

PRETRIAL JUSTICE REFORM STUDY

Evaluation of Pretrial Justice System Reforms That Use the Public Safety Assessment

Effects in Mecklenburg County, North Carolina

Report 1 in this series presented the effects of Mecklenburg County's implementation of Arnold Ventures' Public Safety Assessment (PSA) on key system and defendant outcomes. This report provides information meant to supplement the results presented in Report 1. It therefore includes limited explanations of the study results that were presented in Report 1. Readers are encouraged to refer to Report 1 for the background necessary to interpret fully the results presented here.

INTRODUCTION

Report 1 in this series presented results from a study of the effects of PSA-related policy changes in Mecklenburg County, North Carolina. The PSA is an objective risk assessment tool that uses a defendant's criminal history and other available data to measure the risks of new crimes and failures to appear for court dates. Report 1 described the effects of the PSA policies on outcomes including pretrial release conditions, bail setting, jail detention, missing court appearances, and new criminal activity. This report presents additional detail about the implementation of the PSA and the role of risk-based decision making in achieving the effects found

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MECKLENBURG
COUNTY SERIES

SUPPLEMENTAL
REPORT 2 OF 2

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in Report 1. It provides suggestive evidence about how the PSA policies affected racial disparities in case and crime outcomes and whether the effects differed for different types of defendants and cases.¹ Mecklenburg County was already using a risk assessment when it adopted the PSA in 2014. Because the jurisdiction switched from one pretrial risk assessment tool to another, the study does not provide evidence about the potential effects of introducing a risk assessment where there was none in place. Combined, the two reports from this evaluation provide insight into the ways pretrial reforms can be implemented effectively, the ways decision making among different court stakeholders can produce changes, the mechanisms that seem to cause effects, and the potential pitfalls of reform efforts. MDRC is leading the evaluation of the PSA pretrial reforms in Mecklenburg County and in four additional locations. The evaluation is funded by the Arnold Ventures.

This report includes a detailed assessment of how the PSA policies affect racial disparities and whether the effects on outcomes described in Report 1 differed for black and white defendants.

The PSA provides decision makers with additional, objective information derived from a defendant's criminal history about the risks of failures to appear in court and of new criminal charges. The PSA also flags when there is an elevated risk of a violent offense. The score is then used in conjunction with a jurisdiction-specific decision-making framework (DMF) that uses the defendant's PSA risk score in combination with local statutes and policies to produce a recommendation for release conditions. Jurisdiction officials determine the release conditions that correspond to risk levels. The expectation is that the release conditions imposed on defendants after the PSA was introduced should be more aligned with defendants' risk levels. If judicial decisions about release conditions are influenced by the PSA and the DMF, the result may be that more low- and moderate-risk defendants are released while waiting for their cases to be resolved (and possibly that more high-risk defendants are detained) as a result of the PSA policy changes. (When this document discusses "PSA policy changes," it is referring to the PSA, the DMF, and other related policy changes implemented around the same time.)

One important concern is that these statistical (actuarial) tools for projecting risk could exacerbate racial disparities in pretrial outcomes because they rely heavily on historical administrative data, which themselves may reflect system biases.² This report includes a detailed assessment of how the PSA policies

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- 1 The research design for this study cannot provide evidence that the PSA certainly caused the effects observed because it does not use a random assignment research design to isolate the effects of the PSA itself from other factors or changes that occurred at around the same time. This report therefore treats all effects as suggestive rather than conclusive.
 - 2 Doleac and Stevenson (2016); Mayson (2018); Skeem and Lowenkamp (2015); Angwin, Larson, Mattu, and Kirchner (2016); Southerland (2018); Travis and Western (2014).

affect those racial disparities and whether the effects on outcomes described in Report 1 differed for black and white defendants. The document also examines the effects of the PSA policies among other important subgroups, including those defined by defendants' risk levels and ages and the severity of the charges they faced. The report will answer the following questions:

- How was the PSA implemented in Mecklenburg County and in what ways did it affect judicial decision making about pretrial release conditions?
- Is there evidence that Mecklenburg County improved in its risk-based approach to pretrial decision making after the introduction of the PSA? Were the release conditions given to defendants more aligned with their risk levels as a result of the PSA policies?
- Did the PSA policies improve the fairness of the system? Does it appear that the PSA tool had any effect on racial disparities in the system? Were the effects of the PSA policies different for black and white defendants?
- How did the policy changes affect subgroups of defendants? Did effects differ for defendants of different risk levels or ages, or for those charged with more or less severe crimes?

SUMMARY OF FINDINGS FROM REPORT 1

Mecklenburg County courts began using a pretrial risk assessment — the Virginia Pretrial Risk Assessment Instrument (VPRAI) — in 2011. The jurisdiction switched to the PSA in June 2014. Along with the shift in tools, the jurisdiction implemented related changes in how the risk information would be scored and distributed, provided training to all court staff members in the principles of risk-based decision making, and encouraged a broad cultural shift toward an assumption that people should be released without financial impositions while they waited for their cases to be resolved (unless they were considered to be at high risk of failing to appear or being charged with new crimes). Shortly after the jurisdiction implemented the PSA, changes in leadership occurred that led to additional shifts in policy and practice. Overall, the study is assessing the effects of the whole set of changes to court practices that occurred when the jurisdiction implemented the PSA.

Findings presented in Report 1 showed that the PSA-related policy changes led to reductions in the use of money bail and in initial detention in jail.³ Fewer defendants had money bail set and fewer defendants were booked into jail than would have been in the absence of the PSA policy changes. These effects appeared to be concentrated largely at a point in the standard pretrial process before the PSA information becomes available (a hearing before a magistrate). That fact suggests that the effects can probably be attributed to other parts of the policy reforms, rather than to judges' access to the PSA information. As mentioned above, Mecklenburg County provided training for staff members and encouraged other cultural shifts at around the same time.

The first stage in the pretrial process where the PSA information is available is a first appearance hearing before a judge. There was little evidence that judges adjusted their decision making in these hearings in response to the PSA information. This observation is not surprising since the jurisdiction was already providing these judges with information from a risk assessment (the VPRAI). It is also possible that the PSA information did not influence judges' release decisions because magistrates changed their release decisions, and those cases that remained for the first appearance hearing were not the kinds where the PSA information would have influenced decisions.

One concern among stakeholders is that releasing more defendants with open cases can endanger public safety or can result in more defendants missing court dates.⁴ The analysis presented in Report 1 showed that the jurisdiction released more defendants with little effect on court appearance rates. Rates of new criminal charges and recidivism (defined, in this instance, as any new criminal charges occurring within one year of the initial arrest) were slightly higher than expected given the pre-policy trend.⁵ However, it is less clear here that the PSA policy changes caused the increases, because changes in crime or arrest patterns (or both) shifted the distribution of the types of cases in the justice system from the pre-policy period to the post-policy period. The small

3 In this document, "detention" is used to describe the circumstance where a defendant is held in jail before sentencing.

4 Arnold Ventures (2016a).

5 "Recidivism" includes any new charges incurred by the defendant within one year following the start of the case. If an open case is resolved in less than one year, the one-year recidivism measure includes both pretrial and postresolution charges. The analysis measures all jailable charges including misdemeanors, felonies, and traffic offenses. The charges may be initiated through criminal summonses, citations, or custodial arrests. This outcome measure differs from the study sample of cases, which only includes charges initiated through custodial arrests.

increase in one-year recidivism could be an effect of the PSA policies or could reflect a shift in the case mix in the courts.

DATA AND METHODS

This evaluation uses a mixed-methods research approach that combines qualitative information gathered through an implementation study with a statistical analysis of data drawn from administrative records (that is, data gathered in the normal course of administering the justice system). The effects presented in this report are estimated using an interrupted time series research design. Comparisons for the analysis are generated using cases initiated between January 2012 and May 2014 (the pre-policy period). The cases are grouped into monthly cohorts (for example, all cases where the arrest date was in January 2012 are included in the January 2012 cohort). For each outcome (for example, “new criminal charges”), the analysis creates a monthly average for each cohort, and those averages are plotted in a time series. Data from the cases initiated in the pre-policy months (January 2012 through May 2014) are then used to predict what the outcomes would have been for cases initiated in each of the post-policy months (July 2014 through December 2015) had no changes occurred. The difference in outcomes between the observed values in the post-policy period and the predicted values represents the “effect” of the policy changes.

Qualitative information was collected through interviews with stakeholders and staff members in Mecklenburg County, observations of first appearance hearings, and a review of statutes and policies. Quantitative data for this analysis were obtained from the North Carolina Court System and the Mecklenburg County Sheriff’s office.⁶ The analysis uses data from January 2006 through June 2017. The study focuses on all cases with custodial arrests (that is, arrests where the defendant was taken into custody) in Mecklenburg County between January 1, 2012 and December 31, 2015. The PSA was implemented in the jurisdiction in June 2014, so the dates that were used allow for an analysis of outcomes for all cases initiated 30 months before the PSA was implemented and 18 months after it was implemented. The analysis covers 93,950 total cases for 59,906 individuals. Additional information about the statistical analysis and methods used in this evaluation are described in a separate paper.⁷

⁶ North Carolina Administrative Office of the Courts, Organizational Development Division (2014).

⁷ Miratrix (2019).

This study is able to provide suggestive evidence about the effects of the PSA. As discussed above, this study cannot isolate the effects of the PSA from other factors that may have affected the outcomes. Furthermore, the amount of variation in the outcome measures throughout the pre-policy period results in additional uncertainty regarding the accuracy of the predictions for the post-policy period. The statistical significance of the effects are therefore not reported. The upper and lower confidence intervals are shown in the time-series figures with shading around the predicted trend lines in the post-policy period. See Report 1 for a further explanation of how to read the time-series figures.

THE IMPLEMENTATION OF THE PSA

To best interpret the effects of the PSA policy reforms, it is important to understand several things about the criminal court in Mecklenburg County: (1) how a case progresses through the courts after arrest, (2) how the PSA is used in judicial decision making, and (3) what other changes occurred around the same time as the PSA that might also have affected outcomes. This section provides an overview of the PSA-related reforms and the case process, and explains how the PSA and the policies associated with it were incorporated into the court's practices.

There are three points when pretrial release decisions are made in Mecklenburg. The first decision point occurs just after an individual is arrested.⁸ At that point, a magistrate decides whether to release the defendant on a written promise or an unsecured bond, set a secured bond (that is, money bail), or release the defendant into the custody of another party.⁹ For certain capital crimes and domestic violence offenses, North Carolina statute stipulates that only a judge can set conditions of release, so a defendant charged with one of these kinds of crimes cannot have a bond determination made by a magistrate.¹⁰ The PSA report is not available to magistrates at this early decision point. Individuals who are not allowed bond due to the charges against them

8 The term “arrest” is defined as a defendant being taken into custody, typically referred to as a “custodial arrest” in Mecklenburg County. For the purposes of this analysis, the defendant is not considered detained at this stage in the pretrial case process because he or she has not been booked into jail.

9 In North Carolina, magistrates are independent judicial officers of the district courts who are responsible for a variety of criminal and civil court proceedings. See North Carolina Judicial Branch (n.d.).

10 According to North Carolina Statute 15A-534.1(b): “A defendant may be retained in custody not more than 48 hours from the time of arrest without a determination being made under this section by a judge. If a judge has not acted pursuant to this section within 48 hours of arrest, the magistrate shall act under the provisions of this section.”

TABLE 1 PSA Risk Factors

Risk Factor	Failure to Appear	New Criminal Activity	New Violent Criminal Activity
Age is less than 23		X	
Current arrest is for a violent offense			X
Current arrest is for a violent offense and age is less than 21			X
Pending charge at the time of offense	X	X	X
Previous conviction (felony or misdemeanor)	X		X
Previous misdemeanor conviction		X	
Previous felony conviction		X	
Previous violent conviction		X	X
Failure to appear in the past two years	X	X	
Failure to appear more than two years ago	X		
Previous sentence to incarceration		X	

SOURCE: Table based on PSA scoring criteria established by the Arnold Ventures. For more information on PSA risk factors and the calculation of risk scores see Arnold Ventures (2016b).

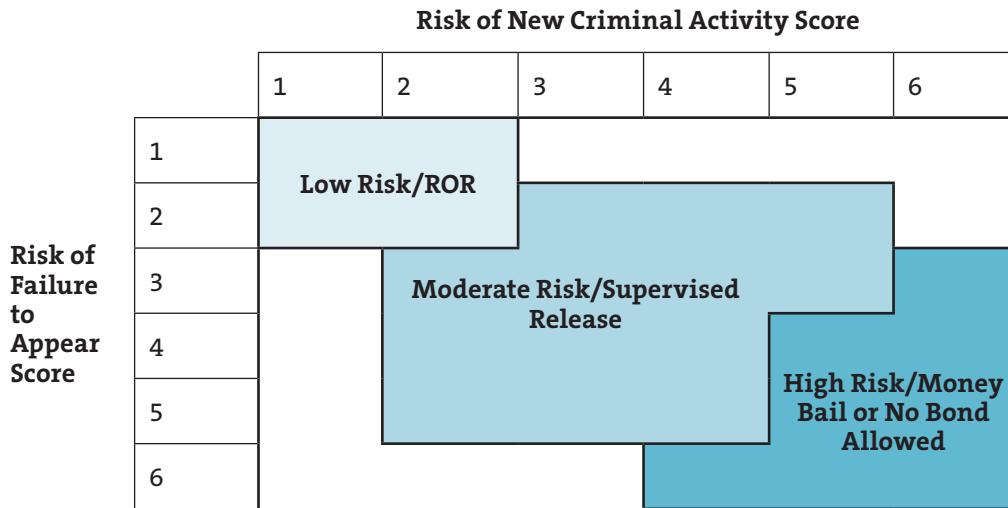
or who are not able to post the bail set by the magistrate are booked into jail and scheduled for a first appearance hearing, where they go before a judge.¹¹

A defendant who is booked into the jail after a magistrate review has a PSA report generated. The process of generating and distributing the PSA report is handled by the Pretrial Services unit of the Department of Criminal Justice Services in Mecklenburg County. A group of staff members gathers the information needed to score the PSA by checking local, state, and national databases for information about nine risk factors and a violence flag, as indicated in Table 1.

The report includes two scores ranging from 1 (low risk) to 6 (high risk), one related to the likelihood of failures to appear for future court hearings and the other related to the likelihood of new criminal charges. The report also includes a flag to indicate whether there is an elevated level of risk for

¹¹ According to North Carolina Statute 15A-601: “Unless the defendant is released pursuant to Article 26 of this Chapter, Bail, first appearance before a district court judge must be held within 96 hours after the defendant is taken into custody or at the first regular session of the district court in the county, which-ever occurs first. If the defendant is not taken into custody, or is released pursuant to Article 26 of this Chapter, Bail, within 96 hours after being taken into custody, first appearance must be held at the next session of district court held in the county.”

FIGURE 1 Simplified Risk/Release Condition Matrix



SOURCE: Adapted from the Mecklenburg County decision-making framework.

NOTE: The white regions of the matrix are risk-score combinations that are not possible because the new-criminal-activity and failure-to-appear scores share risk factors.

violent crimes. Once the risk scores are generated, the staff members use a decision-making framework customized to the release conditions and policies in Mecklenburg, as shown in Figure 1. In Mecklenburg County, there are four commonly used release conditions: Written Promise to Appear, Unsecured Bond, Secured Bond, and Place in the Custody of a Designated Person or Organization.¹² For the purposes of using language widely recognized in pretrial practice nationally, this study refers to the conditions of Written Promise to Appear and Unsecured Bond as “released on one’s own recognizance (ROR).” Secured Bond is referred to as “money bail,” and Custody of a Designated Person or Organization is referred to as “supervised release.”¹³ Scores generated for the PSA are translated into release condition “levels,” as indicated by the shaded areas corresponding with low risk (ROR), moderate risk (supervised release), and high risk (money bail or detention).

The recommended level shown in Figure 1 accounts for only the nine factors shown in Table 1; it does not account for a defendant’s current charge. Once a

12 Technically, there is a fifth release condition: House Arrest with Electronic Monitoring. Only a few defendants in the sample were assigned this release condition. Furthermore, this condition is always accompanied by a secured bond. Therefore, these cases were included in the Secured Bond category for this analysis. See North Carolina Statute 15A-534(a).

13 There are three types of release to Custody of a Designated Person or Organization in North Carolina. For clarity in describing this condition, this report combines all three under the general category referred to as supervised release.

staff member has completed the risk score for a defendant and determined a preliminary recommendation based on that score, the decision-making framework is applied. In this part of the process, more restrictive release conditions are assigned to defendants (1) who were extradited for their current charges; (2) who are charged with escape, murder, rape, or robbery, or a failure to appear for any of these charges; (3) who are assessed as being at risk of new violent criminal activity; or (4) who are charged with domestic violence, stalking, violating a protection order, a person-to-person sex crime, arson, or the use of a weapon, or a failure to appear for any of these charges. A defendant could be assessed as being at moderate risk of failing to appear or committing new crimes based on the PSA, but if that defendant's charge meets one of these criteria, then the recommendation for release conditions will be more restrictive than what appears in the matrix in Figure 1.

Once the PSA report is generated, it is made available to the judge, the prosecutor, and the public defender at the first appearance hearing. Other Pretrial Services staff members are responsible for attending all first appearance court hearings (including those in a specialized court for domestic violence cases) and for responding to questions about defendants' eligibility for Pretrial Services supervision. They also answer questions about the PSA during the hearing should the judge have any.

THE ALIGNMENT OF PRETRIAL RELEASE CONDITIONS WITH DEFENDANT RISK

- **How often did the pretrial release conditions agree with the PSA recommendations?**

One way to assess how often judges used information from the PSA and the DMF to help them decide release conditions is to examine how frequently the actual release condition for the defendant agreed with the DMF recommendation, a situation referred to in Table 2 as "concurrency." One would not expect the concurrency rate to be 100 percent unless judges simply followed the recommendations and did not consider any other factors when determining release conditions. The intention of the PSA is to provide information to help judges make decisions about pretrial release conditions.¹⁴ It is not meant to replace a judge's discretion, because the PSA (like any other risk assessment tool) cannot possibly account for all of a case's relevant factors and circumstances.

¹⁴ Arnold Ventures (n.d.).

TABLE 2 Concurrence Between Release Conditions and DMF Recommendations

Release Condition Compared with DMF Recommendation	Percentage
Match	61.5
Nonmatch	38.5
Release condition less strict than DMF recommendation	24.2
Release condition stricter than DMF recommendation	14.3

SOURCES: The table is based on data from the North Carolina Automated Criminal/Infractions System and the Mecklenburg County Sheriff’s Office.

THE RELEASE CONDITIONS SET BY JUDGES AT FIRST APPEARANCE HEARINGS MATCHED THE DMF RECOMMENDATIONS IN MOST CASES. WHEN CONDITIONS SET BY JUDGES DID NOT MATCH THE DMF RECOMMENDATIONS, THE CONDITIONS TENDED TO BE LESS STRICT THAN THE DMF RECOMMENDATIONS.

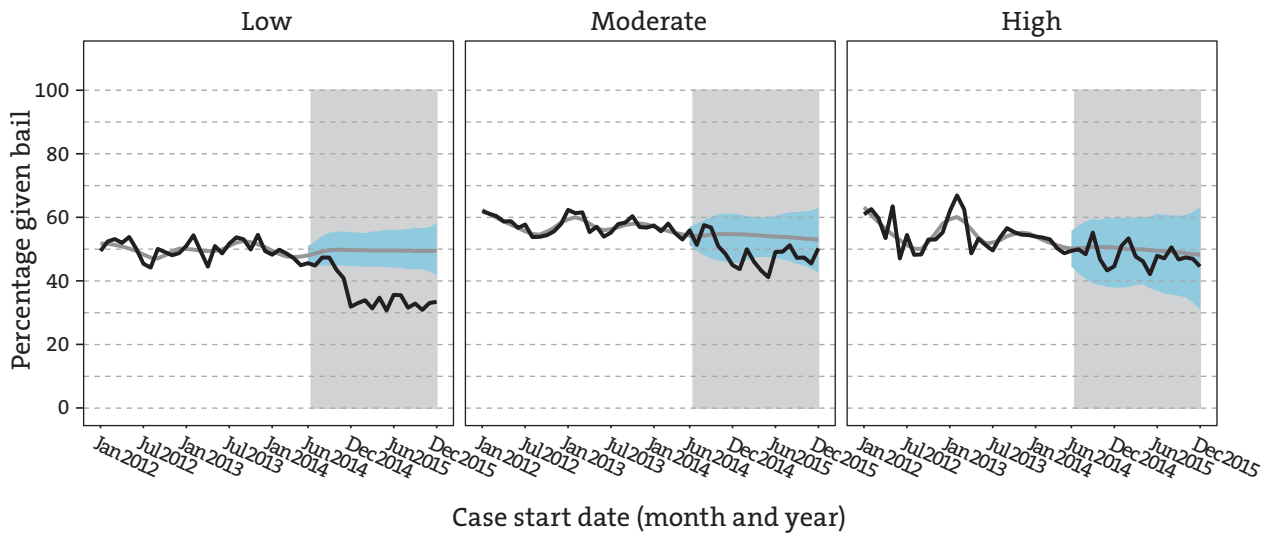
Table 2 shows how often defendants’ actual release conditions set by judges concurred with the DMF recommendations.¹⁵ The table shows that judges set release conditions that were concurrent with the DMF recommendations most of the time (in 61 percent of cases). Notably, when the release condition differed from the DMF recommendation, it was generally less strict than what the DMF recommended. Conditions that are less strict than the DMF recommendation would occur, for example, when the DMF recommendation was for money bail but the judge assigned supervised release or ROR.

- **Is there evidence that the PSA policies improved the alignment between release conditions and defendants’ risk levels?**

The overarching goal of implementing the PSA in Mecklenburg County was to reduce unnecessary jail detention by shifting the jurisdiction to a pretrial system based on risk-based decision making. In other words, the jurisdiction sought to better “align” release conditions with defendants’ risks levels. One would therefore expect most low-risk defendants to be released with the least restrictive conditions: ROR. Similarly, one would expect higher-risk defendants to be more likely to have money bail set and to be detained. To assess

¹⁵ Due to data limitations, this report’s analysis of concurrence combines ROR and supervised release into one nonfinancial release category. Therefore, if a defendant received a PSA recommendation of ROR and the judge assigned that defendant either ROR or supervised release, the case would be counted as a “match.” Similarly, if the PSA recommended supervised release and the judge assigned ROR, the case would still be counted as a match.

FIGURE 2 Effects on Money Bail Setting by Assessed Risk Level



December 2014 (Month 6) Cases

Assessed Risk Level	Predicted (%)	Observed (%)	Estimated Effect	Percentage Change
Low	49.6	36.4	-13.2	-26.6
Moderate	54.9	48.7	-6.3	-11.5
High	51.3	47.9	-3.4	-6.6

SOURCES: The analysis is based on data from the North Carolina Automated Criminal/Infractions System and the Mecklenburg County Sheriff's Office.

NOTES: *Estimated effect* is the observed outcome minus the predicted outcome. *Percentage change* is the difference between the observed and predicted values as a percentage of the predicted value.

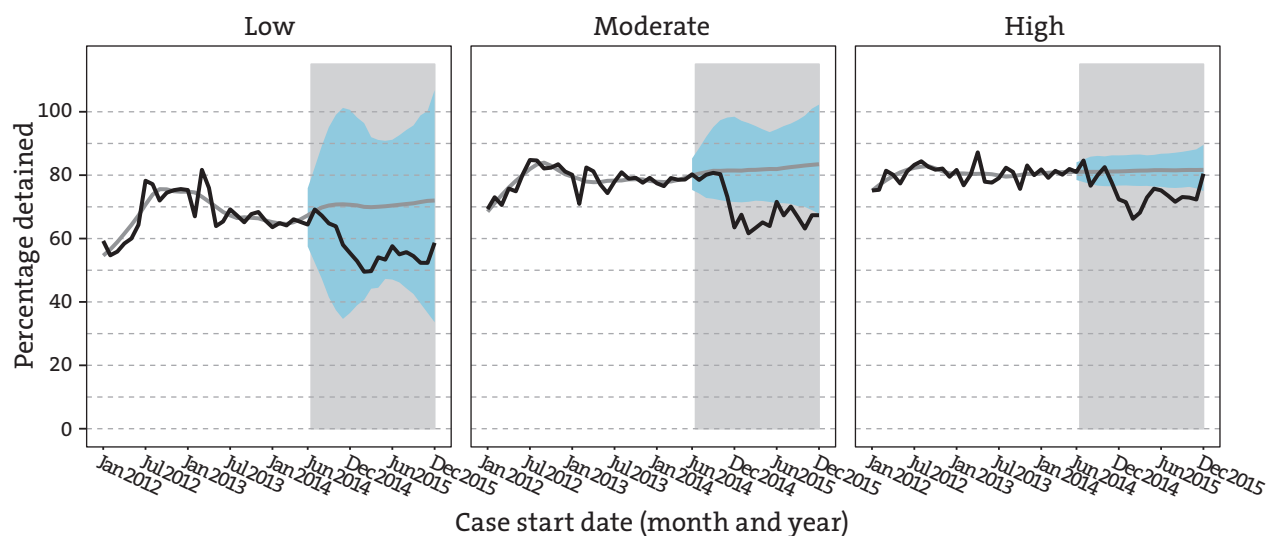
RATES OF MONEY BAIL FOLLOWING THE INTRODUCTION OF THE PSA WERE LOWER THAN THOSE PREDICTED BY THE PRE-POLICY TREND, PARTICULARLY FOR LOW- AND MODERATE-RISK DEFENDANTS.

THIS FINDING SUGGESTS THAT THE PSA POLICIES IMPROVED THE ALIGNMENT BETWEEN ASSESSED RISK AND RELEASE CONDITIONS.

the extent to which there was an acceleration in the shift toward risk-based decision making after the PSA policies were implemented in the jurisdiction, this section examines the alignment between defendants' risk levels and their release conditions.

Figures 2 and 3 examine the effects of the PSA policies on the alignment between risk and release conditions by analyzing the trends in bail setting

FIGURE 3 Initial Jail Detention by Assessed Risk Level



December 2014 (Month 6) Cases

Assessed Risk Level	Predicted (%)	Observed (%)	Estimated Effect	Percentage Change
Low	70.7	55.3	-15.4	-21.8
Moderate	82.5	69.9	-12.6	-15.3
High	80.9	73.1	-7.8	-9.6

SOURCES: The analysis is based on data from the North Carolina Automated Criminal/Infractions System and the Mecklenburg County Sheriff’s Office.

NOTES: Initial incarceration refers to a jail booking immediately following a custodial arrest. *Estimated effect* is the observed outcome minus the predicted outcome. *Percentage change* is the difference between the observed and predicted values as a percentage of the predicted value.

IN THE MONTHS IMMEDIATELY FOLLOWING THE INTRODUCTION OF THE PSA, RATES OF INITIAL DETENTION WERE LOWER THAN THOSE PREDICTED BY THE PRE-POLICY TREND AMONG ALL RISK LEVELS. THE EFFECT WAS LARGEST AMONG LOW- AND MODERATE-RISK DEFENDANTS.

and initial detention among defendants in each of three risk categories.¹⁶ The time-trend analysis of effects uses the methods described above and in

16 Risk levels are created based on the Risk/Release Condition Matrix shown in Figure 1. For example, defendants who were assessed risk scores of 2 or less for both new criminal activity and failure to appear would be included in the “low-risk” category. For the purposes of this analysis, simulated risk scores are used in both the pre-policy and post-policy periods (because actual PSA scores are only available after the PSA was implemented). These simulated scores were calculated using data about each of the PSA factors. As a sensitivity check, the actual and simulated scores were compared. In most cases, the simulated and actual scores matched. See Appendix Table 2 for more details.

Report 1.¹⁷ The results in Figure 2 suggest that after the PSA policies were implemented there was an especially sharp decline in bail setting for lower-risk defendants relative to what would be expected based on the pre-policy-period trend. Among low-risk cases initiated six months after the policy change, 36 percent had bail set, 13 percentage points lower than the predicted rate of 49 percent based on the trend. This change represents a 27 percent decrease in bail setting for low-risk defendants.

The effects on ROR mirror those for bail setting. After the PSA policies were implemented, the proportion of lower-risk defendants released on their own recognizance (ROR) increased sharply above the predicted trend (not shown). In contrast, there was little difference from the predicted trend in bail setting for high-risk defendants, though bail setting was generally steadily declining during the study period.

Figure 3 shows the PSA policy changes' effects on initial detention in jail among defendants of different risk levels. During the pre-policy period, the rates of initial jail detention were high among defendants of all risk levels, typically ranging between 70 percent and 80 percent. In the post-policy period, jail detention rates declined among defendants of all risk levels. The largest reductions occurred among low- and moderate-risk defendants. As shown in Figure 3, among low-risk defendants whose cases were initiated in December 2014 (six months after the PSA policy changes) the rate of initial detention was predicted to be 71 percent based on the pre-policy-period trend. The actual detention rate for that cohort of low-risk defendants was 55 percent, about a 22 percent reduction in initial detention relative to the prediction.

The results among risk subgroups indicate an overall shift toward a risk-based system where fewer low- and moderate-risk defendants were detained or given money bail. There was little change in bail-setting practices for high-risk defendants, but there was a steady decline in detention for that subgroup that is consistent with a broad move toward pretrial release in the jurisdiction. Taken together, the findings show an acceleration in the improvement of the alignment between defendants' risk levels and the release conditions given to them. There is still much room for additional improvement, however. On average, more than half of the low-risk defendants continued to be detained during the post-policy period. (As discussed above, North Carolina statutes require that some defendants be held until the first appearance hearing before

¹⁷ See Report 1 and Miratrix (2019) for additional explanation about methods and data sources.

a judge, which accounts for some of the initial detention among low-risk defendants.)¹⁸

- **Did the PSA policies have different effects on case outcomes, court-appearance rates, and new criminal activity among defendants of different risk levels?**

It is logical to assume that the information provided by the PSA may be more or less influential for certain types of cases. For example, the PSA may not be as effective at influencing release conditions for high-risk defendants because the conditions judges felt were necessary may have been consistently clear in those cases, even in the absence of the PSA information. In fact, the results presented above show that the effects of the PSA on bail setting and initial detention appear to be the largest among low- and moderate-risk defendants. As a result of the PSA's effects on release conditions, it is expected that any effects on subsequent case outcomes and new criminal charges would also be largest for low- and moderate-risk defendants. This section examines the effects of the PSA policies on case resolutions, court appearance rates, and new criminal charges for different levels of risk.

As shown in Figure 4, rates of case dismissals are high among defendants of all risk levels. Between one-half and two-thirds of all cases ended in dismissals.¹⁹ There were no meaningful differences between the projected trends and the observed outcomes for any of the risk-level subgroups.

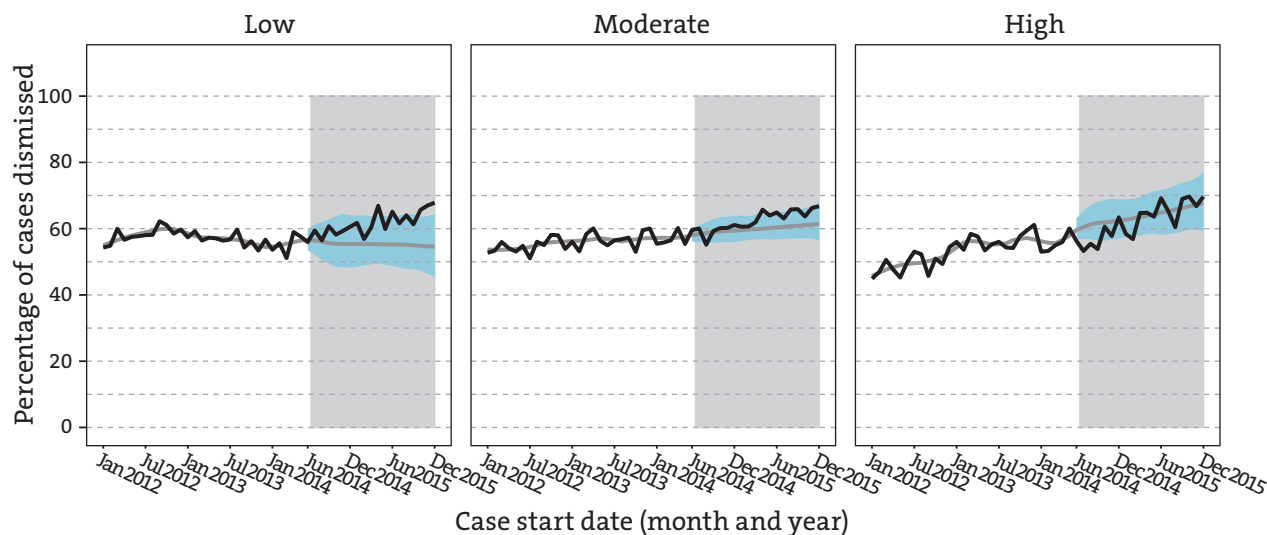
Figure 5 shows that the PSA policies had, at most, a small effect on the rates of failure to appear, new criminal activity, or one-year recidivism among low-risk defendants. The rates of new pretrial criminal activity and one-year recidivism were slightly higher than predicted based on pre-policy trends among moderate- and high-risk defendants, though the causal mechanism is uncertain.

The PSA is designed to predict the likelihood of a missed court hearing or new criminal charge while a defendant waits for the existing case to be resolved. If the PSA is accurate in predicting risk among the sample, then the rates of

18 About a third of cases among low-risk defendants included charges of domestic violence, for which defendants must be detained until a first appearance hearing.

19 An examination of rates of dismissals for comparable cases across a range of jurisdictions suggests an average between 20 percent and 40 percent in most jurisdictions. Dobbie, Goldin, and Yang (2016); Heaton, Mayson, and Stevenson (2017); Stevenson (2018); Denman (2016); Human Rights Watch (2017); California Office of the Attorney General (2017); Holsinger (2016).

FIGURE 4 Case Dismissals by Assessed Risk Level



December 2014 (Month 6) Cases

Assessed Risk Level	Predicted (%)	Observed (%)	Estimated Effect	Percentage Change
Low	55	59.8	4.8	8.7
Moderate	59.9	60.1	0.1	0.2
High	62.5	59.8	-2.7	-4.3

SOURCES: The analysis is based on data from the North Carolina Automated Criminal/Infractions System.

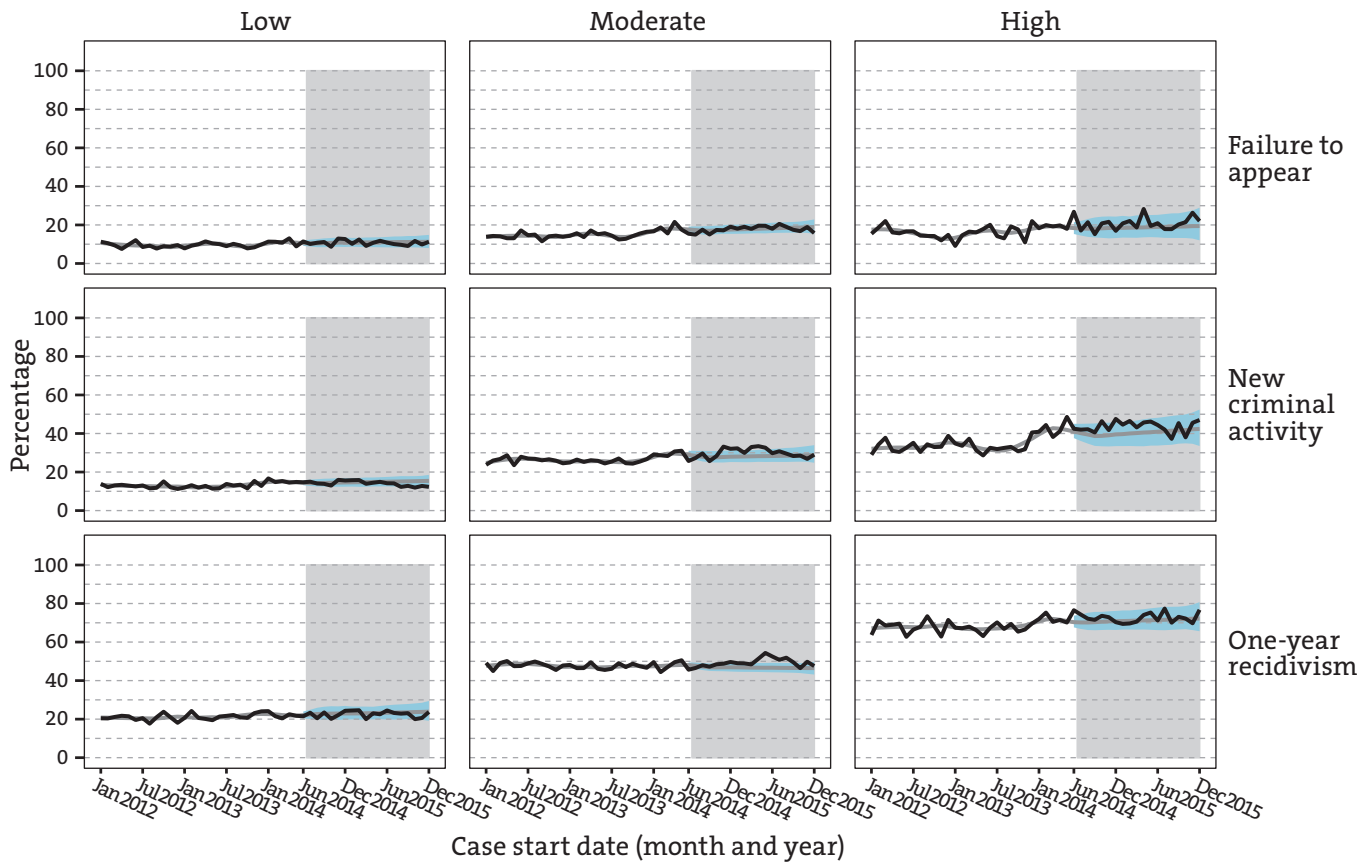
NOTES: *Cases dismissed* includes the small proportion of cases in which the defendant was tried and found “not guilty.” *Estimated effect* is the observed outcome minus the predicted outcome. *Percentage change* is the difference between the observed and predicted values as a percentage of the predicted value.

NONE OF THE RISK GROUPS SAW DEVIATIONS FROM PREDICTED TRENDS IN CASE DISMISSALS, SUGGESTING THAT THE PSA POLICIES HAD LITTLE EFFECT.

failure to appear for court hearings and of new crime should correspond to the risk levels assessed by the PSA; that is, these rates should be higher among the higher-risk defendants.²⁰ Figure 5 shows that the rates of failure to appear, new criminal activity, and one-year recidivism among defendants assessed as being moderate-risk were higher than the rates among those assessed as being low-risk, and the rates among those assessed as being high-risk were higher still. This pattern suggests that the PSA is valid in predicting the risk of failure to appear and new criminal activity for Mecklenburg County’s defendant population.

²⁰ Recidivism may also be higher, though the PSA was not developed to make predictions beyond the pretrial period.

FIGURE 5 Failure to Appear, New Criminal Activity, and Recidivism by Assessed Risk Level



December 2014 (Month 6) Cases

Outcome	Assessed Risk Level	Predicted (%)	Observed (%)	Estimated Effect	Percentage Change
Failure to appear	Low	10.9	11.2	0.3	2.8
	Moderate	17.9	18.6	0.6	3.3
	High	18.3	19.7	1.4	7.6
New criminal activity	Low	14.8	15.4	0.6	4.1
	Moderate	28.5	32.2	3.7	13.0
	High	39.6	44.8	5.2	13.1
One-year recidivism	Low	23.2	23.2	0.0	0.0
	Moderate	48.1	50.2	2.1	4.4
	High	71.1	70.7	-0.3	-0.4

SOURCES: The analysis is based on court data from the North Carolina Automated Criminal/Infractions System and failure-to-appear records from the Mecklenburg County Sheriff’s Office.

NOTES: *Estimated effect* is the observed outcome minus the predicted outcome. *Percentage change* is the difference between the observed and predicted values as a percentage of the predicted value.

AMONG LOW-RISK DEFENDANTS, THE PSA POLICIES HAD NO EFFECTS ON FAILURES TO APPEAR, NEW CRIMINAL CHARGES, OR ONE-YEAR RECIDIVISM. AMONG MODERATE- AND HIGH-RISK DEFENDANTS, THE RATES OF NEW CRIMINAL ACTIVITY AND ONE-YEAR RECIDIVISM WERE SLIGHTLY HIGHER THAN PREDICTED BASED ON PRE-POLICY TRENDS.

THE PSA POLICIES' EFFECTS ON RACIAL DISPARITIES IN CASE AND CRIME OUTCOMES

Studies have documented widespread racial disparities in the U.S. criminal justice system.²¹ Racial bias can occur at various stages in the system: policing in the community, pretrial decision making in the courts, jury selection, and sentencing.²² The ultimate goal of pretrial risk assessment tools is to reduce reliance on individual judges' subjective decision making, which can contribute to these racial disparities. It is assumed that having access to objective information about defendants' risks is better than the status quo. However, risk assessment tools themselves have drawbacks. For example, these tools may inadvertently incorporate bias because they rely heavily on historical criminal justice administrative data (such as how many times in the past a person has been convicted and sentenced to detention). Thus, one concern is that the risk tool itself may perpetuate racial disparities, as biases that already exist in the system will be carried forward into the assessment itself.²³

The racial composition of the sample remained stable from the pre-policy period to the post-policy period. More than two-thirds of the study sample is black; one-fourth is white (see Appendix Table 1). Hispanic defendants make up around 4 percent of the sample and defendants of other races make up about 1 percent.²⁴ The relatively small number of defendants recorded as Hispanic or "other" race make it infeasible to assess the PSA policies' effects on these groups (because the estimates would be too imprecise). The analyses in this section of the report are therefore limited to blacks and whites, who make up most of the sample in Mecklenburg County.

Table 3 shows the risk level of defendants in each of the racial categories. Blacks are more likely to be assessed as high-risk and less likely to be assessed as low-risk than whites.²⁵ Blacks and whites in the sample may have different risk-level distributions because blacks may truly be at higher risk (as a result of socioeconomic disparities between them and whites) or because the PSA algorithm is carrying forward historical racial disparities (for reasons

21 Cole (1999); Petersilia (1985); Clair and Winter (2016); Alexander (2010); Weitzer and Tuch (2005).

22 Schrantz and McElroy (2000); Rosich (2007).

23 Doleac and Stevenson (2016); Mayson (2018); Skeem and Lowenkamp (2015); Angwin, Larson, Mattu, and Kirchner (2016); Southerland (2018); Travis and Western (2014).

24 The data do not separate race and ethnicity, so some defendants recorded in the data as black, white, or "other" may also be Hispanic.

25 See also Appendix Figure 1.

TABLE 3 Assessed Risk Levels by Race

	Low (%)	Moderate (%)	High (%)
Black	33.7	47.7	18.6
White	50.1	40.7	9.1

SOURCES: The table is based on court data from the North Carolina Automated Criminal/Infractions System and failure-to-appear records from the Mecklenburg County Sheriff's Office.

BLACK DEFENDANTS WERE MORE LIKELY TO BE ASSESSED AS BEING HIGH-RISK AND LESS LIKELY TO BE ASSESSED AS BEING LOW-RISK THAN WHITE DEFENDANTS.

described above). It is not possible for this analysis to determine which of these conditions is true, though probably both are true to some extent. Given the differences in risk levels, any comparisons of outcomes between these two racial groups must account for the differences in risk level to allow for a valid assessment of racial disparity. The remainder of the analyses measuring effects on outcomes for defendants of different races are therefore presented within the three risk levels.

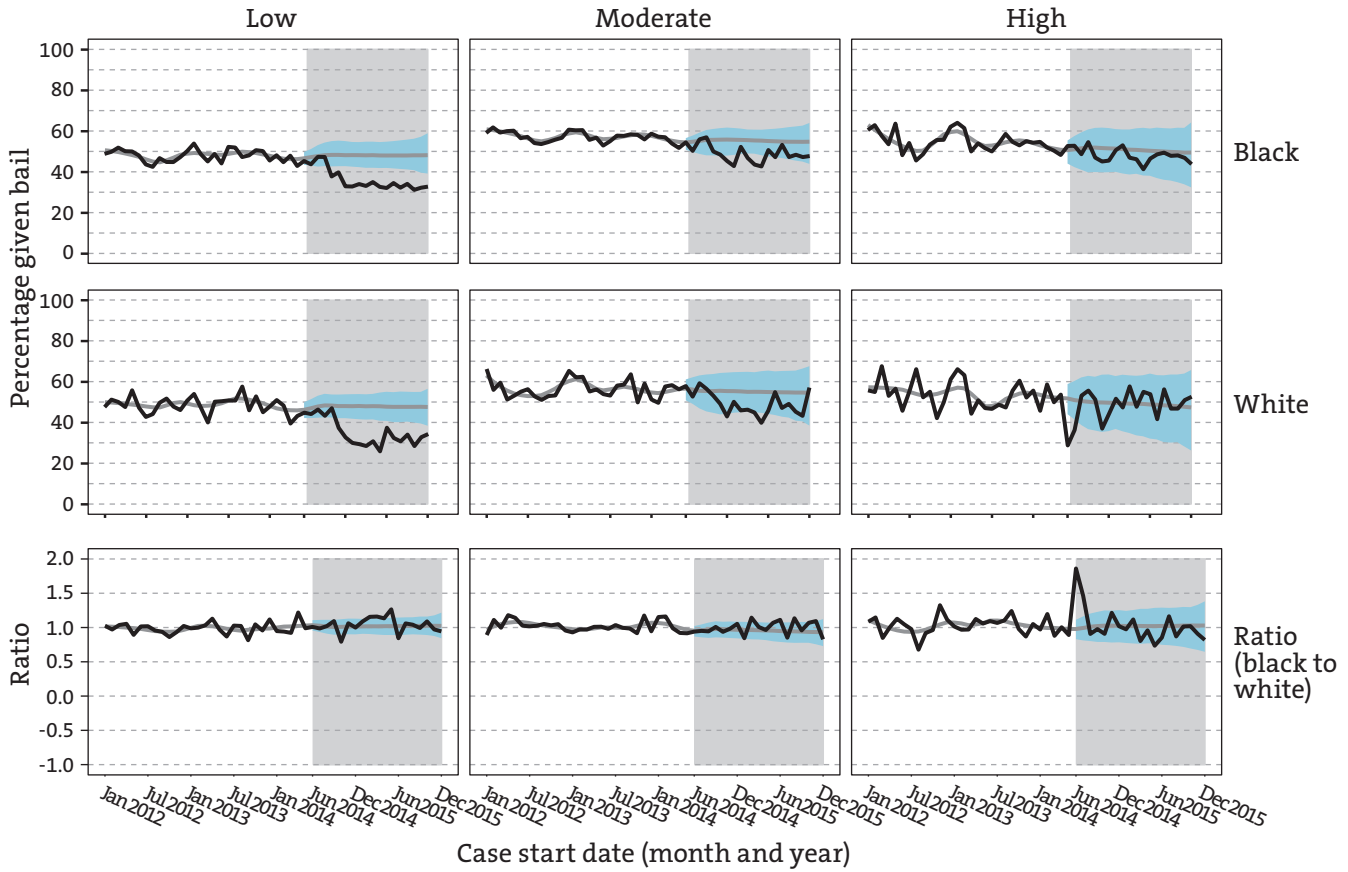
“Racial disparity” is measured as the ratio of black to white defendants for each outcome. The ratio for each outcome is shown in the last panel of its time-trend figure and the last panel of the table below the figure.

- **Did the PSA policies have racially disparate effects on the alignment between defendants’ assessed risk levels and the restrictiveness of their release conditions? How did the PSA policies affect the racial disparity in bail setting?**

As shown above, for the full study sample the PSA policies improved the alignment between defendants’ assessed risk levels and the restrictiveness of their release conditions. Specifically, the time-trend analysis showed that low- and moderate-risk defendants were more likely to be released without conditions, which is more consistent or “aligned” with their level of risk than what would have occurred without the introduction of the PSA. The sections that follow examine the extent to which similar improvements in alignment can be seen for white and black defendants.

The top two panels of Figure 6 show that there was a notable departure from established trends in rates of money bail for both black and white low-risk

FIGURE 6 Rates of Money Bail by Race and Assessed Risk Level



December 2014 (Month 6) Cases

	Assessed Risk Level	Predicted (%)	Observed (%)	Estimated Effect	Percentage Change
Black	Low	48.1	35.2	-12.9	-26.8
	Moderate	55.3	48.2	-7	-12.7
	High	50.9	47.8	-3.1	-6.1
White	Low	47.9	34.6	-13.3	-27.8
	Moderate	55.6	49.5	-6.1	-11.0
	High	49.5	47.8	-1.7	-3.4
Ratio	Low	1.0	1.0	0.0	2.1
	Moderate	1.0	1.0	0.0	2.1
	High	1.0	1.0	0.0	-0.4

SOURCES: The analysis is based on data from the North Carolina Automated Criminal/Infractions System and the Mecklenburg County Sheriff's Office.

NOTES: *Estimated effect* is the observed outcome minus the predicted outcome. *Percentage change* is the difference between the observed and predicted values as a percentage of the predicted value.

BAIL SETTING WAS LOWER THAN PREDICTED AFTER THE PSA POLICIES WERE IMPLEMENTED. THE EFFECTS WERE SIMILAR AMONG BLACK AND WHITE DEFENDANTS OF THE SAME ASSESSED RISK LEVELS.

THE BOTTOM PANEL OF THE TABLE INDICATES THAT THERE IS NO DISPARITY IN MONEY BAIL SETTING BETWEEN WHITE AND BLACK DEFENDANTS OF THE SAME ASSESSED RISK LEVELS.

defendants after the introduction of the PSA. Overall these results suggest that PSA policies improved the alignment between risk levels and release conditions for both racial groups. They also suggest that the effects of the PSA policies on bail setting are similar for black and white defendants.

Figure 6 also suggests that there was little to no racial disparity in bail setting either before or after the introduction of the PSA. The bottom panel shows that the ratio of black to white defendants in having money bail set was about 1 for all risk levels, in both the pre-policy and post-policy periods. The fact that there is no difference in bail setting when controlling for risk suggests that judges are using similar criteria when making release decisions about defendants, regardless of defendants' races.

- **Did the PSA policies have different effects on jail detention among defendants of different races? How did the PSA policies affect racial disparity in jail detention?**

The top two panels of Figure 7 show that rates of initial detention in the post-policy period were significantly lower than predicted by the pre-policy-period trend for both blacks and whites. The sizes of the differences from the predicted trends were similar for black and white defendants of the same risk level.

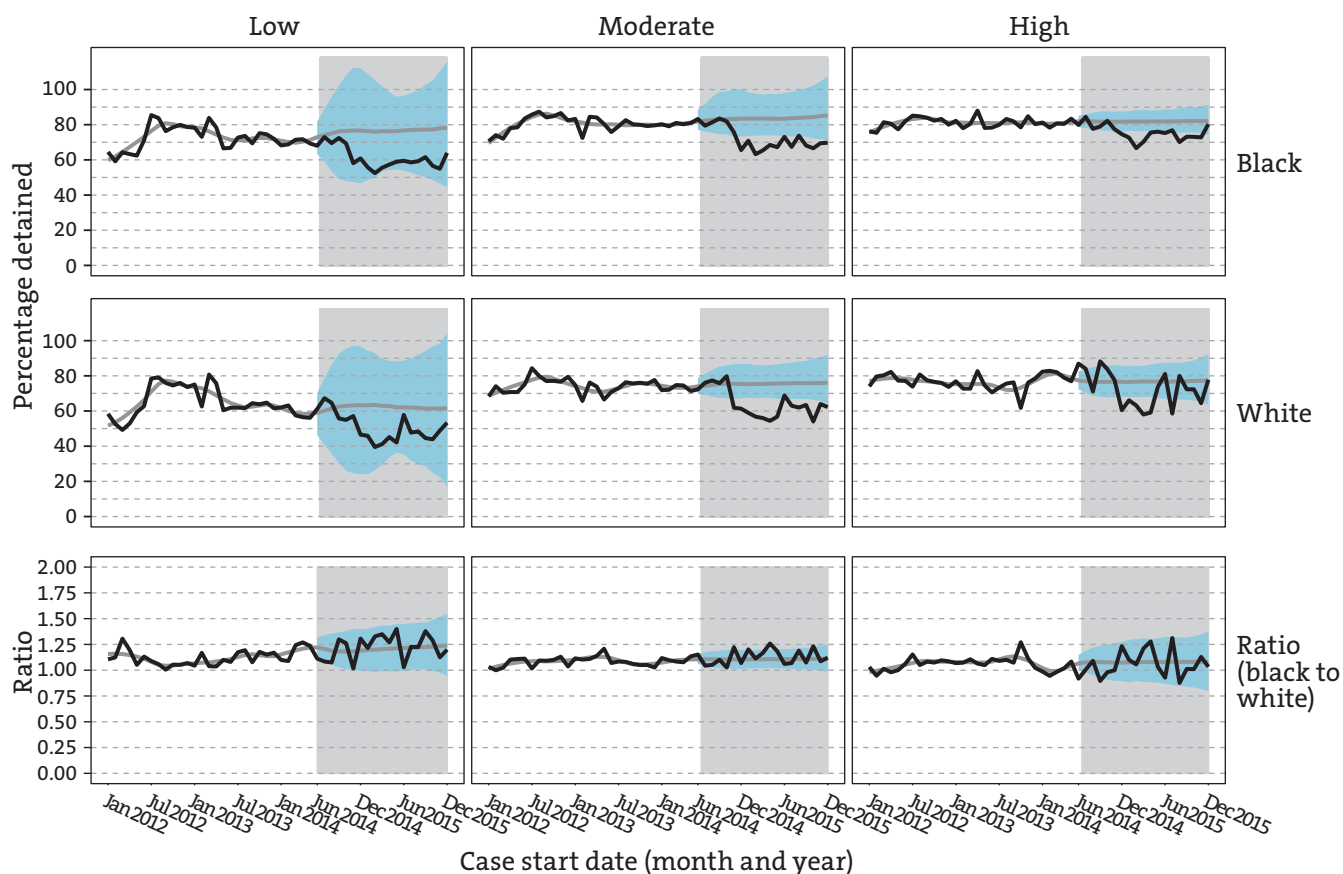
The bottom panel of Figure 7 shows the ratio of the proportion of black defendants detained to the proportion of white defendants detained. Black, low-risk defendants were 1.2 times as likely to be detained as their white counterparts. This ratio did not deviate from its expected trend following the introduction of the PSA, suggesting that the PSA policies had little effect on racial disparity in jail detention. Recall that whether or not defendants are detained can be directly related to the types of charges they are facing, because certain charges require that a defendant be booked into jail pending a first appearance hearing. This issue is discussed further below.

- **Did the effects of the PSA policies differ among defendants of different races for other case and crime outcomes?**

Figure 8 shows that, in general, quite high percentages of cases were dismissed for both racial groups: More than half of all cases in Mecklenburg County ended in dismissals.²⁶ There is no evidence that the PSA reforms had

²⁶ As noted above, in other jurisdictions the typical rate of dismissals is between 20 percent and 40 percent.

FIGURE 7 Initial Detention by Race and Assessed Risk Level



December 2014 (Month 6) Cases

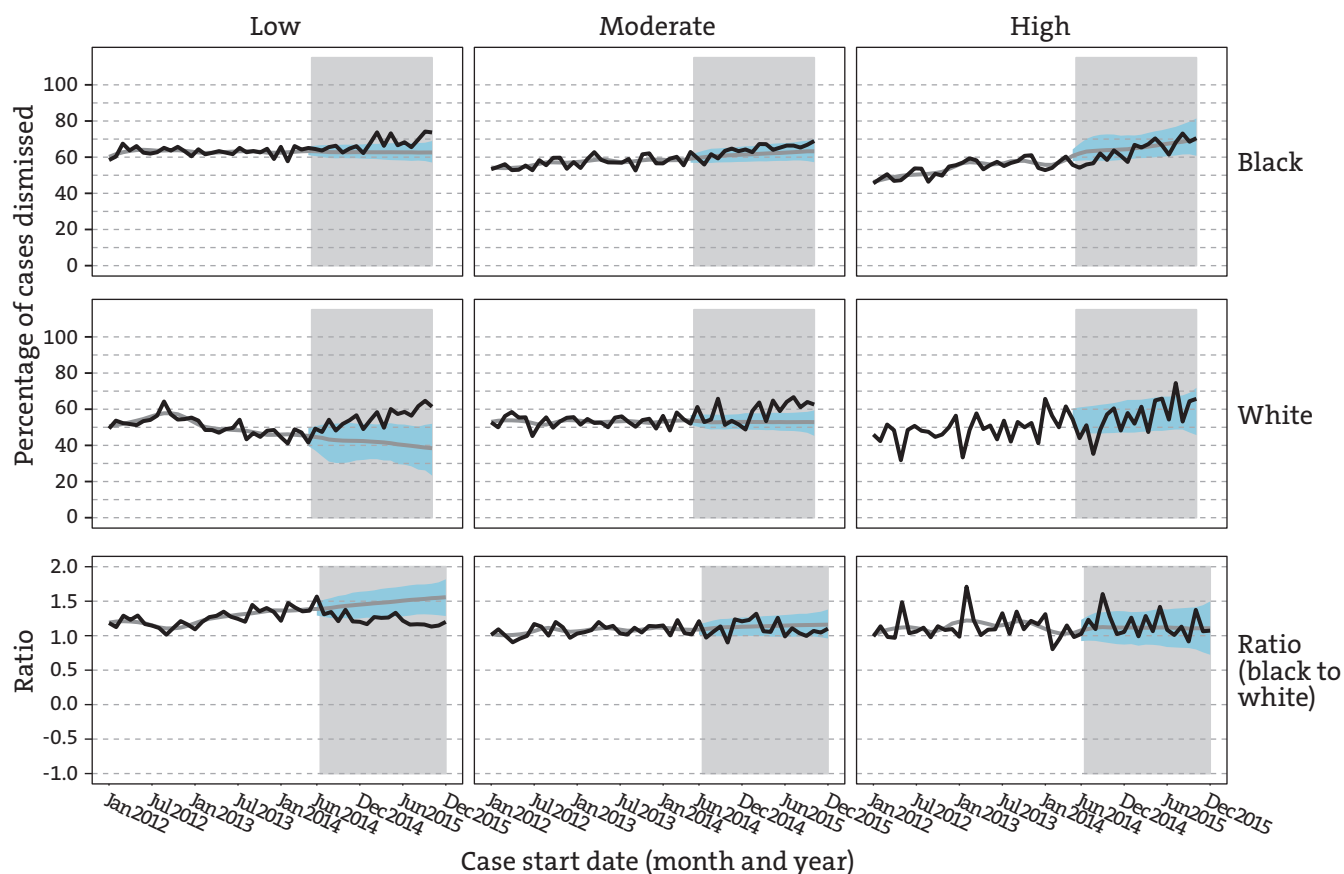
	Assessed Risk Level	Predicted (%)	Observed (%)	Estimated Effect	Percentage Change
Black	Low	76.2	59.2	-17.0	-22.3
	Moderate	83.4	71.3	-12.1	-14.5
	High	81.7	74.2	-7.5	-9.2
White	Low	63.3	48.1	-15.2	-24.0
	Moderate	75.2	63.1	-12.1	-16.1
	High	77.0	69.1	-7.9	-10.2
Ratio	Low	1.2	1.2	0.0	3.8
	Moderate	1.1	1.1	0.0	2.6
	High	1.1	1.1	0.0	1.0

SOURCES: The analysis is based on data from the North Carolina Automated Criminal/Infractions System and the Mecklenburg County Sheriff's Office.

NOTES: Initial detention refers to a jail booking immediately following a custodial arrest. *Estimated effect* is the observed outcome minus the predicted outcome. *Percentage change* is the difference between the observed and predicted values as a percentage of the predicted value.

RATES OF INITIAL DETENTION WERE LOWER THAN PREDICTED AFTER THE PSA POLICIES WERE IMPLEMENTED. THE EFFECTS ON INITIAL DETENTION IN JAIL WERE SIMILAR FOR BLACK AND WHITE DEFENDANTS. BLACKS HAD RATES OF INITIAL DETENTION THAT WERE HIGHER THAN THOSE OF THEIR WHITE COUNTERPARTS AT ALL RISK LEVELS. THE PSA POLICIES HAD NO EFFECT ON RACIAL DISPARITY IN JAIL DETENTION.

FIGURE 8 Case Dismissals by Race and Assessed Risk Level



December 2014 (Month 6) Cases

	Assessed Risk Level	Predicted (%)	Observed (%)	Estimated Effect	Percentage Change
Black	Low	62.8	64.5	1.7	2.8
	Moderate	61.0	63.0	2.0	3.3
	High	63.9	60.7	-3.2	-5.0
White	Low	42.4	52.8	10.4	24.6
	Moderate	53.2	53.9	0.7	1.3
	High	55.0	53.5	-1.5	-2.7
Ratio	Low	1.5	1.2	-0.2	-15.7
	Moderate	1.1	1.2	0.1	5.2
	High	1.1	1.2	0.0	3.2

SOURCES: The analysis is based on data from the North Carolina Automated Criminal/Infractions System and the Mecklenburg County Sheriff's Office.

NOTES: *Cases dismissed* includes the small proportion of cases in which the defendant was tried and found "not guilty." *Estimated effect* is the observed outcome minus the predicted outcome. *Percentage change* is the difference between the observed and predicted values as a percentage of the predicted value.

THE PSA POLICIES HAD LITTLE EFFECT ON CASE DISMISSALS AMONG MODERATE- AND HIGH-RISK DEFENDANTS IN EITHER RACIAL GROUP. THEY DO APPEAR TO HAVE INCREASED DISMISSALS AMONG LOW-RISK WHITE DEFENDANTS, BUT THE PREDICTED TREND IS PARTICULARLY UNCERTAIN AND THE POST-POLICY CHANGE WAS NOT ABRUPT.

BLACK DEFENDANTS IN ALL RISK CATEGORIES WERE MORE LIKELY THAN WHITES TO HAVE THEIR CASES DISMISSED.

any effect among moderate- or high-risk defendants. The middle-left panel of Figure 8 shows a small but steady climb in the rate of dismissals among low-risk, white defendants, and an increase above the predicted trend. However, because the time-trend analysis does not indicate an abrupt deviation from this trend shortly after the PSA policies were implemented, it is less clear that the PSA policies are responsible for the effect.²⁷

The bottom panel of Figure 8 shows the ratio of case dismissals for black defendants to white defendants. For all risk groups these ratios hover slightly above 1, indicating black defendants had their cases dismissed at slightly higher rates than white defendants. For the low-risk groups, black defendants were 1.5 times as likely to have their cases dismissed as white defendants in the pre-policy period. This ratio appeared to become somewhat smaller than the predicted trend in the post-policy period.

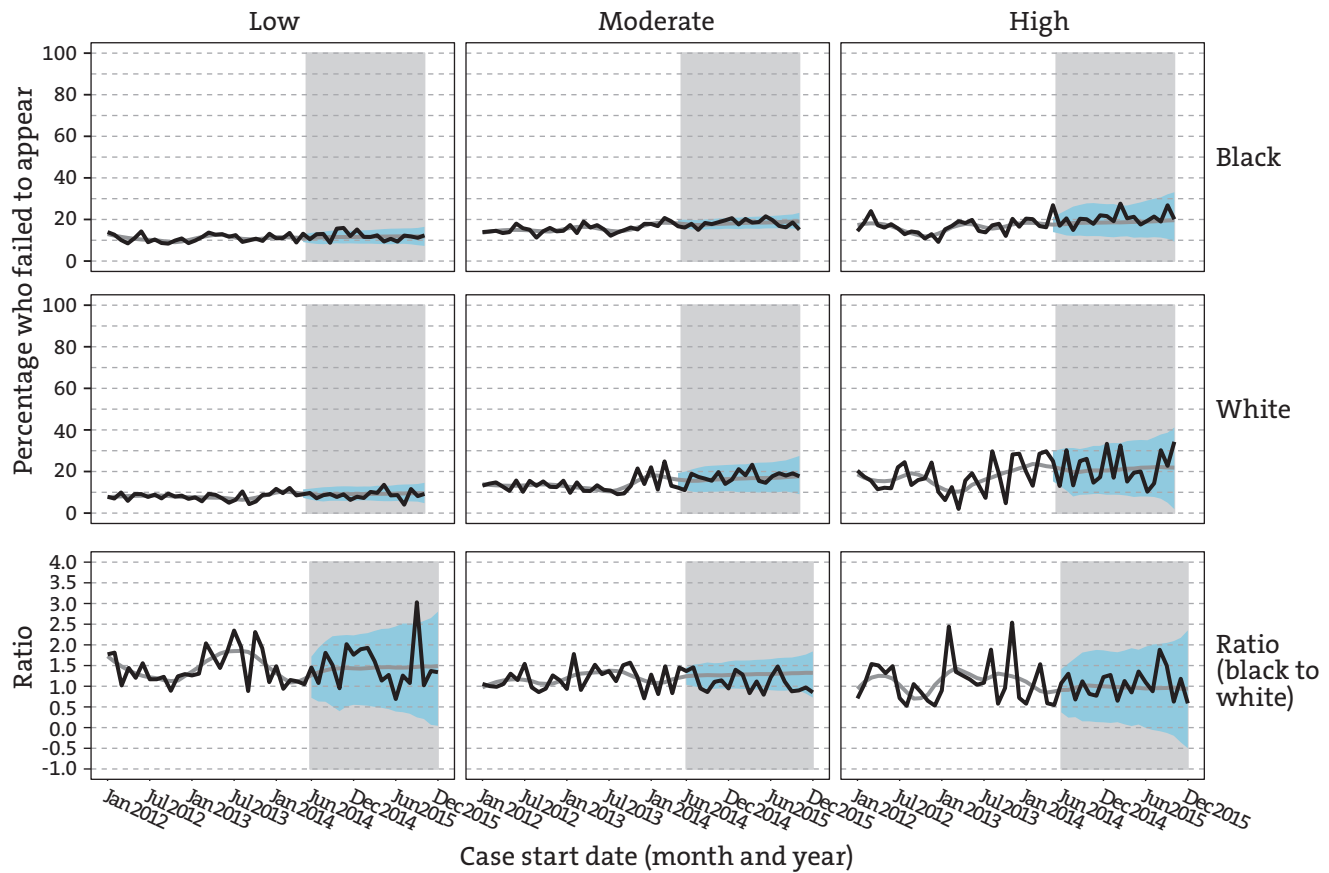
The high ratio of dismissals for low-risk black defendants relative to their white counterparts is notable in its own right. Some of the difference in dismissal rates is explained by differences in the types of crimes with which blacks and whites are charged. Overall, among cases resulting in dismissal, about a third were misdemeanor violent crimes (not shown), suggesting that misdemeanor violent crimes are more likely to be dismissed than other types of charges (a finding that is consistent across jurisdictions).²⁸ Furthermore, the proportion of black defendants charged with misdemeanor violent crimes (25 percent) was higher than the proportion of white defendants charged with similar crimes (19 percent). Combined, these two observations partly explain why dismissal rates were higher for black defendants. Put simply, black defendants were more likely to incur domestic violence charges, which in turn are more likely to be dismissed than other types of charges. These charges are also more likely to result in initial detention, which may also partly explain the disparity in that outcome shown above.

Figures 9 through 11 assess the effects of the PSA policies on other case and crime outcomes by race. Figure 9 shows that court appearance rates were relatively high for both white and black defendants. Neither racial group experienced a deviation from trends in failures to appear in court following the introduction of the PSA, suggesting that the PSA policies had no effect on those

²⁷ As explained in Report 1, the data and the prediction for this outcome become increasingly uncertain later in the study follow-up period.

²⁸ Dobbie, Goldin, and Yang (2016); Heaton, Mayson, and Stevenson (2017); Stevenson (2018); Denman (2016); Human Rights Watch (2017); California Office of the Attorney General (2017); Holsinger (2016).

FIGURE 9 Failure to Appear in Court by Race and Assessed Risk Level



December 2014 (Month 6) Cases

	Assessed Risk Level	Predicted (%)	Observed (%)	Estimated Effect	Percentage Change
Black	Low	11.5	13.8	2.3	20
	Moderate	17.8	18.7	0.9	5.1
	High	18.3	19.8	1.5	8.2
White	Low	9.0	7.8	-1.2	-13.4
	Moderate	15.9	16.9	1.0	6.3
	High	20.3	21.9	1.6	7.9
Ratio	Low	1.4	1.8	0.3	23.0
	Moderate	1.3	1.1	-0.1	-11.6
	High	1.0	1.0	-0.0	-1.1

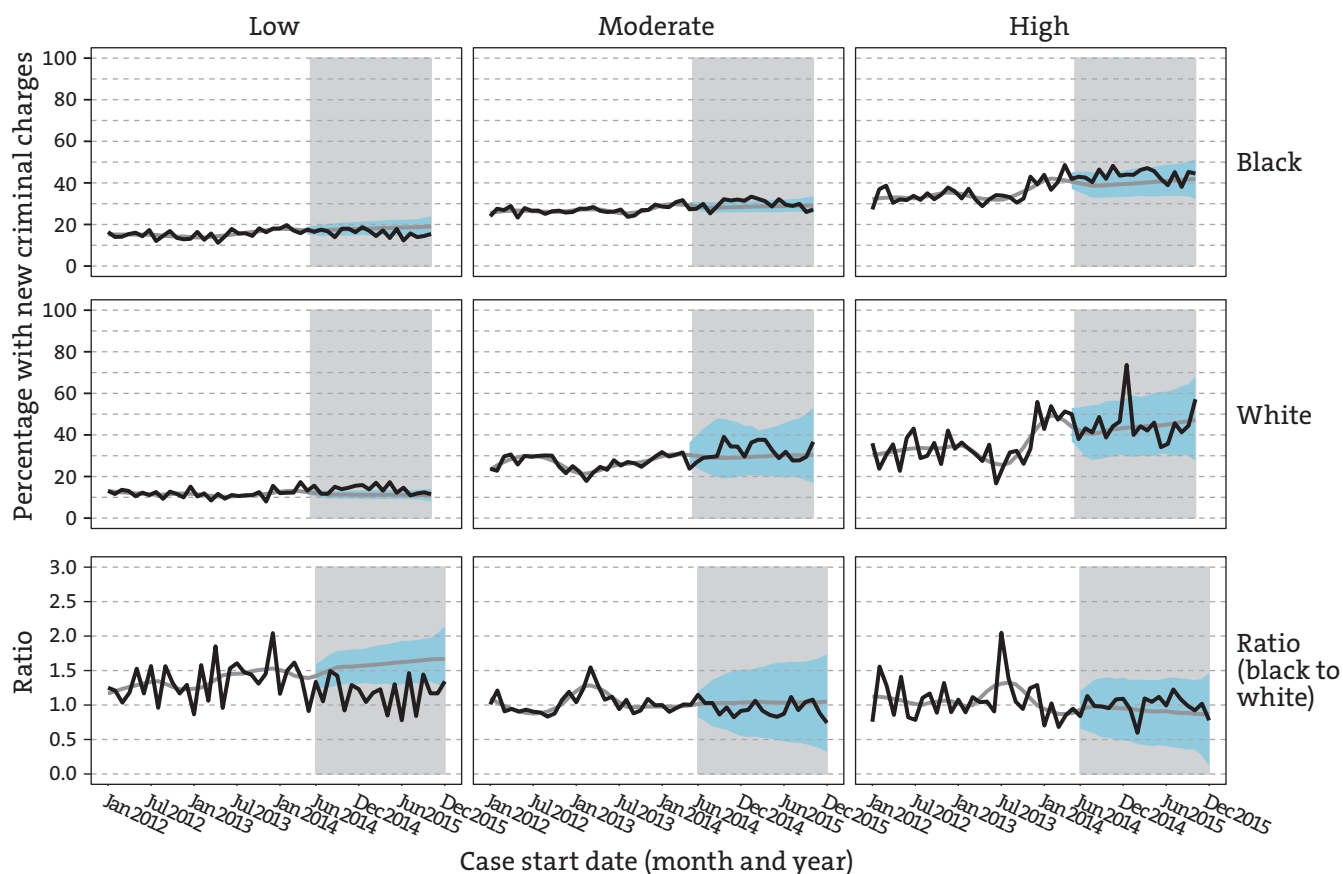
SOURCES: The analysis is based on data from the North Carolina Automated Criminal/Infractions System and the Mecklenburg County Sheriff's Office.

NOTES: *Estimated effect* is the observed outcome minus the predicted outcome. *Percentage change* is the difference between the observed and predicted values as a percentage of the predicted value.

THE PSA POLICIES HAD LITTLE EFFECT ON RATES OF COURT APPEARANCE AMONG EITHER BLACK OR WHITE DEFENDANTS.

LOW- AND MODERATE-RISK BLACK DEFENDANTS WERE MORE LIKELY THAN THEIR WHITE COUNTERPARTS TO MISS AT LEAST ONE COURT DATE. THE PSA POLICIES DO NOT APPEAR TO HAVE AFFECTED THIS DISPARITY.

FIGURE 10 New Criminal Charges by Race and Assessed Risk Level



December 2014 (Month 6) Cases

	Assessed Risk Level	Predicted (%)	Observed (%)	Estimated Effect	Percentage Change
Black	Low	18.2	17.2	-1.0	-5.5
	Moderate	28.7	32.1	3.3	11.5
	High	39.2	44.2	5.0	12.8
White	Low	11.4	15.4	3.9	34.1
	Moderate	30.7	34.5	3.8	12.4
	High	41.5	48.6	7.1	17.1
Ratio	Low	1.6	1.2	-0.4	-24.8
	Moderate	1.0	0.9	-0.1	-10.6
	High	1.0	1.0	-0.0	-0.4

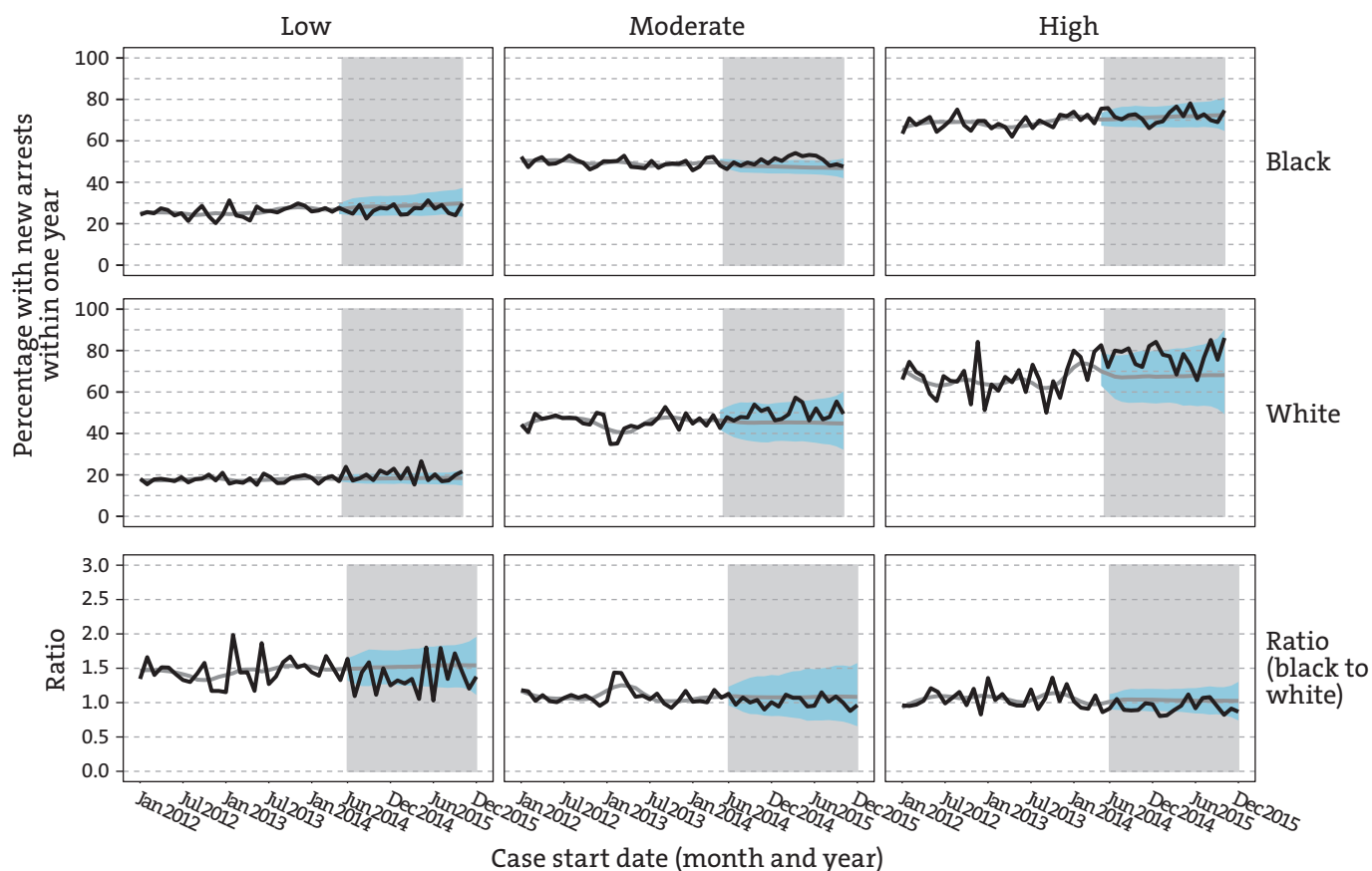
SOURCES: The analysis is based on data from the North Carolina Automated Criminal/Infractions System and the Mecklenburg County Sheriff's Office.

NOTES: *Estimated effect* is the observed outcome minus the predicted outcome. *Percentage change* is the difference between the observed and predicted values as a percentage of the predicted value.

RATES OF NEW CRIMINAL ACTIVITY IN THE POST-POLICY PERIOD WERE SLIGHTLY HIGHER THAN PREDICTED FOR MODERATE- AND HIGH-RISK BLACKS AND ALL WHITES.

AMONG LOW-RISK DEFENDANTS, BLACKS WERE MORE LIKELY THAN WHITES TO INCUR CHARGES FOR NEW CRIMES WHILE WAITING FOR THEIR CASES TO BE RESOLVED. THIS DISPARITY DECREASED SOMEWHAT FROM PREDICTED TRENDS IN THE POST-POLICY PERIOD.

FIGURE 11 One-Year Recidivism by Race and Assessed Risk Level



December 2014 (Month 6) Cases

	Assessed Risk Level	Predicted (%)	Observed (%)	Estimated Effect	Percentage Change
Black	Low	28.2	26.7	-1.5	-5.3
	Moderate	47.7	49.8	2.1	4.4
	High	71	69.4	-1.6	-2.3
White	Low	18.2	20.3	2	11
	Moderate	45.2	50	4.8	10.6
	High	67.6	78.6	11	16.3
Ratio	Low	1.5	1.3	-0.2	-13.0
	Moderate	1.1	1.0	-0.1	-8.3
	High	1.0	0.9	-0.2	-15.0

SOURCES: The analysis is based on data from the North Carolina Automated Criminal/Infractions System and the Mecklenburg County Sheriff’s Office.

NOTES: *Estimated effect* is the observed outcome minus the predicted outcome. *Percentage change* is the difference between the observed and predicted values as a percentage of the predicted value.

RATES OF RECIDIVISM WERE HIGHER THAN PREDICTED AMONG HIGH-RISK WHITES IN THE POST-POLICY PERIOD.

LOW-RISK BLACK DEFENDANTS WERE MORE LIKELY THAN WHITES TO BE CHARGED WITH NEW CRIMES WITHIN ONE YEAR. THE PSA POLICIES HAD LITTLE EFFECT ON THIS DISPARITY.

outcomes for either group. The bottom panel of Figure 9 shows that black low- and moderate-risk defendants failed to appear at higher rates than whites. The black-to-white ratio was especially high among low-risk defendants: Among low-risk defendants with cases initiated in December 2014, blacks were 1.8 times as likely to miss a court appearance as whites; this ratio is somewhat higher than predicted by the pre-policy period trend, but the time-trend analysis does not suggest that the PSA policies had an effect on racial disparity for this outcome. Black and white defendants assessed as being at *high* risk of failing to appear had similar observed rates of failing to appear.

The top panel of Figure 10 shows the effects of the PSA policies on rates of new criminal activity by race. There were small increases above the predicted trends for moderate- and high-risk black defendants and for white defendants of all risk levels. On average, rates of new criminal activity were slightly higher among low-risk blacks than among low-risk whites (as indicated by the ratio in the figure). This disparity was lower than predicted in the post-policy period.

Figure 11 shows that among black defendants, there were few significant deviations from the predicted trends in one-year recidivism following the introduction of the PSA. High-risk, white defendants had rates of recidivism slightly higher than those predicted.

Low-risk black defendants were 1.3 times as likely as whites to be arrested for new crimes within one year after their first arrests. The ratio of black to white recidivism rates did not deviate from the predicted trend following the introduction of the PSA for defendants at any of the risk levels.

In summary, the findings show that the PSA had little effect on racial disparity in outcomes. The analyses conducted in this study suggest that disparities in outcomes such as initial detention and case dismissals appear to stem from factors outside of the decision making in the courts, as there was no difference in the release conditions set by judges or magistrates for black and white defendants of the same assessed risk level. Black defendants have higher rates of case dismissals than their white counterparts. The disparities observed in case dismissals and initial detention are partially explained by differences in the types of crimes with which blacks and whites are charged.

- **Did the effects of the PSA policies differ among defendants of different ages?**

Young people ages 16 to 22 are one-third of defendants in the sample, although they make up only 10 percent of the general population ages 16 and over in Mecklenburg County.²⁹ It is important to compare the outcomes of younger and older defendants for two reasons. First, recent research on youth development and brain science suggests that because the brains of younger adults are still developing, they are more likely than older adults to engage in risk-seeking behaviors, and therefore require different responses to activity that has been labeled as criminal.³⁰ Second, because young people have different circumstances and needs than adults, judges may make decisions about them in different ways. For example, judges may be more likely to take into consideration whether an adult is in the courtroom to assume responsibility for a young person when deciding on pretrial release conditions.

Results of the time-trend analysis on the PSA policies' effects among defendants younger than 23 and among those 23 and older are presented in Appendix Figures 1 through 3. (Age 23 was chosen as the dividing line because the PSA scoring algorithm assigns a penalty for defendants under 23.) In general, the PSA policies had similar effects for both age groups, with the exception that there appeared to be somewhat larger reductions in money bail and initial detention among younger defendants (see Appendix Figure 2).

- **Did the effects of the PSA policies differ for defendants in felony and misdemeanor cases?**

In most jurisdictions, the pretrial process for felony cases differs from that for misdemeanor cases, and felony cases are typically more likely than misdemeanor cases to be eligible for prison sentences. During the study period, over half of the cases were misdemeanors and about 30 percent were felonies.³¹ Appendix Figures 4 through 6 present the effects of the PSA policies by the charge class of the offense (that is, among defendants in misdemeanor and felony cases). Overall, the effects of the PSA policies for felony and misdemeanor cases were similar to the effects for the full sample. Among felony cases, rates of failure to appear and new criminal activity in the post-policy

²⁹ U.S. Census Bureau (2012).

³⁰ Schiraldi, Western, and Bradner (2015).

³¹ See Appendix Table 1 (which includes traffic cases for descriptive purposes, though the subgroup analyses based on charge class in this section are limited to felony and misdemeanor cases).

period were slightly higher than predicted by the pre-policy-period trends (see Appendix Figure 6), which suggests that the findings presented for the full sample largely reflect the results for felony cases.

CONCLUSION

The findings from this study showed that Mecklenburg County achieved its intended results: There was less use of money bail for lower-risk defendants and release conditions were more aligned with defendants' assessed risks after the PSA was put into effect. There was also a general decline in initial detention for all defendants, regardless of risk, suggesting that the jurisdiction is evolving toward a presumption that defendants should be released and toward more careful consideration of the use of money bail and pretrial detention.

Racial disparity is a concern in the criminal justice system broadly and in Mecklenburg County. There are fears that risk tools such as the PSA could exacerbate racial disparities in outcomes because they rely on criminal history data that may reflect existing biases in the criminal justice system.³² Other research (separate from this evaluation) is being conducted to closely assess racial bias in the PSA tool itself.³³ It is important, however, that this study shows the PSA policies had no effect on racial disparities in this jurisdiction's system. Furthermore, this study shows that there appears to be no racial disparity in judicial decision making when the risk level of the defendant is taken into account.

Rates of case dismissals are high in Mecklenburg County relative to other jurisdictions, and the PSA policies had no effect on this outcome.³⁴ There were some differences observed in the proportions of cases dismissed for black and white defendants. These differences are at least partly explained by differences in the types of crimes defendants of the two races were charged with, with higher proportions of blacks being charged with misdemeanor violent crimes that are more likely to be dismissed. Some of the observed differences

What is most critical to take away from these findings is that the jurisdiction successfully released more people with no repercussions in terms of court-appearance rates or new crime.

³² Doleac and Stevenson (2016); Mayson (2018); Skeem and Lowenkamp (2015); Angwin, Larson, Mattu, and Kirchner (2016); Southerland (2018); Travis and Western (2014).

³³ Arnold Ventures is funding separate studies to revalidate and improve the PSA's algorithm.

³⁴ Again, in other jurisdictions the typical rate of dismissals is between 20 percent and 40 percent. Dobbie, Goldin, and Yang (2016); Heaton, Mayson, and Stevenson (2017); Stevenson (2018); Denman (2016); Human Rights Watch (2017); California Office of the Attorney General (2017); Holsinger (2016).

in initial detention rates are similarly related to the higher rates of domestic violence charges for black defendants.

What is most critical to take away from these findings is that the jurisdiction successfully released more people with no repercussions in terms of court-appearance rates or new crime. Although there is room for improvement, the jurisdiction continues to move toward a culture of release, and trends in alignment between risk levels and release conditions suggest that the jurisdiction has moved toward greater use of risk-based decision making. The county has already begun using a new release-conditions matrix that may further improve the jurisdiction's ability to meet its goals for fairer approaches to decision making in the courts.

APPENDIX TABLE 1 Defendant and Case Characteristics

Characteristic	Pre-Policy-Period Average	Post-Policy-Period Average
Highest charge class on the case ^a (%)		
Felony	29.5	31.7
Misdemeanor	55.1	54.6
Traffic	15.4	13.7
Defendant risk level (%)		
High	14.1	15.1
Moderate	43.6	44.1
Low	42.3	40.9
Defendant age		
16 or 17	6.4	7.3
Less than 23 ^b	27.5	27.2
23 or older	72.5	72.8
Defendant race/ethnicity (%)		
Black	68.4	68.3
White	25.8	26
Hispanic ^c	4.6	4.3
Other	1.3	1.3
Defendant gender (%)		
Male	78.2	78.4
Female	21.8	21.6
Arrests in the past two years (%)		
None	42.3	40.9
1	21.1	20.4
2-3	20.5	20.8
4+	16.1	17.9
Sample size (cases)	59,743	34,207

SOURCES: Values are based on data from the North Carolina Automated Criminal/Infractions System and the Mecklenburg County Sheriff's Office.

NOTES: ^aCharge class refers to the most serious charge in the initial case only.

^bThis category also includes 16- and 17-year-old defendants.

^cIncludes Hispanics of any race.

IN GENERAL, DEFENDANT AND CASE CHARACTERISTICS WERE STABLE THROUGHOUT THE STUDY PERIOD (TRENDS NOT SHOWN). HOWEVER, THE PROPORTIONS OF FELONY CASES AND OF DEFENDANTS ASSESSED AS MODERATE-RISK AND HIGH-RISK WERE SLIGHTLY HIGHER DURING THE POST-POLICY PERIOD.

APPENDIX TABLE 2 Comparison Between Simulated Risk Levels and Actual Risk Levels

Assessed Risk Level	Percentage Based on Simulated Score	Percentage Based on Actual Score
High	22.2	29.6
Moderate	48.0	47.8
Low	29.7	22.6
Sample size (cases)	34,207	34,887

SOURCES: The calculation of simulated scores uses data from the North Carolina Automated Criminal/Infractions System and the Mecklenburg County Sheriff's Office. Actual scores are extracted from PSA data provided by Mecklenburg County Pretrial Services.

NOTE: For about 70 percent of cases, the PSA risk levels calculated using historical state data match the risk levels based on the actual PSA scores. Among those cases where the calculated risk levels did not match the actual risk levels, the calculated risk levels were usually lower. The difference between simulated and actual PSA scores is due to limitations on the data available to the evaluation team. These data do not include defendants' national criminal histories, and state historical data are only available for the six years before the start of each case. Both state and national data are available to the staff members who generate the actual PSA scores in Mecklenburg County.

THE PERCENTAGES OF DEFENDANTS ASSESSED AS BEING AT EACH RISK LEVEL BASED ON SIMULATED SCORES WERE SIMILAR TO THE PERCENTAGES BASED ON ACTUAL PSA SCORES.

APPENDIX FIGURE 1 Money Bail and Initial Detention by Age Group



December 2014 (Month 6) Cases

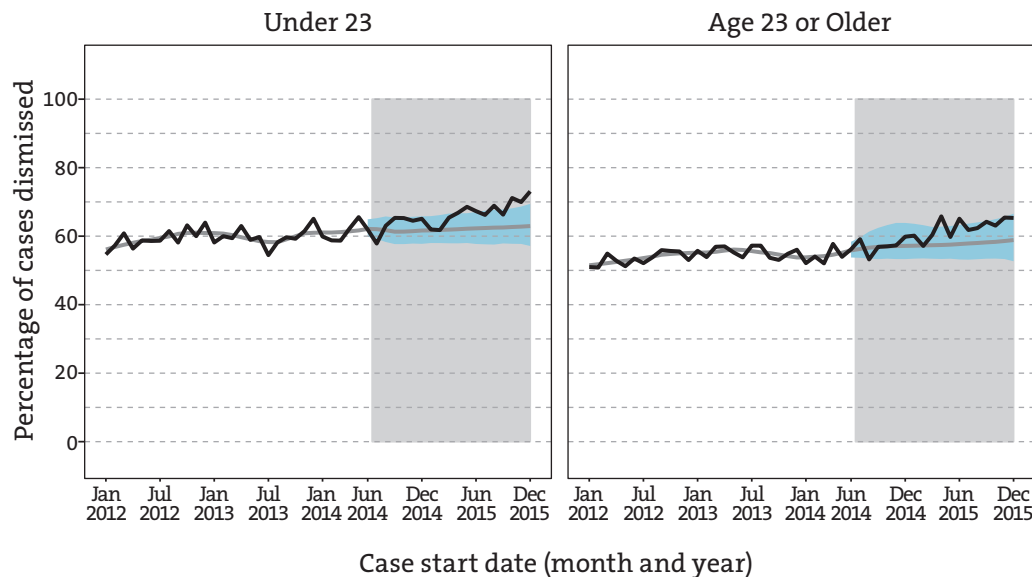
Outcome	Age Group	Predicted (%)	Observed (%)	Estimated Effect	Percentage Change
Given bail	Under 23	46.7	37.7	-9	-19.3
	23 and older	54.3	45.4	-8.8	-16.2
Initially detained	Under 23	83.3	71.1	-12.2	-14.6
	23 and older	74.9	61.5	-13.4	-17.9

SOURCES: The analysis is based on data from the North Carolina Automated Criminal/Infractions System and the Mecklenburg County Sheriff's Office.

NOTES: Initial detention refers to a jail booking immediately following a custodial arrest. *Estimated effect* is the observed outcome minus the predicted outcome. *Percentage change* is the difference between the observed and predicted values as a percentage of the predicted value.

THE PSA POLICIES HAD SIMILAR EFFECTS ON THE USE OF MONEY BAIL AND INITIAL DETENTION FOR BOTH AGE GROUPS.

APPENDIX FIGURE 2 Case Dismissals by Age Group



December 2014 (Month 6) Cases

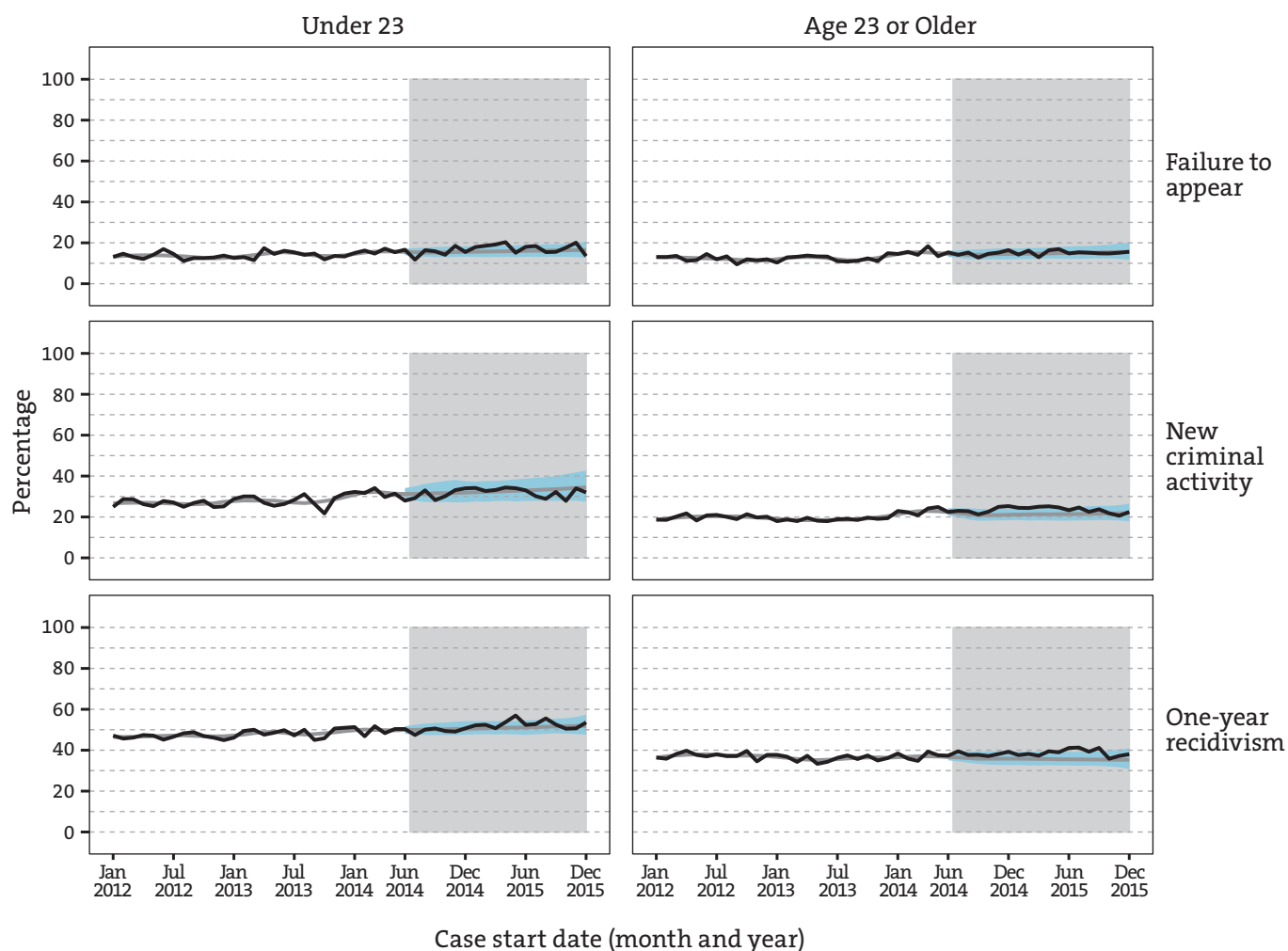
Age Group	Predicted (%)	Observed (%)	Estimated Effect	Percentage Change
Under 23	61.7	64	2.3	3.7
23 and older	57.3	58.3	1.1	1.9

SOURCES: The analysis is based on data from the North Carolina Automated Criminal/Infractions System and the Mecklenburg County Sheriff’s Office.

NOTES: *Cases dismissed* includes the small proportion of cases in which the defendant was tried and found “not guilty.” *Estimated effect* is the observed outcome minus the predicted outcome. *Percentage change* is the difference between the observed and predicted values as a percentage of the predicted value.

THE PSA POLICIES HAD LITTLE EFFECT ON CASE DISMISSALS. THE EFFECTS WERE SIMILAR FOR BOTH AGE GROUPS.

APPENDIX FIGURE 3 Failure to Appear, New Criminal Activity, and One-Year Recidivism by Age Group



December 2014 (Month 6) Cases

Outcome	Age Group	Predicted (%)	Observed (%)	Estimated Effect	Percentage Change
Any failure to appear	Under 23	15.6	17.3	1.7	10.9
	23 and older	14.6	15	0.4	2.7
New criminal activity	Under 23	31.9	32.8	0.9	2.8
	23 and older	21.1	24.3	3.3	15.7
One-year recidivism	Under 23	50.6	50.6	0.0	0.0
	23 and older	35.7	37.9	2.2	6.2

SOURCES: The analysis is based on data from the North Carolina Automated Criminal/Infractions System and the Mecklenburg County Sheriff's Office.

NOTES: *Estimated effect* is the observed outcome minus the predicted outcome. *Percentage change* is the difference between the observed and predicted values as a percentage of the predicted value.

THE PSA POLICIES HAD LITTLE EFFECT ON THE RATES OF FAILURE TO APPEAR AND NEW CRIMINAL ACTIVITY. THE EFFECTS WERE SIMILAR FOR BOTH AGE GROUPS. NEW CRIMINAL ACTIVITY AND ONE-YEAR RECIDIVISM RATES AMONG OLDER DEFENDANTS WERE SLIGHTLY HIGHER THAN PREDICTED IN THE POST-POLICY PERIOD.

APPENDIX FIGURE 4 Money Bail and Initial Detention by Charge Class



December 2014 (Month 6) Cases

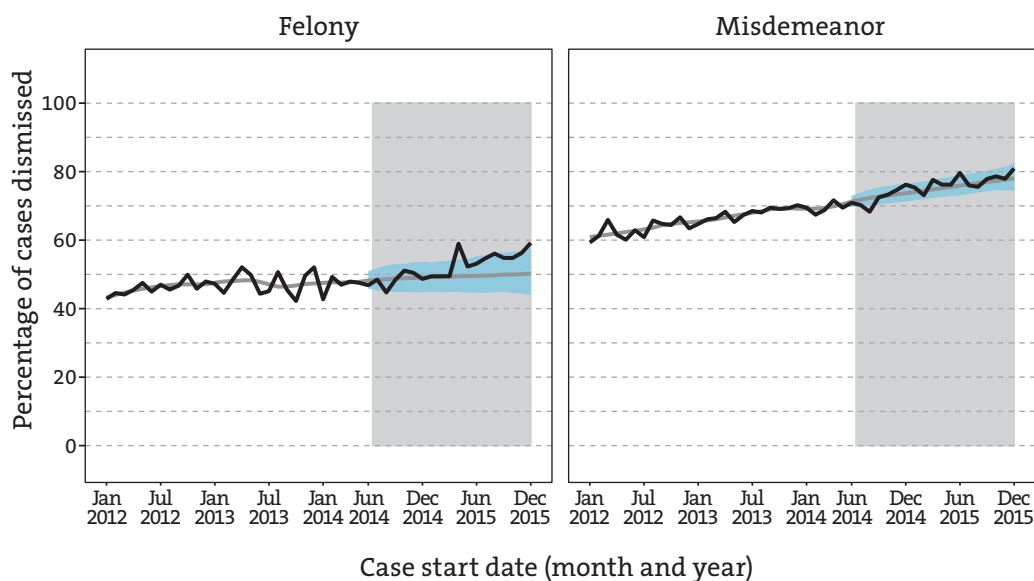
Outcome	Charge Class	Predicted (%)	Observed (%)	Estimated Effect	Percentage Change
Given bail	Felony	64.3	53.8	-10.5	-16.3
	Misdemeanor	44.9	38.5	-6.4	-14.3
Initially detained	Felony	84.6	73.4	-11.2	-13.2
	Misdemeanor	80.5	64.7	-15.7	-19.5

SOURCES: The analysis is based on data from the North Carolina Automated Criminal/Infractions System and the Mecklenburg County Sheriff's Office.

NOTES: Initial detention refers to a jail booking immediately following a custodial arrest. *Estimated effect* is the observed outcome minus the predicted outcome. *Percentage change* is the difference between the observed and predicted values as a percentage of the predicted value.

RATES OF MONEY BAIL AND INITIAL DETENTION WERE LOWER THAN PREDICTED FOR BOTH FELONY AND MISDEMEANOR CASES.

APPENDIX FIGURE 5 Case Dismissals by Charge Class



December 2014 (Month 6) Cases

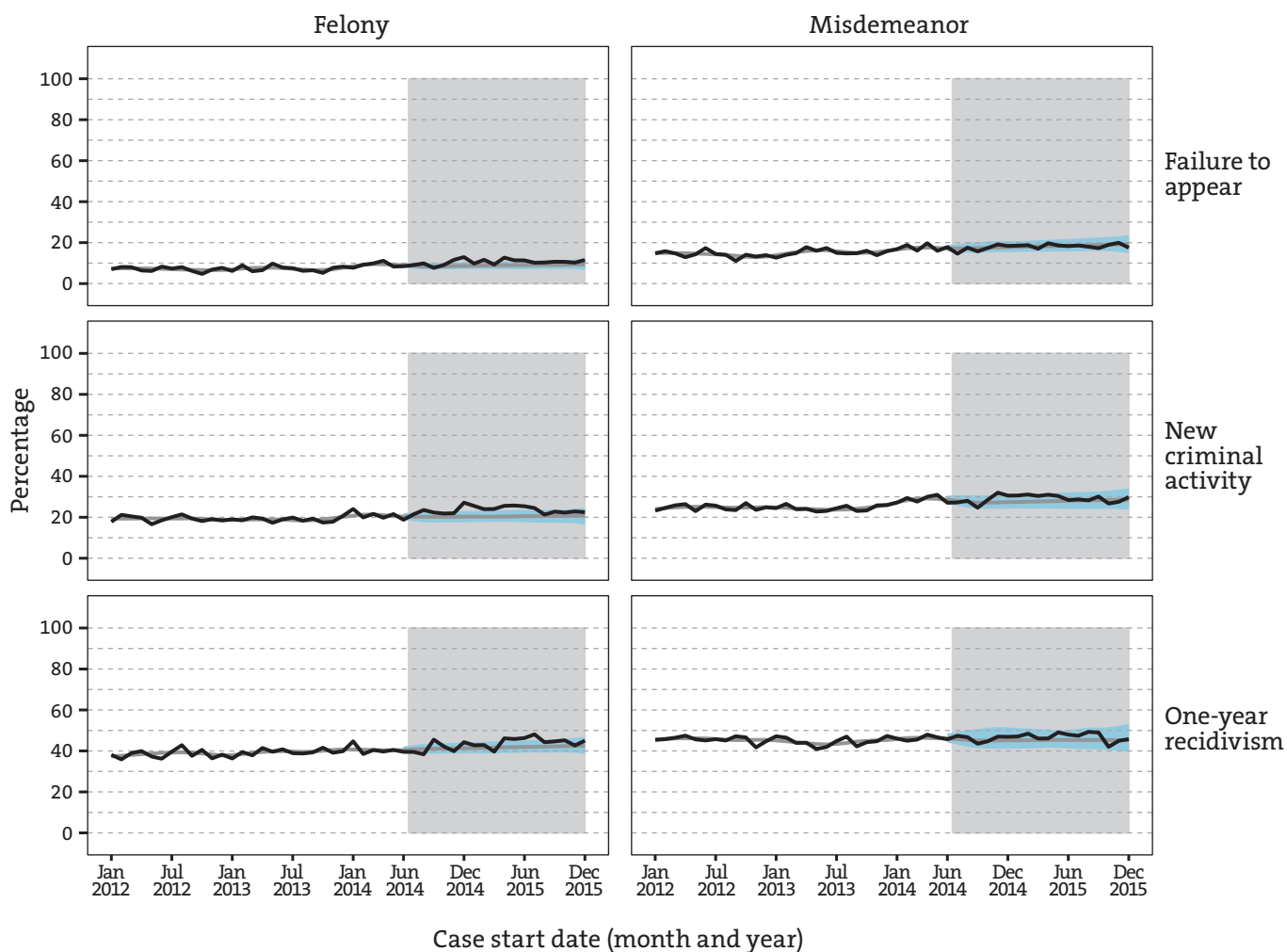
Charge Class	Predicted (%)	Observed (%)	Estimated Effect	Percentage Change
Felony	48.9	49.6	0.6	1.2
Misdemeanor	73.8	74.8	1.1	1.5

SOURCES: The analysis is based on data from the North Carolina Automated Criminal/Infractions System and the Mecklenburg County Sheriff’s Office.

NOTES: *Cases dismissed* includes the small proportion of cases in which the defendant was tried and found “not guilty.” *Estimated effect* is the observed outcome minus the predicted outcome. *Percentage change* is the difference between the observed and predicted values as a percentage of the predicted value.

THE PSA POLICIES HAD LITTLE EFFECT ON DISMISSALS FOR EITHER FELONY OR MISDEMEANOR CASES.

APPENDIX FIGURE 6 Effects on Failure to Appear, New Criminal Activity, and One-Year Recidivism by Charge Class



December 2014 (Month 6) Cases

Outcome	Charge Class	Predicted (%)	Observed (%)	Estimated Effect	Percentage Change
Any failure to appear	Felony	8.7	10.8	2.1	24.2
	Misdemeanor	17.8	18.3	0.6	3.4
New criminal activity	Felony	20.3	24.2	3.9	19.2
	Misdemeanor	27.4	30.4	3.0	10.9
One-year recidivism	Felony	41.4	42.4	1.1	2.7
	Misdemeanor	45.3	46.4	1.2	2.7

SOURCES: The analysis is based on data from the North Carolina Automated Criminal/Infractions System and the Mecklenburg County Sheriff’s Office.

NOTES: Initial incarceration refers to a jail booking immediately following a custodial arrest. *Estimated effect* is the observed outcome minus the predicted outcome. *Percentage change* is the difference between the observed and predicted values as a percentage of the predicted value.

AMONG FELONY CASES, RATES OF NEW CRIMINAL ACTIVITY AND MISSED COURT APPEARANCES WERE SLIGHTLY HIGHER THAN PREDICTED FOLLOWING THE INTRODUCTION OF THE PSA POLICIES. THERE WERE NO DEVIATIONS FROM EXPECTED TRENDS FOR THESE OUTCOMES AMONG MISDEMEANOR CASES.

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