

Virginia Criminal Sentencing Commission

# VIRGINIA PRETRIAL DATA PROJECT: FINDINGS FROM THE 2019 AND 2020 COHORTS



2023

# Members of the Virginia Criminal Sentencing Commission

## APPOINTED BY THE CHIEF JUSTICE OF THE SUPREME COURT OF VIRGINIA AND CONFIRMED BY THE GENERAL ASSEMBLY

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## Supreme Court of Virginia Virginia Criminal Sentencing Commission

December 1, 2023

TO: The Honorable S. Bernard Goodwyn  
Chief Justice of Virginia  
  
The Honorable Glenn Youngkin  
Governor of Virginia  
  
The Honorable Members of the General Assembly of Virginia

Virginia's Pretrial Data Project was established in 2018 under the direction of the Virginia State Crime Commission as part of the Crime Commission's broader study of the pretrial system in the Commonwealth. The purpose of the Project was to address the significant lack of data available to answer important questions regarding Virginia's pretrial process. The Project was an unprecedented, collaborative effort among numerous agencies representing all three branches of government. Staff of the Virginia Criminal Sentencing Commission provided technical assistance to the Crime Commission during the course of the project. The 2021 General Assembly (Special Session I) passed legislation (House Bill 2110 and Senate Bill 1391) directing the Sentencing Commission to continue this work on an annual basis.

The legislation, now codified in § 19.2-134.1, requires the Sentencing Commission to submit a report on the Pretrial Data Project each December 1. As required, this report is respectfully submitted for your consideration. Please contact the Sentencing Commission should you have questions regarding any aspect of the Pretrial Data Project.

The Sentencing Commission wishes to sincerely thank the staff of the Virginia State Crime Commission who laid the groundwork for the collection of comprehensive pretrial data in Virginia.

Sincerely,

A handwritten signature in black ink, appearing to read "Edward L. Hogshire".

Edward L. Hogshire  
Circuit Judge (Ret.)  
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Virginia State Crime Commission

Virginia State Police

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## Executive Summary

Virginia's Pretrial Data Project was established in 2018 under the direction of the Virginia State Crime Commission as part of the Crime Commission's broader study of the pretrial system in the Commonwealth.<sup>1</sup> The purpose of the Project was to address the significant lack of data available to answer key questions regarding the pretrial process in Virginia. The Project was an unprecedented, collaborative effort among numerous state and local agencies representing all three branches of government. The Crime Commission's study focused on a cohort of individuals charged with a criminal offense during a one-month period (October 2017). The work was well-received by lawmakers, and the 2021 General Assembly (Special Session I) passed legislation (House Bill 2110 and Senate Bill 1391) directing the Virginia Criminal Sentencing Commission to continue this work on an annual basis. Virginia's work in the area of pretrial data collection has begun to receive national attention.

The Sentencing Commission's first report on Virginia's pretrial data collection project was submitted to the General Assembly in 2022.<sup>2</sup> The study focused on individuals with pretrial contact events during Calendar Year (CY) 2018. That period of time was selected in order to establish a baseline of pretrial data. Establishing a baseline allows researchers to better assess the impact of subsequent events (such as the COVID-19 pandemic) or changes in laws or policies (such as the elimination of the presumptive denial of bail from the Code of Virginia). For the current study, individuals with pretrial contact events during CY2019 and CY2020 were selected. A contact event is the point at which an individual comes into contact with the criminal justice system and he or she is charged with a criminal offense, thus beginning the pretrial process.

As with the previous study, for individuals with more than one contact event during the calendar year, only the first event was selected. While adhering to the established data collection methods, the Sentencing Commission introduced another selection criteria for the CY2019 and CY2020 cohorts. With multiple years of pretrial data now available, the Sentencing Commission was able to identify contact events in CY2019 and CY2020 that were associated with a contact event that occurred during the previous calendar year. For example, this may occur if an individual had a contact event in one year that resulted in his release during the pretrial period and, while on pretrial release, the individual was arrested for a new criminal offense during the following calendar year. The new criminal arrest during the pretrial release period is considered an outcome of the original event. For the newest study, the defendant's first contact event in a calendar year was excluded if it was identified as a pretrial outcome for an event that occurred during the previous calendar year. The Sentencing Commission found that the excluded

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<sup>1</sup> See Virginia State Crime Commission. (2021). *Virginia Pretrial Data Project: Final Report*.

<sup>2</sup> See Virginia Criminal Sentencing Commission. (2022). *Virginia Pretrial Data Project: Findings from the 2018 Cohort*.

events accounted for only 6% of all defendants initially selected for analysis; moreover, the underlying demographic characteristics of the excluded defendants were not different from the overall cohort. While the CY2018 cohort does not have the benefit of data from previous years, the general insights about year-to-year changes in pretrial measures and outcomes are not significantly affected by the exclusion of the cases.

As with the previous study, individuals in the cohorts were tracked for a minimum of 15 months, until the disposition of the case or the end of the follow-up period, whichever occurred first. Data for the Project was obtained from numerous criminal justice agencies in Virginia. Compiling the data into a unified dataset requires numerous iterations of matching, merging and data cleaning to ensure accuracy when linking information from the respective data systems to each defendant in the cohort. More than 500 data elements were captured for each defendant, including demographics, charging details, criminal history records, pretrial release status, bond type and amount, court appearance by the defendant, new criminal arrest during the pretrial period, and final dispositions.

The Sentencing Commission's analysis focuses on adult defendants whose contact event included a charge for a new criminal offense punishable by incarceration where a bail determination was made by a judicial officer (i.e., a magistrate or judge). Other defendants, such as those released on a summons, were not analyzed for this report. This report presents various descriptive findings for the selected defendants, their key characteristics, how they proceeded through the pretrial system, and outcomes. This report also compares a number of measures across the three years of data now available. When examining pretrial outcomes, it is important to consider what factors or combination of factors may be associated with success or failure while on pretrial release. Empirically-based risk assessment tools are commonly used to estimate the likelihood of success or failure in the community during the pretrial period in a uniform manner. For the purposes of the Project, the Public Safety Assessment (PSA), a pretrial risk assessment tool developed by Arnold Ventures, was utilized. While the PSA has been validated elsewhere, this year the Sentencing Commission examined the predictive validity of the PSA within Virginia's pretrial population.

Virginia's Pretrial Data Project serves as a valuable resource for policy makers, practitioners, and academics. Findings from the Commission's ongoing analyses may be used to inform policy and practice and provide a platform for discussion of pretrial matters in the Commonwealth today and in the years to come.

## KEY FINDINGS

Presented below are key descriptive findings from the Commission's analysis of CY2018-CY2020 pretrial data. The findings are generally consistent from year to year; however, interesting trends have emerged. These are noted below.

- The demographic characteristics of defendants are similar across all three calendar years. Defendants are mostly male, white, between the ages of 18 and 35, and indigent (Table 1).
- Approximately 46% to 48% of defendants were charged with a felony offense, while 51% to 54% were charged with a misdemeanor or special class offense as the most serious offense in the contact event. Throughout CY2018-CY2020, the most common felony charge was a drug offense. In CY2020, assault became the most common misdemeanor charge (Table 2).
- Throughout CY2018-CY2020, the vast majority of defendants were ultimately released from custody during the pretrial period. Approximately one in ten defendants were detained throughout the pretrial period. Release rates increased slightly during the years examined, from 86.8% in CY2018 to 87.7% in CY2019 and 89.5% in CY2020 (Table 3). Release rates generally increased across all demographic groups in CY2020 (Table 4).
- Over half of the defendants each year were released on a personal recognizance or unsecured bond. The percentage of defendants released on personal or unsecured bond increased from 51.5% in CY2018 to 57.5% in CY2020 (Table 3).
- Across all three years, females were more likely to be released pretrial than males (93.6%-94.8% versus 84.3%-87.5%) and Whites were more likely to be released than Blacks (88.0%-90.4% versus 85.2%-88.1%). Non-indigent defendants were more likely to be released than defendants categorized as indigent (94.2%-94.6% versus 81.4%-85.7%) (Table 4).
- When charged with a felony or violent offense, females remained more likely than males to be released. Similarly, when charged with a felony or violent offense, Whites were released more often than Blacks. Non-indigent defendants charged with a felony or violent offense were much more likely to be released than indigent defendants charged with the same type of offense (Tables 4-1 to 4-8).
- Secured bond amounts at the time of release generally did not vary widely across sex, race, age, or indigency status, or year of release (Table 5).
- Of released defendants, between 15.6% and 16.1% each year were ordered to receive supervision by a Pretrial Services Agency (Table 6). A larger percentage of defendants placed under pretrial supervision requirements received a secured bond compared to those who were released not placed under pretrial supervision (Table 7).

- Across each year examined, a large majority of released defendants were not charged with failure to appear at court proceedings for the offense(s) in the contact event. Similarly, the majority of released defendants were not arrested during the pretrial period for an in-state offense punishable by incarceration. However, the failure-to-appear rate increased from 12.4% in CY2018 to 16.2% in CY2020, while the new-arrest rate increased from 22.4% in CY2018 to 23.5% in CY2020 (Chart 6).
- In CY2018, approximately 60% of defendants were convicted of at least one offense in the contact event (original or reduced charge). The conviction rate dropped to 52.2% in CY2020 (Table 17).
- The percentage of released defendants charged with failure to appear or who were arrested for a new in-state offense punishable by incarceration during the pretrial period increased as the defendants' Public Safety Assessment (PSA) scores increased, suggesting that the PSA may be a useful tool in pretrial release decision making.
- PSA scores for both failure-to-appear (FTA) and new criminal arrest (NCA) were quite similar across the CY2018-CY2020 cohort groups. For both FTA and NCA measures, the largest share of defendants were classified as low risk, having a score of 1 or 2 (Tables 8 and 9).
- Each year, defendants with higher PSA scores were less likely to be released than those with lower scores. A larger percentage of defendants with higher PSA scores (5 or 6) were released during CY2020 than in previous years (Tables 11 and 12).
- In CY2020, the percentages of released defendants charged with failure to appear or who were arrested for a new in-state offense punishable by incarceration were higher than in previous years. Generally, failure rates increased the most for defendants with the highest PSA scores (Tables 15 and 16).
- Descriptive analysis alone cannot validate the predictive power of the PSA instrument. For this reason, more sophisticated analyses were conducted to examine the predictive validity of the PSA within Virginia's pretrial population. Based on CY2018-CY2020 data, the statistical model with only the PSA score (and no other explanatory variables) yielded a moderate level of predictive power, with the standard measure of overall predictive power around 0.60.
- The Commission experimented with expanded statistical models including legal and contextual factors that are not captured by the PSA instrument. Throughout various models tested, the estimation of the PSA score remained highly significant. In general, the expanded models achieved higher predictive power, with the standard measure ranging from 0.70 to 0.72. Findings suggest that the PSA scores are highly correlated with pretrial failures but the PSA instrument does not account for all factors that have influential effects on pretrial outcomes in Virginia.

## Introduction

Virginia's Pretrial Data Project was established in 2018 under the direction of the Virginia State Crime Commission as part of the Crime Commission's broader study of the pretrial system in the Commonwealth.<sup>3</sup> The Crime Commission discovered that many critical questions regarding Virginia's pretrial system could not be answered due to the significant lack of data available. The Pretrial Data Project was created to address this need. The Project was an unprecedented, collaborative effort among numerous state and local agencies representing the Executive, Legislative and Judicial branches. The Project laid the groundwork for the collection of comprehensive data in order to better understand all aspects of the pretrial process. The Crime Commission's study focused on a cohort of individuals charged with a criminal offense during a one-month period (October 2017). The work was well-received by lawmakers, and the 2021 General Assembly (Special Session I) passed legislation (House Bill 2110 and Senate Bill 1391) directing the Virginia Criminal Sentencing Commission to continue this work on an annual basis. The legislation, now codified in § 19.2-134.1, requires the Sentencing Commission to submit a report on the Pretrial Data Project each December 1. The Sentencing Commission also must create and maintain an interactive data dashboard tool on its website that will display aggregated data based on characteristics or factors selected by the user. Lastly, the Project datasets (with all personal/case identifiers removed) must be made available on the Commission's website. The Pretrial Data Project will provide valuable data for policy makers, agency and program administrators, and academic researchers and could become a model for other states interested in examining the pretrial process.

The Sentencing Commission's first report on Virginia's pretrial data collection project was submitted to the General Assembly in 2022.<sup>4</sup> The study focused on individuals with pretrial contact events during Calendar Year (CY) 2018. That period of time was selected in order to establish a baseline of pretrial data. Establishing a baseline allows researchers to better assess the impact of subsequent events (such as the COVID-19 pandemic) or changes in laws or policies (such as the elimination of the presumptive denial of bail from the *Code of Virginia*). For the newest study, individuals with pretrial contact events during CY2019 and CY2020 were selected. A contact event is the point at which an individual comes into contact with the criminal justice system and he or she is charged with a criminal offense, thus beginning the pretrial process. As with the previous study, for individuals with more than one contact event during the calendar year, only the first event was selected. To be consistent with prior analyses, individuals in the cohorts were tracked for a minimum of 15 months (until the disposition of the case or the end of the follow-up period, whichever occurred first).

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<sup>3</sup> Virginia State Crime Commission. (2021). *Virginia Pretrial Data Project: Final Report*.

<sup>4</sup> Virginia Criminal Sentencing Commission. (2022). *Virginia Pretrial Data Project: Findings from the 2018 Cohort*.

While adhering to the established data collection methods, the Sentencing Commission introduced another selection criteria for the CY2019 and CY2020 cohorts. With multiple years of pretrial data now available, the Sentencing Commission was able to identify contact events in CY2019 and CY2020 that were associated with a contact event that occurred during the previous calendar year. For example, this may occur if an individual had a contact event in one year that resulted in his release during the pretrial period and, while on pretrial release, the individual was arrested for a new criminal offense during the following calendar year. The new criminal arrest during the pretrial release period is considered an outcome of the original event. For the newest study, the first contact event in a calendar year was excluded if it was identified as a pretrial outcome for an event that occurred during the previous calendar year. This enhancement to the selection criteria is discussed in further detail in the *Overview of Methodology* chapter. The Sentencing Commission found that the excluded events accounted for only 6% of all defendants initially selected for analysis; moreover, the underlying demographic characteristics of the excluded defendants were not different from the overall cohort. While the CY2018 cohort does not have the benefit of data from previous years, the general insights about year-to-year changes in pretrial measures and outcomes are not significantly affected by the exclusion of the cases described.

Data for the Project was again obtained from numerous criminal justice agencies in Virginia. Compiling the data into a unified dataset requires numerous iterations of matching, merging and data cleaning to ensure accuracy when linking information from the respective data systems to each defendant in the cohort. This process is intensive and requires meticulous attention to detail. More than 500 data elements were captured for each defendant, including demographics, charging details, criminal history records, pretrial release status, bond type and amount, court appearance by the defendant, new criminal arrest during the pretrial period, and final dispositions. The Sentencing Commission's data collection approach continues to utilize the methods established for the original study overseen by the Crime Commission.

Overall, the CY2019 and CY2020 cohorts contain more than 360,000 and 271,000 adult defendants, respectively. Defendants were categorized based on the nature of their first contact event. As with previous reports, this report focuses on defendants whose contact event included a new criminal offense punishable by incarceration where the bail determination was made by a judicial officer (i.e., a magistrate or judge). Other defendants, such as those released on a summons or whose contact was related to a pre-existing court obligation, were not analyzed for this report. Defendants who could not be classified or tracked to due insufficient or conflicting data were also excluded from subsequent analyses.

The next chapter in this report presents a descriptive analysis of pretrial defendants from the multi-year dataset (CY2018-2020), including demographic characteristics, the most serious charged offense, pretrial release mechanisms, pretrial release rates, secured bond amount, pretrial supervision status, risk assessment scores, pretrial outcomes (failure to appear or new criminal arrest), and final disposition of the charges. The report provides a snapshot of pretrial defendants at key points in the pretrial process. Trends or differences across years are discussed. It is important to note that descriptive analysis such as this cannot explain why differences may exist across groups of defendants, nor can it suggest any causal relationships. Additional research is necessary in order to develop a deeper understanding of the relationships among factors and the impact each factor may have on pretrial decision making and outcomes.

The chapter following the descriptive analysis examines the predictive validity of the Public Safety Assessment (PSA). The PSA is a pretrial risk assessment instrument developed by Arnold Ventures. While the PSA has been validated in states and localities outside of Virginia, the Sentencing Commission this year examined the predictive validity of the PSA when applied to Virginia's pretrial population. The Virginia Department of Criminal Justice Services (DCJS) is preparing to pilot test the PSA tool in selected Pretrial Services Agency sites. Findings from the Sentencing Commission's analysis will contribute to the general understanding about the PSA instrument and its effectiveness.

As the Project moves forward, the Sentencing Commission will continue to solicit input from the policy makers, agency and program administrators, and other stakeholders in the pretrial community. This is an important aspect of the Commission's work. Moreover, the Sentencing Commission will continue to explore ways to expand and improve the information available through the Pretrial Data Project.

## Overview of Methodology

When established in 2018, the Pretrial Data Project laid the groundwork for the collection of comprehensive data across all aspects of the pretrial process. The approach developed by the Crime Commission, with technical assistance from Sentencing Commission staff, proved to be a successful, albeit intensive, way to compile and examine pretrial data in Virginia. The Sentencing Commission has largely replicated the approach established by the Crime Commission in the original study of the October 2017 cohort. The Project methodology is discussed in this section. The Project can be broken into distinct stages. These are:

1. Selection of the study cohort;
2. Collection of relevant data from other agencies for each individual in the cohort;
3. Matching and merging records from numerous criminal justice data systems into a unified dataset;
4. Quality control and data cleaning to ensure accuracy;
5. Estimating risk; and
6. Tracking outcomes.

### SELECTION OF STUDY COHORT

For the previous study, the Sentencing Commission selected individuals with pretrial contact events during CY2018 in order to establish a baseline. Establishing a baseline allows researchers to better assess the impact of subsequent events (such as the COVID-19 pandemic) and subsequent changes in laws or policies (such as the elimination of the presumptive denial of bail from the *Code of Virginia*). For the current study, the Sentencing Commission selected individuals with pretrial contact events during CY2019 and CY2020. This will allow, for the first time, comparisons across years.

The primary unit of analysis in the study is a contact event. A contact event is the point at which an individual comes into contact with the criminal justice system and he or she is charged with a criminal offense, thus beginning the pretrial process. For individuals with more than one contact event during CY2018, only the first event was selected. This allows for easier tracking of the individual through the pretrial process without the complexities that may arise due to subsequent, and possibly overlapping, pretrial processes for the same defendant. The cohort does not include juvenile offenders who were arrested and charged with criminal offenses during the calendar year.



Overall, the CY2019 and CY2020 cohorts contain more than 360,000 and 271,000 adult defendants, respectively. Defendants were categorized based on the nature of their first contact event. As with previous reports, the Sentencing Commission's analysis focuses on defendants whose contact event included a new criminal offense punishable by incarceration where the bail determination was made by a judicial officer (i.e., a magistrate or judge). Other defendants, such as those released on a summons or whose contact was related to a pre-existing court obligation, were not analyzed. See Charts 2, 3 and 4 for additional detail regarding types of contact events that were excluded from the descriptive analysis.

While adhering to the established data collection methods, the Sentencing Commission introduced another selection criteria for the CY2019 and CY2020 cohorts. With multiple years of pretrial data now available, the Sentencing Commission was able to identify contact events in CY2019 and CY2020 that were associated with a contact event that occurred during the previous calendar year. For example, this may occur if an individual had a contact event in one year that resulted in his release during the pretrial period and, while on pretrial release, the individual was arrested for a new criminal offense sometime during the following calendar year. The new criminal arrest during the pretrial release period is considered an outcome of the original event. For the current study, the first contact event in a calendar year was excluded if it was identified as a pretrial outcome for an event that occurred during the previous calendar year. The Sentencing Commission found that the excluded events accounted for only 6% of all defendants initially selected for the descriptive analysis; moreover, the underlying demographic characteristics of the excluded defendants were not different from the overall cohort. While the CY2018 cohort does not have the benefit of data from previous years, the general insights about year-to-year changes in pretrial measures and outcomes are not significantly affected by the exclusion of cases based on this new criteria.

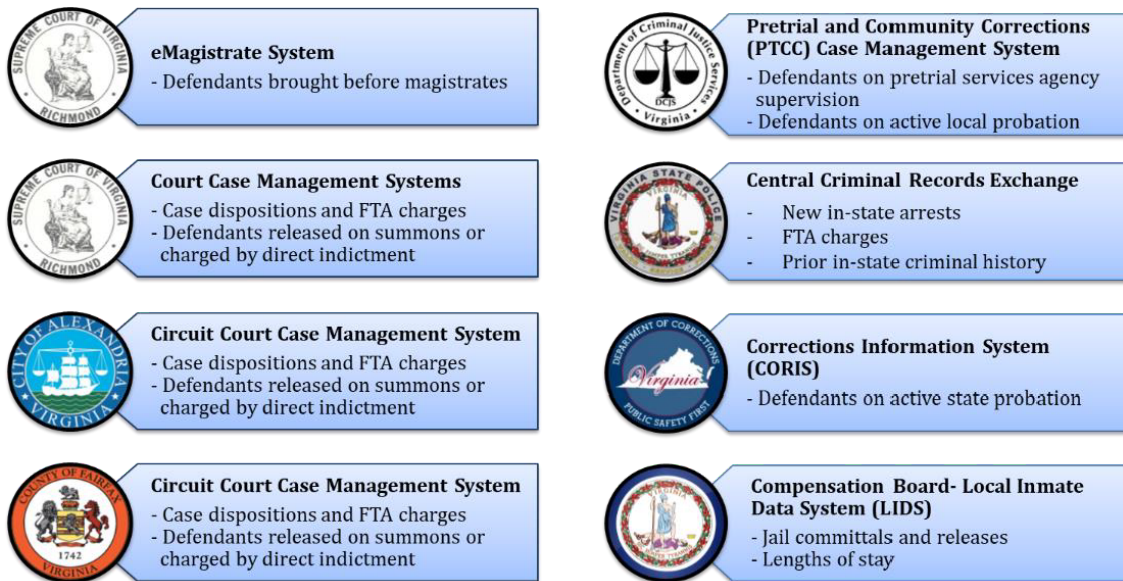
## DATA COLLECTION

During the development of the Pretrial Data Project in 2018, the Sentencing Commission identified state and local agency data systems that contain relevant and reliable information on pretrial defendants and the pretrial process. The Commission requested data from the same state and local agencies for the current study. These agencies included:

- Alexandria Circuit Court;
- Fairfax County Circuit Court;
- Compensation Board;
- Office of the Executive Secretary of the Supreme Court of Virginia;
- Virginia Department of Corrections;
- Virginia Department of Criminal Justice Services; and,
- Virginia State Police.

The specific systems at each agency contributing data to the Project appear in the chart below, and the primary elements provided by each are shown.

### Chart 1 Virginia State and Local Agency Data Systems in Project Dataset



Source: Virginia State Crime Commission. (2021). *Virginia Pretrial Data Project: Final Report*.

There are three primary ways that an individual has contact with the criminal justice system and he or she is charged with a criminal offense: 1) a law enforcement officer issues a summons to an individual requiring them to appear in court, 2) a law enforcement officer makes a custodial arrest and brings the individual in front of a magistrate or, 3) an individual is directly indicted for a felony in Circuit Court and does not appear before a magistrate. Thus, the Court Case Management Systems and the e-Magistrate System were key in identifying individuals who had contact with the criminal justice system and entered the pretrial process. Because the Circuit Court clerks in Fairfax and Alexandria do not participate in the statewide Court Case Management System, the necessary data was requested from those specific clerks' offices. For defendants who were directly indicted and also appeared before a magistrate, the Sentencing Commission took steps to ensure that these defendants were not double-counted in cohort.

In 2022, the Sentencing Commission improved methods for identifying summons cases. These improvements were necessitated by missing dates in the General District Court Case Management System. These improvements resulted in more comprehensive data for cases initiated by summons in the CY2018, CY2019 and CY2020 cohorts.

## MATCHING AND MERGING RECORDS

Criminal justice data systems are not integrated in Virginia. Compiling the data for the Project requires multiple iterations of matching, merging and data cleaning, steps that are necessary to ensure accuracy when connecting information from the respective data systems to individual defendants in the cohort. This process is staff intensive and requires meticulous attention to detail throughout.

The Court Case Management Systems and the e-Magistrate system are charge based, meaning that every charge is a separate record in the system. The inclusion of a charge in the study was based on the date the individual appeared before a magistrate, or the summons date for individuals issued summons (or, if missing, the court filing date), or the arrest date (or, if missing, the court filing date) for individuals directly indicted in Circuit Court. These contact dates were used regardless of the date on which the criminal offense was alleged to have been committed. Charges were then collapsed into contact events, such that all charges associated with the same person on the same contact date were grouped together.<sup>5</sup> This process was not an easy one, due to the lack of universal personal identifiers across all state agencies, missing information, and human error when the data was entered into the system (e.g., slight misspelling of the defendant's name or the inversion of two digits of the birthdate). To address these issues, Sentencing Commission staff used an algorithm based on a similarity index to match records with a high degree of accuracy (although no such algorithm can guarantee 100% accuracy). Through this process, the Sentencing Commission identified the individuals for the study cohort. For individuals with more than one contact event during a calendar year, only the first event in the calendar year was selected. This allows for easier tracking of the individual through the pretrial process without the complexities that may arise due to subsequent, and possible overlapping, pretrial processes for the same defendant. In CY2020, for example, out of more than 660,000 charge-based records, about 70% were associated with first contact events; this indicates that about 30% of criminal charges were associated with persons arrested multiple times during the year.

Information from the various data systems was then used to track each defendant through the pretrial process to final disposition of the case or the end of the follow-up period, whichever came first. For the CY2019 cohort, the follow-up period ended on March 31, 2021; for the CY2020 cohort, the follow-up period ended on March 31, 2022. For example, the e-Magistrate system provided considerable detail regarding the initial bail decision of the magistrate and, for many defendants, bail information at release. The Local Inmate Data System (LIDS) was used to confirm whether or not a defendant was released from jail during the pretrial period. The Pretrial and

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<sup>5</sup> For example, for an individual brought by law enforcement to appear before a magistrate, the contact event includes all charges against an individual heard together in the same jurisdiction on the same day and having the same CBR number (“Commit, Bond, Release”) in the e-Magistrate System.

Community Corrections (PTCC) Case Management System was used to identify defendants who received pretrial supervision. Records from the Court Case Management Systems were used to determine final disposition for the charges in the contact event.

Data provided by the Virginia State Police Central Criminal Records Exchange (CCRE) was used to compute various measures of prior record for each defendant. Obtaining prior record information is important because the individual's criminal history may affect pretrial decisions regarding the defendant's release. It must be noted that the Project only accounts for in-state criminal history. Virginia is a Criminal Justice Information Services (CJIS) Systems Agency signatory state and has agreed to adhere to the Federal Bureau of Investigation (FBI) CJIS policies, which include a prohibition on disseminating out-of-state criminal history records for non-criminal justice (i.e., non-investigative) purposes. Research is not one of the authorized purposes. Therefore, the Sentencing Commission cannot receive out-of-state criminal history data from the Virginia State Police. In order to address the Project's current limitation regarding criminal history records, the Sentencing Commission attempted to obtain out-of-state criminal history data for the Project. To obtain out-of-state criminal history information, an agency must submit a detailed application to the Federal Bureau of Investigation (FBI) describing the project and why the out-of-state criminal history data is needed. The FBI's Internal Review Board (IRB) determines if the request is granted. It is an extremely lengthy process. In March 2023, the Sentencing Commission submitted an application to request out-of-state criminal history data for defendants in the CY2019 and CY2020 cohorts. As of November 1, 2023, the FBI had not responded with its final decision. Therefore, out-of-state criminal history records could not be included.

## **QUALITY CONTROL AND DATA CLEANING**

As noted above, compiling the data for the Project is a rigorous process and requires painstaking attention to detail. The Sentencing Commission has developed a substantial amount of computer programming to perform much of the matching and merging of data through multiple stages. However, this requires numerous rounds of matching, merging and data cleaning to ensure correct information for each defendant is linked together. This means that data are reviewed for completeness and accuracy at each stage throughout the process and, if relevant information is discovered in another dataset, data incorporated in previous stages are corrected or updated.

## ESTIMATING RISK

When examining pretrial outcomes, it is important to consider what factors or combination of factors may be associated with success or failure while on pretrial release. Empirically-based risk assessment tools are commonly used at various stages within the criminal justice system to assist in making decisions related to individual defendants.<sup>6</sup> Studies have consistently found that validated actuarial risk assessment tools combined with professional judgment produce better outcomes than subjective professional judgment alone.<sup>7</sup> Pretrial assessment tools have been used to assist judicial officers during the bail determination process in evaluating defendants' probability for court appearance or the likelihood of remaining arrest-free if released.<sup>8</sup> For studies such as this, it is critical to estimate the likelihood of success or failure in the community during the pretrial period in a uniform manner across all defendants so that comparisons can be made between similarly-situated defendants. For the purposes of the Project, the Public Safety Assessment (PSA) was used. The PSA is an actuarial pretrial assessment tool developed by Arnold Ventures that has been validated in a number of states/localities outside of Virginia.<sup>9</sup> Unlike some other tools, the PSA does not require an interview with the defendant. Using available data, the Sentencing Commission retroactively applied PSA calculations across the entire cohort based on defendants' current offenses and in-state criminal history. For each defendant, the Commission

<sup>6</sup> See Hamilton, M. (2020). *Risk assessment tools in the criminal justice system – theory and practice: A resource guide*. Washington, DC: National Association of Criminal Defense Lawyers. Available at <https://www.nacdl.org/getattachment/a92d7c30-32d4-4b49-9c57-6c14ed0b9894/riskassessmentreportnovember182020.pdf>.

<sup>7</sup> See, e.g., Ægisdóttir, S., White, M. J., Spengler, P. M., Maugherman, A. S., Anderson, L. A., Cook, R. S., ... Rush, J. D. (2006). The meta-analysis of clinical judgment project: Fifty-six years of accumulated research on clinical versus statistical prediction. *The Counseling Psychologist*, 34(3), 341–382; Andrews, D. A., Bonta, J., & Wormith, J. S. (2006). The recent past and near future of risk and/or need assessment. *Crime & Delinquency*, 52(1), 7-27; Jung, J., Concannon, C., Shroff, R., Goel, S., & Goldstein, D.G. (2020). Simple rules to guide expert classifications. *Journal of the Royal Statistical Society*, 183(3), 771-800; National Institute of Justice. (2001). *Pretrial services programming at the start of the 21st century: A survey of pretrial services programs*. Washington: Office of Justice Programs, U.S. Department of Justice.

<sup>8</sup> See, e.g., Stanford Pretrial Risk Assessment Tools Factsheet Project for an overview of various pretrial risk assessment tools, available at <https://law.stanford.edu/pretrial-risk-assessment-tools-factsheet-project/>; See also, for general overview, e.g., Bechtel, K., Holsinger, A.M., Lowenkamp, C.T., & Warren, M.J. (2017). A meta-analytic review of pretrial research: Risk assessment, bond type, and interventions. *American Journal of Criminal Justice*, 42, 443-467; Mamalian, C.A. (2011). *State of the science of pretrial risk assessment*. Washington, DC: Department of Justice, Bureau of Justice Assistance and the Pretrial Justice Institute. Retrieved from: [https://bja.ojp.gov/sites/g/files/xyckuh186/files/Publications/PJI\\_PretrialRiskAssessment.pdf](https://bja.ojp.gov/sites/g/files/xyckuh186/files/Publications/PJI_PretrialRiskAssessment.pdf).

<sup>9</sup> See Advancing Pretrial Policy & Research (APPR). About the Public Safety Assessment at <https://advancingpretrial.org/psa/about/>

computed a score for each of the three PSA scales: the likelihood of Failure to Appear (FTA), the likelihood of New Criminal Arrest (NCA), and the likelihood of New Violent Criminal Arrest (NVCA).<sup>10</sup>

For the original study, the Crime Commission consulted with the Virginia Criminal Sentencing Commission, the Virginia Department of Criminal Justice Services, and Arnold Ventures (formerly the Laura and John Arnold Foundation) to develop a list of violent offenses for purposes of assigning PSA scores to defendants in the cohort. The Sentencing Commission followed these protocols for the current study. However, there are two limitations to this approach. First, because federal and out-of-state criminal history could not be obtained for the Project, the retroactive calculation of PSA scoring does not include federal and out-of-state arrests and convictions. Second, the retroactive application of PSA scoring does not include all court responses to a defendant's failure to appear. For the purposes of the PSA, failure to appear refers to a person missing a pretrial court hearing and the court, in response, issues a warrant, *capias*, or takes similar action.<sup>11</sup> Due to current data limitations, retroactive application of PSA scoring can only identify failure to appear if a charge for failure to appear, or charge for contempt of court for failure to appear, is filed. The Sentencing Commission will work to address these limitations to the extent possible as the Project moves forward.

Recently, debates have arisen over the use of pretrial risk assessment tools. This report does not offer a position on the use of pretrial risk assessment tools in the decision making process. For a discussion of these debates and the arguments put forth by proponents and critics, see the Virginia State Crime Commission's *2021 Virginia Pretrial Data Project: Final Report*.

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<sup>10</sup> Staff complied with the PSA Core Requirements (<https://advancingpretrial.org/terms/>) by adhering to the PSA Scoring Manual Implementation Guide (11A) obtained from <https://advancingpretrial.org/implementation/guides/>. The PSA Scoring Manual was used in a manner consistent with instructions, templates, or other guidance provided by LJAF regarding: data used to score the PSA; definitions of factors; weighting, inclusion and exclusion of factors; and, formulas for scoring or calculation of PSA scores. Sentencing Commission staff made a good faith effort in complying with PSA standards and instructions when assigning PSA risk levels to defendants in the cohort.

<sup>11</sup> See Advancing Pretrial Policy & Research (APPR). About the Public Safety Assessment – How It Works at <https://advancingpretrial.org/psa/factors/#psa-factors>

## TRACKING OUTCOMES

Two primary measures of pretrial outcomes were calculated for the Pretrial Data Project. The first outcome measure captures whether or not the defendant appeared at all court proceedings for the charges associated with the contact event. For this measure, the Sentencing Commission examined the data to determine if the defendant was charged with failure to appear, or contempt of court for failing to appear, during the pretrial period.<sup>12</sup>

The second measure captures whether or not the defendant had a new in-state arrest during the pretrial period for an offense punishable by incarceration. For this measure, the Sentencing Commission examined data from the CCRE system provided by the State Police and the Court Case Managements Systems. The Sentencing Commission took additional steps to ensure, to the extent possible, that the new arrests were based on offenses alleged to have been committed during the pretrial period (i.e., the arrest was not associated with an earlier offense committed prior to the current pretrial period). Defendants were tracked through disposition of the case or the end of the 15-month follow-up period, whichever came first. This provided for a minimum 15-month follow-up period for each defendant. This measure is limited to new in-state arrests because, as noted above, out-of-state criminal history records could not be obtained for the Project.

The two outcomes are separate and distinct. Any new charge that was specifically for failure to appear or a contempt of court charge that contained descriptive information indicating that it related specifically to failure to appear was analyzed as part of the court appearance outcomes. These charges are excluded to the extent possible from the new arrest outcome measure. However, there may have been new charges stemming from a failure to appear that were analyzed within the new arrest outcomes because it

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<sup>12</sup> Charges of failure to appear include violations of §§ 19.2-128, 18.2-456, 16.1-69.24, 29.1-210, 46.2-936, 46.2-938, or 19.2-152.4:1 alleging that the defendant failed to appear prior to the final disposition of the contact event. Charges under §§ 16.1-69.24 and 46.2-938, as well as general contempt of court charges under § 18.2-456, were only included if the charge description indicated that offense charge was based on a failure to appear. A methodology was not able to be developed to determine if all failure to appear charges for defendants in the cohort were directly related to charges in the CY2018 contact event. However, staff was able to determine that approximately 80% of defendants charged with failure to appear during the pretrial period did not have a pending criminal charge at the time of the CY2018 contact event. Approximately 20% of the defendants charged with failure to appear during the pretrial period did have a pending charge at the time of their CY2018 contact event; but, it was unclear if the new failure to appear charge was related to a pending criminal charge or to the CY2018 contact event. It was also determined that, at most, 6% of failure to appear charges during the pretrial period may have been related to a civil matter (i.e., failure to pay child support). Finally, if the defendant was arrested for a new offense and subsequently charged with failure to appear during the pretrial period, the methodology was not able to clearly determine whether the failure to appear charge was related to the CY2018 contact event or to the new offense.

was not clear that the charge specifically related to failure to appear. For example, a new charge under the general contempt statute (§ 18.2-456) could have been related to failure to appear or to failure to comply with an order of the court, such as a pretrial supervision violation. If the new charge under the general contempt statute did not indicate the specific basis of the charge, then the new contempt charge was included within the new arrest outcomes. The Crime Commission identified this issue during its study of the pretrial process and ultimately endorsed legislation that was enacted in 2019 to clarify whether charges under § 18.2-456 related to failure to appear or to some other form of contempt of court. See 2019 Va. Acts. Ch. 708.

## LIMITATIONS

In addition to the limitations described above, other limitations should be noted. Due to the limitations of existing data systems, the Project dataset does not capture many elements that might be useful in a comprehensive study of the pretrial system. Furthermore, the data elements that are included in the dataset may be subject to limitations based on how each factor is defined or captured within its respective data system. This may affect how the findings should be interpreted and the extent to which statewide findings can be generalized.

Most findings presented in this report are based on descriptive analysis of statewide data. Caution should be used in trying draw conclusions or inferences based on descriptive analysis alone. Descriptive analysis cannot explain why differences may exist across groups of defendants, nor can it suggest any causal relationships. Additional research is necessary to examine the relationships among factors and the impact each factor may have on pretrial decisions and pretrial outcomes. Multivariate statistical analysis must be conducted to determine whether there are factors that moderate relationships between variables, and if so, the extent to which certain variables or combinations of variables predict various outcomes.

While aggregate findings presented in this report are an excellent method to examine a statewide snapshot of pretrial defendants at key points in the pretrial process, this approach cannot address variations across localities. Statewide descriptive findings should not be generalized to the individual locality level. Full understanding of Virginia's pretrial process is hindered by the inability to obtain out-of-state criminal history records.



This limitation affects the measurement of prior record, the estimation of risk based on instruments such as the Public Safety Assessment (PSA), and outcome measures related to new criminal arrests. Locality-level data for jurisdictions bordering other states and the District of Columbia may be particularly susceptible to this limitation. However, in-state criminal history may also be incomplete as some individuals charged with an offense may not have been fingerprinted, meaning that particular charge/conviction would not be associated with the individual in the State Police CCRE system (State Police use fingerprints to associate arrests/convictions with individuals).

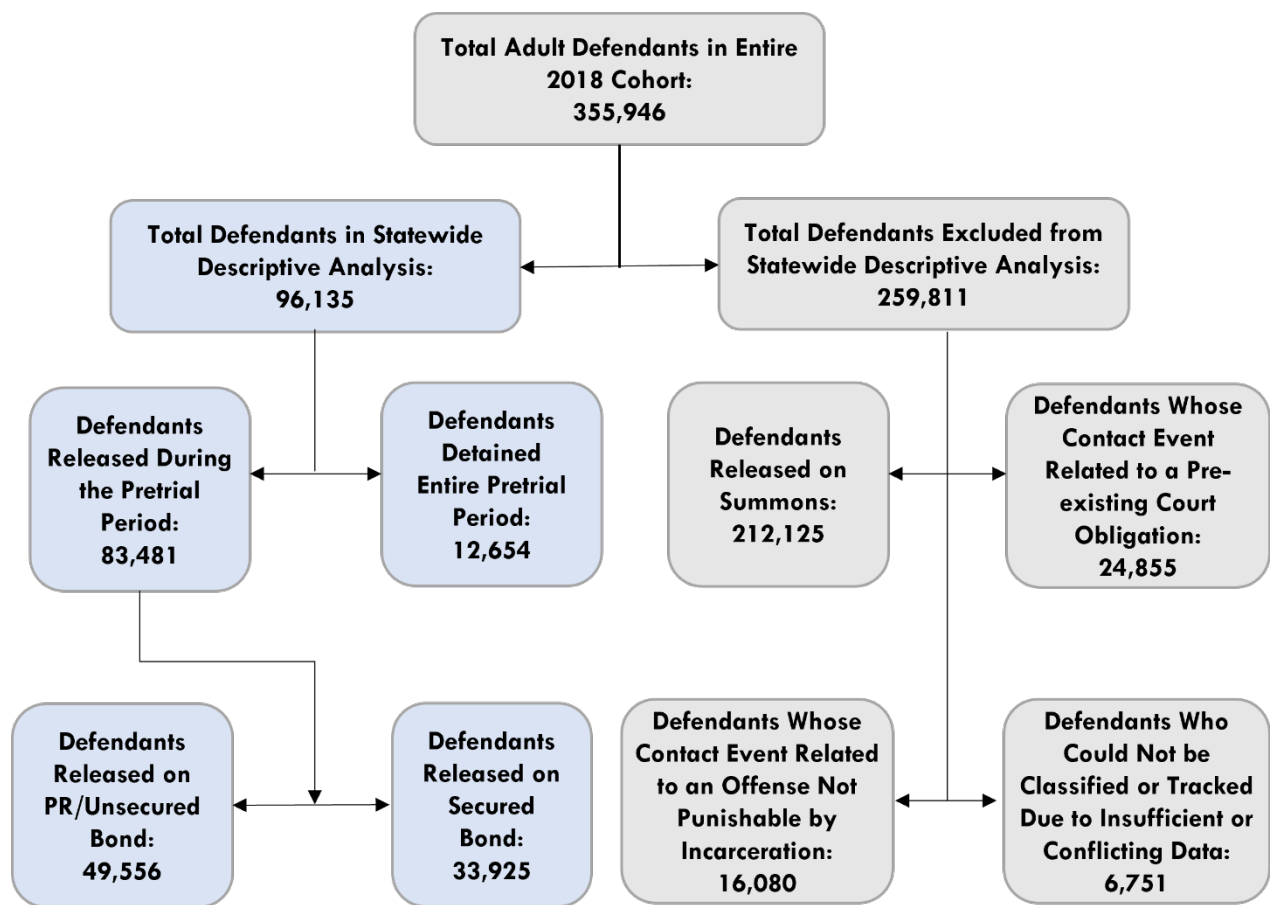
Caution is urged when examining localities or groups with a very small number of contact events. Due to the small number of cases, the data may not provide adequate representation of the locality or group. Small size implies larger variance, and a few outliers may influence the distribution. To make inferences on groups with small size, more data or more advanced statistical methods are needed to overcome the potential issue of large variance.

## Classification of Defendants in the CY2018, CY2019 and CY2020 Cohorts

Last year, the final cohort for the Pretrial Data Project contained nearly 356,000 adults with a contact event during CY2018 (only the individual’s first contact event in CY2018 was included). These 355,946 adult defendants were categorized based on the nature of their first contact event as shown in Chart 2. There were:

- 96,135 defendants whose contact event included a new criminal offense punishable by incarceration where the bail determination was made by a judicial officer;
- 212,125 defendants whose contact event was for a new criminal offense punishable by incarceration for which the defendant was released by a law enforcement officer on a summons;
- 24,855 defendants whose contact event was solely related to a pre-existing court obligation, such as a probation violation, failure to appear, or contempt of court;
- 16,080 defendants whose contact event was for a new criminal offense that was not punishable by incarceration; and,
- 6,751 defendants who could not be classified or tracked due to insufficient data.

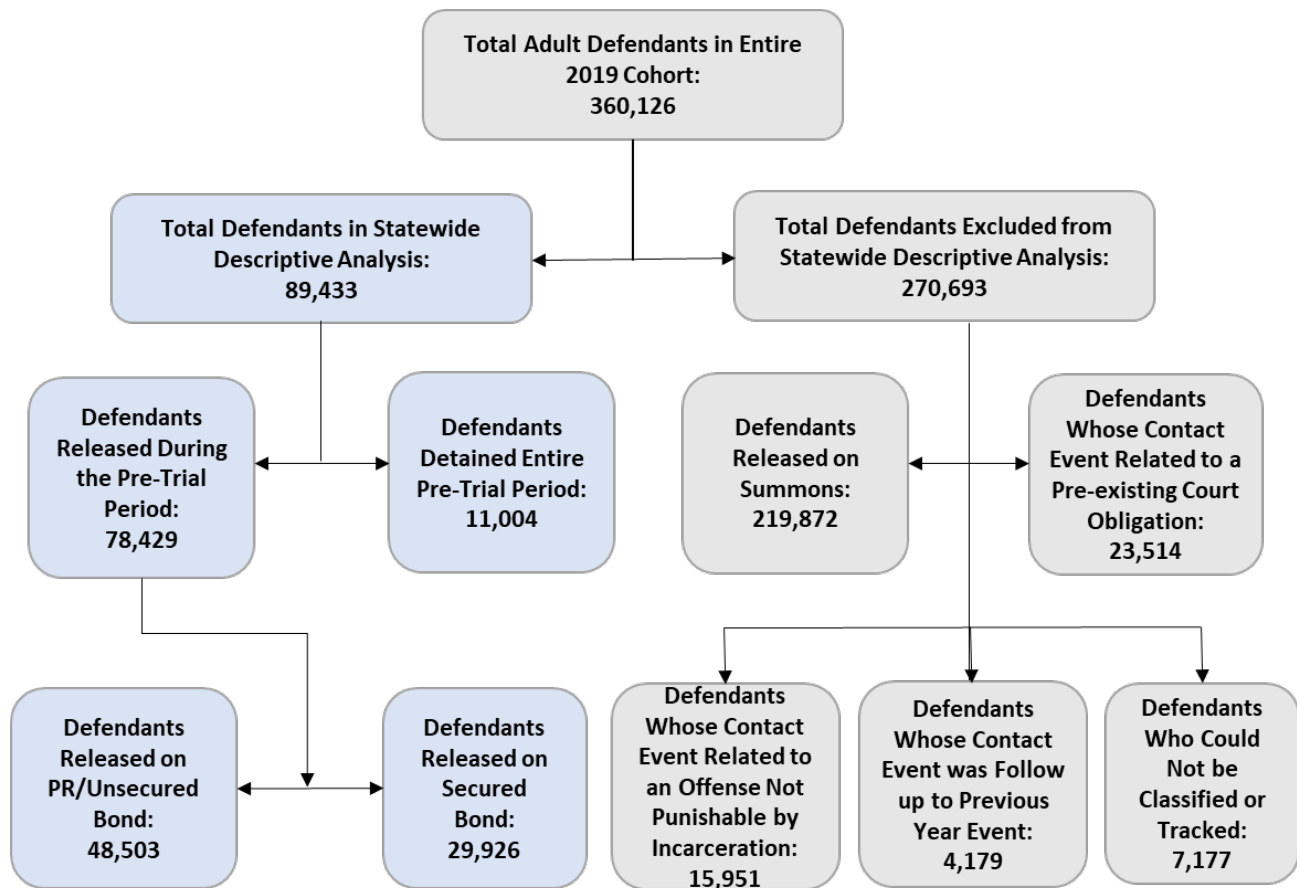
**Chart 2: Classification of Defendants in the CY2018 Cohort**



For this year’s study, the Sentencing Commission compiled data for two cohorts: defendants with a contact event in CY2019 and defendants with a contact event in CY2020. The CY2019 cohort contains more than 360,000 adult defendants (only the individual’s first contact event in CY2019 was included). These defendants were categorized based on the nature of their first contact event as shown in Chart 3. There were:

- 89,433 defendants whose contact event included a new criminal offense punishable by incarceration where the bail determination was made by a judicial officer;
- 219,872 defendants whose contact event was for a new criminal offense punishable by incarceration for which the defendant was released by a law enforcement officer on a summons;
- 23,514 defendants whose contact event was solely related to a pre-existing court obligation, such as a probation violation, failure to appear, or contempt of court;
- 15,951 defendants whose contact event was for a new criminal offense that was not punishable by incarceration;
- 4,179 defendants whose contact event was later identified as follow-up to previous year’s contact event; and,
- 7,177 defendants who could not be classified or tracked due to insufficient data.

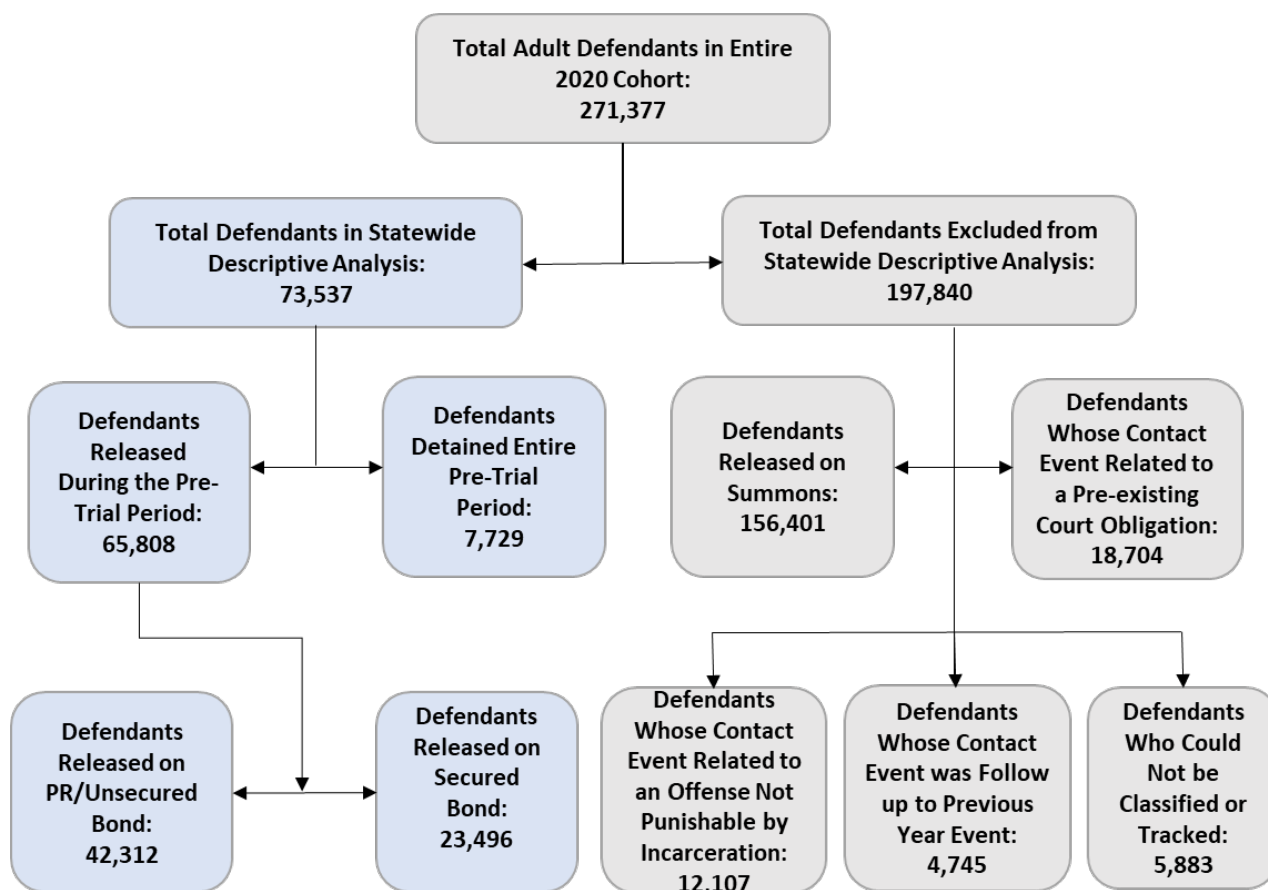
**Chart 3: Classification of Defendants in the CY2019 Cohort**



The CY2020 cohort contains more than 271,000 adult defendants (as with the previous cohorts, only the individual’s first contact event in the calendar was included). These 271,000 adult defendants were categorized based on the nature of their first contact event as shown in Chart 4. There were:

- 73,537 defendants whose contact event included a new criminal offense punishable by incarceration where the bail determination was made by a judicial officer;
- 156,401 defendants whose contact event was for a new criminal offense punishable by incarceration for which the defendant was released by a law enforcement officer on a summons;
- 18,704 defendants whose contact event was solely related to a pre-existing court obligation, such as a probation violation, failure to appear, or contempt of court;
- 12,107 defendants whose contact event was for a new criminal offense that was not punishable by incarceration;
- 4,745 defendants whose contact event was later identified as follow-up to previous year’s contact event; and,
- 5,883 defendants who could not be classified or tracked due to insufficient data.

**Chart 4: Classification of Defendants in the CY2020 Cohort**



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## Scope of Report

This report has two purposes. The first is to provide an overview of the findings across the three years of pretrial data now available. The second is to present the findings of tests to statistically validate the Public Safety Assessment (PSA) risk assessment instrument on Virginia's pretrial population. Both analyses focus on adult defendants whose contact event included a new criminal offense punishable by incarceration where the bail determination was made by a judicial officer.

There are five categories of defendants not included in aggregate analyses discussed in this report. In general, the analyses did not include defendants who were released on a summons for a new criminal offense punishable by incarceration. These individuals were not included in the analysis because their release was typically based on law enforcement officer discretion as opposed to judicial officer discretion. The analyses also did not include defendants whose contact event related solely to a pre-existing court obligation, such as a probation violation, failure to appear, or contempt of court. These individuals were not included in the analyses because their contact event was clearly related to a previous charge (prior to their first contact event in the calendar year). As a result, the experiences that these defendants had during the pretrial period were likely different than the experiences of the defendants who began the pretrial period as a result of a new charge. Similarly, for this year's study, a defendant's first contact event in a calendar year was excluded if it was identified as a pretrial outcome for an event that occurred during the previous calendar year. Furthermore, the analyses excluded defendants whose contact event related to a new criminal offense that was not punishable by incarceration (e.g., non-jailable misdemeanors or infractions). These defendants were not included in the analysis because this report focuses on new charges in the contact event that could result in the pretrial detention and/or post-trial incarceration of the defendant. Lastly, the analyses exclude defendants who could not be reliably classified or tracked due to missing, incomplete, or conflicting information. While these five categories of defendants were not included within the scope of this report, they did contribute to the overall pretrial caseloads in CY2019 and CY2020 and are included in the final datasets available to the public.

**Appendices.** The Sentencing Commission’s previous report presented a number of tables with descriptive findings based on the CY2018 cohort. Appendices A and B replicate all the same tables for the CY2019 and CY2020 cohorts, respectively. This enables comparisons across years of pretrial defendants. As with the aggregate analyses discussed in the main body of this report, the tables presented in the Appendices reflect adult defendants in the CY2019 and CY2020 cohorts whose contact event included a new criminal offense punishable by incarceration where the bail determination was made by a judicial officer. In general, the tables in Appendices focus on the characteristics of pretrial defendants, the flow of defendants through the pretrial system, and outcomes. Specifically, they provide:

- Demographics of defendants;
- Comparisons between released and detained defendants;
- Comparisons between defendants released on a personal recognizance (PR) or unsecured bond and defendants released on a secured bond;
- Demographics and bond amounts at release for defendants released on a secured bond;
- Demographics and initial bond amounts for defendants who remained detained on a secured bond for the entire pretrial period;
- Court appearance and new in-state arrests for released defendants; and,
- Final dispositions for the charges in the contact event.

While statewide descriptive findings presented in this report are an excellent method for examining aspects of Virginia’s pretrial process overall, variations across localities are prevalent. Appendices C and D present locality-specific descriptive findings for the CY2019 and CY2020 cohorts.

Appendix E contains the *Pretrial Data Codebook*, which defines each factor and describes how it was captured within its respective data system.

All Appendices are available on the Sentencing Commission’s website at <http://www.vcsc.virginia.gov/pretrialdatapoint.html>

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## Findings from Multi-Year Cohorts (CY2018 - CY2020)

This chapter presents findings from the three years of pretrial data now available, which capture contact events occurring in CY2018, CY2019 and CY2020. The analysis focused on adult defendants whose contact events include a charge for a new criminal offense punishable by incarceration where bail determination was made by a judicial officer (e.g., a magistrate or judge). The multi-year tables presented in this chapter provide important information regarding Virginia's pretrial process, including defendants' demographic and legal characteristics, pretrial release status, release mechanisms, bond amount, pretrial supervision status, risk scores, and pretrial/disposition outcomes. As these descriptive analyses are based on multi-year cohorts (including CY2020, when the COVID-19 pandemic began), the findings are expected to yield important insights about the changes or persistence in various aspects of pretrial case processing in Virginia.

### DEFENDANT DEMOGRAPHICS

Table 1 presents the underlying demographic characteristics of defendants in the CY2018, CY2019 and CY2020 cohorts. As the table indicates, the largest share of defendants were male, white, between the ages of 18 to 35, and indigent. In fact, the distributions of the demographic characteristics are very similar across calendar years; any percentage difference under any particular category is less than five percent.

For this table and similar tables throughout this report, indigency is a proxy measure calculated based upon whether the attorney type at case closure in the Court Case Management System was noted as a public defender or court-appointed attorney. This measure does not capture any changes to the attorney type that occurred before case closure.

**Table 1: Defendant Demographics, CY2018-CY2020**

|                                   | Number of Defendants (Percentage) |                      |                      |
|-----------------------------------|-----------------------------------|----------------------|----------------------|
|                                   | 2018                              | 2019                 | 2020                 |
| <i>Defendant Sex</i>              |                                   |                      |                      |
| Male                              | 69,121 (71.9%)                    | 64,153 (71.7%)       | 53,185 (72.3%)       |
| Female                            | 26,655 (27.7%)                    | 24,939 (27.9%)       | 20,126 (27.4%)       |
| Unknown                           | 359 (0.4%)                        | 341 (0.4%)           | 226 (0.3%)           |
| <i>Defendant Race</i>             |                                   |                      |                      |
| White <sup>13</sup>               | 54,737 (56.9%)                    | 51,020 (57.0%)       | 42,086 (57.2%)       |
| Black                             | 37,273 (38.8%)                    | 34,590 (38.7%)       | 28,483 (38.7%)       |
| Asian or Pacific Islander         | 1,111 (1.2%)                      | 1,052 (1.2%)         | 771 (1.0%)           |
| American Indian/Alaskan Native    | 44 (0.0%)                         | 41 (0.0%)            | 20 (0.0%)            |
| Unknown                           | 2,970 (3.1%)                      | 2,730 (3.1%)         | 2,177 (3.0%)         |
| <i>Defendant Age Group</i>        |                                   |                      |                      |
| 18-25 years old                   | 24,266 (25.2%)                    | 20,600 (23.0%)       | 16,776 (22.8%)       |
| 26-35 years old                   | 31,909 (33.2%)                    | 29,576 (33.1%)       | 24,566 (33.4%)       |
| 36-45 years old                   | 19,467 (20.2%)                    | 19,115 (21.4%)       | 16,011 (21.8%)       |
| 46-55 years old                   | 12,683 (13.2%)                    | 12,294 (13.7%)       | 9,725 (13.2%)        |
| 56-65 years old                   | 6,246 (6.5%)                      | 6,212 (6.9%)         | 5,157 (7.0%)         |
| >65 years old                     | 1,542 (1.6%)                      | 1,634 (1.8%)         | 1,298 (1.8%)         |
| Unknown                           | 22 (0.0%)                         | 2 (0.0%)             | 4 (0.0%)             |
| <i>Defendant Indigency Status</i> |                                   |                      |                      |
| Indigent                          | 56,892 (59.2%)                    | 49,783 (55.7%)       | 40,820 (55.5%)       |
| Not Indigent                      | 36,354 (37.8%)                    | 36,683 (41.0%)       | 30,107 (40.9%)       |
| Unknown                           | 2,889 (3.0%)                      | 2,967 (3.3%)         | 2,610 (3.5%)         |
| <b>Total</b>                      | <b>96,135 (100%)</b>              | <b>89,433 (100%)</b> | <b>73,537 (100%)</b> |

<sup>13</sup> Due to the standard required when requesting criminal history records from the Virginia State Police, the White category includes both Caucasian and Hispanic groups.



## MOST SERIOUS OFFENSE CATEGORY

Table 2 presents information regarding the most serious charged offense in the CY2018, CY2019 and CY2020 cohorts. In each year, more defendants were charged with a misdemeanor as the most serious offense than a felony. The gap between the percentage of defendants with a felony versus a misdemeanor as the most serious offense shrank in CY2020. In 2020, 48.3% of the defendants had a felony as their most serious offense, while 51.6% had a misdemeanor as the most serious offense.

Table 2 also reveals that, for approximately one-third of the defendants charged with a felony, the most serious offense was a felony drug offense<sup>14</sup>. The three most common felony offenses (drug, larceny, and assault) accounted for nearly two-thirds of the most serious felony charges for CY2018, 2019, and 2020.

For defendants with a misdemeanor offense as the most serious charge, the most common misdemeanor in CY2018 and CY2019 was driving under the influence (DUI), which accounted for roughly one-third of misdemeanor defendants. This changed in CY2020, when assault became the most common misdemeanor charge. This is consistent with other reports that suggest an increase in domestic violence during the COVID-19 pandemic and subsequent stay-at-home orders (Mohler et al., 2020; Piquero et al., 2020).

**Table 2: Most Serious Offense in Contact Event, CY2018-CY2020**

|                            | Number of Defendants (Percentage) |                      |                      |
|----------------------------|-----------------------------------|----------------------|----------------------|
|                            | 2018                              | 2019                 | 2020                 |
| <i>Most Serious Charge</i> |                                   |                      |                      |
| Felony                     | 43,968 (45.7%)                    | 41,731 (46.7%)       | 35,532 (48.3%)       |
| Misdemeanor                | 52,019 (54.1%)                    | 47,617 (53.2%)       | 37,973 (51.6%)       |
| Special/Undetermined       | 148 (0.2%)                        | 85 (0.1%)            | 32 (0.0%)            |
| <i>Felonies</i>            |                                   |                      |                      |
| Drug                       | 14,097 (32.1%)                    | 14,098 (33.8%)       | 11,488 (32.3%)       |
| Larceny                    | 8,258 (18.8%)                     | 7,475 (17.9%)        | 5,757 (16.2%)        |
| Assault                    | 4,678 (10.6%)                     | 4,455 (10.7%)        | 4,533 (12.8%)        |
| Fraud                      | 3,548 (8.1%)                      | 2,895 (6.9%)         | 2,069 (5.8%)         |
| Weapon/Firearm             | 1,949 (4.4%)                      | 1,945 (4.7%)         | 2,091 (5.9%)         |
| Other Felonies             | 11,438 (26.0%)                    | 10,863 (26.0%)       | 9,594 (27.0%)        |
| <i>Misdemeanors</i>        |                                   |                      |                      |
| DUI                        | 16,547 (31.8%)                    | 15,758 (33.1%)       | 12,022 (31.7%)       |
| Assault                    | 16,415 (31.6%)                    | 15,124 (31.8%)       | 13,562 (35.7%)       |
| Larceny                    | 2,666 (5.1%)                      | 1,913 (4.0%)         | 1,356 (3.6%)         |
| Obstruction of Justice     | 1,759 (3.4%)                      | 1,666 (3.5%)         | 1,194 (3.1%)         |
| Drug                       | 1,734 (3.3%)                      | 1,403 (2.9%)         | 652 (1.7%)           |
| Other Misdemeanors         | 12,898 (24.8%)                    | 11,753 (24.7%)       | 9,187 (24.2%)        |
| <b>Total</b>               | <b>96,135 (100%)</b>              | <b>89,433 (100%)</b> | <b>73,537 (100%)</b> |

<sup>14</sup> The grouping of the offense category is primarily based on the prefix of the Virginia Crime Code (VCC). For instance, if a charge has a VCC starting with NAR or PHA, its offense category is drug. Similarly, if a charge’s VCC code starts with ASL, its category is assault.

## PRETRIAL RELEASE STATUS OF DEFENDANTS

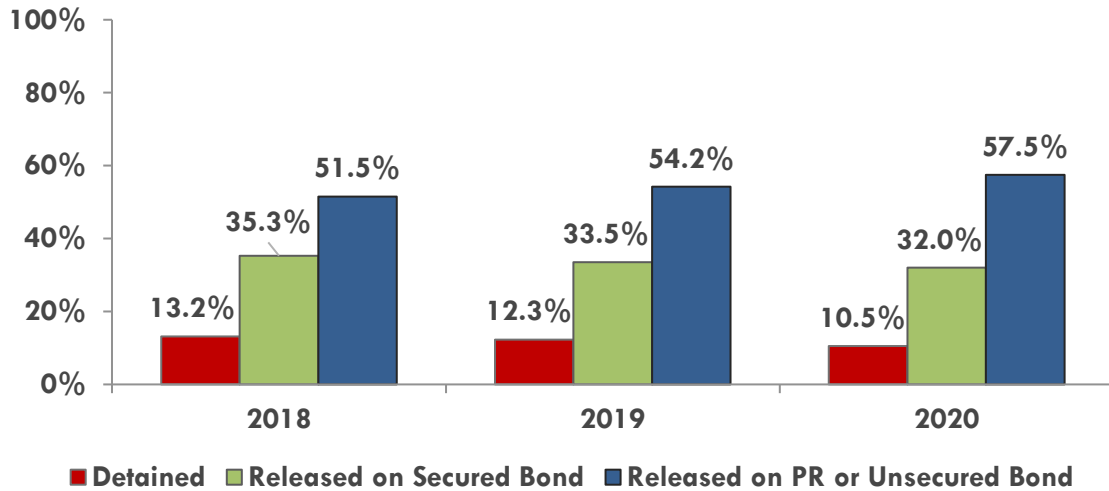
Table 3 and Chart 5 present the pretrial release status for defendants during the study period (CY2018-CY2020). The “Detained” category indicates that a defendant was detained throughout the entire pretrial period until the final disposition of the criminal charge(s). “Released on Secured Bond” means that a defendant was released on secured bond by paying cash, securing payment through a bail bondsman, or offering property as collateral as a guarantee to appear in court. Lastly, “Released on PR or Unsecured Bond” means that a defendant was released on personal recognizance or on an unsecured bond, which requires no financial obligation at the time of release.

As shown in Table 3 and Chart 5, throughout CY2018-CY2020, the vast majority of defendants were ultimately released from custody during the pretrial period. Approximately one in ten defendants were detained throughout the pretrial period. During the three-year period, release rates increased slightly, from 86.8% in CY2018 to 87.7% in CY2019 and 89.5% in CY2020. Over half of the defendants each year were released on a personal recognizance or unsecured bond. The percentage of defendants released on personal recognizance or unsecured bond increased from 51.5% in CY2018 to 57.5% in CY2020. The increase in the release rate and the rate at which defendants were released on personal recognizance or unsecured bond in CY2020 may have been associated with the COVID-19 pandemic, which became prevalent in March 2020.

Data reveal that, among the defendants who were ultimately released during the pretrial period, the percentages of those released within three days ranged from 84% in CY2019 to 86% in CY2020.

**Table 3: Pretrial Release Type in Contact Event, CY2018-CY2020**

|                                  | Number of Defendants (Percentage) |                      |                      |
|----------------------------------|-----------------------------------|----------------------|----------------------|
|                                  | 2018                              | 2019                 | 2020                 |
| Detained                         | 12,654 (13.2%)                    | 11,004 (12.3%)       | 7,729 (10.5%)        |
| Released on Secured Bond         | 33,925 (35.3%)                    | 29,926 (33.5%)       | 23,496 (32.0%)       |
| Released on PR or Unsecured Bond | 49,556 (51.5%)                    | 48,503 (54.2%)       | 42,312 (57.5%)       |
| <b>Total</b>                     | <b>96,135 (100%)</b>              | <b>89,433 (100%)</b> | <b>73,537 (100%)</b> |

**Chart 5: Pretrial Release Type in Contact Event, CY2018-CY2020**

## PRETRIAL RELEASE STATUS AND DEFENDANT DEMOGRAPHICS

Table 4 presents the pretrial release rates disaggregated by the demographic characteristics of the defendants. Overall, in each year, most defendants were ultimately released during the pretrial period regardless of their demographic characteristics. Females, however, were more likely to be released than males and Whites were more likely to be released than Blacks. Furthermore, defendants between the ages of 18 and 25 and those older than 55 were more likely to be released than other age groups. Lastly, the table shows that non-indigent defendants were more likely to be released than indigent defendants. Such differences are consistent throughout the years studied.

**Table 4: Pretrial Release Rate Among Demographic Groups, CY2018-CY2020**

|                                   | Pretrial Release Rate |               |               |
|-----------------------------------|-----------------------|---------------|---------------|
|                                   | 2018                  | 2019          | 2020          |
| <i>Defendant Sex</i>              |                       |               |               |
| Female                            | 93.6%                 | 93.8%         | 94.8%         |
| Male                              | 84.3%                 | 85.3%         | 87.5%         |
| Unknown                           | 79.7%                 | 83.9%         | 83.2%         |
| <i>Defendant Race</i>             |                       |               |               |
| White                             | 88.0%                 | 88.8%         | 90.4%         |
| Black                             | 85.2%                 | 86.2%         | 88.1%         |
| Asian or Pacific Islander         | 92.9%                 | 94.1%         | 95.8%         |
| American Indian or Alaskan Native | 79.5%                 | 87.8%         | 85.0%         |
| Unknown                           | 83.7%                 | 83.7%         | 88.4%         |
| <i>Defendant Age Group</i>        |                       |               |               |
| 18-25 years old                   | 88.8%                 | 89.9%         | 90.6%         |
| 26-35 years old                   | 85.9%                 | 86.4%         | 88.8%         |
| 36-45 years old                   | 85.2%                 | 86.2%         | 88.5%         |
| 46-55 years old                   | 86.4%                 | 87.6%         | 89.3%         |
| 56-65 years old                   | 88.4%                 | 89.9%         | 91.4%         |
| >65 years old                     | 92.2%                 | 93.1%         | 94.6%         |
| Unknown                           | 81.8%                 | 100.0%        | 100.0%        |
| <i>Defendant Indigency Status</i> |                       |               |               |
| Indigent                          | 81.4%                 | 82.6%         | 85.7%         |
| Not Indigent                      | 94.6%                 | 94.2%         | 94.2%         |
| Unknown                           | 96.0%                 | 92.6%         | 94.3%         |
| <b>Total</b>                      | <b>96,135</b>         | <b>89,433</b> | <b>73,537</b> |

The information presented in two-dimensional tables, such as the one above should be interpreted with caution, as a number of factors affect the release decision. Additional analyses were conducted by examining release rates based on the relationships between defendants' demographic characteristics and certain legal factors. While this approach does not isolate the independent influence of a defendant's demographic characteristics on release rates, it nonetheless provides a more thorough understanding of these relationships.

Tables 4-1 through 4-4 illustrate pretrial release rates dependent on the relationships between defendants' demographic characteristics and offense types (e.g., whether the primary offense is a felony or misdemeanor). The tables are based on the entire study period (CY2018-CY2020). As these tables suggest, if a defendant's primary offense charge is a misdemeanor, different demographic characteristics, such as gender, race, age or indigency status do not play a significant role in the pretrial release rate. If a defendant's most serious charge is a felony, the general inference drawn from Table 4 still holds true. That is, a female charged with a felony as a primary offense would be more likely to be released than a male defendant charged with a felony (Table 4-1).

Table 4-2 suggests that White defendants charged with a felony as the most serious offense are more likely to be released than Black defendants. According to Table 4-3, the defendants between ages of 18 and 25 and those older than 55 charged with a felony were more likely to be released than other age groups. Lastly, a larger percentage of non-indigent defendants charged with felonies during the study period were released during the pretrial period as compared to indigent defendants charged with felonies (Table 4-4).

**Table 4-1: Pretrial Release Rate by Gender and Case Type**

|              | Number of Defendants (Pretrial Release Rate) |                        |
|--------------|--|------------------------|
|              | Felony                                       | Misdemeanor            |
| Female       | 32,597 (89.8%)                               | 39,038 (97.7%)         |
| Male         | 88,091 (75.6%)                               | 98,188 (94.6%)         |
| Unknown      | 543 (73.5%)                                  | 383 (94.3%)            |
| <b>Total</b> | <b>121,231 (79.4%)</b>                       | <b>137,609 (95.5%)</b> |

**Table 4-2: Pretrial Release Rate by Race and Case Type**

|                                   | Number of Defendants (Pretrial Release Rate) |                        |
|-----------------------------------|--|------------------------|
|                                   | Felony                                       | Misdemeanor            |
| White                             | 65,850 (80.7%)                               | 81,826 (95.7%)         |
| Black                             | 50,662 (77.7%)                               | 49,600 (95.2%)         |
| Asian or Pacific Islander         | 1,012 (87.7%)                                | 1,921 (97.4%)          |
| American Indian or Alaskan Native | 39 (71.8%)                                   | 66 (90.9%)             |
| Unknown                           | 3,668 (75.9%)                                | 4,196 (93.1%)          |
| <b>Total</b>                      | <b>121,231 (79.4%)</b>                       | <b>137,609 (95.5%)</b> |

**Table 4-3: Pretrial Release Rate by Age Group and Case Type**

|                 | Number of Defendants (Pretrial Release Rate) |                        |
|-----------------|--|------------------------|
|                 | Felony                                       | Misdemeanor            |
| 18-25 years old | 28,924 (81.8%)                               | 32,666 (96.7%)         |
| 26-35 years old | 41,226 (78.0%)                               | 44,715 (95.2%)         |
| 36-45 years old | 26,081 (77.7%)                               | 28,446 (94.7%)         |
| 46-55 years old | 15,947 (79.1%)                               | 18,730 (95.0%)         |
| 56-65 years old | 7,396 (82.2%)                                | 10,210 (95.3%)         |
| >65 years old   | 1,651 (87.0%)                                | 2,820 (97.0%)          |
| Unknown         | 6 (66.7%)                                    | 22 (90.9%)             |
| <b>Total</b>    | <b>121,231 (79.4%)</b>                       | <b>137,609 (95.5%)</b> |

**Table 4-4: Pretrial Release Rate by Indigency Status and Case Type**

|              | Number of Defendants (Pretrial Release Rate) |                        |
|--------------|--|------------------------|
|              | Felony                                       | Misdemeanor            |
| Indigent     | 81,120 (75.4%)                               | 66,168 (92.5%)         |
| Not Indigent | 38,739 (87.9%)                               | 64,363 (98.3%)         |
| Unknown      | 1,372 (76.6%)                                | 7,078 (97.8%)          |
| <b>Total</b> | <b>121,231 (79.4%)</b>                       | <b>137,609 (95.5%)</b> |

Tables 4-5 through 4-8 illustrate the pretrial release rates dependent on the relationships between defendants' demographic characteristics and violent offense category (e.g., whether the most serious charge is categorized as violent or not). Here, the list of violent offenses is based on the Virginia Department of Criminal Justice Services' list of violent offenses that will be used in the upcoming pilot test of the Public Safety Assessment (PSA) instrument in select jurisdictions in the Commonwealth. This list of violent offenses includes both felonies and misdemeanors.

Overall, the demographic characteristics examined continue to have an important role in pretrial release rates even after taking into account the nature of the most serious offense. For example, female defendants charged with a violent offense remain more likely to be released during the pretrial period than a male defendant charged with a violent offense (Table 4-5). White defendants are more likely to be released than Black defendants when charged with a violent offense (Table 4-6). Interestingly, release rates do not significantly vary across age groups when defendants are charged with a violent offense (Table 4-7). Lastly, among those charged with a violent offense, non-indigent defendants remain more likely to be released than indigent defendants (Table 4-8).

**Table 4-5: Pretrial Release Rate by Gender and Violent Crime**

|              | Number of Defendants (Pretrial Release Rate) |                       |
|--------------|--|-----------------------|
|              | Nonviolent                                   | Violent               |
| Female       | 48,385 (93.4%)                               | 23,335 (95.3%)        |
| Male         | 124,562 (87.6%)                              | 61,897 (81.4%)        |
| Unknown      | 626 (83.4%)                                  | 300 (79.3%)           |
| <b>Total</b> | <b>173,573 (89.2%)</b>                       | <b>85,532 (85.2%)</b> |

**Table 4-6: Pretrial Release Rate by Race and Violent Crime**

|                                 | Number of Defendants (Pretrial Release Rate) |                       |
|---------------------------------|--|-----------------------|
|                                 | Nonviolent                                   | Violent               |
| White                           | 102,096 (89.9%)                              | 45,747 (86.9%)        |
| Black                           | 63,950 (88.2%)                               | 36,396 (83.1%)        |
| Asian or Pacific Islander       | 1,977 (95.1%)                                | 957 (92.0%)           |
| American Indian /Alaskan Native | 67 (88.1%)                                   | 38 (76.3%)            |
| Unknown                         | 5,483 (86.5%)                                | 2,394 (81.6%)         |
| <b>Total</b>                    | <b>173,573 (89.2%)</b>                       | <b>85,532 (85.2%)</b> |

**Table 4-7: Pretrial Release Rate by Age Group and Violent Crime**

|                 | Number of Defendants (Pretrial Release Rate) |                       |
|-----------------|--|-----------------------|
|                 | Nonviolent                                   | Violent               |
| 18-25 years old | 40,328 (92.1%)                               | 21,314 (85.0%)        |
| 26-35 years old | 57,091 (87.9%)                               | 28,960 (85.0%)        |
| 36-45 years old | 36,814 (87.3%)                               | 17,779 (84.9%)        |
| 46-55 years old | 23,858 (88.8%)                               | 10,844 (85.3%)        |
| 56-65 years old | 12,434 (91.0%)                               | 5,181 (87.0%)         |
| >65 years old   | 3,032 (95.3%)                                | 1,442 (89.0%)         |
| Unknown         | 16 (87.5%)                                   | 12 (83.3%)            |
| <b>Total</b>    | <b>173,573 (89.2%)</b>                       | <b>85,532 (85.2%)</b> |

**Table 4-8: Pretrial Release Rate by Indigency Status and Violent Crime**

|              | Number of Defendants (Pretrial Release Rate) |                       |
|--------------|--|-----------------------|
|              | Nonviolent                                   | Violent               |
| Indigent     | 95,329 (84.1%)                               | 52,166 (81.0%)        |
| Not Indigent | 76,207 (95.7%)                               | 26,937 (90.6%)        |
| Unknown      | 2,037 (85.7%)                                | 6,429 (97.0%)         |
| <b>Total</b> | <b>173,573 (89.2%)</b>                       | <b>85,532 (85.2%)</b> |

While the tables presented (Table 4-1 through 4-8) provide important insights about the complex dynamics of pretrial decisions, more sophisticated statistical analyses should be conducted (e.g., multivariate regression analysis) to validate the suggested effects of the demographic characteristics on release rates. That is, statistically estimating the independent effects of the demographic characteristics on a release rate while simultaneously controlling all other factors that may confound such relationship will enable researchers to make a generalized inference about demographic characteristics with a high level of statistical confidence.

## SECURED BOND AMOUNT AT RELEASE AND DEFENDANT DEMOGRAPHICS

Table 5 provides information about the mean and median secured bond amounts across demographic characteristics and by cohort year. The median secured bond amounts did not vary widely across sex, race, age, and indigency status. While there are some variations in terms of mean (average) secured bond amount, the differences are not large, except in some categories that have a smaller number of cases (e.g., the Unknown category). Data reveal that during CY2018-CY2020, 92.5% of defendants released on a secured bond utilized the services of a bail bondsman.

**Table 5: Secured Bond Amount at Release, CY2018-CY2020**

|                                   | Mean Bond Amount (Median) |                          |                          |
|-----------------------------------|---------------------------|--------------------------|--------------------------|
|                                   | 2018                      | 2019                     | 2020                     |
| <i>Defendant Sex</i>              |                           |                          |                          |
| Male                              | \$3,994 (\$2,500)         | \$3,906 (\$2,500)        | \$3,947 (\$2,500)        |
| Female                            | \$3,059 (\$2,000)         | \$2,865 (\$2,000)        | \$2,829 (\$2,000)        |
| Unknown                           | \$5,399 (\$2,500)         | \$4,046 (\$2,000)        | \$6,510 (\$2,040)        |
| <i>Defendant Race</i>             |                           |                          |                          |
| White                             | \$3,682 (\$2,500)         | \$3,566 (\$2,500)        | \$3,573 (\$2,500)        |
| Black                             | \$3,803 (\$2,500)         | \$3,690 (\$2,500)        | \$3,802 (\$2,500)        |
| Other/Unknown                     | \$4,646 (\$2,500)         | \$4,422 (\$2,500)        | \$4,354 (\$2,500)        |
| <i>Defendant Age Group</i>        |                           |                          |                          |
| 18-25 years old                   | \$3,787 (\$2,500)         | \$3,477 (\$2,500)        | \$3,961 (\$2,500)        |
| 26-35 years old                   | \$3,822 (\$2,500)         | \$3,649 (\$2,500)        | \$3,708 (\$2,500)        |
| 36-45 years old                   | \$3,762 (\$2,500)         | \$3,799 (\$2,500)        | \$3,680 (\$2,500)        |
| 46-55 years old                   | \$3,542 (\$2,500)         | \$3,547 (\$2,500)        | \$3,398 (\$2,500)        |
| 56-65 years old                   | \$3,714 (\$2,500)         | \$3,699 (\$2,000)        | \$3,430 (\$2,000)        |
| >65 years old                     | \$4,992 (\$2,000)         | \$4,417 (\$2,000)        | \$3,936 (\$2,000)        |
| Unknown                           | \$5,750 (\$5,750)         | \$1,500 (\$1,500)        | - (-)                    |
| <i>Defendant Indigency Status</i> |                           |                          |                          |
| Indigent                          | \$3,379 (\$2,500)         | \$3,161 (\$2,500)        | \$3,192 (\$2,000)        |
| Not Indigent                      | \$4,480 (\$2,500)         | \$4,391 (\$2,500)        | \$4,436 (\$2,500)        |
| Unknown                           | \$2,775 (\$2,000)         | \$2,837 (\$2,000)        | \$3,058 (\$2,000)        |
| <b>Total</b>                      | <b>\$3,770 (\$2,500)</b>  | <b>\$3,648 (\$2,500)</b> | <b>\$3,694 (\$2,500)</b> |



## RELEASED DEFENDANTS AND SUPERVISION STATUS

Tables 6 and 7 provide information regarding pretrial supervision rates for each year during the study period. Of released defendants, between 15.6% and 16.1% each year were ordered to receive supervision by a Pretrial Services Agency (Table 6).

A larger percentage of defendants placed under pretrial supervision requirements received a secured bond than those released who were not placed under pretrial supervision (Table 7).

**Table 6: Released Defendants by Pretrial Services Agency Supervision Status, CY2018-CY2020**

|                                      | Number of Defendants (Percentage) |                      |                      |
|--------------------------------------|-----------------------------------|----------------------|----------------------|
|                                      | 2018                              | 2019                 | 2020                 |
| Received Pretrial Supervision        | 13,000 (15.6%)                    | 12,250 (15.6%)       | 10,620 (16.1%)       |
| Did Not Receive Pretrial Supervision | 70,481 (84.4%)                    | 66,179 (84.4%)       | 55,188 (83.9%)       |
| <b>Total Released</b>                | <b>83,481 (100%)</b>              | <b>78,429 (100%)</b> | <b>65,808 (100%)</b> |

**Table 7: Released Defendants by Pretrial Services Agency Supervision Status and Bond Type, CY2018-CY2020**

|                                      | 2018              |               | 2019              |               | 2020              |               |
|--------------------------------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|
|                                      | PR/Unsecured Bond | Secured Bond  | PR/Unsecured Bond | Secured Bond  | PR/Unsecured Bond | Secured Bond  |
| Received Pretrial Supervision        | 38.1%             | 61.9%         | 44.2%             | 55.8%         | 49.3%             | 50.7%         |
| Did Not Receive Pretrial Supervision | 63.3%             | 36.7%         | 65.1%             | 34.9%         | 67.2%             | 32.8%         |
| <b>Total Released</b>                | <b>49,556</b>     | <b>33,925</b> | <b>48,503</b>     | <b>29,926</b> | <b>42,312</b>     | <b>23,496</b> |

## PUBLIC SAFETY ASSESSMENT (PSA) SCORES ASSIGNED TO DEFENDANTS

For studies such as this, it is important to consider what factors or combination of factors may be associated with a defendant's success or failure while on pretrial release. Empirically-based risk assessment tools are commonly used in the criminal justice system to assist in making decisions related to individual defendants.<sup>15</sup> For the purposes of the Project, the Public Safety Assessment (PSA) was selected to estimate risk across all defendants in a uniform manner. For additional information about the PSA, refer to the *Overview of Methodology* section of this report.<sup>16</sup>

Using available data, the Sentencing Commission retroactively applied the PSA and computed a score for each defendant on each of the three PSA scales: the likelihood of Failure to Appear (FTA), the likelihood of New Criminal Arrest (NCA), and the likelihood of New Violent Criminal Arrest (NVCA).<sup>17</sup> Higher scores on the PSA indicate a higher likelihood of failing to appear or having a new criminal arrest during the pretrial period.

Tables 8 and 9 present the computed PSA scores for Failure to Appear (FTA) and New Criminal Arrest (NCA) calculated for defendants in each of the cohorts. The largest share of defendants were classified with a Score of 1 (lowest) or 2 for both FTA and NCA. Less than 1% of the defendants were classified in Level 6 (the highest score) for FTA, and less than 3.5% were classified in Level 6 (the highest score) for NCA.

Data reveal that the distributions of calculated PSA scores for both FTA and NCA are fairly consistent from year to year during this study period. This suggests that defendants in the CY2018, CY2019 and the CY2020 cohorts are similar in terms of the likelihood of failing to appear in court or incurring a new criminal arrest during the pretrial period.

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<sup>15</sup> See, e.g., Hamilton, M. (2020). *Risk assessment tools in the criminal justice system – theory and practice: A resource guide*. Washington, DC: National Association of Criminal Defense Lawyers. Available at <https://www.nacdl.org/getattachment/a92d7c30-32d4-4b49-9c57-6c14ed0b9894/riskassessmentreportnovember182020.pdf>.

<sup>16</sup> See also Advancing Pretrial Policy & Research (APPR). *About the Public Safety Assessment* at <https://advancingpretrial.org/psa/factors/>

<sup>17</sup> The Sentencing Commission followed the protocols for computing PSA scores established during the original study directed by the Crime Commission. See *Overview of Methodology* section of this report for more information.

**Table 8: Assigned Public Safety Assessment (PSA) Scores for Failure to Appear (FTA), CY2018-CY2020**

|                 | Number of Defendants (Percentage) |                      |                      |
|-----------------|-----------------------------------|----------------------|----------------------|
|                 | 2018                              | 2019                 | 2020                 |
| PSA FTA Score 1 | 42,090 (43.8%)                    | 39,146 (43.8%)       | 30,863 (42.0%)       |
| PSA FTA Score 2 | 29,846 (31.0%)                    | 27,645 (30.9%)       | 22,953 (31.2%)       |
| PSA FTA Score 3 | 13,124 (13.7%)                    | 12,297 (13.7%)       | 10,422 (14.2%)       |
| PSA FTA Score 4 | 8,299 (8.6%)                      | 7,590 (8.5%)         | 6,743 (9.2%)         |
| PSA FTA Score 5 | 2,309 (2.4%)                      | 2,276 (2.5%)         | 2,128 (2.9%)         |
| PSA FTA Score 6 | 467 (0.5%)                        | 479 (0.5%)           | 428 (0.6%)           |
| <b>Total</b>    | <b>96,135 (100%)</b>              | <b>89,433 (100%)</b> | <b>73,537 (100%)</b> |

FTA= Failure to appear; NCA= New Criminal Arrest; NVCA= New Violent Criminal Arrest

**Table 9: Assigned Public Safety Assessment (PSA) Scores for New Criminal Arrest (NCA), CY2018-CY2020**

|                 | Number of Defendants (Percentage) |                      |                      |
|-----------------|-----------------------------------|----------------------|----------------------|
|                 | 2018                              | 2019                 | 2020                 |
| PSA NCA Score 1 | 32,256 (33.6%)                    | 30,599 (34.2%)       | 24,042 (32.7%)       |
| PSA NCA Score 2 | 28,707 (29.9%)                    | 25,939 (29.0%)       | 21,006 (28.6%)       |
| PSA NCA Score 3 | 15,134 (15.7%)                    | 14,135 (15.8%)       | 11,981 (16.3%)       |
| PSA NCA Score 4 | 11,412 (11.9%)                    | 10,794 (12.1%)       | 9,290 (12.6%)        |
| PSA NCA Score 5 | 5,840 (6.1%)                      | 5,322 (6.0%)         | 4,781 (6.5%)         |
| PSA NCA Score 6 | 2,786 (2.9%)                      | 2,644 (3.0%)         | 2,437 (3.3%)         |
| <b>Total</b>    | <b>96,135 (100%)</b>              | <b>89,433 (100%)</b> | <b>73,537 (100%)</b> |

FTA= Failure to appear; NCA= New Criminal Arrest; NVCA= New Violent Criminal Arrest

Table 10 represents the relationship between defendants' assigned FTA and NCA scores for the entire study period (CY2018-2020). Here, low, medium, and high PSA groups were created by combining individual scores together (1-2 for low, 3-4 for medium, and 5-6 for high). Overall, 72.6% of defendants fall into the same score group for both FTA and NCA. For example, 58.9% of defendants are in the low scoring group for FTA and the low scoring group for NCA. A relatively small percentage of defendants were identified as scoring low on one scale but high on the other scale.

**Table 10: Public Safety Assessment (PSA) Score Range for Failure to Appear (FTA) and New Criminal Arrest (NCA)**

|                           | Number of Defendants (Percentage) |                       |                      |                         |
|---------------------------|-----------------------------------|-----------------------|----------------------|-------------------------|
|                           | Low PSA NCA Score                 | Mid PSA NCA Score     | High PSA NCA Score   | Total                   |
| <b>Low PSA FTA Score</b>  | <b>152,618 (58.9%)</b>            | 39,521 (15.3%)        | 404 (0.2%)           | 192,543 (74.3%)         |
| <b>Mid PSA FTA Score</b>  | 9,928 (3.8%)                      | <b>30,432 (11.7%)</b> | 18,115 (7.0%)        | 58,475 (22.6%)          |
| <b>High PSA FTA Score</b> | 3 (0.0%)                          | 2,793 (1.1%)          | <b>5,291 (2.0%)</b>  | <b>8,087 (3.1%)</b>     |
| <b>Total</b>              | <b>162,549 (62.7%)</b>            | <b>72,746 (28.1%)</b> | <b>23,810 (9.2%)</b> | <b>259,105 (100.0%)</b> |

FTA= Failure to appear; NCA= New Criminal Arrest; NVCA= New Violent Criminal Arrest

## PRETRIAL RELEASE STATUS AND PUBLIC SAFETY ASSESSMENT (PSA) SCORES

Tables 11 and 12 show the pretrial release status (release rate) of defendants along with the assigned PSA scores for FTA and NCA for each year of study. As both tables show, the proportion of defendants who were released during the pretrial period consistently decreased as the PSA scores increased.

Release rates increased during the three-year period across all PSA scores. As can be seen from the tables below, the increase in release rates was larger for defendants with higher PSA scores.

**Table 11: Pretrial Release Rate by Assigned Public Safety Assessment (PSA) Failure to Appear (FTA) Score**

|                 | Pretrial Release Rate |               |               |
|-----------------|-----------------------|---------------|---------------|
|                 | 2018                  | 2019          | 2020          |
| PSA FTA Score 1 | 92.7%                 | 93.2%         | 94.1%         |
| PSA FTA Score 2 | 87.3%                 | 88.0%         | 89.7%         |
| PSA FTA Score 3 | 80.1%                 | 81.7%         | 85.8%         |
| PSA FTA Score 4 | 74.1%                 | 75.6%         | 80.0%         |
| PSA FTA Score 5 | 64.8%                 | 67.4%         | 71.5%         |
| PSA FTA Score 6 | 54.6%                 | 61.0%         | 69.6%         |
| <b>Total</b>    | <b>96,135</b>         | <b>89,433</b> | <b>73,537</b> |

**Table 12: Pretrial Release Rate by Assigned Public Safety Assessment (PSA) New Criminal Arrest (NCA) Score**

|                 | Pretrial Release Rate |               |               |
|-----------------|-----------------------|---------------|---------------|
|                 | 2018                  | 2019          | 2020          |
| PSA NCA Score 1 | 92.9%                 | 93.2%         | 94.3%         |
| PSA NCA Score 2 | 92.8%                 | 93.4%         | 94.6%         |
| PSA NCA Score 3 | 83.9%                 | 85.2%         | 88.1%         |
| PSA NCA Score 4 | 74.1%                 | 75.1%         | 78.5%         |
| PSA NCA Score 5 | 69.0%                 | 72.6%         | 77.3%         |
| PSA NCA Score 6 | 61.2%                 | 63.8%         | 70.7%         |
| <b>Total</b>    | <b>96,135</b>         | <b>89,433</b> | <b>73,537</b> |

## STATEWIDE PRETRIAL OUTCOMES

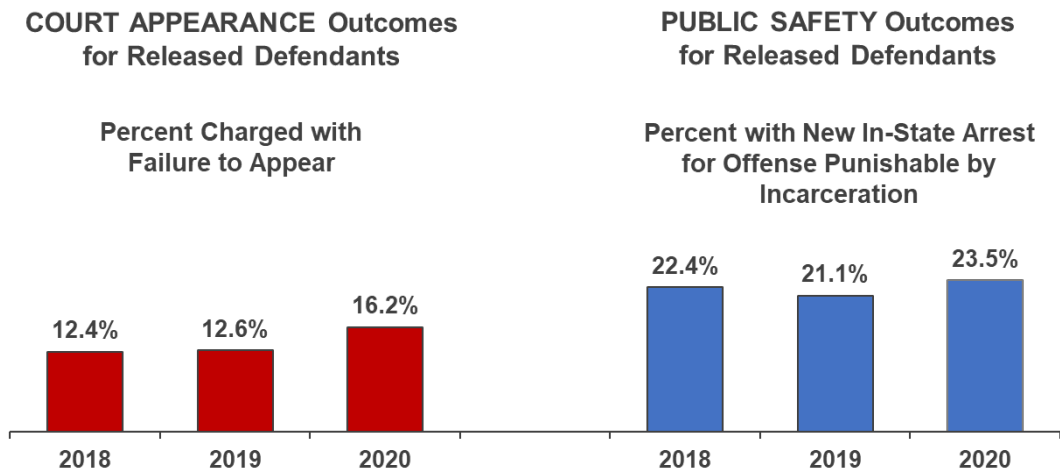
Two primary measures of pretrial outcomes are calculated for the Pretrial Data Project. The first outcome measure captures whether or not the defendant appeared at all court proceedings for the charges associated with the contact event. For this measure, the Sentencing Commission examined the data to determine if the defendant was charged with failure to appear, or contempt of court for failing to appear, during the pretrial period.<sup>18</sup> The second outcome measure for the Project captures whether or not the defendant had a new in-state arrest for an offense punishable by incarceration during the pretrial period. The Sentencing Commission took steps to ensure, to the extent possible, that the new arrests were associated with alleged offenses committed during the pretrial period (i.e., the arrest was not associated with an offense committed prior to the current pretrial period). As noted previously, Project data is limited to Virginia (in-state) criminal history records due to FBI restrictions on the dissemination of federal and out-of-state records for non-criminal justice (non-investigative) purposes (see *Overview of Methodology* section of this report for additional information). Thus, federal out-of-state criminal history records could not be obtained for the Project and are not captured in the tables in this report. As with the previous study, individuals in the cohorts were tracked for a minimum of 15 months (until the disposition of the case or the end of the follow-up period, whichever occurred first). This section focuses only on outcomes for the defendants in the cohorts who were ultimately released during the pretrial period.

Chart 6 illustrates, for each year, the overall failure to appear rate and the new criminal arrest rate. Failure to appear rates among the CY2018 and CY2019 cohorts are consistent (12.4% and 12.6%). For CY2020 cohort, however, the failure to appear rate jumped to 16.2%. The new criminal arrest rate decreased slightly from 22.4% to 21.1% for the CY2018 and CY2019 cohorts, respectively, before increasing to 23.5% for individuals in the CY2020 cohort.

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<sup>18</sup> Charges of failure to appear include violations of §§ 19.2-128, 18.2-456, 16.1-69.24, 29.1-210, 46.2-936, 46.2-938, or 19.2-152.4:1. Charges under §§ 16.1-69.24 and 46.2-938, as well as general contempt of court charges under § 18.2-456, were only included if the charge description indicated that offense charge was based on a failure to appear.

**Chart 6: Statewide Pretrial Outcomes, CY2018-CY2020**



This analysis is based on the defendants who were charged with a criminal offense punishable by incarceration and, following a bail determination made by a judicial officer, were released during the pretrial period.

The higher failure to appear and new criminal arrest rates for the CY2020 cohort are consistent with general expectations of pretrial outcomes during the pandemic. Due to the health emergency, the court systems in Virginia, just like other states, quickly altered the hearing/court schedules to contain or decrease the spread of the virus, which led to delayed case processing and case backlogs (Viglione et al., 2023). This may have led to more confusion regarding upcoming hearing dates and created more opportunities to reoffend among the released defendants. This may have resulted in higher failure to appear and new criminal arrest rates observed for the CY2020 cohort.

For defendants who incurred new criminal arrests during the pretrial period, most of the new arrests were for misdemeanor offenses. Between one-fourth and one-third of the arrests were for felony offenses. The percentage of new arrests that were felonies increased in the later cohorts, rising from 26.6% for CY2018 to 28.9% for CY2019 and reaching 32.1% for CY2020 pretrial defendants.

Tables 13 and 14 and Charts 7 and 8 present failure to appear and new criminal arrest rates broken down by pretrial release mechanism (i.e., personal recognizance (PR) or unsecured bond versus secured bond). In general, the percentages of defendants who failed to appear or who incurred a new criminal arrest are consistently higher for those released on secured bond. This is in line with general expectations, as defendants released on secured bond scored higher, on average, on the PSA risk assessment tool than defendants released through other mechanisms. The failure to appear and new criminal arrest rates were higher in CY2020 than in previous years for defendants released on PR or unsecured bond as well as defendants released on secured bond.

**Table 13: Statewide Court Appearance Outcomes for Released Defendants by Pretrial Release Type, CY2018-CY2020**

|                                  | Failure to Appear Rate |               |               |
|----------------------------------|------------------------|---------------|---------------|
|                                  | 2018                   | 2019          | 2020          |
| Released on PR or Unsecured Bond | 11.7%                  | 11.8%         | 15.5%         |
| Released on Secured Bond         | 13.5%                  | 13.8%         | 17.4%         |
| <b>Total Released</b>            | <b>83,481</b>          | <b>78,429</b> | <b>65,808</b> |

(PR=Personal Recognizance)

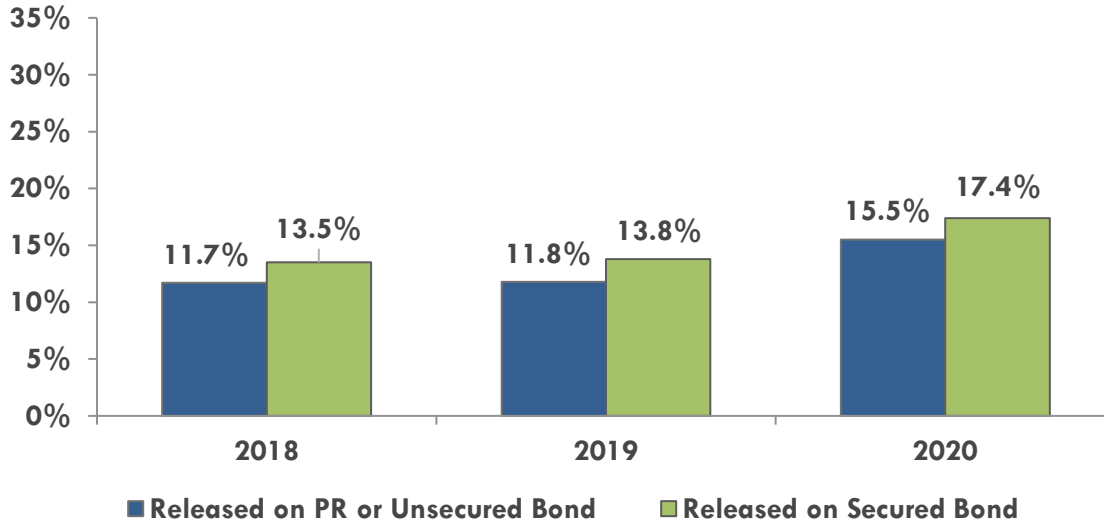
**Table 14: Statewide New Arrest Outcomes for Released Defendants by Pretrial Release Type, CY2018-CY2020**

|                                  | New Criminal Arrest Rate |               |               |
|----------------------------------|--------------------------|---------------|---------------|
|                                  | 2018                     | 2019          | 2020          |
| Released on PR or Unsecured Bond | 19.7%                    | 18.4%         | 21.1%         |
| Released on Secured Bond         | 26.3%                    | 25.5%         | 27.8%         |
| <b>Total Released</b>            | <b>83,481</b>            | <b>78,429</b> | <b>65,808</b> |

(PR=Personal Recognizance)

**Chart 7: Statewide Court Appearance Outcomes for Released Defendants by Pretrial Release Type, CY2018-CY2020**

*Percentage of Defendants Charged with Failure to Appear by Pretrial Release Type*



**Chart 8: Statewide New Arrest Outcomes for Released Defendants by Pretrial Release Type, CY2018-CY2020**

*Percentage of Defendants Arrested for New In-State Offense Punishable by Incarceration by Pretrial Release Type*

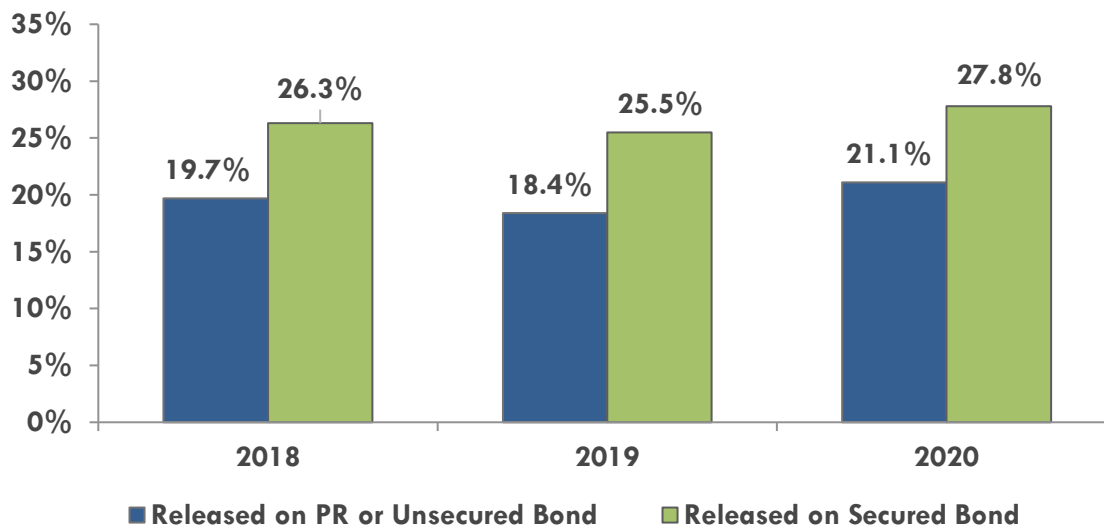




Table 15 shows the court appearance outcomes and the computed PSA FTA scores for the defendants who were ultimately released during the pretrial period. Table 16 delineates the new arrest outcomes and the computed PSA NCA scores for released individuals.

Overall, most defendants were not charged with failure to appear during the pretrial period, regardless of the PSA FTA score. However, the proportion of defendants charged with failing to appear increased as the FTA scores increased.

Similarly, most defendants were not arrested for a new in-state offense punishable by incarceration during the pretrial period, regardless of the PSA NCA score. The proportion of defendants arrested for a new in-state offense increased as the NCA scores increased.

Analysis revealed that failure to appear and new criminal arrest rates were higher in CY2020 across all PSA scores.

**Table 15: Statewide Court Appearance Outcomes for Released Defendants by Public Safety Assessment (PSA) Score for Failure to Appear (FTA)**

|                       | Failure to Appear Rate |               |               |
|-----------------------|------------------------|---------------|---------------|
|                       | 2018                   | 2019          | 2020          |
| PSA FTA Score 1       | 9.4%                   | 9.6%          | 12.3%         |
| PSA FTA Score 2       | 12.1%                  | 11.7%         | 15.4%         |
| PSA FTA Score 3       | 16.2%                  | 16.0%         | 20.4%         |
| PSA FTA Score 4       | 21.4%                  | 22.7%         | 26.2%         |
| PSA FTA Score 5       | 29.2%                  | 33.7%         | 36.6%         |
| PSA FTA Score 6       | 37.3%                  | 28.4%         | 41.9%         |
| <b>Total Released</b> | <b>83,481</b>          | <b>78,429</b> | <b>65,808</b> |

**Table 16: Statewide New Arrest Outcomes for Released Defendants by Public Safety Assessment (PSA) Score for New Criminal Arrest (NCA)**

|                       | New Criminal Arrest Rate |               |               |
|-----------------------|--------------------------|---------------|---------------|
|                       | 2018                     | 2019          | 2020          |
| PSA NCA Score 1       | 13.7%                    | 12.6%         | 13.8%         |
| PSA NCA Score 2       | 22.1%                    | 20.3%         | 21.9%         |
| PSA NCA Score 3       | 28.6%                    | 26.8%         | 28.8%         |
| PSA NCA Score 4       | 34.1%                    | 32.9%         | 37.1%         |
| PSA NCA Score 5       | 36.7%                    | 36.9%         | 38.9%         |
| PSA NCA Score 6       | 41.9%                    | 41.3%         | 45.1%         |
| <b>Total Released</b> | <b>83,481</b>            | <b>78,429</b> | <b>65,808</b> |

## FINAL DISPOSITION OF CONTACT EVENTS

Table 17 indicates the final disposition of the CY2018, CY2019 and CY2020 contact events. The defendants included in the analysis were tracked for a minimum of 15 months or until final disposition of the case, whichever occurred first. This approach has been utilized since the origination of the pretrial data collection project in 2018. For the CY2019 cohort, the follow-up period ended in March 2021. For the CY2020 cohort, the follow-up period ended in March 2022. In the table below, “Convicted” indicates that the defendant was found guilty of at least one charge in the contact event. “Dismissed,” “Nolle prosequi,” and “Not guilty” indicate that the defendant was not convicted of any charges in the contact event<sup>19</sup>. “Other”<sup>20</sup> category indicates that a defendant had a final disposition other than what was classified as convicted, dismissed, nolle prosequi, not guilty, or pending. “Pending” means that none of the charges in the contact had reached a final disposition by the end of the follow-up period<sup>21</sup>.

As Table 17 shows, the conviction rate for the CY2020 cohort (52.2%) was considerably lower than for previous cohorts. Conversely, the percentage of charges that were nolle prosequi (i.e., prosecution did not go forward) increased for the CY2020 cohort. There was also an increase in the percentage of cases that were still pending at the end of the follow-up period.

**Table 17: Final Disposition of Contact Events, CY2018-CY2020**

|                | Number of Defendants (Percentage) |                      |                      |
|----------------|-----------------------------------|----------------------|----------------------|
|                | 2018                              | 2019                 | 2020                 |
| Convicted      | 57,754 (60.1%)                    | 50,851 (56.9%)       | 38,403 (52.2%)       |
| Dismissed      | 9,382 (9.8%)                      | 8,739 (9.8%)         | 7,846 (10.7%)        |
| Nolle prosequi | 18,021 (18.7%)                    | 17,060 (19.1%)       | 16,482 (22.4%)       |
| Not guilty     | 2,436 (2.5%)                      | 2,096 (2.3%)         | 1,629 (2.2%)         |
| Other          | 25 (0.0%)                         | 6 (0.0%)             | 13 (0.0%)            |
| Pending        | 8,517 (8.9%)                      | 10,681 (11.9%)       | 9,164 (12.5%)        |
| <b>Total</b>   | <b>96,135 (100%)</b>              | <b>89,433 (100%)</b> | <b>73,537 (100%)</b> |

<sup>19</sup> If multiple charges in the contact event were heard on the same day and resulted in varying final dispositions of dismissed, nolle prosequi, or not guilty, then the following hierarchy rule applies for classification of the final disposition of the contact event: not guilty, dismissed, nolle prosequi, other. If multiple charges in the contact event were heard on different days and resulted in varying final dispositions of dismissed, nolle prosequi, or not guilty, then the contact event was classified using the most recent final disposition. Codes of mistrial (M), RES (resolved), withdrawn (W), and complied with law (CL) were classified as “dismissed.” The code of not guilty by reason of insanity (NGRI) was classified as “not guilty.”

<sup>20</sup> Examples of ‘other’ codes included bond forfeited (BF), certified misdemeanor (CM), extradition ordered (EO), extradition waived (EW), certified to grand jury (GJ), granted (GR), adjudicated habitual offender (HO), or defendant cannot be found (NF).

<sup>21</sup> The “pending” classification includes contact events that had not reached a final disposition at the end of follow-up period for each cohort, such as charges that had not been brought to trial and charges that were under a deferred disposition status. OES Court Case Management System codes of fugitive file (FF) and remanded (REM) were classified as “pending.”

This chapter presents some of the interesting descriptive findings from the Sentencing's Commission's analysis of the multi-year pretrial datasets now available. Many findings are relatively consistent from year to year. Other measures, such as release rates, pretrial outcome measures (failure to appear and new criminal arrest) and conviction rates were different for the CY2020 cohort. As noted previously, the tables in this chapter should be interpreted with caution. In order to determine whether the differences are statistically significant, it is necessary to conduct more sophisticated statistical analyses. Future research conducted by the Sentencing Commission will address such limitations by incorporating more advanced statistical techniques.

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## Evaluating the Predictive Validity of Public Safety Assessment (PSA) Scores

Each year in Virginia, magistrates and judges are responsible for making thousands of pretrial release decisions. They must determine whether to detain or release a defendant during the pretrial process and, if release is considered, what conditions may be set to maximize the likelihood that the defendant will appear in court and minimize the likelihood that the defendant will be arrested for a new criminal offense while on release during the pretrial period. These decisions are made within the context of what resources are available to support the pretrial system in the local jurisdiction. In most cases, low risk defendants can be safely released to the community with few (or no) conditions or restrictions. Releasing defendants who can be safely returned to the community minimizes the potential adverse consequences of pretrial detention, such as losing one's job (Campbell et al., 2020; Heaton et al., 2017; Oleson et al., 2016; Sacks et al., 2015; Sacks & Ackerman, 2014). Empirically-based risk assessment can provide decision makers with objective information that they may weigh, along with other information, to make more informed pretrial decisions. A number of studies have found that validated actuarial risk assessment tools combined with professional judgment produce better outcomes than subjective professional judgment alone.<sup>22</sup>

Initially developed by Arnold Ventures in 2011, the Public Safety Assessment (PSA) is an actuarial assessment tool that estimates the likelihood of the defendant's failure to appear in court pretrial, new criminal arrest while on pretrial release, and new criminal arrest for a violent offense while on pretrial release. The PSA is a research-based pretrial risk assessment tool that can be computed without need of an interview or a qualitative (subjective) examination of the defendant. All information for scoring the PSA can be obtained from official records. The PSA has been validated and refined in a number of jurisdictions, including Fulton County (Georgia), Pierce County (Washington), Thurston County (Washington), Kane County (Illinois), Harris County (Texas), and Lucas County (Ohio). The PSA is currently being used by several states, including Kentucky, Arizona, New Jersey, and Utah and also in a number of major cities and surrounding areas (APPR Research | *Advancing Pretrial Policy & Research (APPR)*, n.d.; Brittain et al., 2021). To date, the PSA has not been validated in Virginia.

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<sup>22</sup> See, e.g., Ægisdóttir, S., White, M. J., Spengler, P. M., Maugherman, A. S., Anderson, L. A., Cook, R. S., ... Rush, J. D. (2006). The meta-analysis of clinical judgment project: Fifty-six years of accumulated research on clinical versus statistical prediction. *The Counseling Psychologist*, 34(3), 341–382; Andrews, D. A., Bonta, J., & Wormith, J. S. (2006). The recent past and near future of risk and/or need assessment. *Crime & Delinquency*, 52(1), 7-27; Jung, J., Concannon, C., Shroff, R., Goel, S., & Goldstein, D.G. (2020). Simple rules to guide expert classifications. *Journal of the Royal Statistical Society*, 183(3), 771-800; National Institute of Justice. (2001). *Pretrial services programming at the start of the 21st century: A survey of pretrial services programs*. Washington: Office of Justice Programs, U.S. Department of Justice.

In 2023, the Virginia Department of Criminal Justice Services (DCJS) began planning for a pilot test of the PSA in select Pretrial Services Agency sites. To assist DCJS, the Sentencing Commission this year conducted a series of sophisticated analyses to examine the predictive validity of the PSA within Virginia’s pretrial population using data from the Pretrial Data Project. This chapter provides background information about the PSA tool and describes the Commission’s methodological approach to examining its predictive validity. The Commission’s findings are presented and recommendations for future research are discussed. For those interested in other recent studies in the area of pretrial risk assessment and validity testing, a discussion of relevant studies is included.

## SCORING THE PUBLIC SAFETY ASSESSMENT

The PSA instrument is composed of three scales: Failure to Appear (FTA), New Criminal Arrest (NCA) and New Criminal Violent Arrest (NCVA). Nine factors are used to score these scales: age at current arrest, current violent offense arrest, whether the defendant is 20 years of age or younger at current violent offense, prior misdemeanor conviction, prior violent conviction, prior failure to appear in the past two years, prior failure to appear older than two years, and prior sentence to incarceration. Each of these factors are weighted with different point assignments based on the strength and magnitude of the relationship with the specified particular pretrial outcome. Chart 9 illustrates the factors used for each of the PSA’s three scales.

**Chart 9: Public Safety Assessment (PSA) Factors for Failure to Appear (FTA), New Criminal Arrest (NCA), and New Violent Criminal Arrest (NVCA) Scales**

| <b>RELATIONSHIP BETWEEN RISK FACTORS AND PRETRIAL OUTCOMES</b> |            |            |             |
|--|------------|------------|-------------|
| <b>Risk Factor</b>   | <b>FTA</b> | <b>NCA</b> | <b>NVCA</b> |
| 1. Age at current arrest                                       |            | X          |             |
| 2. Current violent offense                                     |            |            | X           |
| <i>Current violent offense &amp; 20 years old or younger</i>   |            |            | X           |
| 3. Pending charge at the time of the offense                   | X          | X          | X           |
| 4. Prior misdemeanor conviction                                |            | X          |             |
| 5. Prior felony conviction                                     |            | X          |             |
| <i>Prior conviction (misdemeanor or felony)</i>                | X          |            | X           |
| 6. Prior violent conviction                                    |            | X          | X           |
| 7. Prior failure to appear in the past two years               | X          | X          |             |
| 8. Prior failure to appear older than two years                | X          |            |             |
| 9. Prior sentence to incarceration                             |            | X          |             |

*Note: Boxes where an “X” occurs indicate that the presence of a risk factor increases the likelihood of that outcome for a given defendant.*

Source: <https://advancingpretrial.org/psa/factors/>

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## METHODOLOGY

For this study, the Sentencing Commission utilized CY2018-CY2020 data from the Pretrial Data Project. The Commission focused on defendants who were charged with a criminal offense punishable by incarceration and, following a bail determination made by a judicial officer, were released during the pretrial period. If a defendant had more than one contact event in a calendar year, only the first contact event was used for the analysis. Including other types of defendants (e.g., summons, probation violations, etc.) may lead to different estimates of the strength of association of PSA scores with pretrial outcomes; however, measuring the predictive power and accuracy of PSA scores for these defendants is arguably the most important for pretrial decision making. Currently, Virginia has not adopted PSA as its official pretrial risk assessment tool; therefore, the Sentencing Commission applied the PSA historical data to evaluate its effectiveness and predictive power. Using existing PSA implementation manuals, the Sentencing Commission applied uniform scoring rules and computed FTA and NCA scores for each defendant.

A total of 227,718 adult defendants released during CY2018-CY2020 were included in the analysis. Table 18 provides information about the characteristics of these defendants, including gender, race, age group, indigency status, and pretrial supervision status. As noted in earlier chapters of this report, indigency status is a proxy measure based on attorney type at case closure; those who were represented by a public defender or court-appointed attorney were classified as indigent. Among the 227,718 defendants, 70.1% were male, 57.8% were white, 32.8% were between age 26 and 35, 53.8% were indigent, and 84.2% did not receive pretrial supervision.

**Table 18: Defendant Demographics, Indigency and Pretrial Supervision Status, CY2018-CY2020**

|                                    | Number of Defendants | Percent       |
|------------------------------------|----------------------|---------------|
| <i>Defendant Sex</i>               |                      |               |
| Male                               | 159,526              | 70.1%         |
| Female                             | 67,432               | 29.6%         |
| Unknown                            | 760                  | 0.3%          |
| <i>Defendant Race</i>              |                      |               |
| White                              | 131,530              | 57.8%         |
| Black                              | 86,643               | 38.0%         |
| Asian or Pacific Islander          | 2,761                | 1.2%          |
| American Indian or Alaskan Native  | 88                   | 0.0%          |
| Unknown                            | 6,696                | 2.9%          |
| <i>Defendant Age Group</i>         |                      |               |
| 18-25 years old                    | 55,264               | 24.3%         |
| 26-35 years old                    | 74,792               | 32.8%         |
| 36-45 years old                    | 47,229               | 20.7%         |
| 46-55 years old                    | 30,419               | 13.4%         |
| 56-65 years old                    | 15,818               | 6.9%          |
| >65 years old                      | 4,172                | 1.8%          |
| Unknown                            | 24                   | 0.0%          |
| <i>Defendant Indigency Status</i>  |                      |               |
| Indigent                           | 122,401              | 53.8%         |
| Not Indigent                       | 97,336               | 42.7%         |
| Unknown                            | 7,981                | 3.5%          |
| <i>Pretrial Supervision Status</i> |                      |               |
| Received Supervision               | 35,870               | 15.8%         |
| Did Not Receive Supervision        | 191,848              | 84.2%         |
| <b>Total Defendants</b>            | <b>227,718</b>       | <b>100.0%</b> |

Table 19 reports the number and percentage of defendants who were charged with failure to appear or who incurred a new criminal arrest during the pretrial period. While the PSA also has a scale for New Violent Criminal Arrest (NVCA), the Sentencing Commission's study focused on the two primary outcome measures. As shown in Table 19, among 227,718 released defendants, 13.6% were charged with failure to appear in court and 22.2% had at least one in-state criminal arrest during the pretrial period for an offense punishable by incarceration.



**Table 19: Statewide Pretrial Outcomes**

|  | <b>Number of Defendants</b> | <b>Percent</b> |
|--|-----------------------------|----------------|
| Charged with failure to appear             | 30,900                      | 13.6%          |
| Arrested for new in-state criminal offense | 50,661                      | 22.2%          |
| Arrested for new in-state felony offense   | 19,844                      | 8.7%           |
| Arrested for new in-state violent offense  | 12,845                      | 5.6%           |
| <b>Total Released Defendants</b>           | <b>227,718</b>              |                |

When it comes to evaluating the predictive validity of the PSA, the Sentencing Commission primarily relied on standard statistical measures often used in the current literature (Brittain et al., 2021; Cohen et al., 2018; DeMichele et al., 2020). Logistic regression techniques seek to characterize the relative risk of a specific binary response (e.g., success or failure) as a function of one or more explanatory variables. Here, the pretrial outcome measure is the response (or dependent) variable and the PSA score is an explanatory (or independent) variable in the model. The equation is illustrated below.

$$\log\left(\frac{p(y)}{p(1-y)}\right) = \beta_0 + \beta_1x$$

This baseline equation is used for two models. In the first model,  $p(y)$  is the probability of a defendant's court appearance outcome (with  $y=0$  indicating court appearance and  $y=1$  indicating failure to appear). On the right side of the equation,  $x$  is the PSA score for FTA. In the second model,  $p(y)$  denotes the probability of a defendant's new criminal arrest (with  $y=0$  indicating no new criminal arrest and  $y=1$  indicating at least one new criminal arrest) and, on the right side of the equation,  $x$  is the PSA score for new criminal arrest, or NCA.

Unlike Ordinary Least Square (OLS) regression, logistic regression uses model performance measures other than R squared. This study utilizes multiple metrics to measure the performance of logistic regression models. For the overall logistic regression model evaluation, a Likelihood ratio test is used. A measure known as the Pseudo R squared value is included to assess the predictive power of the model (Menard, 2000).

Next, the predicted probability for non-failure versus failure is classified in a table. As a common practice, a threshold probability of 0.5 is used. If a defendant has a probability higher than 0.5 for failure to appear or new criminal arrest, he would be classified as a predicted pretrial failure (as a predicted failure=1) and vice versa (Table 20). Given this threshold probability and each defendant classified by the predicted probability of failure, a classification table, overall accuracy score, precision rate, recall rate, and a measure known as the F1 score were calculated.

**Table 20: Classification Report**

| Real value  | Predicted value  |               |
|-------------|------------------|---------------|
|             | No-Failure*      | Failure       |
| No-Failure* | True No-Failure  | False Failure |
| Failure     | False No-Failure | True Failure  |

\*Failure means either FTA or NCA

The Confusion matrix (classification table) reports the outcomes as true failure, false no-failure, false failure, and true no-failure as illustrated in Table 20. Accuracy is the percentage of defendants whose actual outcome has been correctly predicted by the PSA scores. Thus, it is the sum of the true failures and true no-failures divided by the total number of defendants. The accuracy rate ranges between 0 and 1. The general rule is that an accuracy score below 0.6 is poor, 0.6-0.7 is adequate, 0.7-0.9 is good, and over 0.9 is excellent. Precision is the number of true failures divided by all the failures predicted (true failure+ false failure). The precision rate ranges between 0 and 1. A high precision rate means that the majority of the failure predictions are true failures. A precision value over 0.7 suggests good model performance. In comparison, recall is the number of true failures divided by the total number of failures. Similar to the precision score, the higher the recall rate, the better the model performance. The F1 score combines precision and recall rates. A high value indicates high values for both precision and recall scores, and better model performance. It is calculated as follows:

$$F1 \text{ score} = 2 * \frac{\text{recall} * \text{precision}}{\text{recall} + \text{precision}}$$

Lastly, in addition to the model performance measures discussed above, the Sentencing Commission uses AUC-ROC to measure the overall model validation, or predictive power of the model. AUC-ROC, or the Area Under the Receiver Operating Characteristic Curve score, is created by plotting the true positive rate against the false positive rate at various threshold settings between the real classification and the predicted classification results (Fawcett, 2006). The AUC score ranges from 0 to 1, with 0 representing the least accuracy of the predicted model, 1 the highest accuracy, and .5 random prediction. Although there is no specified number for a good ROC score, and it varies across different fields of study, the generally accepted standard of AUC-ROC in the field of criminal justice is suggested as follows: AUC values less than 0.55 as poor, 0.55–0.63 as fair, 0.64–0.70 as good, and 0.71–1.00 as excellent (DeMichele et al., 2020).

Using the approach and measures described in this section, the Sentencing Commission examined the predictive validity of PSA scales for FTA and NCA against actual outcomes among Virginia’s pretrial population. The FTA and NCA scores were tested by themselves and in models with other individual and contextual factors.

## RESULTS

Analysis of Virginia’s pretrial data reveals that, as PSA scores increase, the failure rates among pretrial defendants increase in an upward stair-step pattern. Similar patterns were found for both failure to appear and new criminal arrest measures. While these descriptive results are consistent with the hypothesis that the PSA scales are valid for estimating pretrial risk, they do not quantify the predictive power of the PSA instrument.

**Table 21: Statewide Court Appearance Outcomes for Released Defendants by Public Safety Assessment (PSA) Score for Failure to Appear (FTA)**

|                       | Failure to Appear Rate |               |               |
|-----------------------|------------------------|---------------|---------------|
|                       | 2018                   | 2019          | 2020          |
| PSA FTA Score 1       | 9.4%                   | 9.6%          | 12.3%         |
| PSA FTA Score 2       | 12.1%                  | 11.7%         | 15.4%         |
| PSA FTA Score 3       | 16.2%                  | 16.0%         | 20.4%         |
| PSA FTA Score 4       | 21.4%                  | 22.7%         | 26.2%         |
| PSA FTA Score 5       | 29.2%                  | 33.7%         | 36.6%         |
| PSA FTA Score 6       | 37.3%                  | 28.4%         | 41.9%         |
| <b>Total Released</b> | <b>83,481</b>          | <b>78,429</b> | <b>65,808</b> |

**Table 22: Statewide New Arrest Outcomes for Released Defendants by Public Safety Assessment (PSA) Score for New Criminal Arrest (NCA)**

|                       | New Criminal Arrest Rate |               |               |
|-----------------------|--------------------------|---------------|---------------|
|                       | 2018                     | 2019          | 2020          |
| PSA NCA Score 1       | 13.7%                    | 12.6%         | 13.8%         |
| PSA NCA Score 2       | 22.1%                    | 20.3%         | 21.9%         |
| PSA NCA Score 3       | 28.6%                    | 26.8%         | 28.8%         |
| PSA NCA Score 4       | 34.1%                    | 32.9%         | 37.1%         |
| PSA NCA Score 5       | 36.7%                    | 36.9%         | 38.9%         |
| PSA NCA Score 6       | 41.9%                    | 41.3%         | 45.1%         |
| <b>Total Released</b> | <b>83,481</b>            | <b>78,429</b> | <b>65,808</b> |

### Bivariate Logistic Regression Models

The first models tested by the Sentencing Commission contained only the PSA score as a predictor of pretrial outcome. For the first model, the PSA FTA score was used as the only predictor for the pretrial outcome of failure to appear. For the second model, the PSA NCA score was used as the only predictor for the pretrial outcome of new criminal arrest. Table 23 presents the results of each logistic regression model. The estimates shown in this table indicate that PSA FTA and NCA scores are positive and statistically significant in predicting failure to appear and new criminal arrest outcomes. The corresponding likelihood ratio tests return p values less than 0.01, which reflects statistical significance at the one percent level (i.e., the results are highly significant). For both failure to appear and new criminal arrest, a one unit increase in PSA score will generally increase the

relative risk of failure by around 40%. On the other hand, AUC values, which reflect the overall predictive power of the model, are relatively low, between 0.59 and 0.63 across the two regression models. As neither of these models has an AUC value over the 0.7 standard, model performance is rated as fair. These results are consistent with previous studies of PSA scores that have reported AUC values (Brittain et al., 2021; DeMichele et al., 2020). The Sentencing Commission then used the probability of 0.5 as the threshold to classify the predicted value into two groups: no-failure (predicted probability < 0.5) and failure (predicted probability >= 0.5). While the overall accuracy score is high, ranging from 0.78 to 0.86, other metrics were less than satisfactory. The models' precision and recall rates were zero, as was the f1-score for y = 1. Such results were reflected in the extremely low pseudo-R squared values 0.02-0.04 in both models. Although higher PSA scores are associated with higher rates of failure among Virginia's pretrial population, metrics for the statistical models at this stage suggest the PSA's overall power to predict whether a defendant will fail (either FTA or NCA) is somewhat limited.

**Table 23: Bivariate Logistic Regression Models with Public Safety Assessment (PSA) Scores Only**

| Response:   | Odds Ratio |                   |      |
|---|------------|-------------------|------|
| Failure to Appear   | B          | (e <sup>β</sup> ) | p    |
| Constant  | -2.51      | 0.08              | 0.00 |
| PSA FTA   | 0.33       | 1.40              | 0.00 |
| Number of observations: 227718<br>Log-Likelihood test p value: 0.000<br>pseudo-R squared: 0.02  |            |                   |      |
| ROC-AUC: 0.59<br>Confusion matrix: [196818 0]<br>[30900 0]<br>Accuracy score: 0.86<br>y = 0 (no failure):<br>precision = 0.88, recall = 1.00, f1-score=0.93<br>y = 1 (failure):<br>precision = 0.00, recall = 0.00, f1-score=0.00 |            |                   |      |

| Response:   | Odds Ratio |                   |      |
|---|------------|-------------------|------|
| New Criminal Arrest   | β          | (e <sup>β</sup> ) | p    |
| Constant  | -2.08      | 0.12              | 0.00 |
| PSA NCA   | 0.34       | 1.41              | 0.00 |
| Number of observations: 227718<br>Log-Likelihood test p value: 0.000<br>pseudo-R squared: 0.04  |            |                   |      |
| ROC-AUC: 0.63<br>Confusion matrix: [ 177057 0]<br>[ 50661 0]<br>Accuracy score: 0.78<br>y = 0 (no failure):<br>precision = 0.78, recall = 1.00, f1-score=0.87<br>y = 1 (failure):<br>precision = 0.00, recall = 0.00, f1-score=0.00 |            |                   |      |

## Multivariate Logistic Regression (Expanded) Models

The results based on the bivariate logistic regression model, in general, indicate that, while the association is statistically significant, PSA score alone may not be an adequate factor to predict the likelihood of pretrial outcomes. Thus, the Sentencing commission also examined the effect of PSA scores as a part of expanded statistical models including individual and contextual factors. The Sentencing Commission expected PSA scores to remain statistically and substantially significant with the expanded models achieving better overall predictive power.

In addition to PSA scores, logistic regression models at this stage included other explanatory factors not accounted for by the PSA score. These models included factors reflecting gender (male), age at contact event (the PSA score for NCA already accounts for age but the FTA score does not), race (African American/Black), indigency status, felony as the most serious charge, pretrial supervision status, under GPS monitoring, under other release conditions, released on secured bond, and number of days in the community (after release) until final disposition.

The expanded models also incorporated regional and year fixed effects. By doing so, the study controlled time-invariant unobservable characteristics across regions in Virginia (e.g., latent judicial practices) and temporal effects (e.g., 2020-pandemic era) that cannot be easily captured and quantified in the model. The expanded models included indicator (dummy) variables to represent the various judicial circuits and contact years. In addition, in order to control for variations across localities, locality-level measures of population density, crime rates, and the number of sworn law enforcement officers were also included in the models. Lastly, since individual-level observations are nested within a larger cluster (judicial circuit), the model also utilized the clustered standard errors to obtain unbiased and efficient estimates of the effects of the explanatory variables.

Table 24 presents the results of the multivariate logistic regression models. For one model, the PSA FTA score was used as one predictor, along with other factors, to estimate the pretrial outcome of failure to appear. For the other model, the PSA NCA score was used as one predictor, along with other factors, to estimate the pretrial outcome of new criminal arrest. The estimates shown in the table indicate that PSA FTA and NCA scores remain a positive and statistically significant factor in predicting failure to appear and new criminal arrest outcomes, respectively. For instance, based on the failure to appear model, the estimated relative risk indicates that a one unit increase in PSA FTA score will generally increase the relative risk of failure by 46%, holding other variables constant at their means. Similarly, according to the results of the new criminal arrest model, the PSA NCA score is highly significant (at the one percent level) in predicting a defendant's new criminal arrest. Specifically, a one unit increase in the PSA NCA score will generally increase the relative risk of failure by 42%, holding other variables constant at their means.

**Table 24: Expanded Models for Failure to Appear and New Criminal Arrest**

| Variable                                  | Failure to Appear      |            | New Criminal Arrest    |            |
|---|------------------------|------------|------------------------|------------|
|   | Log-Odds               | Odds Ratio | Log-Odds               | Odds Ratio |
| PSA FTA Score                             | 0.377***               | 1.457***   |                        |            |
| PSA NCA Score                             |                        |            | 0.348***               | 1.416***   |
| Black/African American                    | 0.073                  | 1.075      | 0.051*                 | 1.051**    |
| Male                                      | 0.067**                | 1.069**    | 0.104***               | 1.109***   |
| Defendant Age                             | -0.016***              | 0.984***   |                        |            |
| Defendant Indigency                       | 0.061***               | 1.063***   | 0.027***               | 1.027***   |
| Current Charge Felony                     | 0.038                  | 1.039      | 0.086***               | 1.090***   |
| Pretrial Supervision                      | -0.359***              | 0.698***   | 0.007                  | 1.006      |
| Days Between Release and FinalDisposition | 0.002***               | 1.002***   | 0.002***               | 1.002***   |
| Released on Secured Bond                  | -0.034                 | 0.966      | 0.036*                 | 1.036*     |
| GPS Monitoring                            | -0.497***              | 0.609***   | -0.160                 | 0.852      |
| Other Pretrial Conditions                 | -0.014                 | 0.986      | 0.069***               | 1.072***   |
| Locality Pop Density                      | 0.000                  | 0.999      | 0.000                  | 0.999      |
| Sworn Police Officers/Pop                 | -0.041                 | 0.959      | -0.026                 | 0.975      |
| LocalityCrimeRate                         | 0.004*                 | 1.003      | 0.002                  | 1.002      |
| constant                                  | -3.070***              | 0.046      | -2.882***              | 0.056***   |
| N   | 214328                 |            | 214351                 |            |
| Pseudo R^2                                | 0.077                  |            | 0.095                  |            |
| Accuracy Score                            | 86.42%                 |            | 78.02%                 |            |
| ROC_AUC                                   | 0.703                  |            | 0.720                  |            |
| f1-score (Y=0, Y=1)                       | 0.93 (Y=0), 0.05 (Y=1) |            | 0.87 (Y=0), 0.22 (Y=1) |            |
| AIC                                       | 156926.99              |            | 206024.33              |            |
| BIC                                       | 157101.67              |            | 206178.46              |            |

Note: Significance Level: \*10%, \*\*5%, \*\*\*1%

Calendar Year and Circuit Court dummies were included in the model, but they were omitted from the result table to avoid complexity.

In addition to the estimated effects of PSA scores, the results from the expanded models suggest the significant effects of other factors on pretrial outcomes. For instance, defendant gender (being a male) and indigency status are positive and significant factors for both failure to appear and new criminal arrest outcomes, indicating that an indigent male is more likely to fail to appear or have a new criminal arrest compared to a female defendant who is not indigent. Also, more days in the community between release and final disposition increases the likelihood of failure to appear or new criminal arrest. Other factors are found to be significant for a particular pretrial outcome. For example, the defendant’s age is negatively associated with failure to appear, suggesting that, as a defendant’s age increases, his odds of failing to appear generally decrease. Findings also suggest that pretrial supervision by a Pretrial Services Agency and GPS monitoring of the defendant significantly decrease the odds of failing to appear in court (significant at the one percent level). Regarding new criminal arrest, African Americans have increased odds of being arrested during the pretrial period;

however, the level of significance is only at the ten percent level. As shown in Table 24, having a felony as the most serious charge significantly increases the odds of a new criminal arrest during the pretrial period. The PSA currently does not account for the type of most serious charge in the current event in the computation of the NCA score. One counter-intuitive finding from the expanded models is that having release conditions other than GPS monitoring significantly increases the odds of a new criminal arrest during release. This finding may be due to the way the variable for release conditions was constructed, as different release conditions were grouped together into one indicator. The further decomposition of other pretrial release conditions may provide more meaningful estimates, but that is beyond the scope of this study.

Regarding the overall model performance for predicting the pretrial outcomes, likelihood ratio tests return significant results. Pseudo-R squared is improved from 0.01-0.02 in the bivariate logistic regression models to approximately 0.08 and 0.10 for the expanded models for failure to appear and new criminal arrest, respectively. Most importantly, the ROC-AUC scores for the multivariate logistic regression models are significantly improved from the previous models. For instance, the ROC-AUC score for the failure to appear model is 0.70, which is considered as good model performance. Moreover, the ROC-AUC score for the new criminal arrest model is 0.72, which is considered as excellent model performance (DeMichele et al., 2020). The confusion matrix provides a better classification result when  $p=0.5$  is used as the threshold. Although the overall accuracy score generally remains unchanged, both precision and recall rates are improved, leading to better F1 scores for predicting those who are likely to fail to appear or incur a new criminal arrest.

### **Multivariate Logistic Regression Models: Alternative Approach**

In addition to the expanded models, the Sentencing Commission also tested whether a different representation of PSA scores would lead to different levels of statistical significance of PSA scores and overall predictive power of the models. For this purpose, the study followed the analytical approaches used in several existing studies, where each PSA score is represented by an individual indicator variable or PSA scores are regrouped into three levels of low, medium, and high (Brittain et al., 2021; DeMichele et al., 2020).

Tables 25 and 26 present the results based on multivariate logistic regression models with different sets of PSA scores. As with the previous models, variables for FTA and NCA scores were consistently significant at the one percent level. As expected, the risk of failing to appear or incurring a new criminal arrest increase with the higher levels of PSA scores. While consistently significant, it was found that manipulation of PSA scores does not produce improved overall model performance as ROC-AUC scores did not significantly improve from the previous models. ROC-AUC scores for failure to appear stay around 0.70, while the ROC-AUC scores for new criminal arrest remain around 0.71-0.72.

**Table 25: Alternative models for Failure to Appear**

| Variable                                  | Failure to Appear     |            |                       |            |
|---|-----------------------|------------|-----------------------|------------|
|   | Log-Odds              | Odds Ratio | Log-Odds              | Odds Ratio |
| PSA FTA Individual Score                  |                       |            |                       |            |
| 2   | 0.353***              | 1.423***   |                       |            |
| 3   | 0.767***              | 2.154***   |                       |            |
| 4   | 1.112***              | 3.039***   |                       |            |
| 5   | 1.555***              | 4.737***   |                       |            |
| 6   | 1.732***              | 5.649***   |                       |            |
| PSA Score Group                           |                       |            |                       |            |
| Moderate (3-4)                            |                       |            | 0.731***              | 2.077***   |
| High (5-6)                                |                       |            | 1.412***              | 4.104***   |
| Black/African American male               | 0.072                 | 1.075      | 0.085*                | 1.088*     |
| Defendant Age                             | 0.068**               | 1.070**    | 0.085***              | 1.089***   |
| Defendant Indigency                       | -0.016***             | 0.984***   | -0.015***             | 0.986***   |
| Current Charge                            | 0.061***              | 1.063***   | 0.063***              | 1.066***   |
| Felony                                    | 0.038                 | 1.039      | 0.043                 | 1.044      |
| Pretrial Supervision                      | -0.358***             | 0.699***   | -0.333***             | 0.717***   |
| Days Between Release and FinalDisposition | 0.002***              | 1.002***   | 0.002***              | 1.002***   |
| Released on Secured Bond                  | -0.034                | 0.966      | 0.007                 | 1.007      |
| GPS Monitoring                            | -0.497***             | 0.608***   | -0.507***             | 0.602***   |
| Other Pretrial Conditions                 | -0.014                | 0.986      | -0.011                | 0.988      |
| Locality Pop Density                      | 0.000                 | 0.999      | 0.000                 | 0.999      |
| Sworn Police Officers/Pop                 | -0.041                | 0.959      | -0.040                | 0.960      |
| LocalityCrimeRate                         | 0.004*                | 1.004*     | 0.004**               | 1.004**    |
| constant                                  | -2.691***             | 0.068***   | -2.641***             | 0.071***   |
| Statistics                                |                       |            |                       |            |
| N   | 214328                |            | 214328                |            |
| Pseudo R^2                                | 0.077                 |            | 0.074                 |            |
| Accuracy Score                            | 86.42%                |            | 86.40%                |            |
| ROC_AUC                                   | 0.704                 |            | 0.699                 |            |
| f1-score (Y=0, Y=1)                       | 0.093(Y=0), 0.03(Y=1) |            | 0.093(Y=0), 0.04(Y=1) |            |
| AIC                                       | 156924.29             |            | 157559.28             |            |
| BIC                                       | 157140.07             |            | 157733.96             |            |

Note: Significance Level: \*10%, \*\*5%, \*\*\*1%

Calendar Year and Circuit Court Jurisdiction indicator variables were included in the model, but they were omitted from the result table to avoid complexity.



**Table 26: Alternative Models for New Criminal Arrest**

| Variable                                  | New Criminal Arrest   |            |                       |            |
|---|-----------------------|------------|-----------------------|------------|
|   | Log-Odds              | Odds Ratio | Log-Odds              | Odds Ratio |
| PSA NCA Individual Score                  |                       |            |                       |            |
| 2   | 0.581***              | 1.788***   |                       |            |
| 3   | 0.925***              | 2.523***   |                       |            |
| 4   | 1.247***              | 3.478***   |                       |            |
| 5   | 1.371***              | 3.940***   |                       |            |
| 6   | 1.642***              | 5.167***   |                       |            |
| PSA Score Group                           |                       |            |                       |            |
| Moderate (3-4)                            |                       |            | 0.737***              | 2.091***   |
| High (5-6)                                |                       |            | 1.125***              | 3.082***   |
| Black/African American male               | 0.046*                | 1.047**    | 0.076***              | 1.079***   |
| Defendant Indigency                       | 0.100***              | 1.105***   | 0.123***              | 1.130***   |
| Current Charge                            | 0.027***              | 1.027***   | 0.028***              | 1.029***   |
| Felony                                    | 0.082***              | 1.085***   | 0.092***              | 1.096***   |
| Pretrial Supervision                      | 0.001                 | 1.001      | 0.024                 | 1.024      |
| Days Between Release and FinalDisposition | 0.002***              | 1.002***   | 0.002***              | 1.002***   |
| Released on Secured Bond                  | 0.030                 | 1.030      | 0.059***              | 1.061***   |
| GPS Monitoring                            | -0.149                | 0.861      | -0.176                | 0.839      |
| Other Pretrial Conditions                 | 0.065***              | 1.067***   | 0.070***              | 1.072***   |
| Locality Pop Density                      | 0.000                 | 0.999      | 0.000                 | 0.999      |
| Sworn Police Officers/Pop                 | -0.027                | 0.972      | -0.023                | 0.977      |
| LocalityCrimeRate                         | 0.002                 | 1.001      | 0.002                 | 1.002      |
| constant                                  | -2.670***             | 0.069***   | -2.413***             | 0.089***   |
| Statistics                                |                       |            |                       |            |
| N   | 214351                |            | 214351                |            |
| Pseudo R^2                                | 0.097                 |            | 0.089                 |            |
| Accuracy Score                            | 78.01%                |            | 77.89%                |            |
| ROC_AUC                                   | 0.720                 |            | 0.713                 |            |
| f1-score (Y=0, Y=1)                       | 0.087(Y=0), 0.21(Y=1) |            | 0.087(Y=0), 0.21(Y=1) |            |
| AIC                                       | 205588.02             |            | 207444.69             |            |
| BIC                                       | 205783.25             |            | 207609.10             |            |

Note: Significance Level: \*10%, \*\*5%, \*\*\*1%

Calendar Year and Circuit Court Jurisdiction indicator variables were included in the model, but they were omitted from the result table to avoid complexity.

While not presented in this report, the Sentencing Commission tested a number of alternative model specifications by recalibrating the existing factors of PSA scores (while still reflecting the same latent dimension), adding other types of legal factors (e.g., the number of charges for the contact event, the number of previous failure to appear arrests, different types of current offenses, etc.). None of these alternative specifications produced significant improvements in predictive power to the models presented here.

## **CONCLUSIONS & RECOMMENDATIONS FOR FUTURE RESEARCH**

As part of its work in 2023, the Sentencing Commission used sophisticated bivariate and multivariate statistical techniques to examine the predictive validity of the PSA for Virginia's pretrial population.

The results indicated that the statistical models with only the PSA score (and no other explanatory variables) yielded a moderate level of statistical power. The Commission developed expanded models including other individual and locality level factors that are not already captured by the PSA instrument. In the expanded models, the effect of the PSA score remained highly significant. Overall, the expanded models achieved higher predictive power. Findings indicate that the PSA scores are highly correlated with pretrial failures but the PSA scores alone do not account for all factors that impact pretrial outcomes in Virginia. Overall, findings suggest that the PSA may be a useful tool in pretrial release decision making along with other information available to the judicial officer.

The Sentencing Commission recommends that future research continue to examine additional legal factors that may significantly contribute to predicting pretrial outcomes. For example, as shown in this study, having a felony as the most serious charge was found to be significant in predicting new criminal arrest. Also, future research should address the potential shortcomings in the current pretrial dataset. For example, Virginia's Pretrial Data Project is currently limited to in-state criminal history records only. Thus, computed PSA scores used for this study do not reflect any out-of-state prior criminal records. Such omitted information may have impacted estimation of the predictive validity of PSA scores. The Sentencing Commission is currently working hard to overcome this data limitation by making requests for out-of-state criminal history data to the Federal Bureau of Investigation (FBI). Additional advanced analytical methods should be incorporated to enhance our understanding of PSA scores and model performance. While logistic regression is a widely used regression technique for binary response variables (failure or not), advancement from machine learning would introduce more techniques to the relevant field, such as Naïve Bayes and Supported Vector Machine (Kotsiantis et al., 2007). Finally, if the PSA is implemented in Virginia, future research should assess the extent to which users properly compute PSA scores (based on instructions and without bias) and any impact on pretrial incarceration, including racial and ethnic disparities.

## RELEVANT STUDIES ON PRETRIAL RISK ASSESSMENT

Assessment based on actuarial tools, which usually make use of a defendant's underlying legal and extralegal characteristics, informs judicial officers of the estimated level of defendant risk to the community (Cadigan & Lowenkamp, 2011). Risk assessment is not universally supported, however. Some scholars and practitioners, based on empirical findings that are in contrast with the expected effects of risk assessment tools, have expressed concerns about the practical use of pretrial risk assessment. Such concerns include but are not limited to exacerbation of bias in pretrial decision making, lack of improvement in public safety outcomes, and low predictive power of the risk tools tested (DeMichele et al., 2020; Sloan et al., 2023; Viljoen et al., 2019). Different pretrial risk assessment tools are in use across the nation. This may have contributed to widely different evaluations about the usefulness and validity of pretrial risk assessment.

In current literature, several studies examine the effects of pretrial risk assessments on different aspects, such as release rates, the release based on non-financial bond, new arrest rates, etc. These studies adopted various analytical strategies to evaluate risk assessment tools, including meta-analytical investigations, quasi-experimental analysis, time-trend analysis, or descriptive pattern analysis. For instance, some studies evaluate the effectiveness of pretrial risk assessment tools by examining a bi-directional association between risk levels and the failure rates. Based on this approach, the studies commonly found that failure to appear rates or new criminal arrest rates increase along with the calculated risk levels of defendants (Cohen et al., 2018; DeMichele et al., 2020). Furthermore, by employing various statistical models, Jung et al. also demonstrate that the pretrial decision based on actuarial risk assessment works much better than a judicial decision alone without the aid of the prediction model by accurately predicting the court appearance outcomes (Jung et al., 2020). Similarly, by focusing on the Pretrial Risk Assessment Instrument (PTRA), Cohen and Lowenkamp's study reveals that PTRA has a very high capacity to predict the likelihood of pretrial violations and new criminal arrest. Such high performance is found across different racial and ethnic groups (Cohen & Lowenkamp, 2019).

Despite these recent studies, there is generally no clear consensus regarding the effectiveness of pretrial risk assessment tools. For instance, in their meta-analytic study, Viljoen et al. (2019) reviewed 22 existing studies with over 1,444,499 adolescents and adults who were accused or convicted of a crime. They found that although the adoption of risk assessment tools was associated with small overall decreases in pretrial detention, particularly for individuals who were low risk, and small reductions in recidivism, the results were insignificant after removing studies with a high risk of bias (Viljoen et al., 2019). Similarly, a more recent study of Kentucky by the Crime Report reveals that after the state began using the validated pretrial risk assessment tool in 2013 and began allowing release of low-risk defendants without seeing a judge in 2017, the rate of new criminal activity has not changed, suggesting that the risk assessment tool may not have

resulted in the intended outcomes (Herring, 2020). A study focusing on Ohio's pretrial risk assessment tools (ORAS-PAT) examines various outcomes, including rate of pretrial detention and reoffending during the pretrial period, by employing a quasi-experimental design approach (comparing the rates between pre- and post-implementation of the tool). The findings from this study reveal that, while there is a small decrease in pretrial detention within a 2-3 day period and an increase in non-financial bond recommendation, there was a small increase in nonviolent recidivism (Sloan et al., 2023). Another study based on propensity score matching techniques evaluates the effectiveness of Indiana's risk assessment tools. The findings generally suggest that, while structured decision making assisted with the pretrial risk assessment tool achieves higher rates of release and reduced time in pretrial detention, it was also associated with a slightly higher rate of arrest, mostly driven by new arrests for nonviolent offenses (Lowder et al., 2020).

As the PSA is a relatively new pretrial risk assessment instrument, there are fewer studies attempting to validate its overall predictive accuracy. Demichele et al. (2020) examined statewide data from Kentucky and found that predictive validity measures of PSA are within the generally acceptable ranges for both court appearance and new criminal arrest outcomes. Moreover, the subsequent analyses reveal that PSA has no different effects on race for new criminal arrests. While there are certain differences found for failure to appear when it is moderated by race, such differences did not lead to disparate impacts (DeMichele et al., 2020). Using data from Volusia County, Florida, Brittain et al. (2021) evaluated the predictive validity of PSA. The results based on various regression models indicate that PSA scores for both FTA and NCA predicted outcomes fairly well. Based on the measures of overall predictive powers, however, there are still many unexplained variations, suggesting that more work is needed to refine existing pretrial assessment instruments (Brittain et al., 2021). In sum, examination of the current literature on pretrial risk assessment tools indicates that findings vary.

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## Locality Findings

Descriptive findings for each locality in Virginia are provided in **Appendix C: Locality Descriptive Findings for the CY2019 Cohort** and **Appendix D: Locality Descriptive Findings for the CY2020 Cohort**. Ultimately, examination of the data revealed that localities varied across numerous measures within the dataset. Virginia is a diverse Commonwealth with a population of over 8.5 million<sup>23</sup> across 133 localities<sup>24</sup>. Localities differ on many factors, such as population size and density, demographics, economic conditions and employment availability, median household income, cultural factors, education, religious characteristics, and climate, including seasonal weather conditions. Localities also vary in terms of judicial officers, court practices, total number of sworn law enforcement officers, Pretrial Services Agencies, bail bondsmen, other practitioners, and services (e.g., mental health and substance use treatment) available during the pretrial period. For instance, Pretrial Services Agencies vary in terms of the number of localities served, funding, total number of investigations and supervision placements, average daily caseload, and overall success rates. Additionally, when examining individual localities, factors that may impact the type and volume of crime in the locality must also be taken into account, as these considerations ultimately impact the workload of law enforcement, courts, prosecutors, defense attorneys, Pretrial Services Agencies, bail bondsmen, and correctional facilities.

**Appendix C and Appendix D** are available on the Sentencing Commission's website at <http://www.vcsc.virginia.gov/pretrialdatapoint.html> .

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<sup>23</sup> U.S. Census Bureau, 2018 population estimates. Available at <https://www.census.gov/newsroom/press-kits/2018/pop-estimates-national-state.html> .

<sup>24</sup> There are 95 counties and 38 independent cities in Virginia.



## Challenges

During the course of the Project, the Sentencing Commission has encountered several challenges that are worth noting in this report. Criminal justice data systems are not integrated in Virginia. As has been discussed previously in this report, compiling the data for the Project requires numerous iterations of matching, merging and data cleaning to ensure accuracy when connecting information from the respective data systems to individual defendants in the cohort. The Sentencing Commission also had to address issues related to the accuracy and completeness of data in criminal justice data systems. For example, the Sentencing Commission found a relatively high percentage of missing data and data containing errors in personal information in charge-based court records, including birthdate, name, and social security numbers. This makes it difficult to group charges by individuals and determine contact events. Sometimes, inaccurate information is recorded due to human error. It is relatively common to find that birthdate and defendant's name were incorrectly typed into the system. One person with typos in his or her name across different charges on the same day may be mistakenly viewed as different individuals. To address this data quality problem, the Sentencing Commission employed a computerized algorithm to calculate similarity indexes of personal fields, which enabled the identification of the same defendant despite minor typos or missing information. However, no algorithm provides perfect accuracy. The data quality issue is not exclusive to personal information. The Sentencing Commission found a significant amount of missing Virginia Crime Codes (VCCs) in the General District Court and Juvenile and Domestic Relations Court Case Management Systems. VCCs uniquely identify each offense defined in the *Code of Virginia* and, without them, the Sentencing Commission had to rely on recorded statute codes and offense descriptions to fill in the missing offense VCCs to the extent possible. The Commission also found that some information from one data source is not consistent with that of another. For instance, contact and release dates of a defendant in E-magistrate system have several days apart (two days or more) from the jail-commitment and release dates from the Local Inmate Data System (LIDS), while both records suggest the same contact event based on the other available information, such as defendant's name, birthdate, VCC, offense date, etc. This type of issue is rare, but if such inconsistency is identified, the Commission established the rules to follow LIDS as a more reliable source to determine the actual contact and release dates.

Furthermore, tracing a case from contact event date to the final disposition is challenging, given the lack of uniformity in Virginia's criminal justice systems. For instance, while an Offense Tracking Number (OTN) is assigned to each charge as a unique charge identifier, some Circuit Court clerks assign new OTNs when the case is filed in the Circuit Court in their jurisdiction (e.g., when a charge at the General District Court level is certified to the Circuit Court). Similarly, if the case is transferred to another jurisdiction, a new OTN is assigned to the same charge. When the OTN was changed, the Sentencing Commission

had to use other details, such as contact date, names, birthdate, or VCC, to locate the same charge information in other systems, which increases the possibility of inaccurate results due to human error at data entry.

Given these issues, the Sentencing Commission recommends that, as future criminal justice data systems are designed, agencies collaborate on the development of an integrated system that utilizes uniform identifiers for individuals as well as for charges across all criminal justice systems in the Commonwealth.

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## Future Research

Virginia's Pretrial Data Project has laid the groundwork for the collection of comprehensive data for the purpose of developing a fuller understanding of all aspects of the pretrial process in the Commonwealth. Descriptive analysis provides a snapshot of pretrial defendants at key points in the pretrial process. While descriptive findings at the aggregate level help policy makers, agency and program administrators and researchers understand the general trends of pretrial process in Virginia, this approach has its limitations. Descriptive analysis cannot explain why differences may exist across groups of defendants, nor can it suggest any causal relationships. That is to say, descriptive findings based on the relationships between two or more groups or categories do not imply the statistically important causal associations.

To address the limitations of descriptive analysis, more sophisticated approaches using multivariate statistical techniques are necessary. The Sentencing Commission began this work in 2023 by conducting analyses to evaluate the predictive validity of the PSA risk assessment instrument on Virginia's pretrial population. In the coming months, the Sentencing Commission plans to conduct additional aggregate analysis of the pretrial dataset using multivariate statistical techniques, including regression analysis. A number of research questions may be examined with this type of analysis. These research questions include:

- What effect does Secured Bond or Bond Amount have on Appearance Rate?
- What factors impact how quickly a new criminal arrest occurs?
- What factors affect the decision to release defendants pretrial?
- What has been the impact of policy changes and other events such as the Covid19 pandemic on the overall pretrial process?

In addition, the Sentencing Commission will seek input from policy makers, agency and program administrators, and academics regarding additional research questions. As this work is completed, the Sentencing Commission will issue supplemental reports presenting the findings.

