

The Impact of Remote Hearing Policies on Racial Equity in Criminal Case Outcomes During the Pandemic



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The criminal justice system confronted unprecedented challenges during the COVID-19 pandemic. In response, court systems nationwide quickly instituted policies to enable criminal cases to proceed while protecting public health. The shift toward criminal hearings by videoconference or teleconference has persisted. All fifty states now conduct criminal hearings remotely. Yet evidence about how remote proceedings affect case outcomes remains sparse. Using data for all arrests and criminal case dispositions that occurred in California between 2018 and mid-2021, I characterize the impact the pandemic had on arrest and case resolution rates, estimate the impact of adopting policies to permit remote hearings on conviction and sentencing outcomes, and determine which factors contributed to racial differences in outcomes. Remote hearing policies contributed to racial inequalities in outcomes, which predated the pandemic and persisted amid it.

Keywords: remote hearings, conviction, sentencing, pandemic policy, racial inequality

The COVID-19 pandemic has posed unprecedented challenges for the administration of justice in the United States. As successive waves of the virus crested, prisons and jails became the sites of many of the largest novel coronavirus outbreaks in the nation. Although arrest rates plummeted as people stayed home to avoid contracting the virus, court dockets lengthened amid government-imposed shutdowns that shuttered public and private enterprises. Massive criminal case backlogs

accumulated in municipal, state, and federal courts.

Court systems across the country adapted to the challenge of operating during the pandemic by adopting emergency policies to facilitate operations, promote public safety, and protect public health. Commonly adopted policies included modifying pretrial release practices to reduce incarcerated populations, permitting remote hearings to maximize social distancing and avoid in-person interactions,

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© 2023 Russell Sage Foundation. Harris, Heather M. 2023. "The Impact of Remote Hearing Policies on Racial Equity in Criminal Case Outcomes During the Pandemic." *RSF: The Russell Sage Foundation Journal of the Social Sciences* 9(3): 252-79. DOI: 10.7758/RSF.2023.9.3.11. This research would not have been possible without support and guidance from the California Department of Justice. I am also indebted to Thomas Sloan for excellent research assistance and countless hours reading and discussing court orders. I thank the Judicial Council of California for their helpful comments on an earlier draft. Finally, I also appreciate the efforts of all those involved in the development and production of this journal issue. Your insights and comments have enriched this work. Direct correspondence to: Heather M. Harris, at harris@ppic.org, 500 Washington Street #600, San Francisco, CA 94111, United States.

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and extending case processing timelines to accommodate the inevitable delays associated with adapting to pandemic conditions (JFA Institute 2021).

Remote hearings have become the most enduring of the policies instituted in response to COVID-19. Beginning in the earliest days of the pandemic, court systems around the country rapidly increased their capacity to conduct criminal proceedings via remote technologies, which include teleconferencing and videoconferencing equipment. All fifty states and the District of Columbia have continued to permit or require remote hearings for various criminal proceedings, ranging from arraignments to jury trials (for example, Arizona Supreme Court 2022; Jingnan 2022; Nealon et al. 2021).

The legislative and judicial branches of state governments have acted to preserve the capacity to conduct court proceedings remotely. Legislatures in states including Hawaii, North Carolina, and Washington have passed laws to permit remote proceedings in perpetuity, whereas lawmakers in other states, including California, have authorized remote hearings only for a limited time (Moran 2021). In other states, such as Arizona, Florida, and Georgia, supreme courts have instituted rules of court that outline which hearings should proceed remotely and developed guidelines to implement remote proceedings fairly.

Actions taken by the legislative and judicial branches of state governments were often guided by reports from task forces convened and research conducted to examine how remote hearings had affected state courts and to assess whether they should continue. These reports, many of which include surveys and interviews with court officers, have mainly focused on how remote technology affected court operations and access to justice to amid the pandemic (Clarke and Smith 2021; Nealon et al. 2021; Ostrom et al. 2021; Thumma and Reinkensmeyer 2022; WPPI 2021; Wurst et al. 2021).

Collectively, these studies found both improved and degraded *efficiency*, which can mean different things. Commonly cited efficiency improvements include greater flexibility in scheduling and lower costs related to transportation and security, especially of those

held in custody while their charges resolve. Courts also described improved *access* to the courts and cited fewer missed court dates as evidence that remote hearings help people meet their obligations to the court (Thumma and Reinkensmeyer 2022; WPPI 2021).

Yet remote technologies also challenged efficiency. A study of eight Texas courts found that remote hearings typically take about 25 percent longer (forty versus thirty minutes) than in-person proceedings, largely due to technological issues (Ostrom et al. 2021). Similarly, those surveyed commonly reported challenges related to the clarity and privacy of communication during criminal proceedings, including conferences with defense attorneys and sidebar conversations between judges and attorneys (Clarke and Smith 2021; Thumma and Reinkensmeyer 2022).

Despite these challenges, all reports advocated for the continued use of remote technology in at least some criminal proceedings, especially those of short duration and that do not involve witness testimony. For example, initial appearances, arraignments, and bail hearings are near-universally cited as examples of proceedings that can be held remotely. Some states, such as Arizona, have recommended defaulting to remote modalities for these and other hearings (Arizona Supreme Court 2022, 13). Whether to conduct other types of proceedings remotely has proven more controversial. Although a Texas court conducted the first remote jury trial in a civil case in May 2020 (Raymond 2020), Pennsylvania's task force has recommended against conducting jury trials remotely (Nealon et al. 2021, 9).

Support for conducting at least some hearings remotely has proven consistent across states, but rests almost exclusively on perceptions of operational efficiency and generally reflects only the perspectives of people who work in the courts. Absent from these investigations are evaluations of the impact remote hearing policies have on defendants' criminal case outcomes.

Even before the pandemic, research on the impact of remote hearings on criminal case outcomes was slim. One study conducted in Cook County, Illinois, more than a decade ago attributed higher bail amounts to the shift

from in-person to remote bail hearings (Diamond et al. 2010). Thus, in contrast to the growing consensus across state governments, the lone study of the impact of remote technologies on defendants' outcomes in a criminal proceeding might caution against deploying them widely at arraignments, initial appearances, and bail hearings.

Whether holding criminal hearings remotely has affected conviction and sentencing outcomes—or racial equity—has never been examined. Using data for all arrests and dispositions in California between January 1, 2018, and June 30, 2020, about 3.2 million arrests in all, I characterize dramatic shifts in arrest and case resolution rates and describe racial differences in disposition and sentencing outcomes before and during the pandemic. Arrest rates plummeted, especially for misdemeanors. Case resolution rates fell even further and were slower to rebound. By the end of 2020, a criminal case backlog in excess of fifty-five thousand cases accumulated.

With data on pandemic policies built from a comprehensive review of state and county court orders, changes to rules of court, and press releases posted throughout 2020, I describe the policies California courts implemented to respond to the challenges the pandemic presented. One such policy allowed the state's fifty-eight superior courts to decide whether to allow remote hearings.

Dramatic between-county variation in the duration and timing of the implementation of remote hearing policies enables me to estimate the impact of being arrested when remote hearings were permitted versus when they were not on conviction and sentencing outcomes. My ordinary least squares analyses are intent-to-treat because I do not know whether the hearings associated with individual cases were conducted in person or remotely. Rather, I know whether a policy that allowed them had been adopted. I assess whether the impacts of remote hearings on case outcomes vary by race and apply decomposition analysis to determine which factors contributed most to racially disparate impacts (Gelbach 2016).

Remote hearing policies contributed to reduced conviction probabilities during the pandemic. In addition, arrests were more likely to

result in noncustodial sentences and less likely to lead to jail under remote hearing policies. The outcomes of misdemeanor arrests drove these impacts. Remote hearing policies affected the sentencing outcomes of felony arrests only if they involved black people, who were less likely to be sentenced to prison and more likely to receive jail time under them.

Remote hearing policies explained a non-trivial share of racial differences in conviction and sentencing outcomes during the pandemic. Having a remote hearing policy in place narrowed black-white and Latino-white racial gaps in the likelihood of conviction and jail sentence, but widened them for probation and money sanctions. The magnitude of these impacts rivaled that of some current case and prior criminal history factors.

THE CRIMINAL JUSTICE SYSTEM DURING THE PANDEMIC

The novel coronavirus pandemic had a dramatic impact on the nation's criminal justice system by reshaping how people interact. As news of the virus emerged, people independently curtailed their activities to minimize social interactions (Berry et al. 2021). Governments in most states also sought to slow the spread of the virus by issuing orders to limit social interactions. Such orders included reductions in the size of public gatherings, restrictions on which businesses could operate, and, ultimately, mandates to stay at home.

California led the nation in adopting many of these policies. On March 19, 2020—eight days after the World Health Organization declared the coronavirus a global pandemic—California became the first state to impose a mandatory stay-at-home (SAH) order for all people. By the end of May, forty-four other states and the District of Columbia had followed suit. In thirty-five of those states and the District of Columbia, SAH orders were mandatory for everyone, just as they were in California (Moreland et al. 2020).

Analyses of cellphone location data show that SAH orders had the desired effect: people stayed home (Alexander and Karger 2020). They had, however, reduced the amount of time they spent outside their homes and the distances they traveled from their homes even before

SAH orders were imposed. Most of the precipitous decline in mobility early in the pandemic has therefore been attributed to individual choices rather than the stay-at-home orders (Berry et al. 2021; Goolsbee and Syverson 2021).

Reduced mobility and severely curtailed social interactions associated with the onset of the pandemic contributed to similarly steep reductions in reported crime and arrest rates nationally and internationally (Godfrey, Richardson, and Walklate 2022; Lopez and Rosenfeld 2021; Nivette et al. 2021). In California, for example, monthly arrest rates for misdemeanor crimes plummeted by as much as 67 percent early in the pandemic and remained at least 42 percent lower than they had been in 2018 throughout 2020. Monthly felony arrests also toppled, but to a lesser degree—39 percent at their nadir. Felony arrests remained at least 11 percent lower than in 2018 through the end of 2020.

However, arrests for some violent crimes increased dramatically as people resumed public lives. Nationally, homicide rates increased 30 percent in 2020, which was the largest year-to-year increase since 1995 (Rosenfeld, Abt, and Lopez 2021). Moreover, existing racial disparities in arrest rates deepened early in the pandemic. In New York, for example, arrests were down 30 percent by mid-2020. However, white people experienced a larger decrease in the likelihood of arrest, 40 percent, than black people, 30 percent (Li 2020).

Government shutdowns and pandemic conditions also stymied criminal case processing in 2020. Early in the pandemic, many courts closed their courthouses and ceased all in-person operations (Baldwin, Eassey, and Brooke 2020; Piquero 2021). Even when courts operated in person, social distancing recommendations and individual preferences to avoid indoor spaces affected the administration of justice, especially its timing. Across the country, courts suspended jury trials, postponed hearings, and allowed more time for cases to proceed (JFA Institute 2021). Delays led to enormous case backlogs in most jurisdictions (Levin 2021; Smith 2021). In Miami-Dade County, for example, the felony case backlog

rose nearly 30 percent, from 10,500 in January to 13,500 in December 2020 (Piquero 2021). In Texas district courts, just 79 percent of cases filed in 2020 were cleared—down from 94 percent in 2019 (Slayton 2020; LaVoie 2021).

Impacts on Arrests and Criminal Case Resolutions in California

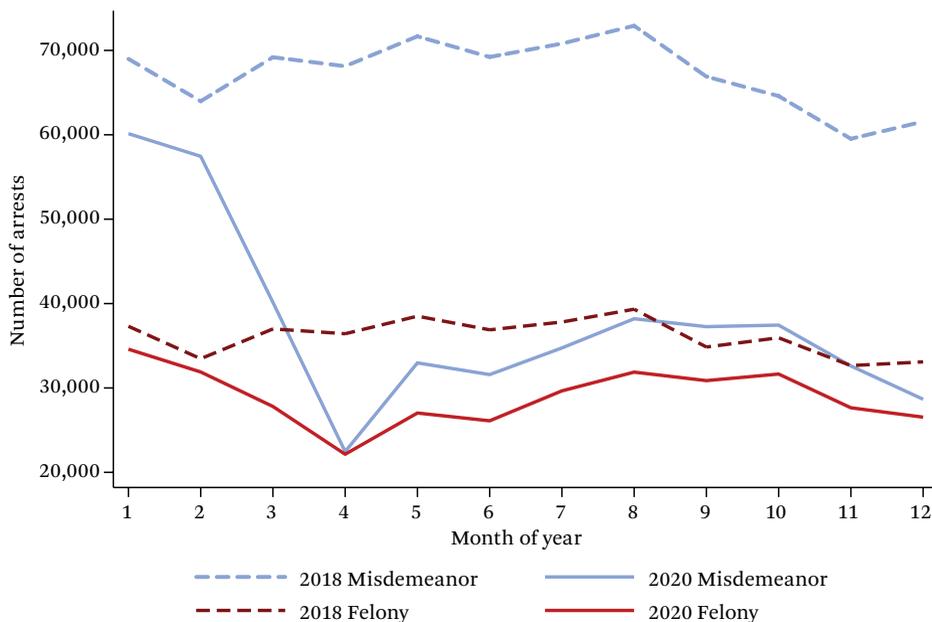
As was the case nationally and internationally, the onset of the pandemic and associated government-imposed shutdowns immediately and profoundly affected California's justice system. Fewer people moving about in public and shifts in police practices to protect officers and the public translated into a precipitous decline in the number of arrests (Jackson et al. 2020; Lofstrom and Martin 2021). In California, arrests had been trending downward in the years prior to the pandemic, as shown in figure 1. However, February 2020 saw about the same number of arrests ($N = 89,000$) as February 2019, suggesting a potential leveling of that trend. Then the pandemic intervened. Arrest levels collapsed in March and hit bottom in April when just 44,600 arrests were made—a 57 percent decrease relative to April 2018. Through the end of 2020, the monthly number of arrests remained at least 31 percent lower than in 2018.

Impacts on Arrests Steeper for Misdemeanors

Misdemeanor arrests drove these patterns, but not exclusively. As shown in figure 1, arrests for all crimes were lower in the early months of the pandemic. However, reductions were about twice as large for misdemeanors, relative to felonies. In a typical pre-pandemic month, California police made 1.8 times more misdemeanor than felony arrests. By comparison, 1.2 misdemeanor arrests were made for each felony arrest in the last ten months of 2020. Amid surges in April and December 2020, police made nearly as many felony as misdemeanor arrests because misdemeanors were so suppressed. Relative to before the pandemic, the number of misdemeanor arrests made averaged 52 percent lower, but felony arrests only 23 percent (for more information, see figure A.1).¹

Arrest levels for nearly all crime types col-

1. All appendix figures and tables can be found online at <https://www.rsfjournal.org/content/9/3/252/table-supplemental>.

Figure 1. Arrests by Month and Level, 2018 and 2020

Source: Author's calculations from the California Department of Justice Automated Criminal History System data (California DOJ 2022).

lapsed during the pandemic. Crimes directly related to fewer people moving around—especially in automobiles—fell particularly far in 2020 relative to 2018. Arrests for public intoxication toppled 53 percent. Misdemeanor arrests for traffic-related offenses fell 62 percent and arrests for driving under the influence nearly halved.² Similarly, misdemeanor vehicular homicides were down 74 percent.

Police seemed to prioritize making felony arrests in 2020. Relative to 2018, misdemeanor theft arrests dropped 69 percent, felony theft arrests just 27 percent. Similarly, misdemeanor assaults were down by 33 percent, but felony assaults by 15 percent. Moreover, arrests for some of the most concerning types of felonies increased in 2020 relative to 2018. Felony homicide arrests increased 6 percent, from 3,849 to 4,073. Similarly, felony arson arrests increased 29 percent, from 1,722 to 2,217 (for more, see figure A.2).

Case Resolutions Nearly Halted

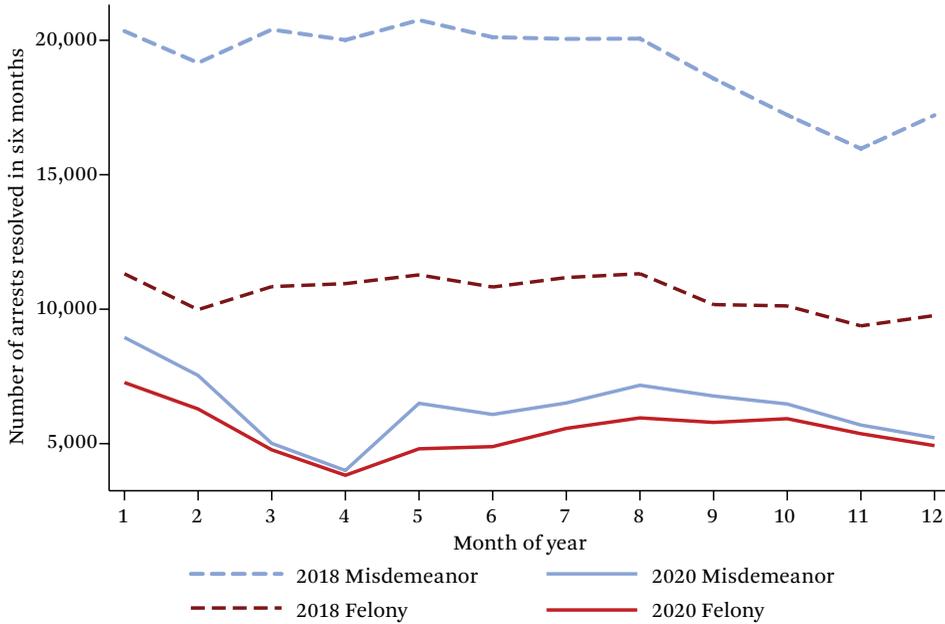
Most of California's courts were shuttered in the early months of the pandemic and then re-

opened only haltingly. For example, on reopening, some courts restricted the types of cases that proceeded. Others opened and closed numerous times as coronavirus waves ebbed and crested. Consequently, case resolution numbers followed a steeper declining trajectory and were slower to recover than arrests. Figure 2 depicts the arrests made in each month that had reached at least one final disposition—conviction, dismissal, or acquittal—within 180 days.

Before the pandemic, about 1.8 misdemeanor cases resolved for every felony case resolution. Like arrests, case resolutions plummeted in March and April. In 2018, monthly case resolutions averaged just under eleven thousand felonies and just over twenty thousand misdemeanors. In March 2020, about four thousand cases of both types resolved—stunning decreases of 65 percent for felonies and 80 percent for misdemeanors relative to the same months in 2018. In addition, the nearly 2:1 pre-pandemic felony to misdemeanor case completion ratio leveled. Case resolution rates improved in the second half of 2020. Still, in

2. A little more than three in four traffic-related offenses in the ACHS are for driving without a license.

Figure 2. Monthly Arrests That Resolved Within 180 Days, 2018 and 2020



Source: Author’s calculations from California Department of Justice Automated Criminal History System data (California DOJ 2022).

Note: This figure looks forward from arrest to depict monthly arrests that reached final disposition six months. Year 2019 is excluded because some arrest follow-ups overlap pandemic conditions.

December, felony case resolution rates were just half of what they had been in 2018 and misdemeanor case resolution rates were 70 percent lower. An average of five thousand felony and six thousand misdemeanor arrests reached final disposition within 180 days in each of the first ten months of the pandemic.

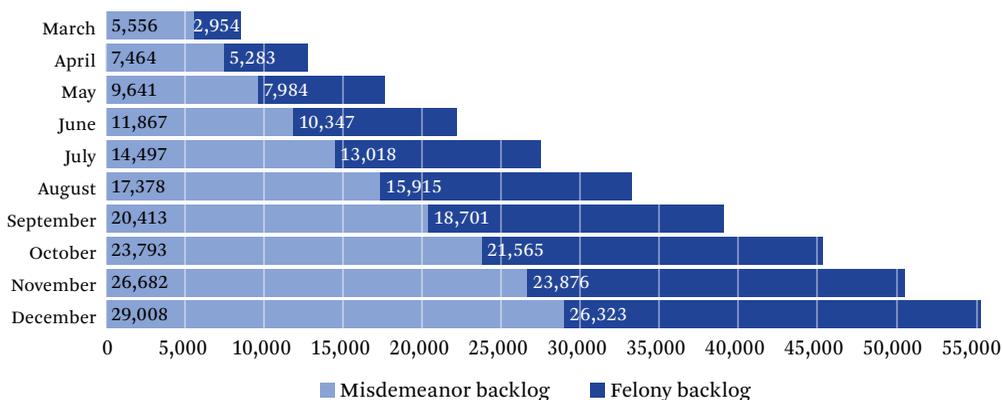
Just as police prioritized arrests for more serious crimes, courts prioritized adjudicating serious criminal cases throughout 2020 (for more detail, see figure A.2). Convictions within 180 days were down more than 80 percent for many misdemeanor crimes, including public intoxication, nonassaultive sex, theft, and fraud. Other misdemeanor convictions also plummeted: disorderly conduct convictions fell 76 percent, weapons convictions 65 percent, misdemeanor burglary convictions 62 percent, and convictions for misdemeanor drug offenses 78 percent from 2018. Felony convictions for similar crime types fell less far: relative to 2018, felony disorder convictions were down 60 percent, felony weapons convictions 37 per-

cent, felony burglary convictions 49 percent, and felony drug convictions 63 percent.

By comparison, convictions for most violent offenses—both felony and misdemeanor—experienced lesser, but still marked declines. Convictions for felony robbery toppled 47 percent. Felony sexual assault convictions decreased 57 percent and misdemeanor sexual assault convictions 63 percent. Even felony homicide convictions decreased 26 percent. Misdemeanor homicide convictions were down 74 percent. Relative to 2018, felony assault convictions fell by one-third and misdemeanor assault convictions more than halved. Arson convictions were the sole exception to this general rule. Felony arson convictions increased 17 percent during the pandemic.

Backlog of at Least Fifty-Five Thousand Cases

Steeper declines in case resolutions and their slower recovery relative to arrests led to a substantial backlog of unresolved criminal cases by December 2020. Lack of information about

Figure 3. Estimated Backlog of Criminal Cases at the End of 2020

Source: Author's calculations from California Department of Justice Automated Criminal History System data (California DOJ 2022).

Note: This figure represents just one part of the pandemic backlog, as described in note 5. The backlog depicted was calculated by looking forward as described in figure 2.

charging decisions (see Data and Methods) precludes a precise calculation of the size of the backlog. Instead, I estimate it by comparing pre-pandemic and pandemic arrest with case resolution ratios. Before the pandemic, 3.8 misdemeanor and 3.6 felony arrests were made, on average, for every case resolution. In March of 2020, averages of 5.8 felony and 8 misdemeanor arrests were made for every arrest that resolved within 180 days. Arrest to resolution ratios averaged 1 to 5.7 for misdemeanors and 1 to 5.4 for felonies through December 2020. If arrest to case resolution ratios had maintained their pre-pandemic averages, about twenty-six thousand more felony and twenty-nine thousand more misdemeanor cases would have resolved during the pandemic, as shown in figure 3. Instead, by December 2020, California courts faced an accumulated backlog of approximately fifty-five thousand shorter-term criminal cases.³

The enormous backlog in criminal cases accumulated despite the courts' best efforts to

adapt to the pandemic and the curtailments to public life imposed by state and local governments. When Governor Gavin Newsom's statewide SAH order took effect on March 19, most (though not all) superior courts closed and then had to determine when and how to re-open safely in pandemic conditions (Harris 2023).

COURT POLICYMAKING DURING THE PANDEMIC

In the face of these challenges, courts acted swiftly to administer justice and protect public health. Federal and state emergency declarations allowed courts—nationally and in California—to suspend normal operations and institute new policies outside their ordinary review processes. Across the nation, courts implemented an array of policies to extend case processing timelines, adopt and expand remote capabilities, and amend arrest and pretrial release practices. Before the pandemic, none of these policies had been the norm. During the

3. This figure represents just one of three parts of the likely pandemic backlog: the part that pertains to cases that ordinarily complete within six months. The two additional parts include some share of the cases that take more than 180 days to complete, plus any backlog that had existed before 2020. We have no information about the latter, but we do have some information about the former. Based on Judicial Council case processing statistics shown in table A.5, I estimate that 94 percent of misdemeanors and 81 percent of felonies completed within 180 days in recent years (JCC 2020). Thus the backlog depicted in figure 3 likely represents the bulk of the misdemeanor backlog that accumulated between May and December 2020 and a majority of the felony backlog.

pandemic, they became commonplace (Clarke and Smith 2021; JFA Institute 2021; Ostrom et al. 2021; Thumma and Reinkensmeyer 2022).

CALIFORNIA LED THE WAY IN ADAPTING

California led the nation in adopting pandemic policies that directly and indirectly affected the criminal justice system. Within a month of the imposition of the nation's first SAH order, forty-four other states and the District of Columbia issued similar mandates to encourage their citizens to minimize time spent in public. Similarly, California courts acted early to institute policies to protect public health and safety. Even before the governor's SAH order, many individual superior courts had begun modifying their operations to limit in-person proceedings. After the governor issued an emergency order allowing courts to institute emergency rules, the policymaking body for the state courts took immediate action to help all courts operate safely.

The Judicial Council of California (JCC) is the policymaking body that governs the state's court system by establishing rules that guide superior court operations in California's fifty-eight counties. The counties have considerable latitude to operate their courts within the JCC framework. This capacity to customize is essential to a system in which rural counties such as Alpine, which has a population of 1,145, operate courts alongside those in Los Angeles, which has ten million residents and is the most populous county in the nation.

The JCC issued a series of emergency orders intended to help courts function while protecting public safety. Rather than attend to ordinary review processes, the JCC allowed courts to institute policy changes more nimbly. Three of the thirteen orders the JCC initially issued either allowed or mandated specific policies related to criminal case processing; zero bail, arraignment (and trial) extensions, and remote hearings. However, not all orders applied statewide.

Zero bail. As the pandemic unfolded, concern about the health of incarcerated people and their potential impact to the health of nearby communities began to grow (Harris 2020; Plummer et al. 2023, this issue). Public officials sought strategies to safely reduce jail and prison overcrowding to slow the spread of the virus behind and beyond bars. The JCC cited this concern in an order that set bail at \$0 for most misdemeanors and lower level felonies (Corren 2020).⁴ Before the zero-bail order, each county independently developed a schedule to guide the amount of bail applied to criminal offenses—and those amounts varied widely across counties (Harris, Goss, and Gumbs 2019; Tafoya 2013). By contrast, the zero-bail order set a single schedule that applied statewide between April 13 and June 20, 2020.⁵ After the JCC rescinded the statewide order, many counties continued setting bail at \$0 to help keep jail populations down (Ballasone 2020; Premkumar et al. 2023).

Time extensions. Unlike the zero-bail order, most JCC orders were discretionary: individual superior courts could choose whether to implement them. As in many jurisdictions around the country, the JCC allowed courts to extend statutory time limits at many stages of criminal justice processing, including arraignment, trial, and for preliminary hearings. Fewer than 3 percent of criminal cases go to trial in California—and jury trials were suspended across much of the state in 2020—so I focus on the time extension policies that could have impacted most criminal cases: arraignment extensions. The JCC order allowed the time between arrest and arraignment lengthen from forty-eight hours to seven days in felony cases. Most courts also applied arraignment extensions to misdemeanors—often for even longer periods if people had been released pending arraignment (Harris 2023).

4. Excluded misdemeanors include domestic violence offenses and court order violations.

5. Even prior to the zero-bail order, some jurisdictions, including Los Angeles, had shifted arrest policies toward issuing citations and away from booking people into jail. These cite-and-release policies—which jurisdictions around the country including Philadelphia, Miami, Denver, and Chicago also adopted—had the desired effect of substantially reducing jail populations (JFA Institute 2021; Piquero 2021).

Remote hearings. Before the pandemic, hearings related to criminal cases typically took place in person, in close courtroom quarters, and among actors characterized as close-knit communities of people who negotiate social and legal norms to enact justice (Benninger et al. 2021; Eisenstein and Jacob 1977; Smith, Thompson, and Cadigan 2022).⁶ Operating under such conditions became a threat to public health during the pandemic. To help protect public health and the health of court employees, the JCC issued an order allowing superior courts to conduct hearings remotely. As was the case for time extensions, each court could decide whether, when, and how to operate remotely.⁷

Pandemic Policies Adopted Unevenly

As illustrated in figure 4, the fifty-eight superior courts differed in whether, when, and for how long they applied remote hearing and arraignment extension policies. Most courts adopted these policy changes in mid- to late March, but some waited. Some stopped and restarted pandemic policies multiple times, whereas other applied them consistently. On average, courts had arraignment extension policies in place for eighty-one ($SD = 68$) days and remote hearing policies were allowed for an average of 180 ($SD = 113$) days in 2020. For three counties, I found no evidence of arraignment extensions. Similarly, I found no evidence of a remote hearing policy in nine counties.

Californians Differentially Exposed to Policies by Race

Uneven adoption of pandemic policies coupled with uneven distribution of racial groups across the state means that people of different races had different exposures to pandemic policies (Harris 2023). These exposures are presented in table 1. In general, Latinos and blacks were most likely to be exposed to remote hear-

ing and arraignment extension policies in 2020. Remote hearing policies applied to more than half of arrests of black and Latino people, but just 45 percent of arrests involving Asian Americans, Native Americans, and whites. Likewise, just under one in three arrests involving blacks and Latinos occurred when arraignments were extended, whereas about one in five arrests of Asian Americans and whites and 22 percent of arrests involving Native Americans did. By contrast, about 16 percent of arrests for people of all races occurred when the statewide zero-bail policy was in place. However, differential adoption of zero-bail orders by counties after the statewide order expired led to racial differences in exposure to zero-bail policies. Though Native Americans and whites were more likely than people of other races to be arrested for zero-bail eligible crimes, they were considerably less likely (between 8 and 16 percentage points for Native Americans) than people of other races to be arrested when a zero-bail order applied. Differences in exposure to zero bail may have affected whether individual cases were heard remotely because pretrial detainees were more likely to be arraigned remotely than people who were released (Harris 2023). Therefore, people whose arrests were not zero-bail eligible or who were less likely to be arrested under zero-bail orders may have been more likely to see their cases adjudicated remotely.

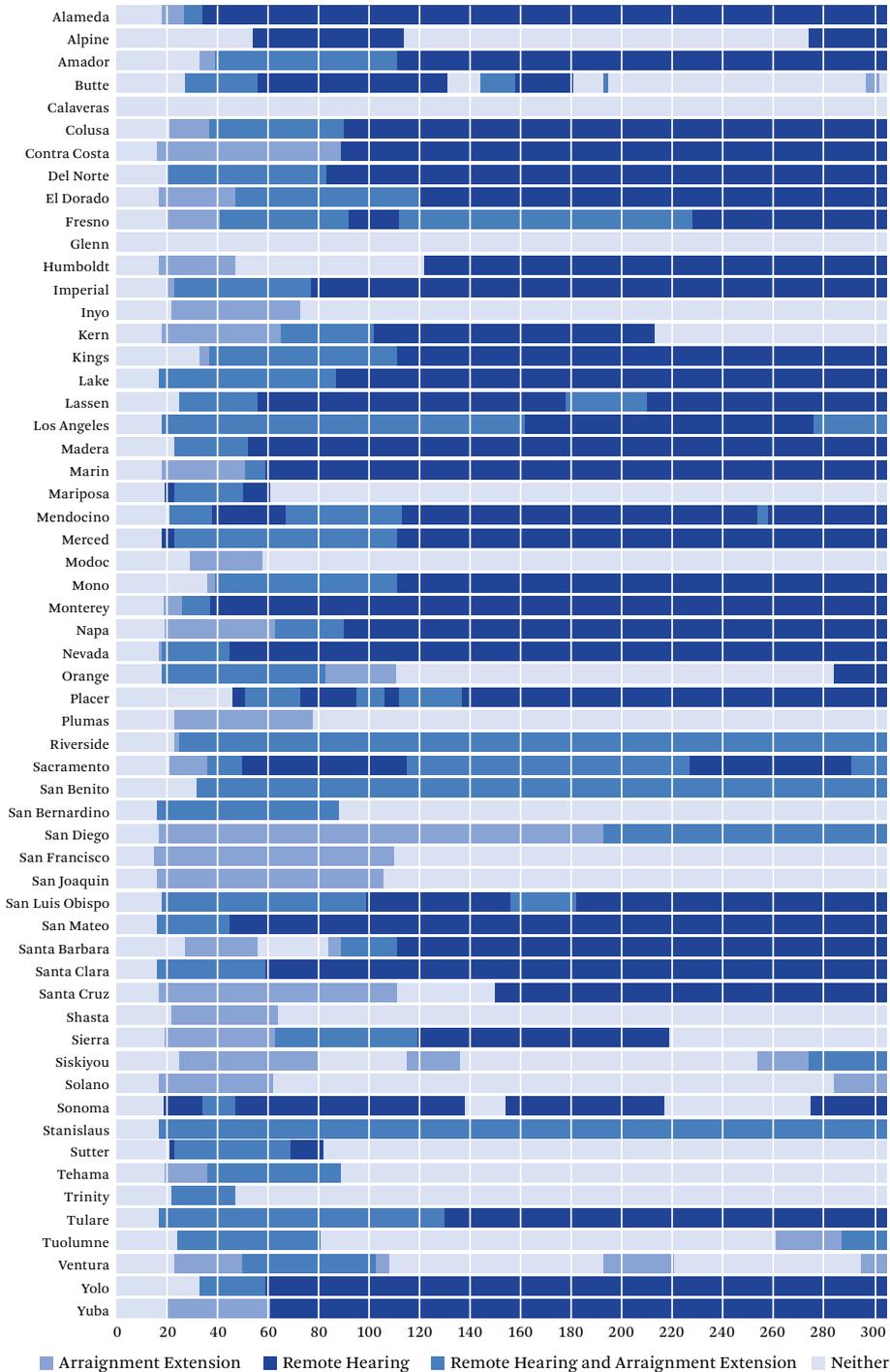
Potential Impacts of Remote Hearings on Criminal Outcomes

Like the studies conducted in individual states, the academic research on remote hearings amid the pandemic has neglected defendants' outcomes. Instead, much of this research has focused on the operational, theoretical, and constitutional issues remote hearing policies pose (Baldwin, Eassey, and Brooke 2020; Bild et al. 2021; Gourdet et al. 2020; Turner 2021).

6. Penal code Section 977 allowed defendants in misdemeanor cases only to request to appear remotely or to allow counsel to appear on their behalf. Before the pandemic, 977 appearances were rare. Amid the pandemic, counties varied in whether and to what degree they allowed them (Harris 2023).

7. Some counties conducted hearings by telephone; others used videoconferencing technologies. The types of hearings to which remote technologies were applied also varied across counties and over time. The most common types of hearings heard remotely were arraignments of people being held in jail, who were typically charged with felonies (Harris 2023).

Figure 4. Pandemic Policy Adoption



Source: Author’s tabulation based on superior court orders, press releases, and rules of court.
 Note: Statewide zero bail applied in all counties from Day 44 (April 13) to Day 112 (June 20). Some counties started zero bail before the statewide order and some extended it beyond it (See Premkumar et al. 2023). Some courts may have permitted pandemic policies when we could not find evidence of them. Others may not have implemented the policies they adopted (Harris 2023).

Table 1. Percentage of Arrested People Exposed to Each Policy in 2020

	Arrests	Remote Hearing	Arraignment Extension	Zero Bail (State or County)	Zero Bail Eligible
Race	<i>N</i>	%	%	%	%
White	263,530	44.8	28.0	52.9	71.6
Latino	369,380	52.3	32.4	60.9	65.5
Black	139,768	51.4	31.9	58.5	65.8
Asian American	23,738	46.6	26.0	56.9	63.0
Native American	5,105	44.7	22.4	45.1	70.8
All	801,521	49.5	30.6	57.6	67.5

Source: Author's calculations from the California Department of Justice Automated Criminal History System data (California DOJ 2022) and court policy data summarized in figure 4.

Note: The last column indicates the percentage of arrests in which the hierarchically most serious arrest offense was zero bail eligible under the statewide zero bail order.

In the abstract, this oversight may seem justifiable. Whether criminal proceedings occur remotely or in person is seemingly orthogonal to whether a crime occurred, whether a particular person can be shown to have committed it, and how that person should be punished—especially in the context of a criminal justice system that resolves 98 percent of cases via plea or charge bargaining and determinative rubrics guide sentencing (Bird et al. 2022; CRPC 2021; Dervan 2019). Yet we also know that other (also seemingly orthogonal) extralegal factors related to courtroom context, how people present, and how they are perceived affect the outcomes of their criminal cases (see, for example, Johnson 2005; Lizotte 1978).

Research provides no direct evidence about how remote hearings should affect disposition or sentencing outcomes—for all defendants or for people of different races. Just one study has examined how conducting hearings remotely affected the outcomes of a criminal proceeding. Conducted in Cook County, Illinois, it used interrupted time-series analysis to evaluate whether switching from in-person to videoconferenced bail hearings on June 1, 1999, affected bail amounts. Initially and over time, felony bail amounts increased substantially—between 54 percent and 91 percent depending on the crime type—after the videoconferencing technology was implemented (Diamond et al. 2010).

If taken at face value, the Cook County study

suggests one pathway along which conducting criminal proceedings remotely, rather than in person, could lead to deleterious and racially inequitable case outcomes. When higher bail amounts are imposed, accused people are less likely to secure pretrial release (Tafoya 2013). Relative to those who are released, those who are detained experience higher conviction probabilities, greater likelihood of incarceration, and longer periods of incarceration (Dobbie and Yang 2021; Heaton 2020; Leslie and Pope 2017). In addition, the negative effects of pretrial detention are racialized. Relative to white people, people of color are more likely to be detained and detained for longer periods (Tafoya et al. 2017). Comparatively worse disposition and sentencing outcomes follow (Demuth and Steffensmeier 2004; Arnold, Dobbie, and Yang 2018; Leslie and Pope 2017). If these effects of higher bail amounts held during the pandemic, policies that permitted remote arraignments could have deepened existing racial inequities in disposition and sentencing outcomes.

However, the higher bail amounts imposed after Cook County changed how bail hearings took place may not be attributable to the switch from in-person to remote modalities. Other differences between Cook County's in-person and remote systems could have led to higher bail amounts. Under the remote system, defense attorneys could not confer as meaningfully with their clients. Attorneys who had been handling

about twenty in-person cases per day, instead handled one hundred—a fivefold increase. The pace of bail hearings also accelerated under the remote system. “In each case, the court made a probable cause finding, set bond, and continued the case for hearing on a future date—all in the space of about thirty seconds on average” (Diamond et al. 2010, 885). Extreme case-loads coupled with rapid-fire case processing likely contributed substantially to the rise in bail amounts because the court neither heard nor had time to consider mitigating circumstances.

Potential confounding factors also threaten the internal validity of this study. The chaos of the pandemic and the breadth and rapidity of the courts’ responses to pandemic conditions present challenges for attributing shifts in conviction and sentencing outcomes to shifts away from in-person and toward remote proceedings. I describe how I address these challenges in the next section.

DATA AND METHODS

Information about whether and when remote hearing and arraignment extension policies applied in each county, shown in figure 4, was compiled by reading and coding court orders, press releases, and changes to rules of court that appeared on the Judicial Council website and on each of the fifty-eight superior court websites (JCC 2019).⁸ Binary variables signal whether a remote hearing, arraignment extension, or a zero-bail policy (county or state) was in place on the day of arrest. Offenses to which

zero bail did not apply were specified in the statewide zero-bail order. Excepted crimes included serious and violent felonies and registerable sex offenses, as defined in the penal code.

All other variables were derived from California Department of Justice (DOJ) Automated Criminal History System (ACHS) data. The ACHS includes information about people arrested, arrest charges, final dispositions, and sentencing decisions. The sample spans January 1, 2018, through June 30, 2021, and includes ACHS criminal histories for all individuals arrested in California during that period (California DOJ 2022). After eliminating duplicate records, multiracial and unknown race people, juveniles, and arrests that occurred in jail or prison, the data include 1.38 million people who experienced 3.21 million arrests.⁹ From these data, variables that describe current cases and individuals’ complete California arrest, conviction, and sentencing histories were constructed.

Data Limitations

Foremost, I do not know whether pandemic policies were applied in individual criminal cases. Instead, I know whether a policy that allowed arraignment extensions, remote hearings, or zero bail was or was not in place at the time of each arrest, as depicted in figure 4. My estimates therefore represent the impact of having a pandemic policy in place (versus not having it) at arrest on criminal case outcomes, rather than whether criminal case outcomes

8. For a detailed description of the methodology used to develop data from the court orders, see Harris 2023. Briefly, a research associate and I read the orders, rules, and press releases on current and archived versions of each county’s website—thousands of documents. Each of us created narrative summaries of the policy environment for half of the counties. We then coded the dates during which each policy applied from the other’s summaries. Where inconsistencies or lack of clarity arose, we reviewed the documents again until coming to agreement.

9. The ACHS includes a substantial proportion of duplicate arrest records. The same arrest can be registered one or more times. In addition, slightly different information often appears across these records. Such errors occur throughout the data, but are especially concentrated in some counties, agencies, and time frames (for example, same day). After discussing the findings with the DOJ, we identified indicators of some processes that generate duplicates, which include dual arrest/booking procedures, multiple transfers of custody, and scanning and linkage failures across events (such as prosecution and short-term incarceration decisions). I found that approximately 1:13 observations ($n = 278,145$) are likely duplicates, some false negatives and positives being inevitable. Because many duplicates are not exact matches, I preserved information from duplicate records to create hierarchical offense information. More information about the de-duplication and information preservation processes is available on request.

shifted after policies altered the trajectories of individual cases.

Limitations of the ACHS also constrain what can be known about individual cases. The ACHS lacks charge filing information and declined prosecutions are not reliably recorded. Therefore, I do not know how long people waited between arrest and arraignment. Nor do I know whether arrests that have not reached a final disposition have been charged.¹⁰

Finally, the data permit only a six-month follow-up for arrests made on December 31, 2020. Before the pandemic, 94 percent of misdemeanor and 81 percent of felony cases filed in California courts completed within 180 days.¹¹ Thus the six-month marker provides a reasonable completion timeline for the majority of cases—both misdemeanor and felony—ordinarily adjudicated in the state.¹² However, the results of my analysis may not apply to longer, usually more complicated, felony cases.

Variable Construction and Descriptive Statistics

Five binary outcome variables were derived from the ACHS data. The single disposition outcome is a conviction within 180 days of arrest. Four mutually exclusive and comprehensive sentencing outcomes that reflect the most severe sanction are conditional on 180-day convictions: any prison, any jail (no prison), probation, and money sanctions.¹³

Current arrest and case characteristics include information about offense levels and types. Offense levels were reduced to a binary felony-misdemeanor indicator (see table 2). Offenses were categorized into mutually exclusive and exhaustive categories and types based on

their DOJ Criminal Justice Information System and penal codes. Twenty-one crime types fall into four crime categories: conduct, drugs, property, and violent. All drug crimes belong to the drug category. Property crimes are burglary, fraud, theft, and motor vehicle theft. Arson, assault, kidnapping, homicide, sexual assault, and threats are violent. Conduct crimes do not rise to the level of violence, do not involve fraud and larceny, and are not related to the drug trade. Conduct types are: generic criminal justice violations, disorder and disorderly conduct, driving under the influence, illegal weapon sales and possession (weapon use is classified as violent), nonassaultive sex, public intoxication, traffic, and trespassing and vandalism. Indicators were also created for zero-bail eligible, serious or violent, and registerable sex offenses (see table 2). Current arrest and conviction indicators were created for all type-level combinations.

For all arrests and convictions, the most serious crime was identified using the DOJ hierarchy, which ranks offenses. Between 2018 and 2020, 43 percent of California arrests and 73 percent of 180-day convictions involved a single charge. Indicators for multiple arrest charges and their aggregate characteristics were also constructed. Criminal history variables were constructed from conviction, sentencing, and arrest variables. They include prior arrest and conviction offense category-level indicators, number of prior arrests and convictions, an indicator of multiple arrest and conviction charges, and variables indicating prior jail, prison, and probation only sentences received.

In table 2, I present select descriptive statis-

10. To illustrate, police made 1.2 million arrests in fiscal year 2019, of which 509,000 had received a final disposition by June 30, 2021, and 148,000 had at least one charge decline. More than 540,000 arrests remain, some of which may be mid-adjudication and some of which may not have been charged.

11. These figures were calculated from JCC reports, as shown in table A.5.

12. According to Judicial Council statistics, 190,500 felony and 756,500 traffic and nontraffic misdemeanor cases were filed in fiscal year 2018. If 81 percent of felonies and 94 percent of misdemeanors resolved within 180 days, about thirty-six thousand felony and fifty-six thousand misdemeanor cases remained.

13. About 15 percent of prison sentences also include jail, probation, or both. These sentences count as prison sentences to reflect the most serious potential sanction. About 75 percent of those sentenced to jail are also sentenced to probation. These *split* sentences are included in jail outcomes. Similarly, probation sentences could also include money sanctions.

Table 2. Select Descriptive Statistics

	Variables	2018		2020		
		% or Mean	SD	% or Mean	SD	
180-day outcomes	conviction	23.2		13.3		
	money sanction	5.9		6.3		
	probation	13.4		7.9		
	Jail	73.5		76.0		
	prison	5.8		8.2		
Demographics	white	35.5		32.9		
	Latino	43.9		46.1		
	black	17.0		17.4		
	Asian American	3.0		3.0		
	Native American	0.6		0.6		
	female	22.2		20.4		
	born outside US	16.5		16.9		
	age at arrest	35.1	11.6	35.2	11.4	
	Arrest	felony	34.9		43.4	
		multiple charges	57.4		57.2	
zero bail eligible		72.6		67.5		
Conviction	felony	20.9		30.3		
	multiple charges	74.0		83.6		
	serious or violent felony	5.4		6.5		
	registerable sex offense	1.5		1.2		
Prior arrest	serious or violent felony	43.9		47.7		
	number of prior arrests	14.0	16.5	15.2	17.9	
Prior conviction	serious or violent felony	15.8		18.2		
	registerable sex offense	3.3		3.5		
	number of prior convictions	5.1	6.4	5.3	6.9	
Prior sentences	any prior jail	71.0		69.4		
	any prior prison	20.6		22.8		
	only prior probation	3.7		3.2		
	N	1,171,326		801,521		

Source: Author’s calculations from the California Department of Justice Automated Criminal History System data (California DOJ 2022).

Note: These data excluded duplicate observations (N = 278,145) as described in note 11, multirace individuals (N = 119,041), juveniles (N = 21,210), and in-custody arrests (N = 7,130). Offense levels that were undefined (N = 105,200) or infractions (N=10,250) were recoded to misdemeanors. The penal code defines serious and violent felonies, which are strikes under California’s Three Strikes Law, and registerable sex offenses. Analyses include additional felony and misdemeanor offense type indicators for current and prior arrests and convictions, as shown in tables A.1–A.3.

tics for 2020 and 2018. Demographic variables include age at arrest, gender, and whether a person was born in the United States. Both before and during the pandemic, arrests in California involve people who are on average thirty-five years old. About 17 percent of arrests involve people born outside the United States.

During the pandemic, 20 percent of arrests were of females. Before the pandemic, 22 percent of arrests involved women.

During 2020, the racial composition of the population of arrested people in California shifted away from whites and toward Latinos. Latinos made up a larger share of arrestees dur-

ing the pandemic (46.1 percent) than they did before it (43.9 percent). By contrast, whites were 35.5 percent of those arrested before the pandemic and just 32.9 percent of those arrested during it. Blacks, Asian Americans, and Native Americans were about as likely to be arrested during the pandemic as they were before it.

In addition, other characteristics of arrests and convictions indicate a focus on more serious crimes during the pandemic. Before the pandemic, nearly three in four arrests were for crimes that would have been eligible for zero bail. During the pandemic, just two in three arrests were zero bail eligible. Before the pandemic, three in four convictions included multiple charges, whereas 83.5 percent did during the pandemic. The people involved in arrests made during the pandemic were also more likely to have prior arrests (43.9 versus 47.7 percent) and prior convictions (15.8 versus 18.3 percent) for serious or violent felonies.

Methodology

I first examine how disposition and sentencing outcomes and racial differences in those outcomes shifted during the pandemic versus before it, using fixed-effects linear probability models.¹⁴ I present before and during pandemic predicted probabilities for each outcome by race. I then apply Jonah Gelbach's (2016) decomposition to assess whether and how much the pandemic, relative to other factors, contributed to shifts in racial inequitable outcomes. Gelbach decomposition relies on a mathematical relationship between nested ordinary least squares models. Baseline models predict case outcomes as a function of race variables, with white as a comparison group, as shown in equation (1).

$$\begin{aligned} \text{Case outcome}_i = & \alpha + \beta_1 \text{Latino}_i + \beta_2 \text{black}_i \\ & + \beta_3 \text{Asian}_i + \beta_4 \text{Native Am}_i + \varepsilon_i \end{aligned} \quad (1)$$

Full specifications include all covariates and county fixed effects with Los Angeles as the base, as shown in equation (2). How much each

variable group contributes to race differences in outcomes is then calculated by comparing the unconditional means of the race coefficients in the baseline models with the conditional means in the full specifications.

$$\begin{aligned} \text{Case outcome}_i = & \alpha + \beta_1 \text{Latino}_i + \beta_2 \text{black}_i \\ & + \beta_3 \text{Asian}_i + \beta_4 \text{Native Am}_i + \beta_6 \text{Arrest} \\ & \text{during Pandemic}_i + \beta_7 \text{Pandemic Policies} \\ & \text{at Arrest}_i + \beta_8 \text{Demographics}_i + \beta_9 \text{Current} \\ & \text{Case}_i + \beta_{10} \text{Past Arrest}_i + \beta_{10} \text{Past Conviction}_i \\ & + \beta_{11} \text{County Fixed Effects} + \varepsilon_i \end{aligned} \quad (2)$$

Equation (2) highlights the relevant factor groups. A binary before-during pandemic indicator captures pandemic impacts not attributable to policies. The period during the pandemic spans from the beginning of the stay-at-home order through the end of 2020. The period before the pandemic mirrors that time span in 2018. Pandemic policies (state-wide zero bail, extended arraignments, and remote hearings) constitute one factor. The current case characteristic factor includes either current arrest (for conviction outcomes) or current conviction (for sentencing outcomes) descriptors. Prior arrest characteristics constitute another factor group. The final group includes prior convictions and the punishments associated with them.

$$\begin{aligned} \text{Case outcome}_i = & \alpha + \beta_1 \text{Latino}_i + \beta_2 \text{Black}_i \\ & + \beta_3 \text{Asian}_i + \beta_4 \text{Native Am}_i + \beta_5 \text{Remote} \\ & \text{Policy at Arrest}_i + \beta_6 \text{Other Pandemic} \\ & \text{Policies at Arrest}_i + \beta_7 \text{Demographics}_i \\ & + \beta_8 \text{Current Felony}_i + \beta_9 \text{Current} \\ & \text{Misdemeanor}_i + \beta_{10} \text{Current Other}_i \\ & + \beta_{11} \text{Past Arrest}_i + \beta_{12} \text{Past Arrest Other}_i \\ & + \beta_{13} \text{Past Conviction}_i + \beta_{14} \text{Past Conviction} \\ & \text{Other}_i + \beta_{15} \text{Past Sentencing}_i + \beta_{16} \text{County} \\ & \text{Fixed Effects} + \beta_{17} \text{Month Fixed Effects} \\ & + \varepsilon_i \end{aligned} \quad (3)$$

I use the same methodology to estimate the impact of remote hearings on conviction and sentencing outcomes and determine which fac-

14. County and month fixed effects account for time and space invariant factors that may have shaped criminal case outcomes. Such factors relevant to the current analysis include the geospatial clustering of people and average political party affiliations, which were associated with coronavirus transmission rates and affected court operations. They also include seasonal variation in, for example, crime and coronavirus transmission rates.

tors contribute to racial inequity in them. The base specification is the same as in equation (1). The full specification is shown in equation (3). I apply each specification to all 2020 arrests and then to felony and misdemeanor arrests separately. I compare the downstream outcomes of arrests made when remote hearing policies were in place with those of arrests made when they were not.

Functionally, these are intent-to-treat estimates of the impact of remote hearings on criminal case outcomes: I do not know whether remote or in-person hearings were conducted in each case, but I do not know whether they could have been. In addition, some of the dates during which pandemic policies applied may not be accurate. For these reasons, I likely underestimate the impact of remote hearing policies on criminal case outcomes.

Figure 4 illustrates substantial between-county variation in the timing and duration of remote hearing policies during the pandemic and thus provides evidence that the estimated impacts are attributable to remote hearing policies. Were they not, similar confounding factors would have had to occur with similar variation across these county contexts. The timing and duration of arraignment extension policies, also shown in figure 4, illustrates the unlikelihood of that scenario.¹⁵ In addition, the 180-day outcomes may raise doubts about whether courts adopted remote hearing policies to overcome lengthening case backlogs. Case backlogs were cited in court orders rarely and never to motivate remote hearing policies (Harris 2023). At least one court explicitly stated that remote hearing capabilities would not address backlogs (San Diego Superior Court 2020).

RESULTS

Before-during pandemic shifts in the adjusted predicted probabilities of conviction and four mutually exclusive sentencing outcomes are presented in table 3.¹⁶ Simple differences between the probabilities of the racial groups

most and least likely to experience each outcome, which appear in the last column, constitute the racial gap in criminal case outcomes.

Racial Differences in Criminal Case Outcomes

During the pandemic, the likelihood that criminal cases would lead to conviction within six months plummeted. Sentencing outcomes also shifted. On average, money sanctions and jail time became more common in 2020, whereas probation was less likely to be imposed and prison sentences were less common during the pandemic than before it. Within these overall shifts, racial dynamics also shifted. Racial gaps shrank for probation sentences but expanded for money sanction, jail, and prison sentences.

Conviction Probabilities Plummeted, Racial Disparities Shifted

During the pandemic, the probability that arrests led to convictions within six months decreased dramatically. On average, the likelihood of being convicted toppled 6.5 percentage points, from 22.0 percent before the pandemic to 15.5 percent during it. The racial gap in conviction probabilities held steady at about 2.2 percentage points. However, the racial groups most and least likely to be convicted changed. Before the pandemic, cases involving Latinos were most likely (22.7 percent) and those involving blacks least likely (20.4 percent) to lead to conviction. During the pandemic, cases involving Asian Americans were least likely to result in conviction (14.1 percent) and Asian Americans experienced the largest reduction in conviction probabilities (7.3 percentage points). Conversely, cases involving Native Americans became most likely (16.3 percent) to lead to conviction because Native Americans experienced the smallest decrease (5.0 percentage points) in the likelihood of conviction. Black people also experienced lower than average decreases (5.8 percentage points) in conviction probabilities.

15. The two counties that never adopted remote hearing or arraignment extension policies applied zero bail differently. Calaveras County applied zero bail only during the statewide order. Glenn County extended zero bail through the end of 2020 (Harris 2023).

16. Full regression results and decomposition analyses are shown in tables A.6 and A.7.

Table 3. Unadjusted and Adjusted Probability of Conviction and Sentencing Outcomes Before and During the Pandemic by Race

		Adjusted						
		All	White	Latino	Black	Asian American	Native American	Racial Gap
Conviction	before	22.0	21.9	22.7	20.4	21.4	21.3	2.2
	during	15.5	15.3	16.0	14.6	14.1	16.3	2.2
	differences	-6.5	-6.5	-6.6	-5.8	-7.3	-5.0	-0.1
Money sanction	before	5.9	5.9	5.9	6.5	4.5	5.4	2.1
	during	6.1	5.8	6.3	6.4	4.9	7.5	2.6
	differences	0.2	-0.1	0.4	-0.1	0.4	2.1	0.5
Probation	before	12.0	12.2	12.2	10.9	13.4	13.1	2.5
	during	11.4	11.9	11.1	11.3	11.1	11.4	0.8
	differences	-0.6	-0.3	-1.1	0.3	-2.3	-1.7	-1.7
Jail	before	73.8	73.6	73.6	75.0	73.4	74.5	1.6
	during	75.2	74.9	75.2	76.1	75.8	73.3	2.7
	differences	1.4	1.3	1.6	1.0	2.4	-1.2	1.1
Prison	before	6.6	6.8	6.8	5.8	6.9	6.0	1.0
	during	6.4	6.3	6.8	5.1	7.0	6.3	1.9
	differences	-0.3	-0.5	0.0	-0.7	0.1	0.3	0.8
		Unadjusted						
		All	White	Latino	Black	Asian American	Native American	Racial Gap
Conviction	before	23.0	22.4	24.7	20.0	21.7	21.7	4.7
	during	13.7	13.3	15.0	11.5	11.4	14.6	3.6
	differences	-9.3	-9.1	-9.7	-8.5	-10.3	-7.1	-1.1
Money sanction	before	5.8	4.6	7.0	5.0	4.8	4.8	2.5
	during	6.5	4.7	8.0	5.2	5.1	6.5	3.3
	differences	0.7	0.2	1.0	0.2	0.3	1.7	0.8
Probation	before	13.2	13.7	13.6	10.3	15.4	15.7	5.4
	during	8.1	8.6	8.4	6.0	8.6	10.9	4.9
	differences	-5.1	-5.2	-5.2	-4.3	-6.8	-4.7	-0.5
Jail	before	73.9	75.7	72.5	74.3	73.7	72.3	3.4
	during	75.0	77.3	73.5	75.2	76.5	71.0	6.3
	differences	1.1	1.6	1.1	0.9	2.7	-1.3	2.9
Prison	before	5.8	4.7	5.8	8.6	4.0	6.1	4.7
	during	8.9	7.9	8.9	11.5	7.7	9.8	3.9
	differences	3.2	3.2	3.1	2.9	3.7	3.7	-0.8

Source: Author's calculations from California Department of Justice Automated Criminal History System (California DOJ 2022) and court policy data summarized in figure 4.

Note: The racial gap is the difference between the racial groups most and least likely to experience each outcome. Difference rows indicate during-before differences. All predicted probabilities are statistically significant at $p \leq .05$ or lesser and were calculated using margins in STATA. Adjustment factors are shown in tables 2 and A.1-A.3. Full regression results are shown in table A.6.

*Money Sanctions More Prevalent,
Racial Gaps Widened*

Money sanctions became 0.2 percentage points more likely during the pandemic. As shown in table 3, the racial gap in the probability of receiving a money sanction widened from 2.1 percentage points before the pandemic to 2.6 percentage points during it. Cases involving Native Americans account for the increased racial gap. During the pandemic, cases of Native Americans saw the largest increase (2.1 percentage points) in the likelihood of receiving a money sanction.

*Probation Probabilities Decreased,
Racial Disparities Narrowed*

During the pandemic, the likelihood that a case would culminate in a probation sentence decreased 0.6 percentage points on average. The absolute racial gap in the probability of being sentenced to probation dropped by nearly two-thirds, from 2.5 percentage points before the pandemic to 0.8 during it. The outcomes of Asian Americans and blacks explain the narrowing racial gap. As shown in table 3, the probability that cases involving an Asian American would lead to probation fell 2.3 percentage points, such that Asian Americans moved from most likely to receive probation before the pandemic to least likely during it. By contrast, black people, who had been about one percentage point less likely than people of all other races to receive probation, experienced a 0.3 percentage point increase in the likelihood of a probation sentence.

*Jail Sentences Increased in Prevalence,
Racial Gaps Widened*

As shown in table 3, the average probability that a case would lead to a jail sentence increased slightly, from 73.8 before the pandemic to 75.2 percent during it. Cases involving people of all races—except Native Americans—were more likely to lead to jail sentences during the pandemic. Asian Americans experienced the largest increase (2.4 percentage points) in the likelihood of being sentenced to jail. By contrast, Native Americans were 1.2 percentage points less likely to receive jail sentences during the pandemic. The outcomes of Native Americans helped widen the racial gap in the

probability of receiving a jail sentence during the pandemic from 1.6 to 2.7 percentage points. In addition, blacks, who had the highest jail incarceration rates before the pandemic (75 percent), also had the highest rate amid it (76.1 percent).

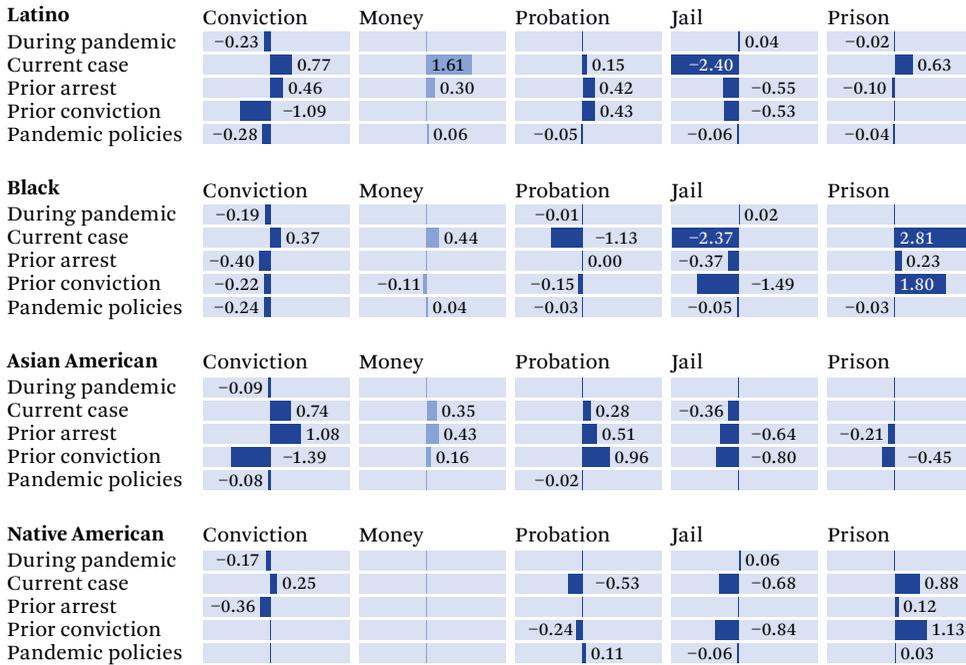
*Prison Sentences Equally Likely,
Racial Inequities Deeper*

Just under 7 percent of arrests made in California led to prison sentences before and during the pandemic. However, as shown in table 3, changes in the likelihood of receiving a prison sentence varied by racial group—and the gap increased from 1.0 to 1.9 percentage points. White and black people experienced decreased probabilities of imprisonment during the pandemic relative to before it. Blacks were least likely to be sentenced to prison before the pandemic and experienced the largest decrease in that likelihood. Thus they remained least likely to be sentenced to prison during the pandemic. Similarly, cases involving Asian Americans were most likely to result in prison sentences before and during the pandemic. However, Asian Americans experienced only a 0.1 percentage point before-during pandemic change in the likelihood of being sentenced to prison. By contrast, cases involving Native Americans were 0.3 percentage points more likely to lead to prison sentences during the pandemic than they had been before it.

*Policies, Racial Differences,
Criminal Case Outcomes*

Decomposition analysis reveals how much of the explained racial variation in outcomes is attributable to each factor group represented in the data. However, the data do not account for all of the racial differences in criminal case outcomes that emerged during the pandemic. Unexplained differences between whites and blacks remained for all outcomes—and the direction of those differences shifts by outcome. Other factors equal, blacks were less likely than whites to be convicted (1.4 percentage points) and sentenced to probation (1.3 percentage points) or prison (1.0 percentage point). Conversely, blacks were more likely than whites to receive money sanctions (0.6 percentage points) and jail (1.4 percentage points) sen-

Figure 5. Differences in Case Outcomes Explained by Pandemic Policies



Source: Author’s calculations from California Department of Justice Automated Criminal History System data (California DOJ 2022) and court policy data summarized in figure 4.

Note: Percentage points shown. Where cells are blank, the factor group did not make a statistically significant contribution to racial differences in outcomes. Contributions are statistically significant at $p \leq .05$. See appendix table A.7 for complete results.

tences. Unexplained differences between whites and Latinos remained for conviction (0.8 percentage points). Asian Americans were 1.4 percentage points less likely than whites to receive money sanctions and 1.2 percentage points more likely to receive probation.

Pandemic policies—remote hearings, arraignment extensions, and zero bail—collectively account for some of the explained before-during pandemic racial differences in criminal cases outcomes. As shown in figure 5, pandemic policies closed gaps in conviction, probation, and prison probabilities between whites and people of all other races, except Native Americans, for whom pandemic policies widened these gaps. Pandemic policies also narrowed racial gaps the probability of being sentenced to jail between whites and people of all other races except Asian Americans. On the other hand, pandemic policies deepened racial gaps in the imposition of money sanctions be-

tween Latinos and whites and blacks and whites.

In general, current case, prior arrest, and prior conviction and sentencing factors explain substantially more of the race differences in conviction and sentencing outcomes than pandemic policies do. However, for some racial groups, pandemic policies accounted for a substantial proportion of the explained racial difference. For example, pandemic policies account for about half as much of the black-white variation in conviction, money sanction, and jail probabilities as prior arrest characteristics do—and both factors narrow black-white gaps in these outcomes.

Remote Hearings, Racial Equity, Criminal Case Outcomes

Allowing remote hearings reinforced lower conviction probabilities during the pandemic. By contrast, for sentencing outcomes, the im-

pacts of remote hearings opposed before-during pandemic trends. Remote hearing policies increased the likelihood of noncustodial sentences and decreased the likelihood of jail sentences. This trade-off was concentrated among misdemeanors, although remote hearing policies also affected the outcomes of felony arrests of blacks.

Remote Hearings Reduced Average Conviction Probabilities

Being arrested when a remote hearing policy was in place, versus when it was not, reduced the average probability of conviction within 180 days by 1.5 percentage points, overall. Having a remote hearing policy in place during misdemeanor and felony arrests reduced both conviction rates by 1.4 percentage points. People of all races seemed to experience reduced conviction rates when remote hearing policies were in place. However, as shown in table 4, only cases involving black, Latino, and white defendants showed statistically significant impacts. Arrests of black defendants were 2.1 percentage points less likely to result in conviction when remote hearings were allowed. Arrests of white and Latino defendants were, respectively, 1.4 and 1.3 percentage points less likely to end in conviction under remote hearing policies.

Remote Hearing Policies and Sentencing Outcomes

Across offense levels, having a remote hearing policy in place at arrest increased the likelihood of post-conviction probation by 0.6 percentage points and the probability of receiving a money sanction by 0.4 percentage points. On the other hand, jail sentences were 1 percentage point less likely—a near exact trade-off. Arrests for nontraffic misdemeanors drove this result (see table A.4). Nontraffic misdemeanor arrests made under remote hearing policies were 1.5 percentage points less likely to lead to jail sentences and 1.3 percentage points more likely to lead to probation sentences.

Sentencing, Offense Levels and Racial Groups, and Remote Hearing Policies

Remote hearings influenced the outcomes of felony convictions only for blacks. Under remote hearing policies, blacks were 3.8 percentage points less likely to be sentenced to prison and 4 points more likely to be sentenced to jail—a near perfect trade-off.¹⁷

Impacts on the outcomes of misdemeanor convictions were more widespread. Under remote hearing policies, misdemeanor convictions were less likely to result in jail sentences and more likely to lead to probation or money sanctions. These impacts seemed to hold for people of all races, but not all are statistically significant, as shown in table 4. Under remote hearing policies, whites, blacks, and Native Americans were more likely to receive money sanctions after misdemeanor convictions. Increases ranged from 1.5 percentage points for whites to 4.7 percentage points for Native Americans. Whites, along with Latinos, were also at least 1.1 percentage points more likely to receive probation for misdemeanors while remote hearing policies applied. Conversely, whites, blacks, and Latinos were less likely to be sentenced to jail within six months of misdemeanor convictions stemming from arrests made under remote hearing policies. Under such policies, reductions in misdemeanor jail sentences ranged from 1.2 percentage points for Latinos to 3.0 percentage points for whites.

Remote Hearings and Racial Gaps in Case Outcomes

The data do not explain all of the racial differences in cases outcomes amid the pandemic. Unexplained differences remained between whites and Asian Americans, blacks, and Latinos. Relative to arrests of whites, arrests of Latinos remained 0.8 percentage points more likely to lead to conviction, 0.8 percentage points less likely to lead to jail, and 0.9 percentage points more likely to result in money sanctions. Relative to whites, blacks were 0.5 percentage points less likely to be convicted and 0.9 percentage points less likely to be imprisoned.

17. Impacts for felony convictions of all people were marginally statistically significant at $p = 0.06$. Felony convictions were marginally more likely to lead to jail (1.6 percentage points) and less likely to lead to prison (1.5 percentage points). Nontraffic convictions drove these impacts, as shown in table A.4.

Table 4. Average Marginal Effects of Remote Hearing Policies

	Race	All				Felony				Misdemeanor			
		AME	SE	p		AME	SE	p		AME	SE	p	
Conviction	All	-0.015	0.001	0.000	-0.014	0.002	0.000	-0.014	0.002	0.000	0.002	0.000	
	White	-0.014	0.002	0.000	-0.017	0.003	0.000	-0.013	0.002	0.000	0.002	0.000	
	Latino	-0.013	0.002	0.000	-0.013	0.003	0.000	-0.016	0.002	0.000	0.002	0.000	
	Black	-0.021	0.002	0.000	-0.015	0.003	0.000	-0.022	0.003	0.000	0.003	0.000	
	Asian American	-0.007	0.004	0.115	-0.005	0.006	0.452	-0.005	0.005	0.005	0.005	0.365	
Money sanction	Native American	-0.012	0.010	0.253	-0.021	0.016	0.178	-0.003	0.014	0.802	0.014	0.802	
	All	0.004	0.002	0.051	-0.001	0.001	0.400	0.010	0.004	0.012	0.004	0.012	
	White	0.011	0.003	0.000	0.000	0.002	0.843	0.015	0.004	0.000	0.004	0.000	
	Latino	-0.003	0.003	0.340	-0.001	0.001	0.258	-0.001	0.004	0.800	0.004	0.800	
	Black	0.011	0.003	0.001	-0.002	0.001	0.257	0.019	0.005	0.000	0.005	0.000	
Probation	Asian American	0.012	0.007	0.106	0.002	0.005	0.639	0.017	0.010	0.088	0.010	0.088	
	Native American	0.034	0.016	0.039	0.004	0.017	0.824	0.047	0.023	0.039	0.023	0.039	
	All	0.006	0.003	0.026	-0.004	0.003	0.183	-0.014	0.002	0.000	0.002	0.000	
	White	0.010	0.004	0.008	0.001	0.004	0.785	0.013	0.005	0.010	0.005	0.010	
	Latino	0.006	0.003	0.064	-0.005	0.003	0.099	0.011	0.004	0.010	0.004	0.010	
Jail	Black	0.001	0.004	0.901	-0.004	0.005	0.433	0.001	0.006	0.889	0.006	0.889	
	Asian American	-0.004	0.011	0.700	-0.032	0.013	0.017	0.004	0.014	0.797	0.014	0.797	
	Native American	0.005	0.024	0.839	0.012	0.029	0.684	0.006	0.033	0.849	0.033	0.849	
	All	-0.010	0.004	0.013	0.016	0.009	0.060	-0.021	0.005	0.000	0.005	0.000	
	White	-0.021	0.005	0.000	0.007	0.011	0.510	-0.030	0.006	0.000	0.006	0.000	
Prison	Latino	-0.004	0.005	0.357	0.014	0.010	0.140	-0.012	0.005	0.017	0.005	0.017	
	Black	-0.006	0.007	0.371	0.040	0.013	0.002	-0.024	0.008	0.002	0.008	0.002	
	Asian American	-0.011	0.015	0.459	0.040	0.032	0.211	-0.023	0.017	0.169	0.017	0.169	
	Native American	-0.020	0.033	0.549	0.005	0.059	0.933	-0.033	0.038	0.390	0.038	0.390	
	All	-0.002	0.003	0.397	-0.015	0.008	0.058	0.000	0.000	0.051	0.000	0.051	
Prison	White	-0.001	0.003	0.675	-0.010	0.010	0.311	0.000	0.000	0.252	0.000	0.252	
	Latino	-0.001	0.003	0.605	-0.013	0.009	0.149	0.001	0.000	0.018	0.000	0.018	
	Black	-0.007	0.005	0.166	-0.038	0.012	0.002	0.000	0.001	0.595	0.001	0.595	
	Asian American	0.003	0.009	0.723	-0.025	0.030	0.405	0.002	0.001	0.167	0.001	0.167	
	Native American	-0.005	0.019	0.802	-0.021	0.054	0.702	0.000	0.000	0.218	0.000	0.218	

Source: Author's calculations from California Department of Justice Automated Criminal History System (California DOJ 2022) and court policy data summarized in figure 4.

Note: Each outcome is within 180 days of arrest. Average marginal effects were estimated via *margins* in STATA. Current case characteristics for conviction outcomes are arrest characteristics ($N = 801,521$ arrests, $N = 347,836$ felony arrests). Current case characteristics for sentencing outcomes are conviction characteristics ($N = 106,753$ convictions; $N = 32,347$ felony convictions). See appendix table A.8 for complete regression results.

Asian Americans also were less likely (1.3 percentage points) to be convicted and to receive money sanctions (1.0 percentage point) than whites.

Remote hearing policies account for a non-trivial share of the differences in case outcomes between whites and people of other races that the data can explain. For example, of the explained race differences in conviction rates, remote hearing policies accounted for 13 percent of the Latino-white difference and 8 percent of black-white difference. As shown in figure 6, remote hearing policies help explain Latino-white and black-white differences in conviction, money sanction, probation, and jail outcomes, but not in prison outcomes. For blacks and Latinos alike, remote hearings decrease racial differences in conviction and jail probabilities and increase them in the likelihood of receiving money sanctions and probation. Moreover, the magnitude of the impact attributable to remote hearings exceeds or rivals the impact of criminal history factors. For example, remote hearing policies (-0.11 percentage points) shaped Latino-white differences in conviction outcomes almost as much as current felony characteristics (0.13 percentage points). Similarly, remote hearing policies explained a larger share of the Latino-white differences in jail incarceration than whether a current case has multiple charges, prior conviction crime types and levels, and prior sentences. Likewise, remote hearing policies (-0.09 percentage points) account for a similarly sized share of the black-white difference in conviction conclusions as prior arrest types (-0.09 percentage points) in producing black-white differences in conviction rates. Remote hearing policies also account for a larger share of the black-white differences in probation rates than do current misdemeanor crime types and multiple charges.

DISCUSSION

The pandemic profoundly affected the criminal justice system and motivated courts across the country to dramatically alter their policy environments. Although arrest rates plunged, case processing stalled. Enormous criminal case backlogs accumulated. To resume operations under these extraordinary circumstances, criminal courts across the country adopted re-

remote technologies—which were essentially untested, save for one study of bail hearings—with unprecedented speed. Before the pandemic, not a single jury trial had been conducted remotely. Two years later, courts in at least eight states were doing so. This rapid shift in how courts conduct criminal proceedings has taken place in an absence of information about how defendants' criminal case outcomes might be affected.

I find that adopting remote hearing policies affected both the outcomes of criminal cases and how equitable they were. Permitting remote hearings contributed to steep reductions in conviction probabilities during the pandemic, particularly for blacks, Latinos, and whites. Adopting remote hearing policies also led to trade-offs in sentencing outcomes that bucked larger pandemic trends. All other things equal, the pandemic decreased average rates of noncustodial sentences and increased rates of custodial sentences.

Allowing remote hearings had the opposite effect. Under remote hearing policies, jail sentences became less likely and probation and money sanction sentences became more likely after misdemeanor convictions. Misdemeanors drove these outcomes and were concentrated among blacks, Latinos, and whites. Remote hearings led to trade-offs in felony case outcomes, but mainly for blacks, who were more likely to receive jail and less likely to receive prison sentences when remote hearing policies were in effect.

Whether the shift toward noncustodial sanctions and away from jail benefited misdemeanor defendants (and whether the shift from prison to jail sentences benefited black defendants, specifically) may vary by defendant and racial group (Wood and May 2003). Although probation is typically viewed as a less severe “intermediate” sanction than jail or prison time, research suggests that many people who have experienced probation strongly disagree with that characterization (Petersilia 1997; Wood and May 2003). Often justice-involved people would rather serve jail—or even prison—time than be subject to years of criminal justice supervision. The following exchange I had with a participant in another study illustrates this point. He had expressed

Figure 6. Factors That Explain Differences in Case Outcomes



Source: Author’s calculations from California Department of Justice Automated Criminal History System (California DOJ 2022) and court policy data summarized in figure 4.

Note: Percentage points shown. Blank cells indicate that the factor group did not make a statistically significant contribution to racial differences in outcomes. Contributions are statistically significant at $p \leq .05$. See appendix table A.9 for complete results.

the desire to plead guilty to a felony, which his lawyer did not believe he committed, and that carried prison time.

ME: Why did you want to go to prison?

RESPONDENT: Just to make probation shorter, get over probation. Because probation has been a humongous stressor in my life. And it seems like you hear rumors about proba-

tion setting you up for failure. You hear that exact word. They set you up for failure. And I didn’t want to be part of that anymore. I wanted to be off.

Similarly, justice-involved people might prefer prison sentences to jail sentences. Jail time is typically viewed as more punitive than prison time because conditions in jail are harsher and

services are typically lacking (May et al. 2014; Wildeman, Fitzpatrick, and Goldman 2018). However, if these felony sentences were associated with substantially less incarceration time (something I could not assess), they may be perceived as more advantageous.

Regarding racial equity, I further found that implementing remote hearing policies had nontrivial impacts on racial differences in conviction and sentencing outcomes, with the exception of imprisonment rates. Permitting remote hearings reduced black-white and Latino-white differences in the likelihood of being convicted and sentenced to jail. On the other hand, permitting remote hearings increased black-white and Latino-white differences in the likelihood of receiving money sanctions and probation.

The magnitudes of the impacts of remote hearings on racial differences in case outcomes were similar for both blacks and Latinos. Although current case and prior conviction and sentencing factors accounted for most of the racial differences in outcomes, remote hearing policies accounted for more of the black-white and Latino-white differences than many current case and criminal history factors.

These findings suggest caution in proliferating remote technology, especially at arraignment. Arguably, the modality through which hearings are held should not affect the outcomes of criminal cases. Yet remote hearing policies did have equity impacts—impacts that were sometimes larger than those of factors related to criminal behavior—on the conviction and sentencing outcomes of black and Latino people in California. These impacts most likely occurred at arraignment. After arraignment, more than 97 percent of cases resolve through plea or charge bargaining, which takes place privately and typically involves sentencing provisions.

Why holding arraignments remotely might impact case outcomes or how equitable they are remains unknown. Moreover, Figures 5 and 6 also illustrate that current case and criminal history factors affect racial differences in criminal case outcomes inconsistently. More work needs to be done to understand how these disparate impacts emerge and how they relate to

remote hearing policies, which became commonplace amid the pandemic. In the United States, this work should concentrate on arraignments as the main hearing nearly all criminal defendants experience. Only with the greater understanding of these mechanisms can we shape policies that enhance equity in criminal case outcomes.

This study is an initial step toward investigating how the switch from in-person to remote hearings has affected the conviction and sentencing outcomes of justice-involved people. Thus it can improved upon. Ideally, future research would incorporate data that includes information about whether hearings were held remotely or in person, so that the outcomes of otherwise similar criminal cases could be compared. A longer follow-up period would enhance the external validity of future studies. Unfortunately, I only had enough data to examine outcomes within six months, so my results may not apply to cases that take longer to resolve. Finally, this study spans only the first ten months of the pandemic. The impact remote hearing policy exerted on criminal cases may have shifted over time, as courts and people have become more accustomed to remote technologies and as public health crisis associated with the pandemic has moderated. Research outside the bounds of that crisis could help guide future court policymaking.

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