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Policing Criminal Justice Data

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Article

Policing Criminal Justice Data

Wayne A. Logan[†] & Andrew Guthrie Ferguson^{††}

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The police, of course, are entitled to enjoy the substantial advantages . . . technology confers. They may not, however, rely on it blindly. With the benefits of more efficient law enforcement mechanisms comes the burden of corresponding constitutional responsibilities.¹

Data has always figured centrally in crime control and surveillance by law enforcement. From early efforts to measure the heads, faces, and ears of criminal suspects, to modern efforts to secure DNA from arrestees, governments have collected data on individuals thought to pose criminal risk.² They have also generated data, recording arrests, issuing warrants, and even creating publicly available lists of individuals thought to raise safety concern.³ A prime example of the latter is the current profusion of government-created registries targeting specific sub-populations, most notably convicted sex offenders but increasingly others as well.⁴

But what if this information is wrong? What recourse is available for data mistakes? Arrested because of a database error indicating that an active arrest warrant exists on you? Sorry, you must suffer the trauma of an arrest, as well as a search of your body (including possibly a strip search), miss work and incur other social, reputational, and economic misfortunes. DNA unlawfully collected by police? Sorry, the government might well retain and use the genetic profile generated. Mis-labeled a sex offender and find yourself subject to harassment or vigilantism at the hands of fellow community members? Again, sorry, you're likely out of luck; your best bet is to change residences.

Today, as Justice Ginsburg recently noted, databases "form the nervous system of contemporary criminal justice operations," but "[t]he risk of error stemming from these databases is not slim."⁵ Indeed, research has long documented significant quality problems with criminal justice databases,⁶ and no less

1. *Arizona v. Evans*, 514 U.S. 1, 17–18 (1995) (O'Connor, J., concurring).

2. *See infra* Part I. While the term "data" is the plural form of "datum," data is used here in conformity with common usage. *See* Jane Bambauer, *Is Data Speech?*, 66 *STAN. L. REV.* 57, 59 n.3 (2014).

3. *See infra* Part I.

4. *Id.*

5. *Herring v. United States*, 555 U.S. 135, 155 (2009) (Ginsburg, J., dissenting).

6. *See, e.g.*, BUREAU OF JUSTICE STATISTICS, U.S. DEP'T OF JUSTICE, IMPROVING ACCESS TO AND INTEGRITY OF CRIMINAL HISTORY RECORDS 7 (2005) [hereinafter B.J.S., IMPROVING ACCESS]; BUREAU OF JUSTICE STATISTICS, U.S. DEP'T OF JUSTICE, USE AND MANAGEMENT OF CRIMINAL HISTORY RECORD IN-

than four recent U.S. Supreme Court decisions involved individuals wrongly arrested because of invalid warrants.⁷ And while governments in the past acted to correct errors, for instance by removing an exonerated individual's photo from a public "rogues' gallery,"⁸ such solicitude is now a quaint reminder of a bygone era. Today, the prevailing zeitgeist of governments is one of database expansion,⁹ not quality control or accountability, and a blasé acceptance of data error and its negative consequences for individuals.¹⁰ Compounding matters, not only is the accuracy of databases accepted as an article of faith,¹¹ with courts according them a presumption of reliabil-

FORMATION: A COMPREHENSIVE REPORT, 2001 UPDATE 38 (2001) [hereinafter B.J.S., USE AND MANAGEMENT REPORT]; BUREAU OF JUSTICE STATISTICS, U.S. DEPT OF JUSTICE, DATA QUALITY OF CRIMINAL HISTORY RECORDS 1-4 (1985) [hereinafter B.J.S., DATA QUALITY OF CRIMINAL JUSTICE RECORDS]; COMPTROLLER GEN. OF THE U.S., U.S. GEN. ACCOUNTING OFFICE, DEVELOPMENT OF A NATIONWIDE CRIMINAL DATA EXCHANGE SYSTEM—NEED TO DETERMINE COST AND IMPROVE REPORTING 9-11, 93 (1973); PRESIDENT'S COMM'N ON LAW ENFORCEMENT AND ADMIN. OF JUSTICE, THE CHALLENGE OF CRIME IN A FREE SOCIETY 7, 10, 266, 268 (1967); see also Donald L. Doernberg & Donald H. Zeigler, *Due Process Versus Data Processing: An Analysis of Computerized Criminal History Information Systems*, 55 N.Y.U. L. REV. 1110, 1153-54 (1980) (recounting studies showing significant database deficiencies dating back to the late 1960s).

7. See *Florence v. Bd. of Chosen Freeholders*, 132 S. Ct. 1510 (2012); *Herring v. United States*, 555 U.S. 135 (2009); *Rothgery v. Gillespie Cty.*, 554 U.S. 191 (2008); *Arizona v. Evans* 514 U.S. 1 (1995). In *Evans*, the record indicated that on the day of defendant's unlawful arrest (based on a previously withdrawn warrant), three other similar arrests occurred in the same locality. *Evans*, 514 U.S. at 28 (Ginsburg, J., dissenting). See also *Crawford v. Marion Cty. Election Bd.*, 553 U.S. 181, 219 n.23 (2008) (Souter, J., dissenting) (noting problems with the Bureau of Motor Vehicles database in cases related to a voter identification statute); *Ornelas v. United States*, 517 U.S. 690, 692 (1996) (acknowledging errors in the Narcotics and Dangerous Drugs Information System database).

8. Wayne A. Logan, *Policing Identity*, 92 B.U. L. REV. 1561, 1567-68 (2012).

9. A zeal, it should not go unmentioned, not reflected in law enforcement interest in collecting and making available data on instances of possible misconduct by officers. See Tom Jackman, *Only 53 Police Agencies Participating in National Push for Use of Force Statistics*, WASH. POST (Apr. 26, 2016), <https://www.washingtonpost.com/news/true-crime/wp/2016/04/26/only-53-police-agencies-participating-in-national-push-for-use-of-force-statistics>; Martin Kaste, *Coaxing Police To Share Data on Officers' Conduct*, NAT'L PUB. RADIO (Apr. 22, 2016), <http://www.npr.org/sections/thetwo-way/2016/04/22/475312581/coaxing-police-to-share-data-on-officers-conduct>.

10. See, e.g., Daniel J. Steinbock, *Data Matching, Data Mining, and Due Process*, 40 GA. L. REV. 1, 17-18 (2005) (noting growing acceptance of erroneous "indications of criminality").

11. See P. STEPHEN GIDIÈRE III, THE FEDERAL INFORMATION MANUAL:

ity,¹² but police reliance on faulty databases is effectively condoned.¹³ And as a result of the Supreme Court's recent decision in *Utah v. Strieff*,¹⁴ police will have more reason than ever to rely on databases because they know that they can unlawfully seize an individual, scan a database for an arrest warrant (based, for instance, on alleged failure to pay a fine or appear in court), and conduct a search based on the resulting arrest.¹⁵

When collected and maintained with proper care and diligence, data can promote the goal of achieving a fairer and more

HOW THE GOVERNMENT COLLECTS, MANAGES, AND DISCLOSES INFORMATION UNDER FOIA AND OTHER STATUTES 176 (2006) ("Once information is placed in an electronic database, the human tendency is to accept the accuracy of that information without question."); MADELINE NEIGHLY & MAURICE EMMSELLEM, NATIONAL EMPLOYMENT LAW PROJECT, WANTED: ACCURATE FBI BACKGROUND CHECKS FOR EMPLOYMENT 2 (2013) ("The FBI is more than a mere receptacle of information; the imprimatur of the FBI marks the records as authoritative and trustworthy. The FBI must bear the responsibility to ensure accuracy given that the records are official federal documents."); see also DAVID BURNHAM, A LAW UNTO ITSELF: POWER, POLITICS, AND THE IRS 324 (1989) (coining the phrase pertaining to computers "garbage in, gospel out"); L.R. Shannon, *The Apt Quotation via Electronics*, N.Y. TIMES, June 12, 1990, at C11 ("If you put tomfoolery into a computer, nothing comes out but tomfoolery. But this tomfoolery, having passed through a very expensive machine, is somehow ennobled and no one dare criticize it." (quoting Pierre Galois)).

12. See, e.g., *United States v. McDowell*, 745 F.3d 115, 121–22 (4th Cir. 2014) (stating that the "pervasive use of NCIC reports . . . indicates that such reports may be trusted"); *State v. Stevens*, 33 N.E.3d 1200, 1205 (Ind. Ct. App. 2015) (noting that the state criminal records "system is one on which officers regularly rely" and rejecting argument that police must confirm the accuracy of records); *O'Bryan v. State*, 464 S.W.3d 875, 880–81 (Tex. App. 2015) (stating that the "NCIC—and its records—has received widespread acceptance as providing a sufficient basis for both probable cause and reasonable suspicion").

13. See *Herring v. United States*, 555 U.S. 135, 146 (2009) (condoning arrests based on invalid arrest warrants in databases and stating that evidence secured as a result of an arrest is subject to exclusion only "[i]f the police have been shown to be reckless in maintaining a warrant system, or to have knowingly made false entries to lay the groundwork for future false arrests").

14. 136 S. Ct. 2056 (2016).

15. See *id.* at 2068–69 (Sotomayor, J., dissenting) (noting the many millions of outstanding arrest warrants in state, local, and federal databases, "the vast majority of which appear to be for minor offenses," and the routine access to such databases by police to arrest and search individuals); see also *id.* at 2064 ("This case allows the police to stop you on the street, demand your identification, and check it for outstanding traffic warrants—even if you are doing nothing wrong. If the officer discovers a warrant for a fine you forgot to pay, courts will now excuse his illegal stop and will admit into evidence anything he happens to find by searching you after arresting you on the warrant."); *id.* at 2072 (Kagan, J., dissenting) (arguing that "far from a Barney Fife-type mishap, [the officer's] seizure of Strieff was a calculated decision" motivated by an independent investigative purpose).

effective criminal justice system.¹⁶ As noted by former U.S. Attorney General Richard Thornburgh, “[T]here is a ‘straight-line relationship’ between high-quality criminal history record information and the effectiveness of the Nation’s criminal justice system.”¹⁷ Used inappropriately or without appropriate quality control safeguards and accountability, however, the information can imperil individual liberty and privacy, and impose significant physical, emotional, and economic harms. The question thus becomes, first, how to create an accountability structure to better ensure data quality in the criminal justice system and allow for the detection of errors *ex ante*. And second, relatedly, how to afford a legal basis for redress when government fails to live up to the responsible stewardship of the data it collects, generates, and uses.

While a substantial and still-growing literature exists on the individual liberty and privacy perils associated with large, multi-source data assemblage, known as “big data,”¹⁸ this Article addresses the pitfalls of “small” data (i.e., individual-level, discrete data points) in the criminal justice system. Because small data provides the building blocks for all data-driven systems, enhancing data quality and promoting greater government accountability will have a major positive effect on the criminal justice system as a whole.¹⁹

The diverse forms of data error, and the varied contexts in which errors arise, make the practical challenge an estimable one.²⁰ At the same time, the most commonly advocated remedial

16. For a comprehensive treatment of the central role criminal records have come to play, see JAMES B. JACOBS, *THE ETERNAL CRIMINAL RECORD* (2015).

17. B.J.S., *USE AND MANAGEMENT REPORT*, *supra* note 6 (quoting U.S. Attorney General Richard Thornburgh).

18. See Julie E. Cohen, *What Privacy Is For*, 126 HARV. L. REV. 1904, 1920–21 (2013) (“‘Big Data’ is shorthand for the combination of a technology and a process. The technology is a configuration of information-processing hardware capable of sifting, sorting, and interrogating vast quantities of data in very short times. The process involves mining the data for patterns, distilling the patterns into predictive analytics, and applying the analytics to new data. Together, the technology and the process comprise a technique for converting data flows into a particular, highly data-intensive type of knowledge.”); see also Andrew Guthrie Ferguson, *Big Data and Predictive Reasonable Suspicion*, 163 U. PA. L. REV. 327, 352–53 (2015) (further defining the concept of “big data”).

19. See Christopher Slobogin, *Government Data Mining and the Fourth Amendment*, 75 U. CHI. L. REV. 317, 323–27 (2008) (noting the snowball effect of inaccurate data when combined in larger databases).

20. The challenge, it is worth noting, is heightened by interconnected,

course of action, constitutional litigation, holds little realistic promise of delivering the kind of foundational change needed. This Article therefore urges a package of reforms, including legislatively prescribed data quality standards, database audits designed to systematically and regularly assess accuracy, and legal mechanisms to redress harms resulting from data errors.

Achieving such broad-scale reform will be no easy task, in no small part because states, which are the key players in criminal justice,²¹ must be brought on board. As it turns out, as a result of federal regulatory initiatives dating back to the early 1970s, the infrastructure is in place to compel improvements among the states. What has been lacking is federal resolve to force states to actually comply with data quality regulations, which have long served as the nominal precondition for state receipt of federal funds and continued access to federally operated national databases—such as the National Crime Information Center (NCIC)—on which states today heavily rely.²²

Setting standards and providing incentives to ensure data accuracy is no less important today than the early 1970s, the dawn of information automation. Without incentives to devise

multi-source databases, raising the risk that errors arising in one context, which might not have immediate adverse impact, can in effect be re-purposed in another larger database with such impact. Cf. Marc L. Miller & Ronald F. Wright, *The Wisdom We Have Lost: Sentencing Information and Its Uses*, 58 STAN. L. REV. 361, 380 (2005) (emphasizing the need to monitor and match data with different users and uses).

21. See YALE KAMISAR ET AL., MODERN CRIMINAL PROCEDURE: CASES, COMMENTS AND QUESTIONS 18 (12th ed. 2008) (“[W]hen the federal system is compared to the state systems as a group, the combined state systems clearly dominate, as they account for a much larger portion of the nation’s criminal justice workload (e.g., roughly 96% of all felony prosecutions and over 99% of all misdemeanor prosecutions).”).

22. Focus on the states is also imperative because the federal government, which maintains the national databases to which states contribute their records, has often exempted itself from quality control expectations otherwise imposed upon federal agencies. See, e.g., 28 C.F.R. § 19.6(b)(6) (2012) (exempting FBI in its operation of the NCIC from ensuring compliance with Privacy Act of 1974 requirements that data be “accurate, relevant, timely and complete” because doing so would be “administratively impossible” in that “many of these records come from other federal, state, local, joint, foreign, tribal, and international agencies”); see also Erin Murphy, *The Politics of Privacy in the Criminal Justice System: Information Disclosure, the Fourth Amendment, and Statutory Law Enforcement Exemptions*, 111 MICH. L. REV. 485, 487 (2013) (“The United States Code currently contains over twenty separate statutes that restrict both the acquisition and release of covered information. . . . Yet across this remarkable diversity, there is one feature that all these statutes share in common: each contains a provision exempting law enforcement from its general terms.”).

ways to detect and correct database errors, criminal justice system actors who control the actual data and its use have little institutional reason to make improvements.²³ And if governments lack incentive or interest in data quality, most assuredly so too will the private vendors that figure critically in the data marketplace. Providing legal and economic incentives to find and cure bad data, promote accountability, and end impunity for errors will also encourage innovations in the construction and operation of evolving database systems, as already witnessed in the similarly data-dependent health care²⁴ and credit rating²⁵ industries.

The changes proposed here are as timely as they are important. After many years of providing states guidance on data quality control, and allocating millions of dollars in funding to construct and operate databases,²⁶ the U.S. Department of Justice concluded that the “federal commitment to improving [state] record systems now needs to be rethought and reinvigorated” and that “[m]uch more needs to be done to achieve uniformity in the improvement of record quality and completeness.”²⁷ More recently, the American Law Institute, as part of

23. See, e.g., Rachel Harmon, *Why Do We (Still) Lack Data on Policing?*, 96 MARQ. L. REV. 1119, 1131–32 (2013) (surveying how a variety of institutional and political forces combine to discourage data collection and transparency among law enforcement); see also Anya Bernstein, *The Hidden Costs of Terrorist Watch Lists*, 61 BUFF. L. REV. 461, 473 (2013) (stating with respect to the “terrorist watch list” that “a large watch list makes national security threats seem prevalent, which makes the agency’s activities particularly necessary, which encourages attention and resources to flow to the agency and the watch list. That encourages agencies to keep false positives—people incorrectly identified as terrorist threats—on their watch lists”); Jason Kreag, *Going Local: The Fragmentation of Genetic Surveillance*, 95 B.U. L. REV. 1491, 1543 (2015) (citation omitted) (“Ultimately, it is foolish to assume that law enforcement agencies engaged in the ‘often competitive enterprise of ferreting out crime’ will adopt appropriate policies without external oversight.”); Kevin Lapp, *Databasing Delinquency*, 67 HASTINGS L.J. 195, 211 (2015) (“Even where [gang database] purging procedures are in place, they are rarely carried out. There is little incentive for law enforcement to purge records from their intelligence databases.”).

24. See, e.g., Sharona Hoffman, *Medical Big Data and Big Data Quality Problems*, 21 CONN. INS. L.J. 289, 295–306 (2014).

25. See, e.g., Nan S. Ellis et al., *Is Imposing Liability on Credit Rating Agencies a Good Idea?: Credit Rating Agency Reform in the Aftermath of the Global Financial Crisis*, 17 STAN. J.L. BUS. & FIN. 175 (2012); F. Phillip Hosp, *Problems and Reforms in Mortgage-Backed Securities: Handicapping the Credit Rating Agencies*, 79 MISS. L.J. 531 (2010).

26. See *infra* notes 301–23 and accompanying text.

27. U.S. DEP’T OF JUSTICE, THE ATTORNEY GENERAL’S REPORT ON CRIMINAL HISTORY BACKGROUND CHECKS 126 (2006).

its newly inaugurated project, *Principles of the Law, Police Investigations*, has signaled its intent to address data quality.²⁸

Part I of this Article details the rise of the modern data-driven criminal justice system. Governments today collect and generate massive amounts of data on individuals, in myriad contexts. It is well known, however, that the information contained in government databases is often incorrect or misleading. These errors can have life-changing consequences for individuals, imperiling jobs, homes, liberty, privacy, and reputation, and adversely impact the communities in which they live. At the same time, faulty databases negatively affect government: errors undermine the public's trust in government competence and evenhandedness, and result in significant inefficiencies as resources are misdirected toward innocent targets.

Part II examines the significant legal and practical barriers that stand in the way of detecting, curing, and remedying data error. Constitutional arguments based on due process and the Fourth Amendment have largely been rejected and governments and their agents often enjoy immunity from liability. Meanwhile, litigation realities limit discovery and technological barriers make identifying and correcting error among vast networked databases a very difficult task.

Part III offers two interrelated solutions. First, we urge increased federal and state involvement in auditing and enforcing data quality accountability, backed by the federal government tying state funding to satisfaction of federal criteria and benchmarks. Second, we propose a package of statutory reforms designed to take advantage of the ex ante detection of error allowed by enhanced auditing, and when revealed, a legal means of correction and redress.

Part IV concludes by examining the obstacles that have stood in the way of constructive change and discusses how and why such obstacles can be overcome. Of late, we have witnessed increasing public and legislative concern over the privacy implications of big data.²⁹ This Article seeks to generate commen-

28. Am. Law Inst., *The American Law Institute Announces Project on Police Investigations*, PR NEWSWIRE (Feb. 19, 2015), <http://www.prnewswire.com/news-releases/the-american-law-institute-announces-project-on-police-investigations-300038510.html>.

29. See, e.g., Alexander Tsesis, *The Right to Erasure: Privacy, Data Brokers, and the Indefinite Retention of Data*, 49 WAKE FOREST L. REV. 433, 472 (2014); Joel R. Reidenberg, *The Transparent Citizen*, 47 LOY. U. CHI. L.J. 437 (2015).

surate concern for the fallibility of small data, in the name of enhancing data quality and affording redress for those negatively affected by database errors.

I. THE DEVELOPMENT OF DATA-DRIVEN CRIMINAL JUSTICE

Data on individuals has long been the lifeblood of the criminal justice system. Warehouses of court files and aging police file cabinets, dating back decades, attest to the practice of assembling vast amounts of detailed personal information. In the past, the magnitude and fragmented nature of such paper records limited their utility; files lacked inter-operability among jurisdictions and could not be accessed without a significant investment of time and effort. The digitization of these records, coupled with ever expanding computer power, has meant that data can be stored, accessed, and analyzed in a far more efficient manner.³⁰ The data, moreover, does not stand in isolation but rather is often linked in ways that promote the social control ends of government. This Part surveys how the criminal justice system has been transformed into a data-centric system, the system's fallibility, and the consequences of data errors.

A. DATA COLLECTION AND GENERATION

The criminal justice system extends from pre-crime surveillance techniques to post-sentencing community supervision. In almost every context, the system has seen a rapid expansion in data collection, generation, storage, and use. This Section surveys several of the chief areas of activity, demonstrating the growing data-dependency of the criminal justice system.

1. Data Collection

Dating back to at least London's Bow Street in the mid-1700s, where courts stored information on people suspected of having committed fraud or a felony,³¹ personal data has figured in social control efforts. In America, as organized police forces first took shape in the 1840s, the "police blotter," chronicling the names, race, sex, and alleged offense of arrestees, was

30. See generally Daniel J. Steinbock, *Designating the Dangerous: From Blacklists to Watch Lists*, 30 SEATTLE L. REV. 65, 69–77 (2006) (summarizing criminal record information systems in American history).

31. 2 LEON RADZINOWICZ, A HISTORY OF ENGLISH CRIMINAL LAW (1957).

maintained by individual departments.³² On the streets, detectives gained renown for their “spotting” ability, mentally storing the faces of suspects.³³ Soon thereafter, departments turned to early photographic innovations,³⁴ creating more permanent and useful records on individuals and publicly displaying them in “rogues’ galleries.”³⁵ Photos, however, soon fell out of favor, both because of the protean nature of facial appearances³⁶ and the difficulty of organizing and cataloging images in a readily accessible manner.³⁷

Starting in the early 1890s, police began collecting fingerprints from criminal suspects,³⁸ which proved far more reliable and easier to store and analyze.³⁹ By the 1930s, the U.S. Department of Justice’s Bureau of Investigation (later to become the FBI), under the direction of J. Edgar Hoover, embraced fingerprints as the mainstay technique for suspect identification and investigation.⁴⁰ By 1956, the FBI had over 141 million fingerprints on file.⁴¹ In 1967, the FBI established the National Crime Information Center (NCIC) as part of its continued effort to develop a nationwide criminal records system that in 1971 employed emerging computer technology.⁴² Technological advances such as the National Automated Fingerprint Identifica-

32. BUREAU OF JUSTICE STATISTICS, U.S. DEPT OF JUSTICE, ORIGINAL RECORDS OF ENTRY 5–7 (1990).

33. HOWARD O. SPROGLE, THE PHILADELPHIA POLICE, PAST AND PRESENT 273, 653 (1887).

34. See Peter Becker, *The Standardized Gaze: The Standardization of the Search Warrant in Nineteenth-Century Germany*, in DOCUMENTING INDIVIDUAL IDENTITY: THE DEVELOPMENT OF STATE PRACTICES IN THE MODERN WORLD 139, 154–55 (Jane Caplan & John Torpey eds., 2001) (explaining that courts turned to drawn portraits and soon thereafter photographs as a more objective and mechanical means of identifying criminals). Earlier, in 1819, Germany and France employed a device that permitted an individual’s bodily shadow to be projected onto paper in silhouette form when the person was situated between the device and light. *Id.* at 155–56.

35. JAMES F. RICHARDSON, THE NEW YORK POLICE: COLONIAL TIMES TO 1901, at 122 (1970); SPROGLE, *supra* note 33, at 265–66.

36. See SIMON COLE, SUSPECT IDENTITIES: A HISTORY OF FINGERPRINTING AND CRIMINAL IDENTIFICATION 48 (2001).

37. *Id.* at 26.

38. *Id.* at 65, 70. Cole notes that Albany, New York, detective John Maloy may have relied upon fingerprints even earlier. *Id.* at 120.

39. See *id.* at 165.

40. See *Federal Crime Registry Results in 236 Arrests*, L.A. TIMES, Sept. 12, 1932, at A12.

41. DON WHITEHEAD, THE FBI STORY: A REPORT TO THE PEOPLE 139 (1956).

42. B.J.S., USE AND MANAGEMENT REPORT, *supra* note 6, at 26–27.

tion System (AFIS) in 1985 and the Integrated Automated Fingerprint Identification System (IAFIS) in 1999, permitted automated access to and analysis of digitally stored prints.⁴³

More recently, scientific advances have afforded police an array of new biometric identifiers.⁴⁴ While iris, retina, and facial recognition are still in various stages of development,⁴⁵ DNA collection is now an accepted part of being arrested.⁴⁶ CODIS—a federal database containing DNA profiles collected by state, local, and federal law enforcement—now includes over eleven million offender profiles.⁴⁷ Meanwhile, several jurisdictions have created their own independent, largely unregulated DNA databases⁴⁸ with the help of for-profit enterprises.⁴⁹ Such measures are complemented by emerging “panvasive” surveillance strategies, including car license plate scanners, closed-circuit television, and drones.⁵⁰

Collecting data requires mechanisms to catalogue data. Spurred in significant part by the desire to recognize recidivists targeted for enhanced punishment, penal reformers in mid-nineteenth century France revolutionized criminal recordkeep-

43. See Erin Murphy, *Databases, Doctrine & Constitutional Criminal Procedure*, 37 *FORDHAM URB. L.J.* 803, 806–08 (2010). IAFIS now constitutes the largest criminal identification system in existence. See *Integrated Automated Fingerprint Identification System*, FED. BUREAU OF INVESTIGATION, https://www.fbi.gov/file-repository/about-us-cjis-fingerprints_biometrics-biometric-center-of-excellences-iafis_0808_one-pager825.

44. “Biometrics” refers to biological (anatomical or physiological) traits usable for the recognition of individuals. NAT’L SCI. & TECH. COUNCIL, *PRIVACY AND BIOMETRICS: BUILDING A CONCEPTUAL FOUNDATION* 4 (2006), <http://www.biometrics.gov/Documents/privacy.pdf>.

45. See generally Laura K. Donohue, *Technological Leap, Statutory Gap, and Constitutional Abyss: Remote Biometric Identification Comes of Age*, 97 *MINN. L. REV.* 407 (2012) (discussing the evolution of biometric technologies and how they fit into current jurisprudence).

46. See *Maryland v. King*, 133 S. Ct. 1958, 1980 (2013) (“[T]aking and analyzing a cheek swab of the arrestee’s DNA is . . . a legitimate police booking procedure that is reasonable under the Fourth Amendment.”).

47. See *CODIS-NDIS Statistics*, FED. BUREAU INVESTIGATION, <https://www.fbi.gov/services/laboratory/biometric-analysis/codis/ndis-statistics> (last updated July 2016).

48. Stephen Mercer & Jessica Gabel, *Shadow Dwellers: The Underregulated World of State and Local DNA Databases*, 69 *N.Y.U. ANN. SURV. AM. L.* 639, 655 (2014).

49. See Kreag, *supra* note 23, at 1506–07.

50. See generally Christopher Slobogin, *Panvasive Surveillance, Political Process Theory, and the Nondelegation Doctrine*, 102 *GEO. L.J.* 1721 (2014) (discussing panvasive surveillance techniques and their constitutionality).

ing.⁵¹ In Germany, identifying information on criminal suspects and others was carefully recorded and maintained on cards,⁵² enabling police to “put their hands on any citizen when they want[ed] him.”⁵³ England first had an “Alphabetical Register of Habitual Criminals”⁵⁴ and maintained into the 1890s a “Register of Distinctive Marks” containing photos and information on bodily marks such as scars and tattoos as well as criminal *modus operandi*.⁵⁵

Around that time, American corrections officials and law enforcement agencies gravitated toward a French-originated system of cataloging individuals based on precise bodily measurements of the head, finger, and ear, known as anthropometry.⁵⁶ The data, combined with criminal history information arrayed in file drawers based on measurements, afforded a more readily accessible way to identify criminal suspects.⁵⁷ According to an editorial in Indiana’s Fort Wayne News, anthropometry was essential to the development of a “general system of criminal registration. . . . Properly used[, the system] will be nearly as infallible as a system designed by man can be.”⁵⁸

Despite use by several large urban police departments as well as the Pinkerton Detective Agency, anthropometry never enjoyed nationwide use in significant part due to the difficulty associated with the precise recording of measurements.⁵⁹ Start-

51. See COLE, *supra* note 36 at 15–16.

52. RAYMOND B. FOSDICK, EUROPEAN POLICE SYSTEMS 354–58 (1915).

53. *Id.* at 356; see also Mathieu Deflem, *Surveillance and Criminal Statistics: Historical Foundations of Governmentality*, in 17 STUDIES IN LAW, POLITICS, AND SOCIETY 149, 162 (Austin Sarat & Susan S. Silbey eds., 1997) (“German police squads would raid hotels, lodging houses and public places, and check apprehended persons with information collected in the registration system.”). Not surprisingly, the Nazi Party, which rose to power several decades later, greatly benefited from the system. See generally Robert M.W. Kempner, *The German National Registration System as Means of Police Control of Population*, 36 J. CRIM. L. & CRIMINOLOGY 362 (1946) (describing the various German registration systems).

54. See Leon Radzinowicz & Roger Hood, *Incapacitating the Habitual Criminal: The English Experience*, 78 MICH. L. REV. 1305, 1340–43, 1348 (1980) (discussing legislation that led to the creation of the Register).

55. *Id.* at 1349.

56. COLE, *supra* note 36, at 146–51.

57. See Martha Merrill Umphrey, “*The Sun Has Been Too Quick for Them*”: *Criminal Portraiture and the Police in the Late Nineteenth Century*, in 16 STUDIES IN LAW, POLITICS, AND SOCIETY 139, 149 (1997).

58. Editorial, *Prison Reform V: The Incurrible Criminal*, FORT WAYNE NEWS, Dec. 30, 1896, at 2.

59. COLE, *supra* note 36, at 52. For evidence of the constancy of police in-

ing in the 1930s, local governments began experimenting with another method requiring that individuals convicted of particular crimes register with police and provide personal identifying information such as addresses and photos.⁶⁰ With this information in hand, police could readily identify individuals to question and detain if a crime was committed that was similar to the registrant's history.⁶¹ In 1947, California enacted the first statewide registry, which targeted convicted sex offenders,⁶² and in the ensuing decades, a handful of other states implemented registries for convicted sex offenders and other subpopulations such as individuals convicted of narcotics offenses.⁶³

State interest in registries, however, remained modest until the 1990s, when registration experienced a surge in legislative attention. Eponymous laws memorializing child victims such as Megan's Law in New Jersey (named after a twelve-year-old girl who was sexually assaulted and killed by a recidivist sex offender who lived nearby)⁶⁴ swept the nation. As before, the laws required targeted individuals to provide and to update identifying information for police use. New generation laws, however, had an important new distinguishing feature: information on registrants was no longer monopolized by police but rather was publicly disseminated to communities.⁶⁵

Today, sex offender registration and community notification laws are in place nationwide, targeting individuals for a minimum of two years and very often their lifetimes.⁶⁶ State government-operated Internet websites now contain personal identifying information on over 800,000 individuals, providing photos; home, work, and school addresses; descriptions of scars

terest in bodily markings one need only consider perhaps the nation's most technologically advanced police department, the New York City Police Department, which maintains databases on tattoos, birthmarks, and scars. Michael S. Schmidt, *Have a Tattoo or Walk with a Limp? The Police May Know*, N.Y. TIMES, Feb. 18, 2010, at A19.

60. See WAYNE A. LOGAN, KNOWLEDGE AS POWER: CRIMINAL REGISTRATION AND COMMUNITY NOTIFICATION LAWS IN AMERICA 22–30 (2009) (discussing local criminal registration laws).

61. *Id.* at 33–37.

62. *Id.* at 31.

63. *Id.* at 31–33.

64. *Id.* at 54–55.

65. *Id.* at 53.

66. See Wayne A. Logan, *Database Infamia: Exit from the Sex Offender Registries*, 2015 WIS. L. REV. 219, 225–30.

and tattoos; and vehicle information.⁶⁷ Other registries, not always made available to community members, target groups like convicted methamphetamine dealers, animal abusers, arsonists, and gun crime violators.⁶⁸

More recently, governments have created databases concerning other individuals thought worthy of concern. At least eleven states and several large urban police departments including New York City have targeted suspected gang members.⁶⁹ Unlike registries, the databases do not require individuals to register. Nor do they require that the targeted individual be convicted of a gang-related crime. Indeed, it is usually the case that individuals are not aware that they are in a database.⁷⁰ Similarly, they lack the ability to contest inclusion once made aware, or seek confirmation that they have been purged.⁷¹ Police on their own identify individuals thought worthy of inclusion, and personal identifying information on them is gathered by departments for future surveillance and possible detention.⁷² The FBI has collected and made this information available via the National Gang Intelligence Center, in operation since 2005.⁷³

Concerns over terrorism have fueled additional data collection efforts. After the terrorist attacks of September 11, 2001, the federal government began an ambitious collection of personal data in an effort to identify potential terrorist risks.⁷⁴

67. *Id.* at 220.

68. See LOGAN, *supra* note 60, at 73–74, 178–81.

69. See K. Babe Howell, *Gang Policing: The Post Stop-and-Frisk Justification for Profile-Based Policing*, 5 U. DENV. CRIM. L. REV. 1, 15–16 (2015); Rebecca A. Hufstader, Note, *Immigration Reliance on Gang Databases: Unchecked Discretion and Undesirable Consequences*, 90 N.Y.U. L. REV. 671, 676–78 (2015); see also *Gang Databases*, NAT'L GANG CTR., <https://www.nationalgangcenter.gov/Legislation/Databases> (last visited Nov. 1, 2016).

70. Hufstader, *supra* note 69, at 680; see also Ali Winston, *You May Be in California's Gang Database and Not Even Know It*, REVEAL NEWS (March 23, 2016), <https://www.revealnews.org/article/you-may-be-in-californias-gang-database-and-not-even-know-it>.

71. Lapp, *supra* note 23, at 211–12.

72. Hufstader, *supra* note 69, at 677–78.

73. See *National Gang Intelligence Center*, FED. BUREAU OF INVESTIGATION, <https://www.fbi.gov/investigate/violent-crime/gangs/ngic> (last visited Nov. 1, 2016).

74. See, e.g., Daniel J. Solove, *Data Mining and the Security-Liberty Debate*, 75 U. CHI. L. REV. 343, 343 (2008) (“Under the TIA [Total Information Awareness] program, the government would assemble a massive database consisting of financial, educational, health, and other information on U.S. citizens, which would later be analyzed to single out people matching a terrorist

Public concern over security and privacy eventually led to the ending of these programs, but other less-controversial data tracking programs still exist.⁷⁵ Currently, the federal government oversees an Information Sharing Environment (ISE) initiative that suggests practices to facilitate data sharing between intelligence and law enforcement entities.⁷⁶ In addition, states, localities, and federal agencies including Homeland Security and the FBI, gather and maintain data on individuals in Fusion Centers,⁷⁷ which allow for the sharing and analysis of information collected.⁷⁸ The federal government generates “watchlists” vis-à-vis particular individuals; the Terrorist Screening Database (TSDB) includes 700,000 individuals, the Terrorist Identities Datamart Environment (TIDE) over a million names, and a no-fly list almost 50,000.⁷⁹ While focused primarily on international targets, the data have been made available to domestic law enforcement agencies.⁸⁰

Finally, state and local governments participate in federally funded “criminal intelligence systems.”⁸¹ States operate them individually or in conjunction with one another⁸² on the premise

profile.”).

75. K. A. Taipale, *Data Mining and Domestic Security: Connecting the Dots To Make Sense of Data*, 5 COLUM. SCI. & TECH. L. REV. 1, 9 n.28 (2003); see also *id.* at 14 (“The notion that powerful analytical tools developed for commercial and scientific application will not eventually be used for terrorism prevention (or, for that matter, general law enforcement purposes) seems unrealistic, particularly since these technologies are already being used in a wide variety of law enforcement contexts.” (footnote omitted)).

76. See INFO. SHARING ENV'T, ANNUAL REPORT TO THE CONGRESS (2015), https://www.ise.gov/sites/default/files/FINAL_ISE_Annual_Report_2015_FOR_WEB_0.pdf; *Data Aggregation Reference Architecture (DARA)*, INFO. SHARING ENV'T, <https://www.ise.gov/resources/Data-Aggregation-Reference-Architecture> (last visited Nov. 1, 2016); INFO. SHARING ENV'T, DATA TAGGING FUNCTIONAL REQUIREMENTS (2014), <https://www.ise.gov/sites/default/files/PO3-Data-Tagging-Functional-Requirements.pdf>.

77. See DEPT OF HOMELAND SEC., *State and Major Urban Area Fusion Centers*, <http://www.dhs.gov/state-and-major-urban-area-fusion-centers> (last updated June 17, 2016).

78. See generally Jennifer C. Daskal, *Pre-Crime Restraints: The Explosion of Targeted, Noncustodial Prevention*, 99 CORNELL L. REV. 327, 328–29 (2014).

79. Timothy B. Lee, *The Government's Biggest Terrorist Watchlist Has More than a Million Names*, VOX (Aug. 5, 2014), <http://www.vox.com/2014/8/5/5972403/the-governments-terrorism-watchlist-explained>.

80. See Margaret Hu, *Big Data Blacklisting*, 67 FLA. L. REV. 1735, 1787–88 (2015).

81. See *Frequently Asked Questions*, CRIM. INTELLIGENCE SYS. OPERATING POLICIES, <https://28cfr.iir.com/FAQ> (last visited Nov. 1, 2016).

82. See, e.g., REGIONAL GANG INTELLIGENCE DATABASE, <http://www.rgid>

that “[t]he exposure of such ongoing networks of criminal activity can be aided by the pooling of information about such activities.”⁸³ Individuals or organizations (such as gangs) are targeted when “there is a reasonable possibility that [the] individual or organization is involved in a definable criminal activity or enterprise.”⁸⁴

2. Data Generation

Police do not merely collect data on individuals; they also actively generate it. In the discharge of their law enforcement duties, for instance, police regularly subject individuals to investigatory “stops” (based on reasonable suspicion of criminal activity)⁸⁵ and arrests (requiring probable cause of criminal activity).⁸⁶ Police annually generate records on a huge volume of stops⁸⁷ and arrests of individuals.⁸⁸ In 2013 alone, arrests nationwide numbered almost 11.3 million.⁸⁹ These individual cases are dutifully recorded and memorialized. In a prior era, it simply would not have been possible or useful to document each of the 685,724 stops the New York Police Department made in 2011.⁹⁰ Today, however, each of those stops can be accessed and studied with a simple search query in an established database. And, whereas in earlier times, detentions by police not result-

.org (last visited Nov. 1, 2016) (describing the joint criminal intelligence system between Illinois and Indiana).

83. 28 C.F.R. § 23.2 (2015).

84. *Id.* § 23.20(c).

85. *Terry v. Ohio*, 392 U.S. 1, 30 (1968).

86. *Maryland v. Pringle*, 540 U.S. 366, 370 (2003).

87. The Bureau of Criminal Justice Statistics estimates that there were forty million police-civilian contacts in 2008. Press Release, Bureau of Justice Statistics, *Contacts Between Police and the Public Declined from 2002 to 2008* (Oct. 5, 2011), <http://www.bjs.gov/content/pub/press/cpp08pr.cfm>; see also Fabio Arcila, Jr., *The Death of Suspicion*, 51 WM. & MARY L. REV. 1275, 1332 (2010) (“The federal government reports that 43.5 million persons had contact with police in 2005.”).

88. See *Crime in the United States 2011*, FBI: UCR, <https://ucr.fbi.gov/crime-in-the-u.s/2011/crime-in-the-u.s.-2011/persons-arrested/persons-arrested> (last visited Nov. 1, 2016) (arrest data).

89. *Crime in the United States 2013*, FBI: UCR, https://www.fbi.gov/crime-in-the-u.s/2013/crime-in-the-u.s.-2013/tables/table-29/table_29_estimated_number_of_arrests_united_states_2013.xls (last visited Nov. 1, 2016).

90. N.Y. CIVIL LIBERTIES UNION, STOP-AND-FRISK 2011: NYCLU BRIEFING 3 (2012), http://www.nyclu.org/files/publications/NYCLU_2011_Stop-and-Frisk_Report.pdf.

ing in conviction were not the subject of recording by governments,⁹¹ today they figure centrally in government databases.⁹²

Convictions, unsurprisingly, are also inscribed in government databases. Together, the data are entered into “rap sheets,” an acronym for “record of arrest and prosecution.”⁹³ A typical record generated provides information on the offense of conviction and personal identifying information such as name and date of birth, as well as a history of past criminal involvement.⁹⁴

Arrest warrants are another common form of generated data. State, local, and federal criminal justice systems generate and store arrest warrant information, which is entered into the NCIC database.⁹⁵ A NCIC search can reveal “active” warrants for arrest, as well as information about whether a suspect is a wanted person, a sex offender, a gang member, a violent per-

91. See, e.g., CHARLES J. BONAPARTE, ANNUAL REPORT OF THE ATTORNEY-GENERAL OF THE UNITED STATES FOR THE YEAR 1907, H.R. Doc. No. 10, at 44 (1907) (defining “criminal identification records” as records of “persons convicted of crimes against the United States”).

92. In some jurisdictions, police contacts are recorded to generate threat scores of individuals who come under the suspicion of police. See Justin Jouvenal, *The New Way Police Are Surveilling You: Calculating Your Threat ‘Score,’* WASH. POST (Jan. 10, 2016), https://www.washingtonpost.com/local/public-safety/the-new-way-police-are-surveilling-you-calculating-your-threat-score/2016/01/10/e42bccac-8e15-11e5-baf4-bdf37355da0c_story.html. As will be discussed later, police stops become part of a self-reinforcing system of digital suspicion. The more stops, the more times the individual’s name is in a database as being stopped, which results in the likelihood of more future stops. See *infra* notes 149–50 and accompanying text.

93. *Identity History Summary Checks*, FED. BUREAU OF INVESTIGATION, <https://www.fbi.gov/services/cjis/identity-history-summary-checks> (“[T]he FBI can provide individuals with an Identity History Summary—often referred to as a criminal history record or a rap sheet—listing certain information taken from fingerprint submissions kept by the FBI and related to arrests and, in some instances, federal employment, naturalization, and military service.”).

94. See generally Mary De Ming Fan, *Reforming the Criminal Rap Sheet: Federal Timidity and the Traditional State Functions Doctrine*, 33 AM. J. CRIM. L. 31 (2005) (describing the rap sheet, its history, and the need for greater federal oversight).

95. David M. Bierie, *National Public Registry of Active-Warrants: A Policy Proposal*, FED. PROBATION, June 2015, at 27, 28 (“The National Criminal Information Center (NCIC) is the central transactional data system that tracks the nation’s warrants. All police agencies can enter their warrants in the system and check the system to identify whether a given individual has a warrant.”); David A. Harris, *The War on Terror, Local Police, and Immigration Enforcement: A Curious Tale of Police Power in Post-9/11 America*, 38 RUTGERS L.J. 1, 27 (2006) (“The NCIC holds all of the records police need to search in the course of their routine enforcement tasks every day: arrest warrants, stolen vehicle reports, and criminal records, among others.”).

son, a suspected terrorist, or an immigration law violator.⁹⁶ The FBI reports that as of 2014, the NCIC contained thirteen million active records that were accessed by law enforcement twelve million times a day.⁹⁷ An active arrest warrant entitles police in any jurisdiction to detain and arrest an individual, regardless of whether the warrant is generated by another jurisdiction.⁹⁸ States are required to execute a NCIC User Agreement,⁹⁹ obliging them to satisfy all requirements in the NCIC Operating Manual,¹⁰⁰ which in turn allows access to the criminal justice data provided by other participating federal, state, and local police agencies.¹⁰¹

Finally, court systems generate information through pre-trial service reports, pre-sentence reports and court records that memorialize legal proceedings. Data flows through the documents and data systems as a means to communicate with and control participants in the criminal justice system. Post-sentencing community supervision, including parole, probation, and supervised release also results in the generation of personal data in large-scale databases.¹⁰²

96. See *National Crime Information Center*, FED. BUREAU OF INVESTIGATION, <https://www.fbi.gov/services/cjis/ncic> (last visited Nov. 1, 2016).

97. See *id.*

98. See *id.*

99. See *id.* For an example of such an agreement, see *South Carolina Law Enforcement Division*, CONSUMER JUSTICE INFO. SYS., <http://www.sled.sc.gov/Documents/CJIS/USERAGREEMENT.pdf> (last updated Mar. 21, 2014).

100. See *National Crime Information Center*, *supra* note 96. For an example of a state operating manual see NCIC OPERATING MANUAL, TECHNICAL CONTRACTOR EMPLOYEE REFERENCE DOCUMENTATION, <http://www.txdps.state.tx.us/SecurityReview/ContractorEmpRefDocNCIC2000Manual.pdf>.

101. See *National Crime Information Center*, *supra* note 96; Ferguson, *supra* note 18, at 360 (“Most officers have access to the National Crime Information Center (NCIC), a computerized database of criminal justice information Once police have accessed the NCIC system, they can pull up physical characteristics or addresses and query the database to determine whether observed suspects live in an area or whether they match a description of a wanted suspect.”).

102. Murphy, *supra* note 43, at 808–09 (discussing how NCIC has incorporated “persons on supervised release” into the database); see also, e.g., Jason Matejkowski & Michael Ostermann, *Serious Mental Illness, Criminal Risk, Parole Supervision, and Recidivism: Testing of Conditional Effects*, 39 LAW & HUM. BEHAV. 75, 78 (2015) (discussing New Jersey parole database); Joan Petersilia, *California Prison Downsizing and Its Impact on Local Criminal Justice Systems*, 8 HARV. L. & POL’Y REV. 327, 354 (2014) (discussing California parole system).

B. DATA FALLIBILITY

Data quality concerns manifest in each of the aforementioned contexts. At the point of collection, accuracy can be impaired by basic human error. DNA and fingerprints collected at a crime scene, for instance, can be secured in a manner that compromises their forensic reliability,¹⁰³ and even if properly collected and stored, data can later be subject to clerical or interpretive errors by technicians.¹⁰⁴ What is more, based on even the limited audits conducted to date, it is known that states frequently upload DNA profiles not authorized by law (e.g., those of victims).¹⁰⁵ Finally, DNA information collected, which by law should have been expunged or destroyed, is known to be retained and used by governments in subsequent investigations.¹⁰⁶

Government-generated data has proven to be no less fallible. Surprisingly little research has been done on the extent of invalid arrest warrants in state and local databases. One of the few formal studies, however, concluded that data errors such as incorrect social security numbers, inaccurate names, and “illogical birth dates” commonly result in wrongful arrests.¹⁰⁷ In 2011, the *Los Angeles Times* reported that invalid warrants resulted in the unlawful arrest of almost 1500 people in Los Angeles County during the previous five years alone.¹⁰⁸ In St. Lou-

103. See, e.g., Ken Strutin, *DNA Without Warrant: Decoding Privacy, Probable Cause and Personhood*, 18 RICH. J.L. & PUB. INT. 319, 347 (2015) (“Every stage in the collection, profiling, databanking and analysis of DNA evidence can be subject to human error, mechanical error, computer error, statistical error, false positives and cognitive biases.”).

104. Joseph Goldstein, *F.B.I. Audit of Database That Indexes DNA Finds Errors in Profiles*, N.Y. TIMES, Jan. 25, 2014, at A15; Spencer S. Hsu, *FBI Notifies Crime Labs of Errors in DNA Match Calculations Since 1999*, WASH. POST (May 29, 2015), https://www.washingtonpost.com/local/crime/fbi-notifies-crime-labs-of-errors-used-in-dna-match-calculations-since-1999/2015/05/29/f04234fc-0591-11e5-8bda-c7b4e9a8f7ac_story.html.

105. ERIN E. MURPHY, *INSIDE THE CELL: THE DARK SIDE OF FORENSIC DATA* 140–41 (2015) (noting that audits of 22 of the roughly 190 laboratories nationwide revealed an error rate of six percent).

106. Wayne A. Logan, *Government Retention and Use of Unlawfully Secured DNA Evidence*, 48 TEX. TECH. L. REV. 269, 280 (2015).

107. Wayne J. Pitts, *From the Benches and Trenches: Dealing with Outstanding Warrants for Deceased Individuals: A Research Brief*, 30 JUST. SYS. J. 219, 220 (2009).

108. Robert Faturechi & Jack Leonard, *ID Errors Put Hundreds in County Jail*, L.A. TIMES (Dec. 25, 2011), <http://articles.latimes.com/2011/dec/25/local/la-me-wrong-id-20111225> (detailing how more than 1480 people were mistakenly arrested over a five-year period).

is, bad warrants resulted in individuals collectively spending more than 2000 days in jail from 2005–2013, or an average of about three weeks each, and that one individual was incarcerated for 211 days.¹⁰⁹ After one instance in Colorado, in which Christina FourHorn was arrested on a warrant meant for Christin Fourhorn in Oklahoma, “the ACLU found at least 237 cases in Colorado in which police may have arrested the wrong person,”¹¹⁰ adding that “the figure [was] likely a small sample since police often release those wrongfully arrested before the first court appearance.”¹¹¹

Considerably more research has been done on the quality of criminal history records, in significant part due to their use in background checks in employment or licensing decisions and firearm purchases.¹¹² The work done does not paint a rosy picture. Multiple federal studies dating back decades show widespread problems with records containing incomplete and inaccurate information.¹¹³ According to a 2014 U.S. Bureau of Justice Statistics study, nineteen states collectively have over three million unprocessed or partially processed disposition forms, resulting in inaccurate disposition information in individuals’ records.¹¹⁴ Only seventeen states report that eighty

109. Robert Patrick & Jennifer S. Mann, *Jailed by Mistake*, ST. LOUIS POST-DISPATCH (Oct. 26, 2013), http://www.stltoday.com/news/multimedia/special/st-louis-wrongful-arrests-mount-as-fingerprint-mismatches-are-ignored/html_b153a232-208f-5d0b-86a1-ba3256f7a941.html. See generally, Amanda Simon, *Garbage in, Unnecessary Arrests Follow*, ACLU: SPEAK FREELY (Apr. 26, 2010, 12:22 PM), <https://www.aclu.org/blog/speakeasy/garbage-unnecessary-arrests-follow>.

110. Stephanie Chen, *Officer, You’ve Got the Wrong Person*, CNN (Feb. 15, 2010), <http://www.cnn.com/2010/CRIME/02/15/colorado.mistaken.identity>.

111. *Id.*; see also, e.g., Douglas Holt, *Bogus Warrants Lead to False Arrests, Suits*, CHI. TRIB. (Sept. 26, 1993) (stating that an audit determined that 155 people were arrested on invalid warrants in Chicago “in the year prior to February 1993” but that the audit number was likely “grossly underestimated”); Jamie Satterfield, *Knox County Court Clerk Readying Defense Against Critics*, KNOXVILLE NEWS-SENTINAL (Oct. 23, 2013) (noting that errors detected resulted in wrongful arrests and detentions, that individuals risked wrongful revocation of probation due to delays in the updating of information, and that defendants were categorized as guilty when in fact charges were dismissed).

112. NEIGHLY & EMSELLEM, *supra* note 11, at 6 (discussing the use of background checks in employment and licensing).

113. B.J.S., DATA QUALITY OF CRIMINAL JUSTICE RECORDS, *supra* note 6, at 19–24 (discussing studies conducted during the 1970s and 1980s); *id.* at 27–28 (surveying more recent studies reporting inaccuracies).

114. U.S. DEP’T OF JUSTICE, U.S. BUREAU OF JUSTICE STATISTICS, SURVEY OF STATE CRIMINAL HISTORY INFORMATION SYSTEMS, 2014, at 7 (Dec. 2015), <https://www.ncjrs.gov/pdffiles1/bjs/grants/244563.pdf>.

percent or more arrests within the past five years have final dispositions recorded,¹¹⁵ and only twenty-one states can say that eighty percent or more arrests older than five years have final dispositions recorded.¹¹⁶ A 2014 FBI audit found that over one-quarter of states examined failed to comply with one or both federal requirements that record databases contain all known arrest and disposition information and that dispositions be submitted to the FBI within 120 days of occurrence.¹¹⁷

Other studies report similar findings. For instance, a random sample of New York State rap sheet records from 2008–2011 conducted by the Legal Action Center found that sixty-two percent contained at least one significant error and that thirty-two percent contained multiple errors.¹¹⁸ That same year the National Employment Law Project branded the nation’s rap sheet system “broken,” concluding, *inter alia*, that approximately fifty percent of records lacked information regarding final case disposition.¹¹⁹

115. *Id.* at 2. The problem lies at least in part in prosecutors failing to provide disposition information to state record repositories. A 2003 survey of state prosecutors, for instance, found that only forty-seven percent of state prosecutors who responded indicated that they regularly submitted final disposition information to the authority charged with maintaining criminal history records. U.S. DEP’T OF JUSTICE, U.S. BUREAU OF JUSTICE STATISTICS, REPORTING BY PROSECUTORS’ OFFICES TO REPOSITORIES OF CRIMINAL HISTORY RECORDS 1 (Apr. 2005), <https://www.ncjrs.gov/pdffiles1/bjs/grants/244563.pdf>. When asked why they did not report the information, eighty-six percent stated that another entity was responsible for submitting the information. *Id.* Those that did report information took an average of twenty days to do so. *Id.* at 2.

116. U.S. DEP’T. OF JUSTICE, SURVEY OF STATE CRIMINAL HISTORY INFORMATION SYSTEMS, *supra* note 114, at 3.

117. U.S. GOV’T. ACCOUNTABILITY OFFICE GAO-15-162, REPORT TO CONGRESSIONAL REQUESTERS: CRIMINAL HISTORY RECORDS: ADDITIONAL ACTIONS COULD ENHANCE THE COMPLETENESS OF RECORDS USED FOR EMPLOYMENT-RELATED BACKGROUND CHECKS 25 (Feb. 2015), <http://gao.gov/assets/670/668505.pdf>. States are permitted ninety days to gather and complete disposition records for own their central repositories. 28 C.F.R. § 20.21(a)(1). Before being required to report to the FBI, states are given an extra thirty days, “to allow for processing time that may be needed by the states before forwarding the disposition.” 28 C.F.R. app. pt. 20, § 20.37.

118. LEGAL ACTION CTR., THE PROBLEM OF RAP SHEET ERRORS: AN ANALYSIS BY THE LEGAL ACTION CENTER 1–2 (2013), https://lac.org/wp-content/uploads/2014/07/LAC_rap_sheet_report_final_2013.pdf; *see also* Briana Duggan, *The Rap-Sheet Trap: One Man vs. a Multitude of Errors*, CITY LIMITS (Mar. 3, 2015), <http://citylimits.org/2015/03/03/the-rap-sheet-trap-one-man-vs-a-multitude-of-errors> (noting the three most common errors: “unsealed cases” that should be sealed, “hanging arrests” and “phantom warrants”).

119. NEIGHLY & EMSELLEM, *supra* note 11, at 5.

Government-operated databases containing registry information on targeted individuals are no less error-prone. Sex offender registries are rife with errors, especially with regard to home address information.¹²⁰ Gang databases, even if populated by actual gang members (an assessment based on often vague criteria),¹²¹ are also known to commonly contain errors.¹²²

These and other errors often make their way into data aggregation services in the private sector, blending public and private systems that can mask the sources of error.¹²³ The companies themselves lack licensing requirements, usually disclaim responsibility of the accuracy and completeness of the reports they provide, and refuse to correct detected errors.¹²⁴ Common errors include: mismatched reports,¹²⁵ reporting sealed or expunged records,¹²⁶ incomplete disposition,¹²⁷ and failure to correctly categorize incidents (e.g., reporting a single arrest multiple times or classifying a misdemeanor as a felo-

120. See, e.g., U.S. DEP'T OF JUSTICE, EVALUATIONS & INSPECTIONS DIV., I-2009-001, REVIEW OF THE DEPARTMENT OF JUSTICE'S IMPLEMENTATION OF THE SEX OFFENDER REGISTRATION AND NOTIFICATION ACT, v-vi (Dec. 2008) (noting widespread inaccuracies in state registry information); Charles Sheehan, *Sex Offenders Slip Away*, CHI. TRIB. (Mar. 31, 2006), http://articles.chicagotribune.com/2006-03-31/news/0603310164_1_number-of-sex-offenders-parole-illinois-prisoner-review-board (noting that in Chicago over seventy-five percent of randomly sampled addresses of registrants were invalid); see also Press Release, Kansas Office of the Attorney Gen., Attorney General Kline Releases Results of Kansas Sex Offender Registry Audit (2005), <http://cdm16884.contentdm.oclc.org/cdm/singleitem/collection/p16884coll31/id/151/rec/12> (describing a random sample of Kansas registrants indicating a twenty-one percent incidence of invalid home address; twenty-nine percent of invalid current employment; and twenty-four percent of invalid vehicle identification information).

121. See Lapp, *supra* note 23, at 209–10.

122. See Eric J. Mitnick, *Procedural Due Process and Reputational Harm: Liberty as Self-Invention*, 43 U.C. DAVIS L. REV. 79, 126 (2009); Joshua D. Wright, *The Constitutional Failure of Gang Databases*, 2 STAN. J. C.R. & C.L. 115, 119–29 (2005); see also Will Hobson, *Overhaul Coming to Pinellas Gang Intelligence Database*, TAMPA BAY TIMES (June 9, 2013), <http://www.tampabay.com/news/courts/criminal/overhaul-coming-to-pinellas-gang-intelligence-database/2125725>.

123. JACOBS, *supra* note 16, at 150 (discussing data brokers or “information vendors”).

124. PERSIS S. YU & SHARON M. DIETRICH, NAT'L CONSUMER LAW CTR., BROKEN RECORDS: HOW ERRORS BY CRIMINAL BACKGROUND CHECKING COMPANIES HARM WORKERS AND BUSINESSES 7–20 (2012), <https://www.nclc.org/images/pdf/pr-reports/broken-records-report.pdf>.

125. *Id.* at 15–19.

126. *Id.* at 20–23.

127. *Id.* at 24–26.

ny).¹²⁸ And, even when such private databases contain correct information, they are known to present significant risk of mismatching individuals to records.¹²⁹

C. THE IMPACT OF DATA ERROR

1. On Individuals and Their Communities

For individuals, the impact of data error can be immediate and traumatic. System errors leading to wrongful arrests are a case in point. An arrest is a major personal event,¹³⁰ affecting physical liberty and bodily security.¹³¹ An arrest also affects privacy because police can search the body of an arrestee and anything within her “grab area.”¹³² And, if the arrestee is in a car, the police can possibly search the car’s passenger compartment and any containers within it.¹³³

Even more significant, an arrest, even if based on an invalid warrant, can entail a strip search, as the Supreme Court recently held in *Florence v. Board of Chosen Freeholders of the County of Burlington*.¹³⁴ In *Florence*, Albert Florence filed a civil rights suit after he was mistakenly arrested despite providing the officer evidence that the civil bench warrant issued against him (for failure to pay a fine) was no longer valid. He was then detained for eight days during which time he was subject to two strip searches by jail officials.¹³⁵ The five-member majority in *Florence* held that the strip searches, which were conducted

128. *Id.* at 26–28.

129. *Id.* at 15.

130. See *Herring v. United States*, 555 U.S. 135, 155–56 (2009) (Ginsburg, J., dissenting) (“Inaccuracies in expansive, interconnected collections of electronic information raise grave concerns for individual liberty. The offense to the dignity of the citizen who is arrested, handcuffed, and searched on a public street simply because some bureaucrat has failed to maintain an accurate computer data base is evocative of the use of general warrants that so outraged the authors of our Bill of Rights.” (quoting *Arizona v. Evans*, 514 U.S. 1, 23 (1995) (Stevens, J., dissenting))).

131. See *United States v. Watson*, 423 U.S. 411, 428 (1976) (Powell, J., concurring) (describing arrest as “a serious personal intrusion regardless of whether the person seized is guilty or innocent”); Josh Bowers, *Probable Cause, Constitutional Reasonableness, and the Unrecognized Point of a “Pointless Indignity,”* 66 STAN. L. REV. 987 (2014).

132. *United States v. Robinson*, 414 U.S. 218, 235 (1973); *Chimel v. California*, 395 U.S. 752, 763 (1969).

133. *Arizona v. Gant*, 556 U.S. 332, 341–44 (2009).

134. 132 S. Ct. 1510 (2012).

135. *Id.* at 1520–23.

without any individualized suspicion that Florence possessed weapons or contraband, did not violate the Fourth Amendment.¹³⁶

The plight of Chelsea Bechman provides another vivid example. Ms. Bechman was at home around 9 p.m. one evening, nursing her infant daughter, when police arrived to arrest her based on a “possible” active arrest warrant from a database “hit.”¹³⁷ Despite her protest that the warrant—for failure to appear to contest a charge of driving without proof of insurance—was invalid, which was the case, Ms. Bechman was arrested. As recounted by the Eighth Circuit:

While the officers were in Bechman’s home, Bechman told the officers she was breast feeding her infant daughter and she needed to use the bathroom because she was menstruating. The officers refused to allow Bechman to use the bathroom without the door open and one of the two male officers watching. Bechman had no choice but to use the bathroom with Officer Butler observing her from the hallway. In addition, these male officers would not allow Bechman to exchange her breast milk soaked shirt for a dry one, or to put on a bra, unless one of them watched her change her clothes. She declined to do so.

Leaving the baby with Bechman’s husband, Officer Magill handcuffed Bechman, led her to his squad car, and drove her to the jail. At the jail, Bechman was strip searched and given a body cavity search. Bechman was detained at the jail overnight—the first time she had been separated from her nursing infant. The jailers released Bechman the next morning.¹³⁸

Detention itself can often be a very negative experience, as holding facilities are often crowded, dirty, and potentially dangerous.¹³⁹ If an arrestee lacks money for bail—a common occurrence even when it is set at a low amount—the detention can

136. *Id.* at 1521–22. For more on *Florence*, see Wayne A. Logan, *Florence v. Board of Chosen Freeholders: Police Power Takes a More Intrusive Turn*, 46 AKRON L. REV. 413 (2013).

137. *Bechman v. Magill*, 745 F.3d 331, 332 (8th Cir. 2014).

138. *Id.* at 333. For discussion of the personal trauma stemming from searches of residences based on incorrect address information, see John Sullivan, *When the Innocent Are Treated Like Criminals*, WASH. POST, Mar. 6, 2016, at A1.

139. See, e.g., Robert Patrick & Jennifer S. Mann, *Jailed by Mistake: Wrongful Arrests Jail 100 People for over 2,000 Days*, ST. LOUIS POST-DISPATCH (Oct. 26, 2013), http://www.stltoday.com/news/multimedia/special/st-louis-wrongful-arrests-mount-as-fingerprint-mismatches-are-ignored/html_b153a232-208f-5d0b-86a1-ba3256f7a941.html; Tom Sharpe, *Lawsuit Alleges Woman Attacked*, SANTA FE NEW MEXICAN (May 12, 2010), http://www.santafenewmexican.com/news/local_news/lawsuit-alleges-woman-attacked/article_fc5710e3-be59-5488-9026-116994d83920.html.

last several days,¹⁴⁰ or for however long the system takes to recognize its mistake.¹⁴¹ Being arrested can also have major reputational consequence, resulting in one's "mugshot" being posted on police department¹⁴² and newspaper webpages,¹⁴³ and on websites operated by commercial enterprises.¹⁴⁴ And, thanks to services like ArrestWarrants.org, which relies on "official data feeds from public and private databases," and assures that "[your] searches are not recorded with the government bureaus. Also, the person's [sic] searched are not notified in anyway [sic],"¹⁴⁵ your fellow citizens can access any such warrants that might exist from their home computers.

Arrests, of course, do not establish guilt; indeed, all that is needed for a lawful arrest is the very modest quantum of probable cause (a "fair probability") of involvement in criminal activity.¹⁴⁶ Every year high percentages of the many millions of arrests executed by police do not result in prosecution,¹⁴⁷ much

140. See, e.g., Keila Szpaller, *City of Missoula Makes Wrongful Arrests on Invalid Warrants*, MISSOULIAN (Missoula, Mont.) (Jan. 27, 2013), http://missoulian.com/news/local/city-of-missoula-makes-wrongful-arrests-on-invalid-warrants/article_2ae40e0c-682b-11e2-90fe-001a4bcf887a.html ("[I]llegal warrants affect the people who are least able to pay a \$50 or \$200 bond; many people may not even know that their arrest was improper").

141. Such is the fate of even the famous. See, e.g., *Invalid 1989 Arrest Warrant Detours Ike Turner for Night*, TIMES UNION (Albany, N.Y.), May 18, 2007, at A2 (noting the plight of musician Ike Turner, ex-husband of singer Tina Turner, who at age seventy-five was arrested on the basis of a warrant that had been recalled in December 1989, and was required to spend the night and much of the following day in jail).

142. Jess Bidgood, *After Arrests, Quandary for Police on Posting Booking Photos*, N.Y. TIMES (June 26, 2015), http://www.nytimes.com/2015/06/27/us/after-arrests-quandary-for-police-on-posting-booking-photos.html?_r=0.

143. See, e.g., *Mugshots Gainesville*, GAINSVILLE SUN, <http://mugshotsgainesville.com> (last visited Nov. 1, 2016).

144. See, e.g., ARRESTS.ORG, <http://florida.arrests.org> (last visited Nov. 1, 2016).

145. See ARRESTWARRANT.ORG, <http://arrestwarrant.org> (last visited Nov. 1, 2016); see also, e.g., GOVWARRANTSEARCH.ORG, <http://govwarrantsearch.org> (last visited Nov. 1, 2016).

146. See *Illinois v. Gates*, 462 U.S. 213, 246 (1983); see also *Wilson v. Russo*, 212 F.3d 781, 789 (3d Cir. 2000) ("Probable cause exists if there is a 'fair probability' that the person committed the crime at issue." (quoting *Sherwood v. Mulvihill*, 113 F.3d 396, 401 (3d Cir. 1997))).

147. See, e.g., Surell Brady, *Arrests Without Prosecution and the Fourth Amendment*, 59 MD. L. REV. 1, 36–41 (2000) (stating that, for example, in Kings County, New York, "only 33% of felony arrests [from 1990 through 1994] resulted in felony prosecutions"); Alexandra Natapoff, *Misdemeanors*, 85 S. CAL. L. REV. 1313, 1330 (2012) ("In some jurisdictions, prosecutors decline to prosecute as many as half of all misdemeanor arrests.").

less conviction.¹⁴⁸ An arrest record, however, has very tangible effects on individuals, serving as a basis to justify future detentions by police,¹⁴⁹ and fueling a self-perpetuating cycle of criminal justice system contacts.¹⁵⁰ Arrests not only have direct impact on future criminal justice outcomes,¹⁵¹ they also adversely affect employment, housing, occupational licenses, and student loan opportunities.¹⁵² Because inaccurate or incomplete records are regularly accessed and considered by the private sector, housing, employment and other critically important matters are jeopardized.¹⁵³ In 2012 alone, roughly seventeen million FBI

148. See, e.g., Andrew Golub et al., *The Race/Ethnicity Disparity in Misdemeanor Marijuana Arrests in New York City*, in 6 CRIMINOLOGY & PUB. POLY 131, 147 (2007) (reporting a non-conviction rate of eighty-percent for marijuana in public view (MPV) arrests in New York City from 1992–2003); Issa Kohler-Hausmann, *Managerial Justice and Mass Misdemeanors*, 66 STAN. L. REV. 611, 641–42 (2014) (noting that in New York City, less than half of misdemeanor arrests in 2012 resulted in a conviction of any kind). In 2013, in California, almost one-third of the over 305,000 adult felony arrests did not result in a conviction. KAMALA D. HARRIS, CAL. DEP'T OF JUSTICE, CRIME IN CALIFORNIA, 2013, at 49 (2013), <http://oag.ca.gov/sites/all/files/agweb/pdfs/cjsc/publications/candd/cd13/cd13.pdf>.

149. See, e.g., *United States v. Wagers*, 452 F.3d 534, 541 (6th Cir. 2006) (holding that knowledge of criminal history can help give rise to probable cause of current criminal activity); *United States v. Sandoval*, 29 F.3d 537, 542 (10th Cir. 1994) (stating that knowledge of prior criminal record can help create reasonable suspicion of current safety risk justifying a frisk); *Commonwealth v. Malone*, 366 A.2d 584, 588 (Pa. Super. Ct. 1976) (“An arrest record may be used by the police in determining whether subsequently to arrest the individual concerned, or whether to exercise their discretion to bring formal charges against an individual already arrested.”).

150. For discussion of the long-term effect of arrest on juveniles in particular, see generally Kevin Lapp, *As Though They Were Not Children: DNA Collection from Juveniles*, 89 TUL. L. REV. 435 (2014); Akiva M. Liberman et al., *Labeling Effects of First Juvenile Arrests: Secondary Deviance and Secondary Sanctioning*, 52 CRIMINOLOGY 345 (2014).

151. See Besiki Luka Kutateladze & Victoria Z. Lawson, *How Bad Arrests Lead to Bad Prosecution: Exploring the Impact of Prior Arrests on Plea Bargaining*, 37 CARDOZO L. REV. 973, 976 (2016) (explaining that arrest records are often considered in pretrial detention decisions, charge offers, and sentencing).

152. See Eisha Jain, *Arrests as Regulation*, 67 STAN. L. REV. 809, 820–25, 833–41 (2015); Gary Fields & John R. Emshwiller, *As Arrest Records Rise, Americans Find Consequences Can Last a Lifetime*, WALL ST. J. (Aug. 18, 2014), <http://www.wsj.com/articles/as-arrest-records-rise-americans-find-consequences-can-last-a-lifetime-1408415402>.

153. See NEIGHLY & EMSELLEM, *supra* note 11, at 9–10; U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 117, at 20 (“[I]ncomplete records can lead to negative impacts on the applicant, since the applicant is responsible for obtaining missing information from courts [W]hen employers have urgent hiring needs, they may choose another qualified applicant rather than wait for

background checks were conducted for employment and licensing purposes, yet, an estimated fifty percent of the FBI's records (provided by states) failed to include final disposition of arrest data, creating what are known as "hanging arrests."¹⁵⁴

A recent ethnographic study highlights the personal, human dimensions of criminal history record errors in particular. Researcher Amy Myrick conducted year-long fieldwork in which she examined the rap sheets of over 150 adults in a small midwestern jurisdiction who sought to have their records reviewed for possible expungement purposes.¹⁵⁵ The study subjects typically were unaware that their records were erroneous, and had a range of negative reactions when they discovered that they were. "Cliff," a fifty-seven-year-old African-American man who was arrested for murder in a round-up and released without charge the next day, expressed understandable alarm that the record left the impression that he was a murderer.¹⁵⁶ Others were troubled by entries on their rap sheets that proclaimed in large boldfaced letters under their mugshots that they were "convicted felon[s]," when in reality they were not.¹⁵⁷

Paula was angry that because there was no legal process to correct mistakes on rap sheets, which were not authoritative records and thus not held to standards of accuracy, the police could make what she saw as a callous mistake without accountability These clients felt that the record's ability to carelessly assign them to a category distorted their moral standing, even when the error had no bearing on legal outcomes.¹⁵⁸

Myrick also recorded many instances where record identities of individuals were conflated "when court records attributed a case to the wrong person, thereby merging their histories."¹⁵⁹ Individuals "responded with bewilderment at the many

an individual to gather court records that are needed to complete the FBI record check.").

154. OFFICE OF THE ATTORNEY GEN., U.S. DEP'T. OF JUSTICE, THE ATTORNEY GENERAL'S REPORT ON CRIMINAL HISTORY BACKGROUND CHECKS 3 (2006), http://www.bjs.gov/content/pub/pdf/ag_bgchecks_report.pdf. In Florida in 2006, only forty-six percent of arrest dispositions were recorded within two years. SUSAN BURTON ET AL., FLORIDA DEPT OF LAW ENFORCEMENT, ASSESSING FLORIDA'S CRIMINAL HISTORY IMPROVEMENT, 2003 AND 2006, at 14 (2009), [https://www.fdle.state.fl.us/cms/FSAC/Publications-\(1\)/PDF/Assessing-Florida-s-Criminal-History-Improvement.aspx](https://www.fdle.state.fl.us/cms/FSAC/Publications-(1)/PDF/Assessing-Florida-s-Criminal-History-Improvement.aspx).

155. Amy Myrick, *Facing Your Criminal Record: Expungement and the Collateral Problem of Wrongfully Represented Self*, 47 L. & SOC'Y REV. 73 (2013).

156. *Id.* at 88.

157. *Id.* at 89.

158. *Id.*

159. *Id.* at 90.

people who shared similar records,” which occurred when people had similar names, but lacked other identifying information such as a fingerprints, birthdays or addresses, the comparison of which would serve as ready bases to avert identity error.¹⁶⁰ Ultimately, Myrick concluded, a criminal record is “a material proxy that the legal system has composed on its own terms,” yet can remain inscrutable and even unknown to its subjects.¹⁶¹ When this is the case, “[w]rongful representation of self is a collateral effect of having a criminal record that is always present, but usually hidden in a way that is itself inequitable, since most people cannot begin to object.”¹⁶²

Bad data in government-aggregated registries are no less problematic. Being in a gang member database can result in police detention and harassment.¹⁶³ So too can inclusion in a sex offender registry, as exemplified by the experience of an individual in Massachusetts who was exonerated but his name was not removed from the registry and who was threatened by police with arrest for not complying with registration requirements.¹⁶⁴ Even more troubling, multiple news stories in recent years recount instances of registry errors resulting in individuals being mistakenly targeted by vigilantes.¹⁶⁵ Furthermore, it takes little imagination to appreciate the negative impact of being arrested,¹⁶⁶ much less convicted,¹⁶⁷ as the result of a DNA

160. *Id.* at 91.

161. *Id.* at 102.

162. *Id.*

163. Rebecca Rader Brown, Note, *The Gang's All Here: Evaluating the Need for a National Gang Database*, 42 COLUM. J.L. & SOC. PROBS. 293, 321 (2009).

164. *Sarsfield v. City of Marlborough*, Civil Action No. 03-10319-RWZ, 2006 WL 2850359, at *1 (D. Mass. Oct. 4, 2006).

165. See, e.g., Fredrick Kunkle, *Caught in a Neighborhood Web: Innocent Man Mistaken for Registered Offender*, WASH. POST, May 13, 2006, at A1 (reporting on an individual mistakenly targeted by neighborhood-wide e-mail notification when his car license plate was traced by a neighbor to a home at one time occupied by a registrant); Alex Lyda, *Vigilante Beating Raises Questions About Texas Sex-Offender Registry*, DESERET NEWS (Nov. 4, 1999), <http://www.desertnews.com/article/726240/Vigilante-beating-raises-questions-about-Texas-sex-offender-registry.html/pg=all>; W. Paul Koenig, *Does Congress Abuse Its Spending Clause Power by Attaching Conditions on the Receipt of Federal Law Enforcement Funds to a State's Compliance with Megan's Law?*, 88 J. CRIM. L. & CRIMINOLOGY 721, 765 n.113 (1998).

166. See, e.g., William K. Rashbaum & Joseph Goldstein, *DNA Match Typing Protest to 2004 Killing Is Doubted*, N.Y. TIMES, July 12, 2012, at A19 (suggesting that DNA contamination may have resulted in a false lead in an open investigation); Henry K. Lee, *How Innocent Man's DNA Was Found at Killing Scene*, SFGATE (June 26, 2013), <http://www.sfgate.com/crime/article/How-innocent-man-s-DNA-was-found-at-killing-scene-4624971.php> (reporting that

database error, or as a result of being wrongly included in a gang database.¹⁶⁸

As the preceding discussion makes clear, database errors impose major personal harms on individuals. However, it should not escape attention that data collection, generation and aggregation can have broader societal consequences. The documented problems associated with “hanging arrests,” for instance, assume added significance when one considers that one of every three adults can expect to be arrested by the age of twenty-three,¹⁶⁹ and that the ratio increases to nearly one of every two adults among Latino and African-American males.¹⁷⁰ Arrest warrants themselves, as Justice Kagan recently noted,

are not distributed evenly across the population. To the contrary, they are concentrated in cities, towns, and neighborhoods where stops are most likely to occur—and so the odds of any given stop revealing a warrant are even higher than [than the millions of warrants in databases] One study found, for example, that Cincinnati, Ohio had over 100,000 outstanding warrants with only 300,000 residents And as Justice Sotomayor notes, 16,000 of the 21,000 people residing in the town of Ferguson, Missouri have outstanding warrants.¹⁷¹

Data errors thus can have a disparate impact on poor minority communities, whose members often suffer comparative disadvantages in detecting and challenging inaccurate records.

an innocent man’s DNA appeared at the scene of a crime due to contamination by responding paramedics).

167. See *About*, INNOCENCE PROJECT, <http://www.innocenceproject.org/about> (last visited Nov. 2, 2016).

168. See, e.g., Ali Winston, *Bill To Shed Light on California’s Gang Database Moves Forward*, REVEAL NEWS (Apr. 12, 2016), <https://www.revealnews.org/article/bill-to-shed-light-on-californias-gang-database-moves-forward> (describing the vague and undemanding criteria for inclusion in California’s gang database).

169. Robert Brame et al., *Cumulative Prevalence of Arrest from Ages 8 to 23 in a National Sample*, 129 PEDIATRICS 21, 25 (2012).

170. Robert Brame et al., *Demographic Patterns of Cumulative Arrest Prevalence by Ages 18 and 23*, 60 CRIME & DELINQ. 471, 478 (2014).

171. *Utah v. Strieff*, 136 S. Ct. 2056, 2073 n.1 (2016) (Kagan, J., dissenting) (citations omitted). As a recent U.S. Department of Justice report highlighted, courts in Ferguson, Missouri routinely issued arrest warrants based on missed court appointments and failure to pay fines for very minor offenses such as parking infractions, and traffic and housing code violations, triggering new fines and fees, part of a broader strategy of generating revenue for the city. CIVIL RIGHTS DIV., U.S. DEP’T OF JUSTICE, INVESTIGATION OF THE FERGUSON POLICE DEPARTMENT 3–4 (2015), https://www.justice.gov/sites/default/files/opa/press-releases/attachments/2015/03/04/ferguson_police_department_report.pdf. For further discussion of the tendency of governments to utilize the criminal justice system to generate revenues, see Wayne A. Logan & Ronald F. Wright, *Mercenary Criminal Justice*, 2014 U. ILL. L. REV. 1175.

2. On Governments

While data errors most directly affect individuals, they also have significant negative implications for governments. First, when a government undertakes a project that not only affects the public treasury but also risks impinging on the liberty, privacy, and other interests of its citizens, it has the infeasible obligation to do its utmost to ensure that it does so in a scrupulous manner.¹⁷² Democratic accountability demands no less.¹⁷³ Rather than the old adage “good enough for government work,” Justice Brandeis’s recognition of the government serving as “teacher” should be operative.¹⁷⁴ If governments collect and generate sensitive data on individuals, typically with little or no legal or practice constraint,¹⁷⁵ and make it available to law enforcement and private industry alike, they should not be able to absolve themselves of responsibility for its content. As the D.C. Circuit opined almost forty years ago with respect to the FBI’s collection of criminal justice data from states:

The FBI cannot take the position that it is a mere passive recipient of records received from others, when it in fact energizes those records by maintaining a system of criminal files and disseminating the criminal records widely, acting in effect as a step-up transformer that puts into the system a capacity for both good and harm.¹⁷⁶

Second, data errors and government eschewal of responsibility for them is problematic for other quite practical reasons. The first is that mistakes undercut the trust among citizens in the competence and fairness of government. As Peter Shane has noted, when “the unjustified targeting of innocent persons become[s] widespread, the very fabric of mutual confidence be-

172. *Cf.* *Bivens v. Six Unknown Named Agents of Fed. Bureau of Narcotics*, 403 U.S. 388, 392 (1971) (“An agent acting . . . in the name of the United States possesses a far greater capacity for harm than an individual trespasser exercising no authority other than his own.”).

173. *See, e.g.*, Barry Friedman & Maria Ponomarenko, *Democratic Policing*, 90 N.Y.U. L. REV. 1827, 1837 (2015) (“Accountability is primal to American democracy.”); Matthew C. Stephenson, *Information Acquisition and Institutional Design*, 124 HARV. L. REV. 1422, 1423 (2011) (“Good information is the lifeblood of effective governance.”).

174. *Olmstead v. United States*, 277 U.S. 438, 485 (1928) (Brandeis, J., dissenting) (“Our government is the potent, the omnipresent teacher. For good or for ill, it teaches the whole people by its example.”).

175. *See* Jocelyn Simonson, *Copwatching*, 104 CAL. L. REV. 391, 417 (2016) (noting the “traditional monopoly that police departments possess over the evidence of and narratives structuring their behavior on the street”).

176. *Menard v. Saxbe*, 498 F.2d. 1017, 1026 (D.C. Cir. 1974).

tween citizen and government . . . [becomes] threatened.”¹⁷⁷ Data errors, moreover, are inefficient. When an individual is mistakenly targeted by police as the result of a bad arrest warrant, for instance, not only does the individual suffer, but police, correctional, and judicial resources are misdirected. DNA that should have been expunged clogs an already over-strapped system.¹⁷⁸ Likewise, a sex offender registry containing home address errors for registrants misdirects community members’ attention, vigilance, and self-protective efforts.¹⁷⁹

Academics have vigorously debated the consequences of greater data availability, weighing individual privacy values against the social efficiency benefits thought associated with enhanced knowledge about individuals.¹⁸⁰ The knowledge empowerment premise, however, is undercut when the information relied upon is inaccurate.¹⁸¹

II. BARRIERS TO DETECTING AND REMEDYING DATA ERROR

Despite the acknowledged prevalence of data error, the law currently provides little opportunity to detect (much less correct) errors and remedy the harms they cause. This Part surveys this terrain and then examines the array of significant practical obstacles that stand in the way of revealing the systemic origin and extent of data errors and holding government accountable for the harms they cause.

177. Peter M. Shane, *The Bureaucratic Due Process of Government Watch Lists*, 75 GEO. WASH. L. REV. 804, 808 (2007). For discussion of the critical role police play more generally in upholding rule of law values and instilling public trust, and the negative consequences of failing at the enterprise, see Wayne A. Logan, *Police Mistakes of Law*, 61 EMORY L.J. 69, 90–92 (2011).

178. Logan, *supra* note 106, at 282.

179. See LOGAN, *supra* note 60, at 122.

180. Compare, e.g., Lior Strahilevitz, *Privacy Versus Antidiscrimination*, 75 U. CHI. L. REV. 363, 371–73 (2008), with Daniel J. Solove, *The Virtues of Knowing Less: Justifying Privacy Protections Against Disclosure*, 53 DUKE L.J. 967, 1035 (2003).

181. Employers, too, are adversely impacted by data errors. See NEIGHLY & EMSELLEM, *supra* note 11, at 14 (“[F]aulty FBI records also have a detrimental impact on employers who are often denied timely access to qualified workers, unnecessarily compounding the difficulty of filling jobs in industries . . . where there are still significant labor shortages.”).

A. LEGAL BARRIERS

From the dawn of the digital era, courts have expressed concern over the negative impact of data error on individuals. Such concern, however, has not translated into concrete legal remedies. This Section discusses three primary legal barriers: due process restrictions, Fourth Amendment limitations, and immunity provisions.

1. Due Process

In the early 1970s, a series of cases involving erroneous criminal history records stored by the FBI inspired the D.C. Circuit Court of Appeals to examine the due process implications of data error. In 1974, in *Menard v. Saxbe*,¹⁸² the court addressed whether the FBI had a duty to purge its database of an individual's putative arrest in Los Angeles for burglary, which California authorities later notified the FBI was actually only a "chance encounter."¹⁸³ After noting that "[t]he disabilities flowing from a record of arrest have been well documented,"¹⁸⁴ and that "sound principles of justice and judicial administration" warranted relief,¹⁸⁵ the *Menard* court rejected the FBI's claim that it was not responsible for the accuracy of the state criminal justice records in its database.¹⁸⁶ Although the FBI had no statutory duty to ensure the initial accuracy of submitted information,¹⁸⁷ the court stated that "the FBI's function of maintaining and disseminating criminal identification records and files carries with it . . . a corollary . . . responsibility to discharge this function reliably and responsibly and without unnecessary harm to individuals whose rights have been invaded."¹⁸⁸

Menard concerned the FBI's duty to expunge a record after being put on notice of its inaccuracy in a state database. In

182. 498 F.2d 1017 (D.C. Cir. 1974).

183. *Id.* at 1029.

184. *Id.* at 1024.

185. *Id.* at 1025.

186. *See id.* at 1022, 1028 ("The FBI retains its arrest records even where the record indicates that the arrestee was released without being charged, since it is the FBI's firm policy that 'The FBI does not have the authority to decide which fingerprints submitted by law enforcement agencies should be returned. Such a decision rests solely with the original contributor of fingerprints.'" (footnote and citation omitted)).

187. *See id.* at 1026.

188. *Id.*

Tarlton v. Saxbe,¹⁸⁹ the D.C. Circuit soon thereafter addressed whether the FBI has “a duty to take reasonable measures to safeguard the accuracy of information in its criminal files which is subject to dissemination.”¹⁹⁰ The *Tarlton* court, Judge Bazelon writing, reaffirmed *Menard* and espoused “a more comprehensive view of the FBI’s responsibilities in regard to its criminal files.”¹⁹¹ Without requiring the FBI to make “reasonable efforts to safeguard the accuracy of the information” it stored, the FBI “would in effect have the authority to libel” individuals.¹⁹² “Dissemination of inaccurate criminal information without the precaution of reasonable efforts to forestall inaccuracy restricts the subject’s liberty without any procedural safeguards designed to prevent such inaccuracies.”¹⁹³

Turning to the merits of the case, the *Tarlton* court rejected the FBI’s argument that its duty was absolved because of a disclaimer it inscribed on its disseminated records asserting that it was simply a repository of collected information.¹⁹⁴ The court added, however, that there were “practical limits to the FBI’s responsibility”; the “FBI is not and cannot be the guarantor of the accuracy of the information in its criminal files.”¹⁹⁵ The FBI need not, for instance, assess the constitutionality of an arrest challenged by a litigant or investigate facts giving rise to an arrest.¹⁹⁶ Ultimately, noting the “general nature of [its] mandate,” the court remanded the matter to the lower

189. 507 F.2d 1116 (D.C. Cir. 1974).

190. *Id.* at 1121.

191. *Id.* at 1122.

192. *Id.*

193. *Id.* at 1123.

194. *Id.* at 1127. The court offered three reasons in support. First, other entities relying on the record, such as a sentencing court or parole agency, would not be in a position to review the accuracy of FBI records it received. *Id.* Second:

[T]he easy availability of FBI records and the extreme difficulty [faced by other entities] of obtaining the information on their own make virtually blind reliance on the FBI records a practical necessity. Third, the subject of the files, often imprisoned and more often without the intellectual or financial capacity to conduct a personal investigation into the facts of distant arrests or convictions, will seldom be able to effectively challenge the accuracy of information distributed by the FBI before a parole board or sentencing judge.

Id.

195. *Id.* at 1127–28.

196. *Id.* at 1127.

court for elaboration on the “specifics of this general duty of inquiry.”¹⁹⁷

Menard and *Tarlton*, while predicated on statutory grounds, offered lofty language of governmental duty motivated by due process concerns.¹⁹⁸ In 1975, this same sensitivity was more plainly evinced in *United States v. Mackey*,¹⁹⁹ where an officer in Nevada arrested a hitchhiker based on NCIC information indicating that he was wanted in California for a probation violation. A subsequent search of the arrestee revealed a shotgun, which the defendant sought to suppress when it was later discovered that the NCIC information had been inaccurate for a period of five months.²⁰⁰ The court held that the arrest violated due process:

Because of the inaccurate listing in the NCIC computer, defendant was a “marked man” for five months prior to his arrest, and, had this particular identification check not occurred, he would have continued in this status into the indefinite future. At any time, . . . a routine check by the police could well result in defendant’s arrest, booking, search and detention . . . Defendant was subject to being deprived of his liberty at any time and without any legal basis . . .

The Court finds that a computer inaccuracy of this nature and duration, even if unintended, amounted to a capricious disregard for the rights of the defendant as a citizen of the United States. The evidence compels a finding that the government’s action was equivalent to an arbitrary arrest, and that an arrest on this basis deprived defendant of his liberty without due process of law. Once the warrant was satisfied, five months before defendant’s arrest, there no longer existed any basis for his detention, and the Government may not now profit by its own lack of responsibility.²⁰¹

The Supreme Court in the early 1970s also showed sensitivity for reputational harms resulting from government action.

197. *Id.* at 1129. On remand, the trial court was persuaded by the FBI’s position, concluding that an individual challenging the accuracy of an FBI record must ordinarily first file a request with local authorities, that the FBI need not indicate the existence of a pending challenge to the record’s accuracy, and that arrest records without any disposition that are less than a year old could be disseminated. *Tarlton v. Saxbe* (II), 407 F. Supp. 1083, 1089 (D.D.C. 1976).

198. *See Rowlett v. Fairfax*, 446 F. Supp. 186, 188 (W.D. Mo. 1978) (“In *Tarlton*, the District of Columbia Circuit found that the F.B.I. had some obligation to insure that its criminal records were accurate. This duty, which was never fully explained in the *Tarlton* opinion, apparently rested upon constitutional notions of due process and privacy.”).

199. 387 F. Supp. 1121 (D. Nev. 1975).

200. *Id.* at 1122.

201. *Id.* at 1124–25.

The high-water mark was *Wisconsin v. Constantineau*,²⁰² where a local chief of police publicly posted information about the plaintiff barring her from buying liquor in area stores. In finding such a public shaming to be unconstitutional without proper notice and opportunity to be heard, the Court stated:

Where a person's good name, reputation, honor, or integrity is at stake because of what the government is doing to him, notice and an opportunity to be heard are essential. "Posting" under the Wisconsin Act may to some be merely the mark of illness, to others it is a stigma, an official branding of a person. The label is a degrading one. Under the Wisconsin Act, a [targeted individual] is given no process at all. This appellee was not afforded a chance to defend herself. She may have been the victim of an official's caprice. Only when the whole proceedings leading to the pinning of an unsavory label on a person are aired can oppressive results be prevented.²⁰³

A mere five years later, however, the Court reversed course in *Paul v. Davis*.²⁰⁴ There, the Chief of Police of Louisville, Kentucky, printed and distributed to local businesses a photo of the plaintiff with the heading "Active Shoplifters."²⁰⁵ The plaintiff, who had been arrested for shoplifting but not convicted, filed a civil rights action alleging that his due process rights were violated when he was targeted without first receiving notice and an opportunity to be heard.²⁰⁶ The Sixth Circuit agreed, relying on *Constantineau*.²⁰⁷

A five-member majority reversed, characterizing the claim as alleging damage to "mere reputation," which in itself does not implicate a constitutionally protected liberty interest.²⁰⁸ The *Paul* majority reasoned that the plaintiff in effect alleged only that "the State may not publicize a record of an official act such as an arrest," which in itself is not actionable: "[R]eputation alone, apart from some more tangible interests such as employment, is either 'liberty' or 'property' by itself sufficient to invoke the procedural protection of the Due Process Clause."²⁰⁹ In so deciding the Court distinguished *Constantineau*, saying that it entailed more than "mere defamation"; the "posting" there deprived the claimant of a "right previously held under

202. 400 U.S. 433 (1971).

203. *Id.* at 437.

204. 424 U.S. 693 (1976).

205. *Id.* at 695–96.

206. *Id.* at 696–97.

207. *Id.* at 697.

208. *Id.* at 708–09.

209. *Id.* at 701, 713.

state law—the right to purchase or obtain liquor in common with the rest of the citizenry.”²¹⁰

Paul has been widely condemned as an unjustified departure from what appeared to be the unqualified recognition in *Constantineau* of a cognizable reputational liberty interest against governmental stigmatization.²¹¹ As Henry Paul Monaghan noted not long after *Paul* was decided, “in a ‘Constitution for a free people,’ it is an unsettling conception of ‘liberty’ that protects an individual against state interference with his access to liquor but not with his reputation in the community.”²¹²

Nonetheless, *Paul*’s “stigma-plus” test remains the law of the land; to allege a due process violation, a litigant must show reputational stigma plus some additional tangible harm (such as lost employment).²¹³ And while *Paul* did not address whether government has an obligation to maintain accurate or complete criminal justice data, as *Tarlton* suggested, the decision has dashed such hopes.²¹⁴ The upshot, as one government report observed, is that “[i]t is no exaggeration to say that the U.S. Constitution is largely neutral with respect to the dissemination of criminal history record information.”²¹⁵

210. *Id.* at 706, 708.

211. See, e.g., Barbara E. Armacost, *Race and Reputation: The Real Legacy of Paul v. Davis*, 85 VA. L. REV. 569, 576 (1999) (“Even the most generous reading of *Constantineau* compels the conclusion that the holding had virtually nothing to do with a deprivation of the right to buy alcohol and everything to do with injury to a free-standing interest in reputation.”); Richard J. Pierce, Jr., *The Due Process Counterrevolution of the 1990s?*, 96 COLUM. L. REV. 1973, 1983–84 (1996) (“The Court characterized the *Constantineau* opinion as reflecting [an instance in which one had been deprived of something tangible], but the Court’s characterization was purely historical invention.”).

212. Henry Paul Monaghan, *Of “Liberty” and “Property,”* 62 CORNELL L. REV. 405, 426 (1977) (quoting *Bd. of Regents v. Roth*, 408 U.S. 564, 572 (1972)).

213. See, e.g., *Rosenstein v. City of Dallas*, 876 F.2d 392, 396 n.3 (5th Cir. 1989) (“[C]harges must be connected with the discharge . . . [and] must be more than merely adverse; the charges must be the type that might seriously damage the employee’s standing and associations in the community, that . . . impair his [future] employment opportunities.”); *Pruett v. Levi*, 622 F.2d 256 (6th Cir. 1980) (“[T]he mere existence of an inaccuracy in the FBI criminal files . . . is not sufficient . . . to state a claim of a constitutional injury.”).

214. See, e.g., *Rowlett v. Fairfax*, 446 F. Supp. 186, 188 (W.D. Mo. 1978) (citing *Paul* and criticizing *Tarlton* for suggesting that subjects of criminal justice records possess a protectable due process interest in data quality).

215. U.S. BUREAU OF JUSTICE STATISTICS, USE AND MANAGEMENT OF CRIMINAL HISTORY RECORD INFORMATION: A COMPREHENSIVE REPORT, 2001 UPDATE 45 (Dec. 2001). Furthermore, the report noted, “[c]ommon law privacy

2. Fourth Amendment

When an individual is stopped or arrested on the basis of a database error, the Fourth Amendment's prohibition of "unreasonable" searches and seizures is implicated.²¹⁶ Although the Supreme Court has acknowledged the significant negative consequences of arrest,²¹⁷ it has afforded police significant latitude to make mistakes of fact when arresting individuals on the basis of warrants. Police, for instance, can arrest when they reasonably mistake an arrestee for a person who is the subject to a lawful arrest warrant.²¹⁸ "Sufficient probability, not certainty," the Court stated in *Hill v. California*, "is the touchstone of reasonableness under the Fourth Amendment."²¹⁹

Applying this generous standard, lower courts have upheld arrests (and thus also searches) of individuals in the face of strong countervailing evidence of mistaken identity. In *Hill v. Scott*,²²⁰ for instance, police arrested Brian Arthur Hill on the basis of a warrant for another Brian Hill, even though the warrant specified a different middle name, birth date, and eye color.²²¹ The Eighth Circuit, while acknowledging that additional investigation would have confirmed the petitioner's claim of innocence and mistaken identity,²²² rejected his Fourth Amendment claim, stating that a "mistaken arrest based on a facially valid warrant does not violate the Fourth Amendment if the officers reasonably mistook the arrestee for the person named in the warrant."²²³ In *Johnson v. Miller*,²²⁴ the Seventh Circuit rejected the Fourth Amendment claim of a white female mistak-

doctrines have also proven to be largely irrelevant to the handling of criminal history record information." *Id.*

216. See U.S. CONST. amend. IV (ensuring that "the right of the people to be secure in their persons . . . against unreasonable searches and seizures shall not be violated").

217. See, e.g., *United States v. Marion*, 404 U.S. 307, 320 (1971) (describing an arrest as "a public act that may seriously interfere with the defendant's liberty, . . . disrupt his employment, drain his financial resources, curtail his associations, subject him to public obloquy, and create anxiety in him, his family and his friends").

218. *Hill v. California*, 401 U.S. 797, 804 (1971).

219. *Id.*

220. 349 F.3d 1068 (8th Cir. 2003).

221. *Id.* at 1072.

222. *Id.* at 1073–74.

223. *Id.* at 1072.

224. 680 F.2d 39 (7th Cir. 1982).

only arrested on the basis of a lawful arrest warrant for an African-American woman with the same name.²²⁵

When an individual is wrongly seized on the basis of an invalid warrant the Fourth Amendment calculus understandably changes. As noted by one court, “[I]f the *only* justification for an arrest is an invalid arrest warrant, the arrest constitutes an ‘unreasonable seizure’ under the Fourth Amendment.”²²⁶ Here, too, however, latitude exists for mistakes; as the Seventh Circuit recently put it, “[T]he Fourth Amendment is not a bulwark against typos.”²²⁷ To prevail, an arrestee must establish that police knew or should have known that an arrest warrant was invalid (e.g., had been recalled).²²⁸ “The law accepts the risk that in some cases officers may arrest the innocent.”²²⁹

In the federal civil rights litigation context, under § 1983, states are immune from damages actions,²³⁰ and local governments are liable only if a constitutional wrong results from a “policy” or “custom,”²³¹ a very difficult standard to satisfy.²³² In a

225. *Id.* at 41–42. In *Baker v. McCollan*, 443 U.S. 137 (1979), the Court held that while a mistaken arrest based on a facially valid warrant is not itself a violation, and that police have no duty “to investigate independently” claims of mistaken identity when arresting, an individual cannot “be detained indefinitely in the face of repeated protests of innocence.” *Id.* at 144–46. “[D]etention pursuant to a valid warrant but in the face of repeated protests of innocence will after the lapse of a certain amount of time deprive the accused of ‘liberty . . . without due process of law.’” *Id.* at 145. Applying this standard, the Court was “quite certain that a detention of three days over a New Year’s weekend does not and could not amount to such a deprivation.” *Id.* Lower courts have forgiven far longer periods of continued detention. *See, e.g.*, *White v. Andrusiak*, No. 14-7045, 2015 WL 4999492 (E.D. Pa. Aug. 19, 2015) (eight months); *Echols v. Unified Gov’t of Wyandotte Cty.*, 399 F. Supp. 2d 1201 (D. Kan. 2005) (twenty-five days).

226. *Pitchford v. Borough of Munhall*, 631 F. Supp. 2d 636, 650 (W.D. Pa. 2007).

227. *United States v. Clark*, 754 F.3d 401, 410 (7th Cir. 2014).

228. *See, e.g.*, *Mitchell v. Aluisi*, 872 F.2d 577, 578–79 (4th Cir. 1989); *Hvorcik v. Sheahan*, 847 F. Supp. 1414, 1420 (N.D. Ill. 1994); *Morales v. Franklin Cty. Sheriffs*, No. 2:12-cv-00580, 2013 WL 6837558, at *4 (S.D. Ohio Dec. 23, 2013); *Long v. City of Philadelphia*, No. 15-00202, 2016 WL 366817, at *4 (E.D. Pa. Jan. 28, 2016); *Thibodeaux v. Arceneaux*, 618 F. Supp. 2d 24, 28 (W.D. La. 1984), *aff’d*, 768 F.2d 737 (5th Cir. 1985).

229. *Snyder v. United States*, 990 F. Supp. 2d 818, 840 (S.D. Ohio), *aff’d*, 590 F. App’x 505 (6th Cir. 2014); *see also, e.g.*, *Finch v. Chapman*, 785 F. Supp. 1277, 1278–79 (N.D. Ill. 1992) (plaintiff wrongfully arrested twice based on erroneous NCIC listing); *Rogan v. City of Los Angeles*, 668 F. Supp. 1384 (C.D. Cal. 1987) (plaintiff arrested five times, three times at gunpoint, based on erroneous NCIC listing).

230. *Alden v. Maine*, 527 U.S. 706, 748–49 (1999).

231. *Monell v. Dep’t of Soc. Servs.*, 436 U.S. 658, 691 (1978).

few cases over the years courts have allowed claims to proceed under a “deliberate indifference” theory when governments have been put on notice of continued egregious database problems and failed to take corrective action.²³³ Most commonly, however, the very high burden of misfeasance has resulted in denials of claims.²³⁴

As a result, the principal avenue for redress lies in suits against individual officers, yet with them qualified immunity bars relief unless they “knew or reasonably should have known that the action . . . [taken] would violate the constitutional rights of the [plaintiff], or if [they] took the action with the malicious intention to cause a deprivation of constitutional rights or other injury.”²³⁵ With arrests based on invalid warrants, police officers enjoy qualified immunity from civil damages liability for false arrest if they are neither aware of nor had reason to know that the arrest warrant was invalid.²³⁶ Immunity is

232. See Fred Smith, *Local Sovereign Immunity*, 116 COLUM. L. REV. 409, 414 (2016) (noting that “[i]t has been roughly three decades since the Court has ruled that a municipal policy caused a constitutional violation” and that “[n]egligence, even gross negligence, is not enough to constitute an actionable municipal ‘policy’”).

233. See *Hvorcik v. Sheahan*, 847 F. Supp. 1414, 1423 (N.D. Ill. 1994) (a sheriff’s “knowledge that an effective system to remove quashed warrants from the database is necessary . . . [combined with a] total failure to take any of the measures readily available to him to improve the effectiveness of the system” presented issue of possible deliberate indifference); *Ruehman v. Vill. of Palos Park*, 842 F. Supp. 1043, 1054 (N.D. Ill. 1993), *aff’d sub nom.*, *Ruehman v. Sheahan*, 34 F.3d 525 (7th Cir. 1994) (“The undisputed evidence is that there are large numbers of incorrectly listed traffic warrants, that the Sheriff’s office had knowledge of this deficiency, and that there was no procedure in place for eliminating incorrect listings. Accordingly, it must be held that the Sheriff’s policy in not maintaining accurate records of traffic warrants was deliberately indifferent to the constitutional rights of persons being subjected to arrests and detention on recalled warrants.”).

234. See, e.g., *Noone v. City of Ocean City*, 60 Fed. App’x 904 (3d Cir. 2003); *Rubins v. Tisdale*, No. 2:12-CV-118-J, 2012 WL 4932159 (N.D. Tex. Oct. 17, 2012); *Hughes v. McWilliams*, No. 04CV7030 (KMW), 2009 WL 4823940 (S.D.N.Y. Dec. 15, 2009); *Littlefield v. Viveros*, No. 1:06cv1530 OWW DLB, 2007 WL 4284864 (E.D. Cal. Dec. 5, 2007).

235. *Harlow v. Fitzgerald*, 457 U.S. 800, 815 (1982) (citation omitted).

236. See, e.g., *Johnson v. Scotts Bluff Cty. Sheriff’s Department*, 245 F. Supp. 2d 1056, 1060 (D. Neb. 2003) (rejecting the claim yet noting that the “plaintiff was plainly inconvenienced, embarrassed, and distressed by the result of the defendants’ sloppy electronic record-keeping”); *Seals v. Jones*, No. 12-cv-569-JED-TLN, 2014 WL 3818280, at *10 (N.D. Okla. Aug. 4, 2014) (finding defendants had qualified immunity for arresting plaintiff on recalled warrant because, at the time, the “arrest of plaintiff on the warrant was objectively reasonable”); *Robinson v. City of Denver*, No. 12-cv-00483-WYD-KMT, 2014 WL 1395758, at *5 (D. Colo. Apr. 10, 2014), *motion to certify appeal denied sub*

withheld only when it can be successfully alleged that a department has a custom or policy of providing incorrect information that results in a “sufficient number of mistaken arrests so as to put the [defendants] on notice” of a database problem.²³⁷

Given the foregoing, it perhaps should come as no surprise that database errors, resulting in the securing of incriminating evidence or contraband, are also insulated from legal challenge. As noted earlier, when police arrest an individual they can conduct a search.²³⁸ In the past, state and lower federal courts were prone to invoke the exclusionary rule when police seized an individual based on erroneous database information.²³⁹ The Supreme Court, however, has since adopted a far less generous position.

The Court’s most recent case on database error, *Herring v. United States*,²⁴⁰ involved one Bennie Dean Herring who was arrested when a neighboring county failed to update its police

nom., *Robinson v. City of Denver*, No. 12-cv-00483-WYD-KMT, 2014 WL 2499178 (D. Colo. May 29, 2014) (denying summary judgment on defendant City and County municipality liability claims for failure to train, but concluding that defendant officer and deputies had qualified immunity because arrest was “objectively reasonable under the circumstances” and there is no established authority that imposes “a duty to further investigate [Plaintiff’s] claims of mistaken identity once he matched the identifiers on the warrant, despite [Plaintiff’s] claims of innocence”); *Kelly v. Jones*, 148 F. Supp. 3d 395, 401 (E.D. Pa. 2015) (“Although in reality Plaintiff was not the correct Anthony Kelly or ‘Izzy,’ that does not negate the fact that Plaintiff’s exact name was specified in the warrant. The [police] merely executed the warrant, and the only defect asserted—the absence of a physical description of the person to be arrested—is not a legal defect where the suspect’s name is set forth.”). *But see Garcia v. County of Riverside*, 811 F.3d 1220, 1226–29 (9th Cir. 2016) (rejecting motion to dismiss because plaintiff’s allegations were sufficient to support due process violations when officers arrested plaintiff on a warrant describing an individual forty pounds lighter and nine inches shorter than plaintiff).

237. *Brock v. Casteel*, No. 1:13-cv-01577-DML-TWP, 2015 WL 3439236, at *8 (S.D. Ind. May 28, 2015).

238. *See, e.g., supra* note 132 and accompanying text.

239. *See, e.g., People v. Ramirez*, 668 P.2d 761, 765 (Cal. 1983) (“Suppressing the fruits of an arrest made on a recalled warrant will deter future misuse of the computerized criminal information systems and foster more diligent maintenance of accurate and current records.”); *id.* at 768 (“[The] arresting officer no doubt acted in good faith reliance on the information communicated to him through ‘official channels,’ law enforcement officials are collectively responsible for keeping those channels free of outdated, incomplete, and inaccurate warrant information. That the police now rely on elaborate computerized data processing systems to catalogue and dispatch incriminating information enhances rather than diminishes that responsibility.”). *See generally* Joan Teshima, *Validity of Arrest Made in Reliance upon Uncorrected or Outdated Warrant List or Similar Police Records*, 45 A.L.R. 4TH 550 (1986).

240. 555 U.S. 135 (2009).

database with the information that an old arrest warrant had been recalled.²⁴¹ Herring moved to suppress contraband discovered after he was arrested on the basis of the invalid warrant.²⁴² A five-member majority of the Court held that the exclusionary rule was inapplicable, reasoning that exclusion was warranted only when needed “to deter deliberate, reckless, or grossly negligent conduct, or in some circumstances recurring or systemic negligence.”²⁴³ Exclusion is justified only “[i]f the police have been shown to be reckless in maintaining a warrant system, or to have knowingly made false entries to lay the groundwork for future false arrests.”²⁴⁴

Herring is notable for many reasons in re-shaping the exclusionary rule doctrine,²⁴⁵ but for purposes of this article, the decision makes clear that the exclusionary rule is not available for ordinary police database errors.²⁴⁶ Systemic or recklessly generated errors might provide exclusionary relief, but for reasons discussed later proving this can be extremely difficult.²⁴⁷ The *Herring* majority, moreover, seemingly deemed it important that the database error was “attenuated” from the unlawful arrest,²⁴⁸ but did not specify how or why this was the case.²⁴⁹ Nonetheless, to the extent that Herring’s arrest was thought attenuated inasmuch as the data error emanated from another jurisdiction,²⁵⁰ the increasingly multi-jurisdictional nature and use of databases even further undercuts the possibility of exclusionary rule relief.²⁵¹ In practical effect, forgiving da-

241. *Id.* at 136.

242. *Id.*

243. *Id.* at 144.

244. *Id.* at 146.

245. Andrew Guthrie Ferguson, *Constitutional Culpability: Questioning the New Exclusionary Rules*, 66 FLA. L. REV. 623, 638 (2014).

246. *Herring*, 555 U.S. at 146 (“We do not suggest that all recordkeeping errors by the police are immune from the exclusionary rule. In this case, however, the conduct at issue was not so objectively culpable as to require exclusion.”); *id.* (“In a case where systemic errors were demonstrated, it might be reckless for officers to rely on an unreliable warrant system.”).

247. *See infra* notes 251, 273–274, 285–86 and accompanying text.

248. *Herring*, 555 U.S. at 137.

249. *See* 1 WAYNE R. LAFAYE, SEARCH AND SEIZURE: A TREATISE ON THE FOURTH AMENDMENT § 1.6(i) (5th ed. 2012).

250. *See id.* nn. 211–19 (identifying this as one of several possible bases to describe an arrest as “attenuated”).

251. *Herring* itself involved a decidedly modest technological, two-jurisdictional scenario: a sheriff in one county telephoning the sheriff’s department in an adjoining county (in the same state) to ask if Herring was subject to an arrest warrant there. *Herring*, 555 U.S. at 698. For an example of a

tabase error by another jurisdiction (e.g., another state, city or county) serves to “launder” or “wash” evidence.²⁵²

Herring itself built upon *Arizona v. Evans*, a case involving a traffic stop of Isaac Evans.²⁵³ The arresting officer ran Evans’ name through his police computer and discovered an outstanding misdemeanor arrest warrant.²⁵⁴ The warrant, however, had actually been quashed and Evans moved to suppress the contraband recovered incident to his mistaken arrest.²⁵⁵ The Supreme Court held that the exclusionary rule did not apply to a clerical error attributable to court staff because “the exclusion of evidence at trial would not sufficiently deter future errors [by police] so as to warrant such a severe sanction.”²⁵⁶

Justice Ginsburg, in dissent, highlighted the danger associated with error in data-driven systems:

Widespread reliance on computers to store and convey information generates, along with manifold benefits, new possibilities of error, due to both computer malfunctions and operator mistakes . . . [C]omputerization greatly amplifies an error’s effect, and correspondingly intensifies the need for prompt correction; for inaccurate data can infect not only one agency, but the many agencies that share access to the database.²⁵⁷

The majority’s limitation of the exclusionary rule, Justice Ginsburg observed, coupled with qualified immunity, left those ag-

recent decision attaching importance to multi-jurisdictional circumstances see, for example, *Shotts v. State*, 925 N.E.2d 719 (Ind. 2010) (citing *Herring* and rejecting application of exclusionary rule when Indiana police relied on NCIC-based existence of Alabama felony arrest warrant that turned out to be invalid). For discussion of the many strategic benefits of multi-jurisdictional task forces, often allowing end-runs of procedural requirements and limits, see Wayne A. Logan, *Dirty Silver Platters: The Enduring Challenge of Intergovernmental Investigative Illegality*, 99 IOWA L. REV. 293 (2013).

252. See Kay V. Levine, Jenia I. Turner & Ronald F. Wright, *Evidence Laundering in a Post-Herring World*, 28–31 (forthcoming 2016), <http://ssrn.com/abstract=2558737> (citing and discussing multiple post-*Herring* decisions in which this occurred).

253. 514 U.S. 1 (1995).

254. *Id.* at 3.

255. *Id.*

256. *Id.* at 14.

257. *Id.* at 26 (Ginsburg, J., dissenting); see also *id.* at 23 (Stevens, J., dissenting) (“The use of general warrants to search for evidence of violations of the Crown’s revenue laws understandably outraged the authors of the Bill of Rights . . . The offense to the dignity of the citizen who is arrested, handcuffed, and searched on a public street simply because some bureaucrat has failed to maintain an accurate computer data base strikes me as equally outrageous.”).

grieved by data errors with little recourse.²⁵⁸ Individual officers benefit from immunity for negligent errors, government entities are not liable for the negligent acts of employees, and “identifying the department employee who committed the error m[ight] be impossible.”²⁵⁹ Rounding matters out, the Supreme Court has made clear that redress under § 1983 is not available if a judgment for the plaintiff would “imply the invalidity of his conviction.”²⁶⁰

3. Statutory Immunity

Finally, it is not uncommon for state law to expressly afford governmental bodies and their agents immunity for database error. In Ohio, for instance, an individual can dispute the “accuracy, relevance, timeliness, or completeness of personal information,”²⁶¹ and recover damages for harm caused,²⁶² but only if the harm results from “intentionally maintaining” information that is known or reasonably should be known to be “inaccurate, irrelevant, no longer timely, or incomplete.”²⁶³ Even then, Ohio exempts criminal justice actors from civil liability.²⁶⁴

Sex offender registration and community notification laws afford another instructive example. State-operated websites that disseminate identifying information on registrants very often prominently display statements disclaiming responsibility for the accuracy of their information.²⁶⁵ Meanwhile, state laws

258. *Herring*, 555 U.S. at 156 (Ginsburg, J., dissenting).

259. *Id.* (citing *Harlow v. Fitzgerald*, 457 U.S. 800 (1982); *Monell v. New York City Dept. of Soc. Servs.*, 436 U.S. 658 (1978)).

260. *Heck v. Humphrey*, 512 U.S. 477, 486–87 (1994); *see, e.g., Weaver v. Geiger*, 294 F. App'x 529, 533 (11th Cir. 2008) (per curiam) (holding that defendant's § 1983 claim based on arrest with invalid warrant “amounts to the kind of attack on the factual basis for a conviction that we have deemed impermissible under *Heck*”).

261. OHIO REV. CODE ANN. § 1347.09(A)(1) (West 2016).

262. *Id.* § 1347.10(A).

263. *Id.* § 1347.10(A)(1).

264. *Id.* § 1347.04(A)(1); *cf.* GA. CODE ANN. § 35-3-35(c) (West 2016) (providing state actors shall not “be responsible for the accuracy of information disseminated nor have any liability for defamation, invasion of privacy, negligence, nor any other claim in connection with any dissemination . . . and shall be immune from suit based upon such claims”).

265. *See, e.g., Florida Sexual Offenders and Predators*, FLA. DEP'T. OF LAW ENFORCEMENT, <http://offender.fdle.state.fl.us/offender/homepage.do?jsessionid=jJbeUsuovC7v3UxxrnUWoTXc> (last visited Nov. 2, 2016); ST. OF OR. SEX OFFENDER INQUIRY SYS., <http://sexoffenders.oregon.gov> (last visited Nov. 1, 2016). For-profit entities that display arrest information likewise offer accuracy disclaimers. *See, e.g., Daryl Nelson, Mugshot.com and UnpublishArrest*

as a rule bar civil or criminal liability for registry information disseminated in the absence of wanton or willful misconduct,²⁶⁶ gross negligence or bad faith.²⁶⁷ Governments and their agents, moreover, are insulated from liability for the acts of third parties who cause harm to registrants as a result of information that is released.²⁶⁸ In Florida, the state and local governments and their agents are “presumed to have acted in good faith in compiling, recording, reporting, or releasing the [registrants’] information. The presumption of good faith is not overcome if a technical or clerical error is made . . . in compiling or providing [such] information.”²⁶⁹ In many states, civil liability is barred outright without qualification.²⁷⁰ And courts have rejected legal

.com: *Partners in Crime Info?*, CONSUMER AFFAIRS (Dec. 17, 2012), <https://www.consumeraffairs.com/news/mugshotcom-and-unpublishtarrestcom-partners-in-crime-info-121712.html>.

266. See, e.g., ARIZ. REV. STAT. ANN. § 13-3827(I) (2016); CONN. GEN. STAT. ANN. § 54-258(b) (West 2016); MISS. CODE ANN. § 45-33-53(3) (West 2016); MONT. CODE ANN. § 46-23-511 (West 2016); N.H. REV. STAT. ANN. § 651-B:7(V) (2016).

267. See, e.g., ARK. CODE ANN. § 12-12-920(a), (b) (West 2016); DEL. CODE ANN. tit. 11 § 4121(l)(1) (West 2016); MD. CODE ANN. CRIM. PROC. § 11-719 (West 2016); S.C. CODE ANN. § 23-3-520(A) (2016); see also GA. CODE ANN. § 42-1-12(q) (West 2016) (“Law enforcement agencies, employees of law enforcement agencies, and state officials shall be immune from liability for good faith conduct”); HAW. REV. STAT. ANN. § 846E-8 (West 2016); IOWA CODE ANN. § 692A.123 (West 2016); KY. REV. STAT. ANN. § 17.547 (West 2016); NEB. REV. STAT. ANN. § 29-4012 (West 2016); OKLA. STAT. ANN. tit. 57 § 584(P) (West 2016); OR. REV. STAT. § 163A.065 (West 2016); 42 PA. STAT. AND CONS. STAT. ANN. § 9799.31 (West 2016); 11 R.I. GEN. LAWS ANN. § 11-37.1-17 (West 2016); S.D. CODIFIED LAWS § 22-24B-32 (2016); TENN. CODE ANN. § 40-39-206(c) (West 2016); TEX. CRIM. PROC. CODE art. 62.008 (West 2016); VT. STAT. ANN. tit. 13, § 5412 (West 2016). Idaho requires malice or intentional misconduct. IDAHO CODE ANN. § 18-8325(3) (West 2016).

268. See, e.g., CONN. GEN. STAT. ANN. § 54-258(b) (West 2016) (stating the government and its officers shall not be “held civilly liable to any registrant by reason of disclosure of any information regarding the registrant that is released or disclosed”); OHIO REV. CODE ANN. § 3797.12(A) (West 2016) (listing the category of persons who shall be immune from civil liability “for injury, death, or loss to person or property allegedly caused by an act or omission in connection” with registration law).

269. FLA. STAT. ANN. § 775.21(9) (West 2016).

270. See, e.g., NEV. REV. STAT. ANN. § 179D.850(2) (West 2016) (stating employees and officers of a law enforcement agency or the Central Repository enjoy immunity from civil or criminal liability for “[t]he accuracy of information in a record of registration” without mention of negligence or bad faith); see also KAN. STAT. ANN. § 22-4911 (West 2016); ME. REV. STAT. ANN. tit. 34-A § 11252 (2016); N.M. STAT. ANN. § 29-11A-8 (West 2016).

and moral responsibility of governments for community vigilantism.²⁷¹

B. PRACTICAL BARRIERS

In the event that the aforementioned legal barriers do not outright preclude relief, a variety of significant and likely insuperable practical obstacles can stand in the way. In *Herring*, for instance, the five-member majority required proof of “deliberate, reckless, or grossly negligent conduct, or in some circumstances recurring or systemic negligence,”²⁷² placing the burden on plaintiffs to establish the record.²⁷³ Similarly significant evidentiary challenges face civil plaintiffs.²⁷⁴

271. See, e.g., *Doe v. Pataki*, 120 F.3d 1263, 1280 (2d Cir. 1997) (acknowledging that community notification is “doubtless the ‘but for’ cause of some” vigilantism, but rejecting that the acts are attributable to notification per se); *State v. Williams*, 728 N.E.2d 342, 357 (Ohio 2000) (“It cannot be presumed that the receipt of public information will compel private citizens to lawlessness.”). For extended criticism of this laissez-faire sentiment, see Wayne A. Logan, *Federal Habeas in the Information Age*, 85 MINN. L. REV. 147, 188–89 (2000).

272. *Herring v. United States*, 555 U.S. 135, 144 (2009). Professor LaFave observes that the *Herring* majority references both “systemic negligence” and “systemic errors,” which arguably carry varied meanings. The former, he writes:

[P]resumably refers to a variety of negligence that has an effect upon an entire recordkeeping system. Such is the case . . . [in] “an environment in which negligent management and oversight created conditions” permit[] the specific error to occur. Thus it would seem that if a false entry in law enforcement records or failure to discover same is fairly attributable to a lack of sufficient management or oversight, then the case would not fall within the *Herring* exception. The same would appear to be true if either the making of the error or the failure to detect it is related to some other “systemic” problem, such as the manner in which the recordkeeping system at issue has been structured.

LAFAVE, *supra* note 249 (citations omitted). LaFave adds that what qualifies as “systemic error,” however, “is far from clear. Certainly the reoccurrence of the same kind [of] error for some time without any effective response would seem highly relevant, and perhaps the length of time that a specific error remained uncorrected is also significant—although *Herring* indicates that length of time must exceed five months!” *Id.* (citation omitted).

273. See Joëlle Anne Moreno, *Rights, Remedies, and the Quantum and Burden of Proof*, 3 VA. J. CRIM. L. 89, 98–99 (2015). Whether this should be the case is questionable, for as Professor LaFave persuasively argues, in *Herring* police acted without a warrant (at least a legal one), a context in which it has been customary for the government to shoulder the burden of proof. LAFAVE, *supra* note 249. On the question of good faith, moreover, “in the past courts have consistently ruled ‘that the government has the burden to prove facts warranting application of the good faith exception.’” *Id.* (citation omitted). *Cf.* *United States v. Cont’l Ins. Co.*, 776 F.2d 962, 964 (11th Cir. 1985) (subscrib-

Data collected, generated, and stored by governments in massive databases—aided by commercial entities—presents obvious practical difficulties for individuals.²⁷⁵ Ex ante detection of database error, as Professor Kenneth Karst noted fifty years ago, “depends on the subject’s access to his own file and his awareness of the need to inspect it. Even when a record is freely accessible to its subject, there is no assurance that the subject will know of its existence or its contents.”²⁷⁶ Establishing that error is “recurring or systemic”—a standard that has gone undefined²⁷⁷—poses very substantial challenges of its own. As Professor Erin Murphy recently observed:

[T]he faulty products of a database can go entirely unnoticed under current doctrine even when they are common and recurring. Consider the debate in *Herring* itself: the majority demanded evidence that the database routinely produced bad information, refusing to consider the absence of quality control mechanisms itself a sufficient “harm.” Yet a database that generates bad information—say, that falsely reports arrest warrants—may produce many arrests, but little record of those arrests. Unless the arrested person sues civilly, or is found in violation of contraband (as in the case of *Herring*), no formal record of the error may be made.²⁷⁸

Justice Sotomayor, dissenting this past term in *Utah v. Strieff*,²⁷⁹ echoed this concern. In *Strieff*, the Court held that even though an initial seizure of a defendant was unlawful the arresting officer’s discovery of a “small traffic warrant” in a database served to “attenuate” the connection between the initial unlawful seizure and the evidence secured as a result of the ar-

ing “to the common law guide that the party in the best position to present the requisite evidence should bear the burden of proof”).

274. See *supra* notes 230–37 and accompanying text.

275. See Solove, *supra* note 180, at 1035 (“The general progression from information collection to processing to dissemination is the data moving further away from the individual’s control.”).

276. Kenneth L. Karst, “*The Files*”: *Legal Controls over the Accuracy and Accessibility of Stored Personal Data*, 31 L. & CONTEMP. PROBS. 342, 358 (1966); cf. *United States v. Brown*, 832 F.2d 991, 997 (7th Cir. 1987) (acknowledging that it is “difficult for a litigant to establish” that a magistrate has functioned as a “rubber stamp” in issuing search warrants).

277. See, e.g., *McCain v. State*, 4 A.3d 53, 65 (Md. App. 2010) (barring relief because officers’ detection of database error “[m]aybe once out of the month” did not qualify as “systemic negligence” necessary to trigger imposition of the exclusionary rule); see also LAFAYETTE, *supra* note 249 (criticizing the lack of clarity in defining “systemic negligence”).

278. Erin Murphy, *Databases, Doctrine & Constitutional Criminal Procedure*, 37 FORDHAM URB. L.J. 803, 823 (2010).

279. 136 S. Ct. 2056 (2016).

rest.²⁸⁰ In response to the majority's contention that the officer did not engage in a "dragnet search" or "part of any systemic or recurrent police misconduct," and that the illegal stop and database search was an "isolated instance of negligence,"²⁸¹ Justice Sotomayor wrote that the majority did "not suggest what makes this case 'isolated.' . . . Nor d[id] it offer guidance for how a defendant can prove that his arrest was the result of 'widespread' misconduct. Surely it should not take a federal investigation of Salt Lake County before the Court would protect someone in Strieff's position."²⁸²

In the litigation context, procedural obstacles can also limit the ability of individuals to gain access to evidence. Courts, for instance, typically require that a defendant seeking an evidentiary hearing must make a "colorable claim,"²⁸³ which lies only when "the moving papers are sufficiently definite, specific, detailed, and nonconjectural to enable the court to conclude that contested issues of fact . . . are in question."²⁸⁴ Likewise, given the meager opportunity for expert assistance and for discovery in criminal cases more generally, little room exists to hire forensic computer experts to examine database error,²⁸⁵ making even the theoretic availability of a claim in Justice Ginsburg's words "an empty promise."²⁸⁶ Finally, as experience has shown in the context of individuals eligible for expungement of DNA

280. *Id.* at 2064.

281. *Id.* at 2058, 2063–64.

282. *Id.* at 2068; *cf.* Ferguson, *supra* note 245 (discussing the need for trial lawyers to memorialize in trial records information regarding systemic or recurrent constitutional violations).

283. *See, e.g.*, United States v. Brink, 39 F.3d 419, 424 (3d Cir. 1994).

284. United States v. Watson, 404 F.3d 163, 167 (2d Cir. 2005) (quoting United States v. Licavoli, 604 F.2d 613, 621 (9th Cir. 1979)); *cf.* United States v. Armstrong, 517 U.S. 456, 458 (1996) (denying defendant's discovery request in selective prosecution claim because he "failed to show that the Government declined to prosecute similarly situated suspects of other races").

285. *See, e.g.*, Murphy, *supra* note 278, at 283 ("It is not as though there are procedures in the criminal justice system for a defendant to implead Applied Biosystems in order to gain access to primer sequences used for forensic DNA typing—the only option is an awkward fumble with the jurisdiction's rules of discovery. And given the Sixth Amendment's parsimonious view of criminal discovery, there is no guarantee that those rules will suffice." (citation omitted)).

286. Herring v. United States, 555 U.S. 135, 157 (2009) (Ginsburg, J., dissenting) ("[E]ven when deliberate or reckless conduct is afoot, the Court's assurance will often be an empty promise: How is an impecunious defendant to make the required showing?").

profiles wrongly retained by governments,²⁸⁷ and the paucity of requests to correct erroneous records,²⁸⁸ individuals do not act, whether for resource, time, or expertise reasons.²⁸⁹ And, even when this is not the case, an individual can be barred from assessing the accuracy of a database, such as with gang database information that is deemed “confidential.”²⁹⁰

Technology also provides a significant practical barrier to remedy error. Data is often shared, replicated, backed up and stored in many different databases at once. Even if a data error is corrected, this does not guarantee that other shared datasets will reflect the change. Especially as federal and state law enforcement continues to share real time information on many thousands of individuals, catching all of the errors will be difficult.²⁹¹ Furthermore, many data corrections do not simply delete information but merely overwrite it. So, if a warrant is erroneously issued for John Fox Smith, when the warrant should read John Hare Smith, the court can quash the erroneously issued warrant. But, under John Fox Smith’s digital record there will also likely be a quashed warrant.²⁹² While this erroneous digital record is less damaging than an active—yet invalid—warrant, the fact that John Fox Smith is in the system with a past warrant might impact how police treat him. If a private company publicizes individuals with active warrants and posts

287. See Wayne A. Logan, *Government Retention and Use of Unlawfully Secured DNA Evidence*, 48 TEX. TECH. L. REV. 269 (2015).

288. U.S. DEP’T. OF JUST., OFFICE OF LEGISLATIVE AFFAIRS, RESPONSES OF THE FEDERAL BUREAU OF INVESTIGATION TO QUESTIONS FOR THE RECORD ARISING FROM THE MARCH 30, 2011 HEARING BEFORE THE SENATE COMMITTEE ON THE JUDICIARY REGARDING FBI OVERSIGHT 9–10 (Dec. 6, 2011) (noting that in 2010 just over a thousand requests were made).

289. See Elizabeth E. Joh, *The Myth of Arrestee DNA Expungement*, 164 U. PA. L. REV. ONLINE 51 (2015), http://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=1157&context=penn_law_review_online; cf. JACOBS, *supra* note 16, at 140–41 (noting that “rap sheet” errors “can be corrected if the record-subject finds out about errors and has sufficient persistence and competence to pursue the remedial process, but those are big ifs”).

290. CMTY. JUSTICE PROJECT, UNIV. OF ST. THOMAS SCH. OF LAW, EVALUATION OF GANG DATABASES IN MINNESOTA & RECOMMENDATIONS FOR CHANGE 5 (2009).

291. On this difficulty more generally, vis-à-vis massive government databases, see Derek E. Bambauer, *Ghost in the Network*, 162 U. PA. L. REV. 1011, 1047 (2014).

292. Sadiq Reza, *Privacy and the Criminal Arrestee or Suspect: In Search of a Right, in Need of a Rule*, 64 MD. L. REV. 755, 802 (2005).

John Fox Smith's information on the Internet, the official correction will do little to salvage his reputation.²⁹³

Then there is the plight of South Carolina resident Kendra Speed. Speed, a registered nurse who had never been convicted of a crime, learned that she had been branded as a prostitute by California authorities, a fact that came to light after she was fired from a job as the result of a background check.²⁹⁴ The mistake stemmed from a data entry error when a woman with the same first and last name was arrested and failed to appear in court. After trying unsuccessfully to rectify matters long distance, Speed was forced to fly to southern California. A local judge immediately withdrew the warrant and issued another warrant for the actual prostitution arrestee, who had a different birth year and a distinctly different middle name. Contemplating legal action against the Riverside County District Attorney's office, Speed was told that prosecutorial immunity would likely preclude suit.²⁹⁵ And, it usually does.²⁹⁶

Finally, research has shown that even when successful, individual lawsuits typically have little tangible value in redressing misconduct by criminal justice system actors²⁹⁷ or the sys-

293. See, e.g., James Jacobs & Tamara Crepet, *The Expanding Scope, Use, and Availability of Criminal Records*, 11 N.Y.U. J. LEGIS. & PUB. POL'Y 177, 207 (2008); Meg Leta Ambrose et al., *Seeking Digital Redemption: The Future of Forgiveness in the Internet Age*, 29 SANTA CLARA COMPUT. & HIGH TECH. L.J. 99, 116 (2012); Jon Geffen & Stefanie Letze, *Chained to the Past: An Overview of Criminal Expungement Law in Minnesota—State v. Schultz*, 31 WM. MITCHELL L. REV. 1331, 1342 (2005).

294. Brett Kelman, *Falsely Branded a Prostitute, Woman Had To Fix It Herself*, USA TODAY (Nov. 16, 2015), <http://www.usatoday.com/story/news/nation-now/2015/11/16/prostitution-charge-clerical-error/75889020>.

295. *Id.*

296. See generally Margaret Z. Johns, *Unsupportable and Unjustified: A Critique of Absolute Prosecutorial Immunity*, 80 FORDHAM L. REV. 509, 510 (2011) (“[P]rosecutorial misconduct is a significant problem; it leads to a substantial number of wrongful convictions; and our system lacks effective mechanisms to deter or remedy prosecutorial misconduct.”).

297. See David Jacks Achtenberg, *Taking History Seriously: Municipal Liability Under 42 U.S.C. § 1983 and the Debate over Respondeat Superior*, 73 FORDHAM L. REV. 2183 (2005) (describing a variety of obstacles precluding municipal liability); Joanna C. Schwartz, *Who Can Police the Police?* 16 (Jan. 6 2016) (unpublished manuscript), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2711980 (noting obstacles, including low likelihood of counsel to bring cases in the absence of significant monetary awards, that combine to limit liability even when proof of wrongdoing is strong); see also *id.* at 18 (“[E]ven when a civil rights plaintiff prevails in a damages action, that success will create minimal leverage [for reform] because damages awarded very rarely have any financial impact on officers or the departments that employ

tem as a whole.²⁹⁸ Litigation in criminal justice, moreover, is well known to be under-inclusive. As Professor Erin Murphy has observed:

[A] database that generates bad information—say, that falsely reports arrest warrants—may produce many arrests, but little record of those arrests. Unless the arrested person sues civilly, or is found in violation of contraband (as in the case of *Herring*), no formal record of the error may be made. And even if formal suits are filed, it may be difficult to link them to one another as the product of a faulty database. The only proof of the reliability of the database in *Herring* itself were the statements of its keepers—hardly disinterested parties—and yet, even those were contested factually.²⁹⁹

In other instances, the causal link between data error and individual harm suffered will remain invisible, such as when an in-

them.”); cf. Joanna C. Schwartz, *Myths and Mechanics of Deterrence: The Role of Lawsuits in Law Enforcement Decisionmaking*, 57 UCLA L. REV. 1023, 1079–80 (2010) (citing studies showing that law enforcement is often left uninformed about court decisions to suppress evidence or dismiss cases as a result of unconstitutional behavior).

Even if an individual can sue there is no guarantee that the agency that can correct the error will do so, or that the error, if removed, has been completely eradicated. In Minnesota, for instance, a woman sued the State Bureau of Criminal Apprehension (BCA) for failing to remove her name from a conviction record that resulted from an identity theft when another woman used her name as an alias when convicted. Hannah Allam, *St. Paul Victim of ID Theft Sues BCA*, SAINT PAUL PIONEER PRESS, Mar. 23, 2002, at 1B. The BCA confirmed the mistake but refused to remove the information from its database, asserting that it needed to keep the information on file in the event the thief attempted to use the alias again. *Id.* The BCA agreed to provide the plaintiff a letter that she could present to potential landlords or employers stating the no convictions could be found based on a search of her name, date or birth, and fingerprints. *Id.*

298. See generally Myriam E. Gilles, *Reinventing Structural Reform Litigation: Deputizing Private Citizens in the Enforcement of Civil Rights*, 100 COLUM. L. REV. 1384 (2000). Perversely, in turn, without major litigation payouts, the salutary role at times played by private insurance providers in hastening policy changes is absent. See John Rappaport, *How Private Insurers Regulate Public Police* (Feb. 15, 2016) (unpublished manuscript), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2733783.

299. Murphy, *supra* note 278, at 823; see also Joanna C. Schwartz, *What Police Learn from Lawsuits*, 33 CARDOZO L. REV. 841, 863 (2012) (citing evidence showing that individuals believing they have been illegally searched or seized by police bring suit only roughly one percent of the time and providing possible explanations for low filing rate). Also, without even the threat of litigated liability, there is a lack of pressure for reform from public entity liability insurers, who are instrumental in motivating criminal justice actors to change their way of doing things. See Joanna C. Schwartz, *How Governments Pay: Lawsuits, Budgets, and Police Reform*, 63 UCLA L. REV. 1144 (2016); see also *id.* at 1203 (noting that most large, self-insured jurisdictions pay settlements and judgments with no financial consequences for law enforcement agencies that engaged in wrongdoing).

accurate criminal history record results in an individual not even being interviewed for a possible job.³⁰⁰ The next Part makes the case for how broader structural and institutional improvements, combined with increased opportunity for legislative redress, can help better ensure data quality.

III. ENHANCING DATA QUALITY AND ENDING DATA IMPUNITY

The varied forms of database error that can arise in the nation's sprawling criminal justice system preclude any one-fit solution. What is needed, and what this Part seeks to do, is the development of a systematic approach to ensuring criminal justice data quality and management, dedicated to identifying and correcting errors *ex ante*, complemented by legal opportunity for redress when data error harms come to fruition.

A. GOVERNMENT EFFORTS TO ENHANCE DATA QUALITY

We begin with an overview of government efforts to promote data quality control and accountability, which have mainly emanated from federal initiatives dating back to the early 1970s. We then turn to a review of current criminal justice data quality control mechanisms among states, and, finding them wanting, propose new ways to improve data quality and accountability.

1. Federal Efforts

Federal awareness of the need to improve the quality of state and local criminal justice data dates back to the early 1970s, a time when courts³⁰¹ and policy makers alike evinced concern over data errors and government responsibility for them.³⁰² In 1973, as part of an amendment to the Omnibus

300. NEIGHLY & EMSELLEM, *supra* note 11, at 9–11.

301. *See supra* notes 182–201 and accompanying text.

302. As a deputy director of the Department of Justice's Law Enforcement and the Administration of Justice stated in testimony before Congress: "It is necessary that all criminal justice agencies, including courts and corrections, assume responsibility for completeness and accuracy of criminal offender record information. . . . [Complete and accurate records are] essential, not only to protect individual rights, but also as a tool of criminal justice planning, management, and evaluation." *Criminal Justice Data Banks—1974, Hearings Before the Subcomm. on Constitutional Rights on S.2542, S.2810, S.2963, S.2964, 93d Cong. 293, 296–97 (1974)* (testimony of Richard W. Velde, Deputy Administrator for Policy Development Law Enforcement Assistance Administration).

Crime Control and Safe Streets Act of 1968,³⁰³ Congress mandated that all federally funded state and local criminal records repositories maintain records that are complete and accurate, but failed to specify data quality standards. Three years later, the Department of Justice's Law Enforcement Assistance Administration (LEAA) issued regulations providing more specific guidance on operational procedures,³⁰⁴ which have been added to over the years.

The current version of the Code of Federal Regulations provides that "[i]t is the purpose of these regulations to assure that criminal history record information wherever it appears is collected, stored, and disseminated in a manner to ensure the accuracy, completeness, currency, integrity, and security of such information and to protect individual privacy."³⁰⁵ With regard to completeness, records must contain information on any disposition within ninety days after the disposition has occurred,³⁰⁶ and agencies must query the state central repository prior to disseminating any criminal history record information to help ensure that the agency has the most recent data available.³⁰⁷ With respect to accuracy,

criminal justice agencies shall institute a process of data collection, entry, storage, and systematic audit that will minimize the possibility of recording and storing inaccurate information and upon finding inaccurate information of a material nature, shall notify all criminal justice agencies known to have received such information.³⁰⁸

Audits are to be conducted on an annual basis, focusing on a "representative sample of State and local criminal justice agencies chosen on a random basis" to verify adherence to regulation requirements.³⁰⁹ Finally, federal regulations require that states provide individuals the right to access and review for accuracy and completeness their criminal history records, and be afforded an opportunity to make corrections.³¹⁰

303. 42 U.S.C. § 3789g(b) (1973) (codified as amended by Crime Control Act of 1973, Pub. L. No. 93-83, § 524(b), 87 Stat. 197).

304. 28 C.F.R. §§ 20.20–25 (1977).

305. 28 C.F.R. § 20.1 (2015).

306. *Id.* § 20.21(a)(1).

307. *Id.* The regulations provide for two exceptions where the requirement is dispensed with: when the agency is sure that the criminal history is the most recent available or when time is of the essence and when the repository is incapable of responding within the necessary time period. *Id.*

308. *Id.* § 20.21(a)(2).

309. *Id.* § 20.21(e).

310. *Id.* § 20.21(g).

Federal laws and regulations also impose standards on states participating in the Interstate Identification Index, a national fingerprint-based criminal records system operated by the FBI that indexes individuals arrested for felonies or misdemeanors.³¹¹ Today, all states participate in the system by contributing their records, affording them critically important access to criminal records nationwide.³¹² The Code of Federal Regulations provides that “[i]t shall be the responsibility of each criminal justice agency contributing data . . . to assure that information on individuals is kept complete, accurate, and current so that all such records shall contain to the maximum extent feasible dispositions for all arrest data included therein.”³¹³

Federal law also prescribes standards for state operation of a federally funded “criminal intelligence system,” used by states in monitoring individuals they believe to have a “reasonable possibility” will engage in organized criminal activity.³¹⁴ States must:

[A]dopt procedures to assure that all information which is retained by a project has relevancy and importance. Such procedures shall provide for the periodic review of information and the destruction of any information which is misleading, obsolete or otherwise unreliable and shall require that any recipient agencies be advised of such changes which involve errors or corrections. . . . Information retained in the system must be reviewed and validated for continuing compliance with system submission criteria before the expiration of its retention period, which in no event shall be longer than five (5) years.³¹⁵

Over time, the federal government has also been notably generous in the funding that it has provided states to create and operate their databases. The Department of Justice, through the Bureau of Justice Statistics (BJS), Bureau of Justice Assistance (BJA), and the Office of Justice Programs (OJP), have dispensed millions of dollars in grants to state and local agencies to improve criminal justice system data quality. The National Criminal History Improvement Program, initiated by BJS in 1995, is tasked with helping states “improve the quality, timeliness, and immediate accessibility of criminal history records and related information.”³¹⁶ From 1995 to 2015 the Pro-

311. *See id.* § 30.

312. ATTORNEY GENERAL’S REPORT, *supra* note 154, at 15.

313. 28 C.F.R. § 20.37 (2015).

314. *See supra* notes 81–84 and accompanying text.

315. 28 C.F.R. § 23.20(h).

316. *National Criminal History Improvement Program*, U.S. BUREAU OF

gram allocated approximately \$633 million in awards to state and local governments to this end.³¹⁷ The NICS Improvement Amendments Act of 2007 authorized additional state grants for states and Indian tribes to “supply accurate and timely information to the Attorney General concerning final dispositions of criminal records to databases accessed by NICS.”³¹⁸ Funds also flow to states under the auspices of the Edward Byrne Law Enforcement Program, a main federal criminal justice funding source for states, which provides that grants may be used for “information systems for criminal justice.”³¹⁹

From the outset, federal largesse has not been unconditional; it has hinged on states satisfying federal requirements. For instance, federal law provides that any state failing to satisfy regulations regarding criminal history records is subject to civil penalty (albeit only \$11,000) and the federal government “may initiate fund cut-off procedures against recipients of [federal] assistance.”³²⁰ Federal regulations governing the Interstate Identification Index, the national fingerprint-based index of criminal records, provide that a state’s access to the system “is subject to cancellation” for failure to uphold its responsibility to “assure that information on individuals is kept complete, accurate, and current.”³²¹ Finally, continued funding for and state participation in the National Crime Information Center (NCIC) is conditioned on states satisfying the many federally prescribed data quality guidelines and requirements.³²² With

JUST. STAT. (Sept. 17, 2016), <http://www.bjs.gov/index.cfm?ty=tp&tid=47>.

317. *Id.*

318. 18 U.S.C. § 922 (2015).

319. Pub. L. No. 109–162, s. 1111, 119 Stat. 3094 (codified at 42 U.S.C. § 3751). Between 1990 and 2005, federal law mandated that five percent of the Byrne Act funds received by states be dedicated to improvement of their criminal records systems. The mandate was discontinued in 2005. *Id.*

320. 28 C.F.R. § 20.25. In addition, grant application instructions for the National Criminal History Improvement Program provide that:

Applicants are strongly encouraged to develop or update long-range record improvement plans to assess quality and completeness issues and identify gaps in record reporting and availability with the goal of developing strategies to significantly reduce or eliminate these gaps. Such plans should include ongoing research, analysis, data quality auditing, or similar work that can set quantifiable improvement goals and monitor performance achievement.

BUREAU OF JUSTICE STATISTICS, U.S. DEPT. OF JUSTICE, 2016 NATIONAL CRIMINAL HISTORY IMPROVEMENT PROGRAM (Apr. 2016), <http://www.bjs.gov/content/pub/pdf/nchip16sol.pdf>.

321. 28 C.F.R. §§ 20.37–38 (2015).

322. *See id.* §§ 20.20, .21, .25; *see also* FBI, U.S. DEPT OF JUSTICE, NCIC

DNA, the federal government makes state participation in the National DNA Index System (part of CODIS) contingent upon satisfaction of federally prescribed quality assurance standards (demonstrated by audits), and other requirements.³²³

2. State Efforts

As a result of federal prodding, by 1984 all states had laws in place regarding criminal justice record data quality control,³²⁴ which have been augmented over the years.³²⁵ The practical effect of these provisions, however, remains very much in question. While it is fair to say, as a recent report by the U.S. Government Accountability Office asserts, that states have shown “progress,”³²⁶ especially with respect to automation,³²⁷ data quality remains a major problem.³²⁸ State audit practices have been and remain deficient.³²⁹ Today, only thirty-seven states even nominally require them,³³⁰ and the rigor and scope of audits varies considerably.³³¹ Moreover, only thirty-nine

OPERATING MANUAL (rev. 2000) (on file with authors); NAT'L CRIME INFO. CTR., FBI, U.S. DEP'T OF JUSTICE, USER AGREEMENT (2000) (on file with authors).

323. See *Frequently Asked Questions on CODIS and NDIS*, FED. BUREAU OF INVESTIGATION [hereinafter *FAQs on CODIS and NDIS*] <https://www.fbi.gov/services/laboratory/biometric-analysis/codis/codis-and-ndis-fact-sheet> (last visited Nov. 2, 2016).

324. B.J.S., DATA QUALITY OF CRIMINAL JUSTICE RECORDS, *supra* note 6, at 35.

325. See U.S. BUREAU OF JUSTICE STATISTICS, COMPENDIUM OF STATE PRIVACY AND SECURITY LEGISLATION: 2002 OVERVIEW (2003) [hereinafter B.J.S., COMPENDIUM] (surveying state laws).

326. U.S. GOV'T ACCOUNTABILITY OFFICE, NATIONAL CRIMINAL HISTORY IMPROVEMENT PROGRAM: FEDERAL GRANTS HAVE CONTRIBUTED TO PROGRESS 3 (2004).

327. *Id.*

328. See *supra* notes 103–29 and accompanying text.

329. See Doernberg & Zeigler, *supra* note 6, at 1152 n.226 (“Although states receiving federal funds are now required to conduct audits annually. . . . [I]t appears that this requirement is honored in the breach . . .”). In 2001, twenty-three state criminal history repository directors reported that their databases had not been audited for completeness in the prior five years. Over half reported that they had not planned or scheduled a data quality audit to occur within the next three years. Overall, twenty-four states did not plan to do an audit within the three-year time frame. Of the twenty-seven states with completed audits after 1995, changes were made to improve data quality as a result of twenty-two of the audits. B.J.S., IMPROVING ACCESS, *supra* note 6, at 13.

330. B.J.S., COMPENDIUM, *supra* note 325, at 7.

331. *Id.*

states have laws designed to address disposition reporting to their state records repository³³² and only twenty-eight states had taken steps to create a standardized “rap” sheet that complies with federal recommendations.³³³

The stubborn reality remains that states lack incentive to self-police and, in the absence of pressure from the federal government, they will not take steps to do their utmost to ensure data quality. As one government report put it over thirty years ago: “States must be committed to put into place—and practice—procedures to collect and maintain complete and accurate data, and to scrupulously and regularly conduct systematic audits to ensure compliance with those procedures.”³³⁴ The next section charts a way forward toward achieving these goals.

B. TOWARD DATA QUALITY AND ACCOUNTABILITY

1. Federal Enforcement of Data Quality Standards

The first step toward data quality and accountability is to recognize that the status quo in place since the mid-1970s, marked by generalized aspirational standards, lax institutional controls, and poor or non-existent accountability, must change. To date, there has been no shortage of federal studies chronicling state data quality deficiencies and procedural shortcomings,³³⁵ nor has there been a lack of well-intentioned federal support.³³⁶

332. U.S. BUREAU OF JUSTICE STATISTICS, SURVEY OF STATE CRIMINAL HISTORY INFORMATION SYSTEMS, at 6 (2014).

333. *Id.* at 7.

334. B.J.S., COMPENDIUM, *supra* note 325, at 8–9; *see also* B.J.S., DATA QUALITY OF CRIMINAL JUSTICE RECORDS, *supra* note 6, at 60 (“Roundtable participants felt that many agencies have not made an adequate commitment to data quality and that national efforts to highlight and prioritize data quality concerns were perhaps the most effective way to encourage agency commitment to the effort.”).

335. *See, e.g.*, B.J.S., IMPROVING ACCESS, *supra* note 6; NAT’L CONSORTIUM FOR JUSTICE INFO. AND STATISTICS, REPORT OF THE NATIONAL TASKFORCE ON THE CRIMINAL BACKGROUNDING OF AMERICA (2005); U.S. GOV’T ACCOUNTABILITY OFFICE, GAO 08-898R, BUREAU OF JUSTICE STATISTICS FUNDING TO STATES TO IMPROVE CRIMINAL RECORDS (2008); U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-15-162, REPORT TO CONGRESSIONAL REQUESTERS: CRIMINAL HISTORY RECORDS: ADDITIONAL ACTIONS COULD ENHANCE THE COMPLETENESS OF RECORDS USED FOR EMPLOYMENT-RELATED BACKGROUND CHECKS 39 (2015) [hereinafter REPORT TO CONGRESSIONAL REQUESTERS].

336. *See supra* notes 303–23 and accompanying text.

What has been lacking is federal resolve to police the states. Since the early 1990s, for instance, states have been allotted multiple millions of dollars to create and operate sex offender registration and community notification systems, yet to date it does not appear that the federal government has ever sanctioned a state for the acknowledged inaccuracies in registries. A similar story can be told with gang databases that operate with known errors and without significant accountability,³³⁷ and state participation in the FBI-operated DNA profile database (NDIS).³³⁸ So too with the National Crime Information Center (NCIC), despite states and localities expressly agreeing to satisfy data quality requirements also based on “User Agreements” executed with the FBI,³³⁹ there has been no effort to enforce this mandate.³⁴⁰

To end data impunity, federal enforcement mechanisms must be actually enforced; state data quality can no longer be a funded but unenforced federal mandate.³⁴¹ Reason to think that such a change in federal resolve is perhaps at hand is found in a highly critical report issued by the U.S. Attorney General, which concluded that, after some thirty years of federal regulatory effort and funding, “the federal commitment to improving

337. See *supra* notes 121–22 and accompanying text.

338. See *supra* notes 103–06 and accompanying text.

339. See, e.g., S.C. LAW ENF. DIV. CRIMINAL JUSTICE INFO. SYS. (CJIS), User Agreement and System Responsibilities (Mar. 5, 2008) (on file with authors).

340. Further evidence of weak federal resolve is found in the scenario played out with the FBI’s Advisory Policy Board, which includes representatives from federal, state, and local criminal justice agencies. The Board created a Disposition Task Force in 2009 to address ways to address continued problems with missing disposition information among other issues. The task force, however, “has not issued best practices or national standards for collecting and reporting disposition information or developed a national strategy for improving the quality of disposition reporting, as intended. Establishing a plan with time frames and milestones could help the task force achieve its remaining goals and help improve disposition reporting.” REPORT TO CONGRESSIONAL REQUESTERS, *supra* note 335.

341. For discussion of lax federal monitoring of the Office of Justice Programs grantee compliance more generally see, for example, U.S. GOV’T ACCOUNTABILITY OFFICE, OFFICE OF JUSTICE PROGRAMS: PROBLEMS WITH GRANT MONITORING AND CONCERNS ABOUT EVALUATION STUDIES (2002) (statement of Laurie E. Ekstrand, Director, Justice Issues). See also Rachel A. Harmon, *Federal Programs and the Real Costs of Policing*, 90 N.Y.U. L. REV. 870, 889–90 (2015) (citing studies addressing monitoring and assessment inadequacies in federal initiatives directing criminal justice funds to states).

[state] record systems now needs to be rethought and reinvigorated.³⁴² In particular:

[T]o achieve uniformity in improvements across the nation, we believe that it is time to rethink [the] approach of allowing states to spend the money as they think necessary within broadly defined program goals. We believe that federal funds should now be more directly targeted at reaching specific goals for uniform record completeness and accuracy nation wide.³⁴³

To that end, the report offered eight recommendations, including the establishment of a “national accreditation process for criminal history record repositories, much the same way that crime laboratories are accredited, to better ensure data quality by measuring repository performance.”³⁴⁴ With national accreditation standards, satisfied within prescribed timelines, no longer would record quality standards be voluntary, resulting in overall increase in quality and uniformity.³⁴⁵

This more exacting federal role could make use of already existing data quality control measures. One tool could be the Records Quality Index, created by the Bureau of Justice Statistics to enable the Bureau to assess the quality of state records and identify areas of particular deficiency,³⁴⁶ created for use in NCHIP funding decisions but never deployed.³⁴⁷ “Similar to how

342. ATTORNEY GENERAL’S REPORT, *supra* note 154, at 126; *see also id.* (“Much more needs to be done to achieve uniformity in the improvement of record quality and completeness . . .”).

343. *Id.*

344. *Id.* at 131.

345. ATTORNEY GENERAL’S REPORT, *supra* note 154, at 131.

346. U.S. BUREAU OF JUSTICE STATISTICS, IMPROVING CRIMINAL HISTORY RECORDS FOR BACKGROUND CHECKS, 2005 at 6 (2006) [hereinafter B.J.S., IMPROVING CRIMINAL HISTORY RECORDS FOR BACKGROUND CHECKS].

347. As noted in one Bureau of Justice Statistics report:

A State’s RQI can be compared to the RQI of other States to determine the relative strength of the State’s criminal history record system. The RQI will also allow for more specific analysis, permitting BJS to track the progress of a State by the score received on each of its performance measures. The overall RQI a State receives can be compared to a national average to express whether the overall efficiency of the State’s criminal history record system meets, exceeds, or is below the impartial summary of all States. After complete data are received, the RQI will become an invaluable tool for identifying the strengths and weaknesses of each State’s criminal history record system. Using RQI information, NCHIP will target funds to activities that will most significantly improve a State’s RQI, thereby improving national background check systems more directly and quickly.

B.J.S., IMPROVING ACCESS, *supra* note 6, at 16. For more on the RQI, see JAMES M. TIEN ET AL., MEASURING THE PERFORMANCE OF CRIMINAL HISTORY RECORDS SYSTEMS: THE RECORDS QUALITY INDEX (2005).

the Dow Jones Industrial Average may be used to gauge the performance of the overall stock market, the [Index] . . . characterizes the performance of the States' criminal history record systems toward achieving the goals of the Federal records improvement programs."³⁴⁸

Audits can and should play a key role in this effort. Auditing, as a recent BJS report recognized, "is generally viewed as one of the most effective data quality procedures."³⁴⁹ In the private sector, large and small companies regularly conduct audits of their operations for data quality control purposes. In the health care records context, for instance, insurers conduct data audits to detect fraud, focusing on: (1) data completeness; (2) data accuracy; (3) inconsistencies in data records; (4) implausibility in light of other data; and (5) data currency.³⁵⁰ Each of the contexts surveyed earlier are amenable to and would benefit from audits.³⁵¹ Audits should be conducted as often as possible, but at least once a year. For guidance, states can look to procedures contained in a recently issued federal government report detailing comprehensive audit procedures for states to employ in auditing their federally funded "criminal intelligence systems."³⁵²

Institutionalizing effective audit procedures will not only promote government accountability and help avoid the negative

348. B.J.S., IMPROVING CRIMINAL HISTORY RECORDS FOR BACKGROUND CHECKS, *supra* note 346.

349. B.J.S., COMPENDIUM, *supra* note 325, at 7; *cf.* Mariano-Florentino Cuellar, *Auditing Executive Discretion*, 82 NOTRE DAME L. REV. 227, 231–40 (2006) (advocating audits of agency discretionary decisions to see how well they adhere to decision-making norms); Peter M. Shane, *The Bureaucratic Due Process of Government Watch Lists*, 75 GEO. WASH. L. REV. 804, 829 (2007) ("Effective internal quality control requires regular sampling of records, presumably on a random basis, to determine whether information is accurately recorded, whether the information is properly linked to the appropriate government response (e.g., visa denial, intensified airport inspection, etc.), whether information about individuals is consistent where it appears in multiple databases, and whether inclusion of each record is consistent with the governing standards and required decision procedures.").

350. Nicole Gray Weiskopf & Chunhua Weng, *Methods and Dimensions of Electronic Health Record Data Quality Assessment: Enabling Reuse for Clinical Research*, 20 J. AM. MED. INFORMATICS ASS'N 144, 145 (2013).

351. With arrest warrant databases, for instance, a simple algorithm could be devised to highlight individuals with the same or similar first and last names that can create record confusion. *See* YU & DIETRICH, *supra* note 124, at 19.

352. U.S. BUREAU OF JUSTICE ASSISTANCE, PRIVACY, CIVIL RIGHTS, AND CIVIL LIBERTIES: AUDIT GUIDANCE FOR THE STATE, LOCAL, TRIBAL, AND TERRITORIAL INTELLIGENCE COMPONENT (2015).

consequences resulting from data error.³⁵³ Audits will also help smoke out errors *ex ante* and avoid the harms caused when they go undetected (e.g., those adversely affecting employment, housing opportunities).³⁵⁴ At least as important, with reliable audit data, individuals who are the victim of data error will have a more realistic chance of showing “systemic” database deficiency sufficient to put government actors on notice.³⁵⁵ Ultimately, with effective regular audits, we hopefully will not see a repeat of the facts in *Herring* where the local county clerk variously testified that “several times” there had been problems with invalid arrest warrants and later stated that there had been no problems,³⁵⁶ yet the State of Alabama, even with an audit mechanism in place, reported a thirteen percent error rate in its databases.³⁵⁷

The federal government must also do a better job of enforcing particular data quality requirements that now exist. With DNA databases, for instance, federal regulations require that if states are to remain entitled to access DNA profiles stored in CODIS,³⁵⁸ which has become a critically important database resource for law enforcement that all states avail themselves of, they must permit expungement if a donor’s conviction is overturned or charges are dismissed and satisfy data quality protocols and requirements.³⁵⁹ However, a review of state laws on expungement makes clear that this requirement is too often honored in the breach, without any apparent impairment of their continued participation.³⁶⁰ Moreover, the FBI, which is charged with the responsibility of conducting spot audits to ensure data quality and compliance with federal procedures, has audited only a handful of the over 190 state and local entities providing uploaded DNA profiles; even so, the effort has revealed an average error rate of six percent of entries, which has to date failed to spur meaningful corrective action.³⁶¹

353. See *supra* notes 130–81 and accompanying text.

354. See *supra* note 276 and accompanying text.

355. See *supra* notes 277–79 and accompanying text.

356. *Herring v. United States*, 555 U.S. 135, 147 n.5 (2009).

357. *Id.* at 154.

358. See 42 U.S.C. § 14132(c) (2012) (“Access to the index . . . is subject to cancellation if the quality control and privacy requirements . . . are not met.”).

359. See *FAQs on CODIS and NDIS*, *supra* note 323.

360. Logan, *supra* note 287, at 282.

361. See MURPHY, *supra* note 278, at 139–41. Professor Murphy notes that because states can be denied the right to participate in and have access to DNA profile data in CODIS, the federal government can use “an incredible

Getting the federal government to act thus remains key. As it happens, a model exists that affords reason to think that a change can come about in this regard. Just as the federal government has for decades relied upon states for criminal justice data, and funded their efforts ostensibly subject to regulatory oversight, it has asked states to implement federal environmental laws and provide enforcement data, and allocated funds conditioned on satisfaction of federal requirements.³⁶² The Environmental Protection Agency, like the Department of Justice vis-à-vis its oversight of criminal justice data,³⁶³ has express authority to withdraw state delegated authority, in instances of deficient state performance. Withdrawal can result either by EPA initiative or a petition by citizens or other interested parties.³⁶⁴

To date, the “nuclear option” of federal termination of state involvement has yet to actually occur.³⁶⁵ Even so, as Professors Hammond and Markell note in a recent article, the regulatory structure in place has often resulted in constructive improvements in state performance.³⁶⁶ While the EPA has very rarely initiated a withdrawal proceeding on its own,³⁶⁷ it has on occasion threatened withdrawal.³⁶⁸ Petitions by outsiders, however, have been filed with some frequency, and resulted in the EPA working with states to address deficiencies in their administration of environmental programs.³⁶⁹

In the environmental context, the threat of total withdrawal has been and remains, not especially credible. As Pro-

stick—or offer[] a juicy carrot—to nudge laboratory compliance in a particular direction.” *Id.* at 284.

362. See generally CLIFFORD RECHTSCHAFFEN & DAVID L. MARKELL, REINVENTING ENVIRONMENTAL ENFORCEMENT & THE STATE/FEDERAL RELATIONSHIP 15–16 (2003) (noting inter alia the Clean Air Act, the Clean Water Act, and the Resource Conservation and Recovery Act).

363. See *supra* notes 303–23 and accompanying text.

364. See, e.g., 40 C.F.R. §§ 145.34(b), 271.23, 123.64 (2014) (specifying withdrawal for CWA).

365. See Emily Hammond & David L. Markell, *Administrative Proxies for Judicial Review: Building Legitimacy from the Inside-Out*, 37 HARV. ENVTL. L. REV. 313, 350–51 (2013).

366. *Id.* at 350–53.

367. *Id.* at 341.

368. *Id.* at 332 n.112.

369. *Id.* at 336–37, 351–53; see also *id.* at 353 (“[O]ur results as to substantive outcomes overall are remarkable because they run counter to the typical account of the potential for withdrawal, which dismisses it as meaningless because withdrawal itself is so rare.”).

fessor Krotoszynski has observed, the EPA simply lacks the resources to take over state programs, recounting how in one instance the EPA “reacted with abject horror” to a state proposal to return a portion of a part of a major environmental program and “negotiated a last-minute deal with the [state] to abort the return process.”³⁷⁰ With criminal justice data, while the loss of data from individual states would disserve national law enforcement goals, the consequences pale compared to the immediate peril of states withdrawing from enforcing environmental laws.³⁷¹ As important, states would be acutely aware that they have a lot to lose if federal funds were cut off and/or they were barred from participating in national criminal justice databases.

As the research of Professor Hammond and Markell makes clear, however, affording a petition right to non-agency actors is key: “[T]hat interested parties rather than the agency itself can trigger the [withdrawal] process provides political cover to [the] EPA. Because it must respond to petitions to withdraw, it can use the mere fact of a petition to take a close look at how a given state is performing and to press the state for changes.”³⁷² If Congress were to permit a right to petition the Department of Justice, vis-à-vis state failures to satisfy criminal justice data quality standards, similar dividends could accrue.

Drawing a page from the playbook of environmental enforcement might seem inapt, yet important parallels exist to the criminal justice context. Much as the EPA is charged with certifying states as qualified to implement federal environmental laws, and monitoring state performance,³⁷³ DOJ has been tasked with certifying state criminal justice records systems and policing data quality control.³⁷⁴ In both contexts, moreover, the accuracy and timeliness of state-provided data is a very

370. Ronald J. Krotoszynski, Jr., *Cooperative Federalism, the New Formalism, and the Separation of Powers Revisited: Free Enterprise Fund and the Problem of Presidential Oversight of State-Government Officers Enforcing Federal Law*, 61 DUKE L.J. 1599, 1637–38 (2012). *But see* Brigham Daniels, *Environmental Regulatory Nukes*, 2013 UTAH L. REV. 1505, 1552 (noting that while agency sanctioning of states, including loss of funds, for non-compliance is comparatively rare, “even when regulatory nukes are not launched, the threat of launch can still be leveraged for regulatory gain”).

371. Hammond & Markell, *supra* note 365, at 358.

372. *Id.*

373. *See id.* at 357–58.

374. *See supra* notes 303–13 and accompanying text; *see also* 28 C.F.R. §§ 20.21–20.23 (regulations operative in the 1970s requiring that states submit for department approval their Criminal History Improvement Plans).

significant concern³⁷⁵ and the EPA and DOJ both face significant challenges in monitoring performance due to deficiencies in state-produced data.³⁷⁶ Recommendations and demands for improved state criminal justice data have long fallen on deaf ears,³⁷⁷ yet the EPA and the states have made some progress in devising common metrics to assess state compliance,³⁷⁸ allowing for more reliable national data and inter-state comparisons.³⁷⁹ For instance, with a Records Quality Index, suggested above,³⁸⁰ the DOJ would be able to create state “report cards,” imposing public pressure on states to improve data quality.³⁸¹

As further incentive, financial penalties could play a greater role. Federal law, for instance, currently imposes a nominal \$11,000 civil penalty,³⁸² which could be significantly increased, and one could imagine a scalable civil penalty system with high damage awards corresponding with higher data error rates or disappointing “report cards.” Making such changes would both encourage the federal government to police state data quality

375. See David Markell, “Slack” in the Administrative State and Its Implications for Governance: *The Issue of Accountability*, 84 OR. L. REV. 1, 32 (2005) (noting with respect to data provided to the EPA that “[t]here have been enormous problems with states’ data entry in terms of the sufficiency of the data collected, data accuracy and reliability, and the timeliness of data entry”).

376. See, e.g., EPA OFFICE OF INSPECTOR GEN., REPORT NO. 12-P-0113, EPA MUST IMPROVE OVERSIGHT OF STATE ENFORCEMENT, 11–15, 32 (2011) (noting that EPA oversight of states presents a “management challenge” due inter alia to inconsistent and incomplete data provided by states); see also NAT’L ACAD. OF PUB. ADMIN., EVALUATING ENVIRONMENTAL PROGRESS: HOW EPA AND THE STATES CAN IMPROVE THE QUALITY OF ENFORCEMENT AND COMPLIANCE INFORMATION 33 (2001) [hereinafter EVALUATING ENVIRONMENTAL PROGRESS] (“EPA and the states should emphasize their commitment to the initial accuracy of data . . . [by] establishing consistency checks and other automated systems that will minimize debates over data accuracy.”).

377. See *supra* notes 324–34 and accompanying text.

378. SHELLEY H. METZENBAUM, STRATEGIES FOR USING STATE INFORMATION: MEASURING AND IMPROVING PROGRAM PERFORMANCE 46–47 (2003).

379. See EVALUATING ENVIRONMENTAL PROGRESS, *supra* note 376, at 26 (“[T]hese data discrepancies point out that it is very difficult to aggregate state data, to compare performance across states, or to draw nationwide conclusions on enforcement efforts using current state data.”); see also Markell, *supra* note 375, at 32 (noting the “challenge of getting fifty state governments to cooperate on an enormous array of basic elements, including adoption of common definitions, use of the same methodologies, and the like”).

380. See *supra* notes 346–48 and accompanying text.

381. Cf. RECHTSCHAFFEN & MARKELL, *supra* note 362 (noting that a withdrawal proceeding “represents a public statement by EPA that the state’s program is entirely inadequate. The prospect of being branded in this way might well serve as strong motivation to state officials”).

382. 28 C.F.R. § 20.25 (2015).

and inspire states to act to protect themselves from financial liability.

Ultimately, it is hoped, states will look upon the foregoing changes as a window of opportunity for constructive change, not simply another instance of federal intrusiveness. The database systems of today will not be those of tomorrow, and if policymakers build in system accountability and quality control now, it can be part of the technological architecture of the future.³⁸³ If future technological adaptations prioritize the ability to audit and correct for data error, and if future systems are designed to guard against data error, next generation systems will provide accountability not currently available. One way to help ensure that states avail themselves of advanced technologies is to tie access to national databases and federal funds to their acquisition.

2. State Legislative Action

Pressuring states to institutionalize quality control mechanisms, while of critical importance, is not enough to ensure the kind of vigilance needed. State legislative action is needed.

At the most basic level, a statutory remedy must exist for individuals to detect and demand correction of data error. Already, a right typically exists in state law to review one's criminal history record. If error is detected and the government fails to take corrective action, civil penalties,³⁸⁴ and sometimes even criminal sanctions,³⁸⁵ can apply. However, it is often the case that jurisdictions fail to comply with the requirement that individuals be told of their right to challenge and correct their crim-

383. Emblematic of the synergy of data and technology, police in Texas make use of license plate information, collected and provided by a private company in the business of locating cars subject to repossession, to detain individuals with outstanding warrants, mostly for minor offenses. Eric Dexheimer & Tony Pihetski, *Local Police Use of Vast License Plate Database Raises Privacy Concerns*, MYSTATESMAN (Feb. 18, 2016), <http://www.mystatesman.com/news/news/local-police-use-of-vast-license-plate-database-ra/nqSQj>. The private vendor providing the plate information receives a twenty-five percent fee that is tacked onto any fine collected. *Id.*

384. *See, e.g.*, ARIZ. STAT. § 39-121.02 (2012) COLO. REV. STAT. § 24-72-305(7) (2016); OR. REV. STAT. § 192.490(3) (2015); VA. CODE § 9.1-132(A)(B) (2014); WASH. CODE REV. § 43.43.730(1) (2015); *see also* Soderlund v. Merrigan, 955 A.2d 107, 113–14 (Conn. Ct. App. 2008) (surveying cases allowing for cause of action based on view that failure to correct record is a ministerial action not subject to immunity).

385. MO. REV. STAT. § 109.180 (2015).

inal history records.³⁸⁶ Beyond the criminal history context the prospects for relief are even less clear. Gang databases, for instance, might be subject to a “purge” policy but research shows that such policies are deployed sporadically at best.³⁸⁷ A similar scenario has played out with government retention of DNA profiles required by state law to be expunged.³⁸⁸

Seemingly alone among the states, Illinois provides for a cause of action allowing for redress in instances of negligent criminal history records. The Illinois Crime Conviction Information Act endeavors to “ensure the accuracy and completeness of conviction information” and “establish procedures for effectively correcting errors and providing individuals with redress of grievances in the event that inaccurate or incomplete information may be disseminated about them.”³⁸⁹ The Act seeks “to make government agencies accountable to individuals in the collection, use and dissemination of conviction information.”³⁹⁰ To those ends, the Act requires that regular audits be undertaken,³⁹¹ and allows relief for “negligent dissemination of inaccurate or incomplete conviction information,”³⁹² defined to include arrests, charges, and dispositions.³⁹³ Individuals can secure compensatory damages, costs, and attorney’s fees,³⁹⁴ as well as statutory award of up to \$1000 if information is not corrected in a timely manner.³⁹⁵

*Ramos v. City of Peru*³⁹⁶ illustrates the law in operation. In *Ramos*, the petitioner was arrested for domestic abuse and a booking photo was taken by local police.³⁹⁷ Several months later a “Crime Stoppers” bulletin appeared in the local newspaper,

386. REPORT TO CONGRESSIONAL REQUESTERS, *supra* note 335, at 30–31.

387. Hufstader, *supra* note 69, at 680–81. With the “Terror Watch List,” sixty-seven percent of errors detected were not corrected by the FBI; in seventy-two percent of closed cases, FBI failed to timely remove targeted individuals. AUDIT DIV., OFFICE OF THE INSPECTOR GEN., U.S. DEPT. OF JUSTICE, THE FEDERAL BUREAU OF INVESTIGATION’S TERRORIST WATCHLIST NOMINATION PRACTICES iv–v (2009), <http://www.justice.gov/oig/reports/FBI/a0925/final.pdf>.

388. See Logan, *supra* note 287.

389. 20 ILL. COMP. STAT. 2635/2(B) (2016).

390. *Id.* 2635/23(B).

391. *Id.* 2635/21.

392. *Id.* 2635/14(B)–(C).

393. *Id.* 2635/3(F).

394. *Id.* 2635/15(A). Attorney fees are not to exceed the “actual amount of monetary damages awarded to the plaintiff.” *Id.* 2635/16(B).

395. *Id.* 2635/15(A).

396. 775 N.E.2d 184 (Ill. Ct. App. 2002).

397. *Id.* at 186.

displaying the petitioner's photo, next to the name of another individual with the same last name, and indicating that the individual was wanted by police for the offense of aggravated sexual abuse.³⁹⁸ Petitioner sued the local government under the Act, but his claim was dismissed by the trial court on the rationale that only the state was liable for disseminated information.³⁹⁹ The Illinois Court of Appeals reversed, concluding that local governments were subject to the Act and that the photo came within the definition of "conviction information" under the Act.⁴⁰⁰ "To find otherwise," the Ramos court concluded, "would go against the Act's mandate that individuals be afforded the maximum feasible protection to their rights of privacy and enjoyment of their good name and reputation."⁴⁰¹

Illinois' adoption of a negligence standard, though surely more demanding of government, is otherwise not without precedent in the law. Notably, the Federal Torts Claims Act has been interpreted to allow relief for negligently maintained government records.⁴⁰² A statutory cause of action could, if a state so wished, be subject to a statutory damages cap. But the existence of such a remedy, combined with the availability of attorneys' fees, would afford jurisdictions added incentive to ensure that institutionalized quality control measures are kept in mind and satisfied.

While enhancing the wherewithal of individuals to secure relief is important, a broader institutional mechanism is needed to ensure that states internalize data quality control measures. Building on our earlier recommendation regarding audits, and the enhanced transparency and accountability they allow, we urge that there be created a specific cause of action, filed by an individual or entity, to oblige remedial action when "systemic or recurring" data quality issues become apparent.

398. *Id.*

399. *Id.*

400. *Id.* at 187.

401. *Id.* at 188 (citing 20 ILL. COMP. STAT. 2635/23(A)).

402. Federal Tort Claims Act, 28 U.S.C. §§ 1346(b), 2671–80 (2012); *see, e.g.*, *Quinones v. United States*, 492 F.2d 1269, 1280–81 (3d Cir. 1974) (recognizing a negligence action for failing to keep accurate employment records as cognizable under the FTCA); *Doe v. United States*, 520 F. Supp. 1200, 1203 (S.D.N.Y. 1981) ("[H]aving determined that plaintiff in the instant action has a maintainable claim under the FTCA for the Government's negligent record keeping, we need not consider whether or not any separate and distinct claims he might have brought would have been barred by one or more of the [FTCA] exceptions.").

The framework derives from the Supreme Court's limitation of the exclusionary rule in *Herring*,⁴⁰³ but the legal remedy can stand independent of any exclusionary rule analysis. Building off the successful model of affording an "agency-forcing" private cause of action to force agency performance of nondiscretionary duties,⁴⁰⁴ an individual or entity should be allowed to seek injunctive relief forcing system improvements, as well as nominal damages and attorney fees to incentivize the private bar to act.

In devising a statutory scheme, significant definitional questions would need to be addressed. For instance, what if the challenged harm stems from a database outside the jurisdiction where the challenged harm occurred? In *Menard v. Saxbe*,⁴⁰⁵ the D.C. Circuit quite reasonably cast a critical eye toward the federal government's effort to evade responsibility, rejecting the FBI's claim that it was not responsible for the accuracy of the state criminal justice records in its database. Although the FBI had no statutory duty to ensure the initial accuracy of submitted information,⁴⁰⁶ the court stated that the "FBI's function of maintaining and disseminating criminal identification records and files carries with it . . . a corollary . . . responsibility to discharge this function reliably and responsibly and without unnecessary harm to individuals whose rights have been invaded."⁴⁰⁷ States and localities, as the *Menard* court said of the FBI, should not be able to "take the position that [they are] a mere passive recipient of records received from others."⁴⁰⁸

403. See *supra* 240–252 and accompanying text.

404. See Richard B. Stewart & Cass R. Sunstein, *Public Programs and Private Rights*, 95 HARV. L. REV. 1193, 1197 (1982) (discussing "private rights of initiation" by the beneficiaries of public rights for failure to enforce regulatory requirements); see also Robert L. Glicksman, *The Value of Agency-Forcing Citizen Suits To Enforce Nondiscretionary Duties*, 10 WIDENER L. REV. 353 (2004).

405. 498 F.2d 1017 (D.C. Cir. 1974).

406. See *id.* at 1023 (citing 28 U.S.C. § 534 (1970)).

407. *Id.*

408. *Id.* Illinois, for its part, allows for a "good faith" defense of reliance in a damages action. See 20 ILL. CODE § 2635/15(C) (2015) ("[A] State agency, a unit of local government, and the officials or employees of a State agency or a unit of local government may in good faith rely upon the assurance of another State agency or unit of local government that conviction information is maintained or disseminated in compliance with the provisions of this Act."). The good faith defense is not available, however, with respect to equitable or declaratory relief. *Id.*

3. Judicial and Local Involvement

State legislative action and executive branch enforcement of data quality measures do not exhaust the array of options available.

Courts can certainly play a role. As noted at the outset, courts often presume that a government database is accurate,⁴⁰⁹ which can be outcome determinative in cases challenging the constitutional reasonableness of the actions of police.⁴¹⁰ Typically, such presumptions are based simply on the accepted courthouse premise that errors in fact are not commonplace, a perhaps understandable perception based on the judicial system's case-by-case adjudicative model. As Andrew Crespo has observed, however, the *modus operandi* can blind trial courts to "systemic facts," which evidence broader problems such as the probative accuracy of police representations of probable cause in search warrant applications and the failure of prosecutors to turn over required exculpatory evidence.⁴¹¹ The model can usefully extend to databases. While *ex ante* detection and audits might be beyond the competence and recourse wherewithal of state and local court systems, monitoring and tracking the occurrence of error in cases they adjudicate would not.

Courts can also take a more proactive approach to promoting data quality. For instance, they can engage in what John Rappaport recently called "second-order regulation," creating incentives for policymakers, rather than undertaking "first-order regulation" by means of common law or constitutional rulemaking.⁴¹² To incentivize data quality and government accountability, courts could adopt the position that unaccredited databases lose their presumption of reliability.⁴¹³ As Professor Erin Murphy has similarly suggested:

409. See *supra* note 12 and accompanying text.

410. See, e.g., *O'Bryan v. State*, 464 S.W.3d 875, 880 (Tex. Ct. App. 2015).

411. See Andrew Manuel Crespo, *Systemic Facts: Toward Institutional Awareness in Criminal Courts*, 129 HARV. L. REV. 2049, 2069, 2092 (2016).

412. John Rappaport, *Second-Order Regulation of Law Enforcement*, 103 CAL. L. REV. 205, 209–12 (2015).

413. See Murphy, *supra* note 278, at 823–24 ("[T]he presumption of regularity means that, absent affirmative evidence that a database is kept in a shoddy or substandard fashion, courts will assume the soundness of the information generated. Notably, this presumption seems to hold even when information about the procedures or practices governing the collection and maintenance is lacking, either because the record was not developed factually or because the oversight structures for the database are entirely informal." (internal footnote omitted)).

[C]ourts can require that the database undergo regular, demonstrably effective auditing processes, and ask to see proof of such. They can view the absence of information about the database—such as how often it is used, how often it is audited, what the results are—as a sign that the database is inadequately attended, rather than as confirmation of its reliability.⁴¹⁴

State courts can also reject the Supreme Court’s decision in *Herring*, which allows police to rely on faulty databases in the absence of proof showing that they were “reckless in maintaining a warrant system, or . . . have knowingly made false entries to lay the groundwork for future false arrests.”⁴¹⁵ State courts are free to go their own way based on their own state constitutions, as several courts have done,⁴¹⁶ reflecting the common judicial position before *Herring*.⁴¹⁷

Local criminal justice system actors can also facilitate change. One strategy would be for local police departments to adopt rules requiring officers to double-check whether an arrest warrant is valid before executing a custodial arrest.⁴¹⁸ In *Com-*

414. *Id.* at 832.

415. *Herring v. United States*, 555 U.S. 135, 146 (2009).

416. *See, e.g.*, *State v. Shannon*, 120 A.3d 924, 934 (N.J. 2015) (“This case involves an unconstitutional seizure of a man who had secured relief eighteen months earlier from his outstanding arrest warrant. His constitutional right to be free of that unreasonable seizure trumps the subjective good faith reliance by the police on the unpurged, but in fact vacated, arrest warrant . . . [T]he inevitable result will cause people to be more careful—a laudatory effect on all state actors.”).

417. *See supra* note 239 and accompanying text. Better yet, state legislatures can enact provisions expressly limiting law enforcement use of criminal justice data that is secured contrary to law, such as is the case in several states with DNA profiles. *See Logan, supra* note 287, at 281–82. Courts have been reluctant to exclude evidence in the absence of an express statutory requirement. *See George E. Dix, Nonconstitutional Exclusionary Rules in Criminal Procedure*, 27 AM. CRIM. L. REV. 53, pt. II (1989); *see, e.g., State v. Emerson*, 981 N.E.2d 787, 793–94 (Ohio 2012) (“Since the General Assembly opted not to provide a remedy to a party wronged by a violation of [the expungement laws], ‘we are not in the position to rectify this possible legislative oversight by elevating a violation of [these statutes] to a Fourth Amendment violation and imposing the exclusionary rule.’” (quoting *State v. Jones*, 902 N.E.2d 464, 468–69 (Ohio 2008))).

418. *See, e.g.*, RECORDS ADMIN., OLYMPIA POLICE DEP’T, GENERAL ORDER 82.1.10 (2010), <http://www.codepublishing.com/WA/Olympia/opd/OlympiaOPD82/OlympiaOPD8201.html>; CHAMPAIGN POLICE DEP’T, POLICY AND PROCEDURE 74.3.1 (2009), <http://ci.champaign.il.us/wp-content/uploads/2010/10/CPD-Policy-Manual.pdf>; PEORIA POLICE DEP’T, POLICE AND PROCEDURE MANUAL: POLICY 4.23 ARREST PROCEDURES 2, at pt. IV.A.4 (2007), https://www.peoriaaz.gov/PoliceDepartment/administration/docs/policy_manual/4.23ArrestProcedures.pdf; TRURO POLICE DEP’T, LEGAL PROCESS 3, at 6.D.3.a. (2001), <http://www.truropolice.org/on%20line%20manuals/legal%20process.pdf>.

monwealth v. Maingrette,⁴¹⁹ the Massachusetts Court of Appeals attached dispositive importance to such a policy.⁴²⁰ The failure of a Boston police officer to follow this double-check process prompted the court to invalidate Maingrette's arrest, resulting in suppression of evidence recovered by police.⁴²¹ Such a protocol would go a long way toward heading off the trauma experienced by individuals such as Albert Florence⁴²² and Chelsea Bechman,⁴²³ who were taken into custody and strip searched when police relied on their mistaken beliefs that valid arrest warrants existed. Or that of Nicholas Bowen, who, despite having a judge certify an arrest warrant as invalid, and having a letter attesting to the fact, was nonetheless subjected to arrest on multiple occasions over the course of several years, with the final incident involving his being dragged in handcuffs more than forty feet when in the hospital while recovering from hernia surgery.⁴²⁴

Ultimately, the foregoing changes, while critically important, will not suffice. A change in mindset is needed. Data error must be re-conceptualized as a systems problem.⁴²⁵ Errors

419. 20 N.E.3d 626 (Mass. Ct. App. 2014).

420. *See id.* Such a requirement also preconditions arrests based on a warrant in the NCIC. *See* NAT'L CRIME INFO. CTR., FED. BUREAU OF INVESTIGATION, <http://www.fbi.gov/services/cjis/ncic> (citing section 1.2(2) of the NCIC Operating Manual).

421. *Maingrette*, 20 N.E.3d at 632–33. The court added that:

Under the standard in *Herring*, it appears that the exclusionary rule would still apply to the case at bar because here the *sole* source of the error, unlike the situation in *Herring*, was the failure of the police officers making the arrest to comply with an almost twenty year old department policy requiring them to check the [system] before making that arrest.

Id. at 631 n.5.

422. *Florence v. Bd. of Chosen Freeholders*, 132 S. Ct. 1510 (2012).

423. *Bechman v. Magill*, 745 F.3d 331 (8th Cir. 2014); *see also, e.g.*, Assoc. Press, *Teen Dead Following Arrest on Invalid Warrant in Seattle*, SEATTLE POST-INTELLIGENCER, Jan. 23, 2007 (seventeen-year-old arrested, despite his showing police paperwork confirming that arrest warrant had been quashed the previous day, who while in custody experienced a seizure and died); Lynn Porter, *Teenager Jailed for 9 Days on Invalid Warrant, Charges from N.C. Had Been Dropped*, TAMPA TRIB., May 25, 2002, at A6 (teen arrested on two occasions, based on invalid out-of-state warrant, despite being presented with evidence that warrant was no longer valid).

424. Alan Feuer, *Cleared of a Crime but Hounded by a Warrant*, N.Y. TIMES (Mar. 28, 2016), <http://nytimes.com/2016/03/29/nyregion/cleared-of-a-crime-but-hounded-by-a-warrant.html>.

425. *See generally* James M. Doyle, *Learning from Error in American Crim-*

should not be conceived of and excused as isolated mistakes. In a system with millions of constituent parts, human actors, and no central locus of accountability, error is unavoidable.⁴²⁶ Learning how, why, where and how often errors occur can provide the knowledge basis to lessen their incidence, and allow governmental agents to be on the lookout for their eventual occurrence. But this is not all that is necessary. Big questions on the front end must be asked about the types of data that need to be collected, recognizing that the information will be used for other purposes. For instance, databases contain records of millions of arrests, significant proportions of which are known to not result in prosecution, or which otherwise lack disposition information.⁴²⁷ All arrests, however, stigmatize and have major negative consequences for individuals. The choice to record arrests forever is a choice of the system, which carries with it ineluctable risk of error.

Similar concerns arise with the collection of DNA or other biometric information. Recognizing the inevitability of data error should militate in favor of a more circumscribed approach, both in terms of volume and retention, including use of sunset provisions, which automatically purge data after a set period of years. For personal data like DNA, this would forestall a concern of a massive government DNA database containing biological information. For associational data like gang lists, this might make practical sense as gang affiliation may be less relevant years later. In both cases, sunset provisions and purges will minimize error because significantly less data will populate criminal justice data systems, preserving only current and relevant data.

IV. OBSTACLES AND RESPONSES

The preceding sections proposed several ways to advance the cause of data quality and to end data impunity. One cluster of reforms urges a broad institutional strategy and the other

inal Justice, 100 J. CRIM. L. & CRIMINOLOGY 109 (2010) (suggesting that errors in the criminal justice system should be conceptualized as “organizational accidents”); J. Reason, *The Contribution of Latent Human Failures to the Breakdown of Complex Systems*, in 327 PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY OF LONDON 475, 475 (1990) (discussing high-risk technologies and focusing on accidents arising from a combination of systemic errors).

426. See James M. Doyle, *Learning from Error in the Criminal Justice System: Sentinel Event Reviews*, in MENDING JUSTICE: SENTINEL EVENT REVIEWS 3, 4 (Sept. 2014), <https://www.ncjrs.gov/pdffiles1/nij/247141.pdf>.

427. See *supra* notes 112–19 and accompanying text.

more targeted statutory changes. As with any ambitious solution, feasibility concerns need to be addressed.

As a threshold matter, we need to assess why, despite continued federal awareness of state data inadequacies, the federal government has not sanctioned states for noncompliance. A large academic literature exists on the possible reasons behind federal agency inaction in such situations. At least three stand out as causal explanations for the decades-long stasis operative here.

The first is the bureaucratic reality that slashing state funds could well result in a corresponding decrease in federal agency operating budgets, sending a tangible signal to Congress of decreased agency fiscal need—something that no agency head relishes.⁴²⁸ Second, in a variation of Professor Wechsler's famous conceptualization,⁴²⁹ the states as political safeguards of administrative federalism could be at work.⁴³⁰ States wield significant political influence within federal executive agencies, making the latter reluctant to police state noncompliance.⁴³¹ Third, as Professor Rachel Harmon has noted, parts of the Department of Justice, including the Office of Justice Programs and the Bureau of Justice Statistics, key players

428. See Margaret H. Lemos & Max Minzer, *For-Profit Public Enforcement*, 127 HARV. L. REV. 853, 872 (2014) (“[L]ike all individuals and institutions, agencies become accustomed to a certain budget level—a ‘standard of living,’ so to speak.”).

429. Herbert Wechsler, *The Political Safeguards of Federalism: The Role of the States in the Composition and Selection of the National Government*, 54 COLUM. L. REV. 543, 546 (1954).

430. See Gillian E. Metzger, *Administrative Law as the New Federalism*, 57 DUKE L.J. 2023, 2075 (2008) (“Numerous factors, such as congressional oversight, federal officials’ ties to state regulators, lobbying by state political organizations, and dependence on state implementation, can all serve to give state regulatory interests leverage in federal agency decisionmaking.”); Miriam Seifter, *States as Interest Groups in the Administrative Process*, 100 VA. L. REV. 953, 979–84 (2014). *But see* Wayne A. Logan, *The Adam Walsh Act and the Failed Promise of Administrative Federalism*, 78 GEO. WASH. L. REV. 993 (2010) (discussing federal agency indifference to state concerns regarding implementation of federal sex offender registration and community notification provisions).

431. As Shelley Metzenbaum, former EPA associate administrator for Regional Operations and State/Local Relations, observed in the context of federal oversight of state enforcement of federal environmental regulations: “Federal agencies that set goals for or measure the performance of states often find themselves in testy territory. For both political and practical reasons, states resent efforts by the federal government to influence their goals and their performance levels.” METZENBAUM, *supra* note 378, at 69.

here, are “subject to political influence that is likely to be favorable to law enforcement interests.”⁴³²

Finally, quite pragmatic reasons could explain federal unwillingness to police data quality in the states. For instance, concern might exist, that ramped up federal enforcement of standards will encourage states to “go off the grid,” as seemingly has occurred to some extent with DNA databases, as several local governments, unwilling to abide by even the specter of more rigorous federal guidelines, have partnered with private entities to create their own databases.⁴³³ Nor can one discount the fact that the federal government, while unhappy with state quality control efforts, may prefer to have substandard data than be deprived of state data altogether. Although it might be troublesome for the NCIC to contain a state’s invalid arrest warrants, for instance, the state’s inclusion of far more numerous valid warrants in the national database enables police to get dangerous individuals off the streets.

For its part, state inaction can be explained by a constellation of other factors. As noted at the outset, when it comes to data, law enforcement agencies are predisposed to a “more is better” philosophy, inured to the human hardships resulting from database errors.⁴³⁴ And, suffice to it say no state agency will rush to support legislation or regulations requiring more rigorous data controls, which would have resource implications or entail threat of liability. Private sector entities can also be expected to resist any legislative efforts for these same reasons.

Ultimately as well, it should not escape attention that while the political narrative favoring data quality is a very compelling one, the fact remains that the adverse consequences of data error fall squarely on individuals, who in the criminal justice context typically lack political voice and influence.⁴³⁵ Cit-

432. Harmon, *supra* note 23, at 1143; *see also id.* at 1145 (“OJP—like the FBI—serves police departments more than it serves those who might govern and regulate law enforcement . . .”).

433. *See* Kreag, *supra* note 23, at 1502–03.

434. *See supra* note 23 and accompanying text; Herring v. United States, 555 U.S. 135, 156 (2009) (Ginsburg, J., dissenting) (expressing “doubt that police forces already possess sufficient incentives to maintain up-to-date records”).

435. *See* Orin S. Kerr, *An Economic Understanding of Search and Seizure Law*, 164 U. PA. L. REV. 591, 603–04 (2016). *See generally* Donald A. Dripps, *Criminal Procedure, Footnote Four, and the Theory of Public Choice; Or, Why Don't Legislatures Give a Damn About the Rights of the Accused?*, 44 SYRACUSE L. REV. 1079 (1993) (analyzing the lack of political influence criminal defendants have in the political process).

izens benefitting from political voice tend not to see themselves as likely victims of criminal justice data error and therefore are unlikely to press their elected representatives for change.⁴³⁶ Rounding out the political dynamic, no politician wants to be associated with anything an opponent can possibly cast as “pro-criminal” in nature.⁴³⁷

As a consequence, we are left with the unfortunate status quo state of affairs described by Justice Ginsburg in her *Herring* dissent:

[T]he record indicates that there is no electronic connection between the warrant database of the Dale County Sheriff’s Department and that of the County Circuit Clerk’s office, which is located in the basement of the same building. . . . When a warrant is recalled, one of the ‘many different people that have access to th[e] warrants,’ . . . must find the hard copy of the warrant in the ‘two or three different places’ where the Department houses warrants, . . . return it to the Clerk’s office, and manually update the Department’s database. . . . The record reflects no routine practice of checking the database for accuracy, and the failure to remove the entry for Herring’s warrant was not discovered until [police] sought to pursue Herring five months later. Is it not altogether obvious that the Department could take further precautions to ensure the integrity of its database?⁴³⁸

When it comes to criminal justice data, the public and politicians do not seem to lack concern over its privacy implications.⁴³⁹ We hope that this Article, by cataloging the very significant harms caused by data error, can catalyze renewed interest in data quality concerns, not seen since the late 1960s and early 1970s, a time when the negative consequences of data error had political resonance. As a federal government report on changing public attitudes on criminal history records observed:

[The late 1960s and early 1970s] was the period [when] many children of the Nation’s economic and social elites were being arrested — for social protest, for racial demonstrations, for anti-war demonstrations. These were often the children of government officials, business executives, and academics. The idea that you could have an arrest or a conviction record for demonstrations or protests that would stigmatize you — so that you wouldn’t get into Princeton or get a job at the

436. See David M. Jaros, *Preempting the Police*, 55 B.C. L. REV. 1149, 1173 (2014).

437. See Dripps, *supra* note 435, at 1094.

438. *Herring*, 555 U.S. at 154 (Ginsburg, J., dissenting).

439. See Murphy, *supra* note 22, 503–07; Rachel Levinson-Waldman, *Multi-State Privacy Push Paves the Way for National Reform*, HUFFINGTON POST (Jan. 20, 2016), http://www.huffingtonpost.com/rachel-levinsonwaldman/multi-state-privacy-push_b_9031692.html.

brokerage house, or couldn't be appointed to Federal or State government employment — was obviously a great threat to the progress of the children of the ruling class. How large-scale arrest and conviction records for social protest were going to be used became a political issue in the late 1960s and early 1970s, which it is not today.⁴⁴⁰

In a time not only of unprecedented growth in and access to criminal justice data, but also when one in three adults has a criminal record of some kind,⁴⁴¹ a similar sensitivity would appear warranted.

CONCLUSION

A data-driven criminal justice system must confront the reality of data error and the harms it causes. To date, however, governments have been insulated from accountability for data error, and thus have had little incentive to change. Meanwhile, hundreds of millions of dollars have been spent for largely unenforced federal mandates intended to improve state criminal justice system data quality. Worse yet, the problem is only going to grow in scope as data becomes easier to collect and share, and new data sources (including biometrics) are integrated into government databases, including courtesy of the private sector.⁴⁴²

This Article seeks to challenge the premise that a data-driven criminal justice system must accept systemic error simply as an operating cost, effectively functioning as a tax on innocent individuals. The institutional and legislative solutions proposed here are directed at minimizing the incidence of data error and affording a basis for relief for those who suffer its negative consequences. Audits, accreditation, federal intervention, financing, statutory reform, and litigation are all needed

440. BUREAU OF JUSTICE STATISTICS, U.S. DEP'T OF JUSTICE, NCJ 187663, PUBLIC ATTITUDES TOWARD USES OF CRIMINAL HISTORY INFORMATION 8–9 (July 2001), <http://bjs.gov/content/pub/pdf/pauchi.pdf>.

441. Jo Craven McGinty, *How Many Americans Have a Police Record? Probably More than You Think*, WALL ST. J. (Aug. 7, 2015), <http://www.wsj.com/articles/how-many-americans-have-a-police-record-probably-more-than-you-think-1438939802>.

442. For discussion of concerns regarding the accuracy of facial images secured and stored by the FBI, now numbering over thirty million, used as matches in investigations, see U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-16-267, FACE RECOGNITION TECHNOLOGY: FBI SHOULD BETTER ENSURE PRIVACY AND ACCURACY 10–32 (May 2016), <http://www.gao.gov/assets/680/677098.pdf> (discussing FBI's failure to conduct audits concerning false positives in the database and assess operational accuracy of face recognition searches more generally).

to ensure that government databases are as accurate and up-to-date as possible. If an ever-more data-driven criminal justice system is the future, tolerance of data error and a culture of data impunity must become a thing of the past.