exams exceeded (44.7%) or met (10.6%) typical academic growth. This discharge cohort represents the first cohort presented in this report for which the majority of matched exams were completed during the height of the COVID-19 pandemic (193 of 295 matched exams; 113 completed in 2019-20, and 80 completed in 2020-21). In academic year, 2020-21 more than half of MAP exams (55.0%) did not yet meet expectations. While this trend appears to have continued into the 2021-22 academic year, much of the cohort was transitioning towards discharge during the 2021-22 academic year and, therefore, there are fewer exams available to interpret the extent of this trend. The number of exams collected across fiscal years reflects a common trend associated with youth transitioning out of DYS care, with fewer exams completed towards the academic year of cohort discharge (FY 2021-22).

As illustrated in Figure 9, isolating annual measures of growth collected over the span of one academic year, and calculating growth across all subjects, 44.6% (40.0% exceeding + 4.6% meeting) of exams met or exceeded typical growth ($n=130$).

When measured over the course of an academic year, students were less likely to approach typical growth. Isolating academic growth in Math, 60.2% of exams did not yet meet typical growth. While prior reports have shown Math growth to lag outcomes in other subjects, the proportion of exams that met or exceeded expectations for this cohort is particularly low.

Figure 9: Student Growth | Annual Growth Only



Student Growth, Using AEC Growth Percentile

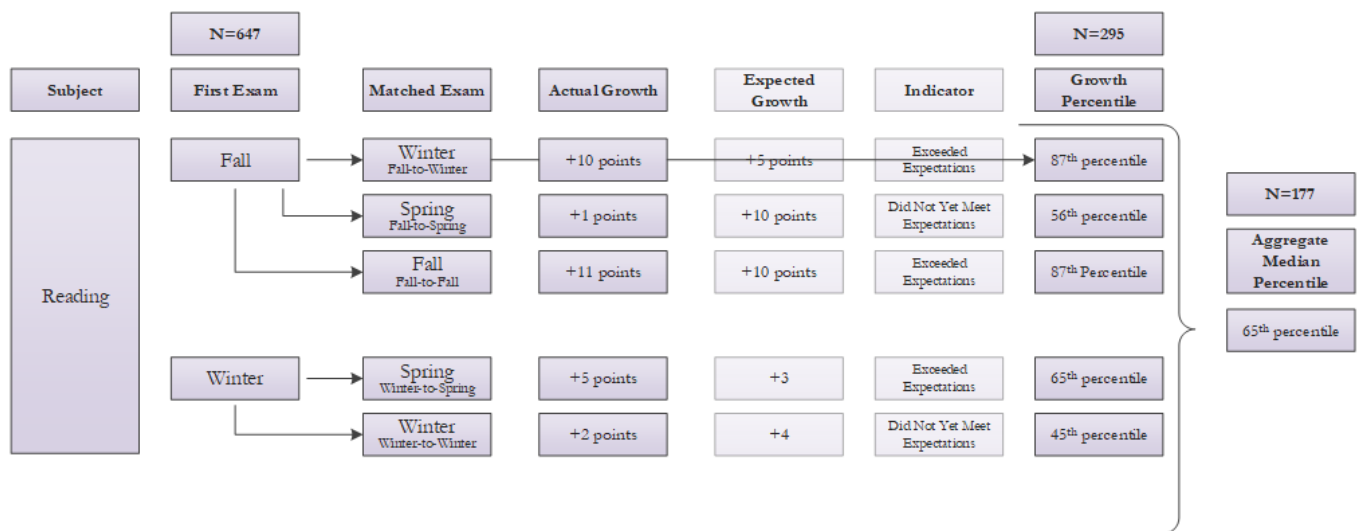
Overall, academic growth exhibited by students is best examined through shifts in percentile growth. To paraphrase the Colorado Department of Education, “A student growth percentile defines how much relative growth a student made. [It] compares each student’s current achievement to students in the same grade...It is **not** about how that recent test score compares to all the other test scores. Even students with test scores that are very low can receive high **growth** scores” (Colorado

Department of Education, 2016). Similar to other data points presented for comparative purposes, growth percentiles denote the magnitude of change in RIT scale score.

DYS utilized percentile growth computations developed by AECs to explore academic growth. The tool for assigning and evaluating growth percentiles included a series of percentiles designed to categorize the magnitude of change in RIT scale scores from an initial exam to a subsequent exam. DYS aligned the categorization of all calculations prepared by AECs, indexed standard growth calculations, and assigned growth percentiles according to the shift in RIT scores across all matched exams, according to school subject, academic term, and student grade-level in SPSS 28.0.

For each matched pair, the calculated change in score from the first exam to the next exam allowed for the designation of the percentile growth attributable to the exam. Similar to calculations described previously, percentiles are particular to the academic terms of the exams, as well as the subject, and grade-level of the student. For instance, as presented in Figure 10, a shift of 10 points in the desired direction of change, when calculated from Fall-to-Winter, represents growth in the 87th percentile for the matched exam.

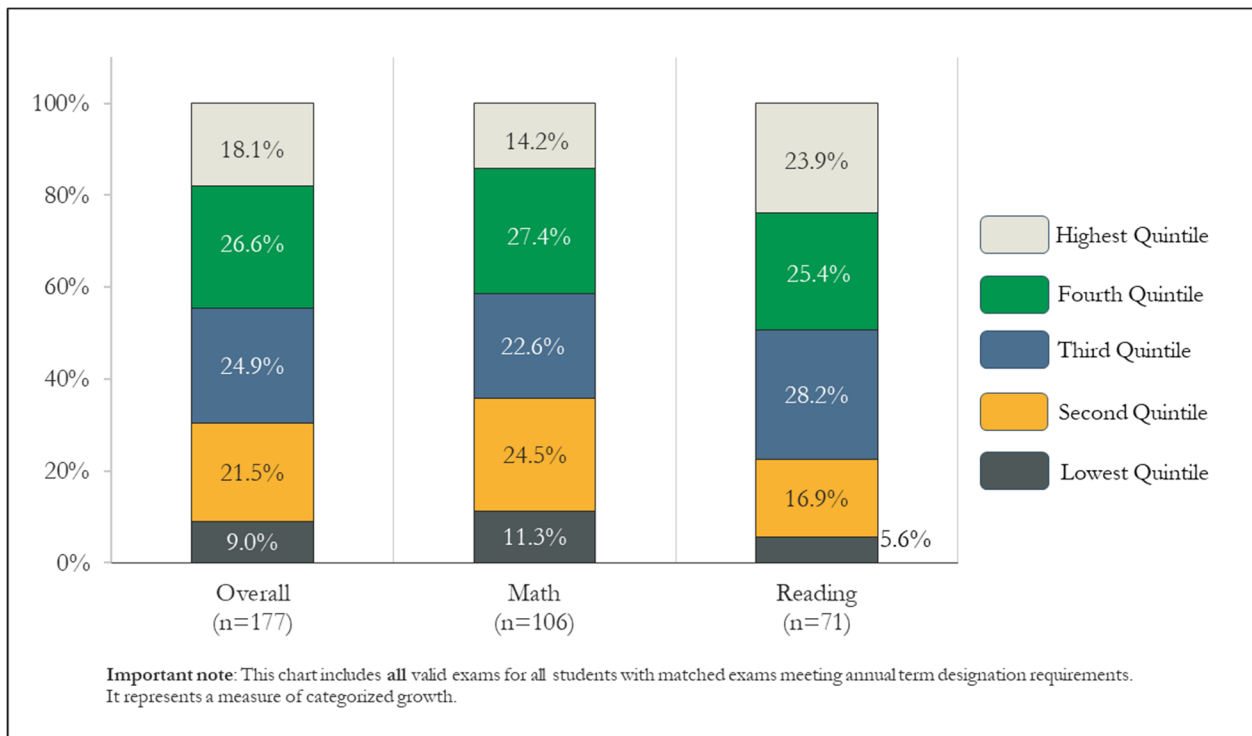
Figure 10: Aggregate Growth Percentiles



After generating each growth percentile according to each matched pair, DYS aggregated all percentiles, across all matched pairs, in each subject for each youth. This calculation represents the median growth percentile for the student, across all exams completed by the student in the academic subject. Finally, DYS aggregated all median growth percentiles across students with matched exams in each subject, and separately, across all subjects.

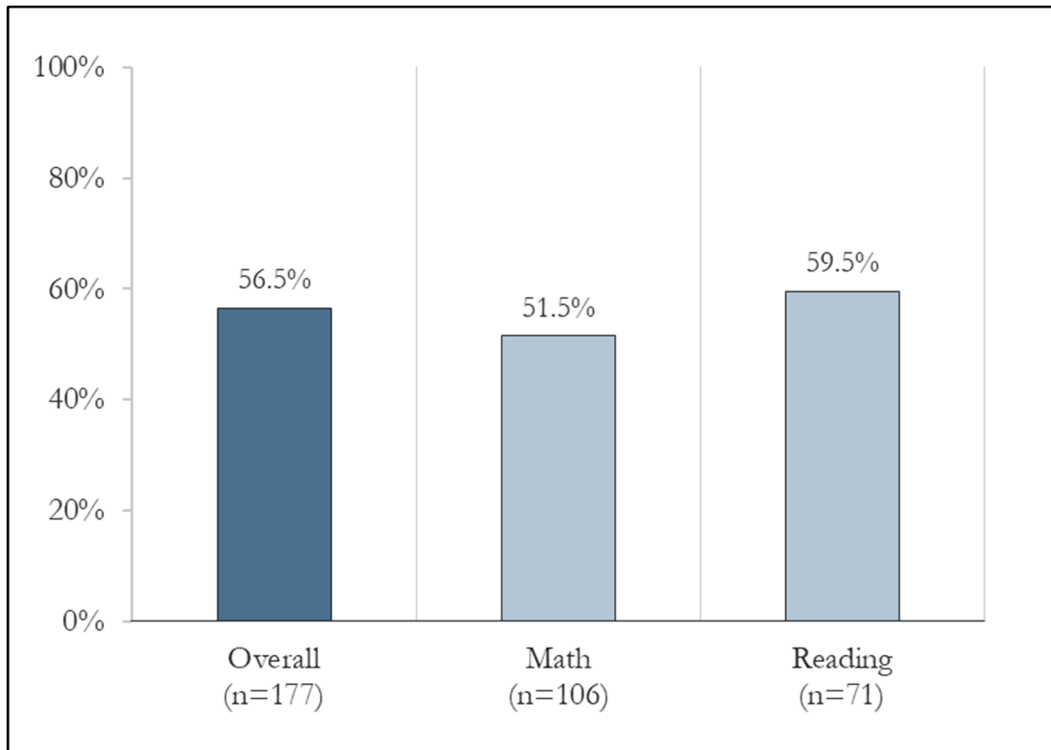
The Division of Youth Services calculated percentile growth medians across valid terms of measurement (Fall-to-Winter, Winter-to-Spring, etc.) by each student, within each subject (Math and Reading). All median percentiles were aggregated across subjects, comprising indicators of growth for 136 students across 177 data points. Across subjects, aggregate median growth percentiles were available in Math for 106 students (43.8% of the discharge cohort), and median growth percentiles were available in Reading for 71 students (29.3% of the discharge cohort).

Figure 11: Academic Growth Quintiles by Subject



Overall, 44.6% of DYS student exams demonstrated above average growth, in the 61st to the 99th percentile (18.1% in the highest quintile and 26.6% in the fourth quintile, respectively; see Figure 11). Growth in Math, which comprises a majority of matched exams (106 of 177 exams; 59.9%), showed average growth; clustering near the third quintile. Nearly three-quarters of students (74.5%; 27.4% fourth quintile, 22.6% third quintile, and 24.5% second quintile) demonstrated growth ranging from below average growth to above average growth. Reading growth continued to show movement in the desired direction of change, with 49.3% of students demonstrating growth in the top two quintiles.

Figure 12: Academic Growth Percentile by Subject



Incorporating all levels of growth into one statistic, the aforementioned trends reflect average growth in Math, and stronger growth in Reading. Math growth outcomes lagged for this cohort when compared to Reading, approaching the 52nd percentile at 51.5%. Growth in Reading was strong for this cohort, reflecting the high percentage of youth approaching above average growth (nearing the 60th percentile at 59.5%). Overall, across subjects, students demonstrated average growth (third quintile; 41st to 60th percentile), presented in Figure 12 as nearing the 57th percentile at 56.5%. While outcomes were mixed across subjects for the cohort, it is important to consider that this is the first cohort for which a majority of exams completed by the cohort were completed at the height of the COVID-19 pandemic, and future reports will provide insight into whether this represents a sustained trend.

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Appendix B: Technical Methods

As recommended by the Office of the State Auditor (OSA), this appendix provides technical guidance detailing the data considerations, data parameters, and to inform external parties on the steps necessary to replicate calculations performed and resulting outcomes presented in this report.

Exam Types and Rasch Unit (RIT)

The MAP assessment consists of testing in three primary academic subjects: Reading, Math, and Language Usage. Traditionally, student growth norm scores, which provide projections to assess student growth in comparison to a nationally-normed sample, have been available for grades K-10 in Reading, Math, and Language Usage. Historically, NWEA has released new RIT norms on a fluctuating triennial and quadrennial schedule, beginning with the first release in 1996 (NWEA, 2012). The most recent release of publicly-available norms is 2020. Following the release of 2020 norms, DYS incorporated the NWEA release into the analysis of cohort data. In contrast to prior releases, norms released in 2020 are available for grades K-12 in Reading and Math, and grades K-11 in Language Usage.

Commitment Date & Discharge Date

Only those MAP exams associated with youth discharged in FY 2021-22 are included in this report. Additionally, exam data following the DYS commitment and parole window were excluded from analysis. To provide an accurate and complete assessment of each student's academic achievement, and growth during their time with DYS, and in accordance with the longitudinal design of analyses presented in this report, all valid exams completed by youth discharged in FY 2021-22 during the commitment from which they discharged, as well as any prior commitment(s) are included in this report.

Initial MAP Exam

Students are tested in one of four regional assessment centers. Following screening, and completion of the first MAP assessment, students tested in a regional assessment center may transfer to another Youth Services Center (or YSC). Therefore, almost all subsequent exams, following the initial admission exam, are completed at a YSC other than the original assessment center. This process presents challenges, for some students, as it relates to both (a) the quality of academic data collected during a challenging and stressful time of transition; and (b) potential assessment fatigue. Both factors may impact initial MAP exam results.

Outcome analysis involves the use of data collected across two time points and includes students with (at least) two valid exams: an initial valid exam and a subsequent valid follow-up exam. Importantly, the earliest *valid* exam completed by each student, whether it represents the initial MAP exam (completed during the assessment process, when first committed to the Division of Youth Services), or a subsequent exam completed when students were admitted to a Youth Services

Center, may represent a valid initial exam. When possible, the initial MAP exam administered *during assessment* was deemed the “initial” exam and used as such for analysis. However, if invalid, the next valid MAP exam was deemed the initial exam.

Low Performance

MAP exams are adaptive; meaning each correct item response is followed by a more difficult item, while each incorrect response is followed by an easier item (NWEA, 2013, p. 6). Recommendations shared by NWEA specify it is appropriate to assume that students will answer at least 50% of the questions correctly. All exams, including initial and follow-up exams with fewer than 40% correct responses are used as a measure of low engagement. Students may test and retest more than once. Each flagged exam is retained in the NWEA MARC system, as well as the DYS Data Management Database.

Brief Duration

While it is possible to obtain a valid score in less than 20 minutes on Language Usage exams, and less than 25 minutes on Reading and Math exams, data reviewed by NWEA show validity is unlikely (see NWEA, August 2018).

Additional Data Considerations

11th and 12th Grade Norms

Achievement and growth calculations presented in this report are calculated referencing Alternative Education Campus norms, which incorporate equivalency projections for 11th grade and “Above 11th grade”.

Time Periods

Student growth norms employed by AECs are dependent on the time period during which the student completes the initial and follow-up exams. In a traditional school setting, growth is calculated from the initial exam of the school year to the end of the first academic period (Fall-to-Winter). If a student score is expected to increase by five RIT points in the first academic period, and five in the second academic period (Winter-to-Spring), total expected academic growth for the year would be ten RIT points (Fall to Spring). This model evaluates academic growth according to the highest level of academic achievement, rather than current grade targets specific to initial achievement within an academic period. This differs from traditional methods and requires a more intensive demonstration of academic growth to meet AEC student status growth targets.

To ensure uniformity across all data points, the Division calculated academic quarter and academic year terms using exam dates retained in the MARC data system.

NWEA normative data are designed to support traditional school settings. The Division of Youth Services schools operate year-round, including during the Summer.

NWEA Median Percentile

Developed from extensive analyses of nationally-normed samples in traditional schools, exams completed by students within the defined testing windows generate a percentile score designed to support peer comparison. The median of all achievement scores generated by the MARC system, across all academic subjects, and school years provides valuable insight into the academic achievement level of students in the cohort. Students in traditional schools are expected to fall in the 50th percentile, or more accurately, normed data extend across a normal distribution and 68% will fall between the 41st and 60th percentile, which represents one standard deviation from mean scores collected across students completing the MAP.

Importantly, percentiles are not available for all valid MAP exams. MAP percentiles also represent the widely-preferred measure of student growth. As required by NWEA, testing windows must parallel standard testing schedules utilized by traditional schools. In other words, students must complete MAP tests on a regular schedule defined by school instruction periods (e.g., trimester, quarter, or a comparable schedule defined by each school). As discussed previously, DYS conducts testing on a quarterly schedule following defined periods of instruction. Currently, while a majority of exams are completed on this schedule, it is not feasible for all students to test on this schedule, including students received into assessment centers, and students in private secure facilities.

DYS administrative staff members collaborate with each Youth Services Center to define a testing week, and assign the weeks of instruction in the MARC system. Exams completed two weeks before the selected testing window, and two weeks after the window are considered valid and include a computed percentile.

AEC Growth Calculations (National Alternative School Norms for Comparison Purposes)

Importantly, the earliest *valid* exam completed by each student, whether it represents the initial MAP exam (completed during the assessment process, when first committed to the Division of Youth Services), or a subsequent exam completed when students were admitted to a Youth Services Center, may represent a valid initial exam. When possible, the initial MAP exam administered *during assessment* was deemed the “initial” exam and used as such for analysis. However, if invalid, the next valid MAP exam was deemed the initial exam.

Paired exams completed in Spring followed by Fall, Winter followed by Fall, and other combinations for which there is not a valid comparison sample, or matched data spanning more than one year between initial and follow-up exam were not included in analyses. All available norms were combined and indexed in SPSS 28.0, according to RIT scale norm scores, academic term, and

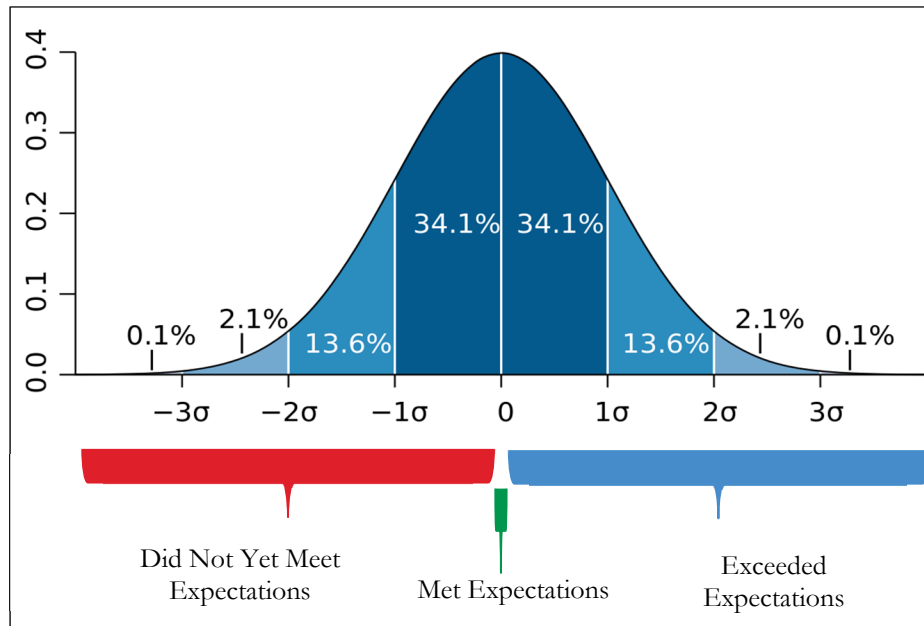
current grade. Importantly, as shown in the following table, expected growth differs by academic subject, academic period, and the RIT score of the student's initial exam. For example, typical growth for a student presenting a 175 on the initial MAP exam is seven RIT points over the course of the Fall-to-Winter academic quarter. If the youth meets this growth target (182 points), expected growth of the student is particular to grade-level and the youth has not changed grades in the second academic term (Winter-to-Spring), so the growth target will be four (4) RIT points in the second academic quarter.

Table 4: NWEA Growth Targets for AEC Students in Reading

NWEA Growth Targets for AEC Students in Reading				
Fall RIT Range	Fall RIT Grade Equivalent	Fall to Winter Growth Target	Winter to Spring Growth Target	Fall to Spring Growth Target
up to 146	K	5 RIT	4 RIT	9 RIT
147-160	1 st	7 RIT	6 RIT	13 RIT
161-179	2 nd	7 RIT	4 RIT	11 RIT
180-192	3 rd	5 RIT	3 RIT	8 RIT
193-201	4 th	4 RIT	2 RIT	6 RIT
202-208	5 th	3 RIT	1 RIT	4 RIT
209-213	6 th	2 RIT	1 RIT	3 RIT
214-217	7 th	2 RIT	1 RIT	3 RIT
218-220	8 th	2 RIT	1 RIT	3 RIT
221-222	9 th	1 RIT	1 RIT	2 RIT
223-226	10 th	1 RIT	1 RIT	2 RIT
227	11 th	1 RIT	1 RIT	2 RIT
228 and above	Above 11 th	0.5 RIT	0.5 RIT	1 RIT

These academic *targets*, developed by AECs under the guidance of the Colorado Department of Education, provide a set of norms to guide the interpretation of growth patterns of students with needs best served outside of a traditional school setting. As described by Ernst (2012), “These targets were determined using the differences between medians in the 2008 NWEA Norm Placement document, which also maps onto the average growth...but do not allow for negative growth in target setting” (p. 8). This is an important difference, and as detailed in the following graphic, there is less variance in what is considered ‘typical growth’, and students must surpass a single data point to demonstrate growth in line with typical academic growth.

Figure 13: Normative Growth Patterns and Guided Interpretation



The AEC growth *calculations* were developed through determining the percentile ranks of observed MAP growth in AECs across the country.

DYS utilized percentile growth developed by AECs to explore academic growth. The tool for assigning and evaluating growth percentiles included a series of percentiles designed to categorize the magnitude of change in RIT scale score from an initial exam to a subsequent exam. DYS aligned the categorization of all calculations prepared by AECs, indexed standard growth calculations, and assigned growth percentiles according to the shift in RIT scores across all matched exams, according to school subject, academic term, and current grade in SPSS 28.0.

Grade Application

Per statute, the initial educational assessment (i.e., MAP exam) must take place within 45 days of commitment. To standardize and expedite the MAP assessment administration process for all newly committed youth, administrators assign an *initial* designation of school grade, utilizing birthdate and academic year. Student grade level is essential to the process of determining the MAP Growth achievement norm for each student upon commitment, as well as categorizing growth within a national context for each youth during their time in Division of Youth Services custody. Without an accurate baseline grade level, it is impossible to place student growth in a national context. School transcripts are not universally-available at the time of the initial MAP assessment.

As outlined in Table 5, and using academic year 2021-22 as a reference point, DYS educational staff would indicate all youth born on or after August 15th, 2007, but before August 15th, 2008, as 9th graders in the MARC data system.



Table 5: Initial Grade Assignment by Dates and Age

Grade	Grade Start Date	Grade End Date	Age
K*	8/15/2016	8/14/2017	5
1*	8/15/2015	8/14/2016	6
2*	8/15/2014	8/14/2015	7
3*	8/15/2013	8/14/2014	8
4*	8/15/2012	8/14/2013	9
5	8/15/2011	8/14/2012	10
6	8/15/2010	8/14/2011	11
7	8/15/2009	8/14/2010	12
8	8/15/2008	8/14/2009	13
9	8/15/2007	8/14/2008	14
10	8/15/2006	8/14/2007	15
11	8/15/2005	8/14/2006	16
12	8/15/2004	8/14/2005	17

*Grade assignments are not applicable to DYS committed youth, per the age of the population served.

For the purpose of this report, student status growth norms and growth targets were calculated on the current grade of the student, rather than the grade proficiency demonstrated by the student. Stated differently, an 11th grade student performing at a grade-level similar to a 7th grade student was expected to demonstrate growth commensurate with other 11th graders, rather than the growth of 7th graders. Importantly, RIT scores maintained by AECs decrease uniformly as students age. This means students initially exhibiting deficits at later stages in life (e.g., a 19-year-old student presenting 6th grade proficiency) have significantly lower growth thresholds to demonstrate successful academic growth.

Appendix C: DYS Policy C 17.8

 <p>COLORADO Division of Youth Services</p>	POLICY C-17-8	PAGE NUMBER 1 OF 5
	CHAPTER: Programs and Services	
	SUBJECT: Educational Programs	
	EFFECTIVE DATE: January 15, 2023	
	 Anders Jacobson, Director	
THIS POLICY RELATES TO: Residential Contract Programs Child Placement Agencies		

Link to Policy:

<https://drive.google.com/file/d/0B32vshZrERKsSDdsdFM0OGhMZ2M/view?resourcekey=0-tj3BeKl8m9PuW327JxdYbA>

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Office of Children, Youth & Families