

REMEDYING WRONGFUL CONVICTIONS THROUGH DNA TESTING: EXPANDING POST-CONVICTION LITIGANTS' ACCESS TO DNA DATABASE SEARCHES TO PROVE INNOCENCE

Abstract: Forensic science is used as evidence in criminal cases regularly. Recently, however, scientists have criticized several commonly used forensic methods that are unreliable, scientifically invalid, and have contributed to wrongful convictions. In contrast, DNA testing, which is reliable and valid, is a powerful resource for exonerating wrongfully convicted individuals. Congress and all fifty states have enacted statutes providing access to post-conviction DNA testing. Only nine states, however, have enacted statutes granting post-conviction litigants access to another important resource—law enforcement DNA database searches. Even though Congress amended the federal post-conviction DNA testing statute to provide access to DNA database searches in 2016, only applicants incarcerated for federal offenses are eligible for relief under this statute. This Note argues that, to remedy wrongful convictions, all state legislatures should amend post-conviction DNA testing statutes to provide access to DNA database searches. Alternatively, Congress should amend the federal post-conviction DNA testing statute to provide post-conviction litigants wrongly convicted of state offenses with access to DNA database searches.

INTRODUCTION

On the morning of August 13, 1986, 31-year-old Christine Morton was found murdered in her bed in her home in Austin, Texas.¹ Her attacker had used a wooden weapon to beat her to death while she was sleeping.² Investigators suspected that Christine's husband, 32-year-old Michael Morton, was her attacker, even though he did not have a criminal record or a history of vio-

¹ Pamela Colloff, *The Innocent Man, Part One*, TEX. MONTHLY (Nov. 2012), <https://www.texasmonthly.com/politics/the-innocent-man-part-one> [<https://perma.cc/6KR7-HNZP>]; *Know the Cases: Michael Morton*, INNOCENCE PROJECT, <https://www.innocenceproject.org/cases/michael-morton> [<https://perma.cc/3QN4-QNVC>]; *Profile of Michael Morton*, NAT'L REGISTRY OF EXONERATIONS, <https://www.law.umich.edu/special/exoneration/Pages/casedetail.aspx?caseid=3834> [<https://perma.cc/MKD4-WCTA>].

² *Know the Cases: Michael Morton*, *supra* note 1; *Michael Morton*, TEX. MONTHLY, <https://www.texasmonthly.com/topics/michael-morton> [<https://perma.cc/MUT5-YG2S>]. The attack happened sometime after 5:30am, when Christine's husband, Michael Morton, left their house to go to his job as a supermarket manager. See *Know the Cases: Michael Morton*, *supra* note 1. Their three-year-old son, Eric, was home and witnessed his mother's murder. *Id.*

lence.³ On February 17, 1987, a jury convicted Morton for his wife's murder, and he received a life sentence.⁴ It was not until twenty-four years later, in 2011, that Morton finally obtained post-conviction DNA testing and a DNA database search, which proved his innocence.⁵

Before Morton's trial, the prosecution had discovered three pieces of evidence that pointed toward Morton's innocence.⁶ The prosecution, however, did not turn over any of this evidence to the defense at trial.⁷ First, the Mortons' three-year-old son, Eric, who witnessed his mother's murder, described the crime scene and murder to his grandmother in detail, telling her, "Daddy was not home" when the murder happened, and the murderer was a "monster" with a "big mustache," not his father.⁸ Second, the Mortons' neighbors told police that, several times, a man driving a green van parked near the Mortons' house and then went into the woods.⁹ Third, Christine's credit card went missing, and police found it in a jewelry store in San Antonio, Texas.¹⁰

³ *Know the Cases: Michael Morton*, *supra* note 1; *Michael Morton*, *supra* note 2. On the evening of August 12, 1986, Morton, Christine, and their three-year-old son, Eric, went out to dinner at a restaurant to celebrate Morton's birthday. *Profile of Michael Morton*, *supra* note 1. When they returned home that night, Christine declined sex with her husband. *See Know the Cases: Michael Morton*, *supra* note 1. When Morton left for work at 5:30am the next morning, he left a note for Christine on the counter in their bathroom. *Id.* In the note, Morton told Christine that he was upset that she had not wanted to be intimate with him, and he signed the note with "I love you." *Id.* Based on the note, the prosecution theorized that Morton murdered his wife because she had declined to be intimate on his birthday. *Id.*

⁴ *Know the Cases: Michael Morton*, *supra* note 1.

⁵ *Id.* Throughout those twenty-four years, Morton always maintained his innocence. *Michael Morton*, *supra* note 2.

⁶ *Know the Cases: Michael Morton*, *supra* note 1.

⁷ *Id.* The trial judge ordered the prosecution to turn over all of the chief investigator's reports, but none of the reports that the prosecution turned over to the defense contained this evidence. *Id.* During their post-conviction investigation, Morton's attorneys filed a Public Information Act request and obtained the documents that the prosecution had withheld at trial. *Id.* The Texas Supreme Court ordered a Court of Inquiry to determine whether the prosecutor in Morton's case, Ken Anderson, had committed misconduct. *Id.* The Court of Inquiry concluded that Anderson concealed exculpatory evidence and charged him with criminal contempt and evidence tampering. *Id.*

⁸ *Id.*; *Michael Morton*, *supra* note 2. Morton's attorneys' post-conviction investigation revealed that the prosecutor had a transcript of a conversation where Christine's mother told an investigator about Eric's account of the murder. *Michael Morton*, *supra* note 2. Post-conviction DNA testing and a DNA database search later identified the actual perpetrator, Mark Alan Norwood. Jason Kregg, *Letting Innocence Suffer: The Need for Defense Access to the Law Enforcement DNA Database*, 36 CARDOZO L. REV. 805, 807 (2015); *Know the Cases: Michael Morton*, *supra* note 1. Norwood wore a distinctive "horseshoe-shaped mustache that draped over his upper lip." Pamela Colloff, *The Guilty Man*, TEX. MONTHLY (June 2013), <https://www.texasmonthly.com/the-culture/the-guilty-man> [<https://perma.cc/AGB5-N52H>].

⁹ *Know the Cases: Michael Morton*, *supra* note 1.

¹⁰ *Id.* A San Antonio police officer was prepared to identify the woman who tried to use the credit card at the jewelry store, but the prosecution did not tell the defense about either the credit card or the officer's identification. *Id.*

The police also had in their possession before Morton's trial a fourth piece of evidence that pointed toward Morton's innocence, but they did not understand its significance at that time.¹¹ On the day after Christine's murder, her brother, John Kirkpatrick, found a blue, blood-stained bandana at a construction site approximately 100 yards from the Mortons' home.¹² Kirkpatrick gave the bloody bandana to the police, but they did not investigate it further.¹³ This bloody bandana would exonerate Morton twenty-four years later.¹⁴

At trial, the prosecution's theory was that Morton beat his wife to death because of her refusal to have sex with him the night before the murder.¹⁵ The prosecution did not present any witnesses or physical evidence to support its theory.¹⁶ The jury convicted Morton despite the lack of evidence.¹⁷

After several years of Morton requesting DNA testing, in 2010, an appellate court finally granted him post-conviction testing on both the bloody bandana and hair found on it.¹⁸ In 2011, a laboratory found two profiles in the DNA from the bandana—Christine Morton's DNA profile and the profile of an unknown male.¹⁹ Thus, DNA testing excluded Morton as the source of the DNA on the bandana, but the actual perpetrator was still unknown.²⁰ Morton soon obtained a DNA database search, which identified convicted felon Mark Alan Norwood as the source of the male DNA on the bandana.²¹ The defense

¹¹ See Colloff, *supra* note 1 (explaining that, after John Kirkpatrick turned over the bandana to the police, the police did not investigate it further, either because they did not understand its significance or because they ignored it); *Know the Cases: Michael Morton*, *supra* note 1 (stating that the police recovered the bandana prior to Morton's trial, but the bandana was not tested until Morton requested post-conviction DNA testing).

¹² Colloff, *supra* note 1; *Know the Cases: Michael Morton*, *supra* note 1.

¹³ Colloff, *supra* note 1.

¹⁴ Kreag, *supra* note 8, at 807; *Know the Cases: Michael Morton*, *supra* note 1.

¹⁵ *Know the Cases: Michael Morton*, *supra* note 1.

¹⁶ *Id.*

¹⁷ *Id.* Morton appealed his conviction, but the appellate court denied his appeal. *Profile of Michael Morton*, *supra* note 1.

¹⁸ *Profile of Michael Morton*, *supra* note 1. In 1990, Morton requested post-conviction DNA testing on a semen stain on the bedsheet from his and Christine's bed, but the testing identified Morton as the source of the DNA. *Id.* Morton requested DNA testing on the bloody bandana and other evidence in 2005. *Michael Morton*, *supra* note 2; *Profile of Michael Morton*, *supra* note 1. The court granted DNA testing for some other items of evidence from the crime scene but not the bloody bandana. *Profile of Michael Morton*, *supra* note 1. Some of that DNA testing was inconclusive, and none of it could rule out Morton as the source of DNA collected from his and Christine's bed. *Id.* In 2010, Morton appealed the denial of his request for DNA testing on the bloody bandana, and the appellate court ordered the testing. *Id.*

¹⁹ *Know the Cases: Michael Morton*, *supra* note 1. The DNA testing indicated that the hair on the bandana belonged to Christine and that Christine's blood was on the bandana. *Profile of Michael Morton*, *supra* note 1.

²⁰ Kreag, *supra* note 8, at 806.

²¹ *Id.* at 807. Norwood was living in Texas when Christine was murdered in August 1986. *Know the Cases: Michael Morton*, *supra* note 1. He had been convicted of a felony in California, and he had a criminal record in Texas as well. *Id.* Law enforcement can collect convicted offenders' DNA profiles and

and prosecution teams investigated Norwood, and they established not only that he murdered Christine Morton, but also that he murdered another woman, Debra Masters Baker.²² Morton was in prison at the time of Baker's murder, meaning that, while Morton was wrongfully imprisoned for a crime that he did not commit, the actual perpetrator was free and committed another horrendous crime.²³

As a direct result of the DNA testing and DNA database search requested by Morton, he was able to pursue a claim of actual innocence in the Texas Court of Criminal Appeals.²⁴ The district attorney agreed to release Morton on bond while his claim was pending, and on October 4, 2011, Morton was released from prison after serving nearly twenty-five years for a crime he did not commit.²⁵ In a case similar to Morton's, except for his access to the DNA database, another wrongfully-convicted man was denied access to the database and served another seven years before being exonerated.²⁶

enter them into DNA databases, so Norwood's DNA profile may have been in the DNA database because it was entered in connection with one of his prior felony convictions. See FBI, NATIONAL DNA INDEX SYSTEM (NDIS) OPERATIONAL PROCEDURES MANUAL 27 (2017) [hereinafter NDIS MANUAL], <https://www.fbi.gov/file-repository/ndis-procedures-manual-ver4-approved-04272016.pdf> [<https://perma.cc/J322-TD97>] (stating that the National DNA Index System ("NDIS") contains the DNA profiles of convicted offenders as well as other types of DNA profiles); *Know the Cases: Michael Morton*, *supra* note 1 (stating that Norwood was a convicted felon).

²² *Know the Cases: Michael Morton*, *supra* note 1. Baker was murdered in Travis County, Texas two years after Christine's murder. *Id.* Like Christine, Baker was beaten to death in her bed. *Id.* The investigation by Morton's defense team and the Travis County District Attorney's Office found that Norwood's pubic hair had been recovered from the scene of Baker's murder. *Profile of Michael Morton*, *supra* note 1. Norwood was charged with Christine's murder in November 2011, and, in March 2013, he was convicted and sentenced to life in prison. *Id.* In September 2016, Norwood was convicted of Baker's murder and given a second life sentence, to be served consecutively with his life sentence for Christine's murder. Brittany Glas, *Mark Norwood Found Guilty of 2nd Murder, Sentenced to Life*, KXAN (Sept. 23, 2016), <https://www.kxan.com/news/local/austin/closing-arguments-jury-deliberation-expected-friday-in-norwood-trial-day-9/995007001> [<https://perma.cc/ZY2T-MUV3>].

²³ See *Know the Cases: Michael Morton*, *supra* note 1 (stating that Baker was murdered while Morton was in prison). Had Norwood been identified as the true murder and convicted instead of Morton in 1987, Norwood would not have had the opportunity to murder Baker. See *id.*

²⁴ Pamela Colloff, *The Innocent Man, Part Two*, TEX. MONTHLY (Dec. 2012), <https://www.texasmonthly.com/articles/the-innocent-man-part-two> [<https://perma.cc/L9FM-RV9A>].

²⁵ *Id.*; *Know the Cases: Michael Morton*, *supra* note 1. For Morton's memoir describing his wrongful conviction and exoneration, see generally MICHAEL MORTON, GETTING LIFE: AN INNOCENT MAN'S 25-YEAR JOURNEY FROM PRISON TO PEACE: A MEMOIR (2015).

²⁶ Kreag, *supra* note 8, at 807–08, 807 n.7 (stating that the Texas DNA database administrator denied Rickey Dale Wyatt's request to access the DNA database in March 2005); *id.* at 808 n.9 (stating that Wyatt's conviction was vacated and he was released from prison in May 2012). See generally *Know the Cases: Rickey Dale Wyatt*, INNOCENCE PROJECT, <https://www.innocenceproject.org/cases/rickey-dale-wyatt> [<https://perma.cc/S9EK-CFK5>] (describing the case of Rickey Dale Wyatt); *Profile of Rickey Dale Wyatt*, NAT'L REGISTRY OF EXONERATIONS, <https://www.law.umich.edu/special/exoneration/Pages/casedetail.aspx?caseid=3973> [<https://perma.cc/W5BV-KYXV>] (describing the case of Rickey Dale Wyatt). In 1981, Wyatt was convicted of aggravated rape and sentenced to ninety-nine years in prison. Wyatt v. State, No. 05-04-01345-CR, 2005 WL 729960, at *1 (Tex. Ct. App. Mar. 31, 2005); see also Kreag, *supra* note 8, at 807; *Know the Cases: Rickey Dale Wyatt*, *supra*. A trial court

Between 1989 and the end of 2018, in the United States, 2,360 wrongfully convicted individuals were exonerated after spending an average of 8.7 years in prison for crimes they did not commit.²⁷ Several factors cause wrongful convictions: mistaken eyewitness identifications; false confessions; false informant testimony; police and prosecutorial misconduct; ineffective assistance of defense counsel; and flawed forensic science.²⁸ Flawed forensic science, in particular, has played a role in nearly one-quarter of all recorded

denied Wyatt's motion for post-conviction DNA testing in 2004, and an appellate court affirmed the denial on appeal. *Wyatt*, 2005 WL 729960, at *1, *4. Eventually, Wyatt obtained DNA testing, but the DNA evidence from the victim's sexual assault kit had degraded over time, and the laboratory could only identify a partial DNA profile. Kream, *supra* note 8, at 807. The partial DNA profile, however, excluded Wyatt as a source of the DNA in the sexual assault kit. *Id.* Nevertheless, the Texas DNA database administrator denied Wyatt's request for a DNA database search because the partial profile did not satisfy the requirements for a search. *Id.* at 807–08. Without the DNA database search, Wyatt could not identify the actual perpetrator of the crime he was wrongfully convicted of. *Id.* at 808. Wyatt's conviction was not overturned until 2012, after he had already served thirty-one years. *See Ex parte Wyatt*, No. AP-76797, 2012 WL 1647004 (Tex. Crim. App. May 9, 2012) (overturning Wyatt's conviction); *see also* Kream, *supra* note 8, at 808 n.9 (stating that Wyatt's conviction was overturned). The district attorney re-investigated Wyatt's case and dismissed the original indictment in 2014 based on his innocence. Kream, *supra* note 8, at 808 n.9; *see* Robert Wilonsky, *Dallas Man Who Served 31 Years in Prison for a Rape He Didn't Commit Finally Declared Innocent*, DALL. MORNING NEWS CRIME BLOG (Dec. 2014), <https://crimeblog.dallasnews.com/2014/12/dallas-man-who-served-31-years-in-prison-for-a-rape-he-didnt-commit-finally-declared-innocent.html> [<https://perma.cc/LA6U-72Z6>] (reporting on Wyatt's release from prison). Had Wyatt been permitted to search the DNA database, he might have been exonerated earlier. *See* Kream, *supra* note 8, at 808 n.9 (explaining that progress in Wyatt's case was delayed because he could not search the DNA database).

²⁷ *Exonerations in the United States*, NAT'L REGISTRY OF EXONERATIONS, <https://www.law.umich.edu/special/exoneration/Pages/Exonerations-in-the-United-States-Map.aspx> [<https://perma.cc/XBN2-8R6H?type=image>]. Wrongful conviction is defined as “[a] conviction of a person for a crime that he or she did not commit” or “[b]roadly, a conviction that has been overturned or vacated by an appellate court.” *Conviction*, BLACK'S LAW DICTIONARY (10th ed. 2014). In this Note, the term “wrongful conviction” refers to the first definition. *Id.* To exonerate is “[t]o clear of all blame; to officially declare (a person) to be free of guilt.” *Exonerate*, BLACK'S LAW DICTIONARY (10th ed. 2014). Exculpate means “[t]o be free from blame or accusation; esp., to prove not guilty.” *Exculpate*, BLACK'S LAW DICTIONARY (10th ed. 2014).

²⁸ James R. Acker et al., *Stepping Back—Moving Beyond Immediate Causes: Criminal Justice and Wrongful Convictions in Social Context*, in EXAMINING WRONGFUL CONVICTIONS: STEPPING BACK, MOVING FORWARD 6 (Allison D. Redlich et al. eds., 2014); *see Exonerations in the United States*, *supra* note 27 (listing “mistaken identification,” “false confession,” “bad forensic evidence,” “perjury/false accusation,” and “official misconduct” as contributing factors in the cases of exonerees included in the database). *See generally* EXAMINING WRONGFUL CONVICTIONS: STEPPING BACK, MOVING FORWARD (Allison D. Redlich et al. eds., 2014) (discussing several causes of wrongful convictions, including not only the aforementioned factors but also social factors, including racial bias, and psychological factors as well); BRANDON GARRETT, *CONVICTING THE INNOCENT: WHERE CRIMINAL PROSECUTIONS GO WRONG* (2011) (examining the causes of wrongful convictions). Prosecutors' use of defendants' prior criminal convictions to impeach them at trial, although allowed under Federal Rule of Evidence 609, may also contribute to wrongful convictions. Anna Roberts, *Impeachment by Unreliable Conviction*, 55 B.C. L. REV. 563, 578 (2014); Ric Simmons, *An Empirical Study of Rule 609 and Suggestions for Practical Reform*, 59 B.C. L. REV. 993, 1008 (2018). Additionally, prosecutors' self-interest may contribute to wrongful convictions. Bruce A. Green & Rebecca Roiphe, *Rethinking Prosecutors' Conflicts of Interest*, 58 B.C. L. REV. 463, 481 (2017).

wrongful convictions.²⁹ Since the development of DNA testing in the mid-1980s, it has become an important resource for exonerating wrongfully convicted individuals.³⁰ For some exonerees, like Morton, however, exculpatory DNA testing results alone have not been sufficient to establish innocence.³¹ Morton was not exonerated until a search of a law enforcement DNA database identified the actual perpetrator of the crime.³²

All fifty states and Congress have enacted post-conviction DNA testing statutes.³³ Only nine state statutes and the federal statute, however, contain provisions allowing post-conviction litigants access to DNA database searches.³⁴ Without statutory access, post-conviction litigants' access is left to the discretion of the law enforcement agencies that control the DNA databases.³⁵ Although some agencies may agree to a DNA database search, there is no guarantee that all post-conviction litigants will be granted a search like Morton was granted.³⁶

²⁹ % Exonerations by Contributing Factor, NAT'L REGISTRY OF EXONERATIONS, <http://www.law.umich.edu/special/exoneration/Pages/ExonerationsContribFactorsByCrime.aspx> [<https://perma.cc/TSQ8-QU9D>]. See generally GARRETT, *supra* note 28, at 84–117 (examining the role of flawed forensic science in wrongful convictions).

³⁰ See Krag, *supra* note 8, at 812 (explaining that DNA testing helps solve crimes); Michael P. Luongo, *Post-Conviction Due Process Right to Access DNA Evidence*: District Attorney's Office v. Osborne, 129 S. Ct. 2308 (2009), 29 TEMP. J. SCI. TECH. & ENVTL. L. 127, 130, 131 (2010) (explaining the value of DNA testing in criminal cases). See generally GARRETT, *supra* note 28 (examining the wrongful conviction cases of the first 250 DNA exonerees). There have been 350 DNA exonerations in the United States to date. *DNA Exonerations Database*, CONVICTING THE INNOCENT, <https://www.convictingtheinnocent.com> [<https://perma.cc/57WZ-HGNT>].

³¹ See Krag, *supra* note 8, at 806–07 (explaining that, after he obtained exculpatory post-conviction DNA testing, Michael Morton still needed access to search a DNA database in order to identify the actual perpetrator and prove his innocence).

³² *Id.*

³³ Krag, *supra* note 8, at 808; Ethan Bronner, *Lawyers, Saying DNA Cleared Inmate, Pursue Access to Data*, N.Y. TIMES, Jan. 3, 2013, at A1, <https://www.nytimes.com/2013/01/04/us/lawyers-saying-dna-cleared-inmate-pursue-access-to-data.html> [<https://perma.cc/9B5R-G9EQ>]; see 18 U.S.C. § 3600(e) (Supp. IV 2016) (providing for post-conviction DNA testing under federal law). For a list of all fifty states' post-conviction DNA testing statutes, see *Post-Conviction Relief Through DNA Testing*, 0030 SURVEYS 21 (West 2017).

³⁴ 18 U.S.C. § 3600(e); Kerry Abrams & Brandon L. Garrett, *DNA and Distrust*, 91 NOTRE DAME L. REV. 757, 779 (2015); Krag, *supra* note 8, at 808 & n.13; Bronner, *supra* note 33. The nine states are Colorado, Georgia, Illinois, Maryland, Mississippi, New York, North Carolina, Ohio, and Texas. See COLO. REV. STAT. § 18-1-412(9) (2017); GA. CODE ANN. § 5-5-41(9) (2017); 725 ILL. COMP. STAT. ANN. 5/116-5 (West 2017); MD. CODE ANN., CRIM. PROC. § 8-201(d)(2) (West 2017); MISS. CODE ANN. § 99-39-11(10) (2017); N.Y. CRIM. PROC. LAW § 440.30.1-a(c) (McKinney 2017); N.C. GEN. STAT. § 15A-269 (2017); OHIO REV. CODE ANN. § 2953.74(E) (West 2017); TEX. CODE CRIM. PROC. ANN. art. 64.035 (West 2017); see also Krag, *supra* note 8, at 808 n.13; Bronner, *supra* note 33.

³⁵ Krag, *supra* note 8, at 808–09.

³⁶ See *id.* (explaining that, in the absence of statutes granting post-conviction litigants access to DNA database searches, law enforcement agencies have discretion to decide whether to grant access). For example, law enforcement refused a DNA database search in Rickey Dale Wyatt's case. See *id.* at 807–08 (explaining the Texas DNA database administrator's denial of Wyatt's request for a DNA

This Note examines the role of flawed forensic science in wrongful convictions and the importance of access to post-conviction DNA testing and DNA database searches to exonerate wrongfully convicted individuals.³⁷ Part I of this Note provides an overview of flawed forensic science, the development of DNA testing, and the creation of DNA databases.³⁸ Part II explains the importance of DNA database searches following post-conviction DNA testing to prove innocence.³⁹ Part II also analyzes state and federal statutes granting defendants access to DNA database searches.⁴⁰ Finally, Part III argues that all state legislatures should amend their post-conviction DNA testing statutes to provide post-conviction litigants with access to DNA database searches.⁴¹ Alternatively, Part III argues that Congress should amend the federal post-conviction DNA testing statute to provide applicants wrongfully convicted of state offenses with access to DNA database searches under the federal statute.⁴²

I. THE ROLE OF FORENSIC SCIENCE IN WRONGFUL CONVICTIONS

Forensic science can help solve crimes, but it has also contributed to the wrongful convictions of hundreds of innocent individuals.⁴³ The forensic fea-

database search); *supra* note 26 (describing the case of Rickey Dale Wyatt, who was wrongfully convicted of aggravated rape and obtained exculpatory DNA testing results but was not allowed access to search any DNA databases). Both Morton and Wyatt were wrongfully convicted in Texas, demonstrating that different post-conviction litigants in the same state can receive different results. *See* Kreag, *supra* note 8, at 806–08 (describing the cases of Morton and Wyatt). It is important to note, however, that the Texas DNA database administrator’s decision not to allow Wyatt a database search was not arbitrary. *See id.* 807, 808, 808–09 (stating the reason for the database administrator’s denial). Rather, the DNA database administrator did provide an explanation for the denial—that the DNA testing resulted in a partial profile, and the partial profile did not meet the criteria that DNA database require to conduct a search. *Id.* at 808. As this Note explains in Part I.B.2.a., however, even though a partial profile does not meet the requirements established by the Federal Bureau of Investigation (FBI) for a search of the National DNA Index System (“NDIS”), it is still possible to perform a different type of DNA database search called a “keyboard search.” *Id.* at 816; *see* NDIS MANUAL, *supra* note 21, at 50–51 (explaining the requirements for a keyboard search of a partial DNA profile). Although a regular search of a DNA database requires uploading a complete profile for permanent addition to the DNA database, a keyboard search allows a DNA database administrator to manually enter a partial profile for a one-time search of the DNA database without uploading it permanently. Kreag, *supra* note 8, at 816; *see* NDIS MANUAL, *supra* note 21, at 50 (describing keyboard searches of partial DNA profiles).

³⁷ *See infra* notes 43–204 and accompanying text.

³⁸ *See infra* notes 43–117 and accompanying text.

³⁹ *See infra* notes 118–204 and accompanying text.

⁴⁰ *See infra* notes 118–204 and accompanying text.

⁴¹ *See infra* notes 205–236 and accompanying text.

⁴² *See infra* notes 205–236 and accompanying text.

⁴³ *See* GARRETT, *supra* note 28, at 6–7 (examining the first 250 DNA exonerations and the causes of the associated wrongful convictions, including flawed forensic science); Theodore Tibbits, Note, *Post-Conviction Access to DNA Testing: Why Massachusetts’s 278A Statute Should Be the Model for the Future*, 36 B.C. J.L. & SOC. JUST. 355, 360 (2016) (explaining that flawed forensic science tech-

ture-comparison methods, in particular, are unreliable and scientifically invalid.⁴⁴ DNA testing, however, is scientifically valid and reliable, and DNA testing has exonerated 350 wrongfully convicted individuals.⁴⁵ Law enforcement agencies have created DNA databases containing DNA profiles collected from known individuals and unsolved crimes.⁴⁶ Although a DNA database search can help prove a wrongfully convicted individual's innocence by identifying the actual perpetrator of the crime, not all post-conviction litigants have access to search these databases.⁴⁷

This Part provides background information on the role of forensic science in wrongful convictions.⁴⁸ Section A discusses flawed forensic science methods, which contributed to wrongful conviction in nearly one quarter of all exonerations in the United States since 1989.⁴⁹ Section B discusses the development of DNA testing and the creation of searchable DNA databases—both effective resources for remedying wrongful convictions.⁵⁰

niques have contributed to wrongful convictions, and that DNA testing has helped exonerate some of these wrongfully convicted individuals); % *Exonerations by Contributing Factor*, *supra* note 29 (showing that flawed forensic science was present in nearly one-quarter of all known wrongful convictions in the United States since 1989).

⁴⁴ NAT'L RESEARCH COUNCIL OF THE NAT'L ACADS., *STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD* 7–8 (2009) [hereinafter *NAS REPORT*]. The President's Council of Advisors on Science and Technology ("PCAST") defines the forensic "feature-comparison" methods as methods involving looking for physical similarities between pieces of crime-scene evidence and samples collected from suspects. EXECUTIVE OFFICE OF THE PRESIDENT: PRESIDENT'S COUNCIL OF ADVISORS ON SCIENCE AND TECHNOLOGY, *REPORT TO THE PRESIDENT: FORENSIC SCIENCE IN CRIMINAL COURTS: ENSURING SCIENTIFIC VALIDITY OF FEATURE-COMPARISON METHODS* 1 (2016) [hereinafter *PCAST REPORT*], https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/PCAST/pcast_forensic_science_report_final.pdf [<https://perma.cc/7TY8-7A2F>]. Examples of forensic feature-comparison methods include comparisons of "hair, latent fingerprints, firearms and spent ammunition, toolmarks and bitemarks, shoeprints and tiretracks, and handwriting." *Id.* The forensic feature-comparison methods are unreliable because their results are neither "consistent [n]or accurate." *See* GARRETT, *supra* note 28, at 86 (defining unreliability and characterizing feature-comparison methods as unreliable).

⁴⁵ *NAS REPORT*, *supra* note 44, at 7; *DNA Exonerations Database*, *supra* note 30; *see infra* notes 72–81 and accompanying text (describing DNA testing methods).

⁴⁶ Kreag, *supra* note 8, at 812, 815. There is a federal DNA database as well as state and local DNA databases. *Id.* at 812–13; *see infra* notes 82–117 and accompanying text (describing DNA databases).

⁴⁷ Kreag, *supra* note 8, at 808–09; *see, e.g., supra* note 26 (describing the case of Rickey Dale Wyatt, who was wrongfully convicted of aggravated rape and obtained exculpatory DNA testing results but was not allowed access to search any DNA databases).

⁴⁸ *See infra* notes 51–117 and accompanying text.

⁴⁹ *See infra* notes 51–66 and accompanying text.

⁵⁰ *See infra* notes 67–117 and accompanying text.

A. Flawed Forensic Science

Forensic science is the application of scientific techniques to help solve crimes.⁵¹ Some forensic methods, such as serology (blood type testing) and DNA testing, are reliable and scientifically valid and thus are helpful in answering legal questions.⁵² In 2009, however, the National Academy of Sciences (“NAS”) released a report criticizing other commonly used forensic methods that have not been proven scientifically valid.⁵³ Courts have admitted testimony based on unreliable forensic methods in some cases because the standards for admitting scientific evidence construct an analysis that is flexible, gives discretion to trial judges, and has failed to exclude this evidence.⁵⁴

⁵¹ See GARRETT, *supra* note 28, at 85 (defining forensic science as “the use of science to help answer legal questions”); Michael J. Saks & David L. Faigman, *Failed Forensics: How Forensic Science Lost Its Way and How It Might Yet Find It*, 4 ANN. REV. L. & SOC. SCI. 149, 152 (2008) (stating that “forensic science is routinely defined as ‘the application of science to problems of law’”). The legal definition of forensic science is:

A broad range of evidence-related disciplines, some laboratory-based (as with nuclear and mitochondrial-DNA analysis, toxicology, and drug analysis), others based on interpretation of observed patterns (as with fingerprints, writing samples, tool marks, bite marks, and specimens), and still others based on a combination of experiential and scientific analysis (as with explosive and fire-debris analysis, blood-spatter analysis).

Forensic Science, BLACK’S LAW DICTIONARY (10th ed. 2014).

⁵² See GARRETT, *supra* note 28, at 86, 94 (describing serology as a reliable method); NAS REPORT, *supra* note 44, at 7–8, 40–41 (describing DNA testing as the only consistently accurate and reliable forensic method); Tibbits, *supra* note 43, at 361 (stating that DNA testing and serology have “sound scientific bases”). A forensic method is unreliable if its results are neither consistent nor accurate. GARRETT, *supra* note 28, at 86. Serology is also referred to as ABO blood-typing. *Id.* Each person has one of the four blood types—either A, B, AB, or O—and a person’s blood type remains the same throughout his or her entire life. *Id.* In a serological analysis, a forensic examiner performs a chemical test to determine the blood type of a sample, and the results are objective, not based on the examiner’s subjective opinion. *Id.* When a forensic examiner compares a suspect’s blood type to the blood type of a bodily fluid from a crime scene, such as blood or semen, the examiner concludes that the suspect is either included or excluded as a possible contributor to the sample. *Id.* Using databases, the examiner can determine the frequency of each blood type in the population and thus determine what percentage of the population shares the suspect’s blood type. *Id.* If the suspect shares the same blood type as the crime-scene sample, not only is the suspect included as a possible contributor, but the percentage of the world’s population that shares the suspect’s blood type is also included as a possible contributor. *Id.*

⁵³ NAS REPORT, *supra* note 44, at 111–82. In contrast to serology, the forensic feature-comparison methods, such as hair microscopy, do not produce consistent and accurate results because they are based on forensic examiners’ personal opinions, and examiners’ opinions vary. GARRETT, *supra* note 28, at 86; see *supra* note 52 (describing serology, which is reliable).

⁵⁴ NAS REPORT, *supra* note 44, at 85–111; see FED. R. EVID. 702; *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 589, 592–94 (1993). The admission of unreliable forensic evidence has contributed to several wrongful convictions. See GARRETT, *supra* note 28, at 85–101 (examining flawed forensic evidence admitted in wrongful conviction cases); % *Exonerations by Contributing Factor*, *supra* note 29 (showing that flawed forensic science was present in nearly one-quarter of all known wrongful convictions in the United States since 1989). The standard for admitting scientific expert witness testimony is Federal Rule of Evidence 702, which the United States Supreme Court

As of December 20, 2018, there have been 2,360 exonerations in the United States since 1989.⁵⁵ In each case, an innocent defendant was wrongfully convicted for a crime that he or she did not commit.⁵⁶ Bad forensic evidence was a contributing factor in 552 (23%) of these cases.⁵⁷ The incidence of flawed forensic science is even higher for DNA exonerations, which usually are rape and rape-murder cases, where biological evidence is common.⁵⁸

In 2005, in the Science, State, Justice, Commerce, and Related Agencies Appropriations Act of 2006, Congress gave the NAS permission to conduct a forensic science study previously recommended in a Senate Report.⁵⁹ In the

held, in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* in 1993, incorporates a flexible reliability standard. See FED. R. EVID. 702; *Daubert*, 509 U.S. at 589, 592–94. Even though both Rule 702 and *Daubert* instruct courts to consider the reliability of scientific methods, because the *Daubert* standard is flexible, judges have discretion and may admit evidence based on unreliable forensic methods. See NAS REPORT, *supra* note 44, at 85–111; see also FED. R. EVID. 702; *Daubert*, 509 U.S. at 589, 592–94.

⁵⁵ *Exonerations in the United States*, *supra* note 27. The National Registry of Exonerations (“Registry”), founded in 2012, provides information about all United States exonerations since 1989 with the goal of preventing future wrongful convictions. NATIONAL REGISTRY OF EXONERATIONS: OUR MISSION, <https://www.law.umich.edu/special/exoneration/Pages/mission.aspx> [<https://perma.cc/24CE-MW9C>]. The Newkirk Center for Science & Society at University of California Irvine, the University of Michigan Law School, and Michigan State University College of Law maintain the Registry. *Id.* The Registry defines exoneration as “occur[ing] when a person who has been convicted of a crime is officially cleared based on new evidence of innocence.” *Glossary*, NAT’L REGISTRY OF EXONERATIONS <https://www.law.umich.edu/special/exoneration/Pages/glossary.aspx> [<https://perma.cc/QDV9-ZJH4>]. Specifically, any of the following qualifies as exoneration: (1) a government official or agency declares the person “factually innocent”; or (2) a court or government official removes the conviction by (i) granting a full pardon, (ii) acquitting the person of the charges, or (iii) dismissing the charges. *Id.*

⁵⁶ *Glossary*, *supra* note 55. Of the 2,360 exonerees included in the Registry as of December 20, 2018, 2,147 (91%) are male, and 213 (9%) are female. *Exonerations in the United States*, *supra* note 27. On average, each exoneree lost 8.7 years of his or her life to wrongful conviction. *Id.*

⁵⁷ % *Exonerations by Contributing Factor*, *supra* note 29. Other causes of wrongful conviction include mistaken eyewitness identification, false confessions, informant testimony, police and prosecutorial misconduct, and ineffective assistance of counsel. See generally GARRETT, *supra* note 28 (examining the causes of wrongful conviction, including flawed forensic science, in the first 250 DNA exonerations). In some cases, more than one factor contributed to a wrongful conviction. See % *Exonerations by Contributing Factor*, *supra* note 29 (showing that the sum of the percentages of cases involving each factor add up to greater than 100%, because some cases involved more than one factor).

⁵⁸ See GARRETT, *supra* note 28, at 5 (explaining that, out of the first 250 DNA exonerations, the most common crimes were rape, rape-murder, and murder, whereas other crimes, like robbery, were much less common); *id.* at 12 (stating that DNA is not present at the scenes of most crimes but is more commonly present at the scenes of rapes); *id.* at 263 (stating that DNA testing is typically performed in rape cases, and DNA exonerations are usually rape and rape-murder cases); *id.* at 271 (explaining that DNA testing is not possible in cases involving crimes like robbery because robbers rarely leave biological material at the crime scene).

⁵⁹ NAS REPORT, *supra* note 44, at 1; see Science, State, Justice, Commerce, and Related Agencies Appropriations Act of 2006, Pub. L. No. 109-108, 119 Stat. 2290 (2005); H.R. REP. NO. 109-272, at 121 (2005) (Conf. Rep.); S. REP. NO. 109-88, at 46 (2005). According to the Senate Report, the Senate believed that substantial analysis had been conducted regarding laboratories’ needs for re-

fall of 2006, pursuant to that congressional authorization, the NAS established the Committee on Identifying the Needs of the Forensic Science Community to conduct the study.⁶⁰ In 2009, the NAS released its report—*Strengthening Forensic Science in the United States: A Path Forward* (“NAS Report”)—summarizing its findings on the current state of forensic science in the United States and providing thirteen recommendations for improvements necessary to achieve best practices.⁶¹ Regarding the current state of forensic science, the

sources and guidance in order to perform DNA testing, but there had been only minimal analysis of other aspects of forensic science. S. REP. NO. 109-88, at 46. The Senate Report directed the NAS to establish an independent Forensic Science Committee comprised of members of the forensic science community, including forensic scientists, medical examiners, members of the legal community, and other scientists. *Id.* The Senate Report instructed the Forensic Science Committee to:

(1) assess the present and future resource needs of the forensic science community, to include State and local crime labs, medical examiners, and coroners; (2) make recommendations for maximizing the use of forensic technologies and techniques to solve crimes, investigate deaths, and protect the public; (3) identify potential scientific advances that may assist law enforcement in using forensic technologies and techniques to protect the public; (4) make recommendations for programs that will increase the number of qualified forensic scientists and medical examiners available to work in public crime laboratories; (5) disseminate best practices and guidelines concerning the collection and analysis of forensic evidence to help ensure quality and consistency in the use of forensic technologies and techniques to solve crimes, investigate deaths, and protect the public; (6) examine the role of the forensic community in the homeland security mission; (7) [examine] interoperability of Automated Fingerprint Information Systems [“AFIS”]; and (8) examine additional issues pertaining to forensic science as determined by the Committee.

Id.; see NAS REPORT, *supra* note 44, at 1–2.

⁶⁰ NAS REPORT, *supra* note 44, at 2. The Committee on Identifying the Needs of the Forensic Science Community was composed of members representing the forensic science community, the legal community, and other scientific disciplines, such as biology, chemistry, and statistics. *Id.* at v. The committee held eight two-day meetings during 2008, at which the committee’s members listened to expert testimony on a variety of forensic science issues and deliberated. *Id.* at 2–4. The committee’s goal was to provide recommendations to serve as a roadmap for future forensic science progress. *Id.* at xix.

⁶¹ See generally NAS REPORT, *supra* note 44. In its report, the NAS first recommended that Congress establish the National Institute of Forensic Science (“NIFS”) “to support and oversee the forensic science disciplines,” and then made twelve recommendations related to the proposed NIFS’s work. *Id.* at 19–33. The NAS noted that a broad range of disciplines fall within the term “forensic science,” and it adopted the National Institute of Justice’s (“NIJ”) categorization of forensic science disciplines: “(1) general toxicology; (2) firearms/toolmarks; (3) questioned documents; (4) trace evidence; (5) controlled substances; (6) biological/serology screening (including DNA analysis); (7) fire debris/arson analysis; (8) impression evidence; (9) blood pattern analysis; (10) crime scene investigation; (11) medicolegal death investigation; and (12) digital evidence.” *Id.* at 38; *Status and Needs of Forensic Science Service Providers: A Report to Congress*, NAT’L INST. OF JUSTICE 3 (2004), <https://www.ncjrs.gov/pdffiles1/nij/213420.pdf> [<https://perma.cc/JME7-FE3P>]. The forensic science disciplines generally can be divided into two categories—laboratory-based disciplines and pattern-interpretation-based disciplines. NAS REPORT, *supra* note 44, at 38. The laboratory-based disciplines include nuclear DNA testing, mitochondrial DNA testing, toxicology, and drug analysis, whereas the pattern-interpretation-based disciplines include the analysis of fingerprints, writing samples, tool marks, and bite marks, as well as hair microscopy. *Id.*; see GARRETT, *supra* note 28, at 95 (describing

NAS Report concluded that DNA testing is the only forensic method that produces consistent results and has a high degree of certainty.⁶² In contrast, other common forensic methods, including the forensic feature-comparison methods, are not supported by sufficiently rigorous scientific studies, and thus they are unreliable and scientifically invalid.⁶³

The term “forensic feature-comparison method” refers to any forensic method where an examiner compares the features of two items of forensic evidence next to each other, often under a microscope, and reaches a subjective conclusion, deciding whether the items are consistent or inconsistent with each other, entirely based on the examiner’s opinion.⁶⁴ Examples of forensic feature-comparison methods include hair microscopy, fiber comparison, bite mark comparison, fingerprint comparison, tool mark comparison, bullet casing comparison, shoe print comparison, and voice comparison.⁶⁵ Because these flawed forensic methods are unreliable, they have produced inaccurate results in some cases and contributed to wrongful convictions.⁶⁶

hair microscopy as looking through a microscope to compare crime-scene hairs against hairs from victims and suspects). The pattern-interpretation based disciplines are also called the forensic “feature-comparison” methods. See PCAST REPORT, *supra* note 44, at 1 (defining the forensic “feature-comparison” methods).

⁶² NAS REPORT, *supra* note 44, at 7; Keith A. Findley, *Reforming the ‘Science’ in Forensic Science*, WIS. LAW. (Nov. 2015), <https://www.wisbar.org/NewsPublications/WisconsinLawyer/Pages/Article.aspx?Volume=88&Issue=10&ArticleID=24435> [<https://perma.cc/8LTG-8XMU>].

⁶³ See NAS REPORT, *supra* note 44, at 7 (stating that DNA testing is the only forensic method that has been shown to be consistently accurate and reliable); Findley, *supra* note 62 (stating that the NAS concluded in its report that most forensic methods, except DNA testing, are “fundamentally unscientific”).

⁶⁴ GARRETT, *supra* note 28, at 85–86, 95. For instance, in hair microscopy, an analyst might compare under a microscope a pubic hair collected from the scene of a rape to a reference sample of the suspected perpetrator’s pubic hair. See *id.* (describing hair microscopy).

⁶⁵ *Id.* at 85, 90. Each of these methods involves comparing two items side-by-side. *Id.* at 85.

⁶⁶ *Id.* at 90 (explaining that many exonerees’ convictions were “based on forensic methods that were unreliable”); see % *Exonerations by Contributing Factor*, *supra* note 29 (showing that flawed forensic science was present in nearly one-quarter of all known wrongful convictions in the United States since 1989). See generally GARRETT, *supra* note 28, at 84–117 (examining flawed forensic science in 250 DNA exonerations). In response to the exonerations of three men convicted based on flawed hair microscopy, the FBI began reviewing cases where its analysts testified about hair microscopy. *FBI Testimony on Microscopic Hair Analysis Contained Errors in at Least 90 Percent of Cases in Ongoing Review*, FBI (Apr. 20, 2015), <https://www.fbi.gov/news/pressrel/press-releases/fbi-testimony-on-microscopic-hair-analysis-contained-errors-in-at-least-90-percent-of-cases-in-ongoing-review> [<https://perma.cc/QWA6-H5QG>]. The FBI began its review in 2012, and in 2015, the agency admitted that its analysts’ testimony about microscopic hair comparison was flawed. *FBI Testimony on Microscopic Hair Analysis Contained Errors in at Least 90 Percent of Cases in Ongoing Review*, *supra*; Spencer S. Hsu, *FBI Admits Flaws in Hair Analysis over Decades*, WASH. POST (Apr. 18, 2015), https://www.washingtonpost.com/local/crime/fbi-overstated-forensic-hair-matches-in-nearly-all-criminal-trials-for-decades/2015/04/18/39c8d8c6-e515-11e4-b510-962fcfab310_story.html [<https://perma.cc/UTS5-KH3T>]; Spencer S. Hsu, *Justice Dept., FBI to Review Use of Forensic Evidence in Thousands of Cases*, WASH. POST (July 10, 2012), <https://www.washingtonpost.com/>

B. The Development of DNA Testing and DNA Databases

In contrast to the forensic feature-comparison methods, DNA testing is scientifically valid and reliable.⁶⁷ Unlike the forensic feature-comparison methods, which have contributed to wrongful convictions, DNA testing has remedied 350 wrongful convictions since 1989.⁶⁸ Not only have scientists improved DNA testing techniques over time, but law enforcement agencies have created DNA databases to expand the ability of DNA testing to identify perpetrators and solve crimes.⁶⁹ These databases contain the DNA profiles of known offenders as well as profiles collected from the scenes of unsolved crimes.⁷⁰ The databases have search functions, allowing law enforcement to compare new DNA profiles against the DNA profiles stored in the databases.⁷¹

1. DNA Testing

The current standard for DNA profiling is a DNA testing technique called polymerase chain reaction (“PCR”).⁷² Scientists developed PCR in the mid-1980s, and in 1989, PCR-based DNA testing was used for the first time to exonerate a wrongfully convicted person, Gary Dotson.⁷³ The PCR technique can

local/crime/justice-dept-fbi-to-review-use-of-forensic-evidence-in-thousands-of-cases/2012/07/10/gJQAT6DlbW_story.html [https://perma.cc/3LXA-H4EP].

⁶⁷ NAS REPORT, *supra* note 44, at 7; Findley, *supra* note 62. DNA, which stands for deoxyribonucleic acid, makes up the human genetic code. LISA R. KREEGER & DANIELLE M. WEISS, AM. PROSECUTORS RESEARCH INST., FORENSIC DNA FUNDAMENTALS FOR THE PROSECUTOR: BE NOT AFRAID 3 (2003). Each DNA molecule is composed of several nucleotides. *Id.* There are four different nucleotides, also called “bases,” which are adenine (A), cytosine (C), guanine (G), and thymine (T). *Id.* at 3–4. Human beings share 99.99% of their DNA, but the other 0.01% of a person’s DNA is different in every individual (except for identical twins, who share 100% of their DNA). *Id.* at 3–4.

⁶⁸ DNA Exonerations Database, *supra* note 30 (cataloging the 350 DNA exonerations to date and listing the earliest year of exoneration as 1989). *See generally* GARRETT, *supra* note 28 (examining the cases of 250 DNA exonerations).

⁶⁹ Kreag, *supra* note 8, at 812–14.

⁷⁰ *Id.* at 815–16.

⁷¹ *Id.* at 816.

⁷² KREEGER & WEISS, *supra* note 67, at 9; U.S. DEP’T OF JUSTICE, NAT’L INST. OF JUSTICE, THE FUTURE OF FORENSIC DNA TESTING: PREDICTIONS OF THE RESEARCH AND DEVELOPMENT WORKING GROUP 17 (2011) [hereinafter DOJ PREDICTIONS], <https://www.ncjrs.gov/pdffiles1/nij/183697.pdf> [https://perma.cc/6TD6-JM2V]; Luongo, *supra* note 30, at 130. The PCR technique is capable of replicating a small sample of DNA until there is enough to be analyzed. KREEGER & WEISS, *supra* note 67, at 8–9. Before PCR was developed, a different DNA profiling technique, called Restriction Fragment Length Polymorphism (“RFLP”) was used. Luongo, *supra* note 30, at 130; Tibbits, *supra* note 43, at 363. British geneticist Sir Alec John Jeffreys and his colleagues developed the RFLP DNA profiling method in 1985. DOJ PREDICTIONS, *supra*, at 14; Luongo, *supra* note 30, at 130; Tibbits, *supra* note 43, at 363; A.J. Jeffreys et al., *Individual-Specific ‘Fingerprints’ of Human DNA*, 316 NATURE 76, 76 (1985). When PCR was developed, it replaced RFLP as the standard for DNA profiling. *See* Luongo, *supra* note 30, at 130 (explaining RFLP and PCR, and describing PCR as the current standard).

⁷³ Brandon L. Garrett & Peter J. Neufeld, *Invalid Forensic Science Testimony and Wrongful Convictions*, 95 VA. L. REV. 1, 4 (2009); Luongo, *supra* note 30, at 130; Rachel Steinback, *The Fight for*

be used on small and degraded DNA samples.⁷⁴ This sensitivity is an important advantage over prior DNA testing techniques, especially in the post-conviction DNA testing context, where degraded samples are common.⁷⁵

Two types of PCR-based DNA typing are performed today—Short Tandem Repeat (“STR”) and mitochondrial DNA (“mtDNA”) typing.⁷⁶ Each technique evaluates a different type of DNA—the STR technique evaluates DNA from the cell’s nucleus, whereas mtDNA testing evaluates DNA from the cell’s mitochondria.⁷⁷ The STR method can be used to obtain a DNA profile from

Post-Conviction DNA Testing Is Not Yet Over: An Analysis of the Eight Remaining “Holdout States” and Suggestions for Strategies to Bring Vital Relief to the Wrongfully Convicted, 98 J. CRIM. L. & CRIMINOLOGY 329, 335 (2007); Tibbits, *supra* note 43, at 363. In July 1979, Gary Dotson was wrongfully convicted of rape and kidnapping in Cook County, Illinois and sentenced to twenty-five to fifty years in prison. *Profile of Gary Dotson*, NAT’L REGISTRY OF EXONERATIONS, <https://www.law.umich.edu/special/exoneration/Pages/casedetail.aspx?caseid=3186> [<https://perma.cc/E6AZ-F2SA>]. The victim was 16-year-old Cathleen Crowell. *Id.* On the night of July 9, 1977, Crowell told a police officer that she had been raped, and he took her to a hospital for an examination. *Id.* Crowell had superficial cuts on her stomach, and there was semen on her underwear. *Id.* Police showed Crowell a book of mugshot photographs, and she identified 24-year-old Dotson’s photograph. *Id.* At trial, the only evidence against Dotson was Crowell’s identification of him and forensic testimony. *Id.* The forensic testimony was incorrect, but the defense did not challenge it, and the judge did not question it. *Id.* Several years later, in 1982, Crowell (now Cathleen Crowell Webb) and her husband, David Webb, moved to Jaffrey, New Hampshire. *Id.* In New Hampshire, in 1985, Webb told her pastor that she had invented the rape allegation against Dotson, and she felt guilty. *Id.* The truth was that she never had been raped. *Id.* In fact, she invented the rape story because she had sex with her boyfriend and feared that she would become pregnant. *Id.* She wanted to use the rape story to cover up a possible pregnancy by her boyfriend. *Id.* She did not, however, become pregnant by her boyfriend. *Id.* When Webb’s attorney found out that Webb had recanted, he contacted the prosecutors, but they claimed that Webb was lying. *Id.* In 1987, a new attorney took on Dotson’s case and asked Illinois Governor James A. Thompson to order DNA testing. *Id.* In 1988, DNA testing excluded Dotson as a source of the DNA in the semen stain on Webb’s underwear, and DNA testing positively included Webb’s former boyfriend as the source of the DNA. *Id.* On August 14, 1989, the prosecution joined Dotson’s motion to vacate his conviction. *Id.* On January 9, 2003, Dotson was granted a pardon based on innocence. *Id.*

⁷⁴ KREEGER & WEISS, *supra* note 67, at 9; Luongo, *supra* note 30, at 130; Tibbits, *supra* note 43, at 364. In contrast, the previous method, RFLP, requires a larger amount of genetic material. Luongo, *supra* note 30, at 130; see Tibbits, *supra* note 43, at 364 (stating that PCR does not require as much DNA as RFLP requires).

⁷⁵ See Kregag, *supra* note 8, at 816 (explaining that DNA degrades over time, and when degraded DNA is tested, the resulting DNA profile may be partial, not complete); Luongo, *supra* note 30, at 130 (stating that PCR “can be performed on samples that are too small or degraded for RFLP”). On average, wrongfully convicted individuals whose cases involved DNA lost 14.7 years to wrongful incarceration, and some DNA exonerees lost thirty-five years or more. See *Exonerations in the United States*, *supra* note 27 (select “Present” next to “DNA” to filter for cases involving DNA)). Because post-conviction DNA testing is often performed many years after the crime was committed, it is common for DNA found on crime scene evidence to have degraded by the time it is tested. See Kregag, *supra* note 8, at 816 (stating that DNA degrades over time); Luongo, *supra* note 30, at 130 (stating that crime scene DNA samples are often degraded).

⁷⁶ DOJ PREDICTIONS, *supra* note 72, at 17–19; KREEGER & WEISS, *supra* note 67, at 9, 11; Luongo, *supra* note 30, at 130–31.

⁷⁷ DOJ PREDICTIONS, *supra* note 72, at 18; KREEGER & WEISS, *supra* note 67, at 11; Luongo, *supra* note 30, at 131. Mitochondria have their own DNA, which is different than the DNA in the

nearly all types of biological samples.⁷⁸ The mtDNA testing method is useful to analyze evidence that is too degraded for STR analysis, because mitochondrial DNA is more stable than nuclear DNA.⁷⁹ MtDNA testing is sometimes used on hair shafts.⁸⁰ Not only is PCR-based DNA profiling commonly used today, but also, most importantly, unlike the forensic feature-comparison methods, PCR is scientifically valid and reliable.⁸¹

2. DNA Databases

In 1990, not long after scientists invented DNA testing, the Federal Bureau of Investigation (FBI) began creating and piloting the Combined DNA Index System (“CODIS”), which today supports a national network of DNA databases.⁸² Four years later, in 1994, Congress passed the DNA Identification Act (“DNA Act”), allowing the FBI to create a national DNA database.⁸³ Under the DNA Act, the national DNA database can contain the known-offender DNA profiles of convicted offenders and unknown-DNA profiles obtained

cell’s nucleus. DOJ PREDICTIONS, *supra* note 72, at 18; KREEGER & WEISS, *supra* note 67, at 11. MtDNA is found in blood, bodily fluids, hair, teeth, skin, bone, and muscle. KREEGER & WEISS, *supra* note 67, at 11. Each individual inherits mtDNA from his or her mother, so mtDNA testing can trace maternal ancestry. *Id.* at 18.

⁷⁸ See KREEGER & WEISS, *supra* note 67, at 7 (“Nuclear DNA is found in every cell and tissue of the body, except for red blood cells.”). A variation of STR testing, called “Y-STR” testing tests nuclear DNA on the Y-chromosome only. See DOJ PREDICTIONS, *supra* note 72, at 19 (describing Y-STR testing). Although the STR technique can be used to evaluate both male and female DNA profiles, Y-STR testing is only used for male profiles because it analyzes the Y chromosome, which is only present in men. *Id.* Because each man inherits his Y chromosome from his father, Y-STR testing can also trace male ancestry. *Id.* at 19.

⁷⁹ KREEGER & WEISS, *supra* note 67, at 12.

⁸⁰ DOJ PREDICTIONS, *supra* note 72, at 18; Luongo, *supra* note 30, at 131.

⁸¹ See NAS REPORT, *supra* note 44, at 7 (concluding that DNA testing is the only forensic method that has been scientifically proven to be consistently accurate and reliable).

⁸² *Combined DNA Index System (CODIS)*, FBI, <https://www.fbi.gov/services/laboratory/biometric-analysis/codis> [<https://perma.cc/GDL5-TA86>]; see Kreeg, *supra* note 8, at 812 (explaining that law enforcement began using DNA testing and creating a DNA database soon after DNA was discovered). “CODIS” refers to the FBI’s program and software that support DNA databases. *Frequently Asked Questions on CODIS and NDIS*, FBI, <https://www.fbi.gov/services/laboratory/biometric-analysis/codis/codis-and-ndis-fact-sheet> [<https://perma.cc/WZK2-8MA9>]. Sometimes, the term “CODIS” is also used to refer collectively to all of the DNA databases that participate in the FBI’s program. See *id.* (defining CODIS). During the pilot program in 1990, only fourteen state and local law enforcement laboratories participated in the program. *Combined DNA Index System (CODIS)*, *supra*. Today, more than 190 law enforcement agencies participate in the FBI’s DNA database program, and on the international level, more than fifty countries use the CODIS software for their DNA databases. *Id.*

⁸³ 42 U.S.C. § 14132 (1994); Kreeg, *supra* note 8, at 812. The DNA Act is a subsection of the Violent Crime Control and Law Enforcement Act of 1992. See Kreeg, *supra* note 8, at 813. As of September 1, 2017, the DNA Act has been moved to 34 U.S.C. § 12592. See 34 U.S.C.A. § 12592 (West 2017). The official title of the DNA Act is “Index to facilitate law enforcement exchange of DNA identification information.” *Id.*; see also Kreeg, *supra* note 8, at 813.

from crime scene evidence as well as other types of data.⁸⁴ Congress intended for the DNA Act to help law enforcement identify criminal suspects and thus solve and prosecute crimes.⁸⁵ In 2002, in *United States v. Reynard*, the United States District Court for the Southern District of California noted that Congress also intended for the DNA database to make the criminal justice system more effective by reducing the possibility of law enforcement wrongly holding innocent individuals.⁸⁶ Consistent with these goals, law enforcement can search DNA databases whenever needed, such as during an investigation to try to identify a perpetrator whose DNA was collected from a crime scene.⁸⁷ Even though one of its goals is avoiding the detention of innocent individuals, the DNA Act does not provide either pre-trial defendants or post-conviction litigants access to DNA database searches.⁸⁸

Pursuant to the DNA Act, the FBI established the National DNA Index System (“NDIS”) in October 1998, and it continues to be used today.⁸⁹ NDIS is a

⁸⁴ 34 U.S.C. § 12592; *see also* Kreag, *supra* note 8, at 812. The DNA Act authorizes the FBI’s DNA database to include the following: (1) DNA profiles of convicted offenders, individuals charged with crimes in indictments or informations, and other individuals whose DNA samples were collected legally; (2) DNA profiles obtained from crime scenes; (3) DNA profiles collected from unidentified human remains; and (4) DNA profiles that relatives of missing persons volunteer. 34 U.S.C. § 12592(a)(1)–(4). Indictments and informations are two types of charging instruments, or “formal legal documents by which a person can be officially charged with a crime.” *Charging Instrument*, BLACK’S LAW DICTIONARY (10th ed. 2014). An indictment is “[t]he formal written accusation of a crime, made by a grand jury and presented to a court for prosecution against the accused person.” *Indictment*, BLACK’S LAW DICTIONARY (10th ed. 2014). An information is “[a] formal criminal charge made by a prosecutor without a grand-jury indictment.” *Information*, BLACK’S LAW DICTIONARY (10th ed. 2014).

⁸⁵ *See* Sandra J. Carnahan, *The Supreme Court’s Primary Purpose Test: A Roadblock to the National Law Enforcement DNA Database*, 83 NEB. L. REV. 1, 28, 37–38 (2004); Kreag, *supra* note 8, at 813; *see also* H.R. REP. NO. 106-900, pt. 1 (2000), *as reprinted in* 2002 U.S.C.C.A.N. 2323.

⁸⁶ *United States v. Reynard*, 220 F. Supp. 2d 1142, 1161 (2002) (stating that Congress intended for the DNA database to “increase the efficacy of the criminal justice system by ‘eliminat[ing] the prospect that innocent individuals w[ill] be wrongly held for crimes that they did not commit’”) (quoting 146 CONG. REC. H8572-01, at H8575); Kreag, *supra* note 8, at 813 n.32.

⁸⁷ *See* Kreag, *supra* note 8, at 816 (stating that “the quintessential goal” of DNA databases is “to help law enforcement solve cases by linking DNA profiles from known individuals to DNA profiles from unsolved crimes”).

⁸⁸ *See* NDIS MANUAL, *supra* note 21, at 32 (stating that the Federal DNA Act does not give defendants permission to search DNA databases); David H. Kaye, *Trawling DNA Databases for Partial Matches: What Is the FBI Afraid Of?*, 19 CORNELL J.L. & PUB. POL’Y 145, 167 (2009) (stating that the DNA Identification Act of 1994 does not give a defendant access to DNA profiles unrelated to his or her case); Kreag, *supra* note 8, at 814 (stating that the DNA Identification Act does not give defendants authorization to search DNA databases themselves).

⁸⁹ Kreag, *supra* note 8, at 812; *Frequently Asked Questions on CODIS and NDIS*, *supra* note 82; *see* CODIS BROCHURE, FBI, <https://www.fbi.gov/file-repository/combined-dna-index-system-codis-brochure.pdf> [<https://perma.cc/9STY-4R6E>]; NDIS MANUAL, *supra* note 21, at 4. As of December 2018, NDIS contains the DNA profiles of more than 13,566,716 offenders and more than 3,323,611 arrestees. *CODIS—NDIS Statistics*, FBI, <https://www.fbi.gov/services/laboratory/biometric-analysis/codis/ndis-statistics> [<https://perma.cc/3Q3K-S5KV>].

national DNA database that is part of CODIS, and it includes DNA profiles contributed not only by federal forensic laboratories, but also state and local forensic laboratories as well.⁹⁰ The federal government, all fifty states, the District of Columbia, Puerto Rico, and the U.S. Army Criminal Investigation Laboratory all contribute to NDIS.⁹¹ Additionally, local and state law enforcement agencies also operate their own DNA databases independent from the FBI's NDIS.⁹² Less is known about these databases, because, unlike NDIS, their operational regulations are not available to the public.⁹³ All of the databases, however, are maintained by law enforcement agencies, and post-conviction litigants can search the databases only if a database administrator, a court, or a statute provides access.⁹⁴

3. Searching the National DNA Index System

NDIS contains both known-offender DNA profiles from convicted offenders and unknown-DNA profiles from unsolved crimes.⁹⁵ Law enforcement agencies enter DNA profiles from crime scenes into the database as they are collected, and, on a weekly basis, NDIS automatically compares these crime-scene DNA profiles to the known-offender and unknown-DNA profiles stored in the database.⁹⁶ Law enforcement agencies can also perform two types of

⁹⁰ *Frequently Asked Questions on CODIS and NDIS*, *supra* note 82.

⁹¹ *Id.* To participate in NDIS, laboratories must meet several requirements, including being considered a “criminal justice agency,” being accredited in DNA testing, and complying with the federal record expungement requirements in § 12592(d). 34 U.S.C.A. § 12592 (West 2017); NDIS MANUAL, *supra* note 21, at 12–14. By meeting the requirements and participating in NDIS, a laboratory gains the benefits of a sublicense to use the CODIS software and the ability to upload DNA profiles to NDIS. *Id.* at 14–15.

⁹² Kreag, *supra* note 8, at 812–13.

⁹³ Kreag, *supra* note 8, at 813; see Erin Murphy, *Relative Doubt: Familial Searches of DNA Databases*, 109 MICH. L. REV. 291, 347 (2010) (characterizing state and local databases as “rogue” and “informal”).

⁹⁴ Kreag, *supra* note 8, at 807 n.2, 808–09.

⁹⁵ NDIS MANUAL, *supra* note 21, at 27; see Kreag, *supra* note 8, at 815–16 (explaining that a search of NDIS can compare a crime-scene DNA profile against DNA profiles from known offenders and from other crime-scenes).

⁹⁶ See NDIS MANUAL, *supra* note 21, at 49, 50 (describing NDIS searches); Kreag, *supra* note 8, at 815–16 (describing NDIS searches). Comparing crime-scene DNA profiles to other crime-scene DNA profiles can identify serial offenders, even though the offenders’ identities are unknown. See NDIS MANUAL, *supra* note 21, at 54 (explaining that two crime-scene DNA profiles might match each other, and that this is called a “Forensic Candidate Match”); Kreag, *supra* note 8, at 815 (stating that NDIS can identify serial offenders by comparing DNA profiles collected from crime scenes). The weekly searches have helped law enforcement agencies solve several unsolved crimes. Kreag, *supra* note 8, at 815; see, e.g., Colin Moynihan, *Cold Case DNA Unit Links Rikers Inmate to ‘86 Murder*, N.Y. TIMES, July 7, 2011, at A19, <https://www.nytimes.com/2011/07/07/nyregion/ny-cold-case-unit-links-dna-to-86-murder.html> [<https://perma.cc/XA83-XWDJ>]; see also Janon Fisher, *Man Sentenced to Max—26 Years After Harlem Slaying*, N.Y. DAILY NEWS (July 30, 2012), <https://www.nydailynews.com/new-york/man-sentenced-max-26-years-harlem-slaying-article-1.1125142> [<https://perma.cc/3XLQ-AR4H>].

searches to try to identify the perpetrators of unsolved cases.⁹⁷ First, law enforcement agencies can perform a known-offender DNA profile search.⁹⁸ In this search, the law enforcement agency has the DNA profile of a known person of interest, and the agency performs a search to compare the individual's profile against all of the crime-scene DNA profiles in the database.⁹⁹ If the person's profile matches a crime-scene profile, law enforcement can link this person to that unsolved crime.¹⁰⁰

Second, law enforcement agencies can perform a crime-scene DNA profile search.¹⁰¹ In this search, the law enforcement agency has a profile that was collected from a crime scene, and the agency does not know the identity of the individual who is the source of that DNA.¹⁰² In this search, the law enforcement agency compares the crime-scene profile to all known-offender and crime-scene profiles in the database.¹⁰³ If the crime-scene DNA profile matches a known offender's DNA profile, then law enforcement can link that individual to the crime.¹⁰⁴ If the crime-scene DNA profile matches another crime-scene DNA profile, then law enforcement can link the two crimes and potentially identify a serial offender.¹⁰⁵ This type of search is also useful post-conviction.¹⁰⁶ If post-conviction DNA testing identifies a crime-scene DNA profile, and the wrongfully convicted defendant is excluded as the source of that DNA, then a crime-scene profile search could identify the actual perpetrator.¹⁰⁷

To perform either of these two types of searches, a law enforcement agency can choose one of two methods—adding the DNA profile to the database or

⁹⁷ Kreag, *supra* note 8, at 815–16; see NDIS MANUAL, *supra* note 21, at 52, 54 (explaining that NDIS can compare crime-scene DNA profiles against either known-offender profiles, which can produce an “Offender Candidate Match,” or against other crime-scene profiles, which can produce a “Forensic Candidate Match”).

⁹⁸ Kreag, *supra* note 8, at 815; see NDIS MANUAL, *supra* note 21, at 52.

⁹⁹ Kreag, *supra* note 8, at 815–16; see NDIS MANUAL, *supra* note 21, at 52.

¹⁰⁰ See Kreag, *supra* note 8, at 816 (explaining that comparing known-offender DNA profiles against crime-scene profiles can solve previously unsolved crimes); NDIS MANUAL, *supra* note 21, at 52.

¹⁰¹ Kreag, *supra* note 8, at 816; see NDIS MANUAL, *supra* note 21, at 54.

¹⁰² Kreag, *supra* note 8, at 816; see NDIS MANUAL, *supra* note 21, at 54.

¹⁰³ Kreag, *supra* note 8, at 816; see NDIS MANUAL, *supra* note 21, at 54.

¹⁰⁴ See Kreag, *supra* note 8, at 816 (stating that “law enforcement’s goal is to find potential perpetrators in unsolved cases”); NDIS MANUAL, *supra* note 21, at 54.

¹⁰⁵ See Kreag, *supra* note 8, at 816 & n.52. If the search of a crime-scene DNA profile does not link the crime-scene DNA profile to a known-offender DNA profile, then familial searching, or partial-match searching, can also be performed. *Id.* at 816 n.53. In a familial search, law enforcement tries to identify a known-offender profile that is similar enough to the crime-scene DNA profile that the unknown individual associated with the crime-scene profile must be a close relative of the person associated with the known profile. *Id.* See generally Murphy, *supra* note 93.

¹⁰⁶ See Kreag, *supra* note 8, at 815, 816 (explaining that post-conviction litigants utilize both types of searches to establish innocence).

¹⁰⁷ See *id.* (describing known-offender and crime-scene DNA profile searches).

conducting a keyboard search.¹⁰⁸ A law enforcement agency can add a DNA profile to the database as part of its search only if the profile is sufficiently complete.¹⁰⁹ Thus, some partial, crime-scene DNA profiles might not qualify for addition to the database.¹¹⁰ Once a profile is added to the database, it will be compared to others in the database during each weekly search.¹¹¹ Thus, even if the initial search does not link the crime-scene DNA profile to a known-offender profile or another crime-scene profile, it could be linked to a new DNA profile added in the future.¹¹²

In the second method, a keyboard search, a DNA database administrator manually enters a crime-scene DNA profile without adding it to the database.¹¹³ The crime-scene profile is compared against known-offender profiles in the database just once.¹¹⁴ Because the crime-scene profile is not added to the database in a keyboard search, it will not be included in the weekly searches and compared against DNA profiles added to the database in the future.¹¹⁵ Keyboard searches are used to search only partial profiles, not complete profiles.¹¹⁶ Partial profiles often result from degraded DNA, and are thus likely when working with old samples.¹¹⁷

¹⁰⁸ *Id.*; see NDIS MANUAL, *supra* note 21, at 37, 50 (describing the submission of DNA profiles to NDIS and manual keyboard searches).

¹⁰⁹ Kreg, *supra* note 8, at 816; see NDIS MANUAL, *supra* note 21, at 36–48 (explaining the criteria that DNA profiles must meet to be added to NDIS).

¹¹⁰ See NDIS MANUAL, *supra* note 21, at 36–38 (listing the criteria for DNA profiles to be submitted to NDIS); Kreg, *supra* note 8, at 816 (explaining that a DNA profile can be permanently added to NDIS only if it is “sufficiently complete,” and that keyboard searches are used for partial DNA profiles).

¹¹¹ NDIS MANUAL, *supra* note 21, at 50; Kreg, *supra* note 8, at 816.

¹¹² See NDIS MANUAL, *supra* note 21, at 50 (describing the weekly searches of NDIS); Kreg, *supra* note 8, at 816 (describing the weekly searches of NDIS).

¹¹³ NDIS MANUAL, *supra* note 21, at 50; Kreg, *supra* note 8, at 816.

¹¹⁴ Kreg, *supra* note 8, at 816; see NDIS MANUAL, *supra* note 21, at 50 (describing keyboard searches).

¹¹⁵ See NDIS MANUAL, *supra* note 21, at 50 (describing keyboard searches); Kreg, *supra* note 8, at 816 (describing keyboard searches).

¹¹⁶ Kreg, *supra* note 8, at 816; see NDIS MANUAL, *supra* note 21, at 50–51 (describing keyboard searches). Partial profiles are often obtained from degraded samples or samples that only contained a small amount of DNA. Kreg, *supra* note 8, at 816. According to the FBI’s NDIS Manual, keyboard searches are allowed only in exceptional circumstances and must be approved by the FBI. NDIS MANUAL, *supra* note 21, at 50–51; Kreg, *supra* note 8, at 816 n.57. There are two exceptional circumstances in which keyboard searches are allowed. NDIS MANUAL, *supra* note 21, at 50–51. First, a keyboard search is allowed where urgent situations dictate that a DNA profile be searched before it is uploaded to NDIS. *Id.* at 50. For example, the possibility that a serial offender might commit another crime before the next scheduled search qualifies as an urgent situation. *Id.* at 51. Second, a keyboard search is allowed where a DNA profile from a serious violent crime does not meet the criteria to be uploaded to NDIS but does meet a specified lesser standard involving the statistical rarity of the partial profile. *Id.*

¹¹⁷ See Kreg, *supra* note 8, at 816 (stating that DNA degrades over time); Luongo, *supra* note 30, at 130 (stating that samples from crime scenes are often degraded).

II. CURRENT STATE AND FEDERAL STATUTES PROVIDING ACCESS TO POST-CONVICTION DNA TESTING AND DNA DATABASE SEARCHES

All fifty states and Congress have enacted post-conviction DNA testing statutes.¹¹⁸ Only nine states, however, have enacted statutes granting post-conviction litigants access to DNA database searches.¹¹⁹ In 2016, Congress also amended the federal post-conviction DNA testing statute to include a DNA database search provision.¹²⁰ The federal statute, however, is available only to applicants incarcerated for federal convictions.¹²¹

This Part analyzes post-conviction litigants' access to DNA database searches under state and federal statutes.¹²² Section A describes the history of post-conviction DNA testing statutes as well as elements common to many of these statutes.¹²³ Section B explains why some post-conviction litigants require access to DNA database searches to prove their innocence.¹²⁴ Section B also analyzes state statutes that grant post-conviction litigants access to DNA database searches.¹²⁵ Section C analyzes the federal post-conviction DNA testing statute, which provides access to DNA database searches for applicants with federal convictions and a limited number of applicants with state convictions.¹²⁶

¹¹⁸ 18 U.S.C. § 3600(e) (Supp. IV 2016); Kreag, *supra* note 8, at 808; Bronner, *supra* note 33. For a complete list of all fifty state post-conviction DNA testing statutes, see *Post-Conviction Relief Through DNA Testing*, 0030 SURVEYS 21 (West 2017).

¹¹⁹ Abrams & Garrett, *supra* note 34, at 779; Kreag, *supra* note 8, at 808 n.13; Bronner, *supra* note 33. The nine states are Colorado, Georgia, Illinois, Maryland, Mississippi, New York, North Carolina, Ohio, and Texas. COLO. REV. STAT. § 18-1-412(9) (2017); GA. CODE ANN. § 5-5-41(9) (2017); 725 ILL. COMP. STAT. ANN. 5/116-5 (West 2017); MD. CODE ANN., CRIM. PROC. § 8-201(d)(2) (West 2017); MISS. CODE ANN. § 99-39-11(10) (2017); N.Y. CRIM. PROC. LAW § 440.30.1-a(c) (McKinney 2017); N.C. GEN. STAT. § 15A-269 (2017); OHIO REV. CODE ANN. § 2953.74(E) (West 2017); TEX. CODE CRIM. PROC. ANN. art. 64.035 (West 2017); Kreag, *supra* note 8, at 808 n.13; Bronner, *supra* note 33.

¹²⁰ Justice for All Act of 2004, Pub. L. No. 108-405, Title IV, § 411(a)(1), 118 Stat. 2260 (2004). Compare 18 U.S.C. § 3600(e)(1)(B)(i)–(ii) (requiring that, any time DNA testing ordered under the statute excludes the post-conviction litigant as a source of the DNA, the federal district court must order law enforcement to upload the crime-scene DNA profile to NDIS to be searched against the DNA profiles in the database), with *id.* § 3600(e) (lacking a DNA database search provision and, instead, only requiring that the results of DNA testing conducted according to the statute be reported to the court, applicant, and government, and that the government submit the post-conviction litigant's DNA profile to NDIS).

¹²¹ 18 U.S.C. § 3600(a)(1) (defining the class of post-conviction litigants eligible for relief under the statute—called “applicants”—as “individual[s] sentenced to imprisonment or death pursuant to a conviction for a Federal offense”).

¹²² See *infra* notes 127–204 and accompanying text.

¹²³ See *infra* notes 127–137 and accompanying text.

¹²⁴ See *infra* notes 138–181 and accompanying text.

¹²⁵ See *infra* notes 138–181 and accompanying text.

¹²⁶ See *infra* notes 182–204 and accompanying text.

A. An Introduction to Post-Conviction DNA Testing Statutes

In 1996, the National Institute of Justice (“NIJ”) released a report studying the cases of the twenty-eight wrongfully convicted individuals who had been exonerated based on post-conviction DNA testing to date.¹²⁷ Just a couple years later, in 1998 and 1999, respectively, Illinois and New York became the first two states to enact post-conviction DNA testing statutes.¹²⁸ Also in 1999, the Post-Conviction Issues Working Group, part of the National Commission on the Future of DNA Evidence (“National DNA Commission”), published a report making recommendations regarding post-conviction DNA testing.¹²⁹ Shortly after the publication of this report, in 2000, eight more states enacted

¹²⁷ NAT’L INST. OF JUSTICE, U.S. DEP’T OF JUSTICE, CONVICTED BY JURIES, EXONERATED BY SCIENCE: CASE STUDIES IN THE USE OF DNA EVIDENCE TO ESTABLISH INNOCENCE AFTER TRIAL 2 (1996) [hereinafter CONVICTED BY JURIES], <https://www.ncjrs.gov/pdffiles/dnaevid.pdf> [<https://perma.cc/3ABK-7WPD>]; Steinback, *supra* note 73, at 336. The study began in June 1995. CONVICTED BY JURIES, *supra*, at 2. The study’s purpose was “to identify and review” DNA exoneration cases. *Id.* One of the twenty-eight cases studied was the case of Gary Dotson. *Id.* at ix–x; see *supra* note 73 and accompanying text (describing the case of the first DNA exoneree, Gary Dotson, who was wrongfully convicted of rape). The study made several findings, including the following: most of the convictions occurred in the mid- to late-1980s, before DNA testing became easily accessible; sexual assault was present in all twenty-eight cases; most of the cases involved some kind of forensic evidence; most of the post-conviction DNA testing was performed by private laboratories; and some laboratories used RFLP testing and others used PCR testing. CONVICTED BY JURIES, *supra*, at 12, 15, 19.

¹²⁸ 725 ILL. COMP. STAT. 5/116-3(a) (West Supp. 1998); N.Y. CRIM. PROC. LAW § 440.30.1-a (McKinney Supp. 1999); NAT’L COMM’N ON THE FUTURE OF DNA EVIDENCE, U.S. DEP’T OF JUSTICE, POSTCONVICTION DNA TESTING: RECOMMENDATIONS FOR HANDLING REQUESTS 10 n.2 (1999) [hereinafter DNA TESTING RECOMMENDATIONS], <https://www.ncjrs.gov/pdffiles1/nij/177626.pdf> [<https://perma.cc/3J5K-EDC7>]; Steinback, *supra* note 73, at 336 & n.34.

¹²⁹ DNA TESTING RECOMMENDATIONS, *supra* note 128, at vi, vii; Steinback, *supra* note 73, at 336. Attorney General Janet Reno asked the NIJ to create the National DNA Commission after she read about a DNA exoneration. DNA TESTING RECOMMENDATIONS, *supra* note 128, at v. Attorney General Reno was concerned about possible wrongful convictions, and she tasked the National DNA Commission with making “recommendations . . . that [would] help ensure more effective use of DNA as a crimefighting tool and foster its use throughout the entire criminal justice system.” *Id.* The National DNA Commission was comprised of members representing the forensic science and legal communities. See *id.* at vi. In its report, the Post-Conviction Issues Working Group made recommendations for prosecutors, defense counsel, the judiciary, victim assistance, and laboratory personnel. *Id.* at ix, xv, xvi, xvii. Its recommendations included the following: (1) when prosecutors receive a request for post-conviction DNA testing, they should thoroughly research the case, including any previous DNA testing, and consult and notify other involved parties, including victim/witness specialists and forensic DNA experts; (2) when defense counsel receive a request for post-conviction DNA testing, they should screen the case and search for evidence; (3) courts should schedule conferences to facilitate discussion of the type of DNA testing to be performed, and if the DNA testing results exclude the defendant, the court should vacate the conviction; (4) victim assistance specialists should notify crime victims and their family members of the DNA testing; and (5) laboratories should serve as consultants to the other parties as needed, and laboratories should use only the amount of sample necessary for the test and retain untested samples. See *id.* at xv–xvii (making the recommendations listed here as well as additional recommendations).

post-conviction DNA testing statutes.¹³⁰ In 2004, Congress enacted the federal post-conviction DNA testing statute.¹³¹ By 2013, all fifty states had enacted post-conviction DNA testing statutes.¹³²

Although the various state and federal post-conviction DNA testing statutes are not identical, there are several elements that are common to many of these statutes.¹³³ For example, some typical filing requirements are: the petitioner must have been convicted of a major felony; the identity of the perpetrator of the crime must have been an issue at trial; and the petitioner must be within the statute of limitations.¹³⁴ Then, statutes commonly require that the evidence to be tested is material to the defense and that the evidence meet “chain of custody” standards demonstrating that it is reliable.¹³⁵ Some statutes also specify whether a state or independent lab will perform the testing and who will pay for the testing.¹³⁶ Additionally, some statutes explain the standard for relief after testing is completed and results are reported.¹³⁷

¹³⁰ Steinback, *supra* note 73, at 336. The eight states are Arizona, California, Delaware, Florida, Michigan, Oklahoma, Tennessee, and Washington. *Id.* at 336 n.35; see *2000 Post Conviction Bills*, DNA RESOURCE, <http://www.dnaresource.com/documents/2000PostConvictionLegislation.pdf> [https://perma.cc/S62E-G43N].

¹³¹ 18 U.S.C. § 3600 (2006); Justice for All Act of 2004, Title IV § 411(a)(1).

¹³² See Steinback, *supra* note 73, at 334, 336 (stating that, as of 2007, forty-two states had enacted post-conviction DNA testing statutes, leaving eight states—Alabama, Alaska, Massachusetts, Mississippi, Oklahoma, South Carolina, South Dakota, and Wyoming—that had not yet enacted post-conviction DNA testing statutes). Wyoming enacted its post-conviction DNA testing statute in 2008. WYO. STAT. ANN. § 7-12-303 (2008). In 2009, Alabama, Mississippi, South Carolina, and South Dakota enacted their post-conviction DNA testing statutes. ALA. CODE § 15-18-200 (2009); MISS. CODE ANN. § 99-39-5 (2009); S.C. CODE ANN. § 17-28-40 (2009); S.D. CODIFIED LAWS § 23-5B-1 (2009). Alaska enacted its post-conviction DNA testing statute in 2010. ALASKA STAT. § 12.73.010 (2010). Massachusetts enacted its post-conviction DNA testing statute in 2012. MASS. GEN. LAWS ch. 278A (2012). In 2013, Oklahoma was the last state to enact a post-conviction DNA testing statute. See OKLA. STAT. tit. 22, § 1373 (2013).

¹³³ See Steinback, *supra* note 73, at 336–38 (describing several provisions common to many post-conviction DNA testing statutes).

¹³⁴ *Id.* at 337; see Kathy Swedlow, *Don't Believe Everything You Read: A Review of Modern "Post-Conviction" DNA Testing Statutes*, 38 CAL. W. L. REV. 355, 356–57 (2002) (listing filing requirements common to several post-conviction DNA testing statutes).

¹³⁵ Steinback, *supra* note 73, at 337; Swedlow, *supra* note 134, at 367–70 (describing the materiality requirement included in several post-conviction DNA testing statutes); *id.* at 370–72 (describing the chain of custody requirement included in several post-conviction DNA testing statutes).

¹³⁶ Steinback, *supra* note 73, at 337–38; Swedlow, *supra* note 134, at 381–82 (describing post-conviction DNA testing statutes' provisions regarding payment for the costs of DNA testing).

¹³⁷ Steinback, *supra* note 73, at 337–38; Swedlow, *supra* note 134, at 382–84 (discussing the standards for relief under several post-conviction DNA testing statutes). The Innocence Project makes several recommendations for improving state post-conviction DNA testing statutes. See *generally Access to Post-Conviction DNA Testing*, INNOCENCE PROJECT, <https://www.innocenceproject.org/access-post-conviction-dna-testing> [https://perma.cc/SZV4-84CZ] (recommending several improvements to post-conviction DNA testing statutes). The Innocence Project's recommendations address:

(1) who may file, (2) standards to be used by the courts in determining when to order a post-conviction DNA test, (3) the ‘chain of custody’ requirement to ensure the reliabil-

B. Post-Conviction Access to DNA Database Searches Under State Statutes

Once a post-conviction litigant clears all of the hurdles in a state statute, he or she can obtain post-conviction DNA testing, which may exclude the litigant as the source of the DNA recovered from the crime scene.¹³⁸ In some cases, however, exculpatory post-conviction DNA testing results alone have not been enough to establish innocence in the eyes of a court.¹³⁹ Some wrongfully convicted defendants have needed the additional step of a DNA database search to identify the actual perpetrators of the crimes for which they were wrongfully convicted in order to prove their innocence.¹⁴⁰

ity of the DNA evidence that is being sought, (4) appointment of counsel, (5) preservation of evidence requirements, (6) laboratory choice and payment responsibilities, (7) appellate procedures and instructions on the adjudication of successive DNA testing petitions, and (8) the means with which to provide relief if the DNA testing returns in the petitioner's favor.

Steinback, *supra* note 73, at 338. Some of the Innocence Project's recommendations include the following: allow access to post-conviction DNA testing even in cases where the post-conviction litigant pled guilty or confessed to the crime; allow litigants access to search national and state DNA databases; require preservation of biological evidence; allow appeals of denials of post-conviction DNA testing; and provide funding for post-conviction DNA testing. *Access to Post-Conviction DNA Testing*, *supra*.

¹³⁸ See Kreag, *supra* note 8, at 806 (explaining that post-conviction DNA testing excluded both Michael Morton and Rickey Dale Wyatt as the source of crime-scene DNA in each of their cases); Steinback, *supra* note 73, at 336–38 (describing the requirements to obtain post-conviction DNA testing under state statutes); see, e.g., *supra* notes 1–26 and accompanying text (describing the case of Michael Morton, who was wrongfully convicted of murdering his wife and obtained exculpatory post-conviction DNA testing but was not exonerated until a DNA database search identified the actual perpetrator); *supra* note 26 (describing the case of Rickey Dale Wyatt, who was wrongfully convicted of aggravated rape and obtained exculpatory DNA testing results but was not allowed access to search any DNA databases).

¹³⁹ See Kreag, *supra* note 8, at 806–08 (describing the story of Michael Morton, who obtained post-conviction DNA testing that excluded him as the source of DNA connected to his wife's murder, but who was unable to prove his innocence until he obtained a DNA database search that identified the actual perpetrator of the crime).

¹⁴⁰ See *id.* (describing Michael Morton's case). The case of Jeffrey Deskovic provides another example. *Id.* at 825. On November 15, 1989, a 15-year-old girl was raped and murdered in Peekskill, New York while out working on a photography assignment for school. *Profile of Jeffrey Deskovic*, NAT'L REGISTRY OF EXONERATIONS, https://www.law.umich.edu/special/exoneration/Pages/case_detail.aspx?caseid=3171 [https://perma.cc/8YNJ-L7W7]. Police suspected 16-year-old Deskovic, the victim's classmate, because he was tardy to school the day after the victim disappeared and was very upset after learning of her death. *Id.* Months after the murder, police interrogated Deskovic for six hours and administered three polygraph examinations, after which Deskovic falsely confessed to the crime. *Id.* Before trial, DNA testing excluded Deskovic as a source of the semen found on the vaginal swabs from the victim's rape kit. *Id.* Despite this evidence, the prosecution continued their case against Deskovic. *Id.* At trial, the prosecution argued that the victim had consensual sex and that that partner was the source of the semen in the victim's rape kit. *Id.* The prosecution argued that Deskovic was jealous of the victim's partner and murdered the victim out of jealousy. *Id.* A jury in Westchester County, New York convicted Deskovic of first-degree rape and second-degree murder in January 1991. *Id.* In 2006, Deskovic obtained post-conviction DNA testing and a search of the New York State DNA databank of convicted felons. *Id.* The search identified Steven Cunningham as the source

DNA database searches can help prove wrongfully convicted individuals' innocence.¹⁴¹ In cases where the post-conviction litigant has already obtained DNA testing that excludes the litigant as the source of the DNA from the crime, a DNA database search could identify the actual perpetrator, which would conclusively establish the litigant's innocence and lead to exoneration.¹⁴² Even if the DNA database did not contain a known-offender DNA profile from the actual perpetrator, that perpetrator's profile could still be in the DNA database in the form of a DNA profile from an unsolved crime, and this search would indicate that a serial offender is likely the actual perpetrator of the crime.¹⁴³

Despite the power of DNA database searches, the fact that all fifty states have enacted post-conviction DNA testing statutes, and the fact that all fifty states participate in NDIS, only nine states have enacted statutes allowing post-conviction litigants access to search DNA databases.¹⁴⁴ Without a statute grant-

of the semen in the victim's rape kit. *Id.* Cunningham had previously been convicted of murdering his girlfriend's sister. *Id.* On September 20, 2006, Deskovic's conviction was overturned, and he was exonerated on November 2, 2006. *Id.*

¹⁴¹ Kreg, *supra* note 8, at 817, 818.

¹⁴² *Id.* at 817; see Brandon L. Garrett, *Claiming Innocence*, 92 MINN. L. REV. 1629, 1659 (2008) (explaining that, in some cases, despite exculpatory DNA testing results, the prosecution did not admit that the defendant was innocent until a DNA database search identified the actual perpetrator); see, e.g., *supra* notes 1–26 and accompanying text (describing the case of Michael Morton, who obtained exculpatory post-conviction DNA testing but was not exonerated until a DNA database search identified his wife's actual killer); *supra* note 140 (describing the case of Jeffrey Deskovic); see also Banks v. United States, 490 F.3d 1178, 1188–89 (10th Cir. 2007) (explaining that “a negative [DNA test] result would not necessarily exculpate the defendant”). Additional examples of cases where wrongfully convicted individuals needed DNA database searches to identify the actual perpetrators in order to prove their own innocence include the cases of Steven Avery, Darryl Hunt, Douglas Warney, and Jerry Watkins. See Garrett, *supra*, at 1659 n.133, 1713 n.403; *Know the Cases: Darryl Hunt*, INNOCENCE PROJECT, <https://www.innocenceproject.org/cases/darryl-hunt> [<https://perma.cc/Z2UC-NAN5>] (recounting the case of Darryl Hunt, who was wrongfully convicted of murder and was exonerated after a search of a North Carolina state DNA database identified the actual perpetrator); *Know the Cases: Douglas Warney*, INNOCENCE PROJECT, <https://www.innocenceproject.org/cases/douglas-warney> [<https://perma.cc/7JQK-76LW>] (explaining the case of Douglas Warney, who was wrongfully convicted of murder and was exonerated after a search of NDIS identified the actual perpetrator); *Know the Cases: Jerry Watkins*, INNOCENCE PROJECT, <https://www.innocenceproject.org/cases/jerry-watkins> [<https://perma.cc/6VU2-Y5SS>] (recounting the case of Jerry Watkins, who was wrongfully convicted of murder and exonerated after a search of the Indiana State Police DNA database identified the actual perpetrator); *Know the Cases: Steven Avery*, INNOCENCE PROJECT, <https://www.innocenceproject.org/cases/steven-avery> [<https://perma.cc/2Y7B-EKHH>] (describing the case of Steven Avery, who was wrongfully convicted of rape and was exonerated after a search of the FBI's DNA database identified the actual perpetrator).

¹⁴³ Kreg, *supra* note 8, at 817 & n.59.

¹⁴⁴ Abrams & Garrett, *supra* note 34, at 779 (2015); Kreg, *supra* note 8, at 808 & n.13; Bronner, *supra* note 33; *Frequently Asked Questions on CODIS and NDIS*, *supra* note 82. The nine states are Colorado, Georgia, Illinois, Maryland, Mississippi, New York, North Carolina, Ohio, and Texas. COLO. REV. STAT. § 18-1-412(9) (2017); GA. CODE ANN. § 5-5-41(9) (2017); 725 ILL. COMP. STAT. ANN. 5/116-5 (West 2017); MD. CODE ANN., CRIM. PROC. § 8-201(d)(2) (West 2017); MISS. CODE ANN. § 99-39-11(10) (2017); N.Y. CRIM. PROC. LAW § 440.30.1-a(c) (McKinney 2017); N.C. GEN.

ing access, law enforcement agencies and prosecutor's offices have discretion to decide whether to allow post-conviction litigants to search DNA databases.¹⁴⁵ For many defendants, it is challenging to obtain prosecutors' agreement to DNA database searches because the cases are complex and convictions have an "anchoring effect," causing prosecutors to believe that there is so much evidence of the defendant's guilt that DNA testing is pointless.¹⁴⁶ Even if a prosecutor's office agrees to a DNA database search, a post-conviction litigant may still face opposition from the law enforcement agency that maintains the databases and performs the search.¹⁴⁷ For example, in one case, the FBI opposed a post-conviction litigant's request for a DNA database search even though the prosecutor and local law enforcement agreed to the search.¹⁴⁸ In contrast, a fairer approach to providing post-conviction litigants with access to DNA database searches may be for states to enact statutes that instruct trial

STAT. § 15A-269 (2017); OHIO REV. CODE ANN. § 2953.74(E) (West 2017); TEX. CODE CRIM. PROC. ANN. art. 64.035 (West 2017); Kreg, *supra* note 8, at 808 n.13; Bronner, *supra* note 33.

¹⁴⁵ Kreg, *supra* note 8, at 818. If a post-conviction litigant can, however, convince the prosecutor to agree to the DNA database search and file a joint request with the court, then the post-conviction litigant will be more likely to succeed. *Id.* at 818–20.

¹⁴⁶ Kreg, *supra* note 8, at 820–22. Two barriers to post-conviction DNA database searches are the "anchoring effect of a conviction," and law enforcement opposition. *Id.* The "anchoring effect" refers to the concept that prosecutors believe that there is "overwhelming evidence" of the post-conviction litigant's guilt, so there is no need for DNA testing. *Id.* at 821.

¹⁴⁷ *Id.* at 820.

¹⁴⁸ *Id.* at 822. In Juan Rivera's case, the prosecutor and local law enforcement joined the defendant in seeking a DNA database search, and the trial court ordered the FBI to conduct the search, yet the FBI still opposed the request and refused to perform the search. *Id.* at 822–25. In 1992, Rivera was convicted of raping and murdering an eleven-year-old girl near Chicago, Illinois. *Id.* at 822–23. In 2005, post-conviction DNA testing excluded Rivera as the source of the male DNA in the victim's rape kit. *Id.* at 823. The prosecutor and local law enforcement agreed to a DNA database search. *Id.* Law enforcement performed manual keyboard searches of the Illinois state DNA databases, but there were no matches. *Id.* Rivera requested a search of the national DNA database, and the prosecutor agreed again. *Id.* In June 2008, the state trial court ordered the FBI to conduct a manual keyboard search of the national DNA database, but the FBI refused to perform the search. *Id.* On February 2, 2009, the United States District Court for the Northern District of Illinois ordered the FBI to conduct the DNA database search. Rivera v. Mueller, 596 F. Supp. 2d 1163, 1173 (N.D. Ill. 2009); Kreg, *supra* note 8, at 824. The FBI performed the manual keyboard search, but there were no hits. Kreg, *supra* note 8, at 824. In 2014, however, the partial crime-scene DNA profile was linked to a murder that happened near Chicago in 2000, while Rivera was incarcerated. *Id.*; Steve Mills & Dan Hinkel, *DNA Links Murder and Rape of Holly Taker, 11, to Second Murder 8 Years Later*, CHI. TRIB. (June 10, 2014), <https://www.chicagotribune.com/news/ct-xpm-2014-06-10-chi-dna-links-murder-and-rape-of-holly-staker-11-to-second-murder-8-years-later-20140610-story.html> [<https://perma.cc/3XPL-SGQE?type=image>]. See generally Rivera, 596 F. Supp. 2d 1163; Andrew Martin, *The Prosecution's Case Against DNA*, N.Y. TIMES MAG., Nov. 25, 2011, at M44, <https://www.nytimes.com/2011/11/27/magazine/dna-evidence-lake-county.html> [<https://perma.cc/7N8M-6K4U>]; Rob Warden, *Juan Rivera*, BLUHM LEGAL CLINIC: CTR. ON WRONGFUL CONVICTIONS, <http://www.law.northwestern.edu/legalclinic/wrongfulconvictions/exonerations/il/juan-rivera.html> [<https://perma.cc/2G49-K7FW>].

courts to evaluate these complex cases and grant DNA database searches where the appropriate statutory criteria are met.¹⁴⁹

1. Illinois

In 1998, Illinois became the first state to enact a post-conviction DNA testing statute.¹⁵⁰ Five years later, in 2003, the Illinois legislature enacted another statute, which created a motion for DNA database search, available to both pre-trial defendants and post-conviction litigants.¹⁵¹ Compared to other states' statutes, the Illinois statute has one of the lowest standards for obtaining a DNA database search—the statute's only requirement is that DNA evidence may be material or relevant to the defendant's case.¹⁵² The statute, however, balances this low standard with a trade-off—even if the materiality-relevance requirement is met, the court still has discretion to decide whether to order the DNA database search or not.¹⁵³

Although the statute gives the court discretion, rather than making the DNA database search mandatory, the statute provides for a thorough search where the

¹⁴⁹ See Kreag, *supra* note 8, at 819–20 (proposing a formal process for trial courts to follow when post-conviction litigants seek access to DNA database searches).

¹⁵⁰ 725 ILL. COMP. STAT. ANN. 5/116-3(a); DNA TESTING RECOMMENDATIONS, *supra* note 128, at 10 n.2; Steinback, *supra* note 73, at 336 & n.34.

¹⁵¹ See 725 ILL. COMP. STAT. ANN. 5/116-5. The Illinois DNA database search statute is separate from the Illinois post-conviction DNA testing statute. Compare *id.* § 5/116-3(a) (providing post-conviction litigants with access to DNA testing), with *id.* § 5/116-5 (providing post-conviction litigants with access to DNA database searches). The DNA database search statute requires that the post-conviction litigant has already obtained DNA testing before submitting a motion requesting the DNA database search. See *id.* § 5/116-5(a); Kreag, *supra* note 8, at 817. The Illinois DNA database search statute provides searches to pre-trial defendants as well, but defendants' access to DNA database searches pre-trial is less significant than post-conviction access because law enforcement agencies routinely perform searches pre-trial, even if defendants do not request the searches. 725 ILL. COMP. STAT. ANN. 5/116-5(a); Kreag, *supra* note 8, at 809 n.14.

¹⁵² Compare 725 ILL. COMP. STAT. ANN. 5/116-5(a) (requiring only that DNA evidence may be material or relevant to the defendant's case), with N.C. GEN. STAT. § 15A-269(a)–(b) (listing five requirements that a post-conviction litigant must meet in order to obtain post-conviction DNA testing and a DNA database search).

¹⁵³ 725 ILL. COMP. STAT. ANN. 5/116-5(a). Like Illinois, Mississippi and New York also allow trial courts discretion to decide whether to order a DNA database search, rather than making the search mandatory. See *id.*; MISS. CODE ANN. § 99-39-11(10); N.Y. CRIM. PROC. LAW § 440.30.1-a(c). In contrast, the Maryland, North Carolina, and Texas statutes make DNA database searches mandatory if the appropriate requirements are met. See MD. CODE ANN., CRIM. PROC. § 8-201(d)(2); N.C. GEN. STAT. § 15A-269(a)–(b); TEX. CODE CRIM. PROC. ANN. art. 64.035. The North Carolina statute has the opposite trade-off compared to the Illinois statute—the North Carolina statute has greater requirements, but it makes a DNA database search mandatory rather than permissive. Compare 725 ILL. COMP. STAT. ANN. 5/116-5(a) (requiring only that DNA evidence may be material or relevant to the defendant's case but allowing courts discretion to decide whether to grant DNA database searches), with N.C. GEN. STAT. § 15A-269(a)–(b) (making DNA database searches mandatory but requiring that five criteria are met for a post-conviction litigant to obtain DNA testing and a DNA database search).

court chooses to order it.¹⁵⁴ Under the statute, the search may include comparing a crime-scene DNA profile against both known-offender profiles and DNA profiles from unsolved crimes maintained in state or local law enforcement databases.¹⁵⁵ Additionally, the court may order the Illinois Department of State Police to request a search of NDIS if the appropriate federal criteria are met.¹⁵⁶ Thus, the statute potentially provides access to all possible DNA databases and searches, except that the statute fails to explain whether a court can order a keyboard search for a partial crime-scene DNA profile.¹⁵⁷ If the defense requests, the Illinois Department of State Police must also provide the defense with copies of all documentation, including notes and reports, related to the DNA database search and analysis.¹⁵⁸ Therefore, the statute ensures that the defense has access to the same documentation as law enforcement and prosecutors.¹⁵⁹

2. North Carolina

The North Carolina legislature enacted the state's post-conviction DNA testing statute—section 15A-269 of the North Carolina Code—in 2001, but the statute did not provide for DNA database searches until the legislature amended it for the fourth time in 2009.¹⁶⁰ Unlike the Illinois statute, the North Carolina statute is specific to post-conviction litigants and is not available to pre-trial defendants.¹⁶¹ The North Carolina statute has more stringent requirements than the Illinois statute, but, if the applicant meets all five requirements, the trial court must grant both DNA testing and a CODIS search.¹⁶² The five re-

¹⁵⁴ See 725 ILL. COMP. STAT. ANN. 5/116-5(a)(1)–(2), (a)(3)(ii), (b), (c).

¹⁵⁵ *Id.* § 5/116-5(a)(1)–(2), (a)(3)(ii).

¹⁵⁶ *Id.* § 5/116-5(b). The criteria for a search of NDIS include that the DNA testing was performed using an approved kit and that the DNA profile is sufficiently complete. NDIS MANUAL, *supra* note 21, at 39. In contrast to Illinois, the Colorado DNA database search provision takes a different approach and allows only for a search of state DNA databases, not a search of NDIS. See COLO. REV. STAT. § 18-1-412(9) (referring specifically to the “state index system”); 725 ILL. COMP. STAT. ANN. 5/116-5(b) (allowing for a search of NDIS if the “appropriate federal criteria are met”).

¹⁵⁷ See ch. 725, 5/116-5(b) (not enumerating whether the statute provides for keyboard searches); NDIS MANUAL, *supra* note 21, at 50 (describing keyboard searches); Kreag, *supra* note 8, at 816 (describing keyboard searches).

¹⁵⁸ 725 ILL. COMP. STAT. ANN. 5/116-5(c).

¹⁵⁹ See *id.* (providing the defense access to the same documentation as the prosecution).

¹⁶⁰ Compare N.C. GEN. STAT. § 15A-269 (2009) (providing for DNA database searches), with N.C. GEN. STAT. § 15A-269 (2001) (not providing for DNA database searches). The North Carolina legislature enacted the statute in 2001, and since then, the legislature has amended the statute four times. See N.C. GEN. STAT. § 15A-269 (2017).

¹⁶¹ N.C. GEN. STAT. § 15A-269(a) (2017). Unlike the Illinois statute, the North Carolina statute refers only to post-conviction litigants and not to pre-trial defendants. Compare *id.* § 15A-269 (titled “Request for post-conviction DNA testing”), with 725 ILL. COMP. STAT. ANN. 5/116-5(a) (allowing any defendant “charged with any offense where DNA evidence may be material to the defense investigation or relevant at trial” to apply for a DNA database search).

¹⁶² Compare N.C. GEN. STAT. § 15A-269(a)–(b) (making DNA database searches mandatory but requiring that five criteria be met for a post-conviction litigant to obtain DNA testing and a DNA

quirements are (1) that the evidence be material to the defense; (2) that the evidence be related to the conviction; (3) that the evidence either (a) have not previously been DNA tested, or (b) have been previously tested, but the new results would be “significantly more accurate and probative of the identity of the perpetrator or accomplice or have a reasonable probability of contradicting prior test results”; (4) that it be reasonably probable that the DNA testing would have resulted in a verdict better for the defendant; and (5) that the defendant signed an affidavit asserting his innocence.¹⁶³

Although the North Carolina statute makes a CODIS search mandatory where the five requirements are met, the statute lacks the detailed description of the DNA database search that the Illinois statute includes.¹⁶⁴ The North Carolina statute does not specify which law enforcement agency will perform the DNA database search or which specific databases in CODIS that will be

database search), with 725 ILL. COMP. STAT. ANN. 5/116-5(a) (requiring only that DNA evidence may be material or relevant to the defendant’s case, but allowing courts discretion to decide whether to grant DNA database searches). Other state statutes that, like the North Carolina statute, make a DNA database search mandatory include Maryland and Texas. *See* MD. CODE ANN., CRIM. PROC. § 8-201(d)(2) (“A court shall order a data base search . . .”); N.C. GEN. STAT. § 15A-269(b) (“The court shall grant the motion for DNA testing and, if testing complies with FBI requirements, the run of any profiles obtained from the testing . . .”); TEX. CODE CRIM. PROC. ANN. art. 64.035 (“[T]he convicting court shall order any unidentified DNA profile to be compared with the DNA profiles in [NDIS and the Texas state DNA database].”). Because the North Carolina statute provides for both post-conviction DNA testing and a DNA database search, a post-conviction litigant can request both DNA testing and a DNA database search simultaneously, rather than having to obtain DNA testing results before requesting a DNA database search. *See* N.C. GEN. STAT. § 15A-269(a)–(b); Kream, *supra* note 8, at 818 (explaining that some post-conviction litigants seek post-conviction DNA testing and a DNA database search simultaneously).

¹⁶³ N.C. GEN. STAT. § 15A-269(a)(1)–(3), (b)(1)–(3). The North Carolina statute’s requirements are significant in comparison to the Illinois statute’s minimal requirements. *Compare id.* § 15A-269(a)–(b) (making DNA database searches mandatory but requiring that five criteria be met for a post-conviction litigant to obtain DNA testing and a DNA database search), with 725 ILL. COMP. STAT. ANN. 5/116-5(a) (requiring only that DNA evidence may be material or relevant to the defendant’s case but allowing courts discretion to decide whether to grant DNA database searches). The Maryland and New York DNA database statutes have similar requirements to the North Carolina statute. *Compare* MD. CODE ANN., CRIM. PROC. § 8-201(d)(2) (“A court shall order a data base search by a law enforcement agency if the court finds that a reasonable probability exists that the database search will produce exculpatory or mitigating evidence relevant to a claim of wrongful conviction or sentencing.”), and N.Y. CRIM. PROC. LAW § 440.30.1-a(c) (stating that a trial court may order a CODIS search if there is a reasonable probability that, had the search been conducted and admitted at trial, the verdict would have been more favorable to the defendant), with N.C. GEN. STAT. § 15A-269(a)–(b) (requiring that five criteria are met for a post-conviction litigant to obtain DNA testing and a DNA database search).

¹⁶⁴ *See* N.C. GEN. STAT. § 15A-269(a)–(b) (not providing detailed instructions for the law enforcement agency performing the DNA database search). *Compare id.* § 15A-269(a)–(b) (not providing detailed instructions for the law enforcement agency performing the DNA database search), with 725 ILL. COMP. STAT. ANN. 5/116-5(a) (detailing the process that the Illinois Department of State Police should follow when it performs a DNA database search).

searched.¹⁶⁵ Additionally, the North Carolina statute does not state whether the crime-scene DNA profile will be compared against only the DNA profiles of known individuals or whether it will be compared against other crime-scene DNA profiles from unsolved crimes as well.¹⁶⁶ Like the Illinois statute, the North Carolina statute fails to explain whether a post-conviction litigant can obtain a keyboard search under the statute.¹⁶⁷ The North Carolina statute also lacks language requiring that documentation related to the DNA database search be provided to the defense.¹⁶⁸

3. Ohio

Ohio enacted its post-conviction DNA testing statute in 2003.¹⁶⁹ The DNA database search provision was not added to the statute until an amend-

¹⁶⁵ See N.C. GEN. STAT. § 15A-269(a)–(b) (not specifying a law enforcement agency that conducts the DNA database search, and only stating that “if testing complies with FBI requirements and the data meets NDIS criteria, profiles obtained from the testing shall be searched and/or uploaded to CODIS if the biological evidence meets all of the . . . conditions [in this statute]”). Most precisely, the term “CODIS” refers to the FBI’s software for running DNA databases, but the term “CODIS” is also used to refer generally to DNA databases that participate in the FBI’s program. See *Frequently Asked Questions on CODIS and NDIS*, *supra* note 82 (defining CODIS as “the generic term used to describe the FBI’s program of support for criminal justice DNA databases as well as the software used to run these databases”). Based on this common usage of “CODIS” as a generic term to refer to all DNA databases, it is possible that the legislature intended for the statute to include searches of state and local DNA databases as well as NDIS. See N.C. GEN. STAT. § 15A-269; *Frequently Asked Questions on CODIS and NDIS*, *supra* note 82. Like the North Carolina statute, the Mississippi and New York statutes also refer specifically to searching CODIS. Compare N.C. GEN. STAT. § 15A-269(a), with MISS. CODE ANN. § 99-39-11(10), and N.Y. CRIM. PROC. LAW § 440.30.1-a(c).

¹⁶⁶ See N.C. GEN. STAT. § 15A-269(a)–(b) (not specifying which types of DNA profiles the crime-scene DNA profile will be compared against); Kreag, *supra* note 8, at 815–16 (stating that NDIS is able to compare a crime-scene DNA profile against profiles of known offenders and other crime-scene DNA profiles in NDIS).

¹⁶⁷ Compare N.C. GEN. STAT. § 15A-269(a)–(b) (not stating whether keyboard searches are allowed under the statute), with 725 ILL. COMP. STAT. ANN. 5/116-5(a)–(d) (not stating whether keyboard searches are allowed under the statute).

¹⁶⁸ Compare N.C. GEN. STAT. § 15A-269(a)–(b) (not stating whether documentation related to the DNA database search will be provided to the defense), with 725 ILL. COMP. STAT. ANN. 5/116-5(c) (stating that, at the defense’s request, “[t]he defense shall be provided with copies of all documentation, correspondence, including digital correspondence, notes, memoranda, and reports generated in relation to the analysis”).

¹⁶⁹ OHIO REV. CODE ANN. § 2953.72–.73 (2003). In 2016, in *State v. Noling*, the Supreme Court of Ohio held section 2953.73(E)(1) unconstitutional for violating the right to equal protection under both the United States Constitution and the Ohio Constitution, and the court severed this provision from the rest of the statute. 75 N.E.3d 141, 156–57 (Ohio 2016). The court concluded that the statute violated the right to equal protection because it established different procedures for capital and non-capital offenders to appeal denials of applications for post-conviction DNA testing, and there was no legitimate purpose for doing so. *Id.* at 144–45, 149–50.

ment in 2006.¹⁷⁰ In Ohio, a post-conviction litigant must first apply for post-conviction DNA testing under section 2953.73, and, if the court grants the testing, the court may then order the Ohio Bureau of Criminal Identification and Investigation to perform a CODIS search under section 2953.74(E).¹⁷¹ The Ohio statute shares a few of the North Carolina statute's potential shortcomings.¹⁷² First, like the North Carolina statute, the Ohio statute does not specify which specific databases included in CODIS will be searched.¹⁷³ Second, the Ohio statute does not state whether the crime-scene DNA profile will be compared against only the DNA profiles of known individuals or whether it will also be compared against other crime-scene DNA profiles from unsolved crimes.¹⁷⁴ Third, like both the Illinois and North Carolina statutes, the Ohio statute does not explain whether keyboard searches are permitted.¹⁷⁵

Otherwise, compared to the Illinois and North Carolina statutes, Ohio's statute provides some of the most detailed step-by-step instructions for the law enforcement agency conducting the DNA database searches.¹⁷⁶ According to the statute, if the CODIS search identifies the contributor to the DNA profile, then the Ohio Bureau of Criminal Identification and Investigation must provide this information to the court, the post-conviction litigant, and the prosecuting attorney.¹⁷⁷ Alternatively, if the Ohio Bureau of Criminal Identification and Investigation does not identify the contributor from the CODIS search, the

¹⁷⁰ Compare OHIO REV. CODE ANN. § 2953.74(E) (West 2006) (providing for DNA database searches), with OHIO REV. CODE ANN. § 2953.74(E) (West 2003) (not providing for DNA database searches).

¹⁷¹ OHIO REV. CODE ANN. § 2953.74(E) (West 2017). The Ohio and Illinois statutes both give discretion to the trial court to decide whether to order a DNA database search. Compare *id.* (“[T]he eligible offender may request the court to order, or the court on its own initiative may order [a DNA database search].”), with 725 ILL. COMP. STAT. ANN. 5/116-5(a) (“[A] court may order a DNA database search . . .”). Other state statutes giving trial courts discretion to decide whether to grant a DNA database search include Mississippi and New York. See MISS. CODE ANN. § 99-39-11(10) (“The court may order . . .”); N.Y. CRIM. PROC. LAW § 440.30.1-a(c) (“[T]he court may order . . .”).

¹⁷² Compare OHIO REV. CODE ANN. § 2953.74(E), with N.C. GEN. STAT. § 15A-269(a)–(b).

¹⁷³ Compare OHIO REV. CODE ANN. § 2953.74(E) (referring only to CODIS and not to specific national, state, or local databases), with N.C. GEN. STAT. § 15A-269(a) (also referring only to CODIS). The statutes' references to “CODIS,” however, could be intended to include all state and local databases as well as NDIS. See *supra* note 82 (explaining that the term “CODIS” is sometimes used to refer to all the national, state, and local databases that use the CODIS software).

¹⁷⁴ See OHIO REV. CODE ANN. § 2953.74(E); Kreag, *supra* note 8, at 815–16 (stating that NDIS is able to compare a crime-scene DNA profile against profiles of known offenders and other crime-scene DNA profiles in NDIS). Compare § 2953.74(E), with N.C. GEN. STAT. § 15A-269(a)–(b).

¹⁷⁵ See OHIO REV. CODE ANN. § 2953.74(E); NDIS MANUAL, *supra* note 21, at 50 (describing keyboard searches); Kreag, *supra* note 8, at 816 (describing keyboard searches). Compare § 2953.74(E), with 725 ILL. COMP. STAT. ANN. 5/116-5, and N.C. GEN. STAT. § 15A-269(a)–(b).

¹⁷⁶ See OHIO REV. CODE ANN. § 2953.74(E) (specifying the steps that the law enforcement agency performing the DNA database search should take depending on whether the DNA database search identifies the actual perpetrator of the crime or not). Compare *id.*, with 725 ILL. COMP. STAT. ANN. 5/116-5, and N.C. GEN. STAT. § 15A-269(a)–(b).

¹⁷⁷ OHIO REV. CODE ANN. § 2953.74(E).

statute instructs that the bureau may compare the crime-scene DNA profile against other DNA testing results where the contributor's identity is known.¹⁷⁸ Because the statute requires that the DNA profile must be from a known person, the Ohio Bureau of Criminal Identification and Investigation may not compare the test results against DNA profiles from unsolved crimes.¹⁷⁹ If the comparison between the crime-scene DNA profile and known-offenders identifies the contributor to the crime-scene profile, the Ohio Bureau of Criminal Identification and Investigation must provide this information to the court, the post-conviction litigant, and the prosecuting attorney.¹⁸⁰ Unlike the Illinois statute, however, the Ohio statute does not require the law enforcement agency to provide all documentation related to the DNA database search to the post-conviction litigant.¹⁸¹

C. The Federal Post-Conviction DNA Testing Statute: 18 U.S.C. § 3600

Congress enacted the federal post-conviction DNA testing statute—18 U.S.C. § 3600—in 2004.¹⁸² Since then, Congress has amended the statute only once, in 2016.¹⁸³ The 2016 amendment added two new provisions to the statute.¹⁸⁴ First, the amendment added a requirement that the federal government,

¹⁷⁸ *Id.* The statute states that the Ohio Bureau of Criminal Identification and Investigation “may compare the test results to other previously obtained and acceptable DNA test results of any person whose identity is known.” *Id.* The statute, however, does not explain who—a law enforcement agency, the prosecution, or the defense team—can provide a known-offender DNA profile for comparison or why this known-offender profile would not be in one of the law enforcement DNA databases that was already searched. *See id.*

¹⁷⁹ *See id.*

¹⁸⁰ *Id.*

¹⁸¹ *Compare id.* (not specifying that the law enforcement agency performing the DNA database search must provide documentation to the defense), with 725 ILL. COMP. STAT. ANN. 5/116-5(c) (stating that, at the defense's request, “[t]he defense shall be provided with copies of all documentation, correspondence, including digital correspondence, notes, memoranda, and reports generated in relation to the analysis”).

¹⁸² 18 U.S.C. § 3600 (2012). The federal post-conviction DNA testing statute—§ 3600—is also called the Innocence Protection Act of 2004 (“IPA”). Justice for All Act of 2004, Title IV § 401; David A. Schumacher, Comment, *Post-Conviction Access to DNA Testing: The Federal Government Does Not Offer an Adequate Solution, Leaving the States to Remedy the Situation*, 57 CATH. U. L. REV. 1245, 1248 (2008). The IPA was enacted as part of the Justice for All Act of 2004 (“JFAA”). Justice for All Act of 2004, Title IV § 411; Schumacher, *supra*, at 1248. The JFAA had several purposes, including “to provide post-conviction testing of DNA evidence to exonerate the innocent.” Justice for All Act of 2004, Title IV § 411. According to Senator Patrick Leahy, the IPA's purpose was “to ‘reduce the risk that innocent persons may be executed’ and ‘[e]nsure that convicted offenders are afforded an opportunity to prove their innocence through DNA testing.’” Schumacher, *supra*, at 1248.

¹⁸³ *Compare* 18 U.S.C. § 3600 (2006), with 18 U.S.C. § 3600 (Supp. IV 2016). This amendment was part of the Justice for All Reauthorization Act of 2016 (“JFARA”). Justice for All Reauthorization Act of 2016, Pub. L. No. 114-324, § 11(a), 130 Stat. 1956 (2016). One of the JFARA's purposes is “to provide post-conviction testing of DNA evidence to exonerate the innocent.” *Id.*

¹⁸⁴ Justice for All Reauthorization Act of 2016 § 11(a). *Compare* 18 U.S.C. § 3600 (Supp. IV 2016), with 18 U.S.C. § 3600 (2006).

upon the post-conviction litigant's filing of a motion for post-conviction DNA testing, create an inventory of all evidence in the case and share the inventory with the court and the post-conviction litigant.¹⁸⁵ Second, the amendment added a provision providing that, where the DNA testing excludes the applicant as a contributor to a crime-scene DNA profile, a law enforcement agency will submit the DNA profile to NDIS for comparison against both DNA profiles of known individuals and DNA profiles from unsolved crimes.¹⁸⁶

1. Eligibility of State Offenses

Only individuals incarcerated for federal convictions are eligible to apply for post-conviction DNA testing under § 3600.¹⁸⁷ An applicant can apply for DNA testing related to the federal offense that he or she is incarcerated for or for DNA testing related to another federal offense that was a factor at the applicant's sentencing.¹⁸⁸ The statute also allows applicants to move for post-conviction DNA testing in connection with some state convictions.¹⁸⁹ Only a limited number of state convictions qualify for federal relief, however, because the statute requires that the applicant is currently imprisoned for a federal offense, that evidence of the state offense was admitted at a federal sentencing

¹⁸⁵ 18 U.S.C. § 3600(b)(1)(C)(i)–(ii) (Supp. IV 2016); see Justice for All Reauthorization Act of 2016 § 11(a). Compare 18 U.S.C. § 3600 (Supp. IV 2016), with 18 U.S.C. § 3600 (2006).

¹⁸⁶ 18 U.S.C. § 3600(e)(1)(B)(i) (Supp. IV 2016); see Justice for All Reauthorization Act of 2016 § 11(a). Compare 18 U.S.C. § 3600 (Supp. IV 2016), with 18 U.S.C. § 3600 (2006).

¹⁸⁷ 18 U.S.C. § 3600(a) (Supp. IV 2016). Any "individual sentenced to imprisonment or death pursuant to a conviction for a Federal offense" qualifies as an "applicant" and may apply for relief under § 3600. *Id.* § 3600(a)(1). Under § 3600, a court must grant post-conviction DNA testing if the applicant meets all the following requirements: (1) the applicant claims that he or she is actually innocent of either (a) the federal offense that he or she is currently imprisoned for, or (b) another federal or state offense that he or she was convicted of, where (i) evidence of that federal or state offense was admitted during a federal sentencing hearing to support a sentence from which the applicant could get relief if exonerated for the state offense, and (ii) for a state offense, there is no adequate DNA testing remedy under state law, and the applicant has exhausted all state DNA testing remedies; (2) the evidence for which the applicant requests DNA testing was obtained in connection with the investigation or prosecution of the federal or state offense of which the defendant claims to be innocent; (3) either (a) the evidence has not been DNA tested or (b) a new DNA testing method is "substantially more probative than the prior DNA testing"; (4) the government has the evidence in its possession, and the evidence meets chain of custody standards; (5) "[t]he proposed DNA testing is reasonable in scope, uses scientifically sound methods, and is consistent with accepted forensic practices"; (6) the applicant's theory of defense is consistent with affirmative defenses presented at trial and would establish actual innocence; (7) the perpetrator's identity was at issue at trial; (8) the proposed DNA testing "may produce new material evidence" supporting the defense's theory and "rais[ing] a reasonable probability that the applicant did not commit the offense"; (9) the applicant will provide a DNA sample; and (10) the motion is timely. See § 3600(a)(1)–(10) (listing these requirements in more detail). The 2016 amendment did not alter the elements required for a post-conviction litigant to obtain DNA testing. See Justice for All Reauthorization Act of 2016 § 11(a). Compare 18 U.S.C. § 3600 (Supp. IV 2016), with 18 U.S.C. § 3600 (2006).

¹⁸⁸ 18 U.S.C. 3600(a)(1)(A)–(B) (Supp. IV 2016).

¹⁸⁹ *Id.* § 3600(a)(1)(B).

hearing to support a sentence from which the applicant could get relief if exonerated for the state offense, and that the applicant has exhausted state remedies.¹⁹⁰

This eligibility requirement significantly restricts the number of wrongfully convicted individuals who can apply for post-conviction DNA testing under the federal statute.¹⁹¹ Considering applicants convicted of federal offenses, there are relatively few known wrongful convictions for federal offenses; rather, the majority of wrongful convictions that are discovered involve state offenses.¹⁹² Of the 2,360 exonerations since 1989 included in the National Registry of Exonerations, only 111 (4.7%) are for federal offenses.¹⁹³ Moreover, of those 111 exonerations for federal offenses, DNA was present in only one case, and there were only nine cases—four murder cases and five sexual assault cases—of the type where DNA evidence is commonly found.¹⁹⁴ When federal wrongful convictions are discovered, they are largely for crimes like fraud, conspiracy, and drug offenses, where there typically is no DNA evidence.¹⁹⁵ Furthermore, in the one federal wrongful conviction case where DNA

¹⁹⁰ *Id.* § 3600(a)(1)(B)(i)–(ii); *Harris v. Wolfenbarger*, No. 2:05-CV-74316, 2012 U.S. Dist. LEXIS 114781, at *1–2 (E.D. Mich. Aug. 15, 2012) (holding that only federal prisoners, not state prisoners, are eligible to file for post-conviction DNA testing under § 3600); *Sartain v. State*, 401 P.3d 701, 704 (Mont. 2017) (denying the plaintiff’s request for DNA testing under § 3600 because he was not imprisoned for a federal offense). If an applicant asserts innocence not of the federal offense that he or she is currently serving a prison sentence for, but rather, of another federal or state offense, then the statute requires that “evidence of such offense was admitted during a Federal sentencing hearing and exoneration of such offense would entitle the applicant to a reduced sentence or new sentencing hearing.” 18 U.S.C. § 3600(a)(1)(B)(i). Additionally, if the applicant asserts innocence of a state offense, the statute also requires that “the applicant demonstrates that there is no adequate remedy under State law to permit DNA testing of the specified evidence relating to the State offense” and “to the extent available, the applicant has exhausted all remedies available under State law for requesting DNA testing of specified evidence relating to the State offense.” *Id.* § 3600(a)(1)(B)(ii)(I)–(II).

¹⁹¹ See § 3600(a)(1)(B)(i)–(ii); *Exonerations in the United States*, *supra* note 27 (select “Federal” next to “Fed/Non-Fed” to filter for federal cases) (showing that, as of December 20, 2018, out of 2,360 exonerations since 1989, only 111 (4.7%) are for federal crimes).

¹⁹² See *Exonerations in the United States*, *supra* note 27 (select “Federal” next to “Fed/Non-Fed” to filter for federal cases) (providing the number of exonerations for federal and state crimes).

¹⁹³ *Id.* (select “Federal” next to “Fed/Non-Fed” to filter for federal cases).

¹⁹⁴ *Id.* (select “Federal” next to “Fed/Non-Fed” to filter for federal cases; then select “Present” next to “DNA” to filter for cases involving DNA, or select “Murder” under “Crime” to filter for murder cases, or select “Sexual Assault” under “Crime” to filter for sexual assault cases); see *infra* note 196 (detailing the case of Eric Smith, the only federal exoneree whose case involved DNA).

¹⁹⁵ See *Exonerations in the United States*, *supra* note 27 (select “Federal” next to “Fed/Non-Fed” to filter for federal cases; then select “Present” next to “DNA” to filter for cases involving DNA); *id.* (select “Federal” next to “Fed/Non-Fed” to filter for federal cases; then select “Drugs” under “Crime” to filter for cases involving drug offenses, or select “Other” under “Crime” to filter for cases involving other crimes, such as fraud and conspiracy). Most DNA exonerations are rape and rape-murder cases because these are the types of cases where it is common for the perpetrator to leave biological evidence at the crime scene, whereas biological evidence is less common in other types of cases, such as robbery cases, for instance. See GARRETT, *supra* note 28, at 5 (explaining that, out of the first 250 DNA exonerations, the most common crimes were rape, rape-murder, and murder, whereas other

was present, DNA was not the basis for the exoneration.¹⁹⁶ This analysis suggests that there are few individuals wrongfully convicted of federal crimes successfully applying for and being exonerated based on post-conviction DNA testing under § 3600.¹⁹⁷

Regarding state offenses, although § 3600 provides an avenue for post-conviction DNA testing for some applicants with state offenses, the requirements that the applicant be imprisoned for a federal offense and that evidence of the state offense have been admitted at a federal sentencing hearing significantly limit eligibility.¹⁹⁸ The vast majority of known wrongful convictions involve state offenses, and unless post-conviction litigants are currently incar-

crimes, like robbery, were much less common); *id.* at 12 (stating that DNA is not present at the scenes of most crimes but has been present at the scenes of rapes); *id.* at 263 (stating that DNA testing is typically performed in rape cases, and DNA exonerations are usually rape and rape-murder cases); *id.* at 271 (explaining that DNA testing is not usually possible in cases involving crimes like robbery); *DNA Exonerations Database*, *supra* note 30 (filter by “Trial Info;” then filter by “Types of Evidence at Trial;” then filter by “Forensic Evidence”) (showing that forensic evidence was present at trial in 253 (72%) of 350 DNA exonerations). DNA, however, was not present in either the three federal murder wrongful conviction cases or the five federal sexual assault wrongful conviction cases. *Exonerations in the United States*, *supra* note 27 (select “Federal” next to “Fed/Non-Fed” to filter for federal cases; then select “Present” next to “DNA” to filter for cases involving DNA, or select “Murder” under “Crime” to filter for murder cases, or select “Sexual Assault” under “Crime” to filter for sexual assault cases). The majority of federal exonerations have been for other crimes, such as fraud, drug crimes, and conspiracy. *See id.* (select “Federal” next to “Fed/Non-Fed” to filter for federal cases).

¹⁹⁶ *See Profile of Eric Smith*, NAT’L REGISTRY OF EXONERATIONS, <https://www.law.umich.edu/special/exoneration/Pages/casedetail.aspx?caseid=4742> [<https://perma.cc/3V6Z-EQMN>] (explaining that Eric Smith was exonerated for ineffective assistance of counsel, not based on DNA evidence). The one federal wrongful conviction case where DNA was present was a drug conviction where the exoneration was not based on DNA testing. *Exonerations in the United States*, *supra* note 27 (select “Federal” next to “Fed/Non-Fed” to filter for federal cases; then select “Present” next to “DNA” to filter for cases involving DNA); *Profile of Eric Smith*, *supra*. In that case, on September 28, 2012, a military jury convicted a United States Army physician, Major Eric Smith, of a drug crime after he failed a drug test. *Profile of Eric Smith*, *supra*. Smith’s urine had tested positive for cocaine, although his hair follicle test was negative for cocaine. *Id.* At trial, Smith’s attorney argued that the urine sample must have been contaminated, but failed to provide the proper foundation for the admission of the hair follicle test, and the judge excluded that test. *Id.* In 2014, Smith filed a motion to vacate his conviction. *Id.* Smith obtained DNA testing, and the results showed that there were two DNA profiles—Smith’s DNA profile and the DNA profile of an unidentified male—in the urine sample. *Id.* In 2015, the U.S. Army Court of Criminal Appeals vacated Smith’s conviction based on Smith’s attorney’s failure to admit the hair follicle test. *Id.* The court’s decision did not refer to the DNA testing at all. *Id.*

¹⁹⁷ *See* 18 U.S.C. § 3600(a); *Exonerations in the United States*, *supra* note 27 (select “Federal” next to “Fed/Non-Fed” to filter for federal cases); *supra* notes 191–196 and accompanying text.

¹⁹⁸ *See* 18 U.S.C. § 3600(a) (enumerating limitations on eligibility). For example, in 2012, in *Harris v. Wolfenbarger*, the United States District Court for the Eastern District of Michigan held that the petitioner, who was incarcerated for a state conviction, was not eligible for relief under § 3600 because it allows only federal prisoners to move for post-conviction DNA testing. *Harris*, 2012 U.S. Dist. LEXIS 114781 at *1–2. Similarly, in *Pickett v. Sacramento Superior Court* in 2011, the United States District Court for the Eastern District of California noted that because the plaintiff was convicted of and imprisoned for state convictions only, not a federal offense, he was not eligible for post-conviction DNA testing under § 3600. No. 2:11-cv-2321 JFM (PC), 2011 WL 6754011, at *2 (E.D. Cal. Dec. 23, 2011).

cerated for federal offenses, they cannot move for DNA testing or a DNA database search under § 3600.¹⁹⁹

2. DNA Database Searches

Congress added subsection (e), which provides for DNA database searches, to § 3600 in the 2016 amendment.²⁰⁰ Under § 3600(e), if post-conviction DNA testing excludes the applicant as a contributor to the crime-scene DNA profile, then the court must order a search of NDIS.²⁰¹ The law enforcement agency conducting the search must submit the crime-scene DNA profile for inclusion in NDIS, and it must compare the crime-scene DNA profile against both DNA profiles of known individuals and DNA profiles from unsolved crimes.²⁰² An NDIS search is comprehensive in the sense that all fifty states and federal law enforcement agencies contribute DNA profiles to this database.²⁰³ The federal statute, however, specifically requires that the crime-scene DNA profile meet the FBI's requirements for uploading a profile to NDIS, and thus, the statute does not provide the opportunity for keyboard searches of partial crime-scene DNA profiles.²⁰⁴

¹⁹⁹ See 18 U.S.C. § 3600(a) (restricting applicants to prisoners incarcerated for federal crimes); *Exonerations in the United States*, *supra* note 27 (select “Non-Federal” next to “Fed/Non-Fed” to filter for state cases) (showing that most exonerations are for state crimes). There is no shortage of examples of courts refusing post-conviction DNA testing to state prisoners under § 3600. See, e.g., *Harris*, 2012 U.S. Dist. LEXIS 114781 at *1–2 (holding that the petitioner was not eligible for relief under § 3600 because he was incarcerated for a state conviction only, and not sentenced for a federal offense); *Pickett*, 2011 WL 6754011 at *2 (“Because plaintiff is in custody only for state law convictions, and has not been sentenced for a federal offense, plaintiff cannot move for DNA testing under 18 U.S.C. § 3600.”); *Sartain*, 401 P.3d at 704 (denying the plaintiff’s request for DNA testing under § 3600 because he was not imprisoned for a federal offense and “his state conviction was [not] used to enhance a federal sentence”).

²⁰⁰ See Justice for All Reauthorization Act of 2016 § 11(a). Compare 18 U.S.C. § 3600 (Supp. IV 2016), with 18 U.S.C. § 3600 (2006).

²⁰¹ 18 U.S.C. § 3600(e)(B)(i)–(ii) (Supp. IV 2016). Like the North Carolina, Maryland, and Texas statutes, the federal statute makes the DNA database search mandatory, rather than at the court’s discretion, if the post-conviction litigant meets the statute’s criteria. See 18 U.S.C. § 3600(e)(B)(i)–(ii); MD. CODE ANN., CRIM. PROC. § 8-201(d)(2) (West 2017); N.C. GEN. STAT. § 15A-269(a) (2017); TEX. CODE CRIM. PROC. ANN. art. 64.035 (West 2017).

²⁰² 18 U.S.C. § 3600(e)(B)(i)–(ii); see NDIS MANUAL, *supra* note 21, at 37 (describing the criteria for submission of a DNA profile to NDIS).

²⁰³ See CODIS – NDIS Statistics, *supra* note 89 (stating that, as of December 2018, NDIS contained the DNA profiles of more than 13,566,716 offenders and more than 3,323,611 arrestees); *Combined DNA Index System (CODIS)*, *supra* note 82 (stating that more than 190 law enforcement agencies participate in the FBI’s DNA database program).

²⁰⁴ See 18 U.S.C. § 3600(e)(B)(i)–(ii). The statute specifically states that the DNA profile obtained from the crime must meet the FBI’s requirements for uploading a profile to NDIS. *Id.* § 3600(e)(B)(i). To upload a profile to NDIS, the profile must be sufficiently complete, and when a manual keyboard search is performed, that partial profile is not uploaded to NDIS. NDIS MANUAL, *supra* note 21, at 39, 50. Similarly, it appears that the Illinois, North Carolina, and Ohio statutes do not allow for manual keyboard searches of partial DNA profiles either. See 725 ILL. COMP. STAT.

III. RECOMMENDATIONS FOR IMPROVING STATE AND FEDERAL POST-CONVICTION DNA TESTING STATUTES TO INCREASE POST-CONVICTION LITIGANTS' ACCESS TO DNA DATABASE SEARCHES

All state legislatures should amend their states' post-conviction DNA testing statutes to allow post-conviction litigants access to DNA database searches.²⁰⁵ The Illinois, North Carolina, and Ohio statutes providing post-conviction litigants access to DNA database searches can serve as examples for other states to follow.²⁰⁶ Alternatively, if states do not provide post-conviction litigants access to DNA database searches, Congress should address this problem by amending the federal post-conviction DNA testing statute—18 U.S.C. § 3600.²⁰⁷ Congress should add a provision to § 3600 allowing some applicants wrongfully convicted of state offenses who have obtained exculpatory DNA testing the opportunity to search NDIS under this statute.²⁰⁸

ANN. 5/116-5(a)–(d) (West 2017); N.C. GEN. STAT. § 15A-269(a)–(b); OHIO REV. CODE ANN. § 2953.74(E) (West 2017); *supra* notes 150–159 and accompanying text (analyzing the Illinois DNA database search statute); *supra* notes 160–168 and accompanying text (analyzing the North Carolina DNA database search statute); *supra* notes 169–181 and accompanying text (analyzing the Ohio DNA database search statute).

²⁰⁵ See Kreag, *supra* note 8, at 808–09 (explaining that, in the absence of state statutes granting post-conviction litigants access to DNA database searches, access is left up to the discretion of the law enforcement agencies that maintain the databases); *id.* at 817–18 (explaining why some wrongfully convicted post-conviction litigants need access to DNA database searches to prove their innocence); *Access to Post-Conviction DNA Testing*, *supra* note 137 (recommending that all state post-conviction DNA testing statutes provide post-conviction litigants access to DNA database searches); *see, e.g.*, *supra* notes 1–26 and accompanying text (describing the case of Michael Morton); *supra* note 140 (describing the case of Jeffrey Deskovic).

²⁰⁶ See 725 ILL. COMP. STAT. ANN. 5/116-5 (West 2017); N.C. GEN. STAT. § 15A-269 (2017); OHIO REV. CODE ANN. § 2953.74(E) (West 2017); Kreag, *supra* note 8, at 817–18 (explaining why some wrongfully convicted post-conviction litigants need access to DNA database searches to prove their innocence); *Access to Post-Conviction DNA Testing*, *supra* note 137 (recommending that all state post-conviction DNA testing statutes provide post-conviction litigants access to DNA database searches); *supra* notes 150–159 and accompanying text (analyzing the Illinois DNA database search statute); *supra* notes 160–168 and accompanying text (analyzing the North Carolina DNA database search statute); *supra* notes 169–181 and accompanying text (analyzing the Ohio DNA database search statute).

²⁰⁷ See 18 U.S.C. § 3600(a), (e) (Supp. IV 2016); Justice for All Reauthorization Act of 2016, Pub. L. No. 114-324, § 11(a), 130 Stat. 1956 (2016) (stating that the purpose of the JFARA, which amended the federal post-conviction DNA testing statute, was to provide post-conviction DNA testing to exonerate innocent individuals); Justice for All Act of 2004, Justice for All Act of 2004, Pub. L. No. 108-405, Title IV, § 411(a)(1), 118 Stat. 2260 (2004) (stating that one of the purposes of the JFAA was “to provide post-conviction testing of DNA evidence to exonerate the innocent”); Kreag, *supra* note 8, at 808–09 (explaining why some wrongfully convicted post-conviction litigants need access to DNA database searches to prove their innocence).

²⁰⁸ See 18 U.S.C. § 3600(a), (e); Justice for All Reauthorization Act of 2016 § 11(a) (describing the Act’s purpose as providing post-conviction DNA testing to exonerate innocent individuals, without specific mention of any limitation to individuals wrongfully convicted of federal offenses); Justice for All Act of 2004, Title IV § 411(a)(1) (listing one of the JFAA’s purposes as exonerating innocent individuals, without specific mention of any limitation to individuals wrongfully convicted of federal

This Part argues for improvements to state post-conviction DNA testing statutes or to the federal post-conviction DNA testing statute to provide greater access to DNA database searches.²⁰⁹ Section A argues that all state legislatures should amend their states' post-conviction DNA testing statutes to include DNA database search provisions comprised of the best features of the Illinois, North Carolina, and Ohio statutes.²¹⁰ Section B argues, alternatively, that Congress should amend the federal post-conviction DNA testing statute to provide DNA database searches to a greater number of post-conviction litigants with state offenses who have exhausted their state remedies.²¹¹

A. All States Legislatures Should Use Illinois, North Carolina, and Ohio as Models and Amend Their States' Post-Conviction DNA Testing Statutes to Provide for DNA Database Searches

Most known wrongful convictions involve state, not federal, offenses.²¹² Moreover, DNA evidence is typically only present in certain types of cases, usually murder and rape cases, and individuals wrongfully convicted of these crimes tend to have been convicted under state, not federal, statutes.²¹³ In some of these cases, searching a DNA database is necessary to prove innocence.²¹⁴

offenses, through post-conviction DNA testing); Kreag, *supra* note 8, at 808–09 (explaining that some wrongfully convicted post-conviction litigants need access to DNA database searches to prove their innocence, and that most states do not have statutes providing this relief); *supra* notes 138–149 and accompanying text (explaining that some post-conviction litigants need access to DNA database searches to prove their innocence, and that, if a state statute does not provide this access, law enforcement has discretion to choose to provide access or not).

²⁰⁹ See *infra* notes 212–236 and accompanying text.

²¹⁰ See *infra* notes 212–229 and accompanying text.

²¹¹ See *infra* notes 230–236 and accompanying text.

²¹² See NATIONAL REGISTRY OF EXONERATIONS INTERACTIVE DATA DISPLAY, *supra* note 27 (select “Federal” next to “Fed/Non-Fed” to filter for federal cases) (showing that, as of December 20, 2018, out of the 2,360 exoneration since 1989, only 111 (4.7%) were for federal crimes).

²¹³ See GARRETT, *supra* note 28, at 5 (explaining that, out of the first 250 DNA exoneration, the most common crimes were rape, rape-murder, and murder, while other crimes, like robbery, were much less common), *id.* at 12 (stating that DNA is not present at the scenes of most crimes but has been present at the scenes of rapes), *id.* at 271 (explaining that DNA testing is not possible in cases involving crimes like robbery because the perpetrator does not typically leave any biological material at the crime scene); *Exonerations in the United States*, *supra* note 27 (select “Murder” under “Crime” to filter for murder cases; then select “Non-Federal” next to “Fed/Non-Fed” to filter for state murder cases) (select “Sexual Assault” under “Crime” to filter for sexual assault cases; then select “Non-Federal” next to “Fed/Non-Fed” to filter for state sexual assault cases) (showing that 99.6% of known wrongful convictions for murder were state prosecutions, and that 98.4% of known wrongful convictions for sexual assault were state prosecutions).

²¹⁴ See Garrett, *supra* note 142, at 1659 (explaining that, in some cases, despite exculpatory DNA testing results, the prosecution did not admit that the defendant was innocent until a DNA database search identified the actual perpetrator); Kreag, *supra* note 8, at 817–18 (explaining why some wrongfully convicted post-conviction litigants need to search DNA databases in order to identify the actual perpetrators of the crimes they were wrongfully convicted of and prove their innocence); *supra* notes 138–149 and accompanying text (explaining why some post-conviction litigants need access to DNA

Only nine states, however, have enacted statutes granting post-conviction litigants access to DNA database searches.²¹⁵ The federal post-conviction DNA testing statute provides an avenue for relief for some applicants convicted of state offenses.²¹⁶ Only applicants who are currently imprisoned for a federal offense and request DNA testing of evidence that was admitted during a federal sentencing hearing, however, qualify for post-conviction DNA testing and a DNA database search under the federal statute.²¹⁷ Thus, to provide greater access to DNA database searches to wrongfully convicted individuals, all state legislatures should amend post-conviction DNA testing statutes to include the specific DNA database search provisions discussed below.²¹⁸

First, to ensure that trial courts grant DNA database searches consistently, state statutes should follow North Carolina's model and mandate that trial courts grant DNA database searches whenever the applicant meets the appropriate criteria.²¹⁹ Under the North Carolina model, the statute enumerates five

database searches to prove their innocence); *see, e.g., supra* notes 1–26 and accompanying text (describing the case of Michael Morton); *supra* note 140 (describing the case of Jeffrey Deskovic); *supra* note 142 (listing other wrongful conviction cases where exonerees needed access to DNA database searches to prove their innocence).

²¹⁵ *Abrams & Garrett, supra* note 34, at 779; *Kreag, supra* note 8, at 808 n.13; *Bronner, supra* note 33. The nine states are Colorado, Georgia, Illinois, Maryland, Mississippi, New York, North Carolina, Ohio, and Texas. COLO. REV. STAT. § 18-1-412(9) (2017); GA. CODE ANN. § 5-5-41(9) (2017); 725 ILL. COMP. STAT. ANN. 5/116-5 (West 2017); MD. CODE ANN., CRIM. PROC. § 8-201(d)(2) (West 2017); MISS. CODE ANN. § 99-39-11(10) (2017); N.Y. CRIM. PROC. LAW § 440.30.1-a(c) (McKinney 2017); N.C. GEN. STAT. § 15A-269 (2017); OHIO REV. CODE ANN. § 2953.74(E) (West 2017); TEX. CODE CRIM. PROC. ANN. art. 64.035 (West 2017); *Kreag, supra* note 8, at 808 n.13; *Bronner, supra* note 33.

²¹⁶ *See* 18 U.S.C. § 3600(a); *see also Harris v. Wolfenbarger*, No. 2:05-CV-74316, 2012 U.S. Dist. LEXIS 114781, at *1–2 (E.D. Mich. Aug. 15, 2012) (holding that the petitioner was not eligible for relief under § 3600 because he was incarcerated for a state conviction only, and not sentenced for a federal offense); *Pickett v. Sacramento Superior Court*, No. 2:11-cv-2321 JFM (PC), 2011 WL 6754011, at *2 (E.D. Cal. Dec. 23, 2011) (denying the plaintiff's motion for post-conviction DNA testing under § 3600 because he was sentenced for state convictions only); *Sartain v. State*, 401 P.3d 701, 704 (Mont. 2017) (denying the plaintiff's request for DNA testing under § 3600 because he was not imprisoned for a federal offense and "his state conviction was [not] used to enhance a federal sentence").

²¹⁷ 18 U.S.C. § 3600(a); *Harris*, 2012 U.S. Dist. LEXIS 114781, at *1–2 (denying a petitioner incarcerated for a state conviction relief under § 3600); *Pickett*, 2011 WL 6754011, at *2 (denying a plaintiff sentenced for state convictions relief under § 3600); *Sartain*, 401 P.3d at 704 (denying a plaintiff relief under § 3600 because "his state conviction was [not] used to enhance a federal sentence").

²¹⁸ *See Garrett, supra* note 142, at 1659 (explaining that, in some cases, despite exculpatory DNA testing results, the prosecution did not admit that the defendant was innocent until a DNA database search identified the actual perpetrator); *Kreag, supra* note 8, at 808–09, 817–18 (explaining that some post-conviction litigants need access to DNA database searches, but that only nine states have statutes providing post-conviction litigants with this access).

²¹⁹ *See* N.C. GEN. STAT. § 15A-269(a)–(b); *Kreag, supra* note 8, at 808–09 (explaining that, in the absence of state statutes granting post-conviction litigants access to DNA database searches, access is left up to the discretion of the law enforcement agencies that maintain the databases); *id.* at 817–18 (explaining why some wrongfully convicted post-conviction litigants need access to DNA database

requirements, and if all five requirements are met, the court must grant both DNA testing and a DNA database search.²²⁰ This model may be the easiest for a state legislature to implement because it requires only amending the state's existing post-conviction DNA testing statute to include a mandatory DNA database search whenever DNA testing is granted, rather than having to create a new statute or a separate set of requirements for a DNA database search.²²¹

Second, to increase the possibility of identifying the actual perpetrator, a DNA database search should compare the crime-scene DNA profile against as many DNA profiles as possible.²²² Like Illinois, all states should allow post-conviction litigants to search both state and local DNA databases as well as NDIS.²²³ Additionally, like Illinois, all states should require that any DNA database search compare the crime-scene DNA profile against both DNA profiles

searches to prove their innocence). Currently, in states without statutes granting post-conviction litigants access to DNA database searches, access is not uniform because it is left up to the discretion of the law enforcement agencies that control the databases. Kreg, *supra* note 8, at 808–09. If a post-conviction litigant has already obtained DNA testing that excludes the litigant as a contributor to the crime-scene DNA profile, the benefits of performing a DNA database search outweigh the costs. *See id.* at 817–18, 820 (explaining why some wrongfully convicted post-conviction litigants need access to DNA database searches to prove their innocence). A DNA database search is neither time-consuming nor expensive, and the potential benefit is identifying the actual perpetrator of the crime and exonerating a wrongfully convicted person. *See* NDIS MANUAL, *supra* note 21, at 37, 50 (describing the procedures for performing a DNA database search); Kreg, *supra* note 8, at 817–18 (explaining why DNA database searches are sometimes necessary to prove innocence); *id.* at 820 (explaining that even keyboard searches, which require the DNA database administrator to manually enter the DNA profile for a search, are not a significant burden).

²²⁰ N.C. GEN. STAT. § 15A-269(a)–(b); *see supra* notes 160–168 and accompanying text (analyzing the North Carolina DNA database search statute).

²²¹ *See* N.C. GEN. STAT. § 15A-269(a)–(b) (setting forth a single set of requirements to receive both DNA testing and a database search). If state legislatures choose not to follow the North Carolina model, and prefer to create a new DNA database search statute separate from the post-conviction DNA testing statute, Illinois is an alternative model. *See* 725 ILL. COMP. STAT. ANN. 5/116-5. Following the Illinois model, state legislatures could create new statutes that provide DNA database searches to both pre-trial defendants and post-conviction litigants. *See id.*

²²² *See* 725 ILL. COMP. STAT. ANN. 5/116-5; Kreg, *supra* note 8, at 816 (explaining that comparing a crime-scene DNA profile against another crime-scene profile in the database and performing a keyboard search can both identify the actual perpetrator of a crime). Because performing a DNA database search is neither time-consuming nor expensive, performing a search that compares the crime-scene DNA profile against more DNA profiles in a DNA database should not require significant additional time or expense. *See* NDIS MANUAL, *supra* note 21, at 50 (describing keyboard searches); Kreg, *supra* note 8, at 820 (noting that keyboard searches are not much more difficult or burdensome than adding a DNA profile to the database).

²²³ *See* 725 ILL. COMP. STAT. ANN. 5/116-5(a)–(b); Kreg, *supra* note 8, at 807 n.2 (advocating for post-conviction litigants' access to all DNA databases). States should allow post-conviction litigants to search NDIS as long as the appropriate NDIS criteria are met. *See* 18 U.S.C. § 3600(e); 725 ILL. COMP. STAT. ANN. 5/116-5(b); NDIS MANUAL, *supra* note 21, at 39 (stating that the requirements to search a DNA profile in NDIS include that the DNA testing was performed using an approved kit and that the DNA profile is sufficiently complete); Kreg, *supra* note 8, at 817–18 (explaining the importance of database access in exonerating wrongfully convicted litigants).

of known offenders and DNA profiles from unsolved crimes.²²⁴ Each statute should specifically enumerate these requirements and also include language providing access to keyboard searches to avoid the ambiguity present in the Illinois, North Carolina, and Ohio statutes.²²⁵

Lastly, states should use the Ohio statute as a model to provide instructions for the law enforcement agency conducting the search because this statute provides the most detailed instructions.²²⁶ Like Ohio, states should specify in their statutes which law enforcement agency is responsible for conducting the search so that there is no ambiguity that an agency could use to argue that it does not need to perform the search.²²⁷ States should also follow Ohio's example and direct law enforcement agencies to take specific steps in response to the DNA database search results to increase the likelihood of identifying the actual perpetrator.²²⁸ State statutes should also require the law enforcement agency to provide copies of all documentation related to the DNA database search to the post-conviction litigant, like Illinois requires, so that the litigant can use that information to continue investigating or prove his or her innocence.²²⁹

B. Congress Should Amend the Federal Post-Conviction DNA Testing Statute to Allow Greater Access to DNA Database Searches for Post-Conviction Litigants Wrongfully Convicted of State Offenses

Alternatively, if state legislatures do not amend their states' post-conviction DNA testing statutes as this Note proposes, Congress should amend the federal post-conviction DNA testing statute to provide database searches to

²²⁴ See 725 ILL. COMP. STAT. ANN. 5/116-5(a); Kreag, *supra* note 8, at 815–16 (explaining searches against known-offender and crime-scene DNA profiles), 817–18 (explaining why post-conviction litigants need access to search DNA databases). It is important that the DNA database search compares the crime-scene DNA profile against DNA profiles from unsolved crimes because this type of search has the potential to identify a serial offender. See Kreag, *supra* note 8, at 816 & n.52. Even though the serial offender's identity will be unknown, traditional investigation has the potential to identify the offender, and linking the offender to multiple crimes could help the investigation. See *id.*

²²⁵ See 725 ILL. COMP. STAT. ANN. 5/116-5(a)–(d); N.C. GEN. STAT. § 15A-269(a)–(b); OHIO REV. CODE ANN. § 2953.74(E); NDIS MANUAL, *supra* note 21, at 50 (describing keyboard searches); Kreag, *supra* note 8, at 816, 820 (explaining that keyboard searches are not a significant burden). In contrast, the federal statute makes it clear that it does not allow for keyboard searches. See 18 U.S.C. § 3600(e) (requiring that the crime-scene DNA profile meet the FBI's requirements for uploading a profile to NDIS); NDIS MANUAL, *supra* note 21, at 50; Kreag, *supra* note 8, at 816.

²²⁶ See OHIO REV. CODE ANN. § 2953.74(E); *supra* notes 169–181 and accompanying text (analyzing the Ohio DNA database search statute).

²²⁷ See OHIO REV. CODE ANN. § 2953.74(E); *supra* notes 169–181 and accompanying text (analyzing the Ohio DNA database search statute).

²²⁸ See OHIO REV. CODE ANN. § 2953.74(E); *supra* notes 169–181 and accompanying text (analyzing the Ohio DNA database search statute).

²²⁹ See 725 ILL. COMP. STAT. ANN. 5/116-5(c); *supra* notes 150–159 and accompanying text (analyzing the Illinois DNA database search statute).

a greater number of applicants convicted of state offenses.²³⁰ Currently, few individuals wrongfully convicted of state offenses are eligible for relief under § 3600 because the statute requires that applicants are incarcerated for federal offenses and that evidence of the state offense was admitted at a federal sentencing hearing.²³¹

To increase access to DNA database searches, Congress should amend § 3600 to include a new provision that provides an NDIS search for post-conviction litigants who have already obtained exculpatory DNA testing results under a state statute.²³² As a practical matter, DNA testing must be completed prior to the post-conviction litigant seeking relief under § 3600 so that there is a crime-scene profile ready to search in NDIS.²³³ To limit the number

²³⁰ See 18 U.S.C. § 3600(a), (e); Justice for All Reauthorization Act of 2016 § 11(a) (stating that the purpose of the JFARA, which amended the federal post-conviction DNA testing statute to add the DNA database search provision, was to provide DNA testing to exonerate innocent individuals who have been wrongfully convicted); Justice for All Act of 2004, Title IV § 401 (stating that one of the purposes of the JFAA was “to provide post-conviction testing of DNA evidence to exonerate the innocent”). Congress amended the federal statute because legislators want there to be more exonerations. Justice for All Reauthorization Act of 2016 § 11(a); Justice for All Act of 2004, Title IV § 401. Greater availability of DNA database searches will lead to more exonerations. See Dist. Attorney’s Office for the Third Judicial Dist. v. Osborne, 557 U.S. 52, 55 (2009) (“DNA . . . has an unparalleled ability both to exonerate the wrongly convicted and to identify the guilty.”); Kreag, *supra* note 8, at 825 (explaining that a lack of access to a DNA database search delayed Jeffrey Deskovic’s exoneration by several years). Therefore, Congress should amend the statute to make DNA database searches available to more post-conviction litigants to increase exonerations. See Justice for All Reauthorization Act of 2016 § 11(a); Justice for All Act of 2004, Title IV § 401.

²³¹ See 18 U.S.C. § 3600(a), (e); see, e.g., Harris, 2012 U.S. Dist. LEXIS 114781 at *1–2 (denying a petitioner incarcerated for a state conviction relief under § 3600); Pickett, 2011 WL 6754011 at *2 (denying a plaintiff sentenced for state convictions relief under § 3600); Sartain, 401 P.3d at 704 (denying a plaintiff relief under § 3600 because “his state conviction was [not] used to enhance a federal sentence”); *supra* notes 187–199 and accompanying text (discussing the eligibility criteria under the federal post-conviction DNA testing statute).

²³² See 18 U.S.C. § 3600(a), (e); NDIS MANUAL, *supra* note 21, at 27 (explaining that a search of NDIS requires a DNA profile); Garrett, *supra* note 142, at 1659 (explaining that, in some cases, despite exculpatory DNA testing results, the prosecution did not admit that the defendant was innocent until a DNA database search identified the actual perpetrator); Kreag, *supra* note 8, at 808–09 (explaining why DNA database searches are sometimes necessary to prove innocence); David A. Schumacher, Comment, *Post-Conviction Access to DNA Testing: The Federal Government Does Not Offer an Adequate Solution, Leaving the States to Remedy the Situation*, 57 CATH. U. L. REV. 1245, 1260, 1268, 1271 (2008) (arguing that Congress should amend § 3600, also called the Innocence Protection Act (“IPA”), because its eligibility criteria are too strict, and because the Act should be available to not only petitioners convicted of federal offenses but also petitioners convicted of state offenses); Steinback, *supra* note 73, at 342–43 (describing compromises in the IPA, and arguing that the Act’s eligibility criteria are too restrictive because compromises eliminated a Fourteenth Amendment due process right to post-conviction DNA testing for petitioners convicted of state offenses). See generally Ronald Weich, *The Innocence Protection Act of 2004: A Small Step Forward and a Framework for Larger Reforms*, CHAMPION, Mar. 2005, at 28 (explaining compromises that Congress made in the IPA, and arguing that the law could be improved further).

²³³ NDIS MANUAL, *supra* note 21, at 27 (explaining that a search of NDIS requires a DNA profile).

of eligible petitioners and avoid imposing a significant burden on the database administrators who perform the searches, Congress should restrict relief to only post-conviction litigants who have already sought a search via another avenue, such as making a request to a law enforcement agency or seeking a court order for a search, and been denied a search.²³⁴ If the applicant were to meet these two criteria—exculpatory results and denial of a search—then the federal district court would be required to order a search of NDIS, where the crime-scene DNA profile would be compared against both profiles of known offenders and profiles recovered from unsolved crimes so that the crime-scene profile is compared against as many profiles as possible.²³⁵

Congress should also amend § 3600 to allow for keyboard searches of partial crime-scene DNA profiles.²³⁶ Keyboard searches do not burden the database administrators who conduct the searches, and they can help exonerate wrongfully convicted individuals, so the benefits outweigh the costs.²³⁷ It is quick and easy for administrators to perform DNA database searches, but these searches can be profoundly life-changing for exonerees like Michael Morton who cannot prove their innocence without them.²³⁸ By amending § 3600 to provide DNA database searches, Congress can remedy even more wrongful convictions, furthering the goal that Congress intended for this statute to accomplish.²³⁹

CONCLUSION

Although forensic science is regularly used in criminal cases, the recent NAS Report highlights that several forensic science techniques, including the forensic feature-comparison methods, are unreliable and not scientifically valid.

²³⁴ See 18 U.S.C. § 3600(a), (e); Kreag, *supra* note 8, at 808, 818–19 (explaining that nine states have statutes providing post-conviction litigants access to DNA database searches, and that, in a state without a statute, a defendant might ask the prosecutor to join his or her petition to the court for a database search).

²³⁵ See 18 U.S.C. § 3600(a), (e); Kreag, *supra* note 8, at 815–16 (describing types of DNA database searches).

²³⁶ See 18 U.S.C. § 3600(a), (e); NDIS MANUAL, *supra* note 21, at 50 (describing keyboard searches); Kreag, *supra* note 8, at 820 (explaining that keyboard searches are not a significant burden); Schumacher, *supra* note 232, at 1260, 1268, 1271 (arguing that Congress should amend § 3600).

²³⁷ See Kreag, *supra* note 8, at 820 (explaining that keyboard searches are not a significant burden, and that keyboard searches can identify potential perpetrators that the prosecution and defense can then investigate further).

²³⁸ See *id.* (describing the value of keyboard searches); *supra* notes 1–26 and accompanying text (describing the case of Michael Morton, who was wrongfully convicted of murdering his wife and obtained exculpatory post-conviction DNA testing but was not exonerated until a DNA database search identified the actual perpetrator).

²³⁹ See 18 U.S.C. § 3600(a), (e); Justice for All Reauthorization Act of 2016 § 11(a) (stating that the purpose of the JFARA was to provide DNA testing to exonerate innocent individuals who have been wrongfully convicted); Justice for All Act of 2004, Title IV § 401 (describing one of the purposes of the JFAA as exonerating innocent individuals through post-conviction DNA testing).

These flawed forensic science methods have contributed to hundreds of wrongful convictions. As DNA testing has advanced, however, it has become an important resource that can establish innocence and exonerate wrongfully convicted individuals. Despite the value of DNA testing, in some wrongful conviction cases, exculpatory DNA testing results alone have not been sufficient to prove innocence. Rather, some exonerees have had to prove their innocence by searching law enforcement DNA databases to identify the actual perpetrators of the crimes for which they were wrongfully convicted.

Even though all fifty states have enacted post-conviction DNA testing statutes, only nine states and the federal post-conviction DNA testing statute provide post-conviction litigants with access to search DNA databases. Additionally, only applicants currently incarcerated for federal offenses are eligible for relief under the federal statute. Therefore, state legislatures or Congress should expand access to DNA database searches in order to remedy wrongful convictions. All state legislatures should amend their post-conviction DNA testing statutes to grant post-conviction litigants access to DNA database searches. Alternatively, Congress should amend the federal post-conviction DNA testing statute to provide post-conviction litigants wrongfully convicted of state offenses with access to DNA database searches under the federal statute.

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