



**Virginia Criminal  
Sentencing Commission**

**November 7, 2024**

# **Virginia Pretrial Data Project:**

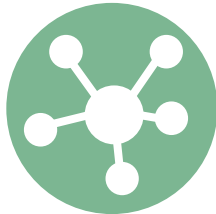
**2021 and 2022  
Cohort Analysis**



# Virginia Pretrial Data Project Overview



The **PRETRIAL DATA PROJECT** was established in 2018 to address the *significant lack of data available* to answer questions regarding various pre-trial release mechanisms, conditions of pretrial release, appearance at court proceedings, and public safety.



The Project was an *unprecedented, collaborative effort* between numerous state and local agencies representing all three branches of government.



The 2021 General Assembly passed legislation directing the *Sentencing Commission to continue this work*.

The Commission's first report was submitted  
December 1, 2022.



# Virginia Pretrial Data Project Overview



## E-Magistrate System

- Defendants brought before magistrates



## Pretrial and Community Corrections (PTCC) Case Management System

- Defendants on pretrial services agency supervision
- Defendants on active local probation



## Court Case Management Systems

- Case dispositions and FTA
- Defendants released on summons or charged by direct indictment



## Central Criminal Records Exchange

- New in-state arrests
- FTA



## Circuit Court Case Management System

- Case dispositions and FTA
- Defendants released on summons or charged by direct indictment



## Corrections Information System (CORIS)

- Defendants on active state probation



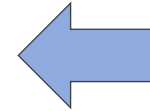
## Circuit Court Case Management System

- Case dispositions and FTA
- Defendants released on summons or charged by direct indictment



## Compensation Board- Local Inmate Data System (LIDS)

- Jail committals and releases
- Lengths of stay



**Data for the Project is obtained from numerous agencies.**

**Compiling the data requires numerous iterations of data cleaning, merging, and matching to ensure accuracy when linking information from each data system to each defendant in the cohort.**



**More than 500 data elements are captured for each defendant.**



# Virginia Pretrial Data Project Study Cohorts



## **NEWEST COHORTS**

Commission staff selected individuals with pretrial contact events during CY2021 and CY2022.

For individuals with more than one contact event during the period, only the first event was selected.

## **FOLLOW-UP PERIOD**

Individuals are tracked for a minimum of 15 months or until disposition of the case, whichever occurs first.

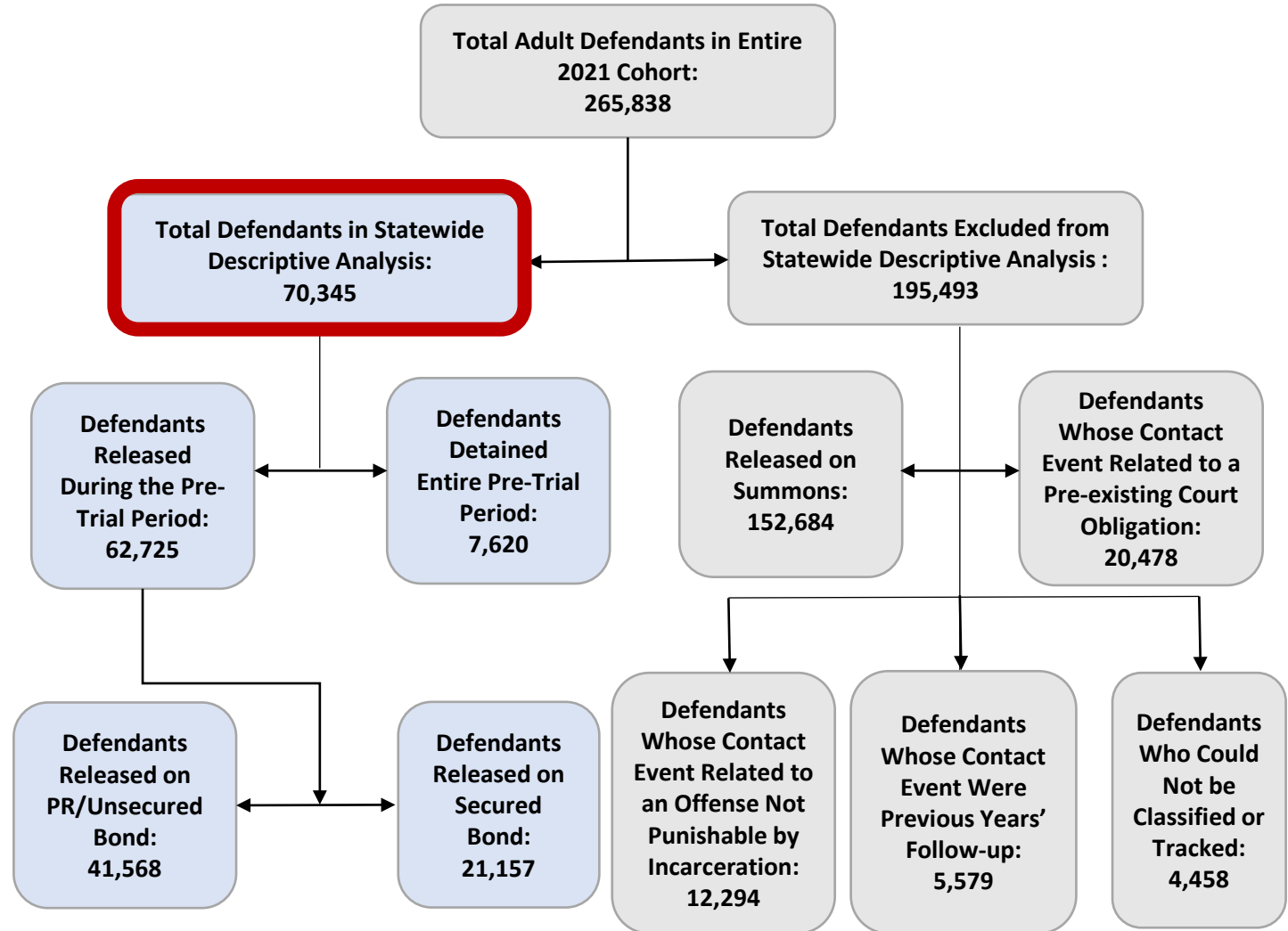
- For the CY2021 cohort, follow-up ended March 2023.
- For the CY2022 cohort, follow-up ended March 2024.





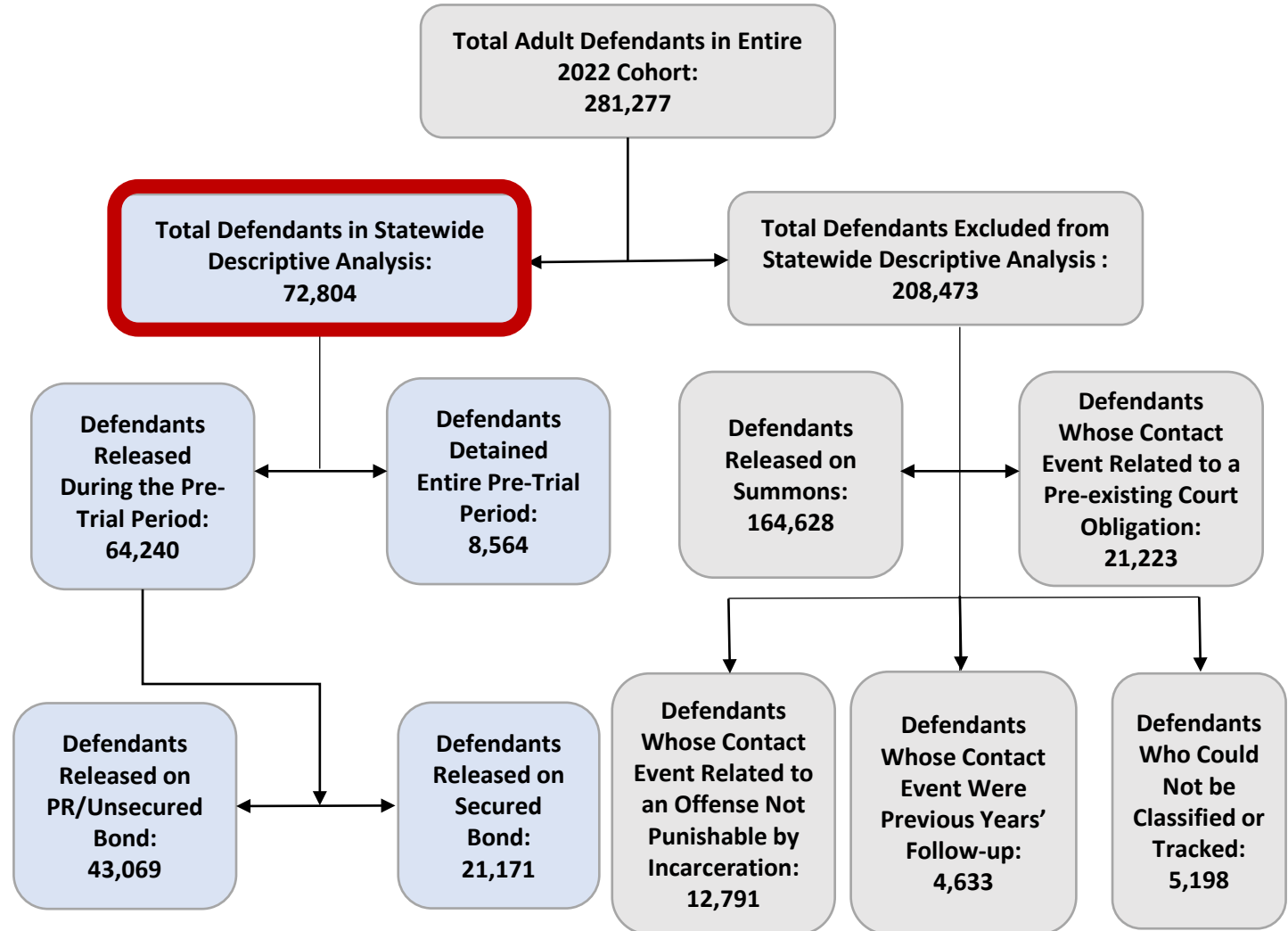
# Pretrial Data Project CY2021 Cohort (UPDATED)

The analysis focuses on adult defendants whose contact event included a criminal offense punishable by incarceration where a bail determination was made by a judicial officer.

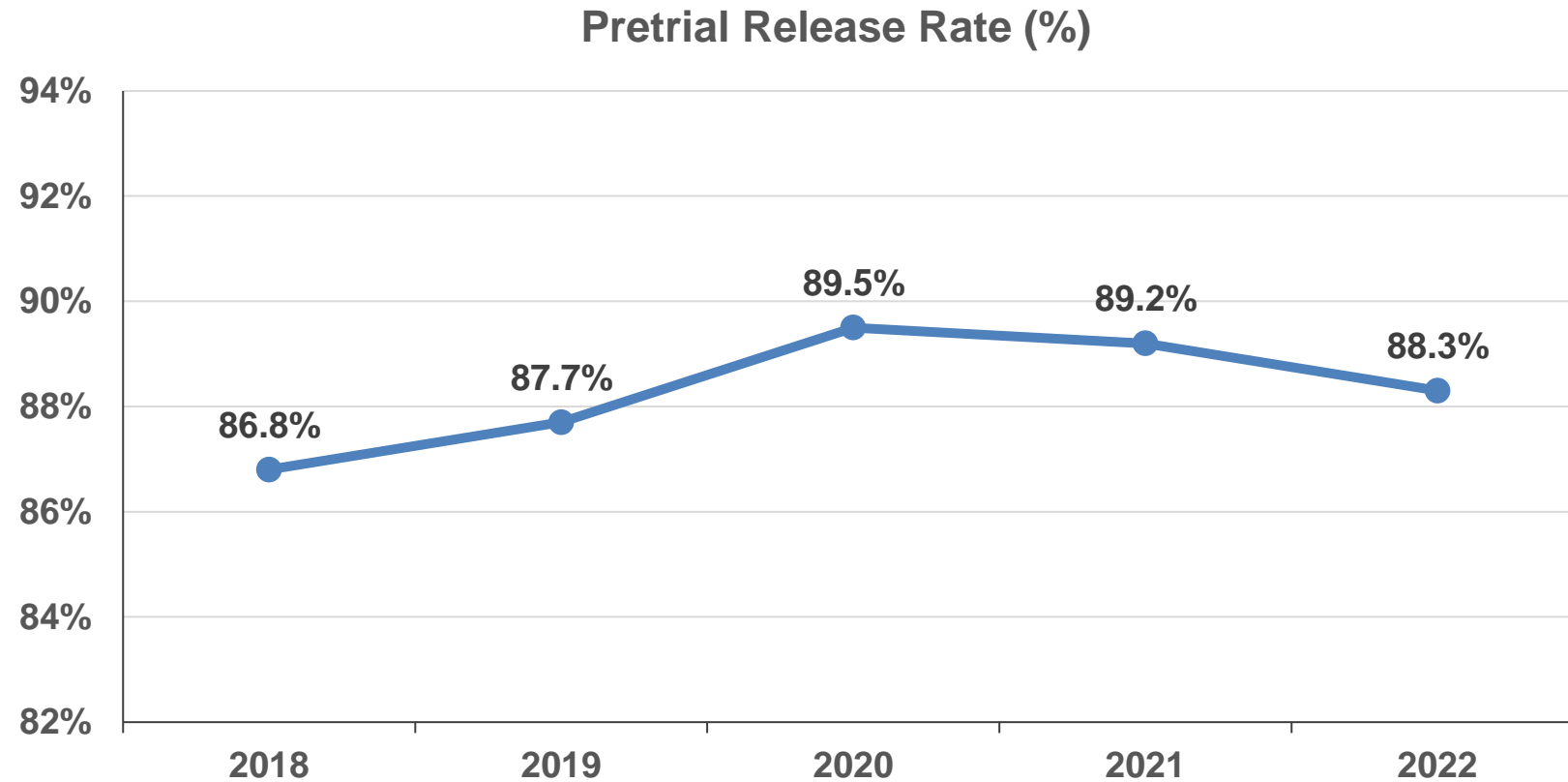


# Pretrial Data Project CY2022 Cohort (**UPDATED**)

The analysis focuses on adult defendants whose contact event included a criminal offense punishable by incarceration where a bail determination was made by a judicial officer.



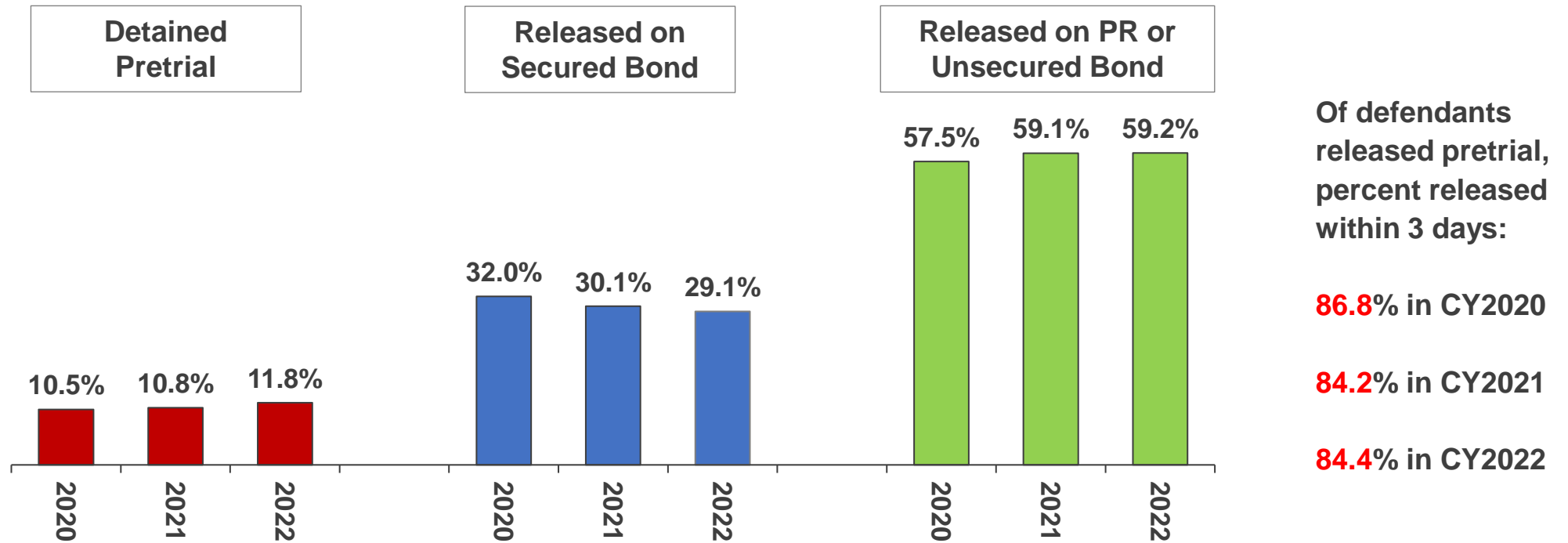
# Pretrial Release of Defendants (CY2018 – CY2022)



This analysis is based on pretrial contact events that included a criminal offense punishable by incarceration where a bail determination was made by a judicial officer.



# Pretrial Release Status of Defendants in CY2020, CY2021 & CY2022 Cohorts



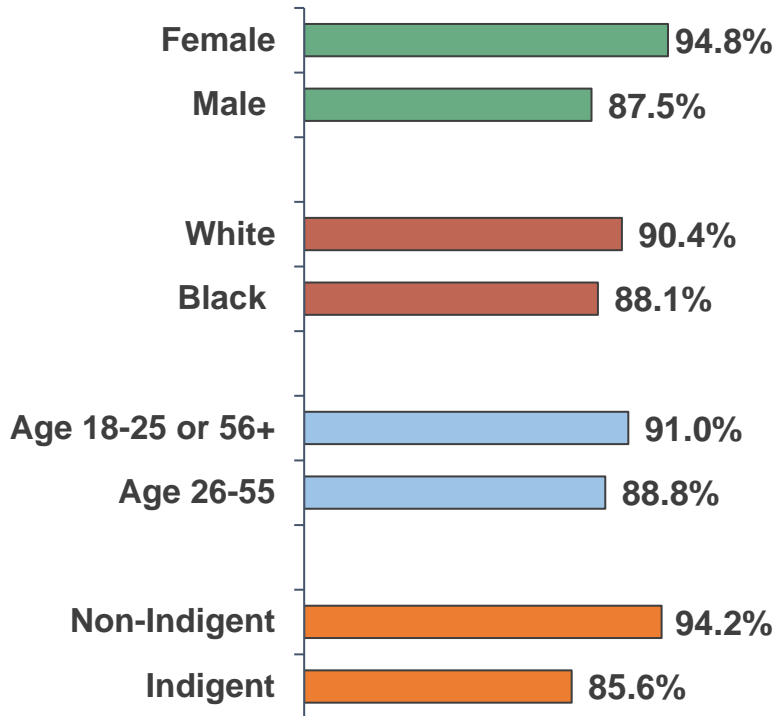
This analysis is based on pretrial contact events that included a criminal offense punishable by incarceration where a bail determination was made by a judicial officer.



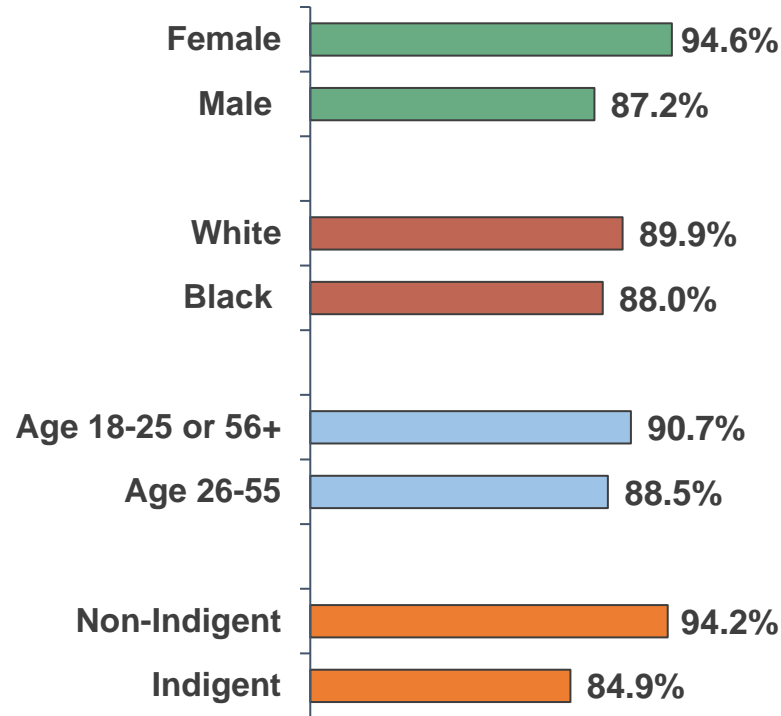


# Pretrial Release Rates and Defendant Characteristics

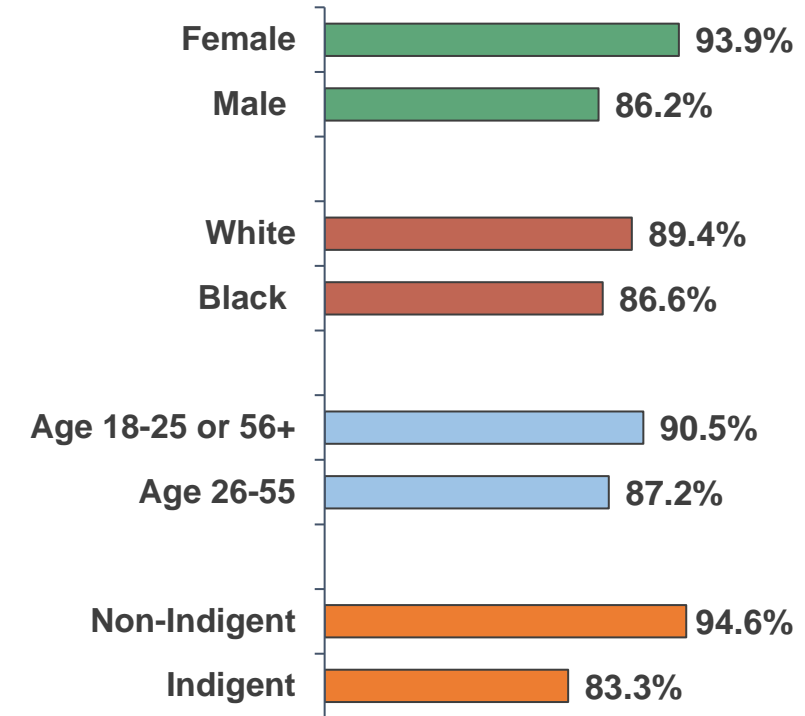
Percent Released Pretrial  
CY2020



Percent Released Pretrial  
CY2021



Percent Released Pretrial  
CY2022

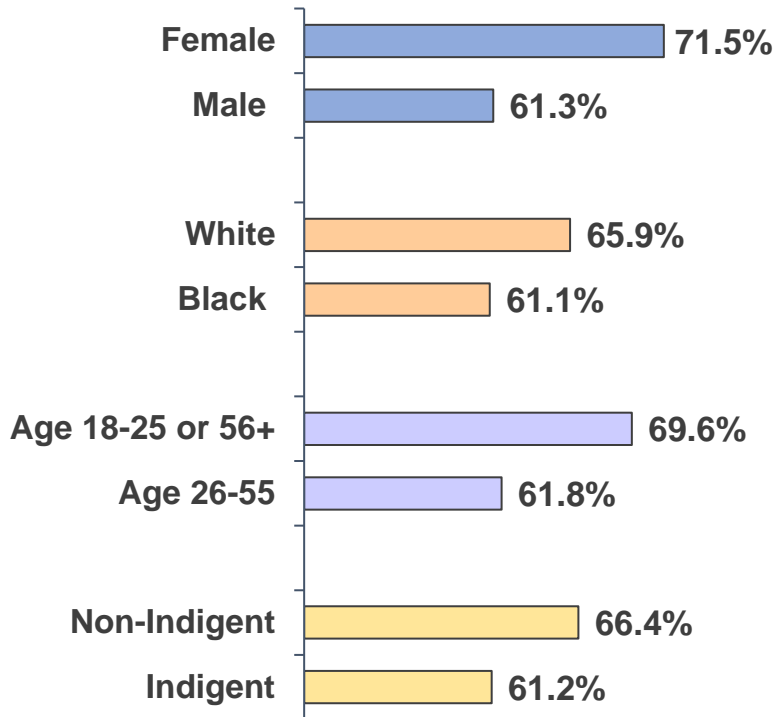


Analysis is based on defendants whose pretrial contact event included a criminal offense punishable by incarceration where a bail determination was made by a judicial officer; however, defendants in other categories or who have missing information are excluded from the chart.

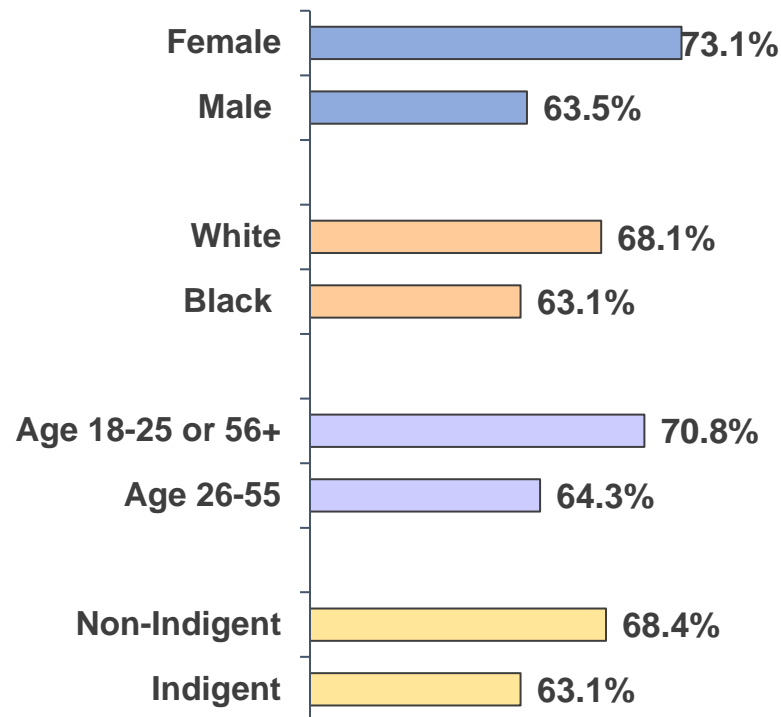
Indigency status is a proxy measure based upon whether the attorney type at case closure in the Court Case Management System (CMS) was noted as a public defender or court-appointed attorney.

# Bond Type at Release and Defendant Characteristics

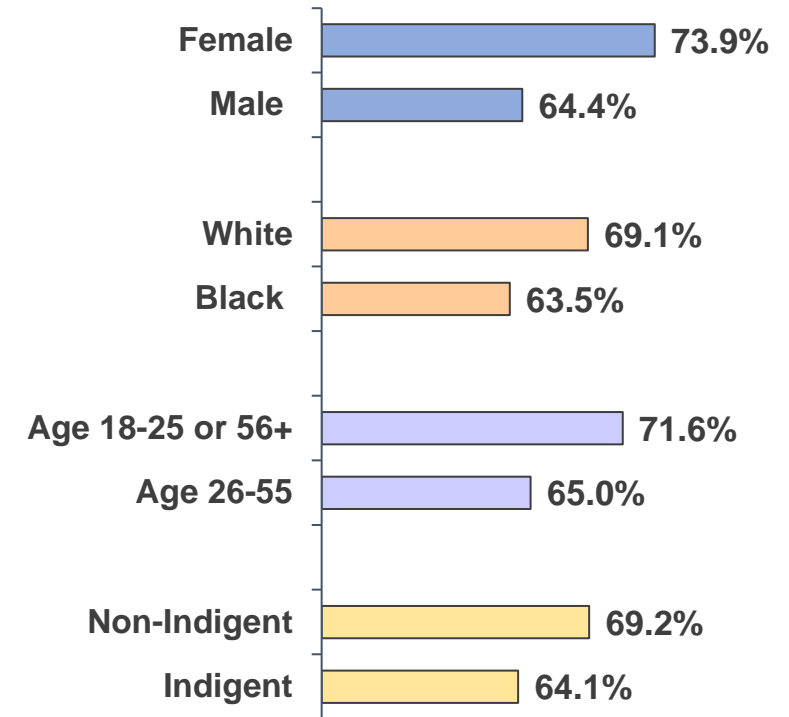
Percent Released on  
PR or Unsecured Bond  
CY2020



Percent Released on  
PR or Unsecured Bond  
CY2021



Percent Released on  
PR or Unsecured Bond  
CY2022



Analysis is based 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.

Indigency status is a proxy measure based upon whether the attorney type at case closure in the Court Case Management System (CMS) was noted as a public defender or court-appointed attorney.

# Pretrial Risk Assessment

Risk assessment tools are commonly used at various stages within the criminal justice system.

Studies have consistently found that validated actuarial risk assessment tools combined with professional judgement produce better outcomes than subjective professional judgement alone.

The Public Safety Assessment (PSA) is a pretrial risk assessment tool developed by Arnold Ventures that has been validated in a number of states/ localities outside of Virginia.

Unlike other tools, the PSA does not require an interview with the defendant.



## RELATIONSHIP BETWEEN RISK FACTORS AND PRETRIAL OUTCOMES

Risk Factor	FTA	NCA	NVCA
1. Age at current arrest		X	
2. Current violent offense			X
Current violent offense & 20 years old or younger			X
3. Pending charge at the time of the offense	X	X	X
4. Prior misdemeanor conviction		X	
5. Prior felony conviction		X	
Prior conviction (misdemeanor or felony)	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.*

<https://www.arnoldventures.org/stories/public-safety-assessment-risk-tool-promotes-safety-equity-justice>

# CY2020, CY2021 & CY2022 Cohorts Release Rate by Assigned PSA FTA and NCA Scores

**As PSA Scores increase, the percentage of defendants released pretrial decreases for both FTA (Failure to Appear) or NCA (New Criminal Arrest) measures.**

**Since CY2020 (during COVID), proportionally fewer defendants assigned with higher PSA Scores (5 or 6) have been released.**

## Pretrial Release Rate by PSA FTA Score

	Pretrial Release Rate		
	2020	2021	2022
PSA FTA Scale 1	94.1%	94.1%	93.7%
PSA FTA Scale 2	89.7%	89.5%	88.3%
PSA FTA Scale 3	85.8%	83.8%	81.7%
PSA FTA Scale 4	80.0%	77.5%	76.8%
PSA FTA Scale 5	71.5%	70.3%	65.9%
PSA FTA Scale 6	69.6%	65.8%	60.1%
<b>Total</b>	<b>73,537</b>	<b>70,345</b>	<b>72,804</b>

## Pretrial Release Rate by PSA NCA Score

	Pretrial Release Rate		
	2020	2021	2022
PSA NCA Scale 1	94.3%	94.2%	93.7%
PSA NCA Scale 2	94.6%	94.3%	93.7%
PSA NCA Scale 3	88.1%	87.1%	85.4%
PSA NCA Scale 4	78.5%	77.2%	75.9%
PSA NCA Scale 5	77.3%	75.4%	74.2%
PSA NCA Scale 6	70.7%	67.5%	63.6%
<b>Total</b>	<b>73,537</b>	<b>70,345</b>	<b>72,804</b>

**This analysis is based on pretrial contact events that included a criminal offense punishable by incarceration where a bail determination was made by a judicial officer.**

**Defendants whose contact event was a follow-up to a contact event during the previous year were excluded for CY2020 - CY2022.**



# Pretrial Data Project

## Outcome Measures

### **COURT APPEARANCE OUTCOME**

Whether the released defendant was charged with failure to appear (FTA) or contempt of court for failure to appear during the pretrial period

### **PUBLIC SAFETY OUTCOME**

Whether the released defendant had a new in-state arrest for an offense punishable by incarceration during the pretrial period (excluding FTA and probation violations, etc.)

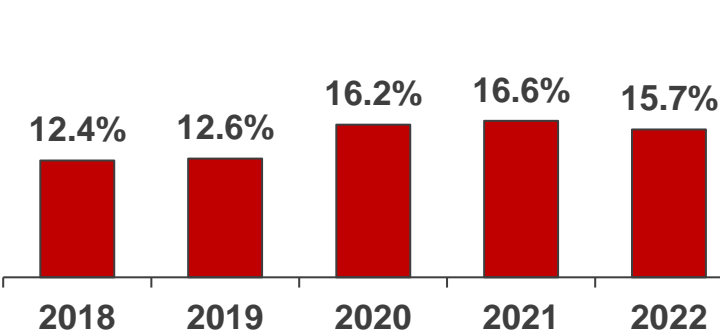
Both offense date and arrest date must be between the first contact event date and final disposition date.



# Pretrial Outcome Measures

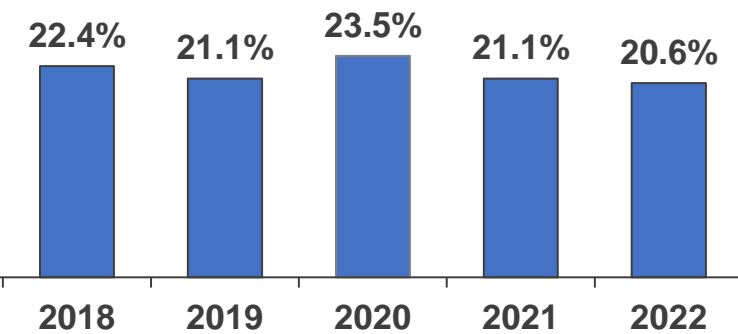
## COURT APPEARANCE Outcomes for Released Defendants

Percent Charged with  
Failure to Appear



## PUBLIC SAFETY Outcomes for Released Defendants

Percent with New In-State Arrest  
for Offense Punishable by  
Incarceration



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.



# CY2020, CY2021 & CY2022 Cohorts Pretrial Outcomes by Assigned PSA Scores for new FTA & NCA.

In general, the rate for new FTA or NCA increases along with the level of PSA Scores, showing upward stair-step patterns.

In general, since CY2020 (during the COVID), proportionally fewer defendants assigned with higher PSA Scores (5 or 6) have been re-arrested (NCA). However, there was an increase in new FTA for the score same group.

Note: Defendants whose contact event was a follow-up to a contact event during the previous year were excluded for CY2021 & 2022.

## New FTA Rate by PSA FTA Score

	New FTA Rate		
	2020	2021	2022
PSA FTA Scale 1	12.3%	12.4%	11.8%
PSA FTA Scale 2	15.4%	16.2%	15.0%
PSA FTA Scale 3	20.4%	22.1%	21.3%
PSA FTA Scale 4	26.2%	28.2%	27.5%
PSA FTA Scale 5	36.6%	35.0%	38.1%
PSA FTA Scale 6	41.9%	43.9%	47.1%
Total Released	65,808	62,725	64,240

## New Criminal Arrest by PSA NCA Score

	New Arrest Rate		
	2020	2021	2022
PSA NCA Scale 1	13.8%	13.0%	12.8%
PSA NCA Scale 2	21.9%	20.2%	20.0%
PSA NCA Scale 3	28.8%	26.4%	25.5%
PSA NCA Scale 4	37.1%	33.5%	32.4%
PSA NCA Scale 5	38.9%	36.0%	36.4%
PSA NCA Scale 6	45.1%	41.8%	41.2%
Total Released	65,808	62,725	64,240

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.



# Pretrial Data Project

## Reporting and Deliverables (§ 19.2-134.1)

The Commission's next report is due to the General Assembly on **December 1, 2024**.

The **final data set** (with personal/case identifiers removed) must be made available on the Commission's website.

An **electronic interactive data dashboard tool** on the website must display aggregated data based on characteristics or indicators selected by the user.





**Virginia Criminal  
Sentencing Commission**

**November 7, 2024**

# **Virginia Pretrial Data Project:**

**2021 and 2022  
Cohort Analysis**







**Virginia Criminal  
Sentencing Commission**

**November 7, 2024**

**Virginia Pretrial  
Data Project:  
The Effect of Bail  
Reform on Virginia's  
Pretrial System**



# Eliminating Presumptive Denial of Bail (2021)



## **2021 GENERAL ASSEMBLY, SPECIAL SESSION I**

The Virginia General Assembly passed Senate Bill 1266 that removed the presumptive denial of bail provision (§ 19.2-120).

Prior to this, § 19.2-120 required judicial officers to presume, subject to rebuttal, that no condition or combination of conditions would reasonably assure the appearance of the person or the safety of the public if the person was charged with a listed offense or an offense with prior convictions for certain offenses.



# History of Presumptive Denial of Bail in Virginia



## Addition of Offenses (Last 20 Years)

2004	<p>Gang violence under §§ 18.2-46.2 and 18.2-46.3.</p> <p>DUI (Driving under the Influence) in violation of §§ 18.2-36.1, 18.2-51.4, 18.2-266, or 46.2-341.24, and the person has, within the past five years of the instant offense, been convicted three times on different dates of a violation of any combination of these offenses.</p>
2006	<p>Aggravated sexual battery (§ 18.2-67.3) or conspiracy to commit an offense under that section.</p>
2007	<p>Violation of § <u>18.2-374.1</u> (production, publication, etc. of child pornography) or §<u>18.2-374.3</u> (use of communication system to facilitate certain offenses involving children) where the offender has reason to believe that the solicited person is under 15 years of age and the offender is at least five years older than the solicited person.</p> <p>A second or subsequent violation of §<u>16.1-253.2</u> (violation of protective order provisions).</p>





# History of Presumptive Denial of Bail in Virginia (Continued)



## Addition of Offenses (Last 20 Years)

2008	3 <sup>rd</sup> or subsequent assault against a family member (Class 6 felony) under § 18.2-57.2 (B).
2011	<p>A second or subsequent violation of § 18.2-60.4 (violation of protective order provisions).</p> <p>A violation of subsection C of § 18.2-460 (obstruct justice/resist arrest) charging the use of threats of bodily harm or force to knowingly attempt to intimidate or impede a witness.</p>
2015	Strangulation (§ 18.2-51.6) if the alleged victim is a family or household member as defined in § 16.1-228.
2018	Prostitution, pornography, and sex trafficking offenses under §§ 18.2-355, 18.2-356, 18.2-357, and 18.2-357.1.



# History of Presumptive Denial of Bail in Virginia

## **The Bail Reform: Hot topic leading up to the intense debate**

### **Stakeholders have suggested:**

The law greatly undermines the bargaining power of a defendant - shifts the burden of proof to a defendant who needs to make a strong argument for the bail release.

Regarding court-appearance and public safety outcomes, the presumptive denial of bail provision, by itself, is not likely to be a good proxy for the overall risk posed by a defendant.

There are relatively better approaches (e.g., judicial officer's judgement in combination with a validated risk assessment tool) for measuring a defendant's overall risk.



# Pretrial Risk Assessment (Public Safety Assessment)

Risk assessment tools are commonly used at various stages within the criminal justice system.

Studies have consistently found that validated actuarial risk assessment tools combined with professional judgement produce better outcomes than subjective professional judgement alone.

The Public Safety Assessment (PSA) is a pretrial risk assessment tool developed by Arnold Ventures that has been validated in a number of states/ localities outside of Virginia.

Unlike other tools, the PSA does not require an interview with the defendant.



## RELATIONSHIP BETWEEN RISK FACTORS AND PRETRIAL OUTCOMES

Risk Factor	FTA	NCA	NVCA
1. Age at current arrest		X	
2. Current violent offense			X
Current violent offense & 20 years old or younger			X
3. Pending charge at the time of the offense	X	X	X
4. Prior misdemeanor conviction		X	
5. Prior felony conviction		X	
Prior conviction (misdemeanor or felony)	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.*

<https://www.arnoldventures.org/stories/public-safety-assessment-risk-tool-promotes-safety-equity-justice>

# History of Presumption of No Bail in Virginia (Continued)

## **Defendants Subject to Presumptive Denial of Bail by Public Safety Assessment (PSA) Scores (Pre-Reform Period, CY2020 – June CY2021)**

<b>PSA FTA Score</b>	<b>Percentage</b>	<b>PSA New Arrest Score</b>	<b>Percentage</b>
<b>1</b>	<b>20.7%</b>	<b>1</b>	<b>14.8%</b>
<b>2</b>	<b>20.9%</b>	<b>2</b>	<b>14.4%</b>
<b>3</b>	<b>22.0%</b>	<b>3</b>	<b>14.1%</b>
<b>4</b>	<b>26.5%</b>	<b>4</b>	<b>16.6%</b>
<b>5</b>	<b>7.2%</b>	<b>5</b>	<b>25.6%</b>
<b>6</b>	<b>2.7%</b>	<b>6</b>	<b>14.5%</b>



# The Research: Evaluating Bail Reform in Virginia

## RESEARCH PURPOSE

Examine the impact of bail reform on existing pretrial system in Virginia.

In particular, the study closely examines the outcomes related to pretrial release, court appearance, and new criminal arrest during the pretrial period.

## STUDY PERIOD

Pre-Reform period: Jan 2020 – End of June 2021 (18 months)

Post-Reform period: July 2021 – End of December 2022 (18 months)

## GROUP COMPARISON

Based on the availability of data (e.g., criminal history record, current offense records, etc.);

**Treated:** Defendant subject to presumptive denial of bail provision.

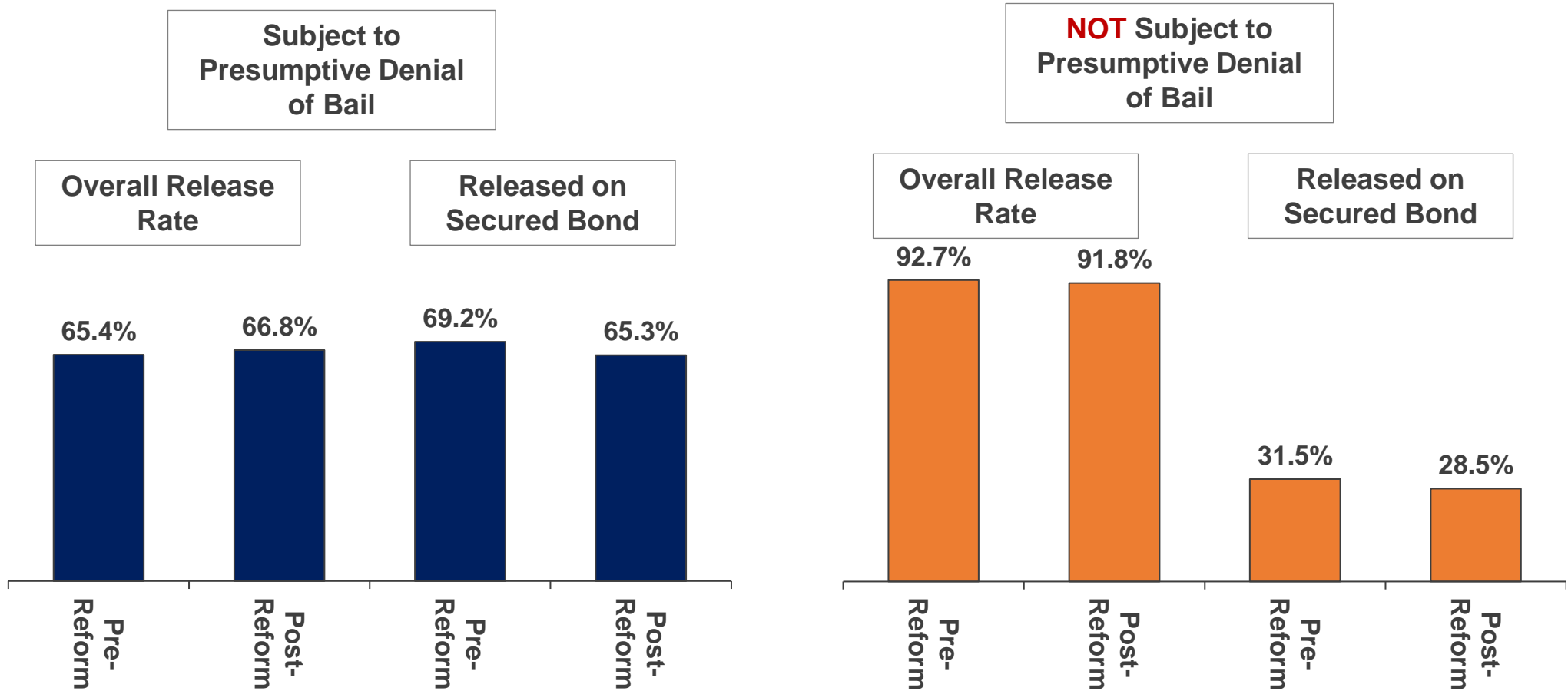
**Non-treated:** Defendant not subject to presumptive denial of bail (based on the provision prior to its elimination).

## PRIMARY DATA

Virginia Pretrial Data Project (CY2020 - CY2022)



# Descriptive Findings: Pretrial Release Status of Defendants





# Descriptive Findings: Pretrial Outcomes (Failure to Appear)

**Failure to Appear (FTA) Rate by PSA FTA Score:  
Subject to Presumptive Denial of Bail**

	Pre-Reform	Post-Reform
PSA FTA Score 1	7.5%	8.6%
PSA FTA Score 2	11.6%	13.3%
PSA FTA Score3	20.7%	20.6%
PSA FTA Score 4	27.7%	27.5%
PSA FTA Score 5	34.8%	34.5%
PSA FTA Score 6	40.6%	45.3%
Overall	19.5%	18.8%

**Failure to Appear (FTA) Rate by PSA FTA Score:  
**NOT** Subject to Presumptive Denial of Bail**

	Pre-Reform	Post-Reform
PSA FTA Score 1	14.5%	14.1%
PSA FTA Score 2	18.4%	17.4%
PSA FTA Score3	23.3%	23.3%
PSA FTA Score 4	29.2%	28.0%
PSA FTA Score 5	38.6%	39.7%
PSA FTA Score 6	47.3%	44.9%
Overall	18.6%	17.5%

For both groups, the FTA rate increases along with the level of PSA scores, showing upward stair-step patterns.

While the group subject to presumptive denial of bail generally experienced a small percent difference between pre- and post-reform period, there was a relatively higher percentage difference for PSA FTA score of 6.

Nevertheless, for both groups, the overall trend is a decrease in FTA rate after bail reform.



# Descriptive Findings: Pretrial Outcomes (New Criminal Arrest)

**New Criminal Arrest (NCA) Rate by PSA Score:  
Subject to Presumptive Denial of Bail**

	Pre-Reform	Post-Reform
PSA NCA Score 1	13.5%	15.4%
PSA NCA Score 2	22.6%	21.8%
PSA NCA Score 3	28.6%	27.9%
PSA NCA Score 4	35.1%	29.8%
PSA NCA Score 5	39.2%	35.0%
PSA NCA Score 6	46.0%	41.6%
Overall	31.6%	27.9%

**New Criminal Arrest (NCA) Rate by PSA Score:  
**NOT** Subject to Presumptive Denial of Bail**

	Pre-Reform	Post-Reform
PSA NCA Score 1	16.2%	15.2%
PSA NCA Score 2	24.3%	22.3%
PSA NCA Score 3	30.4%	27.5%
PSA NCA Score 4	38.7%	33.5%
PSA NCA Score 5	39.5%	36.7%
PSA NCA Score 6	44.5%	39.5%
Overall	25.2%	22.2%

For both groups, the new criminal arrest (NCA) rate increases with the level of PSA scores, showing upward stair-step patterns.

In general, both groups experienced a downward trend in NCA rate after bail reform. However, as there are many factors that may affect NCA rates of both groups, this descriptive finding is limited when it comes to measuring the causal effect of bail reform on certain pretrial outcomes for the affected group.



# Empirical Strategy: Difference in Difference (DiD)

## Regression based on Difference in Difference (DiD) Strategy

A popular research design in the field of social science to estimate the causal effects of certain policy changes/interventions on the treated group when randomized controlled trials (RCT) are impossible to conduct.

By comparing four different groups of subjects (treated pre-reform, treated post-reform, non-treated pre-reform, and non-treated post-reform), DiD enables us to estimate the causal effect of bail reform on certain outcomes by removing confounding effects on both treated and non-treated groups.



# Empirical Strategy: Difference in Difference (DiD)

## Regression based on Difference in Difference (DiD) Strategy

The most important assumption: Parallel Trend Assumption

- Hard to examine whether this assumption is satisfied.
- This assumption implies that any underlying difference (observable & unobservable) between treated (subject to presumptive denial bail) and non-treated (not subject to presumptive denial of bail) will be constant.
- If this assumption is violated, the estimation of the effect will be biased.
- Indeed, the difference between treated and non-treated groups may vary over time (even if the time span is reasonably short).



# Empirical Strategy: Inverse Probability of Treatment Weighting (IPTW)

## Regression based on DiD & IPTW

- To make up for such shortcomings, the regression is also augmented by Inverse Probability of Treatment Weighting (IPTW).
- Setting aside any technical interpretations of it, IPTW generally adjusts between-group imbalances by applying weights derived from propensity scores.
- As a result, the regression achieves very similar distributions of baseline covariates between both treated and non-treated groups – leading to more robust and confident estimations of the effect (bail reform).
- Variables used to compute the propensity score: Gender (gender of a defendant), AfAm (whether defendant's race is African American), Age (defendant's age), Indigency (defendant's indigency status), and PSA score (unitary indicator of risk based on defendant's underlying legal characteristics).



# Regression Results

## Regression Results: Effects of Bail Reform (DiD augmented by IPTW)

### MODELS

Outcome Variable	(1) Released	(2) Secured bond (if released)	(3) FTA during pretrial period	(4) New Criminal Arrest during pretrial period (jailable)	(5) New felony arrest	(6) New jailable misdemeanor arrest
Impact of Bail Reform (Diff in Diff)	0.038***	-0.016**	0.011*	0.015**	0.004	0.012*
Number of Observations	149,470	129,476	129,476	129,476	129,476	129,476
R-Squared	0.101	0.166	0.013	0.010	0.010	0.007
Contact Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Judicial Circuit Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes

Note:

Statistical Significance - \*\*\*1% \*\* 5% \* 10%

The models for (2) – (6), the pretrial supervision status was also included as an additional control variable.



# Conclusion & Limitations

## CONCLUSION

Based on both descriptive statistics and regression analyses, elimination of the presumptive denial of bail increased the pretrial release rate of those previously subject by the law. The finding has a high level of statistical significance.

The estimations based on the regression analyses suggest that bail reform increased the likelihood of failure to appear and new criminal arrest during the pretrial period among those who would have been subject to the law (had it still been in effect).

However, the estimation is only marginally significant (p-value of 0.05 (5%) or 0.1 (10%)). Also, the magnitude of the effect is small (not clear whether the finding is substantially significant).

Future research will provide clearer understanding about the effects of bail reform on these outcomes.



# Conclusion & Shortcomings

## **LIMITATIONS**

**Missing observations from the data:**

**Group assignment (subject to presumptive denial of bail versus not) is determined based on the availability of the data.**

**Certain aspects of the presumptive denial of bail provision make it very difficult to determine whether a defendant was subject to the presumptive denial of bail or not, which resulted in excluding 26% of cases from the analyses.**

**In order to address the possible issue related to systematic missing data, more work (e.g., imputation) is needed to achieve greater confidence in the findings.**

**Depending on the availability of the data, alternative statistical methods (e.g., Synthetic Control Method) need to be performed to check whether the findings from this study still hold true.**





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