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THE EFFECT OF PRE-ARRAIGNMENT LEGAL REPRESENTATION  
ON CRIMINAL CASE OUTCOMES

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**ABSTRACT**

Low-income individuals arrested on criminal charges face disproportionately high rates of pretrial detention and conviction. We study a novel approach to addressing this inequity: providing low-income individuals with access to legal counsel immediately following their arrest. Focusing on a pilot program in a large urban county, we estimate the causal impact of early representation by a public defender on release and case outcomes, leveraging quasi-random variation in access to counsel pre-arrest. Low-income individuals who met with a public defender shortly after arrest were 28 percentage points more likely to be released pretrial, and 36 percent more likely to see their cases dismissed, relative to otherwise similar individuals who would first meet with a public defender at their arraignment. These results suggest that providing timely access to legal representation could improve release and case outcomes for public defender clients.

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A randomized controlled trials registry entry is available at <https://osf.io/r2je8/>

## **1. Introduction**

Pretrial detention imposes serious legal and economic costs on individuals arrested on criminal charges, limiting access to their families, employers, and legal counsel. Under these circumstances, defendants often accept plea deals to secure quicker release (Digard and Swavola, 2019; Dobbie et al., 2018; Heaton et al., 2017; Lerman et al., 2021), resulting in higher rates of conviction (Davidson et al., 2019; Stevenson, 2018; Leslie and Pope, 2017) and post-sentencing incarceration (Phillips, 2012; Campbell et al., 2020; Koppel et al., 2022). Beyond the legal ramifications, pretrial detention disrupts families (Wakefield and Anderson, 2020) while reducing arrested individuals' earnings and likelihood of employment (Dobbie et al. 2018). Low-income individuals disproportionately bear the consequences of post-arrest incarceration: many are unable to post bail, nor can they afford to retain a defense attorney, who could help them negotiate more favorable release terms.

Providing legal representation for low-income individuals shortly after arrest may enable them to secure earlier release and improve their case outcomes. Public defenders who represent indigent defendants typically meet with clients for the first time at their arraignment, which occurs between 2 and 5 days after arrest, during which time many defendants remain in detention. By contrast, providing access to public defenders shortly after arrest opens the door for negotiations with prosecutors and robust advocacy at arraignment to remove bail requirements or other barriers to release. It also allows more time for attorneys to investigate and strengthen their case. Both effects might improve eventual case outcomes.

We evaluate the impact of a pilot effort to provide pre-arraignment legal services to arrested individuals developed by the Public Defender's Office in Santa Clara County, California. The County of Santa Clara's Pre-Arraignment Representation and Review (PARR)

model provides early legal assistance to detained individuals arrested for felony offenses and misdemeanor domestic violence offenses who qualify for public defender representation. The PARR model aims to increase pretrial release rates among low-income defendants, both by providing timely legal advice (within 48 hours of arrest), and by collecting information about the incident, the individual's family, and connections to the community (for example, their employment status) with which to advocate on their behalf prior to and during the arraignment.

During the PARR pilot phase in early 2020, the Public Defender's Office did not have the staff capacity to serve all individuals in custody on felony charges in Santa Clara County. To facilitate our evaluation of the intervention, and to fairly distribute access to the early representation legal services, the County of Santa Clara Public Defender agreed to provide the additional legal services one day per week, rotating the intervention day across weeks. Individuals booked on an intervention day were eligible for services and, absent bailing out on their own and procuring private counsel, consulted with their public defender prior to arraignment. By contrast, otherwise eligible individuals booked on non-treatment days who used public defender services met with their attorney for the first time at arraignment.

This study leverages the rotating PARR treatment window to compare pretrial release and case outcomes between eligible individuals booked on PARR service days (treatment group) and eligible individuals booked on non-PARR days (control group). We confirm balance on observable case characteristics between individuals booked on intervention days and those booked on non-intervention days. Using the PARR booking day as an instrument for receiving PARR services, we estimate the causal impact of PARR on defendant release and conviction rates in a two-stage least squares (2SLS) framework.

We find sizable intent-to-treat differences in outcomes between those individuals admitted on a PARR treatment day and those admitted on other days. Given that roughly one-third actually received treatment, treatment-on-the-treated effects estimated using 2SLS are roughly three times the size. Specifically, PARR clients were 75 percent (36 percentage points) more likely to secure pretrial release and spent 79 percent less time in detention before and after arraignment. Early access to a public defender also resulted in a significant, 75 percent (27 percentage points) decrease in the likelihood of conviction as well as a 27 percentage-point increase in the probability of case dismissal. Though noisy, point estimates suggest these effects stem from a reduction in plea deals among PARR clients. Although the PARR pilot treated a relatively small number of individuals, the magnitude of our estimates, combined with permutation tests that confirm their statistical significance, underscore the positive impact of pre-arraignment representation for low-income individuals.

The PARR program's benefits echo a range of similar studies that find a close link between post-arrest events, including detention and attorney assignment, and case dispositions. While prior work focuses on the quality of public defense (Agan, Freedman, and Owens 2021; Shem-Tov 2022) and the benefits of access to counsel at bail hearings (Anwar, Bushway, and Engberg 2022), we provide new evidence that shifting the timing and content of a public defender's intervention can substantially improve the effectiveness of public defense services. Our approach builds on a longstanding notion that ultimate case outcomes depend on factors other than the specifics of the case, from judge harshness (Augustine, Lacoé, Raphael, and Skog 2022; Dobbie, Goldin, and Yang 2018) to district attorney leniency (Agan, Doleac, and Harvey 2023) to idiosyncratic features of jurisdictions (Bird et. al. 2023; Feigenberg and Miller 2021). Our findings suggest that the inability to pay for access to legal counsel immediately after arrest

penalizes low-income individuals' ability to secure timely release from detention and eventual case outcomes. Changing the timing of initial contact between public defenders and clients, while jumpstarting a robust defense and providing support services, could go a long way towards improving the efficacy of public defense and the equity of the criminal justice system.

## **2. Policy Background**

In Santa Clara County, as in most jurisdictions across the country, public defense services provide legal representation to arrested individuals who cannot afford their own attorney. Typically, public defenders meet with clients for the first time at their arraignment hearing which must occur within 48 hours from booking (excluding Sundays and holidays). In practice, the first arraignment generally occurs between two and five days after arrest. In the interim, many individuals who are eligible for public defenders' services are held in pretrial detention, frequently the default outcome for arrested individuals around the country.<sup>1</sup> At the arraignment, public defense attorneys only have a few minutes to meet their clients prior to appearing before a judge, and the attorneys provide representation for ten to twenty people at a single arraignment session. By contrast, individuals who can afford to retain their own counsel can meet with their

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<sup>1</sup> The motivation for detaining people pretrial is two-fold: (1) to ensure their presence at future court hearings, and (2) to prevent further criminal offending while the case is processing. Certainly, pretrial detention prevents these events from happening, but at a cost. While it is impossible to compare pretrial misconduct rates between detained and released individuals, several studies compare outcomes between groups experiencing different types of release or lengths of pretrial detention. One descriptive study in Kentucky finds that individuals detained for 2 or 3 days and then released are more likely to fail to appear for court than individuals detained for shorter periods (e.g. up to one day). Moreover, the likelihood of failing to appear for court continues to grow with detention length (Lowenkamp et al. 2013). The HOPE randomized control trial in Hawaii found no difference in pretrial arrests between the program group and the control group receiving standard pretrial services. However, the program group was less likely to be arrested on a new criminal charge and less likely to be arrested on a felony during the pretrial period (Davidson et al., 2019). Still, questions regarding the potential public safety or court processing benefits of pretrial detention are largely unresolved.

lawyer immediately following arrest, at which point the attorney begins advocating for their release from detention and preparing a defense.

The divergent pretrial experiences of individuals who can and cannot afford private counsel have meaningful legal and economic consequences. Even a few days in jail can disrupt a person's life, including the loss of employment (Dobbie et al. 2018), and increases the likelihood of conviction and incarceration (Campbell et al., 2020; Koppel et al., 2022; Leslie and Pope, 2017 Phillips, 2012). Access to public defenders soon after arrest could improve indigent defendants' legal prospects by helping them secure timely release: Anwar, Bushway, and Engberg (2022) find that public defender representation at bail hearings markedly reduces the likelihood of pretrial detention. Furthermore, beyond raising the potential for a speedy release, quick access to an attorney provides additional time to prepare a defense and advocate for the defendant, which could improve their outcomes, as Yarmosky (2018) finds suggestive evidence for cases served by San Francisco's Pretrial Release Unit. Thus, there is ample reason to believe that earlier public defender intervention in the criminal process might substantially improve low-income individuals' case outcomes and limit the economic repercussions of an arrest.

Our study examines a novel policy intervention meant to reduce disparities in access to counsel between indigent and more affluent individuals: the Pre-arraignment Representation and Review (PARR) program. Launched in Santa Clara County, California (which contains the city of San Jose) in 2020, PARR provides eligible low-income individuals with legal representation between their booking into jail and their arraignment.<sup>2</sup> The program only serves individuals

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<sup>2</sup> Only "indigent" individuals qualify for public defense in the County of Santa Clara; we use the terms "indigent" and "low-income" interchangeably in this paper. Per California's business and professions code (section 6210-6228) "indigent" refers to a person whose income is (1) 125 percent or less of the current poverty threshold established by the United States Office of Management and Budget, or (2) who is eligible for Supplemental Security Income or free services under the Older Americans Act or Developmentally Disabled Assistance Act. With regard to a project

booked into custody on felony charges or misdemeanor domestic violence charges. Individuals booked on these charges face a much greater risk of pretrial detention (and post-sentencing incarceration) than those booked on misdemeanor charges and stand to gain the most from timely access to legal counsel.<sup>3</sup>

Though PARR remains active today, we focus on a period when PARR operated as a pilot, between January 2020 and March 2020.<sup>4</sup> During this time, the PARR unit only provided services to individuals booked on a particular day of the week, which rotated across weeks. This rotating calendar provides the basis for our identification strategy, which we discuss in the next section.

Eligible individuals—those who were booked into jail on that week’s designated day, faced an eligible felony or misdemeanor domestic violent charge, and who were in custody awaiting arraignment—were compiled into a list of prospective clients. PARR attorneys then attempted to interview as many of the eligible clients on the list as possible, conducting in-person interviews with individuals on the list held at two jails in Santa Clara County, and representing their interests in the lead-up to the arraignment. The PARR attorney would then appear at

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which provides free services of attorneys in private practice without compensation, "indigent person" also means a person whose income is 75 percent or less of the maximum levels of income for lower income households as defined in Section 50079.5 of the Health and Safety Code.

<sup>3</sup> PARR excluded individuals booked on very serious felonies, such as homicide and sexual assault, since those cases are often much more complex and rarely result in pretrial release. The program also excluded those facing an outstanding hold for an ongoing criminal case, who are also much less likely to be released. Criminal history was not a factor in the selection of PARR cases.

<sup>4</sup> Unexpected changes in crime patterns and criminal processing due to COVID-19 and the shelter-in-place order affected the implementation of PARR during the pilot period and as a result, this study. Relative to February 2020, reported crimes dropped by approximately 40 percent in the four large California cities in March 2020, with the largest percentage drops in Bay Area cities (Lofstrom and Martin, 2020). Most of the declines were driven by decreases in property crimes, as well as declines in reported assaults and robberies. The County of Santa Clara instituted a shelter-in-place order on March 17th. In the following week, San Jose, the largest city in Santa Clara County, reported a 46 percent decline in violent crime relative to the same week in 2019, with declines in property crime as well (Salonga, 2020). The Santa Clara County Superior Court closed on March 13th, 2020, and all PARR services were suspended. Therefore, this study focuses on individuals booked through March 11, 2020.



arraignment with their client. Figure 1 illustrates the relative timing of these milestones in the criminal process and the PARR intervention.

During their meetings with individuals held in detention, PARR attorneys would learn the specifics of the case as well as collect information about the person's community ties, employment, and family and housing situation. With this information, PARR attorneys aimed to more effectively advocate for release prior to or at arraignment, begin investigations and collect time-sensitive evidence, communicate with the District Attorney's Office, reach out to families, and connect clients with social workers and other community resources.<sup>5</sup> The PARR attorney continued to work on the case following arraignment, advocating for subsequent pretrial release or bail review, as needed. These PARR services were intended to bolster the defense's case and blunt the potential harms of pretrial detention.

### **3. Data and Sample**

Our data come from the County of Santa Clara's Criminal Justice Information Control ("CJIC") system, which contains all bookings and arraignments in Santa Clara County, from the case management systems of the Public Defender's Office, the District Attorney's Office, and the Pretrial Services Office. For each individual arrested and booked in Santa Clara County, CJIC identifies the booking dates and charges associated with their case, their final release date from jail, and their case disposition. From the charge records, we determine whether a given offense is a felony or misdemeanor and assess the overall case severity using the California

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<sup>5</sup> The exact services provided by the PARR attorneys vary depending on the needs of the individual and the nature of their case. Some of the services simply provide a moment of human compassion, such as asking if the client has a car that needs to be moved or a child that needs to be picked up from school. Others aim to address needs that may be of particular concern to a judge, such as mental health services or connection to a social worker. PARR tracks the selection of its services in a case management system; in the appendix, we present the share of PARR clients receiving each type of service during the pilot period.

Department of Justice’s categorical scoring system, which assigns lower values to more serious offenses (e.g., homicide has a score of 1, while burglary has a score of 8). The CJIC records also include demographic information, such as sex, race/ethnicity, and age. We combine these case-level records with reports from the Public Defender’s Office indicating which, if any, pretrial services a person received as part of the PARR program.

From the CJIC records, we construct several outcome variables. Specifically, we construct a binary indicator for whether an individual secured release from jail—capturing the extensive margin of PARR’s impact—as well as continuous measure of time to final release, which captures any intensive-margin effects.<sup>6</sup> We also consider how pre-arraignment representation shapes case dispositions, including whether the District Attorney’s Office dropped all charges, whether the defendant was convicted, and whether they pled guilty.

In Santa Clara County, most individuals held in pretrial detention are male (88 percent) and more than half are Hispanic (52 percent). More than 80 percent of individuals in pretrial detention are booked on a felony, and of those, 42 percent are charged with a felony violent crime or assault (County of Santa Clara Office of Pretrial Services, 2019a). Currently, most individuals arrested on felony offenses are not eligible for release on their own recognizance or supervised release by the duty or night judge prior to their first arraignment (County of Santa Clara Office of Pretrial Services, 2019b).

Our data contain all cases booked in Santa Clara County between January 2 and March 11, 2020. However, the PARR program focused on a narrow subset of cases booked on relatively serious charges; logistical and legal barriers (see Section 2) further limited the types of cases and

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<sup>6</sup> Our indicator for release captures only pretrial release outcomes, including the CJIC codes for “release” and “released on bail”; this indicator does *not* include releases following a completed jail sentence. By contrast, the time to final release will also capture any sentenced (post-trial) jail time, since the CJIC data only report an individual’s final release date, and not intermediate release or (re-) booking spells.

defendants eligible for pre-arraignment representation. For our final research sample, we include only PARR-eligible cases, replicating the PARR eligibility criteria to the best of our ability, based on extensive discussions with the County of Santa Clara Public Defender's Office.<sup>7</sup> Specifically, we remove cases that contain only misdemeanor charges (charges with a severity score of more than 20); cases involving manslaughter or rape, which are not eligible for PARR; arrested individuals who have outstanding warrants, open cases, or who are immediately cited and released from custody; and individuals released within one day of booking (with whom PARR attorneys would not have had time to meet prior to their release).<sup>8</sup> These restrictions leave us with 600 PARR-eligible cases, of which 40 actually received PARR services.

Table 1 compares the full sample of cases booked during the PARR pilot period (N=4,223) to this analytical sample, as well as the subsamples of cases booked on PARR-designated days (N=101), and those "treated" by PARR (N=40). By design, PARR-eligible cases have lower severity scores (indicating more serious offenses) than the full sample, with an average score of 8.7, versus 19.5 among all cases booked in Santa Clara County. More than half (55 percent) of PARR-eligible cases have a Hispanic defendant, and 58 percent involve a person offense (e.g., assault). Participants in PARR are further selected along these margins: 63 percent of cases receiving pre-arraignment representation have a Hispanic defendant, while 65 percent involve a person offense.<sup>9</sup> Interestingly, we find that PARR-treated cases have noticeably more

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<sup>7</sup> The public defender's office and the PARR program only serve individuals who cannot afford their own attorney. We do not observe defendant earnings or wealth, so we cannot explicitly exclude defendants based on financial need. However, the PARR case lists also do not factor in (unobservable) earnings, and ultimately our goal is to approximate the PARR eligibility list on non-PARR days.

<sup>8</sup> Note that we apply these restrictions to all cases, including the 29 cases that did receive PARR services despite being technically ineligible. Conversations with the public defender's office suggest idiosyncratic attorney decisions likely explain these anomalous PARR cases; we omit them to maintain a consistent definition of PARR eligibility across our treated and untreated groups.

<sup>9</sup> As we discuss below, the PARR program randomly designated booking days for which PARR attorneys would provide services to eligible defendants. The program did not randomly select cases within PARR booking days to receive PARR, but rather worked through a case list subject to a time constraint. PARR attorneys further exercised

favorable outcomes than the PARR-eligible cases as a whole: the average defendant served by PARR attorneys spent 18 fewer days in jail, was 15 percentage points more likely to secure release, and was roughly half as likely to be convicted as the average PARR-eligible defendant. Of course, given selection into PARR, it remains to be seen whether these patterns represent the causal impact of pre-arraignment representation via PARR, or of underlying case characteristics.

#### **4. Research Design**

By design, PARR services are nonrandomly assigned, which complicates our effort to determine the causal impact of the program. The County of Santa Clara public defenders only met with individuals who qualified for a public defender—that is, those who could not afford to retain private counsel—and those charged with felony offenses (excluding homicide and sexual offenses, as noted above). Ex ante, individuals who are eligible for PARR would be expected to experience less favorable case outcomes than the average arrested individual. Indeed, Table 1 shows that people eligible for PARR were less likely to have their cases dropped and spent almost a week more in jail than the average person booked in Santa Clara County. Consequently, a simple OLS regression of case release on PARR receipt might understate the effectiveness of PARR services, particularly on case dispositions.

##### *4a. Identifying the PARR Effect from Rotating PARR Calendar*

To address this selection problem, we leverage quasi-random variation in the provision of pre-arraignment representation during PARR’s pilot window between January and mid-March 2020. As we discussed in Section 2, during this period, the County of Santa Clara Public

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their discretion to deviate from the list in ways that we cannot replicate in our eligibility criteria. For example, if the PARR attorney inferred that a potential client had a co-defendant already being represented by the public defender’s office, they would skip over that case, as serving both clients would pose a conflict of interest. As we discuss below, empirically, we find our results differ little when we control for a variety of case and defendant characteristics that PARR attorneys might select on.

Defender's Office only provided PARR services to people booked into jail on specific days of a given week. PARR-eligible individuals booked on those predefined dates were compiled into lists for PARR attorneys to work through; comparable individuals booked on the remaining days of the week would not appear on these lists and thus would not receive PARR services.

The designated PARR booking days rotated across weeks according to a preset calendar (Appendix Figure A1). For example, during the week of January 26, 2020, PARR attorneys only provided services to individuals booked on Tuesday and Wednesday; the following week (February 2nd), they only served clients booked on Friday and Saturday. Moreover, the PARR calendar, set up in advance to facilitate evaluation of the pilot program and unobserved by potential clients, is plausibly exogenous with respect to individual characteristics and expected case outcomes.<sup>10</sup> Indeed, in the appendix, we show that cases booked on designated days are observationally similar to those booked on non-PARR days, confirming that PARR days themselves are randomly assigned.

Note that eligible individuals booked on PARR days did not necessarily receive PARR services – on most PARR days, staff were unable to interview all those who were eligible. Conversations with the County of Santa Clara Public Defender's Office and our own analysis of the data suggest that PARR attorneys did not systematically order defendants on each day's list. While there is no guarantee of randomization of PARR services within PARR booking days, in the appendix, we show that PARR receipt within PARR days is not significantly related to case or individual characteristics, save for a marginally significant correlation with age. Though not essential for our research design, the absence of systematic selection into PARR on PARR-

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<sup>10</sup> The only deviation from the pre-set calendar happened the week of January 20th, when PARR intended to serve individuals booked on Monday (January 20th), which was a public holiday (Martin Luther King Day). PARR services were instead provided to individuals booked on January 21st.

designated days provides some reassurance that our findings capture the effect of PARR and not an underlying correlation between placement order on the PARR list and ultimate case outcomes.

#### *4b. Instrumental Variables Design*

Our research design leverages variation in PARR service provision across booking days to estimate the causal effect of PARR pre-arraignment representation. Fundamentally, we use the fact that an individual was quasi-randomly booked on a PARR day as an instrument for their receipt of PARR services. Our preferred empirical specification isolates variation driven exclusively by the week-to-week rotation of PARR-designated booking days, using controls for the week, day of week, time (night versus day), and day-by-time of booking.<sup>11</sup> Though not essential for identification, these fixed effects help improve statistical inference by accounting for unobservable differences between, for example, cases booked at night or on weekends (which frequently involve DWI charges) from those booked during the daytime or on weekdays.

To estimate the causal impact of pre-arraignment representation on case outcomes, we use a 2SLS regression system. The first stage specification estimates the extent to which being booked on a designated PARR day (*PARRday*) affects the probability an individual receives PARR services (*PARR*). The second stage estimates the relationship between PARR representation (driven by PARR-day bookings) and case outcomes *Y*. For individual *i* booked at time *t* (daytime or nighttime) on day *d* of week *w* during the PARR pilot period, we estimate the following model:

$$PARR_{itdw} = \pi_0 + \pi_1 PARRday_{tdw} + \gamma_{tdw} + \eta_{itdw}$$

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<sup>11</sup> We refer to any booking between 5:00 pm and 5:00 am as a nighttime booking. We distinguish between daytime and nighttime bookings in part because PARR-designated booking days frequently only covered particular times during the day—either 5:00 pm to midnight or midnight to 5:00pm. Cases booked on the same calendar date but outside these windows were ineligible for PARR, and we do not count them as being booked on PARR days.

$$Y_{itdw} = \beta_0 + \beta_1 PARR_{itdw} + \gamma_{tdw} + \epsilon_{itdw}, \quad (1)$$

where the vector  $\gamma_{tdw}$  represents the day of week, week, nighttime booking, and day-by-night booking fixed effects we include in all specifications in order to control for unrelated variation in outcomes correlated with booking days (e.g., bookings on the weekends are more likely to be for DWI charges).<sup>12</sup> In some specifications, we include additional person and case covariates ( $X_i$ ) to demonstrate the robustness of our results to different sets of controls. We cluster our standard errors by booking date.

To assess whether our results are being driven by a particularly large local average treatment effect among those who receive treatment, we also report estimates of the “intent-to-treat” effect of being booked on a quasi-randomly-assigned PARR day on release and case outcomes. We estimate the following reduced-form model, which regresses defendant  $i$ ’s outcome  $Y$  on an indicator for whether their booking time  $t$  on day  $d$  of week  $w$  made them eligible to receive PARR services, along with the same time fixed effects we include in our 2SLS specification:

$$Y_{itdw} = \alpha_0 + \alpha_1 PARRday_{tdw} + \gamma_{tdw} + \alpha_2 X_i + \epsilon_{itdw}. \quad (2)$$

The coefficient of interest,  $\alpha_1$ , captures the reduced-form effect of being booked on a designated PARR day on PARR-eligible clients’ outcomes.

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<sup>12</sup> In the appendix, we show that our main results remain largely similar when we use different choices of fixed effects or omit fixed effects altogether. We discuss these results in Section 5 below.

## 5. Results

In this section, we present our empirical results. We first provide support for our identification assumption, that cases quasi-randomly booked on designated PARR days do not systematically differ from those booked on remaining days of the week. Then, we present the results of our primary models of the effect of PARR on release from detention and case outcomes. Finally, we discuss robustness tests that we use to evaluate our estimates.

### *5a. Validity of PARR Booking Day Instrument*

Our research design is predicated on the assumption that cases booked on PARR-designated days do not differ from those booked on non-PARR days (our “control” group). That is, the coefficient of interest in Equation 1,  $\beta_j$ , delivers the causal effect of PARR services only if our instrument, *PARRday*, is uncorrelated unobserved determinants of case outcomes, represented by  $\epsilon$ . We cannot test this identification criterion directly. However, we can evaluate whether PARR-eligible cases booked on PARR days differ from those booked on non-PARR days along observable dimensions. To do so, we estimate a single model in which we regress an indicator for whether a defendant was booked on a PARR day on the set of individual and case characteristics (Table 2); we also include our set of time, day, week, and time-by-day fixed effects, to mirror Equations 1 and 2. Overall, we do not find evidence of systematic differences that distinguish cases booked on PARR days from those booked on non-PARR days. The test of the overall significance of this regression model yields an F-statistic 1.12, an indication that PARR days are uncorrelated with demographic and case characteristics that might bias our findings.



### *5b. Effect of PARR on Pretrial Release*

We first investigate the effect of pre-arraignment representation provided by the PARR program on the likelihood and timing of an individual's release from custody. A key aim of the public defender in fielding the pilot was to secure quicker pretrial release for indigent clients; using the PARR booking day instrument and Equations 1 and 2, we examine whether they succeeded. Our results appear in Table 3.

Point estimates in the first panel of Table 3 show that PARR resulted in more and earlier releases from custody. Reduced-form estimates in columns 2 and 3 indicate that individuals booked on PARR-designated days were 7.9 to 8.9 percentage points more likely to be released than those booked on non-PARR days. Likewise, PARR-eligible individuals booked on PARR days were released from 12.4 to 12.6 days earlier than similar people booked on non-PARR days, resulting in roughly 23 percent less time in jail. Recall that time to release includes any eventual, post-conviction jail sentence, so this effect captures both the reduced time spent in pretrial detention, as well as potential reductions in the probability and length of incarceration imposed at sentencing. Though point estimates from specifications with and without additional individual and case covariates vary slightly, these differences do not point to systematic nonrandom selection that would bias our findings.

The remaining columns of Table 3 present our treatment-on-the-treated, 2SLS estimate based on equation (1) above. The results indicate that PARR had a substantial impact on stays in custody. PARR recipients were up to 28 percentage points more likely to secure release than non-recipients and had 78.6 percent shorter stays in custody. Our strong first stage estimates (F-statistics are around 40) support our claim that these estimates reflect the impact of pre-

arraignment services per se.<sup>13</sup> Taken together, our findings support the conclusion that PARR’s intervention dramatically reduced the rate of pretrial confinement.

### *5c. Effect of PARR on Case Outcomes*

We turn to examining how pre-arraignment representation through PARR affects final case dispositions. Receiving PARR could improve case outcomes directly, since, for example, PARR attorneys initiate the discovery and investigation process pre-arraignment, which might give them time to mount a stronger defense. PARR could also generate more favorable dispositions indirectly via its effect on release, if, as prior work as found, quicker release from jail reduces the necessity of plea deals.

Our findings appear in the second panel of Table 3. The 2SLS estimates in the fourth and fifth columns indicate that PARR recipients were up to 36 percentage points more likely to see their cases dismissed by the County of Santa Clara District Attorney’s Office, and were likewise up to 26.8 percentage points less likely to be convicted. Though noisy, point estimates indicate that these effects might stem from fewer plea deals: PARR recipients were 23 percentage points less likely to plead guilty.

### *5d. Robustness*

In the appendix, we provide two additional sets of results that speak to the robustness of our findings to alternative specifications and approaches to statistical inference. First, we examine how our reduced-form results change depending on the specific fixed effects we employ. Using a stepwise approach, adding in additional levels of fixed effects, we test the

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<sup>13</sup> We must assume that the PARR assignment mechanism is monotonic—that is, no defendant booked on a designated PARR day is less likely to receive PARR services than they would have been if they had been booked on a non-PARR day. By definition, we cannot test this assumption, although it follows from our policy context. In the appendix, we provide evidence that our first stage estimates remain uniformly positive and quantitatively similar across a range of subsamples, which is consistent with monotonicity.

sensitivity of our estimates to different controls. Encouragingly, we obtain quantitatively similar estimates to those from our preferred specification when we exclude our time-based fixed effects, although, not surprisingly, these estimates are generally less precise than those from our preferred model. This comparison bolsters our claim that our design recovers the treatment effect of PARR.

Second, given our relatively small sample size, a key concern is whether our traditional standard errors can be trusted to gauge the significance of our estimates. We therefore conduct permutation tests for all our primary outcomes, re-estimating our reduced-form specification (Equation 1) 1,000 times while randomly assigning observations to the “treated” and “untreated” groups. In the appendix, we present the resulting distributions of estimates, along with our “true” reduced-form estimates given in Table 3 (Appendix Figure A2). Reassuringly, we find that our true release estimates are outliers: Fisher’s exact p-values for release outcomes and guilty plea rates are less than 0.05, while p-values for dismissal and conviction rates are less than 0.10 (0.054 and 0.068, respectively). These tests provide us with additional confidence that, despite our small sample, our estimates capture statistically meaningful effects.

## **6. Discussion and Policy Implications**

An extensive literature documents how an inability to pay for cash bail leads to future hardship for people arrested on criminal offenses. But that same inability to pay has a second, less-recognized consequence: limiting access to prompt legal representation after arrest. We provide new evidence that, for low-income individuals, early access to legal representation carries substantial benefits, reducing their time spent in jail and increasing the probability of case dismissal. Given the social and economic consequences associated with even a few days in

detention, these effects are meaningful, and stretch beyond the criminal justice system. Our findings suggest that the criminal justice system could achieve greater equity by balancing access to timely legal counsel across arrested individuals, regardless of their ability to pay.

It is important to recognize that the PARR pilot achieved this sizeable impact with a staff of just two full time public defender attorneys and at relatively low cost. The program shifted the point of contact between public defenders and their clients up by a few days, and in those days, they connected clients with support services, conducted investigations to strengthen the defense, and advocated for release. These initiatives had sizeable impacts on release and case outcomes for low-income individuals who typically are not afforded the same type of speedy defense. This change to the timing and format of public defender's services could help alleviate persistent gaps in the criminal justice system experiences and outcomes between individuals who can afford private representation and those who cannot.

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## Figures and Tables

Figure 1. PARR Case Progression Diagram

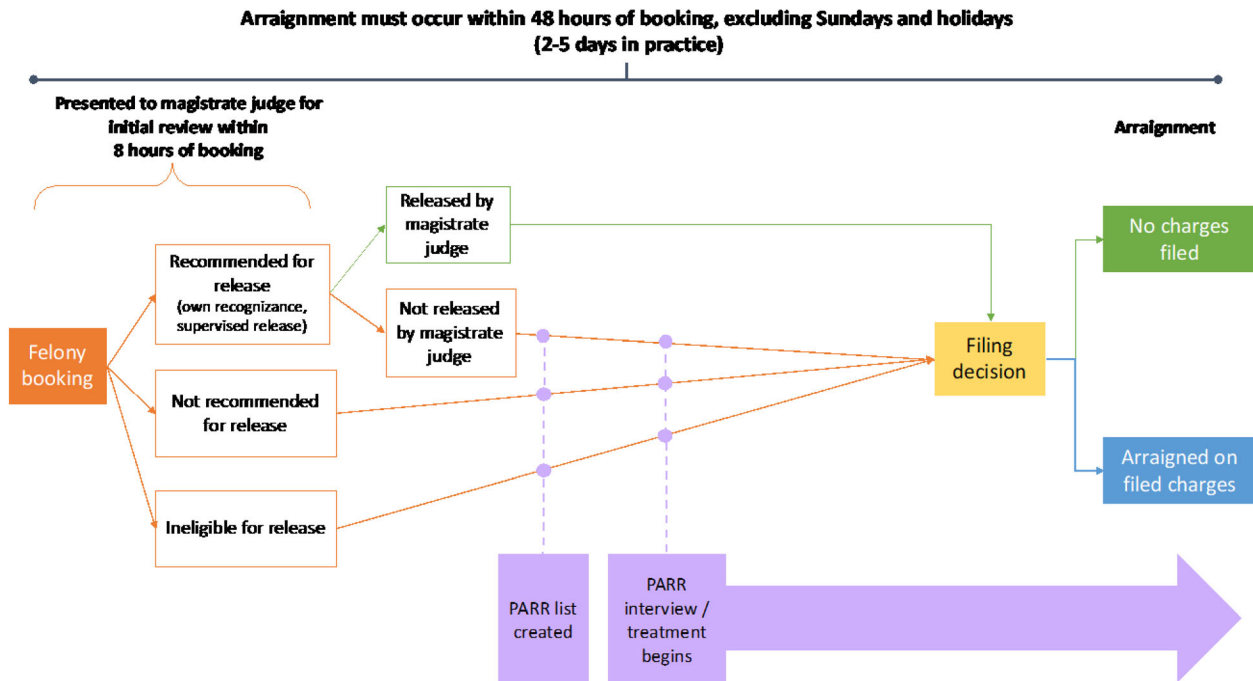


Table 1: Descriptive Statistics of Full Sample, PARR-eligible Cases, and PARR-treated Cases

	All Cases	Eligible for PARR	Booked on PARR Days	Treated by PARR
	(1)	(2)	(3)	(4)
<b>I. Demographic Characteristics</b>				
White	0.24 (0.43)	0.21 (0.41)	0.19 (0.39)	0.18 (0.39)
Black	0.13 (0.33)	0.14 (0.35)	0.13 (0.34)	0.08 (0.27)
Hispanic	0.51 (0.50)	0.55 (0.50)	0.60 (0.49)	0.63 (0.49)
Female	0.21 (0.41)	0.18 (0.38)	0.17 (0.38)	0.10 (0.30)
Age	36.6 (11.8)	36.2 (12.4)	34.3 (12.5)	34.6 (12.5)
<b>II. Case Characteristics</b>				
Severity (cat 1-76)	19.5 (14.4)	8.7 (3.9)	8.3 (3.3)	9.0 (4.4)
Felony Offense	0.51 (0.50)	1.0 (0)	1.0 (0)	1.0 (0)
Person Offense	0.36 (0.48)	0.58 (0.50)	0.59 (0.49)	0.65 (0.48)
Property Offense	0.22 (0.42)	0.32 (0.36)	0.36 (0.48)	0.28 (0.45)
Drug Offense	0.41 (0.49)	0.36 (0.48)	0.39 (0.49)	0.38 (0.49)
Num Charges	3.5 (3.6)	3.7 (3.2)	3.7 (3.3)	3.5 (2.8)
<b>III. Case Outcomes</b>				
Released	0.51 (0.50)	0.80 (0.40)	0.86 (0.35)	0.95 (0.22)
Time to Release (days)	23.5 (73.2)	25.6 (63.4)	19.8 (42.8)	7.6 (12.3)
Case Dropped	0.60 (0.49)	0.44 (0.50)	0.51 (0.50)	0.50 (0.51)
Conviction	0.26 (0.44)	0.28 (0.45)	0.22 (0.42)	0.15 (0.36)
N	4,223	600	101	40

Each column describes a different subsample of cases booked into Santa Clara County jail during the PARR pilot period (January 2 to March 11, 2020). Column 1 summarizes the mean characteristics of all cases booked during this period (N=4,223 for all outcomes except case severity, which is missing for 47 PARR-ineligible cases). Column 2 describes cases in our primary research sample, which includes cases we expect to be eligible for PARR (N=600). Column 3 describes PARR-eligible cases booked on designated PARR days (N=101). Column 4 includes cases that actually received PARR services (N=40). Standard deviations appear in parentheses.



Table 2: Baseline Balance: Comparing Eligible Cases Booked on PARR and Non-PARR Days

	Sample Mean	Balance Estimate
	(1)	(2)
White	0.220 (0.408)	0.023 (0.052)
Black	0.138 (0.346)	0.023 (0.052)
Hispanic	0.547 (0.498)	0.056 (0.052)
Female	0.175 (0.380)	-0.033 (0.027)
Age	36.2 (12.4)	-0.002 (0.001)
Severity	8.7 (3.9)	-0.002 (0.001)
Person Offense	0.363 (0.495)	0.020 (0.054)
Property Offense	0.317 (0.356)	0.015 (0.040)
Drug Offense	0.363 (0.481)	0.015 (0.029)
Num Charges	3.7 (3.2)	-0.000 (0.003)
<b>Joint F-statistic:</b>		1.12
<b>p-value:</b>		0.357

The sample includes all PARR-eligible cases (N=600). Column 1 provides the sample mean of each covariate in the left-hand column. Column 2 reports OLS coefficients from a single specification in which we regress an indicator for whether a case was booked on a PARR day on all of the listed covariates. The specification includes day of week and nighttime booking fixed effects, along with their interaction, and week fixed effects. Robust standard errors clustered by booking date appear in parentheses.

Table 3: Regression Estimates of PARR's Impact on Release and Case Outcomes

	Control-complier Mean	Reduced-form Estimates		Treatment-on-treated Estimates	
	(1)	(2)	(3)	(4)	(5)
<b>I. Release Outcomes</b>					
Released	0.742	0.078** (0.038)	0.088** (0.036)	0.250* (0.130)	0.283** (0.131)
Time to Release (days)	28.6	-12.6** (6.1)	-12.4** (5.9)	-40.2** (18.9)	-39.8** (18.4)
Time to Release (log)	2.133	-0.223* (0.123)	-0.246** (0.119)	-0.711* (0.381)	-0.786** (0.385)
<b>II. Case Disposition</b>					
Case Dismissed	0.273	0.096** (0.043)	0.111** (0.046)	0.307** (0.142)	0.359** (0.156)
Conviction	0.360	-0.075* (0.043)	-0.084* (0.043)	-0.240* (0.134)	-0.268** (0.132)
Guilty Plea	0.323	-0.064 (0.040)	-0.072* (0.042)	-0.204 (0.132)	-0.230* (0.139)
<b>Booking Week, Day, Time FEs</b>		Y	Y	Y	Y
<b>Defendant, Case Covariates</b>		N	Y	N	Y
<b>First Stage Coefficient</b>		–	–	0.314*** (0.050)	0.313*** (0.050)
<b>First Stage F-statistic</b>		–	–	39.7	41.0

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

The sample includes all PARR-eligible cases (N=600). Column 1 provides the control-complier mean for the outcome in the left-hand column, following Imbens and Ruben (1997). Columns 2 and 3 present reduced-form regression estimates showing the difference in outcomes between cases booked on PARR and non-PARR days, following Equation 1. Columns 4 and 5 present 2SLS regression estimates of the PARR treatment effect, following Equation 2. Specifications reported in columns 3 and 5 include defendant- and case-level covariates: individual race/ethnicity, age, and sex, plus case severity, number of charges, and types charge(s) (drug, property, person, or other). All specifications include day of week and nighttime booking fixed effects, along with their interaction, and week fixed effects. Robust standard errors clustered by booking date appear in parentheses.

## APPENDIX

Table A1: PARR Services and the Share of Clients Receiving Them

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Visited Client in Custody	88.3%
PARR Arraignment Representation	65.1%
Contacted Family/Community Support	61.6%
Appeared at Arraignment	43.0%
Investigation Request	37.2%
Contacted Client's Employer	16.3%
Social Worker Referral	9.3%
Contacted DA	9.3%
PARR Motion Filed	8.1%
Defense Motion for Pretrial Release	7.0%
Advocacy re: Hold	3.5%

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The table lists the PARR services provided by the Santa Clara County Public Defender's Office during the pilot window (January 2 - March 11, 2020). The second column provides the share of unique PARR clients who received the given service.

Table A2: Verifying Randomization of the PARR Calendar

	Sample Mean	Balance Estimate
	(1)	(2)
White	0.239 (0.426)	-0.024 (0.023)
Black	0.125 (0.330)	-0.038 (0.028)
Hispanic	0.514 (0.500)	-0.036 (0.023)
Female	0.213 (0.409)	-0.005 (0.016)
Age	36.6 (11.8)	-0.0003 (0.0005)
Severity	19.5 (14.4)	-0.0001 (0.001)
Person Offense	0.363 (0.222)	0.023 (0.019)
Property Offense	0.223 (0.416)	0.029 (0.023)
Drug Offense	0.408 (0.492)	-0.015 (0.015)
Num Charges	3.49 (3.63)	0.002 (0.002)
Felony Case	0.51 (0.50)	0.01 (0.02)
Felony Case	0.51 (0.50)	0.01 (0.02)
	<b>Joint F-stat:</b>	1.04
	<b>p-value:</b>	0.42

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

The sample includes all cases—PARR-eligible and otherwise—booked during the PARR pilot window (January 2 - March 11, 2020; N=4,186 because of 47 cases that are missing a severity score). Column 1 provides the sample mean of the covariate in the left-hand column. Standard deviations are in parentheses. Column 2 reports regression coefficients from a single model that regresses an indicator for whether a case was booked on a PARR day on all of the listed covariates. Robust standard errors clustered by the booking day appear in parentheses.

Table A3: Selection into PARR within PARR Booking Days

	Sample Mean	Balance Estimates	
		All Covariates	Omitting Age
	(1)	(2)	(3)
White	0.188 (0.393)	-0.127 (0.312)	-0.179 (0.327)
Black	0.129 (0.337)	-0.134 (0.224)	-0.244 (0.220)
Hispanic	0.604 (0.492)	0.001 (0.289)	-0.118 (0.286)
Female	0.168 (0.376)	-0.048 (0.157)	-0.036 (0.156)
Age	34.3 (10.7)	0.009* (0.005)	— —
Severity	8.3 (3.3)	0.026 (0.022)	0.039 (0.026)
Person Offense	0.594 (0.494)	0.217 (0.200)	0.275 (0.217)
Property Offense	0.356 (0.481)	0.097 (0.123)	0.101 (0.129)
Drug Offense	0.386 (0.489)	-0.141 (0.118)	-0.125 (0.125)
Num Charges	3.72 (3.34)	-0.009 (0.012)	-0.008 (0.012)
	<b>Joint F-stat:</b>	2.71	1.19
	<b>p-value:</b>	0.04	0.36

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

The sample includes all PARR-eligible cases booked on designated PARR days (N=101). Column 1 provides the sample mean of the covariate in the left-hand column. Standard deviations are in parentheses. Column 2 reports regression coefficients from a single model that regresses an indicator for whether the arrested individual received PARR services on all of the listed covariates, as well as booking day fixed effects. Column 3 reports estimates from a similar model that omits age. Robust standard errors clustered by the booking day appear in parentheses.

Table A4: Monotonicity: First Stage Estimates by Defendant/Case Characteristics

	Case Severity			Case Type		
	Full Sample (1)	More Severe (2)	Less Severe (3)	Person (4)	Property (5)	Drug (6)
PARR Intake	0.314*** (0.050)	0.345*** (0.056)	0.290*** (0.065)	0.344*** (0.058)	0.220*** (0.078)	0.236*** (0.072)
N	600	355	245	345	190	218
	Ethnicity		Sex		Age	
	Hispanic (7)	Non-Hispanic (8)	Male (9)	Female (10)	< 36 (11)	> 36 (12)
PARR Intake	0.328*** (0.078)	0.262*** (0.067)	0.229*** (0.081)	0.341*** (0.055)	0.323*** (0.066)	0.312*** (0.060)
N	328	272	105	495	332	254

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Each cell reports an OLS first stage coefficient for a given subsample of cases or defendants, as indicated. The specification is Equation 1, where the outcome is an indicator for whether the defendant receives any PARR services. The model includes day of week and nighttime booking fixed effects, along with their interaction, and week fixed effects. Robust standard errors clustered by case booking data appear in parentheses. The full sample in column 1 includes all PARR-eligible cases (N=600). The remaining cells include only the subsample described in the column header. “More severe” cases have a severity score of less than 8, while “less severe” cases have a severity score of greater than or equal to 8. Sample sizes do not add up across case types (columns 4-6) because case types are not mutually exclusive.

Table A5: Interpreting the LATE: Complier Characteristics

	Sample Mean	Complier Mean
	(1)	(2)
White	0.220 (0.408)	0.151
Black	0.138 (0.346)	0.099
Hispanic	0.547 (0.498)	0.625
Female	0.175 (0.380)	0.132
Age	36.2 (12.4)	35.9
Severity	8.7 (3.9)	8.4
Person Offense	0.363 (0.495)	0.658
Property Offense	0.317 (0.356)	0.243
Drug Offense	0.363 (0.481)	0.296
Num Charges	3.7 (3.2)	3.1

The sample includes all PARR-eligible cases (N=600). Column 1 provides the mean characteristics of these cases. Standard deviations appear in parentheses. Column 2 reports the mean among “complier” cases. About 180 cases (or 30 percent of the sample) are compliers.

Table A6: Reduced-form Estimates of PARR's Impact on Bail and Arraignment

	Reduced-form Estimates		
	Sample Mean	Baseline Model	+Covariates
	(1)	(2)	(3)
Defendant Bailed	0.171 (0.377)	0.010 (0.043)	0.011 (0.038)
Defendant Arraigned	0.183 (0.387)	0.014 (0.038)	0.013 (0.037)
Time to Arraignment (days)	60.9 (149.8)	-18.1 (64.5)	-28.1 (71.9)

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

The sample includes all PARR-eligible cases (N=600), with the exception of time to arraignment, which is conditional on the defendant being arraigned (N=110). Column 1 provides the sample mean for the variable in the left-hand column. Standard deviations are in parentheses. Columns 2 and 3 present regression estimates of the effect of PARR booking days on case outcomes, following Equation 1. Column 3 adds defendant- and case-level covariates, which are listed below Table A8. All specifications include day of week and nighttime booking fixed effects, along with their interaction, and week fixed effects. Robust standard errors clustered by booking date appear in parentheses.

Table A7: Robustness of Reduced-form Results to Alternative Specifications

	Preferred Model				
	No FEs	+Week FEs	+DoW FEs	+Night FE	+Interact Night/DoW
	(1)	(2)	(3)	(4)	(5)
Released	0.070** (0.032)	0.080** (0.035)	0.069** (0.036)	0.080** (0.035)	0.078** (0.038)
Time to Release (days)	-7.0 (6.0)	-8.4 (5.5)	-10.6* (5.7)	-9.2* (5.3)	-12.6** (6.1)
Case Dropped	0.080* (0.041)	0.075* (0.041)	0.085** (0.043)	0.072* (0.042)	0.096** (0.043)
Conviction	-0.073* (0.040)	-0.073* (0.038)	-0.082** (0.039)	-0.067* (0.039)	-0.075* (0.043)
Guilty Plea	-0.032 (0.030)	-0.029 (0.033)	-0.032 (0.036)	-0.030 (0.032)	-0.064 (0.040)

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

The sample includes all PARR-eligible cases booked (N=600). Each cell reports a regression coefficient from a reduced form model estimating the relationship between PARR day booking and case outcomes. The baseline specification in column 1 includes only an indicator for a PARR booking day as an independent variable. Columns 2-5 add week, day of week, nighttime booking, and interacted day/nighttime booking fixed effects, as indicated. Column 5 presents our preferred specification, without covariates, exactly replicating column 2 of Table 3 in the text. Robust standard errors clustered by booking date appear in parentheses.



**Figure A1: PARR Service Schedule**

<b>TX week</b>	<b>Arraignment day</b>	<b>Booking day</b>	<b>Booking time of day</b>
1	Wednesday	Friday	5:00 pm-11:59 pm
		Saturday	12:01 am-11:59 pm
2	Wednesday	Sunday	12:01 am-11:59 pm
		Monday	12:01 am-5:00 pm
3	Monday	Thursday	12:01 am-5:00 pm
4	Tuesday	Thursday	5:01 pm-11:59 pm
		Friday	12:01 am-5:00 pm
5	Thursday	Monday	5:01 pm-11:59 pm
		Tuesday	12:01 am-5:00 pm
6	Friday	Tuesday	5:01 pm-11:59 pm
		Wednesday	12:01 am-11:59 pm

**Figure A2. Permutation Tests**

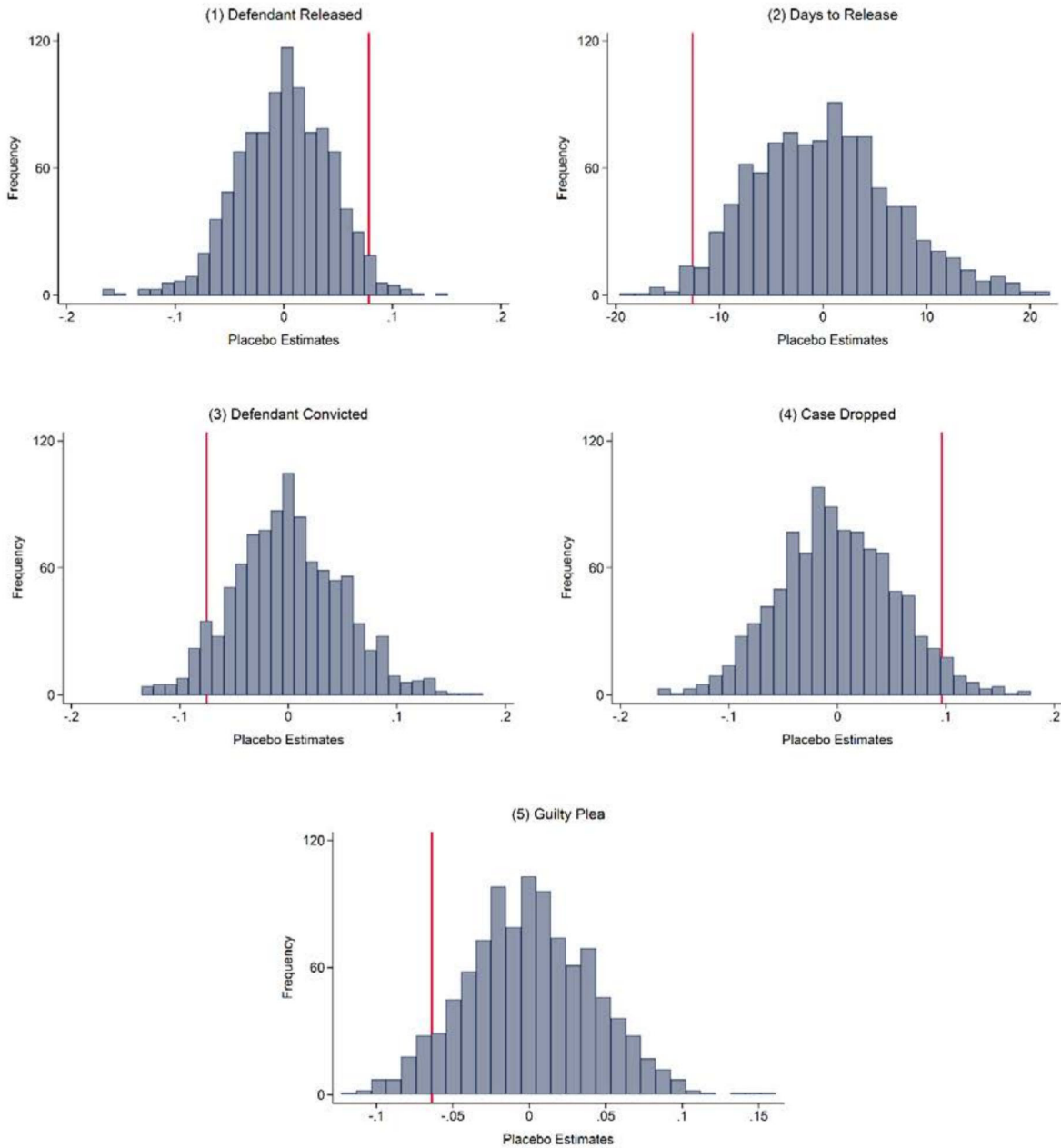


Figure A1: Each figure reports the distribution of placebo reduced-form estimates, following Equation 1, but using randomly-assigned outcome data. The Monte Carlo process creates 1,000 datasets with observations randomly assigned to outcomes. The height of each bar represents the number of generated datasets that yield a given point estimate. Solid red lines denote the “true” estimate from our actual data. The one-sided p-values for each figure are, respectively, 0.033, 0.021, 0.068, 0.054, and 0.045.