

Mental Health and the Justice System in Durham County



BASS CONNECTIONS

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Bass Connections in Brain & Society

How Has Cash Bail Reform Affected Re-Arrest and Failure to Appear Rates in Durham County?

Association Between Dispensed Medication After Jail Release and Subsequent Re-Arrest

Background

The cash-bail system, which mandates payment for pre-trial release from jail, has faced criticism for placing an unfair burden on low-income arrestees. Those who are unable to pay bail are disproportionately Black, more likely to plead guilty, and serve longer sentences than those released on bond, controlling for crime severity. In February - May of 2019, Durham County District Court judges and the District Attorney's office enacted parallel policy changes aimed at reforming cash-bail, allowing low-level, non-violent arrestees to be released pre-trial (District attorneys make recommendations; judges set bail).

A common argument against cash bail reform is the concern that offenders will re-offend and quickly be re-arrested. In Durham County, an additional argument against reform is that the detention facility provides many important mental health services that help stabilize arrestees.

To study the impact of the policy change in Durham County, we analyzed re-arrest data for arrestees with and without mental health and substance use disorder diagnoses from Duke Health, both before and after the implementation of the new policies. Our previous research did not identify a significant change in re-arrests as a result of the policy change. People with co-morbid serious mental illness and substance abuse were most likely to be re-arrested both before and after the policy changes. In this study, we expanded our analysis to account for prior arrests and to investigate the effects of this policy on Failure to Appear rates.

Our Dataset

All Durham County Detention Facility (DCDF) bookings January 1, 2014 – January 31, 2021 and Duke Health Encounters and Diagnoses

Subsets selected for Analyses:

- Either booked for the 1st time since 2014 (Analysis 1) or booked at any point (Analysis 2) during the 3 months before or after the policy change (before: June 1 – August 31, 2018, after: June 1 – August 31, 2019)
- Low-level charges:
 - Misdemeanor (excluding domestic violence)
 - Felony class H or I, non-violent
 - Traffic or city/county ordinance violation
- Release Reasons affected by policy:
 - Secure bond
 - Own Recognizance (unsecured bond, per judge, custody release, written promise)
 - Not policy-impacted (charges dismissed, transfer to prison, time served, etc. Used as baseline for comparison.)
- Duke Health match

Outcome Measure:

Re-arrest within 180 days of release after index arrest (y/n)

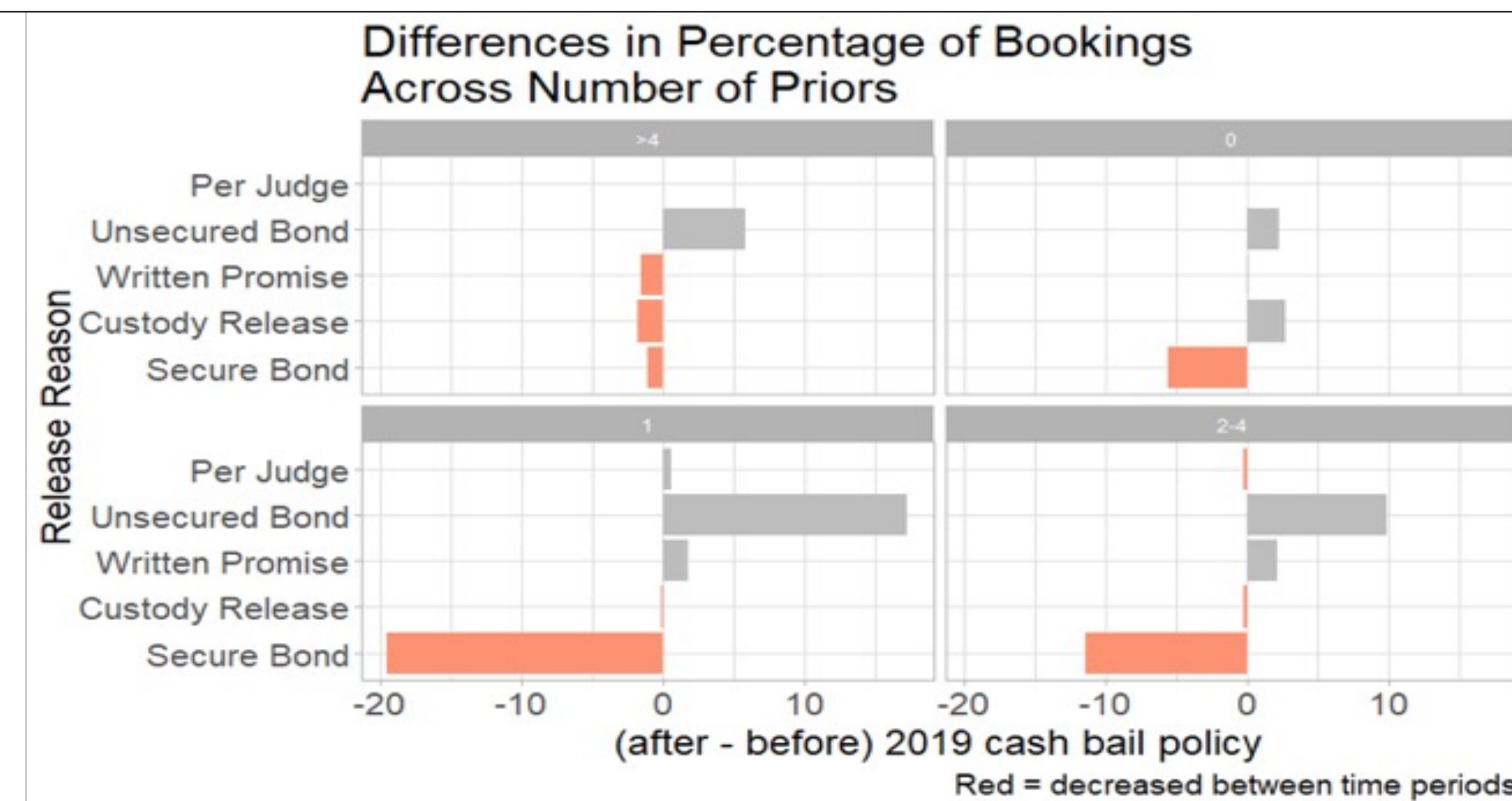


Figure 3. The greatest decrease in secure bond and increase in unsecured bond between the periods before and after the 2019 cash bail reform is observed among bookings with 1 prior and 2-4 priors. Bookings with 0 and >4 priors do not show a large change in relative frequency between periods.

Background

In our 2021-2022 project, we ran a longitudinal logistic regression model that evaluated the associations between demographic factors and healthcare interactions with the odds of re-arrest. We created 30-day periods following individuals from 2014 to 2021. We found that Black race, male sex, census tract of residence with lower median income, and younger age were associated with higher odds of re-arrest. In addition, we found that having a substance use disorder diagnosis is associated with higher odds of re-arrest. Furthermore, going to the Emergency Department in the previous 30-day period is associated with increased odds of re-arrest in the subsequent 30-day period.

This year, we aimed to evaluate interventions that might reduce odds of re-arrest. Using survival analysis, we assessed whether receiving psychotropic medications or visiting Duke health after jail release has an impact on subsequent risk of re-arrest.

Our sociodemographic predictor variables included ethnicity, gender, and age. Our healthcare variables included life-time mental health diagnoses (serious mental illness only, substance use disorder only, or co-occurring diagnosis). Our medications of interest were antipsychotics, antidepressants/anti-anxiety medications, stimulants for ADHD, and substance use disorder medications. We also included medication for epilepsy as a control. For healthcare visits, we include whether individuals seek emergency care or non-emergency care at Duke Health and partners. Our response variable was the time until an individual's subsequent rearrest. While our previous study identified factors associated with rearrest, this study aimed to evaluate potential interventions that could help reduce re-arrest risk after jail release.

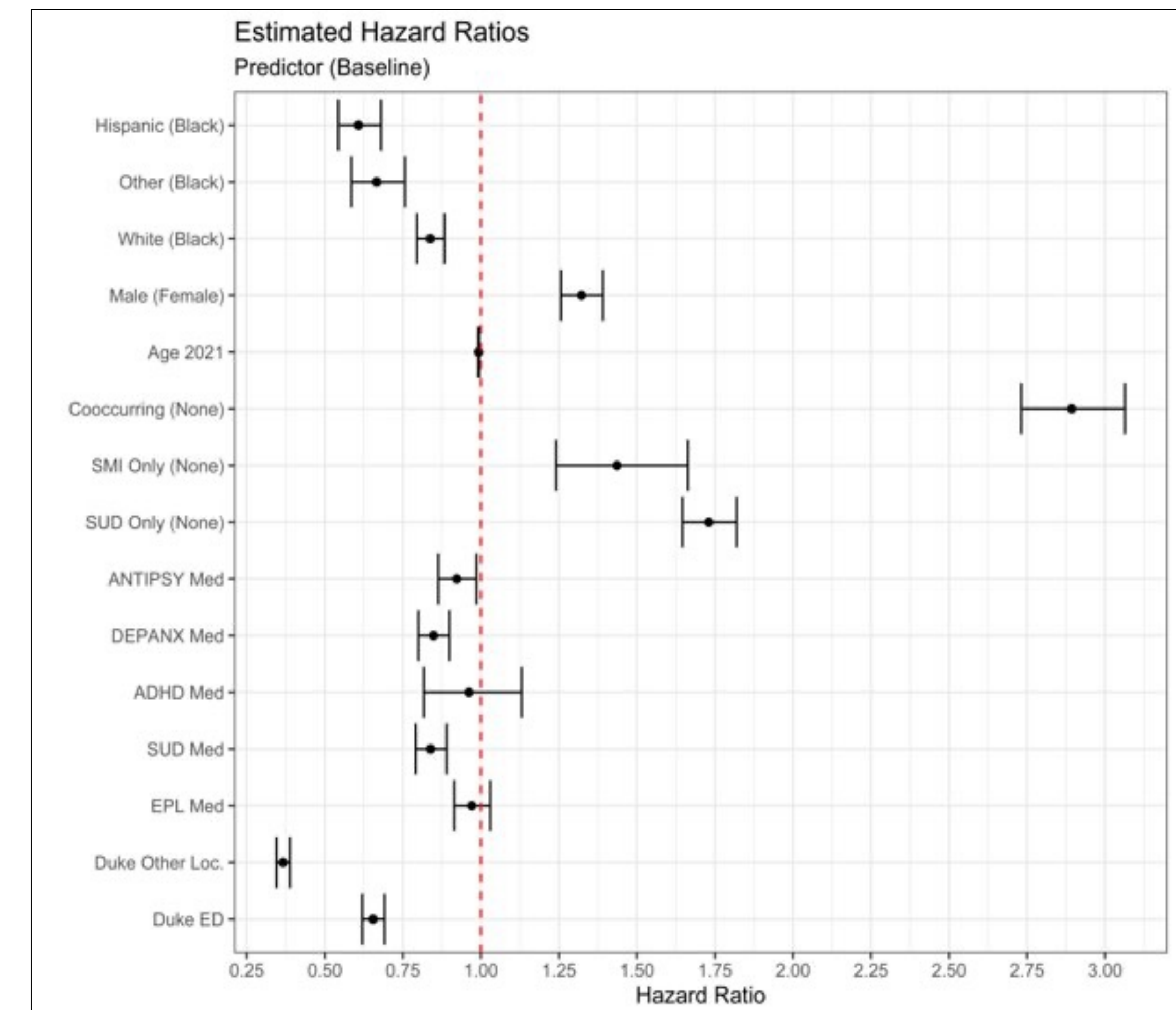
Our Dataset

Data from Duke Health and from Durham County Detention Facility from January 1, 2014 to January 31, 2021.

The data was deidentified and went through privacy protocols before being delivered to our team.

Our data include 18,214 individuals who have records from both datasets.

In total, we are following 46,929 jail bookings.



Hazard ratios were calculated for many predictors using Cox proportional hazards model.

Results: Compared to Black subjects, other races were associated with lower risk of re-arrest. Compared to women, men were associated with higher risk of re-arrest. Compared to those with no mental health diagnosis, those with a life-time diagnoses of serious mental illness, substance use disorder, or co-occurring diagnoses were associated with higher risk of re-arrest. Receiving antipsychotic, antidepressant/anti-anxiety, and substance use disorder medication was associated with lower risk of re-arrest. Medications for ADHD (stimulants) and epilepsy were not associated with changes in risk of re-arrest. Healthcare visits—emergency or non-emergency—were associated with lower risk of re-arrest.

Conclusion

Consistent with previous analyses, this analysis shows that a person's race, gender, and age are significantly associated with their risk of re-arrest, highlighting the need to address demographic-based inequality. This analysis also shows that a life-time substance use disorder and/or serious mental illness diagnoses are associated with a higher risk of re-arrest. Visiting Duke health (emergency or non-emergency) after jail release is associated with a lower risk of re-arrest. Receiving antipsychotics, antidepressant/anti-anxiety medications, or substance use disorder medication is associated with lower risk of re-arrest compared to those who did not receive medication, controlling for diagnoses. Overall, the analysis shows that **productive healthcare interactions are associated with reduced risk of re-arrest** after jail release. However, the study has limitations, such as the lack of additional control medications and the generalizability to other populations. The retrospective nature of the analysis also only allows for inferred associations.

Predicting the Odds of Re-Arrest in the 180 Days After a Booking Multi-Level Logistic Regression Model Output

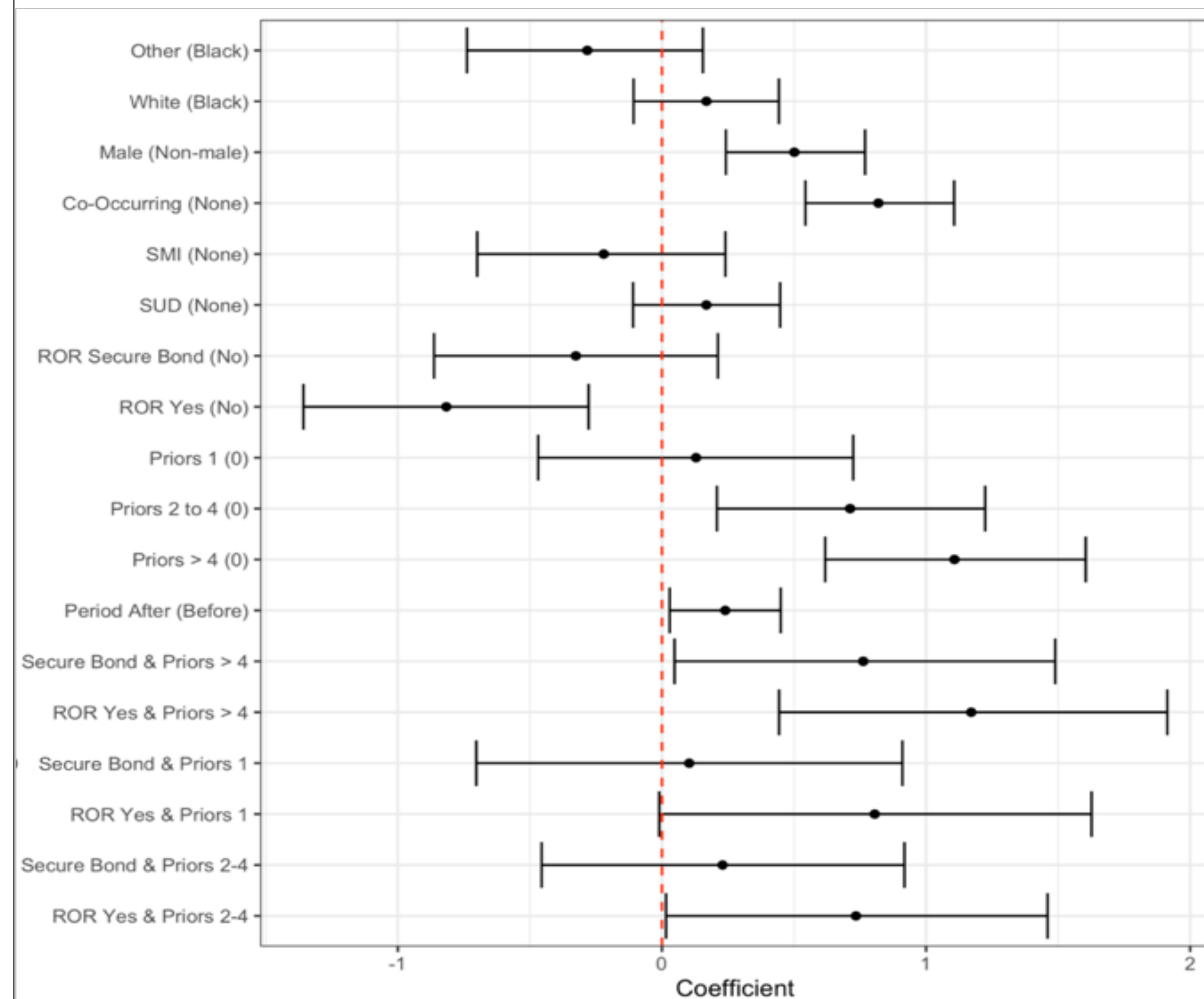


Figure 2. Being male, having co-occurring substance use disorder and serious mental illness, having 2-4 and greater than 4 prior bookings, and being booked in the period after the 2019 cash bail policy change were associated with greater odds of re-arrest compared to baseline. Being released on one's own recognizance (ROR) was associated with decreased odds of re-arrest compared to not being ROR. When someone has two or more prior bookings, being ROR is no longer associated with lower odds of re-arrest.

Table 2. Multi-level logistic regression results, 180-day follow-up (n = 2,354)

Term	Odds Ratio	P-Value
(Intercept)	0.174	0.000***
Race Other	0.754	0.213
Race White	1.183	0.229
Sex Male	1.652	0.000***
ROR Secure Bond	0.722	0.233
RORY	0.442	0.003**
prior_cat>4	3.027	0.000***
prior_cat1	1.138	0.671
prior_cat2-4	2.039	0.006**
Period After Policy	1.271	0.025*
SMI Diagnosis	0.802	0.356
SUD Diagnosis	1.183	0.235
Co-occurring Diagnosis	2.269	0.000***
Interaction: RORSecure Bond:prior_cat>4	2.143	0.038**
Interaction: RORY:prior_cat>4	3.226	0.002**
Interaction: RORSecure Bond:prior_cat1	1.109	0.801
Interaction: RORY:prior_cat1	2.238	0.053
Interaction: RORSecure Bond:prior_cat2-4	1.258	0.511
Interaction: RORY:prior_cat>2-4	2.085	0.046*

*, statistically significant at the $p < 0.05$ level.

Conclusion

Among individuals booked in the county jail for the first time since 2014 with low-level offenses, the 2019 cash bail reform policy was associated with an increase in people being released on their own recognizance and a decrease in those required to pay bond. This policy change was not associated with an increase in re-arrest in the 180 days after release.

Within the population including individuals with prior bookings, being released on one's own recognizance was associated with lower odds of re-arrest compared to those who were not released on their own recognizance in the periods both before and after the 2019 cash bail reform. Secure bond was not associated with change in odds of re-arrest. The relationship between release on own recognizance and lower odds of re-arrest does not appear to hold for people with a greater number of priors.

In this population, being booked in the period after cash bail reform was associated with increased odds of re-arrest compared to being booked in the period before, but we still see that the policy's mechanism of increasing the use of release on own recognizance has the potential to reduce re-arrests.

Across our two analyses, both before and after the 2019 cash bail reform, males were more likely than females to be re-arrested, and those with a co-occurring mental illness and substance use disorder diagnosis were more likely to be re-arrested than those with neither of these diagnoses.

There is no evidence to suggest that the 2019 cash bail policy change is associated with an increase in rates of failure to appear (data not shown).