ARTICLES

ASSEMBLY-LINE PUBLIC DEFENSE

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Each year, millions of Americans rely on public defenders to fulfill their Sixth Amendment right to counsel. Despite being the linchpin of the criminal justice system, public defense remains both underfunded and understudied. This Article provides empirical analysis to contribute to a critical question: How should public defender systems be structured?

Criminal justice advocates, scholars, and the American Bar Association strongly favor vertical representation in public defense. Under this model, a single public defender represents a defendant throughout their case, from their initial appearance through sentencing. The alternative approach—horizontal representation—operates like an assembly line: Different attorneys handle each stage of a case, from preliminary hearings to pretrial conferences to trials. The preference for vertical representation stems from the intuitive belief that continuity of representation improves outcomes for defendants. However, no prior empirical work has tested this assumption.

Using a natural experiment created by the Defender Association of Philadelphia's transition from a fully horizontal representation system to a partially vertical one, we find no evidence that increasing attorney continuity through a vertical representation system improves defendant outcomes.

These findings have significant implications for how public defender offices should allocate their scarce resources. While vertical representation is considered by many to be the ideal, our results cast doubt on whether the additional resources and logistical challenges relative to horizontal representation are justified given the current reality of underfunded public defense. As jurisdictions nationwide grapple with a chronic lack of resources for public defense, this article provides crucial empirical evidence to inform decisions about how best to uphold defendants' Sixth Amendment right to counsel.

Introduction

In the popular imagination, a criminal lawyer relentlessly advocates for a defendant through thick and thin, from the beginning of their case until final disposition. For example, in "A Few Good Men," Tom Cruise and Demi Moore epitomize the idealized defense attorney—working through the night surrounded by mountains of case files, pursuing every lead, and marshaling all available resources to mount an aggressive defense for their clients.[1] This portrayal reflects a deeply held cultural belief: A dedicated defense attorney serves as an unwavering advocate, doing whatever it takes to defend her client. This lawyer has at her disposal seemingly endless resources to research, understand, and strategize the client's case—allowing razor-sharp attacks against the prosecution to obtain the best possible outcomes for the client at every step of the way.

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[1] *See, e.g.*, A Few Good Men (Columbia Pictures 1992).

Unfortunately, the reality for the vast majority of defendants does not come close to this romanticized conception of criminal representation. In the United States, most criminal defendants are represented through the indigent defense system, many by public defenders.[2] These public defenders have extremely limited time and resources, often juggling well over a hundred cases simultaneously.[3] In many public defender offices, rather than stick with their clients through thick and thin, attorneys represent a client for one hearing and then hand them off to a colleague for the next.[4]

This type of representation is known as *horizontal representation*.[5] Under this representation model, attorneys are assigned either to specific stages of the criminal process, such as preliminary hearings, or to specific courtrooms on a given date.[6] As a result, a defendant's case proceeds as if along an assembly line, with each attorney handling their designated stage and then moving the case on to the next attorney.[7] Offices primarily employ this model for cost reduction and efficiency.[8] For example, this organizational approach reduces the time attorneys spend waiting for cases to be called or running between courtrooms.[9]

Scholars have severely criticized the use of horizontal representation, arguing that its drawbacks fundamentally undermine the provision of effective representation. These drawbacks include lower attorney accountability,[10] information loss as cases are passed between lawyers,[11] less zealous advocacy,[12] inefficient case

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[2] Caroline W. Harlow, U.S. Dep't of Just., Defense Counsel in Criminal Cases 1 (2000) (reporting that 82% of state criminal defendants are represented by court appointed counsel, with public defenders representing 68.3%).

[3] *See* Donald J. Farole, Jr. & Lynn Langton, *A National Assessment of Public Defender Office Caseloads*, Judicature Sept.–Oct. 2010, at 87–88 (indicating that, on average, public defenders were each assigned 370 cases in 2007).

[4] *See* Anne Bowen Poulin, *Strengthening the Criminal Defendant's Right to Counsel*, 28 Cardozo L. Rev. 1213, 1255 (2006).

[5] *Id.* at 1254.

[6] *Id.*

[7] This practice is also referred to as "stage" or "sequential" representation.

[8] *See* Janet A. Gilboy, *The Social Organization of Legal Services to Indigent Defendants*, 1981 Am. Bar Found. Rsch. J. 1023, 1044 (identifying the competing demands of court scheduling as the largest factor necessitating horizontal representation).

[9] *Id.* at 1040–41.

[10] Scott Wallace & David Carroll, *The Implementation and Impact of Indigent Defense Standards*, 31 S.U. L. Rev. 245, 263 (2004).

[11] Gilboy, *supra* note 8, at 1044–47.

[12] Richard Klein, *The Emperor* Gideon *Has No Clothes: The Empty Promise of the Constitutional Right to Effective Assistance of Counsel*, 13 Hastings Const. L.Q. 625, 678 (1986) (describing the relationship between a defender and their assigned judge as a

preparation,[13] representation gaps,[14] and weakening of the attorney-client relationship.[15]

Accordingly, there has been a clear consensus among criminal justice organizations[16] and legal scholars[17] endorsing an alternative structure of public defense representation: *vertical representation*.[18] This approach, which in 2023 the ABA recommended as one of its ten principles of public defense,[19] assigns a single attorney to handle a defendant's case in its entirety, from initial appearance through case resolution.[20] Proponents believe vertical representation benefits clients by fostering trust and encouraging open communication.[21]

Courts have also weighed in on the importance of continuity of counsel. Several state courts have held that once established in the case of an indigent defendant, the attorney-client relationship is protected against unwarranted judicial interference.[22] Further, writing for the Ninth Circuit in *Greenfield v. Gunn*, then-Judge Anthony Kennedy highlighted the risks of horizontal representation: "[U]nless each

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"marriage," where the defender elevates the desire for amiable working conditions over effective representation of the client).

[13] Suzanne E. Mounts, *Public Defender Programs, Professional Responsibility, and Competent Representation*, 1982 Wis. L. Rev. 473, 486.

[14] Irene Oritseweyinmi Joe, *Systematizing Public Defender Rationing*, 93 Denv. L. Rev. 389, 419–20 (2016).

[15] Poulin, *supra* note 4.

[16] The National Legal Aid Defender Association has affirmed this practice as a requirement in reports. *See, e.g.*, Nat'l Legal Aid & Def. Ass'n, A Race to the Bottom: Evaluation of Trial-Level Indigent Defense Systems in Michigan 70–78 (2008); Nat'l Legal Aid & Def. Ass'n, Halting Assembly Line Justice: Evaluation of Public Defender Services for the District of Columbia 20–23 (2008); and Nat'l Legal Aid & Def. Ass'n, The Guarantee of Counsel: Evaluation of Trial-Level Indigent Defense Systems in Idaho, at vii (2010).

[17] *See, e.g.*, Mounts, *supra* note 13.

[18] *See* Donald J. Farole, Jr. & Lynn Langton, U.S. Dep't of Just., County-Based and Local Public Defender Offices, 2007, at 6 (2010).

[19] Am. Bar Ass'n, Ten Principles of a Public Defense Delivery System 6 (2023). Note that the first footnote to Principle 8 does specifically approve the use of specialized bail attorneys from arrest to initial appearance, but only so long as there are procedures in place to ensure proper transition to defense counsel. *Id.* at 15 n.43. Principle 8 also acknowledges the potential need to supplement a defendant's assigned lawyer with specialty counsel. *Id.* at 6.

[20] Joe, *supra* note 14, at 414.

[21] *See* Kim Taylor-Thompson, *Tuning Up Gideon's Trumpet*, 71 Fordham L. Rev. 1461, 1501 (2003).

[22] *See infra* Section I.B (listing all states that currently have a right to continuity of representation that protects against unwarranted reassignment of counsel by the court). These decisions have considered situations where the trial court ordered the replacement of counsel, often in the context of court appointed counsel, against the wishes of the defendant. Thus, they do not directly consider the legality of horizontal representation. *See, e.g.*, McKinnon v. State, 526 P.2d 18, 20–21 (Alaska 1974) (addressing a situation where unwarranted judicial interference in the horizontal assignment of attorneys violated defendant's right to choice of counsel).

attorney scrupulously acts to insure that all who participate in the case are informed of every aspect of that attorney's representation, there is some danger that a defendant may be deprived of effective legal assistance."[23]

While empirical evidence exists for a handful of recent criminal justice reforms,[24] the debate between vertical and horizontal representation has been conducted in an empirical vacuum.[25] This dearth is likely due to the analytical challenge involved. Public defender offices tend to have either one system or the other.[26] A simple comparison across these public defender offices would be misleading because the offices vary in many ways other than the structure of attorney assignment. This makes it difficult to ascribe differences in defendant outcomes to any specific aspect of an office, such as horizontal or vertical structure.

This Article sheds light on this issue by providing the first empirical assessment of how the attorney assignment method affects defendant outcomes. Specifically, a recent change in the practices of the Philadelphia public defender's office provides an opportunity to conduct a quantitative analysis on whether increased attorney continuity improves defendant outcomes. In 2015–2016, the Defender Association of Philadelphia changed its system of attorney assignment to increase the continuity of representation throughout the trial process

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[23] Greenfield v. Gunn, 556 F.2d 935, 939 (9th Cir. 1977). However, no defendant has successfully argued at the federal level that the Sixth Amendment right to counsel guarantees continuity of counsel. The Supreme Court recently denied a petition for a writ of certiorari where the petition requested the Court to consider whether the Sixth Amendment guaranteed indigent defendants the right to continued representation once counsel has been appointed. Petition for Writ of Certiorari at i, Colorado v. Davis, 527 P.3d 380 (Colo. 2023), *cert. denied*, 145 S. Ct. 371 (2024) (No. 23-1096), 2024 WL 1556217.

[24] The empirical legal community has produced research to understand the impact of reforms. *See, e.g.*, Amanda Agan & Sonja Starr, *Ban the Box, Criminal Records, and Racial Discrimination: A Field Experiment*, 133 Q.J. Econ. 191, 196–97 (2018) (changes to the reporting of criminal histories); J.J. Prescott & Sonja B. Starr, *Expungement of Criminal Convictions: An Empirical Study*, 133 Harv. L. Rev. 2460, 2465–67 (2020) (same); Paul Heaton, Sandra Mayson & Megan Stevenson, *The Downstream Consequences of Misdemeanor Pretrial Detention*, 69 Stan. L. Rev. 711, 714–15 (2017) (reduction of pretrial detention); Stephanie Holmes Didwania, *The Immediate Consequences of Federal Pretrial Detention*, 22 Am. Law & Econ. Rev. 24, 27–28 (2020) (same); Charles E. Loeffler & Ben Grunwald, *Decriminalizing Delinquency: The Effect of Raising the Age of Majority on Juvenile Recidivism*, 44 J. Legal Stud. 361, 363 (2015) (raising the age of majority).

[25] For a summary of empirical studies regarding different indigent defense delivery systems, see generally Maggie Bailey, U.N.C. Sch. of Gov't, Crim. Just. Innovation Lab, Empirical Research on the Effectiveness of Indigent Defense Delivery Systems (2021), https://cjil.sog.unc.edu/wp-content/uploads/2023/07/Research-on-Indigent-Defense-2.19.20.pdf [https://perma.cc/6D3F-7T75]. However, none of the cited studies compare different structures of public defender offices.

[26] *See* Farole & Langton, *supra* note 18, at 6 (reporting that only 13% of offices use a mixed model).

for less serious felony cases.[27] Following this change, in the event of a continuance delaying the trial, defendants continued to be represented by their initially assigned attorney.

This change happened in several stages. The staggered timing allows us to compare outcomes for cases under the prior fully horizontal system and those under the new system. This makes it possible to identify the impact of the organizational structure and distinguish it from other potential causes of changes in defendant outcomes. While the new system implemented by the Defender Association is not a fully vertical system, we believe the effects of this policy change provide insight into the effect of increasing continuity of representation generally and can thus help inform the discussion of the merits of vertical representation.

We find no evidence in our analysis that increasing continuity of representation improves defendant outcomes, such as the probability of conviction or incarceration length.[28] These results require reconsidering the condemnation of horizontal representation. The potential benefits of this system may have been wrongly downplayed. For example, additional eyes on a case can reduce the possibility of missing beneficial litigation or plea-bargaining strategies.[29] In addition, horizontal representation allows an attorney to specialize in a particular stage of the criminal process and build stronger relationships with specific judges and prosecutors.[30] Further, it may be that in the current reality of massively overworked public defender offices, the potential benefits of vertical representation are not fully realizable.

Our results have implications for the provision of criminal defense across the United States. Many major cities face challenges similar to those in Philadelphia, including excessive caseloads[31] and resource

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[27] We describe the precise nature of the change in Section II.B and discuss those implications further in Section IV.C.

[28] *See infra* Section III.C.

[29] *See, e.g.*, Jamison Koehler, *A New Perspective on Representing Indigent Criminal Defendants*, Koehler Law (Jan. 26, 2016), https://koehlerlaw.net/2016/01/a-new-perspective-on-representing-indigent-criminal-defendants-in-d-c [https://perma.cc/N3JM-F6AN] (stating that this is used as a potential justification of the practice, though making clear that he does not believe it provides an advantage).

[30] In *Moore v. United States*, the court acknowledged that the use of horizontal representation may have the result of promoting attorney specialization and that it is a question of fact to determine whether this benefit applied in the specific office. *See* 432 F.2d 730, 736 (3d Cir. 1970).

[31] *See, e.g.*, Paul Heaton, Quattrone Ctr. for the Fair Admin. of Just., Univ. of Pa., Gideon's Promise Versus Gideon's Reality: Resource Shortfalls in Pennsylvania Public Defense 13–15 fig. 3 (2024) (noting that Philadelphia had the third-lowest number of case hours per attorney in Pennsylvania and was one of only six out of the sixty-six offices studied that had criminal attorney staffing levels above current standards).

shortages,[32] which make the use of vertical representation a costly proposition.

The popular trend toward vertical representation models in public defender offices nationwide makes our results particularly relevant.[33] Our findings challenge the prevailing professional consensus that vertical representation is all but essential for effective client advocacy.[34] Still, they are not conclusive by themselves. We cannot evaluate important considerations such as defendant perceptions of justice and attorney job satisfaction. These may have substantial long-term impacts on the efficacy of a system of attorney representation. Thus, further research is needed to evaluate these and other potential benefits of vertical systems, in addition to verifying whether our results hold in other cities.

That said, our results suggest that defender offices should carefully consider whether alternative reforms might better utilize their scarce resources. This research emphasizes the importance of evidence-based decision-making in structuring public defense systems to maximize their effectiveness. Such considerations are also relevant when similar trade-offs arise from implementing continuity in other aspects of the legal profession, such as prosecutorial offices and the judiciary,[35] as well as in other fields, such as the medical profession.[36]

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[32] *See* NORMAN LEFSTEIN, AM. BAR ASS'N, SECURING REASONABLE CASELOADS: ETHICS AND LAW IN PUBLIC DEFENSE 12, 17–18 (2011) (noting that Maryland, Nebraska, Pennsylvania, and Rhode Island reported excessive caseloads).

[33] *See* FAROLE & LANGTON, *supra* note 18, at 6 (indicating that, in 2007, "[s]ixty percent of county-based public defender offices had a written policy requiring vertical representation of indigent cases").

[34] *See* AM. BAR ASS'N, *supra* note 19 (indicating that vertical representation is a principle of public defense).

[35] *See* Ronald F. Wright, Padilla *and the Delivery of Integrated Criminal Defense*, 58 UCLA L. REV. 1515, 1527 (2011) (indicating that prosecutors typically utilize horizontal prosecution models given the specialized expertise of their attorneys); Floyd Feeney & Patrick G. Jackson, *Public Defenders, Assigned Counsel, Retained Counsel: Does the Type of Criminal Defense Counsel Matter?*, 22 RUTGERS L.J. 361, 380–81 (1991) (describing a similar debate among prosecutors and academics about the relative merits of horizontal and vertical representation in district attorneys' offices); *see also* GORDON GRILLER WITH PATRICIA K. COSTELLO, NAT'L CTR. FOR STATE CTS., MASTER (CENTRAL) TO INDIVIDUAL CASE CALENDARING PLAN: 18TH JUDICIAL DISTRICT OF KANSAS, SEDGWICK COUNTY (WICHITA) 1–2, 11 (2018), https://ncsc.contentdm.oclc.org/digital/api/collection/ctadmin/id/2238/download [https://perma.cc/76WV-6R86] (explaining that a master calendar system, where cases are passed from one judge to another as the cases progress along the adjudicatory stages, is widely used throughout the United States for certain case types); MAUREEN SOLOMON & DOUGLAS K. SOMERLOT, AM. BAR ASS'N, CASEFLOW MANAGEMENT IN THE TRIAL COURT: NOW AND FOR THE FUTURE 6–30 (1987) (stating similar objectives in the use of court-wide case management systems that mirror horizontal representation).

[36] *See* Denis J. Pereira Gray, Kate Sidaway-Lee, Eleanor White, Angus Thorne & Philip H. Evans, *Continuity of Care with Doctors—a Matter of Life and Death? A Systematic Review*

The Article proceeds as follows: In Part I, we explain why funding challenges have caused many public defender offices to utilize a horizontal system and discuss the various arguments that have been made in favor of and against both horizontal and vertical systems. Part II describes the setting for our study. We provide background information on the Defender Association of Philadelphia and the criminal process in Philadelphia, where our empirical analysis is situated. We also detail the policy change we use to analyze the impact on defendant outcomes of increasing continuity in representation and describe our data. In Part III, after verifying the validity of our empirical method, we present our empirical analysis and report the quantitative results. In Part IV, we explore the implications of our findings for the organization of criminal defense throughout the United States. Part V concludes.

I
Background

This Part first discusses the realities of resource constraints in the public defense system to illustrate why many public defender offices might consider implementing a horizontal representation system. It then reviews the existing literature surrounding continuity of representation, teeing up the question our study seeks to answer: Does vertical representation in public defender offices provide meaningful benefits to defendants relative to horizontal representation?

A. *Resource Scarcity in Public Defense*

The right to counsel in criminal cases, enshrined in the Sixth Amendment, is a cornerstone of the American justice system.[37] In the famed decision of *Gideon v. Wainwright*, the Supreme Court mandated that states provide legal representation for those unable to afford it.[38] Of the approximately five million felony cases filed yearly in state

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of Continuity of Care and Mortality, 8 BMJ Open, June 28, 2018, at 1–2 (2018) (discussing the impact of continuity of care on patient mortality); Christopher S. Parshuram, Andre C.K.B. Amaral, Niall D. Ferguson, G. Ross Baker, Edward E. Etchells, Virginia Flintoft, John Granton, Lorelei Lingard, Haresh Kirpalani, Sangeeta Mehta, Harvey Moldofsky, Damon C. Scales, Thomas E. Stewart, Andrew R. Willan & Jan O. Friedrich, *Patient Safety, Resident Well-Being and Continuity of Care with Different Resident Duty Schedules in the Intensive Care Unit: A Randomized Trial*, 187 Can. Med. Ass'n J. 321, 327–28 (2015) (finding inherent tradeoff between continuity of patient care and physician fatigue).

[37] *See The Right to Counsel: How It Affects You*, U.S. Cts. (July 11, 2023), https://www.uscourts.gov/news/2023/07/11/right-counsel-how-it-affects-you [https://perma.cc/WM5C-6MB5].

[38] Gideon v. Wainwright, 372 U.S. 335, 344–45 (1963).

courts,[39] estimates are that state-funded attorneys represent defendants in roughly 80%.[40] While some regions rely on court-appointed private attorneys, public defender offices have become the primary mechanism for delivering indigent defense services in many jurisdictions.

But all is not well in the public defender system. Many scholars have referred to the current state of public defender funding as a crisis.[41] They argue that insufficient funding, which generates excessive caseloads and inadequate support services, has been undermining the provision of public defense.[42] A 2007 report found that 73% of county-funded public defender offices exceeded the then-ABA-recommended limit of 150 felonies or 400 misdemeanors per year per full-time attorney.[43] In 2023, the ABA updated its recommendations to more than double the hours required to effectively represent a felony case and more than quadruple the hours required for misdemeanors.[44] Hence, the discrepancy between the realities of public defense and professional guidelines has only grown more extreme since the publication of the 2007 report.[45] Even without reference to professional guidelines, in some offices, caseloads are entirely divorced from anything that could be considered reasonable.

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[39] Brian J. Ostrom, Lydia E. Hamblin, Richard Y. Schauffler & Nial Raaen, Nat'l Ctr. for State Cts., Timely Justice in Criminal Cases: What the Data Tells Us 6 (2020), https://www.researchgate.net/publication/344888868_Timely_Justice_in_Criminal_Cases_What_the_Data_Tells_Us [https://perma.cc/C8X3-Q3EH].

[40] Harlow, supra note 2, at 1 ("At felony case termination, court-appointed counsel represented 82% of State defendants in the 75 largest counties in 1996 . . . .").

[41] See, e.g., Mary Sue Backus & Paul Marcus, The Right to Counsel in Criminal Cases: Still a National Crisis?, 86 Geo. Wash. L. Rev. 1564, 1566 (2018); Roger A. Fairfax, Jr., Searching for Solutions to the Indigent Defense Crisis in the Broader Criminal Justice Reform Agenda, 122 Yale L.J. 2316, 2322 (2013); Eve Brensike Primus, Am. Const. Soc'y, Litigation Strategies for Dealing with the Indigent Defense Crisis 1 (2010).

[42] See, e.g., Norman Lefstein & Robert L. Spangenberg, Nat'l Right to Couns. Comm., The Const. Project, Justice Denied: America's Continuing Neglect of Our Constitutional Right to Counsel 1 (2009), https://www.opensocietyfoundations.org/uploads/52165620-3308-4802-9a58-ce8b4c00a31d/justice_20090511.pdf [https://perma.cc/9Y3Y-TKH5] (assessing the nationwide state of indigent defense and recommending reform).

[43] Farole & Langton, supra note 18, at 1, 8.

[44] Compare Marco Poggio, Public Defenders Are 'Dangerously' Overworked, Report Finds, Law360 Pulse (Sept. 12, 2023), https://www.law360.com/pulse/articles/1719991/public-defenders-are-dangerously-overworked-report-finds [https://perma.cc/35LW-WTHY] (noting that in 2022, public defenders in Pennsylvania and Missouri had annual caseloads of 300 or more felony cases, which is significantly higher than the then-existing guideline that attorneys handle 150 felony cases per year), with Nicholas M. Pace, Malia N. Brink, Cynthia G. Lee & Stephen F. Hanlon, RAND Corp., National Public Defense Workload Study, at xii (2023) (setting out the updated recommendations).

[45] Cf. Poggio, supra note 44 (demonstrating that public defender workloads exceed the 2007 guidelines and the 2023 guidelines).

For example, in Chicago, defenders handled over 2000 misdemeanor cases per attorney per year.[46]

In response to concerns about inadequate resources, states such as Michigan,[47] Pennsylvania,[48] and Utah[49] have improved state funding of public defense systems. In other regions, litigation efforts, such as the ACLU's class action in Missouri, have sought to compel states to provide adequate resources for public defense.[50] However, achieving an increase in funding for indigent defense presents significant challenges. As with any increase in government spending, it requires either the reallocation of resources from other already underfunded public services—such as education, healthcare, and infrastructure—or the generation of additional tax revenue.[51] Either option requires substantial political will and public support, which appear lacking.[52] Consequently, while bolstering funding for indigent defense remains a crucial objective, realistically, it is little more than a long-term aspiration.[53]

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[46] Robert C. Boruchowitz, Malia N. Brink & Maureen Dimino, Nat'l Ass'n of Crim. Def. Laws., Minor Crimes, Massive Waste: The Terrible Toll of America's Broken Misdemeanor Courts 21 (2009), https://www.nacdl.org/getattachment/20b7a219-b631-48b7-b34a-2d1cb758bdb4/minor-crimes-massive-waste-the-terrible-toll-of-america-s-broken-misdemeanor-courts.pdf [https://perma.cc/KF8R-PVB3].

[47] *See* Mich. Indigent Def. Comm'n, Annual Impact Report 2023: Racing from the Bottom to the Top: Ten Years of Transformational Reform from the MIDC, Annual Impact Report 20 (2023) (outlining costs of public defense and promising funding increases).

[48] *See* Comm'n on Crime and Delinq., *Shapiro Administration Launches First-Ever Grant Program to Support Indigent Defense Services in Pennsylvania*, Commonwealth of Pa. (Apr. 26, 2024), https://www.pa.gov/agencies/pccd/newsroom/shapiro-administration-launches-first-ever-grant-program-to-support-indigent-defense-services-in-pennsylvania.html [https://perma.cc/TXV5-NM9Z] (establishing state funding of public defense in Pennsylvania for the first time).

[49] *See* Utah Indigent Def. Comm'n, 2016 Annual Report 2 (2017), https://idc.utah.gov/wp-content/uploads/2021/01/2016-UIDC-Annual-Report.pdf [https://perma.cc/VR3P-UR6Q] (announcing a pilot grant program for Utah public defense).

[50] *ACLU Sues Missouri over Disastrous Public Defender System: State Fails to Provide Adequate Legal Representation to Tens of Thousands Every Year, Resulting in Unnecessary Jail Time, Forced Pleas, Other Injustices*, Am. C.L. Union, (Mar. 9, 2017), https://www.aclu.org/press-releases/aclu-sues-missouri-over-disastrous-public-defender-system [https://perma.cc/YU95-ZGEY] (announcing a lawsuit seeking to increase funding of public defense); *see also ACLU of Pennsylvania Sues the Commonwealth over Inadequate Public Defense System*, Am. C.L. Union, (June 13, 2024), https://www.aclupa.org/en/press-releases/aclu-pennsylvania-sues-commonwealth-over-inadequate-public-defense-system [https://perma.cc/FG96-ZP7A] (same).

[51] *See* Primus, *supra* note 41, at 8 (noting that the DOJ has limited resources).

[52] Indigent defense is instead often the target of budget cuts when state governments are required to cut costs. For example, following the Great Recession, there was a 0.7% decrease in state indigent defense expenditures between 2008 and 2012. *See* Erinn Herberman & Tracey Kyckelhahn, U.S. Dep't of Just., State Government Indigent Defense Expenditures, FY 2008–2012 – Updated 1 (2014).

[53] *See* Carol S. Steiker, Gideon *at Fifty: A Problem of Political Will*, 122 Yale L.J. 2694, 2700 (2013) (characterizing adequate resources for public defense as "something of a pipedream").

Given the scarcity of resources available to public defender offices and the unlikelihood of substantial funding increases, these offices must carefully consider how to optimize resources. This context underscores the need for empirical research to help public defender offices make informed decisions about how to effectively allocate their scarce resources to fulfill their constitutional mandate.[54]

B. The Trade-off of Horizontal Representation

Proponents of horizontal representation argue that it increases efficiency.[55] In assessing the claim of ineffective assistance of counsel in *Greenfield v. Gunn*, the Ninth Circuit Court of Appeals discussed whether using a horizontal representation method was, per se, a violation of effective representation. The Court acknowledged that "horizontal representation may at times be an inevitable result of workload and budget constraints imposed on a public defender's office."[56] Assigning attorneys to courtrooms rather than cases reduces the time spent waiting for cases to be called and traveling between courtrooms.[57] The fact that economic constraints primarily drive the practice is suggested by the fact that it is predominantly used by offices with larger caseloads.[58]

While efficiency appears to be the primary driver of its adoption, horizontal representation also has other potential benefits. It allows attorneys to specialize in different aspects of the criminal process.[59] In a similar vein, it enables offices to assign the most experienced attorneys to the stages considered most complex and the most difficult to rectify in the case of an error, such as the trial.[60] Another benefit of

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[54] *See* Gilboy, *supra* note 8, at 1047–48 (suggesting that evidence of adverse effects of different forms of representation should inform court restructuring efforts).

[55] *See id.* at 1040–41.

[56] Greenfield v. Gunn, 556 F.2d 935, 938 (9th Cir. 1977).

[57] Wallace & Carroll, *supra* note 10, at 263; *see* Irene Oritseweyinmi Joe, *Administering Effective Assistance of Counsel*, 105 B.U. L. Rev. 1, 16 (2025) (discussing how a vertical representation model can increase burnout due to the scheduling difficulties it creates); *see also* Alma Magaña, *Response: Diagonal Representation*, 105 B.U. L. Rev. 53, 57–58 (2025) (discussing how vertical representation in a setting with high caseloads creates a "logistical nightmare" due to the need to run between courtrooms while suggesting that horizontal representation "can enable organizations with limited resources to maximize efficiency when faced with high caseloads").

[58] *See* Farole & Langton, *supra* note 18, at 6 (noting that "offices with smaller caseloads were more likely than those with higher caseloads to provide vertical representation").

[59] *See, e.g.*, Wright, *supra* note 35, at 1527 (mentioning this potential benefit in the context of horizontal prosecution).

[60] *See, e.g.*, Feeney & Jackson, *supra* note 35, at 380–81 (discussing the context of horizontal prosecution). However, it should be noted that assigning experienced attorneys to particular stages of a case occurs at the expense of allowing more complex cases to be given to the most experienced attorneys, which is possible under a vertical representation system.

horizontal representation is that multiple attorneys will look at each case.[61] This can enhance the likelihood of error detection and facilitate the consideration of a greater number of potential defense strategies.

However, these benefits do not come without a cost. Under horizontal representation, a defendant must deal with multiple defense attorneys as their case progresses through the system.[62] As a result, this structure has several potential drawbacks.

One key concern when different attorneys handle the various stages of a case is that each may feel limited responsibility for the ultimate outcome.[63] They may ascribe poor results to the failings of either the prior lawyers involved in the case or to the attorneys assigned to subsequent stages. This diffusion of responsibility may reduce incentives for thorough preparation at each stage. For example, lawyers assigned to the initial stages of a case may leave the investigation and the interviewing of witnesses to the trial attorney.[64]

United States v. Zelker provides an extreme example of how this can undermine a defendant's representation.[65] In this case, over the six months that the defendant was being detained pretrial, his trial was repeatedly postponed, with different attorneys assigned to his defense each time he appeared in court.[66] Of these attorneys, only one met with the defendant to discuss the case, and no investigation or preparation was done for his defense within the first five months following arrest.[67] While this represents a particularly egregious case where the court held that there was a violation of the defendant's right to effective representation, even minor delays may impact a defendant's case by reducing the evidence the defense can gather.[68] For example, witnesses may forget details, while video footage and other potential evidence may not be preserved.[69]

A related concern is that horizontal representation ties attorneys more closely to specific judges and prosecutors. Thus, it can reduce

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[61] See, for example, Koehler, *supra* note 29, although he states that he does not believe multiple attorneys looking at each case is an advantage.

[62] David Allan Felice, *Justice Rationed: A Look at Alabama's Present Indigent Defense System with a Vision Towards Change*, 52 Ala. L. Rev. 975, 985 (2001).

[63] Gilboy, *supra* note 8, at 1044–47; Mounts, *supra* note 13, at 485.

[64] Janet A. Gilboy & John R. Schmidt, *Replacing Lawyers: A Case Study of the Sequential Representation of Criminal Defendants*, 70 J. Crim. L. & Criminology 1, 24 (1979).

[65] *See generally* United States *ex rel.* Thomas v. Zelker, 332 F. Supp. 595, 595–96 (S.D.N.Y. 1971).

[66] *Id.* at 596–98.

[67] *Id.*

[68] *See* Taylor-Thompson, *supra* note 21, at 1501–02.

[69] Katy Bosse, *A Price Tag on Constitutional Rights: Georgia v. Weis and Indigent Right to Continued Counsel*, 6 Mod. Am. 43, 47 (2011).

attorneys' willingness to aggressively pursue strategies that could antagonize the judge and prosecutor they work with daily.[70] For example, one public defender stated in an interview that too close a relationship with a judge could create "an unconscious desire to please."[71] The need to consider the impact of their strategy on *future* clients may also mean that an attorney cannot defend the current client to the best of their ability.[72] While this concern may be present regardless of the representation model used, the effects would be particularly strong under horizontal representation, where the defender's relationship with the defendant is weaker, and the defender is in front of the same judge each day. The extremes of this intertwining between a defense attorney and a judge are illustrated by an occurrence in New Orleans where a judge paid a public defender extra money to close their private practice and "be 'his' public defender full time."[73]

A horizontal representation model also increases the chance of losing information as a case is passed between attorneys. This risk is analogous to the harm to patients from handoffs between doctors, which has been extensively documented in the medical literature.[74] The high caseloads that often give rise to this model may lead to insufficient communication between the different lawyers handling a given case, thus heightening this danger.[75] In such circumstances, while transcripts may provide some information required for effective advocacy, other details that are not officially recorded may be lost. In particular, case notes may not record observations about witnesses and off-the-record conversations with the prosecutor.[76] Administrative problems can potentially exacerbate this issue. For example, a former public defender

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[70] Klein, *supra* note 12, at 678; *see also* David S. Abrams, *Is Pleading Really a Bargain?*, 8 J. EMPIRICAL LEGAL STUD. 200, 220 (2011) (discussing the fact that the attorney-client relationship is an example of a principal-agent relationship where the public defenders tend to have long-term associations with judges and prosecutors, which could impact settlement incentives, even if subtly).

[71] Jackson B. Battle, Note, *Comparison of Public Defenders' and Private Attorneys' Relationships with the Prosecution in the City of Denver*, 50 DENV. L.J. 101, 113 (1973).

[72] This has parallels with the concept of the "courtroom workgroup," JAMES EISENSTEIN & HERBERT JACOB, FELONY JUSTICE: AN ORGANIZATIONAL ANALYSIS OF CRIMINAL COURTS 1, 10 (Univ. Press of Am. 1991) (1977), a term that describes the interdependence between judges, prosecutors, and defense attorneys. Workgroup members are able to informally punish the violation of norms and can thus enforce courtroom-specific conventions unsupported by any formal rule or law. *See* Rhys Hester, *Judicial Rotation as Centripetal Force: Sentencing in the Court Communities of South Carolina*, 55 CRIMINOLOGY 205, 227 (2017) (describing how workgroups can sanction members).

[73] Stephen I. Singer, *Indigent Defense in New Orleans: Better than Mere Recovery*, 33 HUM. RTS. 9, 9 (2006).

[74] *See, e.g.*, Pereira Gray et al., *supra* note 36, at 10–11.

[75] Gilboy & Schmidt, *supra* note 64, at 1.

[76] *Id.* at 1–2.

who worked in a horizontal representation system notes that files were often lost, requiring the public defender to "re-creat[e] them from scratch."[77]

The court in *Greenfield v. Gunn* also discussed the risk of information loss under horizontal representation, acknowledging that it can potentially give rise to ineffective representation.[78] While the court held that the operation of the public defender's office, in this case, did not violate the petitioner's constitutional right to effective counsel, it acknowledged that under horizontal representation, "unless each attorney scrupulously acts to insure that all who participate in the case are informed of every aspect of that attorney's representation, there is some danger that the defendant may be deprived of effective legal assistance."[79]

Scholars have even questioned whether there are, in fact, efficiency gains from horizontal representation, given the need for each attorney to re-interview the defendant and for trial attorneys to use transcripts of the preliminary hearing to prepare.[80] On top of this, there is the need to review the case notes from the previous attorney and write up detailed notes for the next. A former Philadelphia public defender recalls the time spent writing notes for the next defender to take the case. He "sometimes felt that [he] spent as much time tracking down lost files or re-creating them from scratch as [he] did actually preparing cases for trial."[81] In addition, attorneys differ in their skills and preferences for case management. Thus, attorneys may prefer to develop a new strategy for the case rather than rely on the one produced by the previous attorney. As a result, the potential cost savings of horizontal representation may be inversely related to the amount of case preparation done by attorneys.

While not intrinsically a feature of horizontal representation, this model can often lead to periods where a defendant lacks any representation at all. For example, Irene Joe documents how the system used in DuPage County, Illinois, has this effect.[82] DuPage County operates under a horizontal model, assigning attorneys to courtrooms. However, a defendant is not assigned to a courtroom upon arrest. Thus, the model used by the office means that a defendant does not receive representation from a public defender until formal charges have been

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77 Koehler, *supra* note 29.
78 Greenfield v. Gunn, 556 F.2d 935, 938 (9th Cir. 1977).
79 *Id.*
80 Mounts, *supra* note 13, at 484–85.
81 Koehler, *supra* note 29.
82 Joe, *supra* note 14, at 419.

filed.[83] A defendant can be in custody for up to thirty days before they receive representation.[84] In New Orleans, this gap was as long as two to three months, during which the defendant may not only have been in custody, but the prosecution was able to actively investigate and build their case.[85]

Perhaps the strongest argument against horizontal representation is its potential impact on the relationship between the defendant and their defense attorney. Under a horizontal representation model, a defendant will be represented by at least two attorneys and often substantially more.[86] Having their case passed between different attorneys may diminish a client's trust in their legal counsel and the development of a meaningful lawyer-client relationship.[87] Indeed, Justice Lumbard documents the frustrations of indigent clients who complained that they "never knew who their lawyer was" and had to "educate a new lawyer with respect to their case" at each court appearance.[88]

While a meaningful relationship with counsel may not itself be an objective of a resource-constrained defender's office,[89] research has highlighted the importance of trust in the attorney-client relationship.[90] Substantial scholarship has documented that a defendant's trust and cooperation are requirements for an effective defense.[91] The courts have established this need for trust between counsel and client as one of the key justifications for the right to counsel of choice.[92] Illustratively, in finding that the trial judge violated the appellant's Sixth Amendment right by denying them counsel of choice, the Sixth Circuit in *Linton v. Perini* stated that trust was "the cornerstone of the adversary system and effective assistance of counsel."[93]

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[83] *Id.* The Supreme Court has held that the probable cause determination is not a "critical stage" in the prosecution, and thus appointed counsel is not required at this stage of a defendant's case. Gerstein v. Pugh, 420 U.S. 103, 122 (1975).

[84] Joe, *supra* note 14, at 419.

[85] Singer, *supra* note 73, at 10.

[86] Joe, *supra* note 14, at 414.

[87] Poulin, *supra* note 4, at 1255.

[88] J. Edward Lumbard, *Better Lawyers for Our Criminal Courts*, ATL. MONTHLY, June 1964, at 86, 88.

[89] The Supreme Court has held that such a relationship is not necessarily required. *See* Morris v. Slappy, 461 U.S. 1, 14 (1983) (holding that a defendant was not provided a right to a "meaningful relationship" with their defense attorney under the Sixth Amendment).

[90] *See, e.g.*, MATTHEW CLAIR, PRIVILEGE AND PUNISHMENT: HOW RACE AND CLASS MATTER IN CRIMINAL COURT, at xvi (2020).

[91] *See, e.g.*, Alexis Hoag, *Black on Black Representation*, 96 N.Y.U. L. REV. 1493, 1532–37 (2021).

[92] *See, e.g.*, Linton v. Perini, 656 F.2d 207, 209 (6th Cir. 1981).

[93] *Id.* at 212.

Further, in *Strickland v. Washington*, the Supreme Court stated that effective representation entails a duty for counsel to "consult with the defendant on important decisions and to keep the defendant informed of important developments."[94] The value of such a requirement depends to a large extent on the relationship between the defendant and their attorney.[95] A defendant who trusts their attorney is more likely to fully reveal pertinent information and follow their attorney's advice in crucial decisions such as whether to testify or to accept a plea bargain.[96]

Given the potential costs of horizontal representation, some have argued that vertical representation should be protected as a constitutional right under the Sixth Amendment.[97] Such a right does not conflict with the finding in *Morris v. Slappy* that a defendant does not have a right to a "meaningful relationship" with their attorney.[98] That decision did not consider whether there was a constitutionally protected right to continuity of representation. Instead, it focused on the impossibility of a court guaranteeing that a defendant will develop a relationship with their attorney.[99] This appears consistent with the position of several state courts, which have held that the attorney-client relationship is entitled to the same protection from judicial interference whether the attorney is court-appointed or privately retained.[100] This right to continuity of representation for indigent defendants has also been found in Alabama,[101] Alaska,[102]

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[94] Strickland v. Washington, 466 U.S. 668, 688 (1984).

[95] *See* Bosse, *supra* note 69, at 47.

[96] Janet C. Hoeffel, *Toward a More Robust Right to Counsel of Choice*, 44 San Diego L. Rev. 525, 541–42 (2007).

[97] Poulin, *supra* note 4, at 1249–58.

[98] *See* Morris v. Slappy, 461 U.S. 1, 14 (1983).

[99] Poulin, *supra* note 4, at 1253–54 (stating that *Morris v. Slappy* did not address continuity of representation as the Court focused on the specific facts of the case and their characterization of the Ninth Circuit's holding).

[100] Bosse, *supra* note 69, at 45–46 (stating that several "state courts have ruled that indigent defendants have a right to continued counsel"). Using the holding of *Lane v. State* as an example, Bosse states, "[e]ssentially, once counsel has been appointed, the trial judge is required to respect the attorney-client relationship as if it were privately retained counsel." *Id.*

[101] Lane v. State, 80 So. 3d 280, 303 (Ala. Crim. App. 2010) (stating that the Sixth Amendment's requirement of continued representation applies to appointed counsel).

[102] McKinnon v. State, 526 P.2d 18, 21–22 (Alaska 1974) (stating their agreement with the California Supreme Court's observation in *Smith v. Superior Ct. of L.A. Cnty.*, 440 P.2d 65, 74 (Cal. 1968) that the inviolability of the attorney-client relationship is not affected by the indigency of a defendant).

Arkansas,[103] Arizona,[104] California,[105] Connecticut,[106] the District of Columbia,[107] Florida,[108] Illinois,[109] Iowa,[110] Maryland,[111] Massachusetts,[112] Michigan,[113] Minnesota,[114] New York,[115] South Carolina,[116] Tennessee,[117] and Texas.[118] While the cases establishing

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[103] Clements v. State, 817 S.W.2d 194, 199 (Ark. 1991) (stating that "once counsel is appointed to represent an indigent defendant the parties enter into an attorney-client relationship which is no less inviolable than if counsel had been retained").

[104] State v. Madrid, 468 P.2d 561, 563 (Ariz. 1970) (agreeing with the inviolable nature of the attorney-client relationship).

[105] *Smith*, 440 P.2d at 74 ("It follows that once counsel is appointed to represent an indigent defendant . . . the parties enter into an attorney-client relationship which is no less inviolable than if counsel had been retained.").

[106] State v. Taylor, 171 A.3d 1061, 1075 (Conn. App. Ct. 2017) (stating their agreement with the opinion of the California Supreme Court in *Smith*, 440 P.2d at 66).

[107] Harling v. United States, 387 A.2d 1101, 1105 (D.C. 1978) (noting that the court may not arbitrarily remove a defendant's attorney because the defendant is entitled to the assistance of the specific attorney's counsel).

[108] Weaver v. State, 894 So. 2d 178, 188–89 (Fla. 2004) (agreeing with the reasoning in *Smith*, 440 P.2d at 74).

[109] People v. Davis, 449 N.E.2d 237, 241 (Ill. App. Ct. 1983) (agreeing with the reasoning in *Smith*, 440 P.2d at 74 and holding that "for purposes of removal by the trial court, a court-appointed attorney may not be treated differently than privately retained counsel").

[110] State v. McKinley, 860 N.W.2d 874, 880 (Iowa 2015) ("Once established, the interest in maintaining a relationship of trust with counsel is of no less importance to an indigent client than to one with ample resources to hire counsel.").

[111] English v. State, 259 A.2d 822, 825–26 (Md. Ct. Spec. App. 1969) (holding that "once counsel has been chosen, whether by the court or the accused, the accused is entitled to the assistance of *that* counsel at trial" (emphasis added)).

[112] Commonwealth v. Jordan, 733 N.E.2d 147, 152 (Mass. App. Ct. 2000) (disagreeing with the Commonwealth's claim that "[s]ince the right to appointed counsel does not include the right to dictate who shall be appointed, the defendant . . . has no legal basis for urging error in the judge's disqualification of counsel").

[113] People v. Johnson, 547 N.W.2d 65, 69 (Mich. Ct. App. 1996) (holding that "the arbitrary, unjustified removal of a defendant's appointed counsel . . . over the objection of the defendant, violates the defendant's Sixth Amendment right to counsel").

[114] *In re* Welfare of M.R.S., 400 N.W.2d 147, 152 (Minn. Ct. App. 1987) (agreeing with the reasoning in *Smith*, 440 P.2d at 74 and holding that "[a]n inviolate attorney-client relationship had been created. . . . The fact that the county was paying for counsel does not in and of itself provide the trial court with sufficient justification for arbitrary removal").

[115] People v. Espinal, 781 N.Y.S.2d 99, 101 (N.Y. App. Div. 2004) (holding that "[o]nce an attorney-client relationship has formed between assigned counsel and an indigent defendant, the defendant enjoys a right to continue to be represented by that attorney" (internal quotation marks and citation omitted)).

[116] State v. Cottrell, 809 S.E.2d 423, 430 (S.C. 2017) ("[The] relationship with appointed attorneys, once established, should be afforded the same level of deference as that which is afforded to clients with retained counsel.").

[117] State v. Huskey, 82 S.W.3d 297, 306 (Tenn. Crim. App. 2002) (noting the court "will view the defendant's right to lead counsel's continuing representation through appointment in the same manner as if he were retained by the defendant").

[118] Stearnes v. Clinton, 780 S.W.2d 216, 222–23 (Tex. Crim. App. 1989) ("[T]he power of the trial court to appoint counsel to represent indigent defendants does not carry with it the concomitant power to remove counsel at his discretionary whim.").

this right have focused on the substitution of counsel by the courts and not on the use of horizontal representation, they highlight the significance of the attorney-client relationship once it has been established.[119]

In sum, horizontal models may provide inferior outcomes for clients by reducing attorney accountability, weakening client trust, and increasing the likelihood of information loss as cases are passed between lawyers. On the other hand, they may improve outcomes by allowing for specialization and enabling multiple attorneys to review a case. Our empirical analysis seeks to increase our understanding of these competing forces by measuring the impact on case outcomes of the policy change in the Defender Association of Philadelphia. While case outcomes are only part of the calculus, this analysis can assist public defender offices as they weigh efficacy against other factors, such as attorney satisfaction and retention, the efficient use of limited resources, and the normative importance of fostering a process that defendants experience as fair and legitimate.

II
Description of the Research Setting and Data

A. *Empirical Setting*

The setting for our empirical analysis is the Defender Association of Philadelphia. As we were given access to a unique dataset centered on the period when the office changed its representation system, we are able to draw novel conclusions about the effect of this change, which we believe has implications for public defender offices nationwide. This Section describes how the Defender Association operates within the criminal justice system of Philadelphia.

1. *The Defender Association of Philadelphia*

Philadelphia serves as an ideal setting to study how to efficiently structure public defense. As one of the largest cities in the United States,

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[119] For example, indigent defense offices in Michigan still utilized a horizontal representation model as of 2017. *See* Nicholas M. Pace, Dulani Woods, Shamena Anwar, Roberto Guevara, Chau Pham & Karin Liu, *Caseload Standards for Indigent Defenders in Michigan*, RAND Corp. 93, 99 (2019), https://www.rand.org/pubs/research_reports/RR2988.html [https://perma.cc/YZ4B-ZAF7] (reporting survey responses indicating that some offices in the state used non-vertical representation, with multiple attorneys working on a single case). This illustrates that the establishment of a right to continuity of counsel is not considered to necessarily prohibit the use of horizontal representation.

it faces many of the same challenges as other urban areas.[120] In the criminal justice context, this includes excessive caseloads for public defenders, high levels of drug offenses, and overrepresentation of minorities among criminal defendants.

The Defender Association of Philadelphia is one of the largest and oldest public defender offices in the United States.[121] Established in 1934, it has played a crucial role in providing legal representation to indigent defendants in Philadelphia for nine decades.[122] Following the decision in *Gideon v. Wainwright*[123] in 1963, the Defender Association took on the role of the public defender for the City of Philadelphia. Alongside public defenders, Philadelphia also assigns court-appointed private attorneys to represent indigent criminal defendants. These appointments are made when the Defender Association has a conflict of interest or when it has exceeded its caseload capacity.[124]

The office operates as an independent non-profit organization. The City of Philadelphia contracts with the office to provide indigent defense services in the city. It employs over 250 full-time attorneys,[125] supported by a team including investigators, social workers, and administrative personnel. While Pennsylvania has recently begun providing funding for indigent defense in the state, in the period studied in this Article, the funding for the office came entirely from Philadelphia County, which is coterminous with the city of Philadelphia.[126]

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[120] *See* Amy Tikkanen, *List of the Largest U.S. Cities by Population*, ENCYC. BRITANNICA, https://www.britannica.com/topic/Whats-the-largest-US-city-by-population [https://perma.cc/X4AY-46XM] (listing Philadelphia as the sixth largest city in the United States by population).

[121] Lynette Hazelton, *Public Defender's Office Celebrates 90 Years with Its First Fundraiser to Help Support New Attorneys*, PHILA. INQUIRER (Apr. 3, 2024), https://www.inquirer.com/news/philadelphia/public-defenders-philadelphia-fundraising-gala-20240403.html [https://perma.cc/RYE7-A6HX] (stating that the office was established in 1934 and that with a current operating budget of sixty-two million dollars, the Defender Association is the fourth largest criminal legal defense organization in the country).

[122] *Mission & History*, DEF. ASS'N OF PHILA., https://phillydefenders.org/mission-history [https://perma.cc/A67X-HHHZ].

[123] Gideon v. Wainwright, 372 U.S. 335 (1963).

[124] The exception to this is homicide cases, where the Defender Association is assigned to represent only 20% of homicide cases in Philadelphia. See James M. Anderson & Paul Heaton, *How Much Difference Does the Lawyer Make? The Effect of Defense Counsel on Murder Case Outcomes*, 122 YALE L.J. 154, 160–62 (2012) for a detailed description of this policy.

[125] LEGIS. BUDGET & FIN. COMM., PENNSYLVANIA INDIGENT CRIMINAL DEFENSE SERVICES FUNDING AND CASELOADS 86 (2021).

[126] Anderson & Heaton, *supra* note 124, at 160.

The Defender Association of Philadelphia represents the vast majority of indigent defendants in Philadelphia.[127] In recent years, the office has represented approximately 70% of all criminal defendants in Philadelphia state courts, amounting to almost 60,000 cases annually.[128] This high caseload places the Defender Association as the nation's fourth-largest defense organization,[129] reflecting the size of Philadelphia's population and the city's crime rates. While the office is one of the better-funded offices in Pennsylvania,[130] the high volume of cases means that, as in many other defender offices around the country, caseloads for attorneys are higher than those recommended by the ABA.[131]

The size of the Defender Association and the number of individuals it represents may itself justify an academic study to optimize its allocation of resources. However, its representativeness of the defender offices in other major cities means that we believe insights from this office have implications throughout the United States.

2. *The Philadelphia Criminal Process*

Both prior to and during the time of our study, the Defender Association of Philadelphia primarily utilized a horizontal representation model.[132] It is necessary to understand the stages of the criminal process in Philadelphia to understand the impact the horizontal model has on a defendant's representation in Philadelphia and the change we study.

The process for a felony case in Philadelphia is as follows.[133] Initially, a preliminary arraignment occurs soon after the arrest, during which the defendant is informed of the criminal complaint and bail is set. The

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[127] *See A Constitutional Default: Services to Indigent Criminal Defendants in Pennsylvania*, Joint State Gov't Comm'n 1, 9 (2011).

[128] Keisha Hudson, *2023 Budget Testimony*, Def. Ass'n of Phila. (Apr. 26, 2022), https://phlcouncil.com/wp-content/uploads/2022/04/Defender-FY-2023-Budget-Testimony.pdf [https://perma.cc/CD3Z-7PXZ].

[129] Hazelton, *supra* note 121.

[130] *See* Legis. Budget & Fin. Comm., *supra* note 125, at 34 (showing that Philadelphia County expends nearly twice as much per capita on indigent public defense as the next-most-resourced county in Pennsylvania).

[131] Hazelton, *supra* note 121.

[132] The office employs vertical representation for certain types of cases, primarily through the Homicide Special Defense Unit. This unit provides representation in felony homicide and death penalty cases as well as cases that have received substantial publicity or are considered particularly complex. *See Adult Client Representation & Services*, Def. Ass'n of Phila., https://phillydefenders.org/adult-representation [https://perma.cc/U5Y4-DPRU].

[133] Here, we document the process and representation of cases that are not handled by the Homicide Special Defense Unit of the Defender Association. While the stages of the process for these cases are the same, the cases are represented in a fully vertical model by a dedicated team of attorneys.

Defender Association staffs these arraignments with representatives who, on weekdays, are typically not licensed attorneys but, instead, junior employees who are yet to be admitted to the Pennsylvania Bar.[134] On weekends, licensed attorneys from the office may cover these shifts as overtime.[135]

Following the arraignment, a preliminary hearing is scheduled within fourteen days for defendants in custody or twenty-one days for those not in custody.[136] At the preliminary hearing, the municipal court judge determines whether there is probable cause that a crime was committed and that the defendant is the one who committed this crime. The Defender Association, which rarely waives the right to a preliminary hearing, assigns a dedicated team of attorneys to handle these proceedings.[137] This often serves as the initial assignment for attorneys just starting in the office.[138]

The next stage is the formal arraignment, where the defendant is officially charged.[139] Post-arraignment, cases are assigned to a "SMART"[140] room for a pretrial conference.[141] At this stage, a plea agreement may be negotiated.[142] A dedicated group of attorneys staff these SMART rooms.[143] In general, these are experienced defenders who no longer litigate trials.[144] If no agreement is reached at this stage, the case is allocated to a trial room.[145]

During this process, in Philadelphia, cases are classified as either a "felony waiver" or a "major."[146] Most first-degree felonies, such as rape, are categorized as majors, and some second-degree felonies (e.g., drug possession with intent to deliver alongside a firearm offense) may also

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[134] Interview with Anjelica Hendricks, Assist. Prof., Univ. of Pa. Carey L. Sch. (June 4, 2024) (email verification on file with the N.Y.U. Law Review) (describing Prof. Hendricks's insights from her work as a public defender at the Defender Association of Philadelphia from 2015–2019).

[135] *Id.*

[136] 234 Pa. Code § 540 (2024).

[137] Interview with Anjelica Hendricks, *supra* note 134.

[138] *Id.* The exception to this is sexual assault cases where the preliminary hearings are held by senior attorneys.

[139] *See The Criminal Justice Process*, Phila. Dist. Att'y's Off., https://phillyda.org/safety-and-justice/criminal-justice-process [https://perma.cc/5SFA-H4WK] ("The District Attorney's Office representing the Commonwealth passes to defense counsel the charging document . . . .").

[140] "SMART" stands for "Strategic Management ARC [Advance Review and Consolidation], Readiness and Trial."

[141] Interview with Anjelica Hendricks, *supra* note 134.

[142] *Id.*

[143] *Id.*

[144] *Id.*

[145] *Id.*

[146] *Id.*

fall into this category.[147] Felony waivers encompass lower-level felonies like retail theft, trespass, and possession of a stolen motor vehicle.[148] In felony waiver cases, defendants are presumed to waive their right to a jury trial, although they retain the right to one.[149] Once the defendant waives this right in open court, the trial proceeds as a bench trial.[150] In our data, this accounts for just under 50% of cases that have a trial scheduled.

Once a case is assigned to a trial room, it is handled by the defender scheduled in that courtroom on the trial date.[151] If convicted, the defendant is represented at sentencing by the same attorney who conducted the trial.[152] Junior defenders staff "waiver rooms" as the cases are typically shorter and less complex.[153] "Majors rooms" are staffed by more senior attorneys.[154] Generally, assignment to a majors room is a longer-term position for defenders who have completed their rotation through the other assignments.[155] Given that each stage is handled by a specialized group of attorneys, a criminal defendant may have been represented by four or more different attorneys before the resolution of their case.

B.   *A Change to the Method of Attorney Assignment*

We study the impact of a policy change in the Defender Association of Philadelphia that altered the method used to assign public defenders to felony waiver trials. During the period we study, the First Judicial District of Pennsylvania[156] operated a geographic community-based

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[147] *See Major Trials*, Phila. Dist. Att'y's Off., https://phillyda.org/safety-and-justice/criminal-justice-process/major-trials [https://perma.cc/35J2-V857].

[148] *See The Criminal Justice Process*, *supra* note 139.

[149] *Id.*

[150] 234 Pa. Code § 620 (2001).

[151] Interview with Anjelica Hendricks, *supra* note 134.

[152] *Id.*

[153] *See id.* While these attorneys are more junior than those assigned to majors rooms, they are more senior than the attorneys that handle the preliminary hearing, having usually been with the office for a couple of years.

[154] *See id.*

[155] Transcript of Oral Argument at 177–78, League of Women Voters v. Boockvar, 247 A.3d 1183 (Pa. Commw. Ct. 2021), https://www.pacourts.us/Storage/media/pdfs/20210505/151030-03022021appellantsreproducedrecord.pdf [https://perma.cc/2634-8KPB] (transcribing a former public defender's discussion of his progress through the various rotations starting with preliminary hearings and eventually moving to majors).

[156] The First Judicial District of Pennsylvania consists of two courts, the Court of Common Pleas and Municipal Court, which together form the Philadelphia County Court System. *See About the Philadelphia Courts*, Pa. Cts., https://www.courts.phila.gov/about [https://perma.cc/2RUB-5EGC].

prosecution model.[157] The transition to this model was implemented in November 2010 by the then-District Attorney Seth Williams.[158] Under this model, most cases were assigned to one of six zones based upon the location of the offense, with the zones corresponding to the six police divisions in the city: Central, Eastern, Northeast, Northwest, South, and Southwest.[159] As the zones were based on geographic regions, the number of cases varied by zone. For example, the Eastern zone accounted for almost 24% of cases in 2012, while the South zone accounted for under 10%.[160] Each zone was assigned to a different courthouse floor, and all hearings and trials occurred on this floor. Assistant District Attorneys (ADAs) were assigned to specific zones.[161] The number of ADAs assigned to a zone varied based on the expected caseload.[162]

In response to this prosecution model, over a one-and-a-half-year period from May 2015 to November 2016, the public defender office implemented changes to its representation model.[163] We focus on the changes made to the representation of felony waiver trials.

Before the policy change, the office employed a fully horizontal representation model for felony waiver cases.[164] Public defenders were assigned to specific courtrooms for a given day, and thus, the attorney in a courtroom handled all cases assigned to the public defender's office on that day.[165] In the event of a continuance, the trial would be rescheduled to the earliest available date in the same courtroom, and the case would be transferred to the attorney scheduled for that date.[166]

The new policy introduced a model we term "partially vertical." Under the new system, when a trial was rescheduled, it would be set for a date when the defense attorney initially assigned to the trial was available.[167] This ensured continuity of representation after the pretrial conference until the case was disposed of. While only cases with a continuance are affected, over 85% of cases where a trial was

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[157] *See* R. Seth Williams & Will Stewart, U.S. Dep't of Just., Implementing a Geographic Community-Based Prosecution Model in Philadelphia 14–15 (2013).

[158] *Id.* at 14.

[159] *Id.* at 10.

[160] *Id.*

[161] *Id.* The judiciary also moved in coordination with the prosecutor's office to a geographic zone-based model. *Id.*

[162] Williams & Stewart, *supra* note 157, at 10.

[163] Kim A. Bourassa, Assistant Chief of the Ne. Zone, Def. Ass'n of Phila., Spreadsheet of Majors Data Breakdown (Jan. 19, 2017) (on file with author).

[164] Interview with Anjelica Hendricks, *supra* note 134.

[165] *Id.*

[166] *Id.*

[167] *Id.*

scheduled had at least one continuance.[168] The initial stages of the case, such as arraignment and the pretrial hearing, still operated as they had previously.[169]

The new policy was implemented in a staggered format based on the assigned courtroom. The first rooms to change to the new policy were rooms 704 and 904 on May 1, 2015.[170] The final room to change in our dataset was room 508, which was changed to the new model on November 1, 2016.[171] As described in more detail below, we use this staggered roll-out as a natural experiment,[172] allowing us to analyze the impact of this policy change using a difference-in-differences approach.[173] The dates of the roll-out are reported in Table 1. Thus, by the end of 2016, almost all felony waiver cases were handled under the new "partially vertical" system.

TABLE 1: TIMING OF CHANGE BY COURTROOM

Date	Rooms
May 1, 2015	704, 904
November 1, 2015	604, 1004
January 1, 2016	605
October 1, 2016	804
November 1, 2016	508

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[168] *See infra* Section II.C (detailing statistics regarding the number of scheduled trials in these cases). It is important to note that in this context a continuance would occur because the trial was delayed; thus, felony waiver trials with continuances still resolve within a single day.

[169] *See infra* Section IV.C (discussing this limitation).

[170] E-mail from Christopher J. Welsh, Deputy Def., Def. Ass'n of Phila., to Megan Stevenson, Quattrone Fellow, Univ. of Pa. Carey L. Sch. (Dec. 30, 2015) (on file with authors).

[171] *See* Bourassa, *supra* note 163. We received conflicting information regarding whether the policy change was implemented on the first day of the relevant month or on the first Monday of the relevant month. We have assumed the cases were treated as of the first day of the month. However, only two cases in our dataset would be labeled as untreated if we were to instead assume that the policy change was implemented as of the first Monday of the month.

[172] A natural experiment is an event that is not designed for the purpose of scientific investigation but nonetheless divides a population into treated and untreated subgroups. Studies of natural experiments use this naturally occurring variation in treatment to identify the effect of the treatment on relevant outcome variables. *See* Peter Craig, Srinivasa Vittal Katikireddi, Alastair Leyland & Frank Popham, *Natural Experiments: An Overview of Methods, Approaches, and Contributions to Public Health Intervention Research*, 38 ANN. REV. PUB. HEALTH 39, 40 (2017).

[173] *See infra* Section III.C (discussing the implementation of the difference-in-differences method).

C.   Data

In this subpart, we describe the data used in our analysis. In doing so, we provide descriptive statistics regarding the types of cases in our study and the staggered nature of the policy change. Finally, we present visualizations of relevant outcomes over time, generating an initial impression of the potential impacts of the policy change.

Because the policy change we study only affected the operation of felony waivers, we focus on outcomes for these cases. The primary dataset used in this analysis covers all felony cases in the Philadelphia Court of Common Pleas between 2014 and 2016 and was provided directly by the Defender Association of Philadelphia.[174] This data has been supplemented by data from court dockets, which is publicly available on the Court of Common Pleas website. As the change only impacted the trial stage of felony waiver cases, we consider only cases where a trial was scheduled, there was at least one felony charge at the time of scheduling, and the case was classified as a felony waiver. These restrictions leave 4,635 cases represented by public defenders and 4,651 cases represented by either court-appointed or privately-retained attorneys.

Table 2 shows summary statistics of the cases in our analysis sample.[175] We split cases by the type of representation, "Public Defender" and "Non-PD." We further split out the public defender cases based upon whether the case was affected (or "treated") by the policy change: A case is *treated* if the attorney was a public defender and the assigned room of the first scheduled trial had already switched to partially vertical representation before the scheduled trial date; otherwise, it is *untreated*.[176] All non-public defender cases are unaffected by the policy change and will thus be in the control group.

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[174] The Court of Common Pleas has jurisdiction over all felony cases in Philadelphia. *See Philadelphia Ct. of Common Pleas Trial Division – Criminal*, Pa. Cts., https://www.courts. phila.gov/common-pleas/trial/criminal [https://perma.cc/WS2R-ZDP5].

[175] We manually classified the charges into these categories based on the description of the statute under which they were charged. Please contact the authors for the details of this classification.

[176] Note that we do not account for a subsequent room change. A case's courtroom may have changed to vertical representation after the first trial but prior to the resolution of the case. These "partially treated" cases are considered as untreated for the purpose of our analysis as otherwise the assignment to treatment would depend upon the number of continuances in a case. Conditional on the date of the first trial, the longer a case is, the more likely it is to become partially treated. If a longer case duration caused cases to be classified as treated, any impacts of a longer case duration would incorrectly be identified as an effect of treatment. Meanwhile, whether the first trial date is scheduled after the policy change is exogenous. Note that here, "partially" refers to the fact that the case was treated part-way through its process, after the first scheduled trial date. It does not refer to the extent to which

We employ a difference-in-differences estimation method.[177] This method typically compares outcomes between a treatment group and a control group before a policy change and then estimates how this difference changes after the policy change. As the policy we study was rolled out gradually across courtrooms, we take advantage of this variation in timing. Courtrooms that implement the change to partially vertical representation later in time serve as controls to estimate the effect of treatment on those courtrooms that changed earlier. As cases not involving a public defender are never affected by the policy change, these cases always serve as controls regardless of whether the courtroom has already changed to partially vertical representation.[178] As a robustness check, we also rerun our analysis only using cases where the defendant was represented by a public defender.[179]

The primary assumption that we require is an assumption known as "parallel trends." That is, we assume that if the policy change had not happened, average case outcomes in each courtroom would have followed the same trend (regardless of the type of representation). We cannot directly test this assumption. In Section III.B, we test for whether there are differences in pre-trends between treatment and control groups and find no evidence of this in our setting. Similarity in the types of cases across the groups can give us further confidence that parallel trends holds.[180] As there are likely to be systematic differences between public defender and non-public defender cases,[181] in this Section, we focus on examining the similarity between public defender cases that were treated and those that were not treated because their trial was scheduled before their courtroom switched to partially vertical representation. We test for similarity in defendant demographics and case characteristics between the treated and untreated public defender cases.

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the representation was vertical. *See infra* Section III.C.2 (analyzing the robustness of our results to removing these cases from our study).

[177] *See infra* Section III.C (explaining the difference-in-differences specification we use in this study).

[178] When using these cases as controls, we are in effect estimating the difference in average outcomes between public defender and non-public defender cases and then estimating how this difference changes once public defender cases are affected by the policy change.

[179] *See infra* Section III.C.2.

[180] In Section III.B, we formally test whether a courtroom's transition to representation affects the composition of public defender cases in that room. *See infra* Section III.B.

[181] We include non-public defender cases in the control group for our main specification. However, due to potential unobserved differences between these cases relative to public defender cases, we also estimate a version of our model without these cases as a robustness check. *See infra* Section III.C.2.

For each summary statistic in Table 2, we test whether the average of the characteristic is statistically different between the treated and untreated groups of public defender cases.[182] We compare case characteristics, like crime type and defendant demographics, which should be similar for treated and untreated cases. We also compare outcomes, such as case duration and whether the defendant was incarcerated, to get initial insight into whether these may have been impacted by the shift to the partially vertical system.[183] To make these comparisons, we use a statistical test known as a t-test for the difference of means. This test accounts for the fact that small differences in the average across groups will occur due to random chance, even if there is no underlying difference in the types of cases that are treated or untreated.

For each characteristic, we report the *p*-value in Table 2. These *p*-values are the probability that, due to random chance, we would observe a difference in averages between the groups as extreme as that which we observed in the data under the "null hypothesis" that there is no underlying difference in the types of cases between the two groups. To determine whether the difference in averages between the two groups is statistically significant, we compare these *p*-values to a critical value, which is determined by the level of confidence we require for our conclusion. This level of confidence is referred to as the level of significance and represents the probability that the null hypothesis may be falsely rejected, that is, the probability that we conclude the averages are different when they are, in fact, the same. We choose a 5% level of significance as it is the standard within the field.

We convert this to a critical value using the Benjamini-Hochberg procedure to account for multiple hypothesis testing.[184] This procedure identifies a specific "critical value" for each *p*-value to be compared against. If a particular *p*-value is less than the corresponding critical value, then we would conclude that the difference in averages between

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[182] Indicator variables such as "Black," "Male," "Violent," or "Property" take a value of 1 if the case has the relevant characteristic and 0 otherwise. Thus, the mean of the dummy variable measures the proportion of cases where this characteristic holds; for example, the mean of "Black" is the proportion of cases where the defendant is Black.

[183] We also revisit each of these types of comparisons in more sophisticated analyses. *See infra* Section III.B.

[184] To calculate the Benjamini-Hochberg critical values, the following process is used:

Step 1: Rank all *p*-values from smallest to largest. Let p_i be the *i*-th smallest *p*-value and *n* be the total number of coefficients to be tested.

Step 2: Choose a significance level α (Type-I error rate), for rank *i*, set: $Critical\ Value_i = \dfrac{i}{n} \times \alpha$.

Step 3: Find the largest *k* such that: $p_k \leq Critical\ Value_k$.

Step 4: Reject the null hypotheses for all tests with *p*-values less than or equal to p_k.

Yoav Benjamini & Yosef Hochberg, *On the Adaptive Control of the False Discovery Rate in Multiple Testing with Independent Statistics*, 25 J. Educ. & Behav. Stat. 60, 63 (2000).

the two groups is statistically significant. The use of the Benjamini-Hochberg procedure to adjust the critical value downward as we increase the number of hypotheses ensures that the false rejection rate stays below the 5% level we have chosen. This is necessary because as we increase the number of characteristics we compare, the probability that, through random chance, *at least one* will have a large difference across the two groups increases.

Most of the characteristics are dummy variables, which means that they take the value 1 if a given condition is true and 0 if it is not, and the numbers reported indicate the share of the respective group that has that characteristic. For example, "Black" is a variable that is 1 if the defendant is Black and 0 otherwise. The fact that in this row, the first entry is 0.66 and the second 0.67 means that 66% of defendants with public defenders in the treated category (partially vertical representation) are Black, while 67% of defendants in the untreated category (fully horizontal representation) are Black. "Incarceration Length | Incarceration" reports the sentence length in years, but only for defendants for whom it was non-zero. Similarly, "Probation Length | Probation" reports probation length in years only for those defendants who received any amount of probation.

In general, across the demographics and case characteristics, differences between the treated and untreated groups of public defender cases are small and not statistically significant, even before accounting for multiple hypothesis testing, which can be seen by the fact that most *p*-values are greater than 0.05. The treated cases do have a slightly higher proportion of cases where the defendant is male. However, this difference is not statistically significant once accounting for multiple hypothesis testing.[185] Thus, there is insufficient evidence to conclude that cases involving male defendants were more likely to be affected by the policy change.

Alongside the defendant and case characteristics, we also report a series of case outcomes.[186] These provide an initial impression of whether the change to partially vertical representation affected case outcomes for defendants. Interestingly, while we do not observe a difference in conviction rates, treated cases have a lower rate of incarceration that is statistically significant at the 5% level.[187] This does not appear to be

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[185] This is achieved using the Benjamini-Hochberg procedure. *Id.* at 63.

[186] We report the proportion of cases in which the defendant was convicted, pleaded guilty to the charges, had at least one charge nolle prossed, had at least one charge downgraded, was incarcerated, and was sentenced to probation. We also report the average sentence length conditional on incarceration, probation length conditional on being assigned probation, number of motions in the case, time between the first and last recorded events on the case, and number of scheduled trials.

[187] In accounting for multiple hypotheses, we group these outcome variables into two groups: (1) main outcomes (guilty, incarcerated, incarceration length, probation, and probation length) and (2) potential mechanisms (nolle pros, downgrade of charge, motions, case duration, and number of appearances).

explained by differences in pleading behavior and exists despite treated cases being less likely to have the initial charges changed.[188] This lower rate of charge changes is also statistically significant. The only other statistically significant difference is that treated cases took less time from arraignment to the final scheduled trial date, with a median of 175 days relative to 212 days for untreated cases.[189]

We also report summary statistics on cases not represented by the Defender Association (column 3). These include cases with privately retained attorneys (around 60%) and those with court-appointed attorneys (around 40%). These cases are substantially more likely to involve drug charges and less likely to involve property crimes. Given the observably different composition of cases, in addition to the likely unobserved differences in defendant characteristics, it is not possible to draw conclusions regarding the differences in outcomes between cases represented by public defenders and those represented by other defense attorneys.[190] As these cases are never affected by the policy change that we study, we use these cases as controls that will be compared to the treated cases in the regression analysis.[191] In our regression analysis, we will account for time-invariant systematic differences between these non-public defender cases and those cases represented by public defenders. In addition, to ensure that time-varying differences between these cases do not drive our results, we will conduct robustness checks excluding these cases from the analysis.[192]

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[188] Our data allows us to observe whether a charge was changed. Many of these may represent merely a correction of the statute under which the individual was charged. We assume that the prevalence of corrections was unchanged by the policy and that differences across groups must be due to meaningful changes to the charges. Based on discussions with defense attorneys within the Philadelphia Defenders office, we believe that the vast majority of meaningful changes would be downgrades. Hence, we assume all charge changes reflect downgrades of the initial charge rather than upgrades.

[189] The time from arraignment until the first scheduled trial date is almost identical between the treated and untreated groups (110.5 vs. 111 days). Hence, this difference reflects a decrease in the number of days from the first scheduled trial date until the final scheduled trial date.

[190] For empirical studies identifying causal differences in outcomes for individuals with public defenders and those with court-appointed private attorneys, see generally Anderson & Heaton, *supra* note 124 (finding that homicide defendants in Philadelphia represented by public defenders, compared to those represented by court-appointed private counsel, have a 19% lower conviction rate and a 62% lower chance of receiving a life sentence), and Amanda Agan, Matthew Freedman & Emily Owens, *Is Your Lawyer a Lemon? Incentives and Selection in the Public Provision of Criminal Defense*, 103 Rev. Econ. & Stat. 294 (2021) (noting a higher conviction rate for indigent defendants represented by court-assigned private attorneys, but that adverse selection is not the driving contributor).

[191] *See infra* Section III.A (explaining our empirical method).

[192] *See infra* Section III.C.2.

TABLE 2: SUMMARY STATISTICS BY TREATMENT GROUP

| | Public Defender | | | |
	Treated (1)	Untreated (2)	Non-PD (3)	*p*-value (4)
Black	0.66	0.67	0.65	0.507
Male	0.86	0.88	0.86	0.013
Felonies	1.62	1.65	1.86	0.380
Violent	0.22	0.22	0.23	0.916
Property	0.44	0.42	0.27	0.210
Drug	0.35	0.37	0.45	0.232
Other	0.86	0.87	0.92	0.534
Conviction	0.7	0.7	0.69	0.966
Pleaded Guilty	0.54	0.55	0.52	0.864
Nolle Pros	0.63	0.62	0.64	0.432
Change of Charge	0.1	0.14	0.11	0.001
Incarcerated	0.4	0.44	0.39	0.006
Incarceration Length | Incarceration	2.26	2.29	2.53	0.652
Probation	0.62	0.59	0.61	0.101
Probation Length | Probation	3.25	3.21	3.45	0.494
Motions	0.21	0.25	0.37	0.121
Case Duration	175	212	273	< 0.001
Number of Appearances	3.94	3.87	5.32	0.438
Cases	1757	2878	4649	

Felony waiver cases in Philadelphia from 2014–2016. A case is "treated" if the attorney was a public defender and the assigned room of the first scheduled trial switched to vertical representation before the scheduled trial date; all other cases with a public defender are "untreated." A case is "Non-PD" if the defense attorney is not a public defender, regardless of whether they were privately retained or court-appointed. "Felonies" is the total number of felonies initially charged. "Violent," "Property," "Drug," and "Other" are binary variables equal to 1 if the charges include at least one charge of the given category. "Conviction" is a binary variable and equals 1 if the defendant was convicted of any charge. "Pleaded Guilty" equals 1 if the defendant pleaded guilty to any charge. "Nolle Pros" equals 1 if any of the initial charges were dropped. "Change of Charge" equals 1 if any charges were changed prior to the case's conclusion. "Incarceration Length | Incarceration" and "Probation Length | Probation" are the length in years of these sentences conditional on the defendant having received a sentence including incarceration and probation, respectively. "Case Duration" is the median number of days between the arraignment and the final scheduled trial date. Incarceration and probation length are reported in years. "Number of Appearances" is the number of scheduled trial dates, including continuances. For all variables, "*p*-value" reports the *p*-value from a t-test on the difference in mean of the relevant statistic between the treated and untreated cases.

We next present Figure 1 to illustrate the staggered implementation of the policy and the concurrent existence of treated and untreated cases, which is key to our strategy to identify the causal impact of the policy change. Panel A of Figure 1 shows the number of new cases per quarter by treatment group.[193] Panel B shows the steady increase in the share of cases that are handled using partially vertical representation ("treated"). For this figure, we have restricted the data to cases with a pretrial hearing in 2015–2016, as this is the period where our sample contains both treated and untreated cases. The vertical gray lines mark the five dates when rooms switch to partially vertical representation. During the study period, no rooms revert to the former fully horizontal model.

The number of cases under partially vertical representation steadily increases until mid-2016, when the total number of cases per quarter appears to fall. There were just under 230 cases in the fourth quarter of 2016 compared to over 400 in the first quarter of that year. From interviews with defenders who worked at the Defender Association at that time, we do not believe that there were any contemporaneous changes driving this that would bias our results.[194] As a robustness check, we run our main analysis both with and without the cases from the second half of 2016 to make sure that this period is not driving our results.[195]

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[193] Cases are assigned to a quarter based upon their first scheduled trial date.

[194] If there was another policy change in this period, its impact could be incorrectly ascribed to the change to partially vertical representation as the majority of cases in this period are treated. We asked about other potential changes in the operation of the defender's office and changes in prosecution policy at the prosecutor's office.

[195] *See infra* Section III.C.2.

FIGURE 1A: NUMBER OF CASES OVER TIME
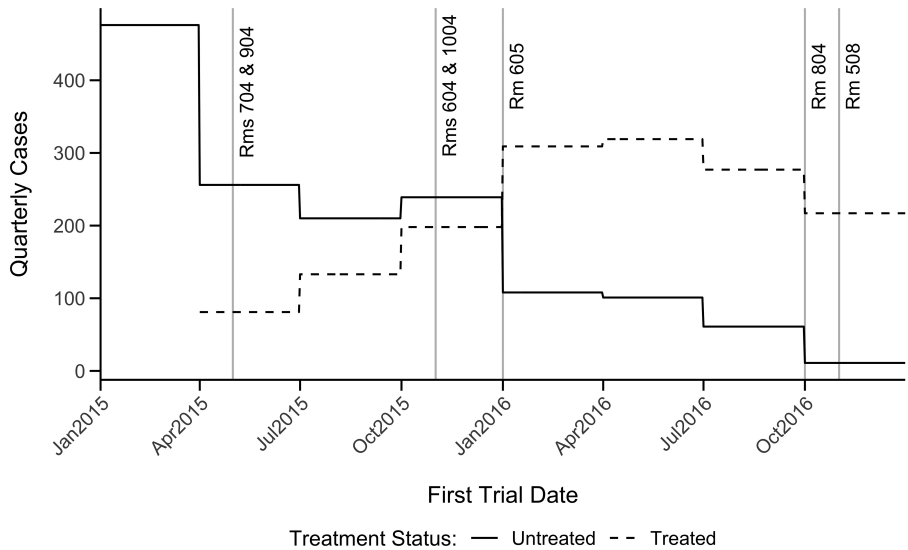
FIGURE 1B: PROPORTION OF CASES TREATED
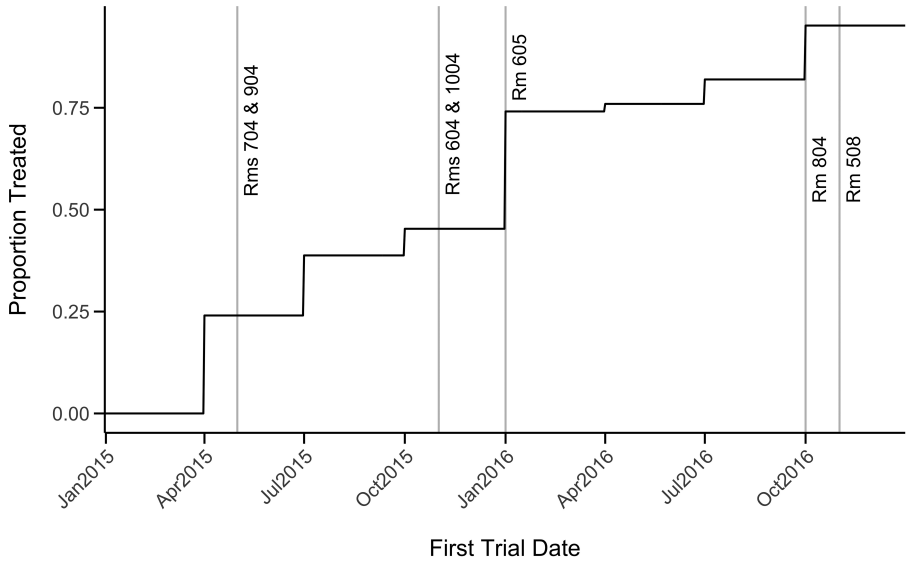
Panel A: Time series of the quarterly number of felony cases in Philadelphia represented by public defenders by treatment status. Panel B: Time series of the proportion of cases represented by public defenders in Philadelphia that we classify as treated. For both panels, cases are considered treated if the first scheduled trial was assigned to a room that switched to partially vertical representation by the trial date. The grey vertical lines mark when courtrooms switched to the partially vertical representation model.

Next, we show how three of our key outcome variables—conviction rate, incarceration rate, and sentence length—vary over time and by treatment status (Figures 2–4). This provides an initial visual impression of whether the transition to partially vertical representation affected case outcomes prior to formally testing this through regression analysis.[196] Figure 2 shows the conviction rate by pretrial quarter. From the third quarter of 2015 until the third quarter of 2016, where there is the greatest overlap in treated and untreated cases, treated cases consistently have conviction rates that are similar to or higher than untreated cases. Note that from the third quarter of 2016 onward, the number of untreated public defender cases in our sample is very low; thus, outcome variables are very volatile. Hence, even apparently large differences in average outcomes in these periods may be the result of random noise rather than meaningful differences across the groups.

Figure 3 shows the incarceration rate by pretrial quarter, conditional on the defendant being found guilty. Other than the third quarter of 2016, when the number of untreated cases is very low, treated cases generally appear to have either very similar or slightly higher rates of incarceration than untreated cases.

Finally, Figure 4 shows the average length of incarceration by pretrial quarter, conditional on the defendant being incarcerated. Here, in several quarters, we have differences between the two groups of three or more months in average incarceration length. These differences are quite volatile, with neither group consistently outperforming the other.

Figures 2–4 provide an initial indication that the transition to a partially vertical representation model did not meaningfully improve defendant outcomes. These figures should not be considered conclusive given that they cannot control for other variables that may affect outcomes—for this, we need regression analysis, which we report in Part III and turn to now.

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196 *See infra* Section III.C.1 (displaying our main empirical results).

FIGURE 2: GUILT OVER TIME
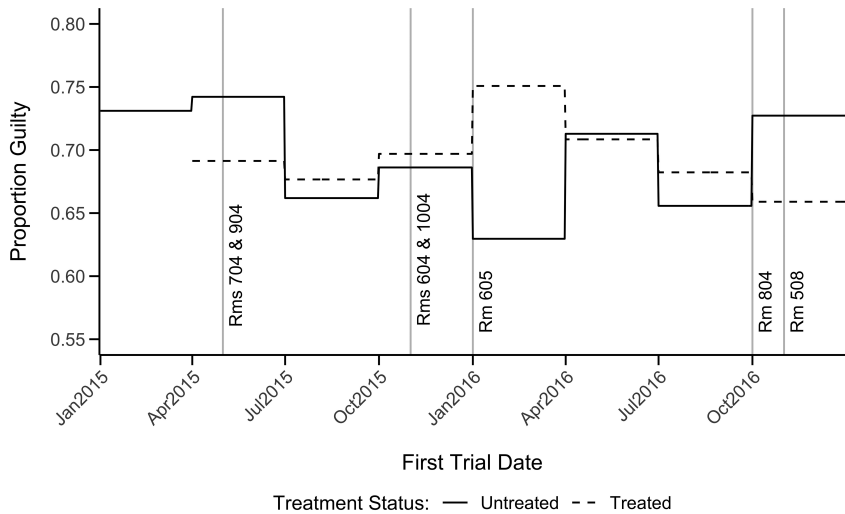
Time series of quarterly conviction rates of felony cases in Philadelphia by treatment status. Cases are considered treated if the first scheduled trial was assigned to a room that switched to partially vertical representation by the trial date. The grey vertical lines mark the dates when courtrooms switched to the partially vertical representation model.

FIGURE 3: INCARCERATION OVER TIME
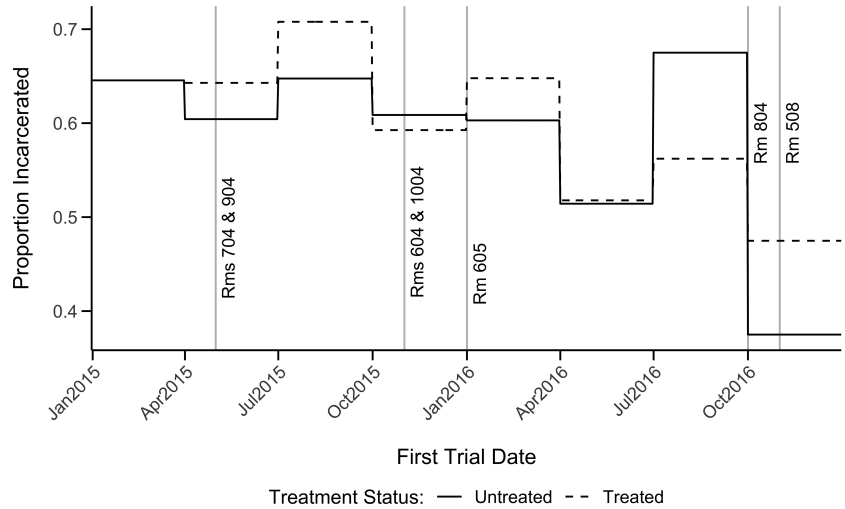
Time series of quarterly incarceration rates of felony cases in Philadelphia conditional on guilt by treatment status. Cases are considered treated if the first scheduled trial was assigned to a room that switched to partially vertical representation by the trial date. The grey vertical lines mark the dates when courtrooms switched to the partially vertical representation model.

FIGURE 4: INCARCERATION LENGTH OVER TIME
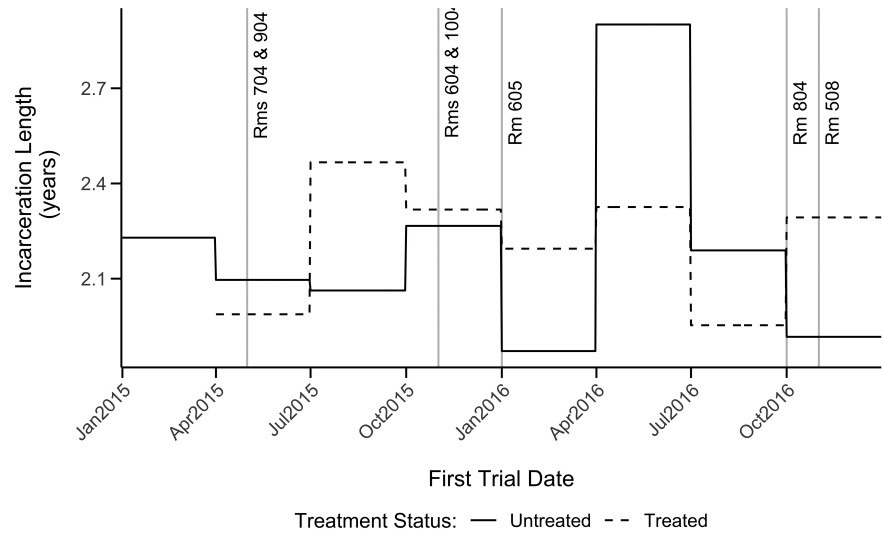
Time series of quarterly average incarceration length of felony cases in Philadelphia conditional on incarceration by treatment status. Cases are considered treated if the first scheduled trial was assigned to a room that switched to partially vertical representation by the trial date. The gray vertical lines mark the dates when courtrooms switched to the partially vertical representation model.

III
EMPIRICAL ANALYSIS

A. Research Design

To determine the causal effect of the policy change, we estimate Equation 1.

$$Y_i = \alpha + \beta_1 Treated_i + \delta_j + \rho_r + \theta_y + \eta_m + \gamma\, pretrialdate_i + PD_i + CA_i + X'_i\kappa + \varepsilon_i \quad \#(1)$$

Y_i is a placeholder for each of the outcomes that we test. For binary outcomes such as conviction, incarceration, and probation, it is an indicator variable equal to 1 if the outcome occurred in case i. For numeric outcomes such as incarceration length and probation length, it takes the value of this outcome in case i.

$Treated_i$ is a dummy variable which is equal to 1 if the first trial of the case was scheduled to take place after its courtroom had switched to partially vertical representation and is equal to 0 otherwise. δ_j is an individual judge fixed effect. This allows us to control for differences in leniency across judges. ρ_r is a dummy variable for the courtroom in which the trial is scheduled.

θ_y and η_m are fixed effects for year and month, respectively. We also include a linear time trend for the pretrial date. The year fixed effect and linear time trend allow us to control for broad trends in crime at the city level over our sample period of three years, while the month fixed effects control for seasonality.

PD_i and CA_i are indicator variables for whether the attorney representing the client in the case was a public defender or a court-appointed private attorney, respectively. This controls for the fact that, as seen in Table 2, the cases represented by public defenders are clearly different in their characteristics from those represented either by court-appointed attorneys or by privately retained attorneys.

We also add controls for case characteristics and defendant demographics. This includes the crime type (for example, violent, property, or drug-related), the defendant's age, whether they were Black,[197] and their gender.[198] The controls are represented by the vector X'.[199]

β_1 is our coefficient of interest, measuring the relationship between a case being "treated" and the relevant outcome.

As discussed above, our empirical strategy relies on a difference-in-differences design, which enables us to estimate the causal effect of the policy change by comparing outcomes for a "treated" group—cases affected by the shift to partially vertical representation—to a "control" group consisting of cases that were either scheduled before their courtroom transitioned or were not represented by a public defender.

The key advantage of the difference-in-differences method in our setting is that it allows us to account for the fact that external factors, such as trends in crime or sentencing, may cause average outcomes to change over time, even in the absence of any effect of the policy change. In addition, our regression specification allows us to account for time-invariant differences across groups based on the courtroom the case is in,[200] judge identity, and the type of representation. As a result, we can

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[197] Our data only includes race and not ethnicity. Out of all defendants for whom we had data, 67% are identified as Black and 29% as white. Given the small number of defendants who identify as Asian, Pacific Islander, Native American, or Alaskan, we aggregate our race variable into two groups: Black and non-Black.

[198] As race and/or gender data is missing for some defendants, the number of observations drops slightly when adding these controls. Individuals whose race is listed as "bi-racial" are also dropped from this regression.

[199] See *infra* Section III.C.2 and Table 10 for a breakdown of the iterative effect of the control variables.

[200] Because the floor—and therefore the courtroom—to which a case was assigned was based on the geographic location of the offense, this method also allows us to account for time-invariant differences between different zones of Philadelphia.

draw conclusions regarding the causal impact of the change to partially vertical representation with minimal assumptions.

The primary assumption that we do require is an assumption known as "parallel trends." This assumption is that the average outcomes for each group would evolve similarly over time if the change to partially vertical representation had not occurred. We formally provide evidence in support of this assumption in Section III.B.

In addition to the assumption of parallel trends, we also assume that the treatment effect is homogeneous across courtrooms—that is, the potential effect of changing to partially vertical representation is the same for all courtrooms. As the policy change is rolled out over time, with different rooms changing their representation model on different dates, our design is a staggered difference-in-differences. In a staggered difference-in-differences, in the absence of the assumption of homogeneous treatment effects, the estimate of β_1 would still have a causal interpretation as long as our treatment effects are static, that is, they do not vary based upon the length of time since the courtroom changed policy.[201] What would change without the assumption of homogeneous treatment effects is the interpretation of the estimated coefficient. We would be estimating an average treatment effect on the treated cases. This average would be the average treatment effect of each courtroom weighted according to the variance of the case outcomes in that courtroom.[202]

We believe the assumption of static treatment effects is reasonable in this setting because our unit of observation is an individual case, and for a case to be treated, its first scheduled trial date must be after the relevant room changed its policy. Hence, all treated cases are treated for their entire duration. Further, we are only using data from cases at most twenty months after a room changed to partially vertical, so there is limited time for participants to change their behavior in response to the change. Thus, we do not expect dynamic treatment effects in our setting. As a robustness check, we also run another specification known as a stacked difference-in-differences.[203] This method obtains a valid causal estimate even in the presence of dynamic treatment effects.

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[201] See Andrew C. Baker, David F. Larcker & Charles C.Y. Wang, *How Much Should We Trust Staggered Difference-in-Differences Estimates?*, 144 J. Fin. Econ. 370, 371, 375–76 (2022) (Simulation 3), for simulated results showing that there is no bias in a staggered difference-in-differences design with static treatment effects. We formally test for potential bias due to dynamic treatment effects, that is, treatment effects that vary based upon the length of time since the room was treated. *See infra* Section III.C.2.

[202] *See* Andrew Goodman-Bacon, *Difference-in-Differences with Variation in Treatment Timing*, 225 J. Econometrics 254, 261–62 (2021).

[203] *See infra* Section III.C.2.

B. *Validity of the Natural Experiment*

For our empirical method to identify the effect of the change to a partially vertical representation model, we require parallel trends, meaning that, absent the change, the trend in outcomes (such as conviction rate or sentence length) would have been the same between the treatment and control groups. Importantly, we do not require random assignment of cases to treatment.[204]

By definition, we cannot observe what the outcome of treated cases would have been had they instead been conducted under the prior horizontal representation model. Hence, we cannot directly test the assumption of parallel trends. Instead, to test the plausibility of this assumption, we first examine whether there are differential pre-trends.

To do so, we run a stacked event study design. We split our study into three mini-experiments, one for each of the first three policy implementation dates.[205] For each sub-experiment, we only include data within a 150-day window before and after the implementation date. Only cases assigned to courtrooms that have waiver trials in each month of our sub-experiment window and have not changed to partially vertical representation by the 150th day after the given courtroom has changed are used as controls within the sub-experiment. Each sub-experiment only includes data from either the courtroom(s) treated on the relevant implementation date or the control rooms. By selecting for control rooms in this way, we ensure that a room that has already switched to partially vertical representation is not used as a control, even if the switch occurred more than 150 days prior to the start of the sub-experiment. The datasets for each sub-experiment are appended,[206] that is, "stacked," and the regression shown in Equation 2 is run:

$$Y_{id} = \alpha + \sum_{t=-5}^{5} \beta_t G_{id} s_{tid} + \delta_{jd} + \rho_{rd} + \eta_{md} + \lambda \, pretrialdate_{id} + PD_{id} + CA_{id} + X'_{id}\kappa + \varepsilon_{id} \quad \#(2)$$

We replace the treatment indicator with a series of indicators for the number of months relative to the treatment date of the treated

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[204] This stronger assumption, which is relied on in other econometric methods, would not be satisfied in our setting as the courtroom assignment of waiver cases during this period is largely determined by the geographic region of the offense.

[205] There were five initial implementation dates. The final two implementation dates are dropped from this stacked regression analysis as we do not have sufficient data after these events to construct the required windows around the implementation date.

[206] Note that in this model, the same cases may be in the dataset for multiple sub-experiments. In this scenario, the case is, in effect, duplicated in the final stacked dataset.

courtroom in sub-experiment d, denoted S_{tid}. These indicators are interacted with an indicator, G_{id}, for whether the hearing belongs to the treatment group in sub-experiment d. The interpretation of the remaining variables is the same as in Equation 1, except now each variable is indexed by the sub-experiment identifier d. To ensure that comparisons are made within the same sub-experiment, we estimate separate month, courtroom, and judge fixed effects for each sub-experiment.[207] Following Wing, Freedman, and Hollingsworth, we estimate Equation 2 using weighted least squares, weighting treatment group observations by 1 and control group observations by $\dfrac{N_d^T/N^T}{N_d^C/N^C}$ which is the share of all of the treated observations in the stack that belong to sub-experiment d divided by the share of all of the control observations in the stack that belong to sub-experiment d.[208]

Figure 5 plots the estimated coefficients β_t for the regression on conviction rates. Results for our other key outcomes are qualitatively similar. The x-axis shows the number of months relative to the treatment date, and the y-axis displays the estimated effect. Circles denote point estimates for pre-treatment periods, while triangles represent post-treatment periods; period-1 serves as the omitted reference category. Error bars indicate 95% confidence intervals around each estimate.

For each pre-treatment period, the estimated differences in conviction rates between treated and control groups are small, and there is no discernible trend in the coefficients. Although the confidence intervals include zero—implying that the estimates are not statistically significant—they are relatively wide due to the limited number of cases per courtroom per month. As a result, we cannot definitively rule out the presence of meaningful pre-trends based on this analysis alone.

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[207] Note that as we only include 300 days of data in this specification, year fixed effects are perfectly collinear with month fixed effects and are thus omitted.

[208] Coady Wing, Seth M. Freedman & Alex Hollingsworth, *Stacked Difference-in-Differences* 2, 17 (Nat'l Bureau of Econ. Rsch., Working Paper No. 32054, 2024).

FIGURE 5: CONVICTION RATE RELATIVE TO TREATMENT
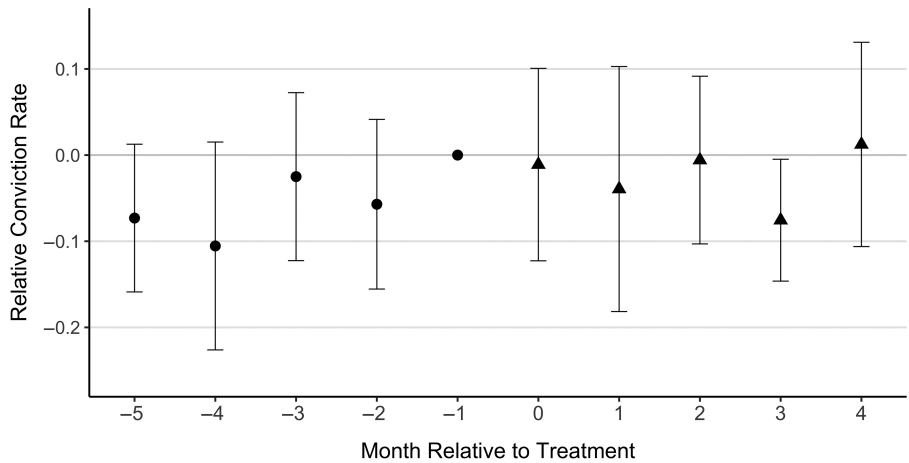
Estimated coefficients on conviction rates between untreated and treated courtrooms in a stacked event study. Data is based on a comparison of defendant outcomes in the 150 days before and after treatment across the first three dates on which courtrooms switched to partially vertical representation. Only courtrooms that had not switched to partially vertical representation by the end of the relevant sub-experiment are used as controls.

To provide further support for the assumption of parallel trends, we consider selection into treatment. Given that our data is drawn from a single city over a relatively short time period, the main risk to parallel trends would be if there was selection into treatment, that is, if the composition of public defender cases changes after a courtroom switched to partially vertical representation relative to cases in untreated rooms or non-public defender cases.

The timing of an offense and, thus, a defendant's pretrial hearing appears to be plausibly random relative to the date when a given room switches to partially vertical representation. It is unlikely that any defendants would have known about the change in the Defender Association's policy in advance. In addition, it seems implausible that, even if a defendant did know about the policy change, it would affect either the decision whether to commit the crime or when to do so. While less implausible, it is also unlikely that this policy change would directly affect a defendant's decision to hire a private attorney, given that this is primarily driven by financial constraints.[209] While law enforcement and prosecutors may have known of the change in policy, we have no reason

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[209] *See* Memorandum from Charles A. Cunningham, Acting Defender, Def. Ass'n of Phila., to Hon. Darrell L. Clarke, Council President and Members of Phila. City Council 1

to believe it would have affected either arrest or charging behavior. Thus, selection into treatment appears to intuitively be very unlikely.

In addition to the implausibility of selection into treatment, the fact that the average values of case and defendant characteristics shown in Table 2 were approximately the same for treated and untreated public defender cases suggests this was not the case.[210] Here, we provide further evidence by formally testing whether observable characteristics of public defender cases change once a room transitions to partially vertical representation.

To do so, we estimate the regression in Equation 3 for the defendant and case characteristics we observe.

$$Y_i = \alpha + \beta_1 Treated_i + \delta_j + \rho_r + \theta_y + \eta_m + \gamma\, pretrialdate_i + PD_i + CA_i + \varepsilon_i \ \#(3)$$

Y_i is the relevant defendant/case characteristic for case i. For the definitions of $Treated_i$, δ_j, θ_y, η_m and ρ_r, see the description of Equation 1.[211]

β_1 is once again our coefficient of interest, measuring the relationship between a case being "treated" and the relevant defendant/case characteristic. To satisfy our test that there is no selection into treatment, the null hypothesis that β_1 is equal to 0 should not be rejected for any of the demographics and case characteristics tested.

The results are presented in Table 3. The characteristics we test are whether the defendant was Black, whether the defendant was male, the number of felony charges, whether the case involves a charge for a violent offense, whether the case involves a charge for a property offense, whether the case involves a charge for a drug offense, and whether the case involves a charge of driving under the influence. Due to multiple hypothesis testing, we once again adjust the critical values for our test of significance.[212] For each characteristic, the *p*-value is larger than the relevant critical value. Thus, we do not reject the null hypothesis for any of the characteristics.[213] This means that we do not

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(Mar. 31, 2015) ("Only those who meet the indigence standards set by the Courts will be appointed a 'public defender.'").

[210] *See supra* Section II.C (displaying summary statistics showing statistically indistinguishable case and defendant characteristics between treatment and control groups).

[211] *See supra* Section III.A (referencing Equation 1, the main specification, and variable explanations).

[212] See *supra* note 184 and accompanying text for an explanation of the Benjamini-Hochberg procedure which is used for this adjustment.

[213] Note that the conclusion that the difference in the number of felonies is not statistically significant is due to the correction for multiple hypothesis testing. As the Benjamini-Hochberg procedure is less strict than the other popular method of accounting for multiple hypothesis testing, the Bonferroni Correction, we believe this conclusion to be justified. *See* Malgorzata Bogdan, Jayanta K. Ghosh & Surya T. Tokdar, *A Comparison of the Benjamini-Hochberg*

find evidence that there is a statistically significant difference in these observable characteristics between the treated and untreated cases, conditional on the time of the pretrial hearing, the geographic region of the offense, the identity of the assigned judge, and the type of defense counsel. This supports our claim that there does not appear to be selection into treatment.

TABLE 3: TEST OF RANDOM ASSIGNMENT

	Coefficient	p-value	Critical Value
Defendant Black	0.002	0.955	0.05
Defendant Male	-0.003	0.909	0.043
Felony Charges	-0.138	0.026	0.007
Violent	0.008	0.652	0.029
Property	-0.009	0.683	0.036
Drug	-0.023	0.265	0.014
DUI	-0.004	0.421	0.021

This table reports the results of the test of random assignment, estimated using the regression in Equation 3. Data from 2014–2016 is used. "Coefficient" is the estimated coefficient on β_1. "p-value" is the associated p-value of the estimated β_1. "Critical Value" is the Benjamini-Hochberg adjusted critical value to test for significance under a 5% significance level. "Defendant Black" is an indicator for whether the defendant in the case was Black. "Defendant Male" is an indicator for whether the defendant in the case was male. "Felony Charges" are the number of felonies charged in the case. "Violent" is an indicator for whether the case involved a charge for a violent crime. "Property" is an indicator for whether the case involved a charge for a property crime. "Drug" is an indicator for whether the case involved a charge for a drug crime. "DUI" is an indicator for whether the case involved a driving under the influence charge.

C.   *Continuity of Representation and Defendant Outcomes*

1.   *Main Results*

We estimate the regression model in Equation 1 for several different outcome variables: (1) whether the defendant was convicted, (2) whether the defendant received either probation or incarceration, (3) sentence length in years, (4) whether the defendant received a custodial sentence, and (5) years of incarceration received.

Procedure with Some Bayesian Rules for Multiple Testing, 1 INST. MATHEMATICAL STAT. 211, 217 (2008) (comparing the relative strictness of the Benjamini-Hochberg procedure and the Bonferroni Correction). Further, even if we were to not adjust for multiple hypotheses and consider this difference statistically significant, such a small difference, less than 10% of the mean, is unlikely to cause the parallel trend assumption to be violated.

In Figures 6 and 7, we graphically represent the results for these regressions. Figure 6 illustrates the results for whether the defendant was convicted ("Conviction"), whether they were sentenced to either probation or incarceration ("Probation or Incarceration"), and whether they were incarcerated ("Incarceration"). Figure 7 illustrates the results for total length of probation or incarceration ("Sentence Length") and the length of incarceration in years ("Incarceration Length"). The points represent the estimated change for each of the outcome variables. The triangles are estimated from regressions including all observations, regardless of whether the defendant was convicted or received the relevant sentence type.[214]

The circles report results for an alternative specification of these regressions. In each of the "conditional" models, we include only observations where the defendant was convicted. When estimating the effect on incarceration length, we further restrict the sample to only cases where the defendant received a carceral sentence.

Following the policy change, the rate of conviction increased by 2.6 percentage points. As a result, the share of defendants sentenced to either probation or incarceration increased by 3.2 percentage points, which includes a 1.4 percentage point increase in the rate of incarceration. Conditional on conviction, the share of defendants receiving either probation or incarceration increased by only 0.8 percentage points, and the incarceration rate in fact declined by 0.5 percentage points. From Figure 7, the estimated incarceration length conditional on conviction and receiving a carceral sentence increased by 5.6% of a year, or almost twenty days.

The error bars represent the 95% confidence interval around our point estimate. Before accounting for multiple hypothesis testing, for an estimate to be statistically significant at the 5% level, this confidence interval must not include zero. As multiple hypothesis testing raises the level of certainty required to find an estimate statistically significant, here we can clearly conclude that none of the estimates other than the unconditional rate of receiving a sentence of probation or incarceration are statistically significant at the 5% level.[215] For the unconditional rate of probation or incarceration, the estimate is also

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214 For thirty-four cases where the defendant was convicted, we do not have data on their sentence, if any. We treat this as data missing at random. For the purpose of these regressions, these observations are dropped.

215 For the multiple hypothesis testing, we once again group our hypotheses. As we have five outcomes, the relevant critical value is 0.01. This would require that the 99% confidence interval does not include zero.

marginally insignificant at the 5% level once accounting for multiple hypothesis testing.[216]

The estimated treatment effects and standard errors are also shown in Table 4 for the unconditional regressions (which are plotted as triangles in Figures 6 and 7) and Table 5 for the regressions conditional on conviction (which are plotted as circles in Figures 6 and 7).

The precision of our results allows us to rule out substantial benefits from the change to partially vertical representation. From Figures 6 and 7, we can see that the 95% confidence intervals do not include large beneficial values for any of the outcomes, though treatment could be associated with up to a six percentage point reduction in conviction rates, given the wide range of uncertainty. In sum, we find that defendants were no better off under the new policy of partially vertical representation.

FIGURE 6: EFFECT OF CHANGE FROM HORIZONTAL TO PARTIALLY VERTICAL ON DEFENDANT OUTCOMES
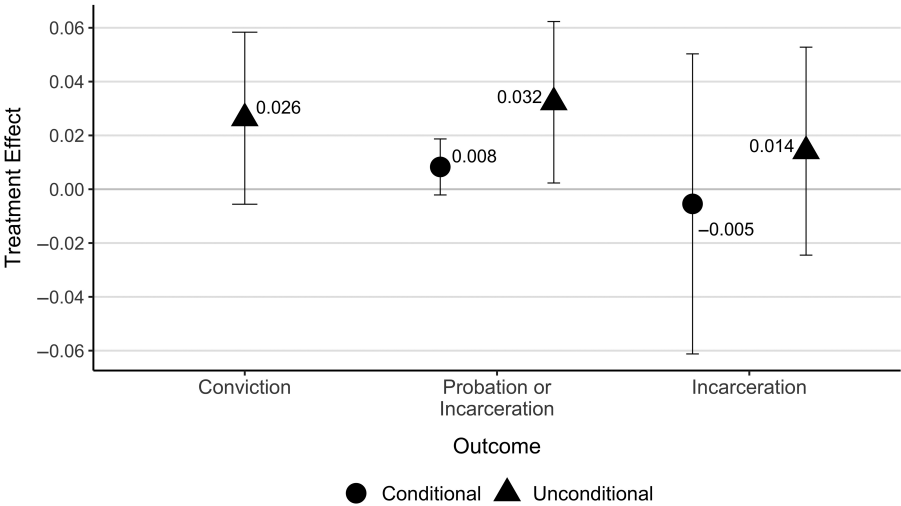
This figure reports the estimated effects of the policy change on defendant conviction and sentence, estimated using the difference-in-differences specification in Equation 1. Data from 2014–2016 is used. Illustrated are regressions where the dependent variable is (1) an indicator for whether the defendant was convicted ("Conviction"), (2) an indicator for whether they were sentenced to either probation or incarceration ("Probation or Incarceration"), and (3) an indicator for whether they were incarcerated ("Incarceration"). The points represent the estimated effect for each of the outcome variables. The triangles are estimated from regressions including all observations. The circles are estimated from regressions including only observations where the defendant was convicted.

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[216] This result is also not significant under any of our alternative specifications. See *infra* Section III.C.2 for results of robustness tests related to this outcome.

Figure 7: Effect of Change from Horizontal to Partially Vertical on Sentence Length
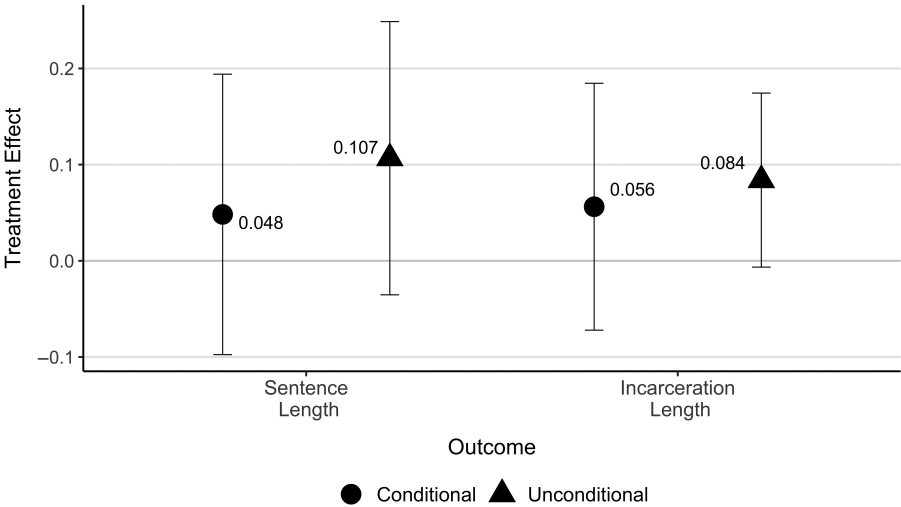
This figure reports the estimated effects of the policy change on defendant sentence length, estimated using the difference-in-differences specification in Equation 1. Data from 2014–2016 is used. Illustrated are regressions where the dependent variable is (1) the length of probation or incarceration in years ("Sentence Length") and (2) the length of incarceration in years ("Incarceration Length"). The points represent the estimated effect for each of the outcome variables. The triangles are estimated from regressions including all observations. The circles are estimated from regressions including only observations where the defendant was convicted. In addition, for the conditional model, the effect on incarceration length is estimated on data where the defendant received a carceral sentence, while the effect on sentence length is estimated on data where the defendant received either probation or a carceral sentence.

TABLE 4: EFFECT OF CHANGE FROM HORIZONTAL TO
PARTIALLY VERTICAL ON DEFENDANT OUTCOMES

	Dependent variable:				
	Conviction	Probation or Incarceration	Sentence Length	Incarceration	Incarceration Length
	(1)	(2)	(3)	(4)	(5)
Treatment	0.026	0.032**	0.107	0.014	0.084*
	(0.016)	(0.015)	(0.072)	(0.020)	(0.046)
Black	-0.039***	-0.044***	-0.093*	0.002	0.02
	(0.01)	(0.01)	(0.05)	(0.02)	(0.04)
Male	0.037*	0.036*	0.192***	0.208***	0.603***
	(0.02)	(0.02)	(0.03)	(0.01)	(0.04)
Mean	0.7	0.69	1.77	0.42	0.94
Observations	9,060	8,985	8,985	8,985	8,985
Adjusted R^2	0.038	0.038	0.047	0.054	0.078

Note: *p<0.1; **p<0.05; ***p<0.01

This table reports the estimated effect of the policy change on conviction and sentence, estimated using the difference-in-differences specification in Equation 1, replacing the dependent variable with the stated variable. Data from 2014–2016, where the race and gender of the defendant were recorded, is used. For Models (2)–(4), only cases where the details of the defendant's sentence are reported in our data are used. "Conviction" is a dummy equal to 1 if the defendant was found guilty of any charge. "Probation or Incarceration" is a dummy equal to 1 if the defendant received a sentence including probation or incarceration and 0 otherwise. "Sentence Length" is the maximum length of the defendant's sentence in years and is equal to 0 if the defendant did not receive a sentence including either probation or incarceration. "Incarceration" is a dummy equal to 1 if the defendant was sentenced to a carceral sentence and 0 otherwise. "Incarceration Length" is the maximum length of the defendant's carceral sentence in years and is equal to 0 if the defendant did not receive a carceral sentence. "Treatment" is a dummy equal to 1 if the attorney was a public defender and the assigned room of the first scheduled trial switched to partially vertical representation before the scheduled trial date; otherwise, it is equal to 0. "Black" is a dummy equal to 1 if the defendant is recorded as being Black and 0 otherwise. "Male" is a dummy equal to 1 if the defendant is recorded as being male and 0 otherwise. Standard errors are clustered at the courtroom level.

TABLE 5: EFFECT ON DEFENDANT OUTCOMES,
CONDITIONAL ON CONVICTION

	Dependent variable:			
	Probation or Incarceration	Sentence Length	Incarceration	Incarceration Length
	(1)	(2)	(3)	(4)
Treatment	0.008	0.048	-0.005	0.056
	(0.005)	(0.074)	(0.028)	(0.065)
Black	-0.007**	0.001	0.034	0.091**
	(0.00)	(0.06)	(0.02)	(0.04)
Male	-0.002	0.148**	0.293***	0.862***
	(0.00)	(0.06)	(0.02)	(0.08)
Mean	0.99	2.52	0.6	1.34
Observations	6,288	6,288	6,288	6,288
Adjusted R^2	0.001	0.059	0.069	0.104

Note: *$p<0.1$; **$p<0.05$; ***$p<0.01$

This table reports the estimated effect of the policy change on the defendant's sentence, estimated using the difference-in-differences specification in Equation 1, replacing the dependent variable with the stated variable. For each regression, data from 2014–2016 is used where the defendant was found guilty, the details of the defendant's sentence are reported in our data, and race and gender were recorded. Model (2) is run only on cases where the defendant was sentenced to either probation or incarceration, and Model (4) is run only on cases where the defendant was sentenced to incarceration. "Probation or Incarceration" is a dummy equal to 1 if the defendant received a sentence including probation or incarceration and 0 otherwise. "Sentence Length" is the maximum length of the defendant's sentence in years and is equal to 0 if the defendant did not receive a sentence including either probation or incarceration. "Incarceration" is a dummy equal to 1 if the defendant was sentenced to a carceral sentence and 0 otherwise. "Incarceration Length" is the maximum length of the defendant's carceral sentence in years and is equal to 0 if the defendant did not receive a carceral sentence. "Treatment" is a dummy equal to 1 if the attorney was a public defender and the assigned room of the first scheduled trial switched to partially vertical representation before the scheduled trial date; otherwise, it is equal to 0. "Black" is a dummy equal to 1 if the defendant is recorded as being Black and 0 otherwise. "Male" is a dummy equal to 1 if the defendant is recorded as being male and 0 otherwise. Standard errors are clustered at the courtroom level.

Finally, we consider potential mechanisms that could impact defendant outcomes. In Table 6, we report results from regressions where the outcome variable is (1) whether any of the initial charges were changed, (2) whether a charge was dropped, (3) the number of motions in the case, and (4) the case duration measured in days from arraignment to the final trial.

The downgrading or dropping of charges may, of itself, be beneficial to defendants. In addition, we would expect that this would also serve to reduce the probability of incarceration and the length of any sentence. As well as potentially directly impacting case outcomes, the number of motions filed and case duration may also serve as a proxy for attorney effort.[217]

We find that treated cases were 4.7 percentage points less likely to involve a change to the initial charges. This difference is statistically significant at the 5% level.[218]

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[217] A longer duration due to delays such as continuances may also directly impact case outcomes by increasing the probability that a case is dropped by the prosecutor's office.

[218] For the multiple hypothesis testing, we once again use the Benjamini-Hochberg procedure and group our hypotheses. As there are four procedural hypotheses, the relevant critical value is 0.0125 for the smallest p-value, which here applied to the effect on charge downgrades. For the second-smallest, it is 0.025. The p-value for the coefficient on Motions—which is the second-smallest p-value—is 0.02599, meaning that it is insignificant.

TABLE 6: EFFECT OF CHANGE FROM HORIZONTAL TO
PARTIALLY VERTICAL ON ADDITIONAL OUTCOMES

	Dependent variable:			
	Charge Downgrade	Charge Nolle Pros	Motions	Duration
	(1)	(2)	(3)	(4)
Treatment	-0.047***	0.017	0.041	4.821
	(0.011)	(0.030)	(0.029)	(7.427)
Black	-0.021***	-0.022**	0.048	17.804***
	(0.00)	(0.01)	(0.04)	(4.77)
Male	0.014	0.002	0.143***	-5.041
	(0.01)	(0.03)	(0.03)	(8.61)
Mean	0.12	0.63	0.31	279.68
Observations	9,060	9,060	9,060	9,059
Adjusted R^2	0.104	0.036	0.036	0.126

Note: *$p<0.1$; **$p<0.05$; ***$p<0.01$

This table reports the estimated effect of the policy change on the defendant's sentence, estimated using the difference-in-differences specification in Equation 1, replacing the dependent variable with the stated variable. Data from 2014–2016, where the race and gender of the defendant were recorded, is used. "Charge Change" is a dummy equal to 1 if at least one of the initial charges in the case was changed and 0 otherwise. "Nolle Pros" is a dummy equal to 1 if at least one of the initial charges in the case was dropped and is equal to 0 otherwise. "Motions" is the number of motions involved in the case. "Duration" is the length in days from arraignment until the scheduled trial date. "Treatment" is a dummy equal to 1 if the attorney was a public defender and the assigned room of the first scheduled trial switched to partially vertical representation before the scheduled trial date; otherwise, it is equal to 0. "Black" is a dummy equal to 1 if the defendant is recorded as being Black and 0 otherwise. "Male" is a dummy equal to 1 if the defendant is recorded as being male and 0 otherwise. Standard errors are clustered at the courtroom level.

2.   Robustness Tests

We also run a series of robustness checks to ensure that our findings hold under different conditions and are not driven by outliers or by the specific methodological choices in our main specification.

First, we drop all cases where the defendant was not represented by a public defender; that is, we remove private attorneys, whether they were court-appointed or privately retained. Thus, in this model, the treated partially vertical cases are compared only to public defender cases that were untreated because the assigned courtroom had not yet switched to partially vertical representation. The results of this regression are shown in Model (1) of Table 7. The point estimate decreases but remains positive and not statistically significant.

Second, given the drop in the number of cases in the second half of 2016,[219] as a robustness check, we rerun our analysis, dropping cases with a pretrial date after June 30, 2016. The results are shown in Model (2) of Table 7. The point estimate increased slightly, although it is still not statistically significant at the 5% level after accounting for multiple hypothesis testing. Thus, we do not believe that our results are biased upward by the period in the second half of 2016 when the number of cases in our data decreased.

As another robustness check, we run a "donut regression," dropping all observations with a first trial date within the 180-day period before the assigned room switched to partially vertical representation. This is to reduce potential bias from partially treated cases, those where the courtroom changed to partially vertical representation between the first scheduled trial date and the final trial date. As we define these cases as "untreated" in the main specification, to the extent that they are affected by the policy change, they may have biased the treatment effect toward zero.

The data used in Model (1) of Table 4 has 599 cases that are partially treated. By dropping all cases with a first trial date scheduled in the 180 days before their room's policy change, the number of partially treated cases falls to just 303 out of 3,913 cases.

Note that we cannot directly select to drop cases based on having been partially treated. This is because partial treatment is not exogenous. The longer a case, for example, the more its trial is continued, the higher the probability that it will cross into the treatment period of its assigned room. The length of a case may also be correlated with conviction, as cases with more continuances are more likely to be dropped. Hence, directly selecting these cases to be dropped would bias results.

The results from this regression are shown in Model (3) of Table 7. The estimated treatment effect is similar to what we estimated in Model (2). It is once again positive but not statistically significant.

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[219] *See* Figure 1, *supra* Section II.C (displaying the decrease in cases in late 2016).

While we believe that any treatment effects are likely to be static in this setting,[220] as a final robustness check, we run a stacked difference-in-differences to rule out an impact from dynamic treatment effects.[221] We estimate a modified version of Equation 2, replacing the treatment group × month indicator variables with a single indicator variable, *Treated*.

The results are shown in Model (4) of Table 7. Once again, the estimated treatment effect remains statistically insignificant, although the estimate is now slightly negative. Thus, it does not appear that dynamic treatment effects are present in our setting and biasing our results.

We include equivalent robustness checks where the outcomes are whether the defendant was incarcerated (unconditional on guilt) and the length of incarceration, if any (unconditional on conviction or sentence type). These are reported in Tables 8 and 9, respectively. We continue to see estimated treatment effects that are statistically insignificant with respect to the probability of incarceration and the length of incarceration.

Finally, Table 10 presents a series of robustness checks for each outcome variable, progressively adding control variables. Model (1) includes only attorney-type dummies, while Model (5) incorporates the full set of controls described in Equation 1. The progression reveals that many of the differences between the comparison of summary statistics in Table 2 and the estimates in Tables 4 and 5 are attributable to the inclusion of time fixed effects. Notably, once time fixed effects are added in Model (3), the coefficients on "Incarceration" and "Motions" reverse sign, and the coefficient on Duration shifts from a 29-day reduction to a small increase of two days. Because treated cases tend to occur later in the sample period, this suggests that, over time, cases were resolved more quickly, involved fewer motions, and were less likely to result in incarceration. The difference-in-differences framework accounts for these temporal trends, allowing for a more accurate estimate of the policy's effect than the simple comparison of averages in Table 2.

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[220] See *supra* Section III.A for a discussion of the justification for this assumption and its implications.

[221] Treatment effects would be dynamic if the effect of treatment varies depending on the length of time since the courtroom changed to vertical representation. *See generally* Goodman-Bacon, *supra* note 202 (discussing the role of dynamic treatment effects).

TABLE 7: ROBUSTNESS TESTS—CONVICTION

	Dependent variable:			
	Conviction			
	PD-Only	Before July 2016	"Donut"	"Stacked"
	(1)	(2)	(3)	(4)
Treatment	0.014	0.031**	0.028	-0.011
	(0.022)	(0.012)	(0.027)	(0.036)
Black	-0.030**	-0.032***	-0.041***	0.005
	(0.01)	(0.01)	(0.01)	(0.01)
Male	0.024	0.037*	0.039*	0.03
	(0.02)	(0.02)	(0.02)	(0.02)
Mean	0.71	0.7	0.7	0.7
Observations	4,525	8,087	7,778	4,318
Adjusted R²	0.019	0.038	0.038	0.048

Note:	*p<0.1; **p<0.05; ***p<0.01

This table reports the results of a series of robustness checks on the effect of the policy change on defendant conviction estimated using the difference-in-differences specification in Equation 1. Data from 2014–2016, where the race and gender of the defendant were recorded, is used. "Conviction" is a dummy equal to 1 if the defendant was found guilty of any charge. "Treatment" is a dummy equal to 1 if the attorney was a public defender and the assigned room of the first scheduled trial switched to partially vertical representation before the scheduled trial date; otherwise, it is equal to 0. In Model (1), we only include cases where the defendant was represented by a public defender. In Model (2), we only include cases where the first scheduled trial was before July 1, 2016. In Model (3), we drop all cases where the first trial was scheduled to occur within the 180-day period before the room changed to partially vertical representation. In Model (4), we estimate the stacked difference-in-differences model in Equation 3. "Black" is a dummy equal to 1 if the defendant is recorded as Black and 0 otherwise. "Male" is a dummy equal to 1 if the defendant is recorded as male and 0 otherwise. Standard errors are clustered at the courtroom level.

TABLE 8: ROBUSTNESS TESTS—INCARCERATION

	Dependent variable:			
	Incarceration			
	PD-Only	Before July 2016	"Donut"	"Stacked"
	(1)	(2)	(3)	(4)
Treatment	0.012	0.024	0.011	0.03
	(0.026)	(0.021)	(0.023)	(0.027)
Black	-0.023	0.005	-0.001	0.032
	(0.02)	(0.02)	(0.02)	(0.02)
Male	0.217***	0.203***	0.206***	0.178***
	(0.02)	(0.01)	(0.01)	(0.02)
Mean	0.44	0.42	0.42	0.42
Observations	4,491	8,041	7,717	4,291
Adjusted R^2	0.045	0.051	0.056	0.058

Note: *p<0.1; **p<0.05; ***p<0.01

This table reports the results of a series of robustness checks on the effect of the policy change on whether the defendant was incarcerated, estimated using the difference-in-differences specification in Equation 1. Data from 2014–2016 is used. "Incarceration" is a dummy equal to 1 if the defendant was sentenced to a period of incarceration. "Treatment" is a dummy equal to 1 if the attorney was a public defender and the assigned room of the first scheduled trial switched to partially vertical representation before the scheduled trial date; otherwise, it is equal to 0. In Model (1), we only include cases where the defendant was represented by a public defender. In Model (2), we only include cases where the first scheduled trial was before July 1, 2016. In Model (3), we drop all cases where the first trial was scheduled to occur within the 180-day period before the room changed to partially vertical representation. In Model (4), we estimate the stacked difference-in-differences model in Equation 3. "Black" is a dummy equal to 1 if the defendant is recorded as Black and 0 otherwise. "Male" is a dummy equal to 1 if the defendant is recorded as male and 0 otherwise. Standard errors are clustered at the courtroom level.

TABLE 9: ROBUSTNESS TESTS—INCARCERATION LENGTH

	Dependent variable:			
	Incarceration Length			
	PD-Only	Before July 2016	"Donut"	"Stacked"
	(1)	(2)	(3)	(4)
Treatment	0.014	0.068	0.06	0.031
	(0.089)	(0.057)	(0.049)	(0.089)
Black	-0.055	0.029	-0.005	0.105*
	(0.04)	(0.03)	(0.05)	(0.06)
Male	0.579***	0.597***	0.586***	0.562***
	(0.06)	(0.04)	(0.04)	(0.06)
Mean	0.93	0.96	2.36	0.93
Observations	4,491	8,041	7,717	4,291
Adjusted R²	0.05	0.079	0.087	0.049

Note: *p<0.1; **p<0.05; ***p<0.01

This table reports the results of a series of robustness checks on the effect of the policy change on the length of incarceration estimated using the difference-in-differences specification in Equation 1. Data from 2014–2016 is used. "Length of Incarceration" is a continuous variable reporting the maximum of the defendant's carceral sentence in years. If the defendant did not receive a carceral sentence, Length of Incarceration is set to 0. "Treatment" is a dummy equal to 1 if the attorney was a public defender and the assigned room of the first scheduled trial switched to partially vertical representation before the scheduled trial date; otherwise, it is equal to 0. In Model (1), we only include cases where the defendant was represented by a public defender. In Model (2), we only include cases where the first scheduled trial was before July 1, 2016. In Model (3), we drop all cases where the first trial was scheduled to occur within the 180-day period before the room changed to partially vertical representation. In Model (4), we estimate the stacked difference-in-differences model in Equation 3. "Black" is a dummy equal to 1 if the defendant is recorded as Black and 0 otherwise. "Male" is a dummy equal to 1 if the defendant is recorded as male and 0 otherwise. Standard errors are clustered at the courtroom level.

Table 10: Robustness Tests—Control Sensitivity

	(1)	(2)	(3)	(4)	(5)
Dependent Variables					
Conviction	0.008	0.006	0.032	0.034	0.026
Probation or Incarceration	0.006	0.006	0.036	0.039	0.032
Any Incarceration	-0.035	-0.039	0.015	0.018	0.014
Incarceration Length	-0.084	-0.11	0.093	0.101	0.084
Probation Length	0.143	0.13	0.039	0.035	0.023
Charge Change	-0.034	-0.026	-0.037	-0.042	-0.047
Charge Nolle Pros	0.011	0.021	0.009	0.009	0.017
Motions	-0.048	-0.006	0.043	0.046	0.041
Duration	-40.785	-28.919	1.674	2.7	4.821
Controls					
Attorney Type	Yes	Yes	Yes	Yes	Yes
Courtroom FE	-	Yes	Yes	Yes	Yes
Time FE	-	-	Yes	Yes	Yes
Crime Type	-	-	-	Yes	Yes
Judge FE	-	-	-	-	Yes
Demographics	-	-	-	-	Yes
Time Trend	-	-	-	-	Yes

This table presents the results of a series of robustness checks on the effect of the policy change across various outcomes, estimated using variations of the difference-in-differences specification outlined in Equation 1. For each outcome variable, the reported coefficient corresponds to the "Treated" indicator. The specifications progressively introduce additional control variables. "Attorney Type" refers to indicator variables for whether the defense attorney was a public defender or a court-appointed private attorney. "Courtroom FE" denotes fixed effects for each courtroom. "Time FE" includes fixed effects for the month and year of the pretrial hearing. "Crime Type FE" includes indicators for whether the case involved a violent, property, drug, weapons, DUI, or sex offense charge. "Judge FE" controls for judge identity. "Demographics" are controls for defendant race, sex, and age. "Time Trend" is a linear trend in the pretrial date.

IV

IMPLICATIONS AND DISCUSSION

A.   *Implications for Public Defender Offices*

Our results have important implications for public defense policy, particularly regarding the potential benefits of vertical representation. While vertical representation has been championed by scholars, practitioners, and professional organizations as a necessary reform for improving indigent defense,[222] our empirical analysis reveals no measurable benefits in terms of case outcomes from the increase in attorney continuity in our setting. Thus, contrary to the prevailing orthodoxy, our findings suggest that the movement toward vertical representation may not always yield large, measurable benefits in terms of defendant outcomes. This suggests that the widespread push toward vertical representation may oversimplify the situation.

This is especially true in light of the fact that the costs of implementing a vertical representation model can be high, particularly if the operation of the court creates additional logistical issues. Waiting for cases to be called and traveling between courtrooms may sound trivial, but it can pose a meaningful burden on an attorney's time. One observational study noted that almost 50% of attorneys' time in court was spent "waiting."[223] Given this clear cost, our results imply that careful consideration is necessary to determine whether vertical representation makes sense within the context of a given office rather than mandating vertical representation broadly as a requirement. Further, they suggest that some potential advantages of horizontal representation, such as having multiple attorneys review a case, may have been unfairly dismissed.

Our results may also reflect that many of the potential benefits of vertical representation cannot be realized in the context of underfunded and overworked public defender offices. Throughout the country, public defenders have caseloads well in excess of ABA recommendations.[224] In light of this, potential benefits in terms of improved case preparation

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[222] *See supra* notes 10–23 and accompanying text.

[223] *Client Service in a Defender Organization: The Philadelphia Experience*, 117 U. PA. L. REV. 448, 454 (1969). While this study occurred at a time when court processes were even less efficient than they are now, waiting for cases to be called remains an enduring feature of the public defense system. *See* KEVIN DAVIS, DEFENDING THE DAMNED: INSIDE CHICAGO'S COOK COUNTY PUBLIC DEFENDER'S OFFICE 2 (2007) (indicating that "[t]here was a lot of waiting in the courtrooms").

[224] *See, e.g.*, LEFSTEIN, *supra* note 32, at 17 (noting that multiple public defender offices reported excessive caseloads); PRIMUS, *supra* note 41, at 1 ("Public defenders routinely handle well over 1,000 cases a year, more than three times the number of cases that the American Bar Association says one attorney can handle effectively.").

and a stronger attorney-client relationship may not be possible. Regardless of the representation model used, defenders may simply not have sufficient time to dedicate to each case.

More broadly, our findings highlight the importance of empirical evaluation in reforming the operation of public defense. The widespread support for vertical representation, despite the absence of empirical validation, highlights the potential to rely on intuition and conventional wisdom in policy design. Future reform efforts in public defense should be guided by rigorous empirical evidence rather than untested assumptions about best practices.

While these results provide valuable insights for policy considerations, it is important to acknowledge the limitations of our study that may affect the generalizability and interpretation of our results. The following Sections will discuss these limitations in detail, providing a more comprehensive context for our findings and their potential application in other settings.

B.   Generalizability

As one of the largest cities in the United States, Philadelphia faces many of the same challenges as other major urban areas, including excessive caseloads for public defenders. Hence, we believe that the Defender Association of Philadelphia is representative of many large public defender offices and that the results of our study provide valuable insights into the structuring of public defense throughout the United States.

Nevertheless, the specific nature of the policy change we analyzed must be considered when drawing implications from our results. We focus on a change to the operation of felony waiver trials. These cases are typically lower-level felonies where the defendant is facing less severe punishment. As such, they tend to be less complex, with shorter trials and fewer resources dedicated to them. This means that there is generally less preparation involved compared to more serious felony cases. The shorter time period and lower level of required preparation for these cases may have limited several of the potential benefits of their partially vertical representation model.

Relatedly, it may be that in a setting such as Philadelphia with high caseloads, some of the benefits of vertical representation are unrealizable. High caseloads necessarily reduce the amount of time an attorney can dedicate to preparing for each case. This would not only restrict the ability of an attorney to develop a stronger relationship with their clients even under a vertical system, but also reduce the benefits of increased attorney accountability. Thus, our results are

likely most applicable for the more resource-constrained offices where the trade-off of implementing vertical representation is greatest. That being said, this description applies to many public defender offices in the country.

Further, in the Philadelphia Defender Association, the attorneys handling felony waiver trials are often less experienced. This factor might have made one feature of horizontal representation particularly beneficial. The passing of a case across attorneys means that there are more eyes on the case overall. One attorney is, in effect, checking the work of the previous attorney, potentially increasing the likelihood that mistakes are caught and corrected. While previous literature has placed limited weight on this potential benefit of horizontal representation,[225] this "multiple review" aspect would be particularly beneficial when dealing with less experienced attorneys. Hence, the lack of benefit we observe may be partly driven by the fact that the Philadelphia Defender Association was utilizing horizontal representation in a context where it was particularly well-suited. If the benefits of vertical representation only just offset the value of this multiple review aspect of horizontal representation, this could lead to null results under our test.

Another consideration about the nature of the experiment is that continuity of representation at the trial stage was implemented through changes in the scheduling of continuances. This may lead to the worry that this endangers our identification by not just changing the method of representation but also increasing the duration of cases. From conversations with individuals involved in the office during the time of the policy change, this does not appear to be a concern. Rescheduling a trial to a date when the assigned attorney was next in the court rather than for the next available date, in general, led to only a small delay of a matter of days. In addition, estimating a modified version of Equation 1 with the length of time between scheduled court dates as the independent variable, we find that treatment is actually associated with a reduction in the average number of days between scheduled trial dates.[226] Thus, we do not believe delays caused by this scheduling method would impact our identification of the effect of the change to partially vertical representation.

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[225] See, for example, Koehler, *supra* note 29, who dismisses the likelihood of this feature significantly benefitting defendants.

[226] The estimated effect of treatment is a reduction of five days with a *p*-value of 0.003, 95% CI [-8.31, -1.93 days].

During the period of our study, the First Judicial District of Pennsylvania operated under a system of geographic zones.[227] As a result, when the Defender Association moved to partially vertical representation for waiver trials, public defenders would generally be in the courtroom with the same judge and prosecutor each day they were in court. This removed one of the potential benefits of moving to a more vertical representation system,[228] which is that it breaks the "workgroup" mentality between defendants and prosecutors/judges.

Lastly, our study uses a difference-in-differences methodology. This method is intended to capture an almost instantaneous effect of a policy change. The benefits of the change implemented in Philadelphia may require a longer period to take effect as attorneys adjust their behavior and practices. For instance, over time, attorneys might increase the level of case preparation they conduct before a trial as they become accustomed to the fact that they will keep the case once it is assigned to them. Similarly, they might increase their focus on building a relationship with their client. However, given the results from our stacked event-study design, there is no evidence to suggest that the treatment effect varied over time within the five-month window after each courtroom changed to the new policy.[229]

Further, a time lag in the impact of the change seems less likely to be important in this setting than in districts where the court is opposed to the change in process. For example, when the Office of the Orleans Public Defenders switched to a vertical representation model, there was substantial pushback from the courts.[230] As the Judicial District had previously moved to the zone-based system and the prosecutor's office had already switched to a vertical prosecution model, the change in the policy of the Defender Association of Philadelphia should not have created conflict with the courts.

While these limitations mean that our study does not rule out that there may be circumstances where increasing continuity of representation provides benefits to defendant outcomes, they do not undermine our central claim that the transition to vertical representation may not necessarily be beneficial in all situations. Instead, this highlights the need for further empirical research to evaluate under what circumstances

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[227] See *supra* Section II.B for an explanation of the operation of the geographic community-based prosecution model used in Philadelphia at this time.

[228] *See supra* notes 70–73 and accompanying text.

[229] See *supra* Figure 4 in Section III.B for the estimates of this event-study.

[230] Ernie Lewis & Dan Goyette, Report on the Evaluation of the Office of the Orleans Public Defenders 6 (2012) (noting political and judicial pushback to a number of reforms, including vertical representation).

vertical representation is beneficial rather than prescribing vertical representation as a necessary practice in all contexts.

C.   Partially Vertical

A related caveat in drawing broad conclusions regarding the benefits of vertical representation is that the policy change we analyze was not a change to a fully vertical system but rather a partially vertical one.[231] The policy change only had an effect once the case was assigned to a trial room. The initial stages of the case, such as arraignment and pretrial hearing, still operated under a horizontal representation method. Thus, some of the potential benefits of a fully vertical representation model would not apply in this setting, such as the ability of assigned counsel to speak to witnesses and investigate leads early on. By the time the defendant's case is assigned a trial attorney, the defendant will already have been represented by three different attorneys from the Defender Association: one at arraignment, one at the preliminary hearing, and one at the pretrial conference.[232] Thus, the time for the trial attorney to build a strong relationship with their client is less than under a fully vertical system. On the other hand, this partially vertical system may still benefit from some of the positive aspects of a horizontal system that we have noted, such as having multiple attorneys review each other's work, especially in the early stages when the attorneys tend to be less experienced.

In addition, junior attorneys staffed the felony waiver cases that we focus upon, and the rotation to cover felony waivers was, by design, temporary.[233] When attorneys rotated out of the felony waiver unit, they generally passed their cases either to an incoming attorney or distributed them among the remaining attorneys in their zone. Hence, even under this partially vertical representation model, a client may have his case passed between attorneys at the trial stage. However, such handovers would be less common than under the fully horizontal model.

D.   Unmeasured Outcomes

Our study focuses on quantifiable impacts on defendants' case outcomes. However, in interpreting our results, it is important to acknowledge the potential benefits of vertical representation that our analysis does not capture.

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[231] *See supra* Section II.B (explaining the transition to a partially vertical system).

[232] See *supra* Section II.A.2 for an overview of the stages of the criminal process in Philadelphia and the way counsel was assigned at each stage.

[233] *See supra* Section II.A.2 (explaining the organization of attorneys into waiver and major rooms).

One such potential benefit is an enhanced sense of justice experienced by defendants. In a vertical representation model, defendants interact consistently with the same attorney throughout their case. This continuity may foster a stronger attorney-client relationship and a clearer perception that they have dedicated legal counsel advocating on their behalf. Our results do not support the hypothesis that the partially vertical representation model implemented in Philadelphia benefited the attorney-client relationship in a way that improved outcomes such as the probability of conviction or imprisonment. However, we do not measure whether there is an improvement in the attorney-client relationship and, if so, whether this improvement had benefits unrelated to case outcomes.

While difficult to quantify, the defendant's relationship with their counsel shapes their overall experience with the criminal justice process and can be crucial for ensuring a defendant's trust in the legal system.[234] Horizontal representation would likely affect a client's sense of the representation they have received. Klein argues that the constant changing of a defendant's attorney leaves the defendant feeling that they do not even have "a lawyer."[235] That horizontal representation contributes to the sense of "assembly-line" justice decried by scholars seems undeniable.[236]

Another important consideration is the potential impact on job satisfaction for public defenders. Vertical representation allows attorneys to see cases through from beginning to end, potentially providing a greater sense of ownership and professional fulfillment.[237] Meanwhile, horizontal defense does not just contribute to a defendant's sense of "assembly-line" justice. Like the worker on an assembly line, a defense attorney's specialization on one aspect of the case alienates them from the product of their labor—the fulfillment of a defendant's Sixth Amendment right to representation. While attorney

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[234] Eve Brensike Primus, *Culture as a Structural Problem in Indigent Defense*, 100 Minn. L. Rev. 1768, 1799 (2016).

[235] Klein, *supra* note 12, at 677.

[236] The characterization of public defense in the United States as an "assembly-line" has been made by many. *See, e.g.*, Vivian O. Berger, *The Supreme Court and Defense Counsel: Old Roads, New Paths—A Dead End?*, 86 Colum. L. Rev. 9, 50 (1986); Primus, *supra* note 234, at 1774; Kimberly Helene Zelnick, *In* Gideon*'s Shadow: The Loss of Defendant Autonomy and the Growing Scope of Attorney Discretion*, 30 Am. J. Crim. L. 363, 374–76 (2003).

[237] *See, e.g.*, *Client Service in a Defender Organization: The Philadelphia Experience*, *supra* note 223, at 451 (noting benefits of a "man-to-man system," including the psychological benefits of lawyers seeing themselves as people with individual clients); *cf.* Berger, *supra* note 236, at 52–53 (suggesting that the use of horizontal representation is, in effect, public defenders treating themselves "as fungible" and contributing to a view that public defenders are "akin to interchangeable parts").

well-being is certainly not the only consideration in the organization of a public defender office, its effects may have major implications for the operation of an office. It should come as no surprise that job satisfaction is associated with lower attorney turnover.[238] To the extent that it can allow offices to retain experienced attorneys and thus reduce recruitment and training costs, vertical representation could more than justify the additional resources required for its implementation.

Hence, while our data does not allow us to speak to these outcomes, they may represent essential outcomes for a public defender office. Thus, further research is necessary to assess the impact of vertical representation on these outcomes.

Conclusion

This study provides the first empirical analysis of the effect of increasing continuity of representation. Contrary to the prevailing consensus favoring vertical representation as providing substantial benefits to defendants, our evidence shows that increasing attorney continuity for felony waiver cases in Philadelphia did not improve defendant outcomes.

While our study has focused on felony waivers in Philadelphia and examined a policy change to a partially vertical model, it raises important questions about the assumed benefits of vertical representation more broadly. The lack of measurable improvements in case outcomes challenges the notion that vertical representation is clearly preferable. It suggests that public defender offices should carefully weigh the costs and benefits before implementing such systems.

In doing so, it is also necessary to acknowledge that continuity of representation may benefit defendants in ways not captured by our quantitative metrics; for example, it may increase their perception that their right to representation was fulfilled. While difficult to measure, these factors may still represent valuable outcomes for a public defender office. There may also be benefits to the attorneys themselves that increase their satisfaction with their role and thus reduce turnover in defender offices. Future qualitative studies examining client and attorney experiences could provide valuable insights into the non-quantifiable benefits of different representation models.

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[238] *See* Fiona M. Kay & John Hagan, *Building Trust: Social Capital, Distributive Justice, and Loyalty to the Firm*, 28 L. & Soc. Inquiry 483, 506 (2003) (noting that job satisfaction has been found to apply not just in relation to satisfaction with tangible conditions such as pay but also intangible ones such as the sense of achievement provided by the work).

Our findings highlight the need for evidence-based design in public defender offices. Offices facing resource constraints must consider which reforms are the most effective use of their limited resources. Heretofore, empirical scholars have done little to help them in this crucial task. Empirical evaluations of various organizational structures and practices will be essential for guiding public defender offices in making these decisions.