



NATIONAL INSTITUTE OF JUSTICE  
***CELEBRATING***  
*Over 50 Years*



**NIJ** | *National Institute  
of Justice*

STRENGTHEN SCIENCE. ADVANCE JUSTICE.



## NATIONAL INSTITUTE OF JUSTICE    FEDERAL RESEARCH DIVISION

**DAVID B. MUHLHAUSEN, Ph.D.**  
Director, National Institute of Justice

The National Institute of Justice (NIJ) is the research, development, and evaluation agency of the U.S. Department of Justice. NIJ's mission is to advance scientific research, development, and evaluation to enhance the administration of justice and public safety.

NIJ is a component of the Office of Justice Programs, which also includes the Bureau of Justice Assistance; the Bureau of Justice Statistics; the Office for Victims of Crime; the Office of Juvenile Justice and Delinquency Prevention; and the Office of Sex Offender Sentencing, Monitoring, Apprehending, Registering, and Tracking.

**Website**    <https://nij.ojp.gov/>  
**Phone**    301-240-7760 / 800-851-3420  
**Mail**    NCJRS  
            P.O. Box 6000  
            Rockville, MD 20849-6000

### Follow us on



This report was compiled by the Federal Research Division (FRD) within the Library of Congress. FRD provides directed research and analysis on domestic and international subjects to agencies of the U.S. government, the District of Columbia, and authorized federal contractors. As expert users of the Library's vast English and foreign-language collections, the division's area and subject-matter specialists employ the resources of the world's largest library and other information sources to produce impartial and comprehensive studies on a cost-recovery basis.

This report represents an independent analysis by FRD and the authors, who have sought to adhere to accepted standards of scholarly objectivity. It should not be construed as an expression of an official U.S. government position, policy, or decision.

**Website**    <https://www.loc.gov/rr/>  
**Email**    [frds@loc.gov](mailto:frds@loc.gov)  
**Phone**    202-707-3900

<b>Chief</b>	Kristian Hassinger
<b>Project Manager</b>	Bailey Cahall
<b>Analyst</b>	Meaghan Flattery
<b>Graphic Designer</b>	Susan Ventura

**Image Sources:** Getty Images, iStock, National Archives, NIJ, Shutterstock.

Special thanks to William Karl Valentine for licensing the use of two images for this publication—page 11, photograph of Pasadena police officers Randy Taylor and Rick Aversano ©1986; and page 14, photograph of Chino police lieutenant Nick Marotta ©2020.



## LETTER FROM THE LIBRARY OF CONGRESS

Ahead of its 50th anniversary, the **National Institute of Justice (NIJ)**—a component of the U.S. Department of Justice’s Office of Justice Programs—reached out to the Library of Congress’s Federal Research Division (FRD), eager for an outside perspective on its achievements over the past five decades. This final compendium, written with an eye on NIJ’s role and influence supporting the criminal justice community, highlights a number of key contributions the institute has made, as well as a variety of other important milestones. Knowing that NIJ’s work benefits all Americans, the research team was particularly focused on illustrating its impact advancing specific criminal justice concerns, disciplines, and practices.

With the creation of NIJ in 1968, the federal government made a commitment to using its financial and intellectual resources to reduce violent and nonviolent crimes, and to heal and restore the individuals, neighborhoods, and communities affected by such actions. Through its interviews and interactions with NIJ staff and senior management, FRD uncovered an enduring passion and dedication to both bettering and furthering the criminal justice field.

NIJ has a difficult task—to understand and analyze crime through a national lens and to transform this work into local financial support, educational assistance, new technologies and tools, and evidence-based research that may improve criminal justice outcomes.

We congratulate NIJ on celebrating such an important milestone and thank its leaders for allowing FRD to showcase its critical role. We also want to thank the individuals serving tirelessly in the criminal justice community for their hard work and shared commitment to creating a society that is more humane, just, and safe for us all.

**KRISTIAN HASSINGER, CHIEF**

Federal Research Division  
Library of Congress



# NATIONAL INSTITUTE OF JUSTICE

## ABOUT THIS REPORT

With an organization like NIJ, which has an extremely broad portfolio, structuring its achievements in a coherent manner can be challenging. The research team addressed this reality by sectioning the report into both decades and topic areas. After a brief history of NIJ, its accomplishments and contributions are grouped in 10-year increments with the key innovations listed in order of initial development. As many NIJ initiatives are ongoing, each decade ends with a page focused on additional achievements occurring within those years. It is here that readers can see how various projects advanced over time. The report ends with a look to the future, during which NIJ will continue many of the profiled efforts and develop new ways to strengthen and support the criminal justice community.

### Statement about Data

In addition to interviews with NIJ staff, the research team drew upon a wide range of primary and secondary sources; it also relied as much as possible on open-access materials. Along with NIJ's own publications, the team consulted a number of criminal justice data resources—including the National Archive of Criminal Justice Data and the National Crime Victimization Survey—gaining further insight to NIJ's impact on the criminal justice community and American society as a whole. Many other outstanding collections are maintained by universities and nonprofit organizations, and they are used throughout the report. A full list of all source material for the in-text citations can be found beginning on page 49, "References: Text." For the information included in all of the text boxes, see page 59, "References: Pull-Outs and Sidebars."

Criminal justice data is complex—collection and preservation methods have not been standardized across all jurisdictions, which impacts their ability to share and compare information. Although the research team used the most recent data it could find and verify, readers are cautioned against using this report to make broad conclusions about crime in America. This report is designed to serve as a guide only, and to inform and educate readers about the breadth and depth of the important work being advanced by NIJ.

## TABLE OF CONTENTS

Letter from the Library of Congress	1
About this Report	2
<b>NIJ THROUGH THE YEARS</b>	<b>4</b>
History	4
External Partnerships	5
NIJ Today	5
<b>1970s</b>	<b>6</b>
Body Armor	7
Policing Strategies	9
Important Milestones/Additional Achievements	11
<b>1980s</b>	<b>12</b>
Crime Mapping	13
DNA Testing	15
Drugs and Crime	18
Important Milestones/Additional Achievements	21
<b>1990s</b>	<b>22</b>
Latent Fingerprint Examination	23
School Safety	25
Important Milestones/Additional Achievements	27
<b>2000s</b>	<b>28</b>
Intimate Partner Violence	29
NamUs	32
Sexual Assault Kits	34
Important Milestones/Additional Achievements	36
<b>2010s</b>	<b>38</b>
Corrections	40
Officer Safety, Health, and Wellness	42
Protecting Elders from Abuse	44
Important Milestones/Additional Achievements	46
<b>LOOKING TO THE FUTURE</b>	<b>48</b>
<b>REFERENCES: TEXT</b>	<b>49</b>
<b>REFERENCES: PULL-OUTS AND SIDEBARS</b>	<b>59</b>

## NIJ THROUGH THE YEARS

### History

The National Institute of Justice (NIJ) emerged in response to the rising crime rates of the 1960s. Having viewed crime for decades as “intensely local,” there was little scientific understanding of the effectiveness of specific criminal justice strategies, and any information that did exist was rarely shared between jurisdictions or states.<sup>1</sup>

Believing that crime is actually a national issue and that the federal government could assist in crime prevention, President Lyndon B. Johnson convened the Commission on Law Enforcement and Administration of Justice in 1965 to address “the depth of ignorance” that surrounded the country’s crime problem.<sup>2</sup> Among the commission’s recommendations was a proposal to create

---

The commission has found and discussed . . . many needs of law enforcement and the administration of criminal justice. But what it has found to be the greatest need is the need to know.

*Commission on Law Enforcement and Administration of Justice*

---

a research office within the U.S. Department of Justice (DOJ) that would focus on improving law enforcement agencies’ knowledge of criminal justice issues.<sup>3</sup>

Congress responded to this recommendation in 1968, with the enactment of the Omnibus Crime Control and Safe Streets Act. This act es-

established the Law Enforcement Assistance Administration (LEAA) within DOJ, and the National Institute of Law Enforcement and Criminal Justice (NILECJ) as the administration’s research arm. The institute’s mission was to enhance the field of criminal justice by developing new techniques and systems. It funded grants to research institutions and conducted studies in a variety of fields related to criminal justice, including corrections, criminology, law, police science, and public administration.<sup>4</sup> In the 1970s, NILECJ became a clearinghouse for the exchange of information on criminal justice-related topics.<sup>5</sup>

The LEAA was restructured in 1979, when Congress passed the Justice System Improvement Act, changing the agency’s funding mechanisms and organization. The act also created NIJ, which absorbed NILECJ’s functions.<sup>6</sup> Four years later, in 1982, the LEAA was succeeded by the Office of Justice Assistance, Research, and Statistics, which in turn became the Office of Justice Programs in 1984.<sup>7</sup>



## External Partnerships

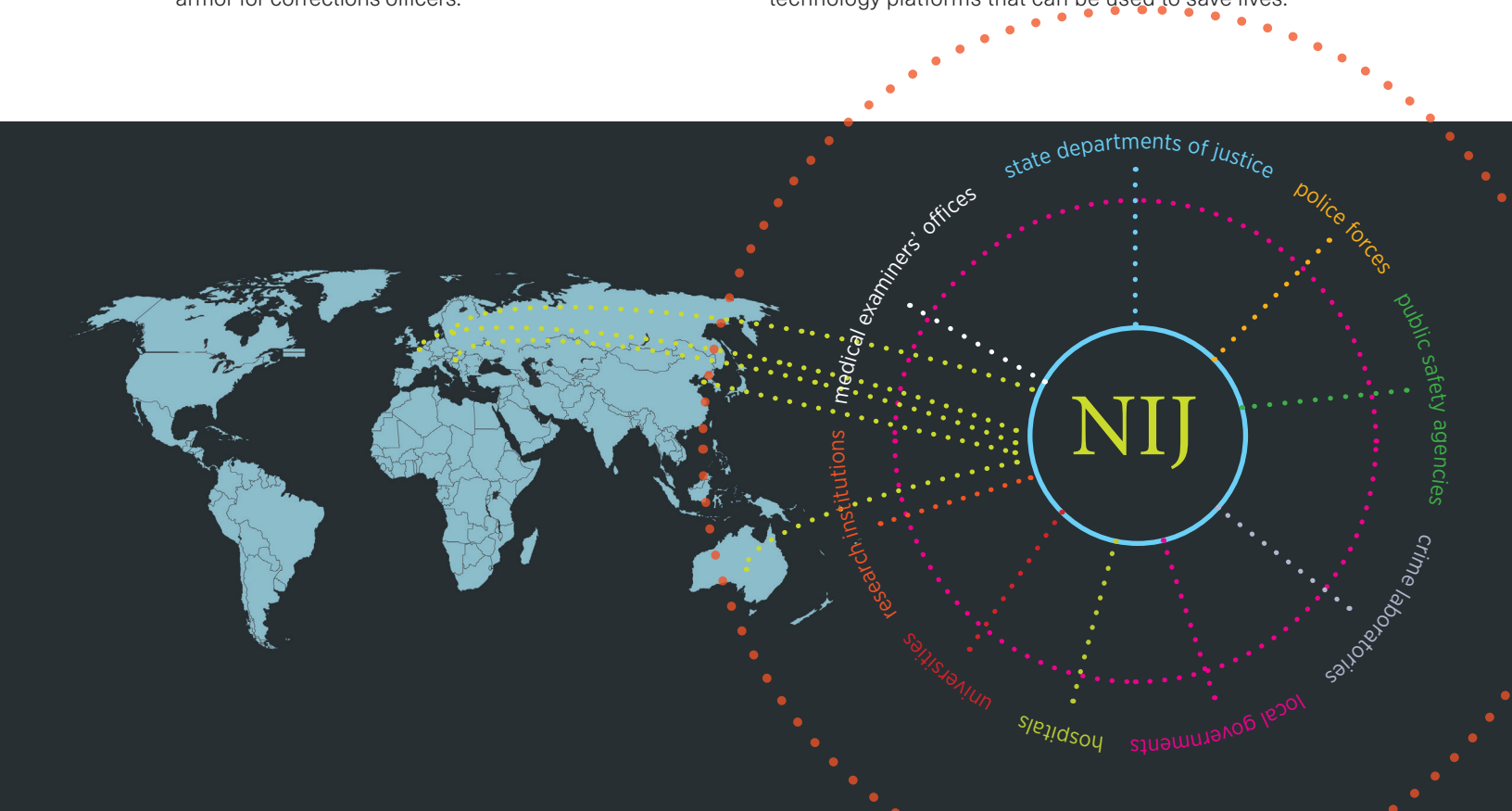
Throughout its more than 50-year history, NIJ has addressed criminal justice issues by first identifying a need (for a certain procedure, process, technology, etc.) and then articulating that need, before funding researchers who can study it. The institute's grantees include state departments of justice, police forces, public safety agencies, and crime laboratories, as well as local governments, hospitals, universities, research institutions, and medical examiners' offices.<sup>8</sup>

NIJ has also partnered with other federal agencies—such as the U.S. Departments of Commerce, Education, Energy, and Health and Human Services—and a number of DOJ components, including the Office on Violence Against Women.<sup>9</sup> The institute has further collaborated with several foreign governments, namely those in Australia, Israel, the Netherlands, South Korea, and the United Kingdom. These global efforts have been typically conducted through the Office of Investigative and Forensic Sciences, and have focused on specific issues, such as creating puncture-resistant body armor for corrections officers.<sup>10</sup>

## NIJ Today

Though the institute's name has changed over time, its mission has always been the same: to integrate hard science with behavioral research to create usable information for the criminal justice community. NIJ recognizes that criminal justice reform can be challenging as no two jurisdictions have identical laws, penal codes, or crime problems. It is therefore committed to advancing adaptable innovations in the field by sharing its knowledge, research results, and technology tools with state, local, and tribal jurisdictions. By facilitating better informed, more cost-effective decision-making, NIJ enables the creation of localized outcomes that lead to both the prevention and reduction of crime in America.

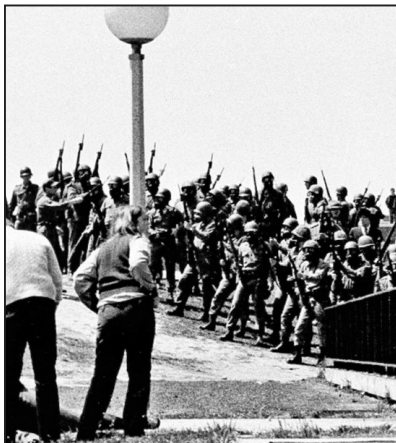
Appreciating the fact that “there is no activity, technique, program, or administrative structure in the criminal justice system that is so perfect it does not need to be systematically scrutinized, evaluated, and experimented with,” NIJ continuously funds research efforts to advance the scientific foundation of various criminal justice disciplines.<sup>11</sup> It also regularly tests and showcases new or emerging technology platforms that can be used to save lives.





# 1970s

Following the rapid changes of the 1960s, social commentators believed the 1970s would be a bit of a cool-down period after the culture clashes of the previous 10 years. Yet though people like then-U.S. ambassador Daniel Patrick Moynihan would suggest that “nothing much is going to happen in the 1970s anyway,” the decade would be one of economic struggle, cultural change, and technological innovation.<sup>12</sup>



- **1970:** The Kent State and Jackson State shootings occur as student protestors clash with the National Guard (Ohio) and city and state police (Mississippi). Between the two events, six students are killed and more than 20 are wounded.<sup>13</sup>
- **1971:** Nearly 1,300 inmates at the Attica Correctional Facility in New York riot and take 42 staff hostage, demanding better living conditions and political rights. When state police regain control of the prison, 29 inmates and 10 corrections officers and civilian employees are dead.<sup>14</sup>
- **1972:** With the 5–4 decision of *Furman v. Georgia*, the U.S. Supreme Court strikes down all death penalty schemes, effectively issuing a de facto moratorium on capital punishment in the United States.<sup>15</sup>
- **1973:** Chief Justice William O. Douglas sends Congress the first Federal Rules of Evidence. These rules regulate the kinds of evidence juries may use in reaching a verdict, ensuring that they have a broad range of items to consider, and that the items are not prejudiced or confusing.<sup>16</sup>
- **1974:** Nearly 60 percent of the Baltimore Police Department goes on strike, seeking better wages and changes to department policies. The first police labor action in more than 50 years, the strike ends after five days.<sup>17</sup>
- **1975:** Women in Philadelphia organize the first “Take Back the Night” march after Susan Alexander Speeth, a young microbiologist, is stabbed to death while walking home alone.<sup>18</sup>
- **1976:** In *Gregg v. Georgia*, the U.S. Supreme Court finds that capital punishment sentences are constitutional if a jury takes the defendant’s record and character into account, is given objective standards to consider during deliberations, and has its decision subjected to meaningful appellate review. This ruling, in essence, overturns the findings from *Furman v. Georgia*.<sup>19</sup>
- **1977:** A series of lightning strikes causes the New York City electrical system to blackout for 25 hours, resulting in the looting of more than 1,600 stores, the burning of more than 1,000 buildings, and the arrest of nearly 4,000 people.<sup>20</sup>
- **1978:** Serial killer Ted Bundy is captured in Florida, several weeks after escaping from a Colorado prison; a few months later, John Wayne Gacy, another serial killer, is also arrested.<sup>21</sup>
- **1979:** Eight children are injured and two adults are killed when 16-year-old Brenda Spencer opens fire at the gates of Grover Cleveland Elementary School in San Diego. When asked for a motive, Spencer declares, “I don’t like Mondays. This livens up the day.”<sup>22</sup>

# BODY ARMOR



During the 1960s, the United States saw a sharp increase in police fatalities. The number of officers killed in the line of duty more than doubled from 1966 to 1971—rising from 57 fatalities per year to 129.<sup>23</sup>

Concerned with the growing number of officer deaths, most of which were caused by handguns, NIJ began researching lightweight police body armor in the early 1970s. After Lester Shubin, the then-manager of the technology assessment program, realized that DuPont's Kevlar fibers resisted ballistics penetration, NIJ began testing body armor made from the material. In 1975, field tests began

with a one-year pilot program that distributed 5,000 pieces of body armor to police officers in 15 cities.<sup>24</sup> By the end of the pilot, the vests had saved the lives of 18 officers.<sup>25</sup>

## DID YOU KNOW?

DuPont originally created Kevlar fibers for use in vehicle tires. However, when Shubin heard about the material, he realized it could have applications for lightweight body armor.

Shubin and a colleague took a piece of Kevlar to a shooting range, folded it over several times, and shot it. Sure enough, the bullets did not penetrate the material.

**WHAT ARE NIJ COMPLIANT ARMORS TESTED AGAINST?**

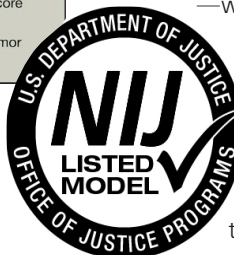
**EXISTING LEVELS OF PROTECTION**

<b>Level IIA</b>	Tested to stop 9mm and .40 S&W ammunition fired from short barrel handguns. No rifle ammunition protection.	<b>Level IIIA</b>	Tested to stop .357 SIG and .44 Magnum ammunition fired from longer barrel handguns. No rifle ammunition protection.
<b>Level II</b>	Tested to stop 9mm and .357 Magnum ammunition fired from short barrel handguns. No rifle ammunition protection.	<b>Level III</b>	Tested to stop 7.62mm FMJ lead core rifle ammunition.
		<b>Level IV</b>	Tested to stop .30cal steel core armor piercing rifle ammunition.

There are currently five different body armor performance levels, which are based on the vests' protection against various kinds of ammunition. Regardless of performance level, NIJ requires the vests to protect against both perforation and blunt trauma.<sup>27</sup>

While NIJ was developing and testing this body armor, it was also creating performance standards for ballistics resistance. The first set of voluntary standards was published in 1972, and NIJ has published periodic updates ever since. The most recent set of standards was published in 2008, although NIJ is working to update those standards. The revised standards will include enhanced testing methods for female body armor and new protection levels for rifle threats.<sup>26</sup>

In conjunction with these performance standards—which are recognized worldwide—NIJ administers a voluntary testing program for commercial body armor. If these products meet NIJ's minimum standards for ballistics and stab/slash protection, they can carry an NIJ label to that effect.<sup>28</sup>

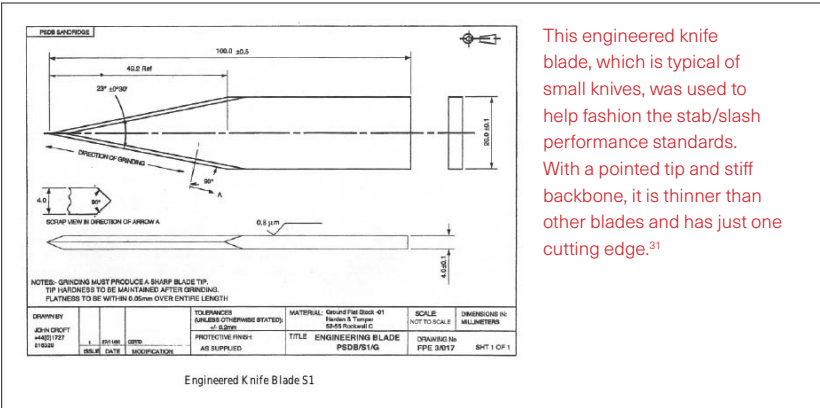


By certifying that a piece of body armor conforms to its standards, NIJ provides law enforcement agencies with objective, evidence-based guidance to inform the purchase of products that will most effectively and reliably ensure the safety of their officers.

Stab/Slash Protection

In the 1990s, NIJ recognized that officers working in corrections facilities have different protection needs than those policing the streets. While the greatest threat to a police officer is a bullet, the greatest threat to a corrections officer is a blade. To address this difference, NIJ worked with the U.K. Home Office's Police Scientific Development Branch to establish performance standards for puncture-resistant body armor.<sup>29</sup>

Published in 2000, these standards currently include three protection levels “based on the armor’s ability to prevent a perforation deep enough to injure an officer’s internal organs.” They also include two protection classes: one for “edged blades”—high-quality, commercially produced knives—and another for “spikes,” the lower-quality, improvised blades that are likely to be present in correctional environments. NIJ is working to update these performance standards as well.<sup>30</sup>



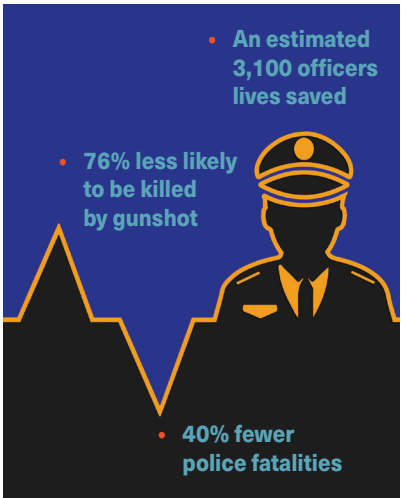
This engineered knife blade, which is typical of small knives, was used to help fashion the stab/slash performance standards. With a pointed tip and stiff backbone, it is thinner than other blades and has just one cutting edge.<sup>31</sup>

NIJ'S IMPACT

Thanks to NIJ's focus on developing police body armor and related performance standards:

- There have been 40 percent fewer police fatalities than would be experienced otherwise,
- Officers shot in the torso while wearing body armor are 76 percent less likely to be killed than those who are not wearing armor,<sup>32</sup> and
- Though the exact number is unknown, the lives of more than 3,100 officers have been saved by body armor during the last 50 years.<sup>33</sup>

In addition to ballistics and stab/slash protection, NIJ-compliant body armor has coincidentally protected officers against other bodily injuries, such as those incurred during vehicle accidents or assaults.<sup>34</sup>



# POLICING STRATEGIES



## PROACTIVE POLICING STRATEGIES

**Predictive policing** uses data and modern technology to analyze crime and predict future occurrences. With geospatial platforms and proven intervention models, police officers can anticipate and prepare for threats to public safety. This type of policing can be employed alongside other strategies, such as hot-spot, problem-oriented, and community-based policing.

**Hot-spot policing** refers to the use of crime mapping technologies to locate small geographic areas where criminal activity is clustered. Police officers can then strategically target these parts of their communities.

**Problem-oriented policing**, one of the most widely applied practices among law enforcement, is an analytics method used to develop strategies that prevent and reduce crime by targeting its root causes. The method calls for police officers to implement a range of approaches and to then evaluate their impact.

**Community-based policing** is a tactic that aims to proactively address the immediate conditions that give rise to public safety issues such as crime, social disorder, and the fear of crime. It does this by promoting organizational strategies that support the systematic use of community partnerships and problem-solving techniques. Much of this practice is based on building public trust and confidence in local law enforcement.

The nature of policing has changed many times since Boston established the first American police force in 1838, but the methods used during the 1970s were more reactive, with officers largely responding to individual calls for service.<sup>35</sup> That began to change as NIJ funded several studies to test and evaluate existing policing strategies. The landmark Kansas City Preventive Patrol Experiment in 1972, for example, tested the effectiveness of police officers cruising the streets in their squad cars. The year-long study challenged traditionally held beliefs about policing by showing that these patrols did not prevent crime or make citizens feel safer.<sup>36</sup> Similarly, the Newark Foot Patrol Experiment—which ran from February 1978 through January 1979—revealed that “walking the beat” did not reduce crime. However, the foot patrols did help citizens feel more secure.<sup>37</sup>

This form of public engagement enabled law enforcement to work with people living in the community to identify areas of concern. Instead of merely controlling crime, police officers began to see themselves as partners in creating a better quality of life for the community.<sup>38</sup> This collaborative accountability and problem-solving replaced the cycle of officers responding to each crime individually.

## Embracing Change

As law enforcement implemented these more proactive policing strategies, tactics such as hot-spot and predictive policing became especially popular during the 1990s and 2000s. Yet these strategies are not mutually exclusive and are often more effective when combined. For instance, hot-spot policing practices are more effective when paired with problem-oriented policing strategies.<sup>39</sup>



## Proactive Policing Strategies

NIJ has supported evidence-based research investigating various types of proactive policing over the years. Sometimes this work, such as the Drug Market Analysis Program, has focused on efforts to reduce drug-related activities in specific cities. At other times, it has centered on hosting collaborative symposiums and concept-mapping sessions.

In 1985, for example, NIJ sponsored the first Executive Session on Policing at Harvard University. This gathering brought together researchers and law enforcement professionals to share information on policing strategies.<sup>40</sup> Participants included the U.S. Attorney General and the head of Scotland Yard, as well as police chiefs and mayors from cities across the country. The session led to a series of 17 papers called “Perspectives on Policing” that were published through June 1993.<sup>41</sup> A second session, the Executive Session on Policing and Public Safety, followed in 2008. That session resulted in a series of 23 papers, the last of which was published in September 2015.<sup>42</sup>

With all of the differing and overlapping policing strategies available to an agency, it is critical that criminal justice practitioners and policymakers have an evidence-based understanding of which programs and practices work and which do not. In 2013, NIJ took over management of CrimeSolutions.gov, a platform which helps criminal justice professionals, who may or may not be social scientists, improve their effectiveness. The systematic, independent review process and evidence ratings are intended to help practitioners and policymakers understand the implications of social science evidence that can otherwise be difficult to comprehend or apply, as well as serve as a basis for gauging the quality of evidence. Of the over 700 programs and practices rated on CrimeSolutions.gov, nearly 100 address policing strategies and methods.<sup>43</sup>

## NIJ'S IMPACT

Beginning with the Kansas City Preventive Patrol Experiment, NIJ has played a pivotal role in the development of modern policing. Its impact may not be obviously apparent, but NIJ's support has facilitated the creation of new and improved methods of proactive policing. These strategies help police officers optimize their operations and engage their communities in the prevention of crime.

Outside assessments of NIJ-funded activities by the National Academy of Sciences have agreed with the results, confirming that these proactive strategies enable urban, suburban, rural, and tribal jurisdictions—many with small staffs and limited budgets—to incorporate the methods into their policing efforts.<sup>44</sup>





## Important Milestones/Additional Achievements

• **1972:** NIJ launches the National Criminal Justice Reference Service, the first centralized repository for criminal justice research.<sup>45</sup>

• **1973:** Congress passes the Crime Control Act, amending the Omnibus Crime Control and Safe Streets Act and broadening NIJ's authority to assist in state and local training programs designed for law enforcement and criminal justice professionals.<sup>46</sup>

• **1975:** NIJ funds several projects studying and evaluating sentencing guidelines that "[prepare] the ground for the shift from indeterminate to determinate sentencing." These research efforts lead to reforms such as mandatory minimum sentencing laws and the abolition of parole boards.<sup>47</sup>

• **1976:** NIJ begins hosting "special conferences" to facilitate discussions of critical criminal justice issues and to present significant NIJ-sponsored research findings to members of the legal community, including judges, public defenders, prosecutors, and scholars. Three years later, similar workshops are held for more than 1,500 senior officials.<sup>48</sup>



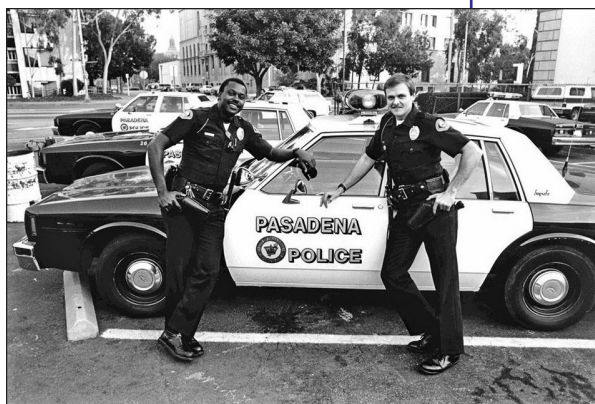
• **1977:** Two NIJ-funded studies are published on the root causes of "case attrition" (i.e., arrests that do not result in conviction) in response to concerns about criminals "slip[ping] through the system." These studies are some of the earliest works on the subject. Researchers at the Institute for Law and Social Research and the Vera Institute of Justice study police departments in Washington, DC, and New York City, respectively, to document the case deterioration that can occur between an arrest and final disposition, and to identify the factors that can cause it. Based on the results, the studies recommend providing more feedback to police officers and expanding crime scene training to include immediate canvasses for witnesses and evidence.<sup>49</sup>



• **1978:** The National Archive of Criminal Justice Data is established to collect, store, and disseminate criminal justice information. It is home to more than 2,700 curated studies and statistical research surveys, including the Bureau of Justice Statistics' National Crime Victimization Survey, the FBI's Uniform Crime Reporting Program and National Incident-Based Reporting System, and the University of Michigan's Project on Human Development in Chicago Neighborhoods. Though the archive is currently managed by the University of Michigan, it continues to be funded by NIJ and other DOJ offices.<sup>50</sup>

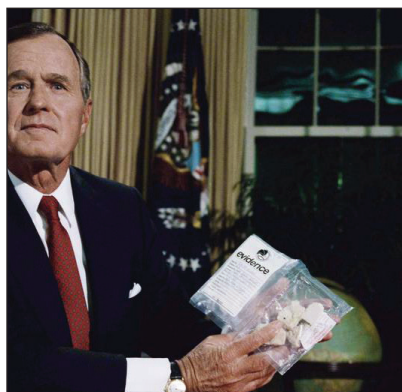
• **1979:** NIJ launches two new document series, "Policy Briefs" and "Crime and Justice." The former, focused on innovations and emerging trends in the criminal justice field, is intended specifically for lawmakers and government officials. The latter is designed to help academics, researchers, and systems engineers share their knowledge and findings with each other.<sup>51</sup>

• **1979:** The Justice System Improvement Act restructures NIJ, changing its funding mechanisms and organization. However, NIJ's mission—to improve knowledge and understanding of criminal justice issues through science—remains the same.<sup>52</sup>



# 1980s

Beginning in the midst of the Iranian hostage crisis and ending with the fall of the Berlin Wall, the 1980s encapsulated a wide array of cultural, environmental, and political events.<sup>53</sup> Cable television became standard for most American households and more people began using personal computers, dramatically changing the ways in which individuals absorbed information, processed content, and engaged with each other.<sup>54</sup> The decade was also a time of burgeoning public health concerns, with greater attention being paid to illicit drug use and the spread of AIDS.<sup>55</sup>



- **1980:** Vernon Jordan, an American business executive and leader of the Civil Rights Movement, is shot and critically injured in an assassination attempt in Fort Wayne, Indiana. Several days later, President Jimmy Carter's visit to Jordan's bedside becomes the first major news story for CNN.<sup>56</sup>
- **1981:** Sandra Day O'Connor takes her seat as the first female justice of the U.S. Supreme Court.<sup>57</sup>
- **1982:** Seven people die in Chicago after taking Tylenol capsules laced with potassium cyanide. These deaths lead to reforms in the packaging of over-the-counter substances and to federal anti-tampering laws.<sup>58</sup>
- **1983:** The New Jersey Transit Police Department, the only transit police agency in the United States with statewide authority and jurisdiction, begins operations with less than 40 officers. Today, the department includes more than 200 sworn officers and nearly 70 civilian employees who monitor the state's bus depots, rail stations, and light rail networks.<sup>59</sup>
- **1984:** After taking 14 prison employees hostage at the Mecklenburg Correctional Center in Virginia, six death-row inmates drive through the open gates of what is considered the state's most secure prison. All six inmates are recaptured, but their getaway remains the largest death-row escape in U.S. history.<sup>60</sup>
- **1985:** Richard Ramirez, the serial burglar, rapist, and killer known as the Night Stalker, is captured by an angry mob in Los Angeles after terrorizing the city's residents for more than a year.<sup>61</sup>
- **1986:** In Edmond, Oklahoma, disgruntled U.S. Postal Service (USPS) worker Patrick Sherrill shoots 14 of his co-workers in less than 15 minutes before committing suicide; an additional six employees are injured. As the first such attack at a USPS workplace, Sherrill's actions inspire the slang phrase "going postal."<sup>62</sup>
- **1987:** Tommie Lee Andrews, a Florida man suspected in two dozen rapes, becomes the first person in the United States to be convicted, in part, on DNA evidence. He is sentenced to 22 years in prison for rape, aggravated battery, and burglary.<sup>63</sup>
- **1988:** In *California v. Greenwood*, the U.S. Supreme Court rules that police officers do not need a search warrant to collect and examine someone's discarded garbage. With a 6–2 vote, the justices hold that no warrant is necessary as there is no reasonable expectation of privacy once the garbage is outside the curtilage of a home.<sup>64</sup>
- **1989:** In his first televised speech to the nation, President George H. W. Bush holds a bag of cocaine purchased across the street from the White House in Lafayette Square and proposes spending nearly \$8 billion in the War on Drugs.<sup>65</sup>

# CRIME MAPPING

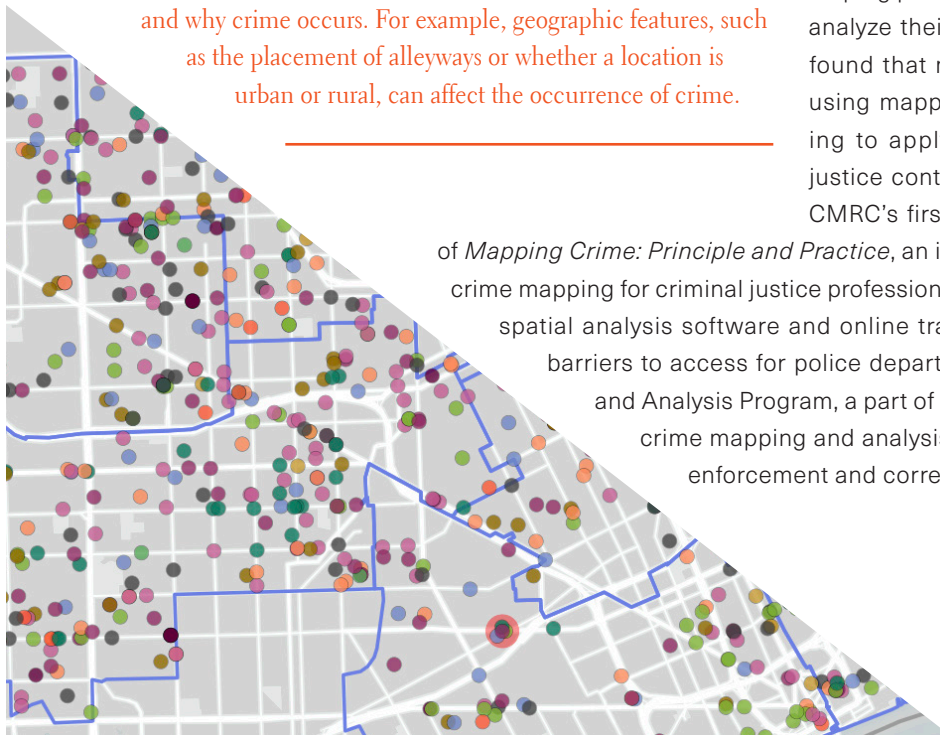
Police departments have been mapping crimes for a long time, but until the last few decades, they had to rely on pushing pins into large maps on a wall. Even when computerized crime mapping became possible, it was not practical for most departments until desktop computers became widely available in the 1980s.<sup>66</sup> The FBI spearheaded the federal government's initial crime mapping programs, before NIJ picked them up to assist local law enforcement agencies.<sup>67</sup>

One of NIJ's first efforts was the Drug Market Analysis Program, which launched in 1990 to create science-based strategies for policing "street-level" drug crime. The program encouraged innovations in mapping and analysis technologies.<sup>68</sup> Seven years later, NIJ established the Crime Mapping Research Center (CMRC) to collect information on how analytic mapping was being used by police departments, and to create training programs that make the use of maps and spatial data even more effective.<sup>69</sup>

---

Crime mapping combines geographic and police report data to visually display crime statistics for the purposes of analyzing how, where, and why crime occurs. For example, geographic features, such as the placement of alleyways or whether a location is urban or rural, can affect the occurrence of crime.

---



When NIJ created the CMRC, it assumed the center would be mostly helping police departments optimize and analyze their mapping tools. However, it found that many departments were not using mapping at all and required training to apply these tools in a criminal justice context.<sup>70</sup> As a result, one of the CMRC's first grants funded the creation

of *Mapping Crime: Principle and Practice*, an introduction to the science of crime mapping for criminal justice professionals.<sup>71</sup> The center also created spatial analysis software and online training modules to lower the barriers to access for police departments. NIJ's Crime Mapping and Analysis Program, a part of the CMRC, administered free crime mapping and analysis training at two national law enforcement and corrections technology centers.<sup>72</sup>

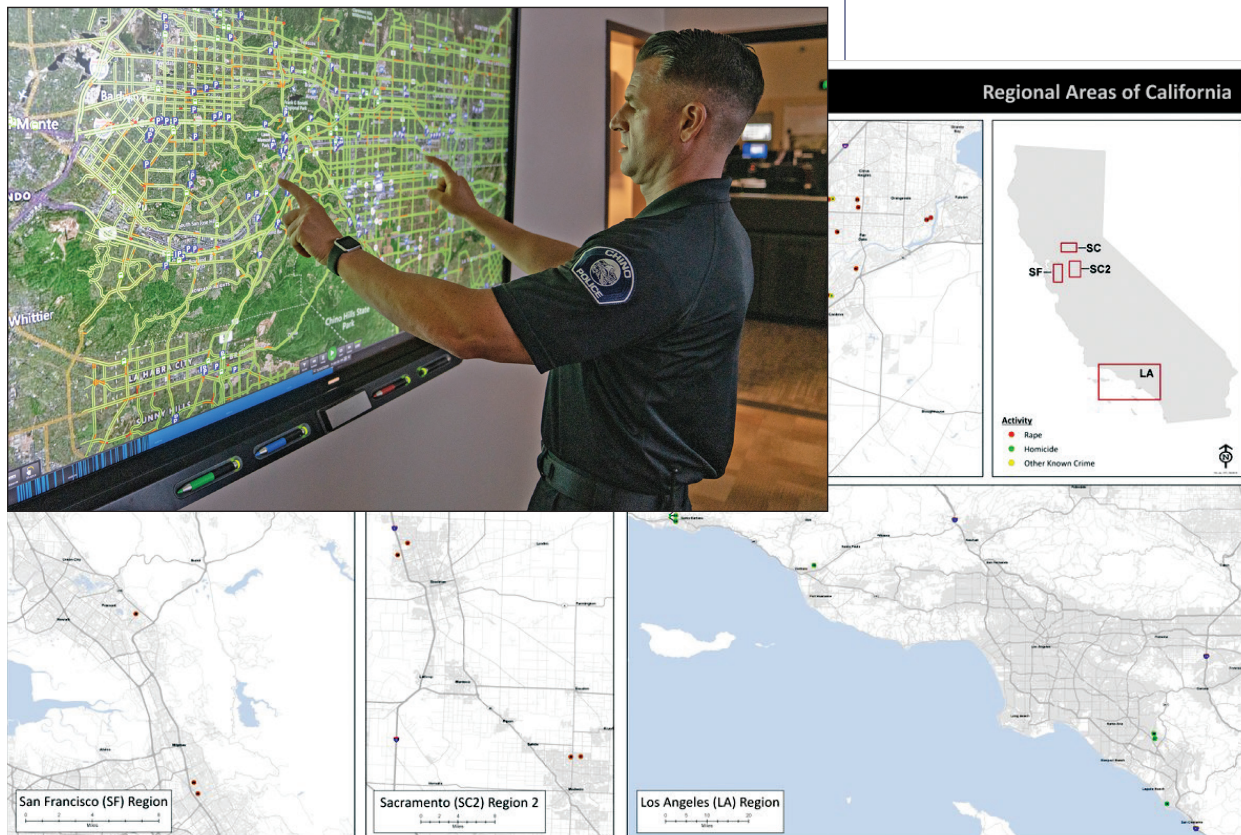


To address the need for geographic information systems designed with the criminal justice community in mind, NIJ entered into a cooperative agreement with the Environmental Systems Research Institute to develop the Community Policing Beat Book and Crime Analysis Extension for ArcView software. NIJ also sponsored the CMRC's first conference in 1997, which featured workshops and presentations on the newest technology, and funded studies on predictive modeling to encourage more proactive policing.<sup>73</sup> In 2002, the center evolved into NIJ's Mapping and Analysis for Public Safety Program, which studies:

- The use of maps to analyze crime and spatial data,
- How maps can assist in the evaluation of criminal justice policies and programs, and
- The development of tools for sharing, mapping, and analyzing spatial data.<sup>74</sup>

## NIJ'S IMPACT

NIJ's crime mapping efforts go hand in hand with several of its other initiatives, including hot-spot and predictive policing. While it was not the first entity to pay attention to crime mapping, NIJ's investments in the technology helped popularize its use. Today, it is a well-documented tool deployed by law enforcement to identify, analyze, and respond to crime.<sup>75</sup>



# DNA TESTING

The use of DNA analysis for criminal justice purposes has expanded dramatically since the 1980s, when NIJ first began funding research on what was, at the time, considered a novel emerging technology.<sup>76</sup> Today, the use of forensic DNA analysis to solve a variety of crimes is often taken for granted.

In 1986, NIJ began funding the development of the Polymerase Chain Reaction (PCR) technique in DNA analysis.<sup>77</sup> This technique enables lab technicians to make millions of copies of a particular section of DNA, allowing

them to conduct a variety of forensic tests. NIJ built upon this success in 1991, funding the development of standards for the PCR and RFLP (Restriction Fragment Length Polymorphism) techniques. RFLP, a molecular marker rarely in use today, takes advantage of the variations in individual people's genetic codes.<sup>78</sup>

Other early research efforts supported by NIJ included studies on the damaging effects of environmental factors on DNA, and on how those factors impacted the accuracy and reliability of DNA identification.<sup>79</sup> In 1993, NIJ gave two University of Virginia scholars a \$70,000 grant that led to “a working method for extracting, amplifying, and sequencing mtDNA [mitochondrial DNA] from human hair”—an innovative analysis technique that is still widely used by forensic scientists.<sup>80</sup>

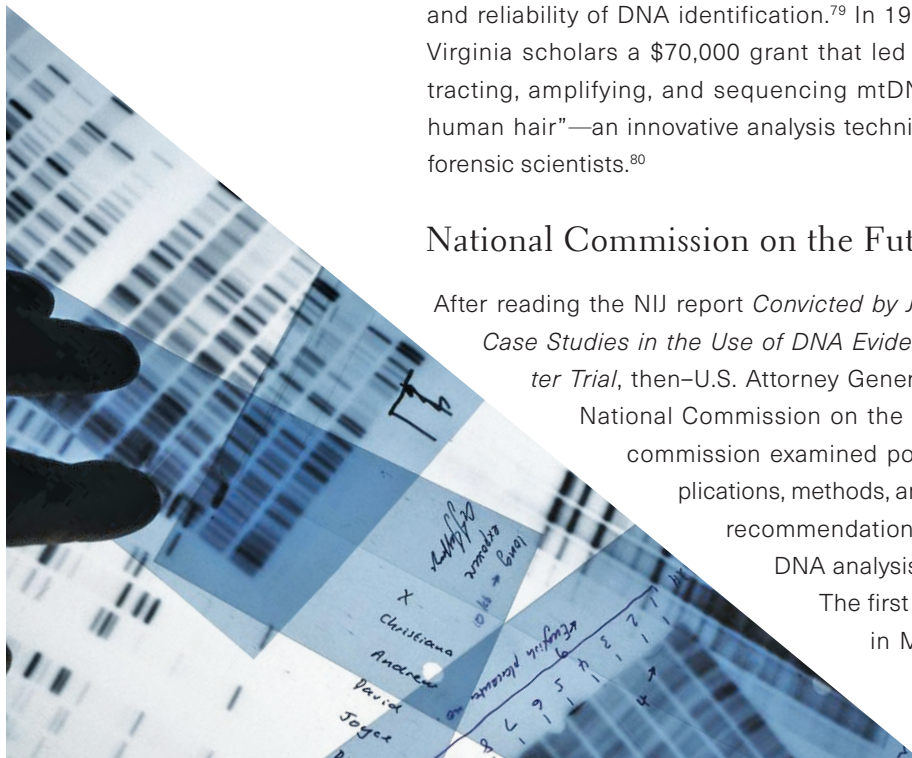
## National Commission on the Future of DNA Evidence

After reading the NIJ report *Convicted by Juries, Exonerated by Science: Case Studies in the Use of DNA Evidence to Establish Innocence after Trial*, then-U.S. Attorney General Janet Reno established the National Commission on the Future of DNA Evidence. The commission examined policy issues related to DNA applications, methods, and technologies, and developed recommendations to maximize the potential of DNA analysis in the criminal justice system.

The first commission meeting was held in March 1998 and the final summit was held two years later, in July 2000.<sup>81</sup>

### DID YOU KNOW?

Every DNA profile saves between approximately \$1,500 and \$20,000 in social science costs as criminals are apprehended faster and often plead more quickly.





## Kinship and Data Analysis Panel

In the immediate aftermath of the 9/11 attacks on the World Trade Center, W. Mark Dale, director of forensic services for the New York State Police Department, realized that a massive DNA analysis effort would be required to identify and reunite the victims' remains with their families. Dale reached out to NIJ with the idea of assembling a "brain trust" of forensics experts to provide sound scientific guidance to the monumental effort. The resulting Kinship and Data Analysis Panel convened for five years, culminating in the publication of *Lessons Learned from 9/11: DNA Identification in Mass Fatality Incidents*.<sup>82</sup>

A key challenge that emerged during the panel's work was analyzing the degraded samples. Degraded DNA requires technical advancements and highly specialized tests, such as:

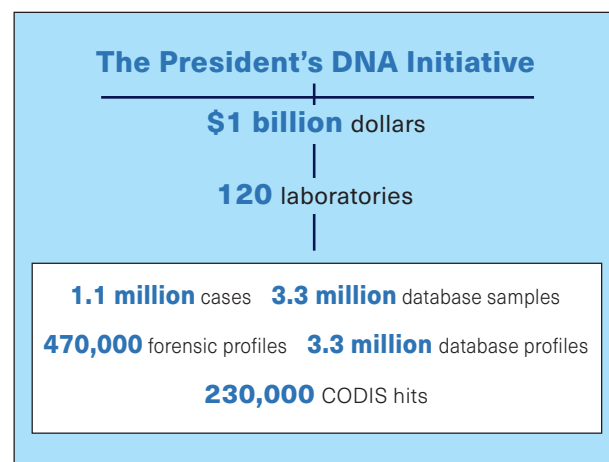
- Short tandem repeat analysis, which is used to compare specific sections of DNA from two or more samples;
- Mitochondrial DNA analysis;
- Repositioning primers during PCR testing; and
- Single nucleotide polymorphism (i.e., genetic variation) analysis.<sup>83</sup>

Law enforcement forensic laboratories must manage the challenge of consistently interpreting data from degraded samples, particularly in cases where there is mixed DNA or very small amounts of the genetic material.<sup>84</sup>

## President's DNA Initiative

In 2002, NIJ assembled a working group to consider strategies for reducing the growing backlogs of unanalyzed DNA evidence. The resulting report served as the origin of the President's DNA Initiative, formally known as the "Advancing Justice through DNA Technology" Initiative. Many of the report's provisions were enacted with the passage of the Justice for All Act in 2004.<sup>85</sup> To encourage the use of DNA technology, the initiative provides assistance, funding, and training to federal, state, and local criminal justice professionals, including forensic laboratories, lawyers, judges, medical service providers, police officers, and victim service providers. The initiative aims to use DNA for three main goals: to identify missing persons; to protect the innocent; and to solve crimes by eliminating backlogs, encouraging research and development, improving crime lab capacity, and training criminal justice professionals.<sup>86</sup>

The President's DNA Initiative is the largest program NIJ has ever supported.<sup>87</sup> Since the initiative's creation, NIJ has awarded over \$1 billion dollars to more than 120 laboratories. In turn, those funds have been used to analyze over 1.1 million cases and 3.3 million database samples; upload 470,000 forensic profiles and over 3.3 million database profiles to CODIS, the Combined DNA Index System; and produce over 230,000 CODIS hits.<sup>88</sup>



## Cold Cases

Modern DNA analysis techniques also make it possible to use DNA to solve cold cases. In addition to testing DNA that is older, degraded, or compromised, new processes can provide conclusive results for samples that were previously found to be inconclusive. To assist law enforcement in taking advantage of these developments, NIJ created the Solving Cold Cases with DNA Program in 2005. This program provides funding to state and local governments to aid in the investigations of unsolved violent crimes that have the potential to be solved through DNA evidence.<sup>89</sup>

### NIJ'S IMPACT

Since the 1980s, forensic DNA analysis has led to the successful resolution of thousands of crimes.<sup>90</sup> It has even enabled law enforcement to solve incidents beyond the ones at hand, and has led to the exonerations of innocent people.<sup>91</sup> NIJ is the only federal program supporting research, development, and evaluation efforts in forensic sciences, along with capacity building, extramural projects, and technical assistance.<sup>92</sup> This dual role is critical given the complexity of the field and the need for specialized expertise.





# DRUGS AND CRIME

Beginning in the 1970s, researchers started to highlight the links between drug abuse and crime. For example, two long-term studies of heroin users published in the early 1980s showed a clear correlation between drug abuse and the intensity of criminality—the participants engaged in more criminal activities during periods of regular drug use as compared to when they were using heroin less frequently or not at all.<sup>93</sup>

Drug courts are specialized programs that target adult and juvenile offenders, as well as parents with pending child welfare cases, who have alcohol or drug dependency problems.

Nearly 30 years later, additional studies found similar results. In 2004, for instance, 26 percent of federal prisoners claimed they had committed their offenses while under the influence of drugs, while 18 percent said they had orchestrated their crimes to get money for drugs. The same totals for state prisoners were close, 32 percent and 17 percent, respectively. Similarly, in a 2007 study, approximately 26 percent of victims of violence reported that the offender was using drugs or alcohol at the time of the crime.<sup>94</sup>

For decades, NIJ has sponsored research to provide the criminal justice community with an evidence-based foundation for understanding and deterring drug- and alcohol-related crime. NIJ's research portfolio examines the epidemiology of drug-related crimes, prevention and intervention strategies, drug markets, drug market disruption, and forensic toxicology.<sup>95</sup>





## Epidemiology

NIJ's epidemiological research investigates patterns between drug and alcohol abuse and crime. For instance, NIJ-funded studies in the 1980s showed a high frequency of drug use among pretrial detainees and higher rates of recidivism for offenders testing positive for drugs. These studies led NIJ to establish the Drug Use Forecasting Program in 1987, which monitored the drug use of recent arrestees. The data measured the extent and nature of illegal drug use (e.g., trends in the rising and falling popularity of drugs in different parts of the country), enabling the efficient deployment of resources to address the problem.<sup>96</sup>

## Prevention and Intervention Strategies

NIJ also sponsors research into policies and programs that deter, prevent, or reduce drug and alcohol abuse. Many of these policies and programs, like drug courts, include a treatment element—often leading to lower recidivism rates. A study illustrating the success of the Miami drug court, for example, created interest in such policies nationwide. The Violent Crime Control and Law Enforcement Act of 1994 built on this interest and led to the establishment of more drug courts.<sup>97</sup> Today, there are more than 3,000 drug court programs across the United States. Divided into adult, juvenile, and family programs, drug courts show a promising ability to reduce recidivism and lower costs for the government, but more rigorous research will be necessary to confirm these initial findings.<sup>98</sup>



## Drug Markets and Disruptions

In addition to studying the connections between drug abuse and crime, as well as the most effective efforts to prevent and intervene in drug abuse, NIJ funds research on drug markets, specifically their production and distribution chains.

From 1998 to 2003, NIJ's Arrestee Drug Abuse Monitoring Program improved upon the previous Drug Use Forecasting Program with enhanced instruments, data collection, and sampling methods for estimating drug use. It collected drug market information on alcohol, marijuana, crack cocaine, powder cocaine, heroin, and methamphetamine.<sup>99</sup>

NIJ likewise conducts research into strategies for disrupting these production and distribution chains, such as studies on interventions in the illegal prescription drug market. For instance, NIJ funded a study in 2012 to determine how the North Carolina Controlled Substances Reporting System to Identify Providers with Unusual Prescribing Practices could identify certain behaviors by prescribers and dispensaries that contribute to the abuse of prescription medication.<sup>100</sup>

## Forensic Toxicology

As technology advanced, NIJ also sponsored research into new law enforcement strategies to detect drugs, including forensic toxicology. As an extension of the Drug Use Forecasting Program, NIJ funded studies on detecting drug use through hair analysis, which is less invasive than urinalysis and can detect drug use that occurred farther in the past or over a much longer period of time.<sup>101</sup>

### NIJ'S IMPACT

The information NIJ has collected over the years through drug testing and interviewing arrestees has led to a better understanding of drug-use patterns, drug markets, and interactions between drug users and the criminal justice system. Studies funded by NIJ have highlighted the importance of court-monitored drug abuse treatment programs in preventing participants from re-offending, as well as the need for swift and certain punishment when probationary rules are broken.<sup>102</sup> Yet with new drugs regularly entering the marketplace, NIJ's work in developing novel approaches for their detection remains ongoing.



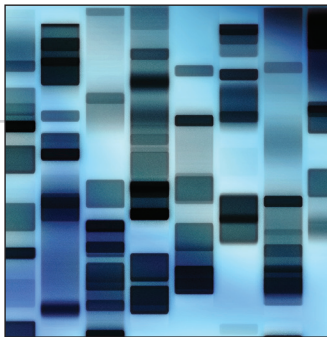


## Important Milestones/Additional Achievements

• **1984:** The National Police Foundation releases the findings from the NIJ-funded Minneapolis Domestic Violence Experiment. The first scientifically controlled test of the effects of arrest for any crime, the experiment finds that arresting perpetrators is the most effective method for reducing domestic violence.<sup>103</sup>

• **1985:** Harvard University holds the first NIJ-sponsored Executive Session on Policing, which brings together law enforcement practitioners and researchers to collaborate on policing strategies. The session produces a series of 17 papers entitled "Perspectives on Policing" that becomes a cornerstone of police executive training.<sup>104</sup>

• **1985:** Through the provision of early funding, NIJ is instrumental in the development of the Restriction Fragment Length Polymorphism (RFLP) DNA analysis technique. Although innovative at the time, RFLP used dangerous radioactive materials to produce an image of the DNA on x-ray film, which required weeks to process; it also required a blood test.<sup>105</sup>



• **1986:** NIJ funds the study "Mapping Crime in Its Community Setting," which analyzes the impact of a map-based crime analysis system on the efficiency of police efforts in Chicago. The study is an early effort to examine the effectiveness of augmenting human decision-making with computer-assisted analysis.<sup>106</sup>

• **1986:** NIJ supports the development of the Polymerase Chain Reaction (PCR) technique, which enables lab technicians to make millions of copies of a particular section of DNA. This technology amplifies DNA samples through molecular photocopying, allowing the resulting data to be digitized manually or by computer.<sup>107</sup>

• **1987:** NIJ funds a grant focused on identifying blood groups from remaining bone tissue, before issuing an award to develop DNA testing of bone itself. These efforts help law enforcement investigate the hundreds of cases in which skeletal remains or bone fragments are the only evidence available. As of 2018, this is still the scientific process used to examine skeletal remains.<sup>108</sup>

• **1987:** NIJ initiates the Drug Use Forecasting Program to monitor drug use by recent arrestees. This data is then used by researchers to track national drug trends.<sup>109</sup>

• **1989:** NIJ grants enable the Crime Control Institute and Minneapolis Police Department to analyze the patterns and concentrations of repeat calls to police. The study's findings reveal that 50 percent of the calls come from just 3 percent of the city's addresses. The project also considers the effectiveness of having a small unit of officers dedicated to proactively patrolling the most chronic repeat locations in the city.<sup>110</sup>

• **1989:** After spending 10 years in prison, Gary Dotson becomes the first person to be exonerated using DNA evidence when PCR testing excludes him as a source of the seminal fluid found in a pair of women's underwear in what turns out to be a fabricated rape case.<sup>111</sup> His exoneration later inspires U.S. Attorney General Janet Reno to commission more research on using DNA for exonerations in crimes that occurred when the testing was not as advanced.<sup>112</sup>



# 1990s

The 1990s saw the United States emerge from the Cold War and the urban crack epidemic into a period of relative calm. With a growing economy, Americans enjoyed low unemployment rates and increasing household incomes. At the same time, ideas about culture and technology continued to shift with the spread of the internet. And while crime was declining, events such as the Centennial Olympic Park bombing in 1996 and the Columbine school shooting in 1999 presaged repeat incidences of terrorism and school violence.<sup>113</sup>



• **1990:** Two robbers posing as police officers steal 13 works of art, collectively worth more than \$500 million, from the Isabella Stewart Gardner Museum in Boston. The unsolved crime is both the largest art theft and the largest theft of private property ever; the paintings have never been recovered.<sup>114</sup>

• **1991:** An amateur video appears showing the beating of motorist Rodney King by several Los Angeles police officers. When four of the officers are acquitted of using excessive force, the city's African American and Latino communities begin rioting. The riots last five days and end only after the California Army National Guard, U.S. Army, and U.S. Marine Corps provide reinforcements.<sup>115</sup>

• **1992:** Twelve-year-old Shanda Sharer is tortured and burned to death by four teenage girls in Madison, Indiana. The crime attracts national attention because of its brutality and the young age of the perpetrators, who were between 15 and 17 years old.<sup>116</sup>

• **1993:** Janet Reno is sworn in as the first female attorney general of the United States.<sup>117</sup>

• **1994:** The Violence Against Women Act becomes law, providing \$1.6 billion toward the investigation and prosecution of violent crimes against women, imposing automatic and mandatory restitution for victims of those convicted, and doubling federal penalties for repeat sex offenders. It also establishes the Office on Violence Against Women within the DOJ to "support a permanent federal response" to such crimes.<sup>118</sup>

• **1995:** Nearly 170 people, including 19 children, are killed at the Alfred P. Murrah Federal Building in Oklahoma City when Timothy McVeigh and Terry Nichols set off a powerful truck bomb. The blast destroys a third of the building, shatters glass in nearly 260 nearby locations, and damages more than 300 other structures within an estimated 48-square-block area.<sup>119</sup>


• **1996:** Child beauty pageant contestant JonBenét Ramsey is found dead in her Boulder, Colorado, home. Though her parents are initially considered suspects of interest, they are cleared in 2008 when DNA from Ramsey's clothes is tested. To this day, her murderer has not been identified.<sup>120</sup>

• **1997:** Andrew Cunanan shoots fashion designer Gianni Versace to death outside Versace's beachside residence in Miami. Versace is the last of five victims murdered during Cunanan's three-month killing spree.<sup>121</sup>

• **1998:** The remains of 1st Lt. Michael Joseph Blassie are returned to his family in St. Louis, Missouri. A member of the U.S. Air Force, Blassie's remains had been in the Tomb of the Unknowns—representing those who had died during the Vietnam War—before being identified by DNA.<sup>122</sup>

• **1999:** In one of the largest drug busts at the time, the U.S. Coast Guard intercepts a Panamanian freighter carrying more than 9,500 pounds of cocaine. The drugs, according to the DOJ, are worth \$186 million.<sup>123</sup>





# LATENT FINGERPRINT EXAMINATION

## DID YOU KNOW?

Near the end of 2019, the Next Generation Identification Program held nearly 150 million sets of fingerprints. Of those prints, more than 80 million belonged to criminals.

Prior to the technology boom of the 1990s, law enforcement officers had to compare criminals' fingerprints manually—assuming the individuals already had records on file. The process could take hours or days and did not always result in a match.<sup>124</sup> Knowing that it needed to find a way to automate the classification and comparison of fingerprints, the FBI developed the United States' first Automated Fingerprint Identification System (AFIS) during the 1970s.<sup>125</sup> Nearly three decades later, in 1999, the Integrated Automated Fingerprint Identification System (IAFIS) was released, combining federal, state, and local law enforcement records into one searchable database.<sup>126</sup> Today, criminal justice officials rely on the Next Generation Identification Program, a database that records fingerprints and other biometric markers.<sup>127</sup>

Fingerprint examiners use these databases to search for distinguishing print features. Containing both identified and unidentified prints, AFIS records are processed constantly: as new fingerprints are added, they are compared to unidentified prints already in the system to see if there is a match.<sup>128</sup>

## Increasing System Interoperability

While the original AFIS databases worked well within a single jurisdiction, they could not communicate with those used by other police departments. Given that crime "often does not respect geographical boundaries," these systems needed to be interoperable.<sup>129</sup> As such, the National Research Council recommended in 2009 that law enforcement agencies develop standards to increase such cross-jurisdictional compatibility.<sup>130</sup>

In response to the council's recommendation, NIJ began collecting data for the Latent Fingerprint Interoperability Survey in 2013. This survey was the only comprehensive effort to measure the existing level of interoperability between AFIS systems and to catalogue the technological and regulatory barriers affecting further automated, cross-jurisdictional operations. The survey reached all 50 states and the District of Columbia, as well as more than 100 local jurisdictions.<sup>131</sup> In 2014, NIJ released a summary of the data provided by the responding agencies.<sup>132</sup>

## Reducing Human Error

The National Research Council also highlighted the possibility of human error by latent print examiners. It states in the report *Strengthening Forensic Science in the United States* that the standard technique used, known as ACE-V (Analysis, Comparison, Evaluation, and Verification), is too broad, does not ensure repeatability or transparency, and does not protect against bias.<sup>133</sup>

NIJ and NIST, the National Institute of Standards and Technology within the U.S. Department of Commerce, addressed this issue by convening a working group of experts to study how human factors affect latent print analysis and to create recommendations for reducing error. The working group, among its other activities, created a detailed flowchart showing where in the ACE-V process the risks of human error can be minimized.<sup>134</sup>

NIJ also provided funding to a research team from the Fingerprint Identification Section in the Miami-Dade Police Department's Forensic Services Bureau for further study of the accuracy, reliability, and validity of latent fingerprint examinations. The researchers tested the accuracy of latent print examiners from 76 federal, state, and local law enforcement agencies and discovered that those using the ACE-V methodologies were very accurate, with a false positive rate of 0 percent and a false negative rate of 3 percent.<sup>135</sup>



## Future Innovations

NIJ continues to sponsor innovations in latent fingerprint examination, such as the 2014 evaluation of contactless fingerprint-scanning devices conducted by the Sensor, Surveillance, and Biometric Technologies Center of Excellence. Contactless technology does not require a trained professional to take the fingerprint, and the print is not subject to distortion by pressure or oils on the hand.<sup>136</sup> However, the final report found that more research and development is necessary before this technology is practical for a law enforcement environment.<sup>137</sup>

### NIJ'S IMPACT

Through efforts such as the Impression, Pattern, and Trace Evidence Symposium, NIJ has fostered collaboration among forensic researchers and practitioners.<sup>138</sup> It promotes communication between the research and criminal justice communities by funding the Forensic Technology Center of Excellence, which shares knowledge of evidence-based technologies and best practices with those in the field. In turn, the center supports NIJ's research efforts by:

- Advancing emerging forensic technologies through rigorous corroboration, evaluation, and adoption;
- Providing education and knowledge transfer; and
- Disseminating best practices and guidelines to criminal justice agencies.<sup>139</sup>

Though the use of fingerprinting as a means of identification goes back thousands of years, it did not become a part of the criminal justice toolkit until the 19th century. Even then, it was not until the 20th century that fingerprints were presented as evidence in court. Yet today, like forensic DNA analysis, latent fingerprint examination is widely considered a critical component of the criminal justice system.<sup>140</sup>

# SCHOOL SAFETY

Since the mass shooting at Columbine High School in Littleton, Colorado, in 1999, there have been a number of incidences of extreme violence in schools. But while crimes such as the shootings at Virginia Tech in 2007 and Florida's Marjory Stoneman Douglas High School in 2018 garner national attention, the reality is that student homicide rates at schools have remained steady since the early 1990s, while the rates of other crimes at school have actually dropped over the same period.<sup>141</sup>

---

Nearly 100 percent of the schools, both private and public, serving students between the ages of 12 and 18 have implemented at least one school safety measure, such as security cameras, campus police officers, or controlled building access.

---

## Studying School Safety

While school violence is not a new phenomenon, the U.S. government did not begin collecting national data on these incidents until 1989.<sup>142</sup> From the start, NIJ was involved in these efforts, sponsoring numerous studies on school safety.

For example, during the mid-1990s, it collaborated with the U.S. Department of Education's Office of Safe and Drug-Free Schools and the U.S. Department of Energy's Sandia National Laboratories to explore the most effective uses of security technologies in schools. The research findings were summarized in a 1999 report titled *The Appropriate and Effective Use of Security Technologies in U.S. Schools*.<sup>143</sup> Then, in 2000, NIJ commissioned the "National Study of Delinquency Prevention in Schools" to develop a comprehensive account of the extent of problem behavior (e.g., delinquency, drug use, and violence) in U.S. schools, and of what schools were doing to prevent such behavior and promote a safe and orderly environment. The study described the full range of activities schools undertake to reduce or prevent this behavior, including organizational arrangements such as decreased class sizes and environmental measures such as gates and surveillance.<sup>144</sup>





## School Safety Initiatives

Following the violence at Columbine, officials from the U.S. Secret Service and U.S. Department of Education launched the Safe School Initiative with NIJ funding. The research effort examined 37 school attacks between 1974 and 2000 to improve understanding about the thinking, planning, and behavior of school shooters prior to attacks. The research focused on patterns of behavior or communication that could be flagged to prevent future incidents. The initiative's final report, issued in 2004, encouraged school officials to develop the capacity to obtain and evaluate information that might indicate that there is a risk of a school attack and to use the results of these threat assessments to create prevention strategies.<sup>145</sup>

Similarly, in response to the 2012 mass shooting at Sandy Hook Elementary School in Newtown, Connecticut, Congress appropriated \$75 million for the DOJ to expand the foundation of evidence-based knowledge on school safety issues. In 2014, NIJ launched the Comprehensive School Safety Initiative, a grant-based research effort designed to:

- Study the causes and consequences of school violence;
- Identify issues that may result in harm to students, faculty, and staff;
- Explore and implement best practices for increasing school safety; and
- Evaluate new strategies for fostering safe school environments.<sup>146</sup>

One of NIJ's largest investments in school safety research, the Comprehensive School Safety Initiative has supported collaboration between researchers and educators in K-12 public schools, including public charter schools. It aims to identify best practices by understanding school safety issues and the data related to them, funding research, and sponsoring pilot programs to demonstrate the effects of various interventions.<sup>147</sup> Through the initiative, NIJ has funded nearly 100 projects in more than 30 states, serving close to 3,000 schools.<sup>148</sup>

### NIJ'S IMPACT

Since the 1990s, NIJ's research efforts have shown that school safety has improved by several metrics:

- School crime has decreased, with the victimization rate for students falling by 70 percent from 1992 to 2013.
- While the percentage of youth homicides at schools has remained the same since 1992, young people are less likely to be threatened or injured with a weapon than they were in the early 1990s.
- Students' fear of being harmed has also lessened.<sup>149</sup>

The studies have further highlighted the efficacy of using school violence prevention programs to reduce student-caused criminality.<sup>150</sup>



## Important Milestones/Additional Achievements

• **1990:** NIJ launches the Drug Market Analysis Program, funding a series of demonstrations to see how hot-spot mapping tools can help police reduce public disorder in identified areas of drug activity. One study, in Jersey City, New Jersey, finds that hot-spot policing reduces disorder and narcotics crime, but not violence or property crime.<sup>151</sup>

• **1990:** NIJ funds the development of the Magic Wand, an innovative hand-held tool used for analyzing fingerprints at a crime scene.<sup>152</sup>

• **1991:** NIJ supports the development of standards for the Restriction Fragment Length Polymorphism and Polymerase Chain Reaction DNA analysis techniques.<sup>153</sup>

• **1991:** NIJ begins evaluating the Multnomah County Drug Court in Portland, Oregon. After tracking 6,500 offenders over the course of the decade, NIJ finds that re-arrests among drug court participants are lower over five or more years when compared to similar offenders who did not participate in the program.<sup>154</sup>



• **1993:** NIJ supports a study at the University of Virginia that “literally changes the world of forensic DNA testing” by creating “a working method for extracting, amplifying, and sequencing mtDNA [mitochondrial DNA] from human hair.”<sup>155</sup>

• **1995:** NIJ funds research on DNA testing completed prior to prosecution. It finds that in about 23 percent of the 21,621 study cases, the suspects were excluded once the testing occurred during the criminal investigation process.<sup>156</sup>

• **1996:** NIJ publishes *Convicted by Juries, Exonerated by Science: Case Studies in the Use of DNA Evidence to Establish Innocence After Trial*, a report commissioned to “spur a broader debate about the value of DNA technology and the role of science in the criminal justice system’s search for truth.”<sup>157</sup>

• **1997:** NIJ launches the Crime Mapping Research Center, later known as the Mapping and Analysis for Public Safety Program, to improve law enforcement’s use of geographic information systems software in analyzing where, how, and why crime occurs.<sup>158</sup>

• **1998:** In response to *Convicted by Juries, Exonerated by Science*, NIJ convenes the first National Commission on the Future of DNA Evidence. This and subsequent gatherings aim to provide the U.S. Attorney General with recommendations on the use of current and future DNA methods, applications, and technologies within the criminal justice system.<sup>159</sup>

• **1998:** NIJ creates the Arrestee Drug Abuse Monitoring Program. An improvement on the earlier Drug Use Forecasting Program, it collects data on drug markets for six commonly abused intoxicants: alcohol, marijuana, crack cocaine, powder cocaine, heroin, and methamphetamine.<sup>160</sup>

• **1998:** NIJ starts researching transnational organized crime, mapping groups that operate in the United States but originate in, among other places, China, Japan, the Philippines, Russia, and Ukraine. It also funds efforts by local law enforcement to identify the impact of such crime within their communities.<sup>161</sup>

• **1999:** With NIJ funding, the U.S. Secret Service and U.S. Department of Education launch the Safe School Initiative, which aims to combine the organizations’ expertise to help schools create safe learning environments for their students, faculty, and staff.<sup>162</sup>



# 2000s

The first decade of the 21st century is one that seems to defy simple explanation. It began with a disputed presidential election and a hint of the divisions that seem ever present today. There were devastating disasters, such as the terrorist attack on 9/11 and the flooding of New Orleans following the landfall of Hurricane Katrina. Thousands of U.S. service members went to war in Afghanistan and Iraq, and Washington, DC, was threatened by poisoned letters and snipers' bullets. Yet the 2000s also saw the rise of Facebook, Twitter, and the development of the smartphone—platforms and technologies that continue to revolutionize the way Americans interact with the world and each other.

•**2000:** After being found floating on an inner tube off the coast of Ft. Lauderdale, six-year-old Cuban boy Elian González becomes the center of a bitter custody dispute. With his mother having died during the attempted crossing, the battle between González's father in Cuba and his mother's relatives in Florida will go all the way to the U.S. Supreme Court.<sup>163</sup>

•**2001:** Following the death of Timothy Thomas, an unarmed African American man who is shot and killed by a Cincinnati, Ohio, police officer, the city's Over-the-Rhine neighborhood is rocked by days of rioting. The confrontations, while not deadly, damage more than 120 private businesses and cost the city \$1.5 million–\$2 million. A year later, a collaborative agreement will usher in sweeping departmental reforms, including an emphasis on community-oriented policing.<sup>164</sup>

•**2002:** Bobby Frank Cherry, a former Klansman, is convicted of four counts of first-degree murder for his role in the 1963 bombing of the 16th Street Baptist Church in Birmingham, Alabama, and sentenced to life imprisonment. The attack, which killed four young African American girls and injured more than 20 parishioners, is seen as a key turning point in the Civil Rights Movement.<sup>165</sup>

•**2003:** In two 5–4 decisions issued on the same day in the cases of *Ewing v. California* and *Lockyer v. Andrade*, the U.S. Supreme Court holds that California's "three strikes" law is not considered "cruel and unusual punishment" in violation of the Eighth Amendment.<sup>166</sup>

•**2004:** The Federal Assault Weapons Ban, officially known as the Public Safety and Recreational Firearms Use Protection Act—a subsection of the Violent Crime Control and Law Enforcement Act of 1994—expires in accordance with its sunset provision.<sup>167</sup>

•**2005:** After eluding the Wichita Police Department for more than 30 years, Dennis Rader, a serial killer known by the initials "BTK" (a reference to his self-described signature of binding, torturing, and killing his victims), is arrested in Park City, Kansas.<sup>168</sup>

•**2006:** A heavily armed gunman storms into the West Nickel Mines Amish School in Lancaster, Pennsylvania. Looking specifically for female child victims, he lets the male students, one pregnant aide, and several women with babies leave before shooting everyone remaining in the one-room building. Four girls die at the scene, while another dies at the hospital.<sup>169</sup>

•**2007:** Ben Ownby and Shawn Hornbeck, two boys kidnapped from different towns in Missouri, are found alive in the same St. Louis apartment—four days after Ownby vanished and nearly five years after Hornbeck disappeared. The boys' abductor, Michael Devlin, pleads guilty to more than 70 charges and is currently in prison serving more than 20 life terms for kidnapping, sexual assault, and attempted murder.<sup>170</sup>

•**2008:** The results of a 17-country survey by the World Health Organization, the first using directly comparable self-reported data from a large number of countries, reveal that the United States leads the world in lifetime cocaine, cannabis, and tobacco use, despite having some of the most stringent drug laws.<sup>171</sup>

•**2009:** Sonia Sotomayor becomes the third woman and first person of Hispanic descent to serve as a justice on the U.S. Supreme Court.<sup>172</sup>





# INTIMATE PARTNER VIOLENCE

Every year in the United States, approximately 1.3 million women and 835,000 men are physically assaulted by their intimate partners.<sup>173</sup> This form of domestic violence includes physical, psychological or emotional, and sexual harm, as well as threats of the same. It can occur among heterosexual and homosexual couples, and is impacted by individual, familial, and societal ties. Researchers also often include stalking, which can happen independently of or concurrently with other acts of intimate partner violence.<sup>174</sup>

## Violence Against Women

Though intimate partner violence has long existed as a problem, it was not until the 1990s that violence against women, in particular, came to be seen “as a serious public health and public safety problem that warranted criminal justice intervention.”<sup>175</sup>

As NIJ expanded its research portfolio to include this form of violence, it partnered with the U.S. Department of Health and Human Services’ Centers for Disease Control and Prevention to get an overall sense of the numbers. In 2000, it published the findings of the National Violence Against Women Survey, which is consistently cited as one of the more reliable sources for such statistics.<sup>176</sup>

Conducted through telephone interviews with both women and men in late 1995 and early 1996, the survey revealed that:

- Stalking is more common than previously thought: 8.1 percent of women and 2.2 percent of men reported having been the victim of a stalker.
- Women are more likely than men to be assaulted by an intimate partner: 22.1 percent of women and 7.4 percent of men reported being physically assaulted by an intimate partner.



- Most of the violence perpetrated against women is intimate partner violence: 64 percent of women who experienced rape, physical assault, or stalking as adults were the victims of current or former intimate partners.
- Women are more likely to be injured when their assailant is an intimate partner: Women who experienced a physical assault had a higher risk of injury if the perpetrator was a current or former intimate partner, while men who experienced a physical assault had a decreased risk of injury if the perpetrator was a current or former intimate partner.<sup>177</sup>

## Interventions by Service Providers

As NIJ continued to study the impact of intimate partner violence, it also funded research on supporting the crime's victims. For example, in 2007, it funded a study researching the efficacy of domestic violence shelters at delivering necessary services to the victims of intimate partner violence and their children.<sup>178</sup> The researchers found that the majority of shelters provide an array of services, from job training to counseling to child care. Nearly three-quarters of the survivors surveyed for the study found these services to be "very helpful."<sup>179</sup>

Similarly, NIJ collaborated once again with Health and Human Services to fund an evaluation of the "Greenbook," a roadmap for service providers that is formally titled *Effective Intervention in Domestic Violence and Child Maltreatment Cases: Guidelines for Policy and Practice*.<sup>180</sup>

Issued by the National Council of Juvenile and Family Court Judges in 1999, the Greenbook (known for its green cover) "offers a comprehensive set of responses designed to eliminate or decrease the enormous risks that battered parents, caseworkers, and judges must take on behalf of children" experiencing instances of domestic abuse.<sup>181</sup>

The five-year study showed that the Greenbook improved how service providers build relationships, collaborate with each other, and engage in the practice of serving families. However, the degree of improvement varied across the six demonstration sites and practitioners faced challenges in maintaining the changes.<sup>182</sup>

## HOUSEHOLD ECONOMICS AND INTIMATE PARTNER VIOLENCE

---

Between 2000 and 2005, NIJ-funded researchers published at least five studies on the relationship between household economics and intimate partner violence:

- *Economic Distress, Community Context, and Intimate Violence* (2001),
- *Violence Against Women: The Role of Welfare Reform* (2003),
- *Concentrated Disadvantage, Economic Distress, and Violence Against Women in Intimate Relationships* (2004),
- *The Impact of Intimate Partner Violence on Women's Labor Force Participation* (2004), and
- *When Violence Hits Home: How Economics and Neighborhood Play a Role* (2004).

The studies showed that women who are the most at risk of violence are in relationships where the couple has limited economic resources, feels high levels of financial strain, experiences high rates of unemployment, and lives in or near an economically disadvantaged neighborhood.

---



## Interventions by the Criminal Justice System

In addition to the support given by service providers to victims of intimate partner violence, NIJ research has shown that law enforcement officers can use arrest as an effective method of intervention by:

- Pursuing and arresting offenders who have left the scene;
- Determining the aggressor when responding to incidents involving same-sex couples, rather than arresting both individuals; and
- Creating departmental policies on identifying and arresting the primary aggressor.<sup>183</sup>

Likewise, the U.S. court system has an important role to play in such interventions, issuing orders of protection that limit the contact a perpetrator of intimate partner violence may have with their victim. While protecting victims is of utmost importance, these orders also have a beneficial financial impact. For instance, an NIJ-funded study of protection orders in Kentucky revealed that they saved the state \$85 million a year in a variety of criminal justice and social service costs.<sup>184</sup>

### NIJ'S IMPACT

Since 1993, NIJ has spent more than \$55 million to fund more than 200 studies on intimate partner violence, accounting for nearly half of its allocated funding for research on violence against women.<sup>185</sup> This money has funded a wide array of research, including work on campus sexual assault and teen dating violence. In 2016, NIJ published a compendium of its effort, a nearly 300-page reference compiling descriptions of more than 20 years of research.<sup>186</sup>



# NamUs



When NamUs—the National Missing and Unidentified Persons System—was first launched in 2007, the *NIJ Journal* reported that, nationally, there were up to 100,000 active missing person cases. Medical examiners also held more than 40,000 sets of unidentified human remains, but only 15 percent of these cases had been entered into the FBI's National Crime Information Center database. The sheer number of missing and unidentified cases presented a staggering challenge to law enforcement officials.<sup>187</sup>

Compounding the problem, there was no national database to help find and identify missing and unidentified people. As a result, families were often left feeling powerless, with little information and few avenues to pursue in their searches for missing loved ones.<sup>188</sup>

Inspired by the few state and local agencies that had successfully operated websites publicizing information on unidentified remains, NIJ created NamUs—bringing the database concept to the national level.<sup>189</sup>

---

## ABOUT NamUs

NamUs is an online database system that provides a number of tools to help the public and law enforcement find missing persons, identify the deceased victims of crime, solve criminal cases, and decrease crime and human trafficking. These tools include:

- A free, nationwide clearinghouse of missing and unidentified person case information.
- A victims services division that connects families to resources such as service providers and support networks.
- Case consultations and investigative support.
- Free forensic services such as teeth and fingerprint examinations, as well as DNA analyses.
- Outreach and training by experts in the field.

In addition to the public and law enforcement, NamUs serves medical examiners, coroners, forensic science professionals, and families of the missing.

NamUs is housed within NIJ's Office of Investigative and Forensic Sciences, and is maintained by the University of North Texas Health Science Center.

---



## History

Two years before the initial NamUs database was released, NIJ held an “Identifying the Missing” summit where criminal justice practitioners, forensic scientists, policymakers, and victim advocates articulated the challenges they faced in investigating missing and unidentified person cases. They highlighted two critical needs in particular:

- The need for a centralized repository of unidentified remains (including technology for biometric comparisons with missing person cases), and
- The need for various agencies and jurisdictions to communicate with one another.<sup>190</sup>

To address these needs, the deputy attorney general at the time created the National Missing Persons Task Force, which found that investigators required better access to more information to solve their cases. In response, NIJ launched the NamUs Unidentified Persons database in 2007; a year later, the NamUs Missing Persons database was released.<sup>191</sup> In 2009, the databases were connected, enabling automatic comparisons between the two types of cases.<sup>192</sup> A complementary database for unclaimed persons—those who have been identified but for whom no next of kin has been located—was also added.<sup>193</sup>



## NIJ'S IMPACT

Part of NamUs's effectiveness over the past decade comes from the fact that it engages a large number of people in sharing their knowledge. Anyone can search the database or use a police report number to add a missing person entry, though NamUs staff verify the entries before they are posted. The open electronic format encourages individual participation outside the law enforcement community and widens the circle of people who may contribute information that helps solve a case. Additionally, NamUs can ease the pain of families with missing loved ones by encouraging them to take part in the investigative process. Family members can add one's name to the database, along with as many details about the case as they have.<sup>194</sup>

Since its release, NamUs has become even more important as the number of missing and unidentified persons has increased dramatically. According to the database, more than 600,000 children and adults go missing each year. While many of them are found quickly, alive and well, tens of thousands become “cold cases.” Likewise, current estimates put the yearly number of unidentified bodies at around 4,400, with approximately 1,000 individuals remaining unidentified after one year.<sup>195</sup>

In 2018, NIJ launched a completely new NamUs 2.0 website. The restructured application is faster, more secure, and includes advanced tools for law enforcement, such as a precise mapping function down to specific street addresses.<sup>196</sup> As of early 2020, NamUs has aided in the resolution of:

- More than 2,500 missing persons cases.
- Nearly 1,900 unidentified persons cases.
- Some 80 unclaimed persons cases.<sup>197</sup>



# SEXUAL ASSAULT KITS

In 2009, Human Rights Watch published a report exposing the fact that there were more than 12,000 untested sexual assault kits in Los Angeles.<sup>198</sup> The report touched off a sharp increase in public awareness of the problem of untested kits, and other jurisdictions around the country began reporting similar backlogs.<sup>199</sup>

---

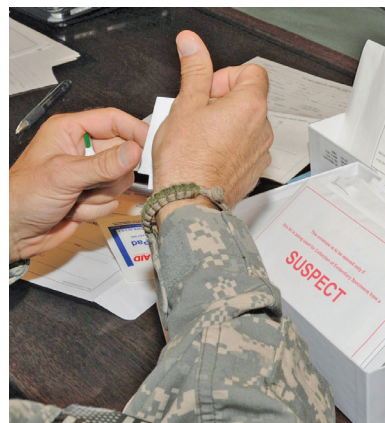
A sexual assault kit consists of physical evidence collected from a victim by a medical professional, often a specially trained sexual assault nurse examiner. The contents vary by jurisdiction, but generally include swabs, test tubes, microscopic slides, and evidence collection envelopes for hairs and fibers.

CODIS, the Combined DNA Index System, is the FBI's support program for criminal justice DNA databases. NDIS, the National DNA Index System, is a part of CODIS.

---

Having already funded a study exploring sexual assault cases, NIJ reached out to California State University, Los Angeles, to conduct a random sampling of nearly 400 backlogged kits to see what evidence could be gathered. Known as the "Sexual Assault Kit Backlog Study," its findings—which included composite statistics on the victims and perpetrators—were published in 2012. A year earlier, in 2011, NIJ funded action research projects in Detroit and Houston, which identified best practices in testing the kits and underscored the importance of using a multidisciplinary approach to address the problem.<sup>200</sup>

Similarly, Congress passed the SAFER (Sexual Assault Forensic Evidence Reporting) Act in 2013, which called for the development of best practices in collecting and processing DNA, particularly when gathered as part of a sexual assault investigation.<sup>201</sup> To this end, NIJ convened the SAFER Working Group, a panel of subject-matter experts and stakeholders including victims, victim advocates, sexual assault nurse examiners, medical examiners, forensic laboratories, law enforcement agencies, prosecutors, and judges. Over the course of two years, the group met to review various methods





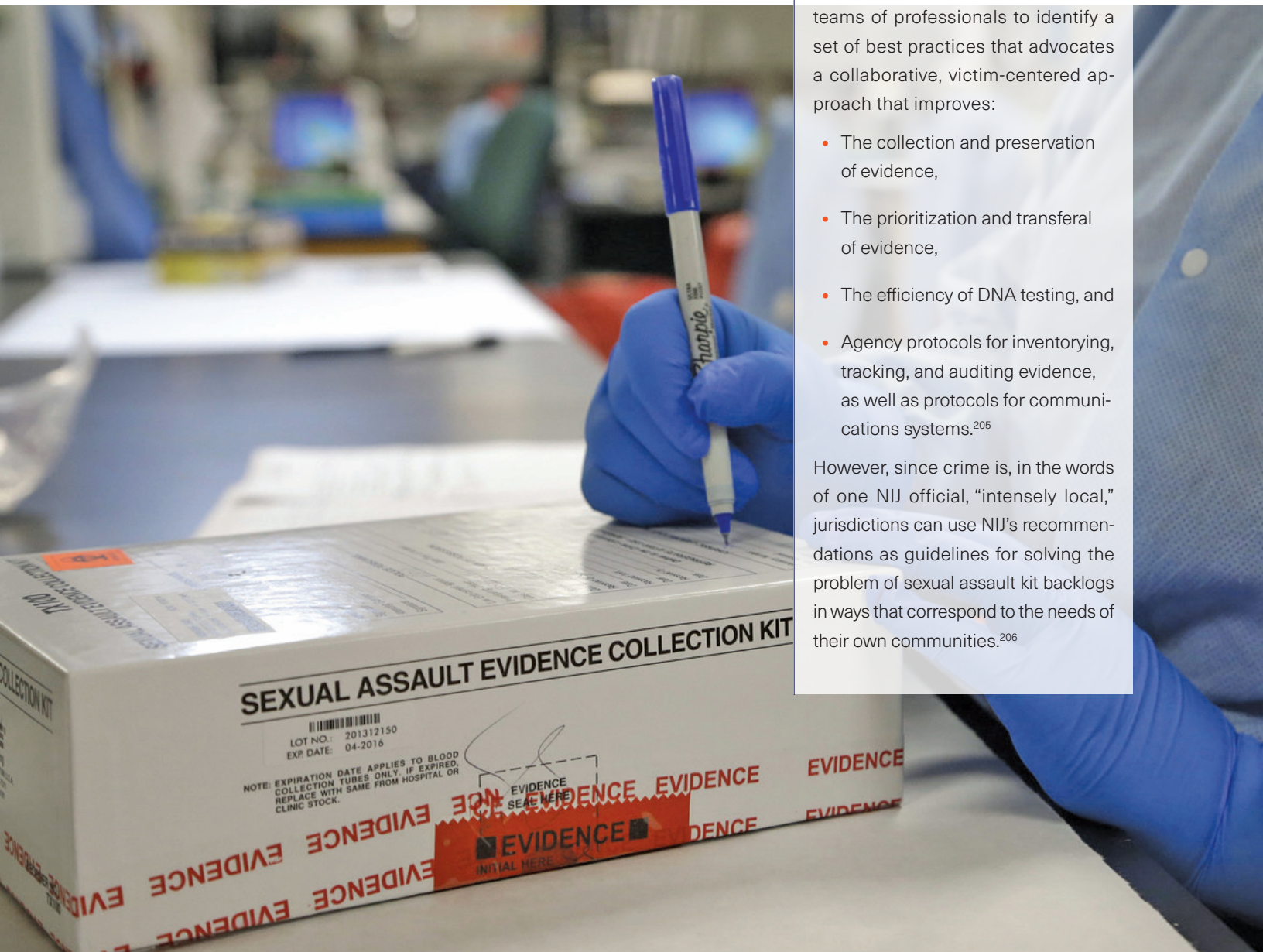
of collecting, prioritizing, inventorying, auditing, and tracking evidence; certain investigative and policy concerns; and different communication strategies. In 2017, NIJ published the working group's 35 recommendations in a report titled *National Best Practices for Sexual Assault Kits: A Multidisciplinary Approach*.<sup>202</sup> Along with these other efforts, NIJ partnered with the FBI Laboratory in Quantico, Virginia, in 2014 to examine samples from more untested sexual assault kits. The laboratory processes kits submitted by law enforcement and enters the DNA analyses into NDIS, the National DNA Index System. NIJ then collects and analyzes the data, which it uses to develop testing and training practices.<sup>203</sup>

## NIJ'S IMPACT

Because of the attention given to the United States' sexual assault kit backlog, several jurisdictions have required law enforcement to conduct statewide inventories of their untested kits, while other jurisdictions have voluntarily inventoried their backlogs.<sup>204</sup> To aid in these efforts, NIJ has worked with multidisciplinary teams of professionals to identify a set of best practices that advocates a collaborative, victim-centered approach that improves:

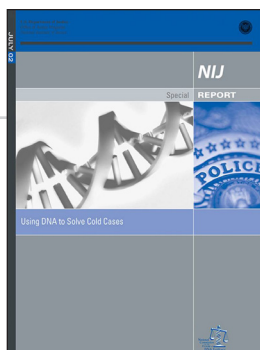
- The collection and preservation of evidence,
- The prioritization and transferal of evidence,
- The efficiency of DNA testing, and
- Agency protocols for inventorying, tracking, and auditing evidence, as well as protocols for communications systems.<sup>205</sup>

However, since crime is, in the words of one NIJ official, "intensely local," jurisdictions can use NIJ's recommendations as guidelines for solving the problem of sexual assault kit backlogs in ways that correspond to the needs of their own communities.<sup>206</sup>

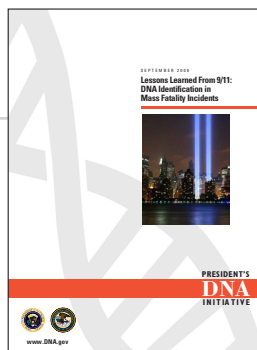


## Important Milestones / Additional Achievements

- **2000:** NIJ publishes the first set of performance standards for stab/slash-resistant police body armor, which was developed in collaboration with the U.K. Home Office's Police Scientific Development Branch. These standards address the safety needs of corrections officers, who are more likely to encounter a stabbing threat than a bullet.<sup>207</sup>
- **2001:** To address the growing need for geographic information systems software designed for the criminal justice community, NIJ enters into a cooperative agreement to develop the Crime Analysis Extension for ArcView, which provides "easy-to-use tools for geographic crime analysis, data management, mapping, and reporting."<sup>208</sup>
- **2002:** NIJ releases a special report titled *Using DNA to Solve Cold Cases*, which aims to assist law enforcement and criminal justice professionals responsible for reviewing and investigating unsolved cases. In particular, it provides basic information to help agencies navigate the complex process of cold-case review with a specific emphasis on using DNA evidence.<sup>209</sup>



- **2003:** U.S. Attorney General John Ashcroft introduces the Body Armor Safety Initiative in response to the failure of a police officer's NIJ-compliant body armor to prevent ballistics penetration. NIJ finds unexpected deterioration of the body armor fibers and responds by improving its standards and compliance-testing program, updating its requirements for ballistics-resistant body armor, and continuing its research to understand and prevent material degradation.<sup>210</sup>
- **2004:** The U.S. Secret Service and U.S. Department of Education release the final report of the NIJ-funded Safe School Initiative. The initiative's findings "suggest that some future attacks may be preventable if those responsible for safety in schools know what questions to ask and where to uncover information that may help with efforts to intervene before a school attack can occur."<sup>211</sup>
- **2006:** NIJ publishes *Lessons Learned from 9/11: DNA Identification in Mass Fatality Incidents*, a report designed to help criminal justice, public health, and safety preparedness professionals incorporate DNA identification into mass fatality disaster plans.<sup>212</sup>



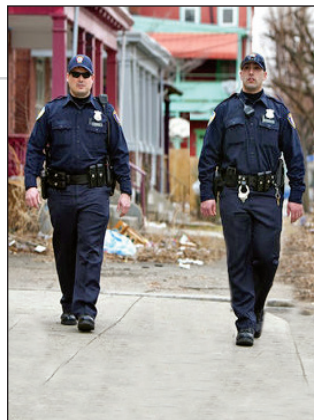
- **2007:** NIJ funds a study by the Research Triangle Institute on forensic-evidence processing by law enforcement. The researchers find that 18 percent of the unsolved rape cases they studied contained forensic evidence that was never submitted to a crime laboratory for analysis.<sup>213</sup>
- **2008:** NIJ and Harvard University's Program in Criminal Justice Policy and Management—part of the John F. Kennedy School of Government—sponsor the second Executive Session on Policing and Public Safety to address the challenges confronting law enforcement executives in the 21st century. As with the first session in 1985, a series of papers (23 in total) is released with the intent of informing police training.<sup>214</sup>



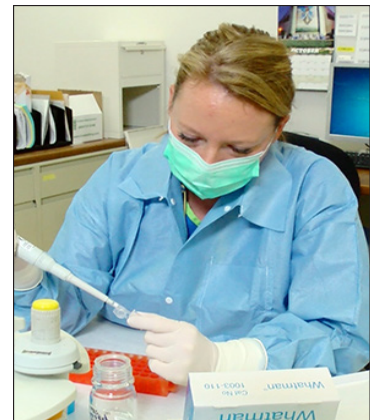
- **2008:** Partnering with the National Police Foundation, NIJ funds an evaluation of the Compstat (computer comparison statistics) management system that was first used by the New York City Police Department.<sup>215</sup> One of the resulting studies, *Compstat in Practice*, outlines six key organizational principles driving the system's success: clarifying the agency's mission; prioritizing operations over administration; simplifying managerial accountability for achieving crime-reducing objectives; becoming data-driven; increasing organizational flexibility to implement the most promising strategies; and conducting empirical assessments of what did and did not work.<sup>216</sup>



- **2008:** NIJ begins funding the Post-Conviction Testing of DNA Evidence to Exonerate the Innocent Program. The goal of the program is to provide financial assistance to state and local governments so they may conduct post-conviction reviews and analyses of biological evidence in violent felony cases where there is the potential for innocence. As of 2018, the funding has resulted in the review of more than 50,000 cases nationwide and in the exonerations of more than 28 wrongly accused individuals.<sup>217</sup>
- **2009:** The city of Philadelphia conducts a foot patrol experiment with officers conducting 120 patrols around its most violent neighborhoods. While the initial results show significant reductions of crime, when NIJ tests the efficacy of the strategy, it finds the impact diminishes once the officers are removed from the target areas.<sup>218</sup>



- **2009:** NIJ partners with the National Institute of Standards and Technology to study the factors affecting latent print analysis and make recommendations for reducing human error. The resulting working group, among other activities, creates a detailed flowchart showing where in the process the risks of human error can be minimized.<sup>219</sup>
- **2009:** The National Research Council releases the report *Strengthening Forensic Science in the United States: A Path Forward*, which recommends a number of improvements for law enforcement agencies and the broader criminal justice community. These recommendations include using standardized terminology in reporting and testifying on forensic science, and having mandatory laboratory accreditations and individual forensic science certifications.<sup>220</sup>





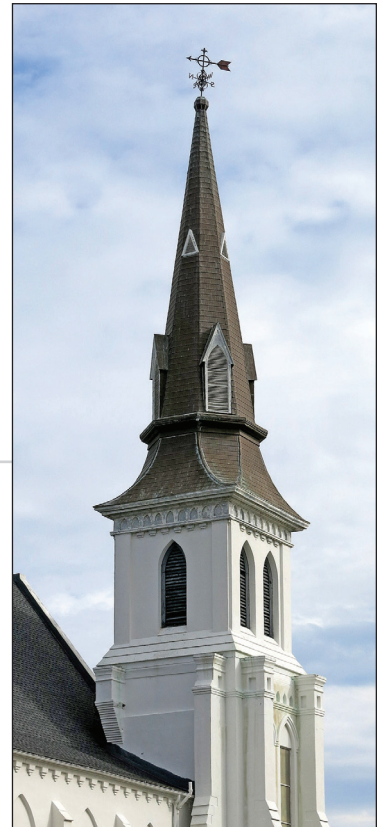
The 2010s began with the country still reeling from the Great Recession. As the economy slowly steadied and improved, the United States adjusted to an increasingly technologically connected world. With smartphones transitioning from luxury items to ubiquitous and necessary tools, voice-based personal assistants named Siri and Alexa became parts of everyday life.<sup>221</sup> Yet while this technology brought together disparate parts of the world, it also highlighted existing, deep-seated divisions, making the decade one of protest as well. Whether caused by cultural, racial, societal, or economic tensions, these confrontations have challenged Americans' long-held beliefs about the time in which they live and the future they want to see.



- **2010:** American media reveal that Stuxnet, a highly sophisticated computer virus, has spent the last year destroying centrifuges meant to enrich uranium at several Iranian nuclear facilities. Begun by President George W. Bush and continued by his successor, Barack Obama, the effort marks the first time a government is known to have sanctioned a sustained cyber-attack on the infrastructure of one of its adversaries.<sup>222</sup>
- **2011:** Arizona congresswoman Gabrielle Giffords and 19 other people are shot outside a Safeway supermarket in Tucson during a "Congress on Your Corner" event. Six of the victims, including a nine-year-old born on September 11, 2001, and a U.S. district court judge, will die as a result of their injuries.<sup>223</sup>
- **2012:** Following the 2012 election, Colorado and Washington become the first two states to legalize the possession and sale of marijuana for recreational use, despite the fact that, under federal law, cannabis is still classified as an illegal narcotic.<sup>224</sup>
- **2013:** To protest California's use of long-term, indefinite incarceration in solitary confinement, 30,000 inmates—roughly two-thirds of the state's prison population—refuse to eat their state-issued meals. Though the number of prisoners participating in the hunger strike eventually shrinks to 100, the protest lasts for 60 days, ending only once two state lawmakers announce public hearings on the policy.<sup>225</sup>
- **2014:** Georgia governor Nathan Deal signs the state's Safe Carry Protection Act, enabling local licensed gun owners and visitors from 28 other states to bring firearms into bars and some government buildings. Known colloquially as the "Guns Everywhere Bill," the act also allows school districts to decide if some employees should be armed and lets religious leaders determine if weapons are welcome in their churches, synagogues, or mosques.<sup>226</sup>
- **2015:** For the first time since it began tracking such data in 1994, the New York City Police Department confirms that no murders have occurred in the city of more than 8 million people for nearly two weeks. While a series of cold weather snaps likely helped, the 12-day streak comes less than five years after the city experienced its first day with no form of violent crime being reported.<sup>227</sup>

- **2016:** At the close of a Black Lives Matter march in Dallas, a sniper opens fire, killing four police officers and a member of the Dallas Area Rapid Transit (DART) team—marking the deadliest day for law enforcement since 9/11. Four police officers, three DART officers, and two civilians are also wounded.<sup>228</sup>
- **2017:** Dylann Roof, who shot and killed nine African American men and women at the Emanuel African Methodist Episcopal Church in Charleston, South Carolina, in 2015, becomes the first person sentenced to death for a federal hate crime. He is currently on death row in Indiana.<sup>229</sup>
- **2018:** With the arrest of the suspected Golden State Killer, more than 40 years after his crime spree began, forensic genetics (also known as “genetic genealogy”) emerges as the most powerful criminal justice tool since the discovery of DNA testing. The revolutionary technique has since been used to solve dozens of cold cases across the country, while simultaneously raising new questions about genetic privacy.<sup>230</sup>

- **2019:** Mexican drug kingpin Joaquín “El Chapo” Guzmán, former head of the Sinaloa cartel—believed to be the largest supplier of illegal drugs to the United States—is found guilty on numerous counts including the distribution of cocaine and heroin, illegal firearms possession, and money laundering. To date, Guzmán is the highest profile Mexican drug cartel boss to stand trial in U.S. federal court.<sup>231</sup>





# CORRECTIONS

Over the last 40 years, the United States' jail and prison population has increased nearly 500 percent, with the more than 2.2 million people currently behind bars vastly outnumbering corrections officers (454,000 in 2018).<sup>232</sup> As the number of individuals in the corrections system continues to grow, government officials and policymakers are increasingly calling for "innovative solutions management."<sup>233</sup> NIJ has answered these calls by funding research on both community and institutional corrections, including work on prison contraband and restrictive housing practices.

---

Community corrections refers to practices, such as parole and probation, during which offenders reside in the community under some form of supervision.

Inmates housed in either jails or prisons are part of the institutional corrections system.

---

## Executive Session on Community Corrections

Building on its previous collaborations, NIJ partnered once again with Harvard University to host an Executive Session on Community Corrections. Held between 2013 and 2016, the session brought together policymakers, practitioners, and researchers to discuss the role of community organizations in working with convicted individuals. The discussions led to the publication of five papers on intervention models, the role of debt as a barrier to re-entering the community, building community trust for community corrections, the role of community-based alternatives to incarceration for youth offenders, and a reconsideration of the criminal justice system's treatment of young adults.<sup>234</sup>

## Prison Contraband

When it comes to institutional corrections, keeping facilities free of contraband such as cellphones, drugs, and weapons is necessary to ensure the safety of both inmates and corrections officers.<sup>235</sup> Cellphones are of particular concern as they can be used to smuggle in other contraband, order the commission of crimes inside and outside the prisons' walls, plan escape attempts, or threaten and harass individuals in the community.<sup>236</sup> As a result, NIJ has funded the creation of technologies to detect contraband and developed technical standards for such tools. Related research efforts have included:

- A survey of more than 100 commercial detection technologies currently on the market,<sup>237</sup>
- A report on the abilities of various wireless technologies to interfere with cellphone service, as well as their costs and benefits,<sup>238</sup> and
- A set of case studies on implementing managed access systems, which only allow calls to be made from approved phone numbers.<sup>239</sup>



## Restrictive Housing

In addition to the prevalence of certain kinds of contraband, NIJ has supported research on corrections practices such as restrictive housing. Also known as “administrative segregation” or “solitary confinement,” the use of such measures is a controversial topic.<sup>240</sup> While corrections officials argue that restrictive housing is needed to ensure individuals’ safety within the facilities, human rights advocates oppose the practice, arguing that it can cause physiological harm to inmates.<sup>241</sup>

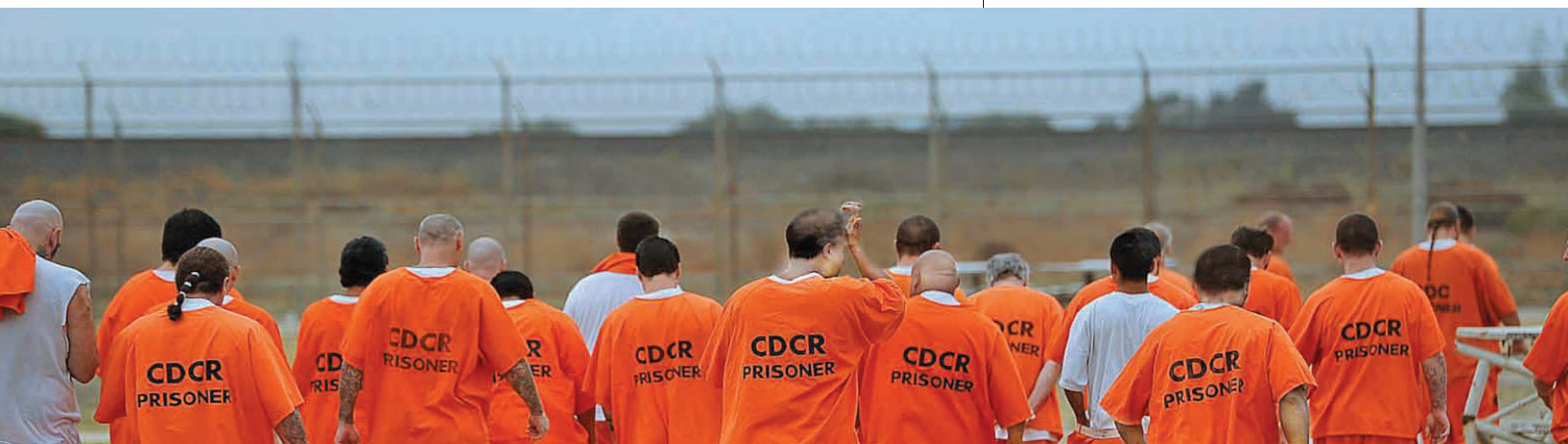
To address the knowledge gap concerning the impact and effectiveness of restrictive housing, NIJ launched a dedicated strategic investment on the topic in 2015.<sup>242</sup> This effort began with the convening of a working group featuring experts from academia, advocacy organizations, corrections agencies, and research institutions to discuss:

- What is known and unknown about inmates who are placed in restrictive housing,
- The relationship between officer safety and wellness and restrictive housing,
- Civil rights enforcement and the use of restrictive housing,
- Safe alternatives to restrictive housing, and
- Gaps in current empirical research and data collection efforts.<sup>243</sup>
- The relationship between institutional violence and restrictive housing,
- Issues related to the mental health of inmates placed in restrictive housing,

Building on the working group’s discussion, NIJ commissioned a series of white papers, which it compiled into the book *Restrictive Housing in the U.S.: Issues, Challenges, and Future Directions*.<sup>244</sup> Published in November 2016, the 420-page compendium is “the most comprehensive review to date of emerging issues and concerns surrounding restrictive housing.”<sup>245</sup>

### NIJ’S IMPACT

Like many of its other initiatives, NIJ has funded research on corrections for a number of years. Yet with the release of the *Corrections Strategic Research Plan* in 2018, the next few years promise to be even more focused on the topic. The five-year plan aims to draw attention to the challenges faced by corrections systems, corrections personnel, and incarcerated individuals. Relevant to researchers, policymakers, and members of the criminal justice community, the interrelated strategic goals are designed to achieve the greatest impact.<sup>246</sup>



# OFFICER SAFETY, HEALTH, AND WELLNESS

While NIJ efforts such as the development of body armor and roadside safety procedures have focused primarily on the physical wellbeing of law enforcement officers, the extreme pressures of the job have led to an expanding portfolio of projects examining their emotional and mental health as well.

Over the course of their shifts, police officers engage a variety of individuals, some of whom may be seriously injured or intoxicated, while others may be carrying weapons or experiencing mental health crises. Officers are expected to quickly assess the situations in which they find themselves and respond appropriately, all while trying to maintain their composure and the safety of those around them. With the ubiquity of smartphones, they are doing this under increasing public scrutiny.

---

Fatigued officers are more likely to use sick leave or inappropriate force, be in vehicular accidents or accidentally injured “on the job,” have difficulty interacting with community members and other law enforcement officials, and die in the line of duty.

---

To support law enforcement officers in their efforts, NIJ has worked to develop best practices, equipment, standards, and technologies that can keep them safe and help officers maximize their performance. It has also funded studies on officer fatigue, stress, and mental health.<sup>247</sup>



## Officer Fatigue

Recognizing that fatigue can lead to a number of health problems, NIJ has funded several studies to examine its causes and effects. A 2011 study, for example, found that more than 40 percent of law enforcement officers have a sleep disorder, putting them at increased risk for physical or mental health issues.<sup>248</sup>

Of particular interest to researchers has been the possible link between shiftwork, fatigue, and health conditions. A 2012 study funded by NIJ found that shiftwork is indeed



associated with higher levels of heart problems, obesity, sleep apnea, snoring, and stress, as well as depression, post-traumatic stress disorder, and suicide.<sup>249</sup> However, a separate NIJ-funded study found that the length of an officer's shift affected these outcomes, with 10-hour shifts providing maximal benefits.<sup>250</sup>

## Corrections Officer Safety

Similar to police officers, corrections officers experience high levels of burnout, stress, and mental health conditions, which can lead to missed work and high turnover rates—resulting in staffing shortages that are not safe for either inmates or officers.<sup>251</sup>

To increase public understanding of the health of corrections officers, NIJ funded a 2017 report synthesizing the existing literature on the topic “to highlight any inherent limitations and offer recommendations for future research and policies designed to enhance the overall wellbeing of [corrections officers].”<sup>252</sup> The report documented the risks officers face, the consequences of those risks, and how corrections officers perceive their own safety and wellness. The researchers sought to identify policies that support officer health and safety; however, they found that few of the various policies that do exist have been evaluated.<sup>253</sup>



## NIJ'S IMPACT

As with its work on corrections, NIJ has long been concerned with the safety, health, and wellness of America's law enforcement officers, but the nature of these concerns has grown over time. They are also being given greater attention, as evidenced by the 2016 release of NIJ's five-year *Safety, Health, and Wellness Strategic Research Plan*.<sup>254</sup>

Broken into two separate strategic priorities, the plan aims to expand NIJ's knowledge on the safety of individuals employed by and under the supervision of the criminal justice system, as well as members of the public as they interact with those individuals. The hope is that “a comprehensive approach to health and wellness issues throughout the criminal justice system will improve the performance . . . of each sector of justice and . . . provide a more coordinated response to the health risks and concerns of the communities they serve.”<sup>255</sup>

## ROADSIDE SAFETY RESEARCH

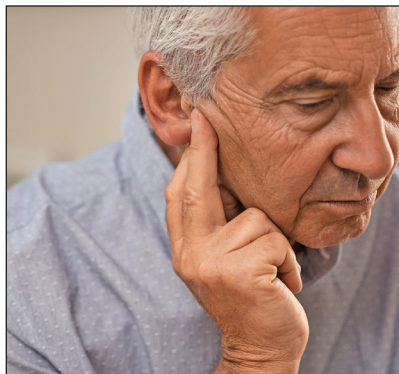
In the two decades prior to 2018, more police officers died in traffic-related incidents than any other kind of “on the job” violence. Because of this fact, as well as the lack of national standards to ensure the visibility of police vehicles, NIJ took a number of steps to make officers and their cars easier to see.

These measures included studies finding that:

- Blue lights are the easiest to see and that higher intensity lights improve drivers' ability to see emergency vehicles in daylight conditions.
- Retro-reflective materials and contrasting or fluorescent colors make vehicles more visible.
- Magnesium flares are brighter than those fueled by chemical or electrical means, and can be seen at least a mile away when elevated onto a cone.



# PROTECTING ELDERS FROM ABUSE



According to data from the U.S. Census Bureau, by 2035, older Americans will outnumber younger ones for the first time in U.S. history. The oldest members of the “Baby Boomer” generation turned 65 in 2011, and the rest of the group will be older than 65 by 2030.<sup>256</sup> Those born between 1965 and 1979 are also aging, increasing the number of U.S. residents who will soon be of retirement age.

With the “greying” of the U.S. population, elder health and safety is becoming an increasingly pressing issue. Indeed, in 2010, the NIJ-funded “National Elder Mistreatment Study” found that more than 10 percent of people aged 60 or older had experienced some kind of emotional, physical, or sexual abuse; physical neglect; or financial mistreatment during the previous year.<sup>257</sup>



And yet, recognition of elder abuse as a societal problem is fairly new, and it has not received the widespread attention given to other issues, such as child abuse or intimate partner violence.<sup>258</sup> There are few studies that have attempted to define the scope of the problem and no uniform reporting system exists.<sup>259</sup> Furthermore, there is little theory guiding current research on the topic.<sup>260</sup>

As with other issues, NIJ has worked to fill this gap, creating an elder abuse research agenda aimed at:

- Identifying the forensic markers of elder abuse and neglect post-mortem,
- Evaluating programs developed to address elder abuse,
- Exploring the risk and protective factors associated with such abuse and neglect,
- Understanding the prevalence of the issue, and
- Evaluating a coordinated community response.<sup>261</sup>



## Prevalence of Elder Abuse

A 2013 NIJ study examining the prevalence of elder abuse in assisted living facilities and nursing homes found that such violence was not generally common. However, it noted that facilities with low staffing levels, administrators with less education or experience, and residents with dementia or physical limitations were associated with elder abuse.<sup>262</sup> An increasing recognition that residents in nursing home facilities may be abused by other residents led NIJ to fund a separate study to determine the most accurate mechanism for detecting and reporting these incidents.<sup>263</sup>

When it comes to the financial mistreatment of elders, a 2014 study funded by NIJ found that the most common forms of such exploitation concerned stealing or spending their money, selling their property, or forging their signature.<sup>264</sup> Other popular scams include fake magazine subscriptions, prizes, or charities, as well as efforts to procure personal financial information.<sup>265</sup>

## Interventions

In addition to funding research on elder abuse itself, NIJ has supported a number of studies evaluating the different responses to these crimes that have been implemented by various jurisdictions. These projects include:

- Assessment tools such as the Elder Abuse Computerized Decision Support System, which is designed “to facilitate computer-assisted assessment[s] of allegations of abuse, standardize substantiation decision-making, provide user-friendly scoring and reporting, and link care planning to case specifics.”<sup>266</sup>
- An evaluation of the efficacy of interventions, such as the Los Angeles County Elder Abuse Forensic Center’s model for prosecuting perpetrators, protecting elders, and preventing future abuse.
- Evaluations of court-based initiatives aimed at improving the way elder abuse cases are handled in the justice system.
- A manual to provide guidance to elder abuse fatality review teams as they assess the causes of death and form part of the community response to elder abuse.<sup>267</sup>

### NIJ’S IMPACT

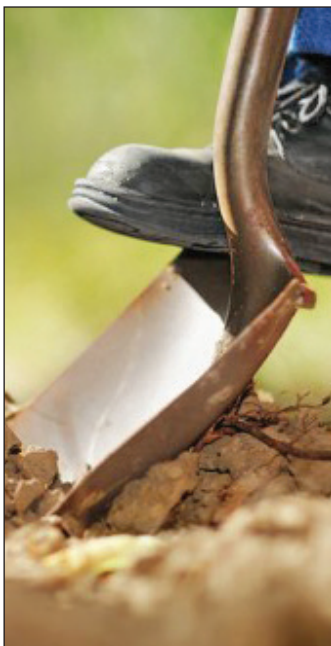
Researchers are just beginning to understand how to identify, prevent, and prosecute elder abuse. However, NIJ has been at the forefront of funding research so that service providers, the medical community, and law enforcement officers have the tools and knowledge needed to recognize and prevent this abuse. NIJ-funded studies have explored the many forms of elder abuse, including financial mistreatment, and have backed the development of evidence-based tools that can be used to both intervene in and prevent such crimes.<sup>268</sup>



## Important Milestones/Additional Achievements

**•2010:** Researchers publish an NIJ-funded study on growth patterns in children's fingerprints, which can change over time. The project's goal is to provide NIJ and the scientific community with statistically valid means for predicting the shape changes of fingerprints during periods of rapid growth to enhance the probability of matching individuals' adolescent/adult fingerprints to fingerprints acquired when they were children.<sup>269</sup>

**•2012:** NIJ funds research on illegal prescription drug market interventions. These efforts study the non-medical uses of prescription drugs, prescription drug monitoring programs, and high-intensity drug trafficking areas.<sup>270</sup>



**•2012:** NIJ expands its performance standards to include public safety bomb suits, the first for the specialized protective ensembles public safety bomb technicians wear when they work around explosive devices and materials. As with other NIJ standards, these guidelines allow equipment purchasers to make informed, evidence-based decisions to protect public safety responders.<sup>271</sup>

**•2013:** NIJ begins collecting data for the Latent Fingerprint Interoperability Survey, the only comprehensive effort to measure the connections between automated fingerprint identification systems and to catalogue the technical and regulatory barriers preventing further automation and cross-jurisdictional interoperability. The survey reaches all 50 states, the District of Columbia, and more than 100 local jurisdictions.<sup>272</sup>

**•2013:** NIJ funds research on bacteria in soil, which can provide a high volume of "individualization" data, enabling forensic investigators to determine the origins of a specific sample. The investigators can also look at changes in bacterial populations over time and answer questions such as, if a victim's body is unearthed months after it was buried, will the bacterial profile from the site still match the soil on a shovel stored in a suspect's shed?<sup>273</sup>

**•2014:** NIJ supports research testing the accuracy of latent print examiners from 76 federal, state, and local law enforcement agencies, discovering that those using the ACE-V (Analysis, Comparison, Evaluation, and Verification) methodologies are very accurate. This research was designed to address some of the National Research Council's 2009 recommendations on forensic science.<sup>274</sup>

**•2014:** NIJ funds the pilot of the International Institute for Restorative Practices' SaferSanerSchools Whole-School Change Program in Pittsburgh, Pennsylvania. The two-year effort is designed to see if implementing a plan for restorative practices can reduce misbehavior by engaging students in the school community. Each one of Pittsburgh's 46 schools is matched with another school based on similarities in grade level, demographics, and other factors. One school in each pair is scheduled to receive the program's treatment during the 2015–16 and 2016–17 school years.<sup>275</sup>

**•2015:** NIJ partners with the FBI Laboratory to better understand the issues surrounding the handling of sexual assault kits and to suggest ways for improving the collection and processing of DNA evidence.<sup>276</sup>



•**2016:** New York becomes the first state to mandate that county medical examiners and coroners report information on unidentified remains to NamUs.<sup>277</sup>

•**2016:** NIJ launches a market research survey on body-worn camera technology. The resulting report aggregates information on dozens of commercial cameras to assist law enforcement agencies in acquiring and implementing the use of these devices.<sup>278</sup>



•**2016:** NIJ solicits proposals for a randomized controlled trial of the Safe School Ambassadors Program in high-risk schools in Puerto Rico. The U.S. territory was experiencing significant rates of school violence between students, including bullying, fighting, and sexual harassment. The program sought to reduce violence and aggression by improving school climates through influential peers.<sup>279</sup>

•**2017:** CrimeSolutions.gov—a database of evidence-based programs and practices—posts its 500th program, just four years after NIJ began managing the website. Focused on helping criminal justice professionals improve their effectiveness, these program and practice evaluations enable practitioners and policymakers “to learn about what works, what doesn’t, and what’s promising.”<sup>280</sup>

•**2017:** The NamUs Fingerprint/AFIS (Automated Fingerprint Identification System) Unit begins collaborating with the FBI’s Latent Print Unit. The program ensures that all fingerprints submitted to NamUs for unidentified remains are transmitted to the FBI for searches in the bureau’s Next Generation Identification Program. To date, the collaboration has helped resolve more than 250 cases.<sup>281</sup>

•**2017:** NIJ releases *National Best Practices for Sexual Assault Kits: A Multidisciplinary Approach*, a report containing 35 recommendations for creating victim-centered approaches for responding to sexual assault cases and better supporting victims throughout the criminal justice process.<sup>282</sup>

•**2018:** NIJ launches NamUs 2.0, which features an upgraded user experience and search function, as well as tools to account for, identify, and reunite the victims of natural disasters and terrorist attacks.<sup>283</sup>

•**2018:** NIJ solicits proposals for research on artificial intelligence technologies that may support law enforcement efforts to prevent, respond to, and investigate a number of crimes, including drug trafficking, gang violence, human trafficking, migrant smuggling, and child pornography.<sup>284</sup>





# LOOKING TO THE FUTURE

As NIJ looks to the future, it continues to focus on and fund a research portfolio that supports evidence-backed solutions for the criminal justice community and promotes the safety of all Americans. While many of the subjects mentioned in this report will remain key priorities for the institute's leaders and staff, NIJ is actively working to expand its efforts optimizing policing strategies, preventing violence and victimization, evaluating sentencing and re-entry policies, applying artificial intelligence to criminal justice needs and requirements, and promoting forensic science research for the fair and efficient administration of justice.<sup>285</sup>

These efforts are aimed at examining the impact of certain crime-reduction practices—including those outlined in NIJ's 2017 *Policing Strategic Research Plan*—especially with regard to:

- Preventing and reducing gang activity, violence, and victimization;
- Understanding, preventing, and responding to human trafficking;
- Producing sustainable reductions of violence in communities that have suffered from persistently high levels of crime;
- Improving the knowledge base around intimate partner, dating, and sexual violence;
- Examining the drivers of ideological radicalization; and
- Understanding the motivations behind hate crimes.<sup>286</sup>

Along with those research topics, NIJ remains committed to better supporting victims of crime—seeking solicitations for evaluations of a broad range of victim services, as well as for tools that victim service providers, relevant government entities, and service-funding administrators can use to assess the programs' effectiveness.<sup>287</sup>

With more than five decades of criminal justice innovation and reform behind it, NIJ is well-positioned to influence another 50 years of research, development, and testing that enables members of the criminal justice community to do their jobs efficiently, effectively, and safely. Though its role in these changes may not be obvious to the general public, NIJ will continue responding to and influencing events impacting law enforcement—just as it always has.





## REFERENCES: TEXT

- <sup>1</sup> Thom Feucht (executive senior science advisor, National Institute of Justice [NIJ], U.S. Department of Justice [DOJ]), interview with Federal Research Division (FRD), June 18, 2018.
- <sup>2</sup> President's Commission on Law Enforcement and Administration of Justice, *The Challenge of Crime in a Free Society* (Washington, DC: U.S. Government Printing Office, February 1967), foreword, <https://www.ncjrs.gov/pdffiles1/nij/42.pdf>.
- <sup>3</sup> DOJ, NIJ, *25 Years of Criminal Justice Research*, NCJ 151287 (Washington, DC: DOJ, December 1994), 10, <https://www.ncjrs.gov/pdffiles1/nij/151287.pdf>.
- <sup>4</sup> Omnibus Crime Control and Safe Streets Act of 1968, Pub. L. No. 90-351, Title I, 82 Stat. 197, 198–209 (1968).
- <sup>5</sup> DOJ, NIJ, *25 Years of Criminal Justice Research*, 57.
- <sup>6</sup> DOJ, NIJ, *25 Years of Criminal Justice Research*, 64.
- <sup>7</sup> DOJ, NIJ, *Second Annual Report of the Justice System Improvement Act Agencies, Fiscal Year 1981* (Washington, DC: DOJ, 1983), 1 <https://www.bjs.gov/content/pub/pdf/jsiaa-sar81.pdf>; National Archives and Records Administration, "Guide to Federal Records: Records of the Law Enforcement Assistance Administration [LEAA]," last reviewed August 15, 2016, <https://www.archives.gov/research/guide-fed-records/groups/423.html>.
- <sup>8</sup> DOJ, NIJ, "Awards Listing," accessed March 19, 2020, <https://nij.ojp.gov/funding/awards/list>.
- <sup>9</sup> DOJ, NIJ, "Overview of Intimate Partner Violence," October 23, 2007, <https://www.nij.gov/topics/crime/intimate-partner-violence/Pages/welcome.aspx>; Jennifer Lynne Holmes and Becky Backes, "Evaluating What Works for Victims and Offenders: The Domestic Violence Homicide Prevention Demonstration Initiative," October 21, 2016, <https://www.nij.gov/topics/crime/intimate-partner-violence/Pages/evaluation-of-domestic-violence-homicide-prevention-demonstration-initiative.aspx>.
- <sup>10</sup> Chris Tillery (director, Office of Science and Technology, NIJ, DOJ), interview with FRD, June 18, 2018.
- <sup>11</sup> President's Commission, *The Challenge of Crime in a Free Society*, 274.
- <sup>12</sup> Nicholas Lemann, "How the Seventies Changed America," *American Heritage* 42, no. 4 (July/August 1991), <https://www.americanheritage.com/how-seventies-changed-america>.
- <sup>13</sup> Noah Adams, "Shots Still Reverberate for Survivors of Kent State," NPR, May 3, 2010, <https://www.npr.org/templates/story/story.php?storyId=126423778#>; Whitney Blair Wyckoff, "Jackson State: A Tragedy Widely Forgotten," NPR, May 3, 2010, <https://www.npr.org/templates/story/story.php?storyId=126423778#126426361>.
- <sup>14</sup> Jeff Z. Klein, "Heritage Moments: The Attica Prison Uprising—43 Dead and a Four-Decade Cover-Up," WBFO (Buffalo), September 10, 2018, <https://news.wbfo.org/post/heritage-moments-attica-prison-uprising-43-dead-and-four-decade-cover-up>; History.com Editors, "Riot at Attica Prison," History Channel, last updated July 27, 2019, <https://www.history.com/this-day-in-history/riot-at-attica-prison>; Asha Bandle, "After the Attica Uprising," *The Nation* (September 9, 2011), <https://www.thenation.com/article/after-attica-uprising>.
- <sup>15</sup> Independent Lens, "Race to Execution: Cases of Race," PBS.org, accessed March 20, 2020, <https://www.pbs.org/independentlens/racetoexecution/casesofrace.html>; Donald Scarinci, "Furman v. Georgia: The Constitutionality of the Death Penalty," *Constitutional Law Reporter* (blog), September 23, 2015, <https://constitutionallawreporter.com/2015/09/23/historical-furman-v-georgia-the-constitutionality-of-the-death-penalty/>.
- <sup>16</sup> 28 U.S.C. app. §§ historical note, rule 403 (2018).
- <sup>17</sup> Baltimore Police Historical Society, "1974 Baltimore Police Strike," *Baltimore City Police History* (blog), January 26, 2020, <https://baltimorepolice-museum.com/en/our-police/1974-police-strike.html>.
- <sup>18</sup> Meadhbh McGrath, "Take Back the Night Protests Sexual Violence," *Daily Californian* (Berkeley), March 17, 2013, <https://www.dailycal.org/2013/03/17/take-back-the-night-protests-sexual-violence/>; Rynne Persinger, "Groups Gather to 'Take Back the Night' from Fear, Sexual Violence," *Philadelphia Tribune*, April 26, 2016, [https://www.phillytrib.com/news/groups-gather-to-take-back-the-night-from-fear-sexual/article\\_b4c6f15a-804d-5c0d-85e5-d49e1921b88d.html](https://www.phillytrib.com/news/groups-gather-to-take-back-the-night-from-fear-sexual/article_b4c6f15a-804d-5c0d-85e5-d49e1921b88d.html).
- <sup>19</sup> 428 U.S. 153, 96 S. Ct. 2909, 49 L. Ed. 2d 859 (1976).
- <sup>20</sup> Alex Q. Arbuckle, "July 13–14, 1977: New York City Blackout," Mashable, November 2, 2015, <https://mashable.com/2015/11/02/nyc-blackout/>; Kim Phillips-Fein, "How the 1977 Blackout Unleashed New York City's Tough-on-Crime Politics," *Washington Post*, July 13, 2017, [https://www.washingtonpost.com/news/made-by-history/wp/2017/07/13/the-1977-blackout-led-to-new-york-citys-tough-on-crime-politics/?utm\\_term=.c0da0ba00362](https://www.washingtonpost.com/news/made-by-history/wp/2017/07/13/the-1977-blackout-led-to-new-york-citys-tough-on-crime-politics/?utm_term=.c0da0ba00362).
- <sup>21</sup> Allie Yang et al., "Timeline of Many of Ted Bundy's Brutal Crimes," ABC News, February 15, 2019, <https://abcnews.go.com/US/timeline-ted-bundys-brutal-crimes/story?id=61077236>; Kori Rumore, "Timeline: Suburban Serial Killer John Wayne Gacy and the Efforts to Recover, Name His 33 Victims," *Chicago Tribune*, December 17, 2018, <https://www.chicagotribune.com/news/history/ct-john-wayne-gacy-timeline-htmlstory.html>.
- <sup>22</sup> Mara Bovsun, "Justice Story: 16-Year-Old Girl Shoots Up School, Tells Reporter 'I Don't Like Mondays,'" *New York Daily News*, November 3, 2013, <https://www.nydailynews.com/news/justice-story/justice-story-don-mondays-article-1.1504277>.
- <sup>23</sup> DOJ, NIJ, *Selection and Application Guide to Personal Body Armor: NIJ Guide 100-01*, NCJ 189633 (Washington, DC: DOJ, November 2001), 4, <https://www.ncjrs.gov/pdffiles1/nij/189633.pdf>.
- <sup>24</sup> DOJ, NIJ, *25 Years of Criminal Justice Research*, 46–47.
- <sup>25</sup> Dan Thompkins, "Body Armor Safety Initiative," *NIJ Journal* 254 (July 2006), [https://www.nij.gov/journals/254/pages/body\\_armor.aspx](https://www.nij.gov/journals/254/pages/body_armor.aspx).
- <sup>26</sup> DOJ, NIJ, *Selection and Application Guide to Ballistic-Resistant Body Armor: For Law Enforcement, Corrections, and Public Safety; NIJ Selection and Application Guide 0101.06*, NCJ 247281 (Washington, DC: DOJ, December 2014), 9, <https://www.ncjrs.gov/pdffiles1/nij/247281.pdf>; Barry Bratburd (director, Office of Communications, NIJ, DOJ), email message to FRD, June 10, 2019; Mark Greene, "Body Armor: Protecting Our Nation's Officers from Ballistic Threats," *NIJ Journal* 280 (January 2019), <https://nij.ojp.gov/topics/articles/body-armor-protecting-our-nations-officers-ballistic-threats>.



- <sup>27</sup> Justice Technology Information Center (JTIC), *Understanding NIJ 0101.06 Armor Protection Levels*, accessed March 23, 2020, <https://www.ncjrs.gov/pdffiles1/nij/nlectc/250144.pdf>; DOJ, NIJ, "Body Armor Performance Standards," last modified February 22, 2018, <https://www.nij.gov/topics/technology/body-armor/Pages/standards.aspx>.
- <sup>28</sup> DOJ, NIJ, "Body Armor Compliance Testing," last modified July 17, 2019, <https://www.nij.gov/topics/technology/body-armor/Pages/testing.aspx>; DOJ, NIJ, Criminal Justice Testing and Evaluating Consortium, "National Institute of Justice (NIJ) Mark," accessed August 30, 2020, <https://cjtec.org/compliance-testing-program/national-institute-of-justice-mark/>.
- <sup>29</sup> DOJ, NIJ, *Selection and Application Guide to Personal Body Armor*, 6.
- <sup>30</sup> DOJ, NIJ, *Stab Resistance of Personal Body Armor: NIJ Standard -0115.00*, NCJ 183652 (Washington, DC: DOJ, September 2000), 2, <https://www.ncjrs.gov/pdffiles1/nij/183652.pdf>; DOJ, NIJ, "Body Armor Performance Standards."
- <sup>31</sup> DOJ, NIJ, *Stab Resistance of Personal Body Armor*, 26.
- <sup>32</sup> Tillery, interview with FRD, June 18, 2018; Greene, "Body Armor: Protecting Our Nation's Officers from Ballistic Threats."
- <sup>33</sup> Greene, "Body Armor: Protecting Our Nation's Officers from Ballistic Threats."
- <sup>34</sup> DOJ, NIJ, *Selection and Application Guide to Personal Body Armor*, 11–12.
- <sup>35</sup> Olivia B. Waxman, "How the U.S. Got Its Police Force," Time, last updated May 18, 2017, <http://time.com/4779112/police-history-origins/>; DOJ, NIJ, *25 Years of Criminal Justice Research*, 14.
- <sup>36</sup> DOJ, NIJ, *25 Years of Criminal Justice Research*, 11–12.
- <sup>37</sup> National Police Foundation, *Newark Foot Patrol Experiment* (Washington, DC: National Police Foundation, 1981), iii–iv, 36 <https://www.policefoundation.org/wp-content/uploads/2015/07/144273499-The-Newark-Foot-Patrol-Experiment.pdf>
- <sup>38</sup> George L. Kelling, "Police and Communities: The Quiet Revolution," *Perspectives on Policing* 1 (June 1988): 3, 5, <https://www.ncjrs.gov/pdffiles1/nij/109955.pdf>.
- <sup>39</sup> David B. Muhlhausen, "Director's Corner: Proactive Policing—What We Know and What We Don't Know, Yet," January 17, 2018, <https://www.nij.gov/about/director/Pages/muhlhausen-proactive-policing.aspx>; DOJ, NIJ, "Hot Spot Policing Can Reduce Crime," October 13, 2009, <https://www.nij.gov/topics/law-enforcement/strategies/hot-spot-policing/pages/welcome.aspx>.
- <sup>40</sup> DOJ, NIJ, *25 Years of Criminal Justice Research*, 14.
- <sup>41</sup> DOJ, NIJ, "Past Executive Session on Policing," March 4, 2009, <http://web.archive.org/web/20171023114859/https://www.nij.gov/topics/law-enforcement/administration/executive-sessions/pages/past.aspx>.
- <sup>42</sup> DOJ, NIJ, "Harvard Executive Session on Policing and Public Safety (2008–2014)," July 4, 2012, <https://www.nij.gov/topics/law-enforcement/administration/executive-sessions/Pages/papers.aspx>.
- <sup>43</sup> David B. Muhlhausen, "Director's Corner: CrimeSolutions.gov Has Rated 500 Programs and Counting," September 26, 2017, <https://nij.ojp.gov/speech/directors-corner-crimesolutionsgov-has-rated-500-programs-and-counting>. CrimeSolutions.gov, "Law Enforcement: Policing Strategies," accessed March 23, 2020, <https://crimesolutions.gov/TopicDetails.aspx?ID=84>.
- <sup>44</sup> Muhlhausen, "Director's Corner: Proactive Policing."
- <sup>45</sup> DOJ, NIJ, *25 Years of Criminal Justice Research*, 59.
- <sup>46</sup> Crime Control Act of 1973, Pub. L. No. 93–83, Sec. 2, 87 Stat. 197, 205–6 (1973); DOJ, NIJ, *25 Years of Criminal Justice Research*, 60.
- <sup>47</sup> DOJ, NIJ, *25 Years of Criminal Justice Research*, 22.
- <sup>48</sup> DOJ, NIJ, *25 Years of Criminal Justice Research*, 61.
- <sup>49</sup> DOJ, NIJ, *25 Years of Criminal Justice Research*, 17–18.
- <sup>50</sup> National Archive of Criminal Justice Data, "About NACJD," accessed March 25, 2020, <https://www.icpsr.umich.edu/icpsrweb/content/NACJD/about.html>.
- <sup>51</sup> DOJ, NIJ, *25 Years of Criminal Justice Research*, 62–63.
- <sup>52</sup> DOJ, NIJ, *25 Years of Criminal Justice Research*, 50, 64.
- <sup>53</sup> Samantha Zuhlke, "The '80s: The Decade that Made Us," *National Geographic*, last updated April 6, 2013, <https://www.nationalgeographic.org/media/80s-decade-made-us/>.
- <sup>54</sup> History.com Editors, "The 1980s," History Channel, last updated June 7, 2019, <https://www.history.com/topics/1980s/1980s>; Tony Long, "Dec. 26, 1982: Time's Top Man? The Personal Computer," *Wired* (December 26, 2012), <https://www.wired.com/2012/12/dec-26-1982-times-top-man-the-personal-computer/>.
- <sup>55</sup> Drug Policy Alliance, "A Brief History of the Drug War," accessed March 31, 2020, <http://www.drugpolicy.org/issues/brief-history-drug-war>; Julian Zelizer, "Party Like It's the 1980s," CNN.com, September 23, 2013, <https://www.cnn.com/2013/09/23/opinion/zelizer-1980s-nostalgia-politics/index.html>.
- <sup>56</sup> *CNN First Hour: June 1, 1980*, YouTube video, 1:01:08, posted by "Brandon Millman," June 11, 2012, <https://www.youtube.com/watch?v=rWhgKuKwPE>.
- <sup>57</sup> "Sandra Day O'Connor," Oyez.org, accessed March 31, 2020, [https://www.oyez.org/justices/sandra\\_day\\_oconnor](https://www.oyez.org/justices/sandra_day_oconnor).
- <sup>58</sup> Howard Markel, "How the Tylenol Murders of 1982 Changed the Way We Consume Medication," *PBS NewsHour*, September 29, 2014, <https://www.pbs.org/newshour/health/tylenol-murders-1982>.
- <sup>59</sup> New Jersey Transit Police, "Then and Now . . . NJ Transit Police Department's Three Decades of Service," accessed March 31, 2020, [http://web.archive.org/web/20191024002119/https://www.njtransit.com/po/po\\_servlet.srv?hdnPageAction=PoliceHistoryTo](http://web.archive.org/web/20191024002119/https://www.njtransit.com/po/po_servlet.srv?hdnPageAction=PoliceHistoryTo); New Jersey Transit, "Transit Police," accessed March 31, 2020, [http://web.archive.org/web/20200221095139/http://www.njtransit.com/tm/tm\\_servlet.srv?hdnPageAction=PoliceTo](http://web.archive.org/web/20200221095139/http://www.njtransit.com/tm/tm_servlet.srv?hdnPageAction=PoliceTo).

- <sup>60</sup> Anne Gearan, "Wounds Deep 10 Years after Nation's Largest Death Row Escape," Associated Press, July 3, 1994, <https://www.latimes.com/archives/la-xpm-1994-07-03-mn-11483-story.html>.
- <sup>61</sup> Greg Botelho, "Serial Killer, Rapist Richard Ramirez—Known as 'Night Stalker'—Dead At 53," CNN.com, June 9, 2013, <https://www.cnn.com/2013/06/07/justice/california-night-stalker-ramirez-dead/index.html>; Hector Becerra, "Neighbors in East L.A. Recall Capture of 'Night Stalker,'" *Los Angeles Times*, June 7, 2013, <https://www.latimes.com/local/lanow/la-xpm-2013-jun-07-la-me-ln-east-la-night-stalker-20130607-story.html>; Amy Tikkanen, "Richard Ramirez," Encyclopaedia Britannica, last updated February 25, 2020, <https://www.britannica.com/biography/Richard-Ramirez>.
- <sup>62</sup> Dianna Everett, "Edmond Post Office Massacre," Encyclopedia of Oklahoma History and Culture, accessed March 31, 2020, <https://www.okhistory.org/publications/enc/entry.php?entry=ED003>; Mara Bovsun, "Mailman Massacre: 14 Die after Patrick Sherrill 'Goes Postal' in 1986 Shootings," *New York Daily News*, August 15, 2010, <https://www.nydailynews.com/news/crime/mailman-massacre-14-die-patrick-sherrill-postal-1986-shootings-article-1.204101>.
- <sup>63</sup> Terri Sundquist, "How a Magazine Ad Helped Convict a Rapist," International Symposium on Human Identification, April 11, 2018, <https://www.ishinews.com/how-a-magazine-ad-helped-convict-a-rapist/>; Matt Crenson, "Serial Rapist's Conviction was First to Involve DNA," *Los Angeles Times*, March 2, 1997, <https://www.latimes.com/archives/la-xpm-1997-03-02-me-33996-story.html>.
- <sup>64</sup> 486 U.S. 35, 108 S. Ct. 1625, 100 L. Ed. 2d 30 (1988).
- <sup>65</sup> George H. W. Bush, "Text of President's Speech on National Drug Control Strategy," *New York Times*, September 6, 1989, <https://www.nytimes.com/1989/09/06/us/text-of-president-s-speech-on-national-drug-control-strategy.html>; Matt Blitz, "The Inside Story of the Lafayette Park Crack Bust that George H. W. Bush Used to Sell the War on Drugs," *DCist* (blog), December 4, 2018, <https://dcist.com/story/18/12/04/the-inside-story-of-the-lafayette-park-drug-bust-that-george-h-w-bush-used-to-sell-the-war-on-drugs/>.
- <sup>66</sup> Sharon Chamard, "The History of Crime Mapping and Its Use by American Police Departments," *Alaska Justice Forum* 23, no. 3 (Fall 2006), [https://www.uaa.alaska.edu/academics/college-of-health/departments/justice-center/alaska-justice-forum/23/3fall2006/a\\_crimemapping.cshtml](https://www.uaa.alaska.edu/academics/college-of-health/departments/justice-center/alaska-justice-forum/23/3fall2006/a_crimemapping.cshtml).
- <sup>67</sup> Tillery, interview with FRD, June 18, 2018.
- <sup>68</sup> David Weisburd and Lorraine Green, "Policing Drug Hot Spots: The Jersey City Drug Market Analysis Experiment," *Justice Quarterly* 12, no. 4 (December 1995): 712, doi: 10.1080/07418829500096261.
- <sup>69</sup> DOJ, NIJ, "Mapping and Analysis for Public Safety," last modified March 26, 2013, <https://www.nij.gov/topics/technology/maps/pages/welcome.aspx>.
- <sup>70</sup> Tillery, interview with FRD, June 18, 2018.
- <sup>71</sup> Keith Harries, *Mapping Crime: Principle and Practice*, NCJ 178919 (Washington, DC: DOJ, December 1999), <https://www.ncjrs.gov/pdffiles1/nij/178919.pdf>.
- <sup>72</sup> National Law Enforcement and Corrections Technology Center (NLECTC), "From Description to Prediction: Crime Mapping," *TechBeat* (Summer 2001), 2, <https://www.ncjrs.gov/pdffiles1/nij/nlectc/211854.pdf>.
- <sup>73</sup> DOJ, NIJ, "Crime Mapping Research Conference," accessed July 22, 2019, <http://web.archive.org/web/20170628052941/https://www.nij.gov/events/maps/pages/welcome.aspx>; NLECTC, "From Description to Prediction," 3.
- <sup>74</sup> DOJ, NIJ, "Mapping and Analysis for Public Safety."
- <sup>75</sup> Barry Bratburd (director, Office of Communications, NIJ, DOJ), email message to FRD, May 10, 2019.
- <sup>76</sup> Gerald LaPorte (director, Office of Investigative and Forensic Sciences, NIJ, DOJ), interview with FRD, June 14, 2018.
- <sup>77</sup> DOJ, NIJ, *25 Years of Criminal Justice Research*, 50.
- <sup>78</sup> DOJ, NIJ, *25 Years of Criminal Justice Research*, 34.
- <sup>79</sup> DOJ, NIJ, *25 Years of Criminal Justice Research*, 34.
- <sup>80</sup> John M. Butler, "NIJ Funding: Supporting Emerging Scientists, Building Our Future," *NIJ Journal* 276 (December 2015), <https://www.nij.gov/journals/276/Pages/butler.aspx>.
- <sup>81</sup> DOJ, NIJ, "National Commission on the Future of DNA Evidence," last modified April 2, 2013, <https://www.nij.gov/topics/forensics/evidence/dna/commission/pages/welcome.aspx>.
- <sup>82</sup> Nancy Ritter, "Identifying Remains: Lessons Learned From 9/11," *NIJ Journal* 256 (January 2007), <https://www.nij.gov/journals/256/Pages/lessons-learned.aspx>; President's DNA Initiative, *Lessons Learned From 9/11: DNA Identification in Mass Fatality Incidents*, NCJ 214781 (Washington, DC: DOJ, September 2006), <https://www.ncjrs.gov/pdffiles1/nij/214781.pdf>.
- <sup>83</sup> President's DNA Initiative, *Lessons Learned From 9/11*, 7, 64–67.
- <sup>84</sup> President's DNA Initiative, *Lessons Learned From 9/11*, 52.
- <sup>85</sup> DOJ, NIJ, "President's DNA Initiative," June 26, 2012, <https://www.nij.gov/topics/forensics/dna-initiative/pages/welcome.aspx>; DOJ, "Advancing Justice through DNA Technology," last updated March 7, 2017, <https://www.justice.gov/archives/ag/advancing-justice-through-dna-technology-table-contents>; Justice for All Act of 2004, Pub. L. No. 108–405, 118 Stat. 2260–93 (2004).
- <sup>86</sup> DOJ, NIJ, "President's DNA Initiative"; DOJ, "Advancing Justice through DNA Technology."
- <sup>87</sup> Lee Mockensturm (writer/editor, Office of Communications, NIJ, DOJ), email message to FRD, July 31, 2019.
- <sup>88</sup> Barry Bratburd (director, Office of Communications, NIJ, DOJ), email message to FRD, August 1, 2019.
- <sup>89</sup> DOJ, NIJ, "Solving Cold Cases with DNA Funding Program," September 6, 2019, <https://nij.ojp.gov/solving-cold-cases-dna-funding-program>.
- <sup>90</sup> DOJ, NIJ, "Forensic DNA," accessed March 31, 2020, <https://www.nij.gov/topics/forensics/evidence/dna/pages/welcome.aspx>.
- <sup>91</sup> LaPorte, interview with FRD, June 14, 2018.
- <sup>92</sup> Gerald LaPorte et al., *Fiscal Year 2017 Funding for DNA Analysis, Capacity Enhancement, and Other Forensic Activities*, NCJ 251445 (Washington, DC: DOJ, April 2018), 1, <https://www.ncjrs.gov/pdffiles1/nij/251445.pdf>.
- <sup>93</sup> DOJ, NIJ, *25 Years of Criminal Justice Research*, 28–29.

- <sup>94</sup> DOJ, Bureau of Justice Statistics, "Drugs and Crime Facts," last revised March 31, 2020, <https://www.bjs.gov/content/duc/duc.cfm>.
- <sup>95</sup> DOJ, NIJ, "Drugs and Crime Research," accessed March 31, 2020, <https://www.nij.gov/topics/drugs/pages/welcome.aspx>.
- <sup>96</sup> DOJ, NIJ, "NIJ's Drugs and Crime Research: Arrestee Drug Abuse Monitoring Programs," May 6, 2012, <https://www.nij.gov/topics/drugs/markets/adam/pages/welcome.aspx>; Judy Reardon, *The Drug Use Forecasting Program: Measuring Drug Use in a "Hidden" Population*, NCJ 144784 (Washington, DC: DOJ, November 1993), v, 25–26, <https://www.ncjrs.gov/pdffiles1/Digitization/144784NCJRS.pdf>.
- <sup>97</sup> DOJ, NIJ, *25 Years of Criminal Justice Research*, 22.
- <sup>98</sup> DOJ, Office of Justice Programs, *Drug Courts*, NCJ 238527 (Washington, DC: DOJ, January 2020), 1, <https://www.ncjrs.gov/pdffiles1/nij/238527.pdf>; DOJ, Office of Public Affairs, "Problem-Solving Courts: Alternatives for Communities and Offenders," November 12, 2009, <https://www.justice.gov/archives/opa/blog/problem-solving-courts-alternatives-communities-and-offenders>; DOJ, NIJ, "Do Drug Courts Work? Findings from Drug Court Research," May 11, 2008, <https://www.nij.gov/topics/courts/drug-courts/Pages/work.aspx>.
- <sup>99</sup> DOJ, NIJ, "NIJ's Drugs and Crime Research."
- <sup>100</sup> DOJ, NIJ, "Drugs and Crime Research Projects," October 9, 2018, <https://www.nij.gov/topics/drugs/Pages/research-projects.aspx>; DOJ, NIJ, "Research on Illegal Prescription Drug Market Interventions," last modified March 27, 2017, <https://www.nij.gov/topics/drugs/Pages/illegal-prescription-drug-markets.aspx>.
- <sup>101</sup> DOJ, NIJ, "Forensic Toxicology," October 1, 2012, <https://www.nij.gov/topics/forensics/evidence/toxicology/pages/welcome.aspx>; DOJ, NIJ, *25 Years of Criminal Justice Research*, 29–30.
- <sup>102</sup> DOJ, NIJ, "Drug Treatment," last updated June 24, 2015, <https://web.archive.org/web/20170131163510/https://nij.gov/topics/drugs/treatment/Pages/welcome.aspx>.
- <sup>103</sup> Lawrence W. Sherman and Richard A. Berk, *Police Foundation Reports: The Minneapolis Domestic Violence Experiment* (Washington, DC: National Police Foundation, April 1984), 7, <https://www.policefoundation.org/wp-content/uploads/2015/07/Sherman-et-al-1984-The-Minneapolis-Domestic-Violence-Experiment.pdf>.
- <sup>104</sup> DOJ, NIJ, "Past Executive Session on Policing."
- <sup>105</sup> Teresa Phillips, "RFLP and the DNA Analysis Applications," Balance, last updated July 12, 2019, <https://www.thebalance.com/rflp-definition-and-dna-analysis-applications-375574>; World of Forensic Science, "DNA Fingerprint," Encyclopedia.com, accessed March 31, 2020, <https://www.encyclopedia.com/science-and-technology/biology-and-genetics/genetics-and-genetic-engineering/dna-fingerprinting>.
- <sup>106</sup> Michael D. Maltz, Andrew C. Gordon, and Warren Friedman, *Mapping Crime in Its Community Setting: Event Geography Analysis* (New York: Springer-Verlag New York, 1991), <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.200.6332&rep=rep1&type=pdf>.
- <sup>107</sup> DOJ, NIJ, *25 Years of Criminal Justice Research*, 29, 50, 66.
- <sup>108</sup> DOJ, NIJ, *25 Years of Criminal Justice Research*, 50–51.
- <sup>109</sup> DOJ, NIJ, "NIJ's Drugs and Crime Research."
- <sup>110</sup> Lawrence W. Sherman, Michael Buerger, and Patrick Gartin, *Repeat Call Address Policing: The Minneapolis RECAP Experiment* (Washington, DC: Crime Control Institute, 1989); Harvard University, Government Innovators Network, "Repeat Call Address Policing Unit," accessed March 31, 2020, <https://www.innovations.harvard.edu/repeat-call-address-policing-unit>.
- <sup>111</sup> Northwestern University, Center on Wrongful Convictions, "First DNA Exoneration: Gary Dotson," accessed March 31, 2020, <http://www.law.northwestern.edu/legalclinic/wrongfulconvictions/exonerations/il/gary-dotson.html>.
- <sup>112</sup> Jim Dwyer, "Janet Reno was Unafraid of Science that Could Exonerate the Innocent," *New York Times*, November 10, 2016, <https://www.nytimes.com/2016/11/11/nyregion/janet-reno-was-unafraid-of-science-that-could-exonerate-the-innocent.html>.
- <sup>113</sup> Kurt Andersen, "The Best Decade Ever? The 1990s, Obviously," *New York Times*, February 6, 2015, <https://www.nytimes.com/2015/02/08/opinion/sunday/the-best-decade-ever-the-1990s-obviously.html>; Pew Research Center, "Crime Rates Have Fallen since the Early 1990s," February 15, 2017, [https://www.pewresearch.org/fact-tank/2019/01/03/5-facts-about-crime-in-the-u-s/ft\\_17-02-15\\_crime\\_640px/](https://www.pewresearch.org/fact-tank/2019/01/03/5-facts-about-crime-in-the-u-s/ft_17-02-15_crime_640px/); CNN Library, "Olympic Park Bombing Fast Facts," last updated August 11, 2019, <https://www.cnn.com/2013/09/18/us/olympic-park-bombing-fast-facts/index.html>; History.com Editors, "Columbine Shooting," History Channel, last updated March 30, 2020, <https://www.history.com/topics/1990s/columbine-high-school-shootings>.
- <sup>114</sup> David Menconi, "Hot Canvases," *Harvard Magazine* (March–April 2012), <https://harvardmagazine.com/2012/03/hot-canvases>; CBS 4 (Boston), "\$10M Reward Extended for Return of Stolen Gardner Museum Art," January 11, 2018, <https://boston.cbslocal.com/2018/01/11/isabella-stewart-gardner-museum-heist-reward-extended/>.
- <sup>115</sup> Anjali Sastry and Karen Grigsby Bates, "When LA Erupted in Anger: A Look Back at the Rodney King Riots," NPR, April 26, 2017, <https://www.npr.org/2017/04/26/524744989/when-la-erupted-in-anger-a-look-back-at-the-rodney-king-riots>; CNN Library, "Los Angeles Riots Fast Facts," last updated April 22, 2019, <https://www.cnn.com/2013/09/18/us/los-angeles-riots-fast-facts/index.html>.
- <sup>116</sup> Bob Lewis, "Thinking the Unthinkable: What Led 4 Teens to Torture, Murder Child?," *Los Angeles Times*, January 13, 1993, ProQuest (281892192); Fox 59 (Indianapolis), "Woman Convicted in Brutal Slaying of 12-Year-Old Indiana Girl in 1992 to be Released from Prison," January 11, 2018, <https://fox59.com/2018/01/11/woman-convicted-in-brutal-slaying-of-12-year-old-indiana-girl-in-1992-to-be-released-from-prison/>.



- 117 DOJ, Office of the Attorney General, "Attorney General: Janet Reno," last updated July 26, 2017, <https://www.justice.gov/ag/bio/reno-janet>.
- 118 Monica N. Modi, Sheallah Palmer, and Alicia Armstrong, "The Role of Violence Against Women Act in Addressing Intimate Partner Violence: A Public Health Issue," *Journal of Women's Health* 23, no. 3 (2014): 254, doi: 10.1089/jwh.2013.4387.
- 119 History.com Editors, "Oklahoma City Bombing," History Channel, last updated March 30, 2020, <https://www.history.com/topics/1990s/oklahoma-city-bombing>; Oklahoma Department of Civil Emergency Management, *After Action Report: Alfred P. Murrah Federal Building Bombing; 19 April 1995 in Oklahoma City, Oklahoma*, executive summary, accessed March 31, 2020, <https://www.ok.gov/OEM/documents/Bombing%20After%20Action%20Report.pdf>; Westwick-Farrow Publishing, "Case Study 30: Preventing Glass from Becoming a Lethal Weapon," *Safety Solutions Online* (February 13, 2007), [https://web.archive.org/web/20070213112339/http://www.safetyolutions.net.au/safety/ss/ss\\_30.asp](https://web.archive.org/web/20070213112339/http://www.safetyolutions.net.au/safety/ss/ss_30.asp); Oklahoma City Police Department, *Alfred P. Murrah Building Bombing: After Action Report*, 6, accessed March 31, 2020, [https://web.archive.org/web/20070703233435/http://www.terrorisminfo.mipt.org/pdf/okcfr\\_App\\_C.pdf](https://web.archive.org/web/20070703233435/http://www.terrorisminfo.mipt.org/pdf/okcfr_App_C.pdf).
- 120 A. J. Willingham, "JonBenét Ramsey Case: 9 Things the Ex-Police Chief Just Revealed," Fox 2 (St. Louis), February 26, 2015, <https://fox2now.com/2015/02/26/jonbenet-ramsey-case-10-things-the-ex-police-chief-just-revealed/>; J. J. Maloney and J. Patrick O'Connor, "The Murder of JonBenét Ramsey," *Crime Magazine*, last updated October 25, 2013, <https://web.archive.org/web/20141129041656/http://www.crimemagazine.com/murder-jonben%C3%A9t-ramsey>.
- 121 Maureen Orth, "The Killer's Trail," *Vanity Fair* (September 1997), <https://www.vanityfair.com/magazine/1997/09/cunanan199709>.
- 122 Bethanne Kelly Patrick, "Air Force 1st Lt. Michael Blassie," Military.com, accessed March 31, 2020, <https://www.military.com/history/air-force-1st-lt-michael-blassie.html>.
- 123 Rick Lyman, "Agents Seize Nearly 5 Tons of Cocaine Aboard Freighter," *New York Times*, January 22, 1999, <https://www.nytimes.com/1999/01/22/us/agents-seize-nearly-5-tons-of-cocaine-aboard-freighter.html>.
- 124 Stephanie Watson, "How Fingerprinting Works," How Stuff Works, accessed March 31, 2020, <https://science.howstuffworks.com/fingerprinting.htm/printable>.
- 125 Kenneth R. Moses et al., "Automated Fingerprint Identification System," in *The Fingerprint Sourcebook* (Washington, DC: DOJ, 2011), 6–3, <https://www.ncjrs.gov/pdffiles1/nij/225326.pdf>.
- 126 PoliceOne.com, "All about Integrated Automated Fingerprint Identification System (IAFIS)," March 1, 2009, <https://www.policeone.com/police-products/investigation/articles/1802754-All-About-Integrated-Automated-Fingerprint-Identification-System-IAFIS/>.
- 127 DOJ, FBI, "Next Generation Identification (NGI)," accessed March 31, 2020, <https://www.fbi.gov/services/cjis/fingerprints-and-other-biometrics/ngi>.
- 128 Danny Thakkar, "AFIS vs. IAFIS, How They Are Same Yet Different?," Bayometric, accessed March 31, 2020, <https://www.bayometric.com/afis-vs-iafis/>.
- 129 President's Commission, *The Challenge of Crime in a Free Society*, 284; DOJ, NIJ, "Fingerprints: An Overview," March 27, 2013, <https://www.nij.gov/topics/forensics/evidence/impression/pages/fingerprints.aspx>.
- 130 National Research Council (NRC), Committee on Identifying the Needs of the Forensic Sciences Community, *Strengthening Forensic Science in the United States: A Path Forward* (Washington, DC: National Academies Press, August 2009), 31–32, <https://www.ncjrs.gov/pdffiles1/nij/grants/228091.pdf>.
- 131 DOJ, NIJ, "Latent Fingerprint Interoperability Survey," March 27, 2013, <https://www.nij.gov/topics/forensics/evidence/impression/pages/survey.aspx>.
- 132 Mark Persinger, Lars Ericson, and Mark Greene, *Latent Fingerprint Interoperability Survey: A National Study of Automated Fingerprint Information Systems (AFIS) Maintained by Law Enforcement Agencies* (Washington, DC: DOJ, August 2014), <https://www.ncjrs.gov/pdffiles1/nij/247910.pdf>.
- 133 NRC, Committee on Identifying the Needs of the Forensic Sciences Community, *Strengthening Forensic Science*, 142.
- 134 DOJ, NIJ, "Effects of Human Factors on the Accuracy of Fingerprint Analysis," May 16, 2012, <https://www.nij.gov/topics/forensics/evidence/impression/pages/human-factors.aspx>.
- 135 DOJ, Office of Justice Programs, "Fingerprint Examiners Found to Have Very Low Error Rates," PR Newswire, February 2, 2015, <https://www.prnewswire.com/news-releases/fingerprint-examiners-found-to-have-very-low-error-rates-300029131.html>; Igor Pacheco, Brian Cerchiai, and Stephanie Stoiloff, "Miami-Dade Research Study for the Reliability of the ACE-V Process: Accuracy & Precision in Latent Fingerprint Examinations," December 2014, 7, <https://www.ncjrs.gov/pdffiles1/nij/grants/248534.pdf>.
- 136 Phillip Wiggin and Lars Ericson, "Contactless Fingerprint Technologies Assessment," February 2014, 1, <https://www.ncjrs.gov/pdffiles1/nij/grants/245147.pdf>.
- 137 *TechBeat*, "Evaluating the Next Generation of Fingerprint Technology," PoliceOne.com, January 22, 2014, <https://www.policeone.com/police-products/police-technology/biometrics-identification/articles/6755986-Evaluating-the-next-generation-of-fingerprint-technology/>.
- 138 Forensic Technology Center of Excellence (FTCoE), "2018 Impression, Pattern, and Trace Evidence Symposium," accessed March 31, 2020, <https://forensiccoe.org/workshop/18-iptes/>.
- 139 FTCoE, "About Us," accessed March 31, 2020, <https://forensiccoe.org/about-us/>.
- 140 Francine Uenuma, "The First Criminal Trial That Used Fingerprints as Evidence," *Smithsonian* (December 5, 2018), <https://www.smithsonianmag.com/history/first-case-where-fingerprints-were-used-evidence-180970883/>.

- <sup>141</sup> DOJ, NIJ, "School Safety: By the Numbers," November 2017, <https://www.ncjrs.gov/pdffiles1/nij/251173.pdf>; Anlan Zhang, Lauren Musu-Gillette, and Barbara A. Oudekerk, *Indicators of School Crime and Safety: 2015*, NCES 2016-079/NCJ 249758 (Washington, DC: U.S. Department of Education [ED] and DOJ, 2016), iii–ix, <https://www.nces.ed.gov/pubs2016/2016079.pdf>.
- <sup>142</sup> DOJ, NIJ, "School Safety: By the Numbers."
- <sup>143</sup> Mary W. Green, *The Appropriate and Effective Use of Security Technologies in U.S. Schools: A Guide for Schools and Law Enforcement Agencies*, NCJ 178265 (Washington, DC: DOJ, 1999), <https://www.ncjrs.gov/school/178265.pdf>.
- <sup>144</sup> Gary D. Gottfredson et al., "Summary: National Study of Delinquency Prevention in Schools," November 2000, 9, <https://www.ncjrs.gov/pdffiles1/nij/grants/194116.pdf>.
- <sup>145</sup> U.S. Secret Service and ED, *Final Report and Findings of the Safe School Initiative: Implications for the Prevention of School Attacks in the United States* (Washington, DC: ED, June 2004), 3, <https://www2.ed.gov/admins/lead/safety/preventingattacksreport.pdf>.
- <sup>146</sup> DOJ, NIJ, "NIJ's Comprehensive School Safety Initiative," March 13, 2018, <https://www.nij.gov/topics/crime/school-crime/pages/school-safety-initiative.aspx>.
- <sup>147</sup> DOJ, NIJ, "Comprehensive School Safety Initiative," accessed March 31, 2020, <https://rems.ed.gov/docs/R2-CSSI%20Flyer.pdf>.
- <sup>148</sup> Blair Ames, "Making Schools Safe for Students," *NIJ Journal* 281 (posted June 2019), <https://www.nij.gov/journals/281/Pages/making-schools-safe-for-students.aspx>.
- <sup>149</sup> Mary Poulin Carlton, *Summary of School Safety Statistics*, NCJ 250610 (Washington, DC: DOJ, July 2017), 1–2, <https://www.ncjrs.gov/pdffiles1/nij/250610.pdf>.
- <sup>150</sup> Carlton, *Summary of School Safety Statistics*; DOJ, NIJ, "About School Crime and Safety," June 8, 2010, <https://www.nij.gov/topics/crime/school-crime/Pages/welcome.aspx>; DOJ, NIJ, "School Safety: By the Numbers."
- <sup>151</sup> CrimeSolutions.gov, "Program Profile: Drug Market Analysis Program (Jersey City, NJ)," February 23, 2012, <https://www.crimesolutions.gov/ProgramDetails.aspx?ID=214>.
- <sup>152</sup> DOJ, NIJ, *Searching for Answers: Criminal Justice Research, Development, and Evaluation; 1995 Annual Report to Congress*, NCJ 162042 (Washington, DC: DOJ, 1996), 46, <https://www.ncjrs.gov/pdffiles1/nijann95.pdf>.
- <sup>153</sup> DOJ, NIJ, *25 Years of Criminal Justice Research*, 34.
- <sup>154</sup> Michael W. Finigan, Shannon M. Carey, and Anton Cox, *The Impact of a Mature Drug Court over 10 Years of Operation: Recidivism and Costs* (Portland, OR: NPC Research, April 2007), abstract, <https://www.ncjrs.gov/pdffiles1/nij/grants/219225.pdf>.
- <sup>155</sup> Butler, "NIJ Funding."
- <sup>156</sup> Edward Connors et al., *Convicted by Juries, Exonerated by Science: Case Studies in the Use of DNA Evidence to Establish Innocence after Trial*, NCJ 161258 (Washington, DC: DOJ, June 1996), 20, <https://www.ncjrs.gov/pdffiles1/dnaevid.pdf>.
- <sup>157</sup> Connors et al., *Convicted by Juries, Exonerated by Science*, iv.
- <sup>158</sup> DOJ, NIJ, "Mapping and Analysis for Public Safety."
- <sup>159</sup> DOJ, NIJ, "National Commission on the Future of DNA Evidence."
- <sup>160</sup> DOJ, NIJ, "NIJ's Drugs and Crime Research."
- <sup>161</sup> DOJ, NIJ, "NIJ's Transnational Organized Crime Research Portfolio," November 2, 2011, <https://www.nij.gov/journals/268/pages/transnational-portfolio.aspx>; John T. Picarelli, "Responding to Transnational Organized Crime—Supporting Research, Improving Practice," *NIJ Journal* 268 (October 2011), <https://www.nij.gov/journals/268/pages/transnational.aspx>.
- <sup>162</sup> U.S. Secret Service and ED, *Final Report and Findings of the Safe School Initiative*.
- <sup>163</sup> Frontline, "A Chronology of the Elian González Saga," PBS.org, accessed March 31, 2020, <https://www.pbs.org/wgbh/pages/frontline/shows/elian/etc/eliancron.html>.
- <sup>164</sup> Mark Curnutte, "Being Timothy Thomas' Son," *Cincinnati Enquirer*, December 22, 2016, <https://www.cincinnati.com/story/news/2016/12/22/being-timothy-thomas-son/95286890/>; "City Estimates Riot Cost at \$1.5M–\$2M," *Cincinnati Business Courier*, April 24, 2001, <https://www.bizjournals.com/cincinnati/stories/2001/04/23/daily27.html>; Jane Predergast, "2001 Riots Led to Top-Down Change for Cincinnati Police," *USA Today*, last updated April 3, 2011, [https://usatoday30.usatoday.com/news/nation/2011-04-03-cincinnati-riots-anniversary\\_N.htm](https://usatoday30.usatoday.com/news/nation/2011-04-03-cincinnati-riots-anniversary_N.htm).
- <sup>165</sup> Michelle O'Donnell, "Bobby Frank Cherry, 74, Klansman in Bombing, Dies," *New York Times*, November 19, 2004, <https://www.nytimes.com/2004/11/19/us/bobby-frank-cherry-74-klansman-in-bombing-dies.html>; NPR, "16th Street Baptist Church Bombing," September 15, 2003, <https://www.npr.org/templates/story/story.php?storyId=1431932>.
- <sup>166</sup> 538 U.S. 11, 123 S. Ct. 1179, 155 L. Ed. 2d 108 (2003); 538 U.S. 63, 123 S. Ct. 1166, 155 L. Ed. 2d 144 (2003).
- <sup>167</sup> Michael Luo and Michael Cooper, "Lessons in Politics and Fine Print in Assault Weapons Ban of '90s," *New York Times*, December 19, 2012, <https://www.nytimes.com/2012/12/20/us/lessons-in-politics-and-fine-print-in-assault-weapons-ban-of-90s.html>.
- <sup>168</sup> Andy Samuelson, "Wichita Police: 'BTK' is Arrested," *Lawrence Journal-World* (Kansas), February 27, 2005, [https://www2.jworld.com/news/2005/feb/27/wichita\\_police\\_btk/](https://www2.jworld.com/news/2005/feb/27/wichita_police_btk/).
- <sup>169</sup> David Kocieniewski and Gary Gately, "Man Shoots 11, Killing 5 Girls, in Amish School," *New York Times*, October 3, 2006, <https://www.nytimes.com/2006/10/03/us/03amish.html>; Deb Kiner, "Remembering the West Nickel Mines Amish Schoolhouse Shooting, 2006," *Penn Live*, last updated January 29, 2019, [https://www.pennlive.com/life/2018/10/remembering\\_the\\_west\\_nickel\\_mi\\_1.html](https://www.pennlive.com/life/2018/10/remembering_the_west_nickel_mi_1.html).
- <sup>170</sup> Associated Press, "Today in History," *San Diego Union-Tribune*, January 11, 2012, <https://www.sandiegouniontribune.com/sdut-today-in-history-2012jan11-story.html>; Associated Press, "Kidnapper Pleads Guilty to Dozens of Charges," *NBCnews.com*, last updated October 9, 2007, [http://www.nbcnews.com/id/21206715/ns/us\\_news-crime\\_and\\_courts/t/kidnapper-pleads-guilty-dozens-charges/](http://www.nbcnews.com/id/21206715/ns/us_news-crime_and_courts/t/kidnapper-pleads-guilty-dozens-charges/).

- <sup>171</sup> U.S. Department of Health and Human Services, National Institute on Drug Abuse, "United States Ranks First in Lifetime Use of Three Drugs," November 1, 2009, <https://archives.drugabuse.gov/news-events/nida-notes/2009/11/united-states-ranks-first-in-lifetime-use-three-drugs>; Louisa Degenhardt et al., "Toward a Global View of Alcohol, Tobacco, Cannabis, and Cocaine Use: Findings from the WHO World Mental Health Surveys," *PLoS Med* 5, no. 7 (2008): e141, doi: 10.1371/journal.pmed.0050141.
- <sup>172</sup> Charlie Savage, "Sotomayor Sworn In as Supreme Court Justice," *New York Times*, August 8, 2009, <https://www.nytimes.com/2009/08/09/us/politics/09sotomayor.html>.
- <sup>173</sup> Patricia Tjaden and Nancy Thoennes, *Full Report of the Prevalence, Incidence, and Consequences of Violence Against Women: Findings from the National Violence Against Women Survey*, NCJ 183781 (Washington, DC: DOJ, November 2000), iv, <https://www.ncjrs.gov/pdffiles1/nij/183781.pdf>.
- <sup>174</sup> DOJ, NIJ, "Intimate Partner Violence."
- <sup>175</sup> Rianna Starheim, "Employing Research to Understand Violence Against Women," *NIJ Journal* 281 (posted May 2019), <https://nij.gov/journals/281/Pages/employing-research-to-understand-violence-against-women.aspx>.
- <sup>176</sup> Tjaden and Thoennes, *Full Report of the Prevalence, Incidence, and Consequences of Violence Against Women*.
- <sup>177</sup> Patricia Tjaden and Nancy Thoennes, *Extent, Nature, and Consequences of Intimate Partner Violence: Findings from the National Violence Against Women Survey*, NCJ 181867 (Washington, DC: DOJ, July 2000), iii, <https://www.ncjrs.gov/pdffiles1/nij/181867.pdf>; Tjaden and Thoennes, *Full Report of the Prevalence, Incidence, and Consequences of Violence Against Women*, iv.
- <sup>178</sup> Eleanor Lyon, Shannon Lane, and Anne Menard, "Meeting Survivors' Needs: A Multi-State Study of Domestic Violence Shelter Experiences," October 2008, <https://www.ncjrs.gov/pdffiles1/nij/grants/225025.pdf>.
- <sup>179</sup> DOJ, NIJ, "Domestic Violence Shelters Meet Survivor's Needs," October 5, 2009, <https://www.nij.gov/topics/crime/intimate-partner-violence/pages/shelters.aspx>.
- <sup>180</sup> National Council of Juvenile and Family Court Judges, "Effective Intervention in Domestic Violence and Child Maltreatment Cases: Guidelines for Policy and Practice," accessed March 31, 2020, <https://www.ncjfcj.org/publications/effective-intervention-in-domestic-violence-child-maltreatment-cases-guidelines-for-policy-and-practice/>.
- <sup>181</sup> National Council of Juvenile and Family Court Judges, Resource Center on Domestic Violence: Child Protection and Custody, "Greenbook Initiative," accessed April 20, 2020, <http://web.archive.org/web/20180609073148/https://www.rcdvpc.org/the-greenbook-initiative.html>.
- <sup>182</sup> DOJ, NIJ, "Evaluating a Program to Reduce Child Maltreatment and Intimate Partner Violence," March 10, 2011, <https://www.nij.gov/topics/crime/children-exposed-to-violence/Pages/evaluating-a-program-to-reduce-child-maltreatment-and-intimate-partner-violence.aspx>.
- <sup>183</sup> DOJ, NIJ, "Arrests Can Be an Effective Intervention for Intimate Partner (Domestic) Violence," May 17, 2009, <https://www.nij.gov/topics/crime/intimate-partner-violence/interventions/pages/arrests.aspx>.
- <sup>184</sup> DOJ, NIJ, "Court Interventions May Not Be Effective in Preventing Future Intimate Partner (Domestic) Violence," May 18, 2009, <https://www.nij.gov/topics/crime/intimate-partner-violence/interventions/Pages/court-interventions.aspx>.
- <sup>185</sup> DOJ, NIJ, "The Criminal Justice System Response to Intimate Partner Violence Victims: Developing a Research Agenda" (conference proceedings, Baltimore, Maryland, March 7–8, 2016), 4, <https://www.ncjrs.gov/pdffiles1/nij/249907.pdf>.
- <sup>186</sup> DOJ, NIJ, *Compendium of Research on Violence Against Women: 1993–2016*, NCJ 223572, last updated December 2016, <https://www.ncjrs.gov/pdffiles1/nij/223572/223572.pdf>.
- <sup>187</sup> Nancy Ritter, "Missing Persons and Unidentified Remains: The Nation's Silent Mass Disaster," *NIJ Journal* 256 (January 2007), <https://www.nij.gov/journals/256/pages/missing-persons.aspx>.
- <sup>188</sup> Beth Pearsall and Danielle Weiss, "Solving Missing Persons Cases," *NIJ Journal* 264 (November 2009), <https://www.nij.gov/journals/264/Pages/solving.aspx>.
- <sup>189</sup> Pearsall and Weiss, "Solving Missing Persons Cases."
- <sup>190</sup> Pearsall and Weiss, "Solving Missing Persons Cases."
- <sup>191</sup> NamUs (National Missing and Unidentified Persons System), "History of NamUs," accessed March 31, 2020, <https://www.namus.gov/About>.
- <sup>192</sup> Maggie Fazeli Fard, "Charles Heurich, Former Science 'Nerd' Recognized for Contributions to Forensics," *Washington Post*, August 24, 2011, [https://www.washingtonpost.com/local/charles-heurich-former-science-nerd-recognized-for-contributions-to-forensics/2011/08/10/gIQAZ2CNCJ\\_story.html](https://www.washingtonpost.com/local/charles-heurich-former-science-nerd-recognized-for-contributions-to-forensics/2011/08/10/gIQAZ2CNCJ_story.html).
- <sup>193</sup> Danielle Weiss et al., "Lost but Not Forgotten: Finding the Nation's Missing," *NIJ Journal* 279 (November 2017), <https://www.nij.gov/journals/279/Pages/lost-but-not-forgotten.aspx>.
- <sup>194</sup> NLECTC, "NamUs Helps Identify the Missing," *TechBeat* (Spring 2010), 1, <https://www.ncjrs.gov/pdffiles1/nij/nlectc/231047.pdf>.
- <sup>195</sup> NamUs, "History of NamUs."
- <sup>196</sup> NamUs, "History of NamUs"; B. J. Spamer and Danielle Weiss, "NamUs 2.0 Works to Resolve Cold Cases," *Evidence Technology* (Winter 2018), [http://www.evidencemagazine.com/index.php?option=com\\_content&task=view&id=2786&Itemid=49](http://www.evidencemagazine.com/index.php?option=com_content&task=view&id=2786&Itemid=49).
- <sup>197</sup> NamUs, Home Page, accessed April 22, 2020, <https://www.namus.gov/>.
- <sup>198</sup> Human Rights Watch, *Testing Justice: The Rape Kit Backlog in Los Angeles City and County*, March 31, 2009, <https://www.hrw.org/report/2009/03/31/testing-justice/rape-kit-backlog-los-angeles-city-and-county>.
- <sup>199</sup> Christopher Johnston, "Why Victims' Advocates are Calling This 'The Golden Age of Sexual Assault Reform,'" *Salon*, April 28, 2018, <https://www.salon.com/2018/04/28/why-victims-advocates-are-calling-this-the-golden-age-of-sexual-assault-reform/>.



- 200 Johnston, "Why Victims' Advocates"; Joseph Peterson et al., "Sexual Assault Kit Backlog Study," June 2012, <https://www.ncjrs.gov/pdffiles1/nij/grants/238500.pdf>.
- 201 Violence Against Women Reauthorization Act of 2013, Pub. L. No. 113-4, Title X, 127 Stat. 54, 127-34 (2013).
- 202 DOJ, NIJ, *National Best Practices for Sexual Assault Kits: A Multidisciplinary Approach*, NCJ 250384 (Washington, DC: DOJ, August 2017), <https://www.ncjrs.gov/pdffiles1/nij/250384.pdf>.
- 203 Nancy Ritter, *Down the Road: Testing Evidence in Sexual Assaults*, NCJ 249805 (Washington, DC: DOJ, June 2016), 12, <https://www.ncjrs.gov/pdffiles1/nij/249805.pdf>; DOJ, NIJ, "NIJ-FBI Sexual Assault Kit Partnership—A Research Initiative for Unsubmitted Sexual Assault Kits," last modified January 1, 2016, <https://www.nij.gov/topics/law-enforcement/investigations/sexual-assault/Pages/nij-fbi-sak-initiative.aspx>.
- 204 DOJ, NIJ, *National Best Practices for Sexual Assault Kits*, 3.
- 205 DOJ, NIJ, *National Best Practices for Sexual Assault Kits*, 1.
- 206 Feucht, interview with FRD, June 18, 2018.
- 207 DOJ, NIJ, *Selection and Application Guide to Personal Body Armor*, 6.
- 208 NLECTC, "From Description to Prediction," 2.
- 209 DOJ, NIJ, *Using DNA to Solve Cold Cases*, NCJ 194197 (Washington, DC: DOJ, July 2002), <https://www.ncjrs.gov/pdffiles1/nij/194197.pdf>.
- 210 Thompkins, "Body Armor Safety Initiative."
- 211 U.S. Secret Service and ED, *Final Report and Findings of the Safe School Initiative*, iii.
- 212 President's DNA Initiative, *Lessons Learned from 9/11*.
- 213 Kevin J. Strom et al., "2007 Survey of Law Enforcement Forensic Evidence Processing: Final Report," October 2009, vii, <https://www.ncjrs.gov/pdffiles1/nij/grants/228415.pdf>.
- 214 DOJ, NIJ, "Harvard Executive Session on Policing and Public Safety."
- 215 National Police Foundation, "Compstat and Organizational Change: A National Assessment," accessed March 31, 2020, <https://www.policefoundation.org/projects/compstat-and-organizational-change-a-national-assessment/>.
- 216 James J. Willis, Stephen D. Mastrofski, and David Weisburd, *Compstat in Practice: An In-Depth Analysis of Three Cities* (Washington, DC: National Police Foundation, 2003), 4, <https://www.policefoundation.org/publication/compstat-in-practice-an-in-depth-analysis-of-three-cities/>.
- 217 DOJ, NIJ, "Postconviction Testing of DNA Evidence Grant Program," last modified October 23, 2019, <https://www.nij.gov/topics/justice-system/wrongful-convictions/Pages/postconviction-dna-funding-program.aspx>; Gerald LaPorte, "Wrongful Convictions and DNA Exonerations: Understanding the Role of Forensic Science," *NIJ Journal* 279 (April 2018), <https://www.nij.gov/journals/279/Pages/wrongful-convictions-and-dna-exonerations.aspx>.
- 218 CrimeSolutions.gov, "Program Profile: Police Foot Patrol—Philadelphia 2009," April 18, 2012, <https://www.crimesolutions.gov/ProgramDetails.aspx?ID=234>.
- 219 DOJ, NIJ, "Effects of Human Factors on the Accuracy of Fingerprint Analysis."
- 220 NRC, Committee on Identifying the Needs of the Forensic Science Community, *Strengthening Forensic Science*.
- 221 David Gewirtz, "Technology That Changed Us: The 2010s, from Amazon Echo to Pokémon Go," *ZDNet*, June 28, 2019, <https://www.zdnet.com/article/technology-that-changed-us-the-2010s/>.
- 222 Kim Zetter, "An Unprecedented Look at Stuxnet, the World's First Digital Weapon," *Wired* (November 3, 2011), <https://www.wired.com/2014/11/countdown-to-zero-day-stuxnet/>; Michael B. Kelley, "The Stuxnet Attack on Iran's Nuclear Plant was 'Far More Dangerous' than Previously Thought," *Business Insider*, November 20, 2013, <https://www.businessinsider.com/stuxnet-was-far-more-dangerous-than-previous-thought-2013-11>; David E. Sanger, "Obama Order Sped Up Wave of Cyberattacks Against Iran," *New York Times*, June 1, 2012, <https://www.nytimes.com/2012/06/01/world/middleeast/obama-ordered-wave-of-cyberattacks-against-iran.html>.
- 223 Josh Susong, "FBI Releases New Photos, Video of 2011 Giffords Shooting," *AZ Central*, April 5, 2018, <https://www.azcentral.com/story/news/local/arizona/2018/04/05/fbi-releases-new-photos-video-2011-gabby-giffords-shooting/489367002/>.
- 224 Keith Coffman and Nicole Neroulis, "Colorado, Washington First States to Legalize Recreational Pot," Reuters, November 6, 2012, <https://www.reuters.com/article/us-usa-marijuana-legalization/colorado-washington-first-states-to-legalize-recreational-pot-idUSBRE8A602D20121107>.
- 225 "Why 30,000 California Prisoners are on Hunger Strike [INFOGRAPHIC]," Amnesty International, accessed April 1, 2020, <https://www.amnestyusa.org/happening-now-california-prison-hunger-strike-highlights-need-for-reform/>; Josh Harkinson and Maggie Caldwell, "50 Days without Food: The California Prison Hunger Strike Explained," *Mother Jones* (August 27, 2013), <https://www.motherjones.com/politics/2013/08/50-days-california-prisons-hunger-strike-explainer>.
- 226 Larry Copeland and Doug Richards, "Ga. Governor Signs 'Guns Everywhere' into Law," *USA Today*, April 23, 2014, <https://www.usatoday.com/story/news/nation/2014/04/23/georgia-gun-law/8046315/>.
- 227 Lauren Gambino, "Record New York City Murder Freeze Hits 12 Days as Experts Cite Extreme Cold," *Guardian*, February 14, 2015, <https://www.theguardian.com/us-news/2015/feb/14/record-new-york-city-freeze-hits-12-days-as-experts-cite-extreme-cold>; Charles Poladian, "No Violent Crimes Reported in New York City on Monday, First Time in Recent Memory," *International Business Times*, November 28, 2012, <https://www.ibtimes.com/no-violent-crimes-reported-new-york-city-monday-first-time-recent-memory-906830>.
- 228 F. Brinley Bruton et al., "Dallas Police 'Ambush': 12 Officers Shot, 5 Killed during Protest," *NBCnews.com*, July 7, 2016, <https://www.nbcnews.com/news/us-news/protests-spawn-cities-across-u-s-over-police-shootings-black-n605686>; Ed Lavandra, "How the Dallas Massacre Unfolded," *CNN.com*, last updated July 20, 2016, <https://www.cnn.com/2016/07/20/us/dallas-shooter-micah-johnson-movements/>.

- 229 Khushbu Shah et al., "Dylann Roof Jury: Death Penalty for Charleston Church Shooter," CNN.com, last updated January 10, 2017, <https://www.cnn.com/2017/01/10/us/dylann-roof-trial/index.html>; Caitlin Byrd, "Dylann Roof is Now on Federal Death Row in Indiana," *Post and Courier* (Charleston, SC), April 22, 2017, [https://www.postandcourier.com/church-shooting/dylann-roof-is-now-on-federal-death-row-in-indiana/article\\_35026d62-276b-11e7-aead-af537dabe8fe.html](https://www.postandcourier.com/church-shooting/dylann-roof-is-now-on-federal-death-row-in-indiana/article_35026d62-276b-11e7-aead-af537dabe8fe.html).
- 230 Megan Molteni, "What the Golden State Killer Tells Us about Forensic Genetics," *Wired* (April 24, 2019), <https://www.wired.com/story/the-meteoric-rise-of-family-tree-forensics-to-fight-crimes/>; Heather Murphy, "Sooner or Later Your Cousin's DNA is Going to Solve a Murder," *New York Times*, April 25, 2019, <https://www.nytimes.com/2019/04/25/us/golden-state-killer-dna.html>; Matthias Gafni, "A Year After Golden State Killer Arrest, Genealogy Pro Keeps Solving Crimes," *San Francisco Chronicle*, April 19, 2019, <https://www.sfchronicle.com/bayarea/article/A-year-after-Golden-State-Killer-arrest-13779124.php>.
- 231 "El Chapo Trial: Mexican Drug Lord Joaquín Guzmán Found Guilty," BBCnews.com, February 12, 2019, <https://www.bbc.com/news/world-us-canada-47218887>.
- 232 Sentencing Project, "Criminal Justice Facts," accessed April 1, 2020, <https://www.sentencingproject.org/criminal-justice-facts/>; U.S. Department of Labor, Bureau of Labor Statistics, "Correctional Officers and Bailiffs," in *Occupational Outlook Handbook*, last modified December 4, 2019, <https://www.bls.gov/ooh/protective-service/correctional-officers.htm>.
- 233 DOJ, NIJ, "Executive Session on Community Corrections," last modified September 27, 2017, <https://www.nij.gov/topics/corrections/community/Pages/executive-session.aspx>.
- 234 DOJ, NIJ, "Executive Session on Community Corrections."
- 235 DOJ, NIJ, "Contraband Control and Detection," accessed April 1, 2020, <https://www.nij.gov/topics/corrections/institutional/contraband/pages/welcome.aspx>.
- 236 DOJ, NIJ, "Contraband Control and Detection"; DOJ, NIJ, "Cell Phones in Prison," February 8, 2011, <https://www.nij.gov/topics/corrections/institutional/contraband/Pages/cell-phones.aspx>.
- 237 DOJ, NIJ, "Contraband Detection Devices, What the Market Has to Offer," July 12, 2017, <https://www.nij.gov/topics/corrections/institutional/contraband/Pages/contraband-detection-devices-what-market-has-to-offer.aspx>.
- 238 DOJ, NIJ, "Cell Phones in Prison."
- 239 DOJ, NIJ, "Managed Access Systems Can Prevent Contraband Cellphone Use," July 11, 2017, <https://www.nij.gov/topics/corrections/institutional/contraband/Pages/cellphone-managed-access-systems.aspx>.
- 240 DOJ, NIJ, "Restrictive Housing," last modified November 14, 2016, <https://www.nij.gov/topics/corrections/institutional/Pages/restrictive-housing.aspx>; Maureen O'Keefe, "Reflections on Colorado's Administrative Segregation Study," *NIJ Journal* 278 (May 2017), <https://www.nij.gov/journals/278/Pages/reflections-on-colorado-administrative-segregation-study.aspx>.
- 241 O'Keefe, "Reflections on Colorado's Administrative Segregation Study."
- 242 DOJ, NIJ, *Restrictive Housing in the U.S.: Issues, Challenges, and Future Directions*, NCJ 250315 (Washington, DC: DOJ, November 2016), iv, <https://www.ncjrs.gov/pdffiles1/nij/250315.pdf>.
- 243 DOJ, NIJ, "Restrictive Housing."
- 244 DOJ, NIJ, *Restrictive Housing in the U.S.*
- 245 DOJ, NIJ, "Restrictive Housing."
- 246 DOJ, NIJ, *Corrections Strategic Research Plan 2018–2023*, NCJ 251919 (Washington, DC: DOJ, October 2018), v, <https://www.ncjrs.gov/pdffiles1/nij/251919.pdf>.
- 247 DOJ, NIJ, *Safety, Health, and Wellness Strategic Research Plan 2016–2021*, NCJ 250153 (Washington, DC: DOJ, August 2016), <https://www.ncjrs.gov/pdffiles1/nij/250153.pdf>; DOJ, NIJ, "Officer Performance and Safety," accessed April 1, 2020, <https://www.nij.gov/topics/law-enforcement/officer-safety/Pages/welcome.aspx>.
- 248 Beth Pearsall, "Sleep Disorders, Work Shifts and Officer Wellness," *NIJ Journal* 270 (June 2012), <https://www.nij.gov/journals/270/pages/officer-wellness.aspx>.
- 249 Jim Dawson, "Fighting Stress in the Law Enforcement Community," *NIJ Journal* 281 (posted April 2019), <https://www.nij.gov/journals/281/Pages/fighting-stress-in-the-law-enforcement-community.aspx>.
- 250 DOJ, NIJ, "10-Hour Shifts Offer Cost Savings and Other Benefits to Law Enforcement Agencies," January 23, 2012, <https://www.nij.gov/topics/law-enforcement/officer-safety/stress-fatigue/Pages/shift-work.aspx>.
- 251 DOJ, NIJ, "Risky Business," *Corrections Today* (March/April 2018), <https://www.ncjrs.gov/pdffiles1/nij/251603.pdf>.
- 252 Frank Valentino Ferdik and Hayden P. Smith, *Correctional Officer Safety and Wellness Literature Synthesis*, NCJ 250484 (Washington, DC: DOJ, July 2017), 2, <https://www.ncjrs.gov/pdffiles1/nij/250484.pdf>.
- 253 DOJ, NIJ, "Correctional Officer Safety and Wellness—What We Learned from the Research Literature," July 23, 2017, <https://www.nij.gov/topics/corrections/institutional/Pages/correctional-officer-safety-wellness.aspx>.
- 254 DOJ, NIJ, *Safety, Health, and Wellness Strategic Research Plan*.
- 255 DOJ, NIJ, *Safety, Health, and Wellness Strategic Research Plan*, 8.
- 256 U.S. Department of Commerce, Census Bureau, "Older People Projected to Outnumber Children for First Time in U.S. History," last revised October 8, 2019, <https://www.census.gov/newsroom/press-releases/2018/cb18-41-population-projections.html>.
- 257 Ron Acierio et al., "Prevalence and Correlates of Emotional, Physical, Sexual, and Financial Abuse and Potential Neglect in the United States: The National Elder Mistreatment Study," *American Journal of Public Health* 100, no. 2 (February 2010): 293–4, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2804623/pdf/292.pdf>.

- 258 Terry Taylor and Carrie Mulford, "Evaluating the Los Angeles County Elder Abuse Forensic Center," *NIJ Journal* 276 (December 2015), <https://www.ncjrs.gov/pdffiles1/nij/249222.pdf>.
- 259 DOJ, NIJ, "Extent of Elder Abuse Victimization," May 6, 2009, <https://www.nij.gov/topics/crime/elder-abuse/Pages/extent.aspx>.
- 260 DOJ, NIJ, "Elder Mistreatment: Using Theory in Research" (meeting summary, Washington, DC, June 2, 2014), <https://www.ncjrs.gov/pdffiles1/nij/248390.pdf>.
- 261 DOJ, NIJ, "Elder Abuse," November 5, 2007, <https://www.nij.gov/topics/crime/elder-abuse/pages/welcome.aspx>.
- 262 Nicholas Castle, "An Examination of Resident Abuse in Assisted Living Facilities," March 2013, 2, 6, <https://www.ncjrs.gov/pdffiles1/nij/grants/241611.pdf>.
- 263 Mark Lachs, Jeanne A. Teresi, and Mildred Ramirez, "Documentation of Resident to Resident Elder Mistreatment in Residential Care Facilities," March 28, 2014, <https://www.ncjrs.gov/pdffiles1/nij/grants/246429.pdf>.
- 264 Kristy Holtfreter et al., "Financial Exploitation of the Elderly in a Consumer Context," March 2014, 10–11, <https://www.ncjrs.gov/pdffiles1/nij/grants/245388.pdf>.
- 265 DOJ, NIJ, "Financial Exploitation of the Elderly," June 7, 2013, <https://www.nij.gov/topics/crime/elder-abuse/Pages/financial-exploitation.aspx>.
- 266 Kendon J. Conrad, "Elder Abuse Computerized Decision Support System," March 31, 2015, 2, <https://www.ncjrs.gov/pdffiles1/nij/grants/249185.pdf>.
- 267 DOJ, NIJ, "Addressing Elder Mistreatment," April 6, 2008, <https://www.nij.gov/topics/crime/elder-abuse/Pages/addressing.aspx>.
- 268 Catherine C. McNamee and Mary B. Murphy, "Elder Abuse in the United States," *NIJ Journal* 255 (November 2006), [https://www.nij.gov/journals/255/pages/elder\\_abuse.aspx](https://www.nij.gov/journals/255/pages/elder_abuse.aspx); DOJ, NIJ, "Identifying Elder Abuse," January 16, 2012, <https://www.nij.gov/topics/crime/elder-abuse/Pages/identifying.aspx#bettertools>.
- 269 J. K. Schneider, "Quantifying the Dermatoglyphic Growth Patterns in Children through Adolescence," July 30, 2010, <https://www.ncjrs.gov/pdffiles1/nij/grants/232746.pdf>.
- 270 Linda Truitt, "The National Institute of Justice's Role in the Strategy to Combat Heroin and Other Opioids," December 5, 2017, footnote 17, <https://www.nij.gov/topics/drugs/Pages/nij-role-in-the-strategy-to-combat-heroin-and-other-opioids.aspx>.
- 271 Brian Montgomery, "NIJ Issues a Revised Bomb Suit Equipment Standard," *NIJ Journal* 277 (May 2016), <https://www.nij.gov/journals/277/Pages/revised-bomb-suit-equipment-standard.aspx>.
- 272 DOJ, NIJ, "Latent Fingerprint Interoperability Survey."
- 273 Jim Dawson, "Solving Crimes with Soil Bacteria," September 13, 2017, <https://www.nij.gov/topics/forensics/evidence/trace/Pages/solving-crimes-with-soil-bacteria.aspx>.
- 274 DOJ, Office of Justice Programs, "Fingerprint Examiners Found to Have Very Low Error Rates"; Pacheco, Cerchiai, and Stoiloff, "Miami-Dade Research Study."
- 275 Pittsburgh Public Schools, "District Announces Plans to Advance Restorative Practices in Pittsburgh Public Schools," April 22, 2015, <https://www.pghschools.org/site/Default.aspx?PageType=3&DomainID=4&PageID=1&ViewID=047e6be3-6d87-4130-8424-d8e4e9ed6c2a&FlexDataID=9725>.
- 276 DOJ, NIJ, "NIJ–FBI Sexual Assault Kit Partnership."
- 277 Steven Otis, "Governor Cuomo Signs Otis/Savino Missing Persons Bill," December 8, 2017, <https://nyassembly.gov/mem/Steven-Otis/story/78365>.
- 278 Vivian Hung, Steven Babin, and Jacqueline Coberly, "Market Survey on Body Worn Camera Technologies," November 2016, <https://www.ncjrs.gov/pdffiles1/nij/grants/250381.pdf>.
- 279 DOJ, NIJ, *The Comprehensive School Safety Initiative: Awards Made in Fiscal Year 2016*, NCJ 252074, January 2017, <https://www.ncjrs.gov/pdffiles1/nij/252074.pdf>.
- 280 Muhlhausen, "Director's Corner: CrimeSolutions.gov Has Rated 500 Programs and Counting."
- 281 NamUs, "History of NamUs"; NamUs, "Frequently Asked Questions: What is the FBI/NamUs Fingerprint Collaboration?," accessed August 31, 2020, <https://www.namusinfo.org/faq>.
- 282 DOJ, NIJ, *National Best Practices for Sexual Assault Kits*.
- 283 NamUs, "History of NamUs."
- 284 DOJ, NIJ, "Artificial Intelligence Technology Applied Research and Development for Law Enforcement Applications," accessed April 1, 2020, <https://www.nij.gov/funding/Documents/solicitations/NIJ-2018-14000.pdf>.
- 285 Barry Bratburd (director, Office of Communications, NIJ, DOJ), email message to FRD, April 15, 2019.
- 286 DOJ, NIJ, *Policing Strategic Research Plan, 2017–2022*, NCJ 250915 (Washington, DC: DOJ, July 2017), <https://www.ncjrs.gov/pdffiles1/nij/250915.pdf>; DOJ, NIJ, "Award Solicitations Related to: Fiscal Year 2018," accessed April 1, 2020, DOJ, NIJ, "Expired Funding Opportunities," accessed August 30, 2020, <https://nij.ojp.gov/funding/expired>; DOJ, NIJ, "Awards Listing."
- 287 DOJ, NIJ, "Award Solicitations Related to: Fiscal Year 2018"; DOJ, NIJ, "Awards Listing."



# REFERENCES: PULL-OUTS AND SIDEBARS

p. 4: Quote

—President's Commission on Law Enforcement and Administration of Justice, *The Challenge of Crime in a Free Society* (Washington, DC: U.S. Government Printing Office, February 1967), 273, <https://www.ncjrs.gov/pdffiles1/nij/42.pdf>.

p. 7: "Did You Know"

—DOJ, NIJ, *25 Years of Criminal Justice Research*, NCJ 151287 (Washington, DC: DOJ, December 1994), 46, <https://www.ncjrs.gov/pdffiles1/nij/151287.pdf>.

p. 9: "Proactive Policing Strategies"

—Predictive Policing: DOJ, NIJ, "Predictive Policing," last modified June 9, 2014, <https://www.nij.gov/topics/law-enforcement/strategies/predictive-policing/pages/welcome.aspx>.

—Hot-Spot Policing: DOJ, NIJ, "Practice Profile: Hot Spots Policing," accessed March 31, 2020, <https://crimesolutions.ojp.gov/practice/details?ID=8&outcome=104>.

—Problem-Oriented Policing: DOJ, NIJ, "Practice Profile: Problem-Oriented Policing," accessed March 31, 2020, <https://www.crimesolutions.gov/PracticeDetails.aspx?ID=32>.

—Community-Based Policing: DOJ, Office of Community Oriented Policing Services, *Community Policing Defined*, e030917193 (Washington, DC: DOJ, n.d.) 3, 5, accessed March 31, 2020, <https://cops.usdoj.gov/pdf/vets-to-cops/e030917193-CP-Defined.pdf>.

p. 13: Definition

—DOJ, NIJ, "Mapping and Analysis for Public Safety," last modified March 26, 2018, <https://www.nij.gov/topics/technology/maps/pages/welcome.aspx>.

p. 15: "Did You Know"

—Jennifer L. Doleac, "The Effects of DNA Databases on Crime" (working paper, August 2016), 26, [https://justicetechlab.github.io/jdoleac-website/research/Doleac\\_DNA\\_databases.pdf](https://justicetechlab.github.io/jdoleac-website/research/Doleac_DNA_databases.pdf).

p. 23: "Did You Know"

—DOJ, FBI, "November 2019 Next Generation Identification (NGI) System Fact Sheet," accessed April 17, 2020, <https://www.fbi.gov/file-repository/ngi-monthly-fact-sheet/view>.

p. 25: Research

—DOJ, NIJ, "School Safety: By the Numbers," November 2017, 2, <https://www.ncjrs.gov/pdffiles1/nij/251173.pdf>.

p. 30: "Household Economics and Intimate Partner Violence"

—Between 2000 and 2005: DOJ, NIJ, "Economic Distress and Intimate Partner Violence," January 4, 2009, <https://nij.ojp.gov/topics/articles/economic-distress-and-intimate-partner-violence>.

—Economic Distress: Michael L. Benson and Greer L. Fox, *Economic Distress, Community Context, and Intimate Violence: An Application and Extension of Social Disorganization Theory; Final Report*, NCJ 193434 (Washington, DC: DOJ, 2001), <https://www.ncjrs.gov/pdffiles1/nij/grants/193434.pdf>.

—Violence Against Women: Sandra Naylor Goodwin, Daniel Chandler, and Joan Meisel, *Violence Against Women: The Role of Welfare Reform; Final Report*, NCJ 205792 (Washington, DC: DOJ, 2003), <https://www.ncjrs.gov/pdffiles1/nij/grants/205792.pdf>.

—Concentrated Disadvantage: Michael L. Benson and Greer L. Fox, *Concentrated Disadvantage, Economic Distress, and Violence Against Women in Intimate Relationships*, NCJ 199709 (Washington, DC: DOJ, 2004), <https://www.ncjrs.gov/pdffiles1/nij/199709.pdf>.

—Impact: Stephanie Riger and Susan Staggs, *Impact of Intimate Partner Violence on Women's Labor Force Participation: Final Report*, NCJ 207143 (Washington, DC: DOJ, 2004), <https://www.ncjrs.gov/pdffiles1/nij/grants/207143.pdf>.

—When Violence Hits Home: Michael L. Benson and Greer L. Fox, *Research in Brief: When Violence Hits Home; How Economics and Neighborhood Play a Role*, NCJ 205004 (Washington, DC: DOJ, 2004), <https://www.ncjrs.gov/pdffiles1/nij/205004.pdf>.

—The Studies Showed: DOJ, NIJ, "Economic Distress and Intimate Partner Violence."

p. 32: "About NamUs"

—NamUs: Danielle Weiss et al., "Lost but Not Forgotten: Finding the Nation's Missing," *NIJ Journal* 279 (November 2017), <https://www.nij.gov/journals/279/Pages/lost-but-not-forgotten.aspx>.

—Bullets: NamUs, "Our Core Services; History of NamUs," accessed March 31, 2020, <https://www.namus.gov/About>.

—In Addition: NamUs, Home Page, accessed March 31, 2020, <https://www.namus.gov/>.

—Housed: DOJ, NIJ, "About NIJ's Office of Investigative and Forensic Sciences," September 3, 2010, <https://nij.ojp.gov/about-nij/about-nijs-office-investigative-and-forensic-sciences>; NamUs, Home Page.

p. 34: Definition

—Sexual Assault Kit: DOJ, NIJ, *Sexual Assault Kits: Using Science to Find Solutions* (Washington, DC: DOJ, 2015), 4, <https://nij.ojp.gov/sites/g/files/xyckuh171/files/media/document/unsubmitted-kits.pdf>.

—CODIS: FBI, "Frequently Asked Questions on CODIS and NDIS: What is CODIS?," accessed March 31, 2020, <https://www.fbi.gov/services/laboratory/biometric-analysis/codis/codis-and-ndis-fact-sheet>.

p. 40: Definitions

—Community Corrections: DOJ, NIJ, "Community Corrections," accessed April 1, 2020, <https://www.nij.gov/topics/corrections/community/Pages/welcome.aspx>.

—Institutional Corrections: DOJ, NIJ, "Institutional Corrections," accessed April 1, 2020, <https://www.nij.gov/topics/corrections/institutional/Pages/welcome.aspx>.

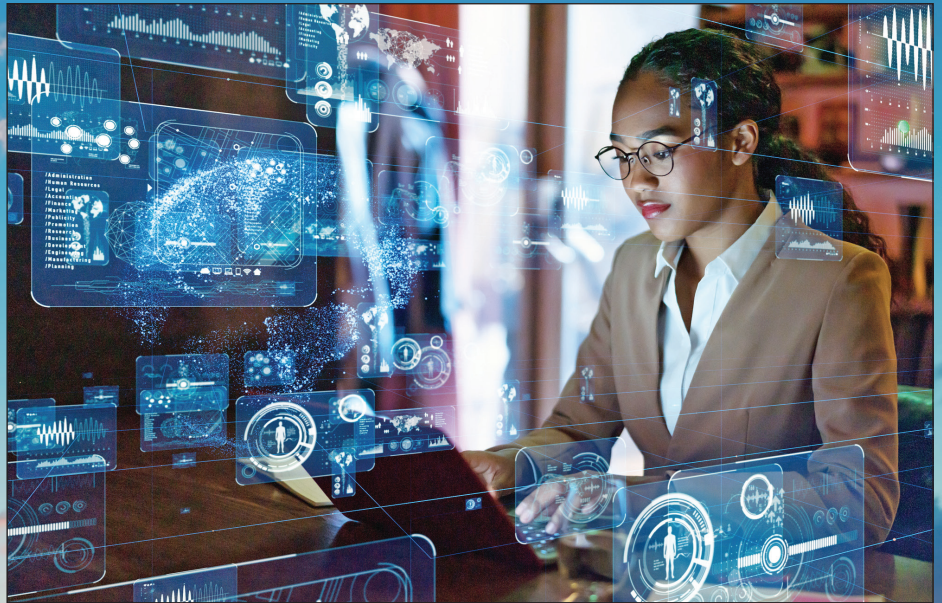
p. 42: Research

—DOJ, NIJ, "Impact of Sleep Deprivation on Police Performance," January 5, 2009, <https://www.nij.gov/topics/law-enforcement/officer-safety/stress-fatigue/Pages/impact.aspx>.

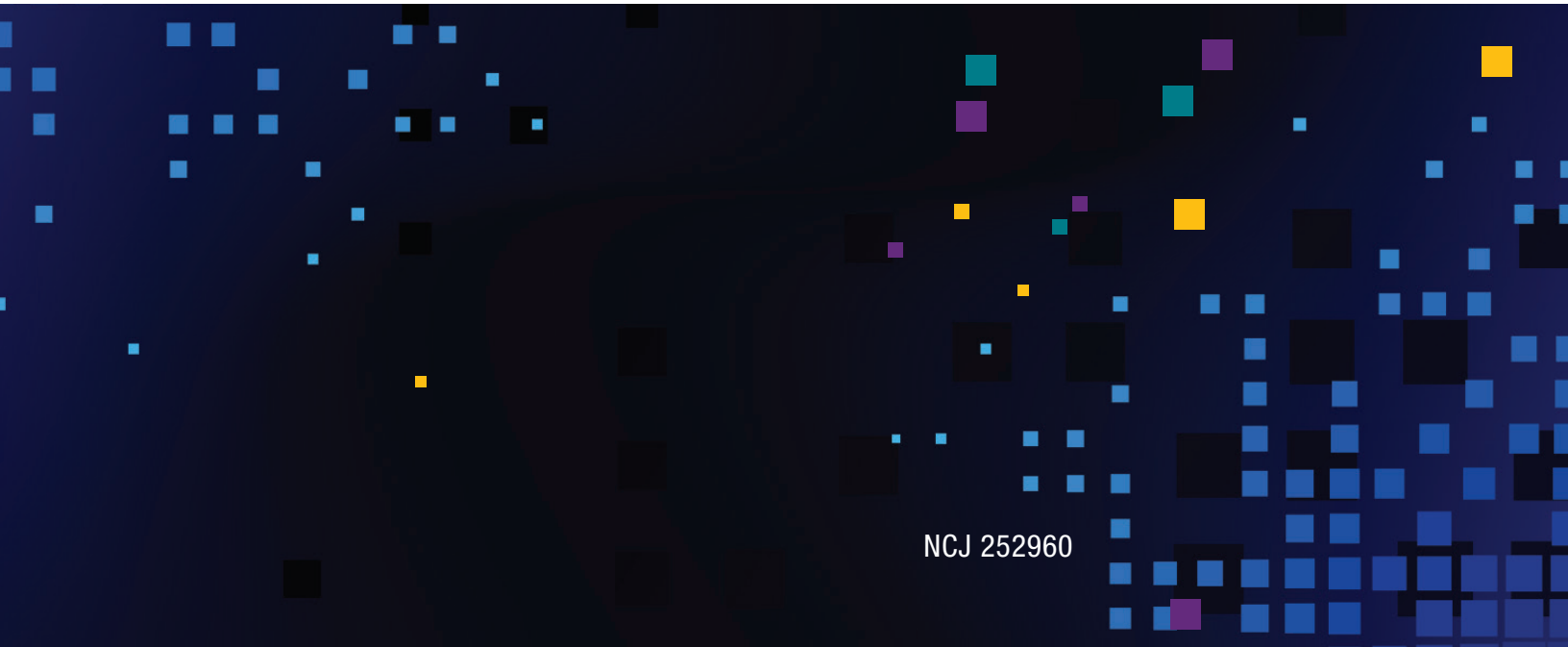
p. 43: "Roadside Safety Research"

- Two Decades; Retro-Reflective; Magnesium Flares: DOJ, NIJ, "Police Roadside Safety: Tools to Increase Visibility," June 27, 2010, <https://nij.ojp.gov/topics/articles/police-roadside-safety-tools-increase-visibility>.
- Visibility: Bill Chappell, "More Police Officers Died from Gunfire than Traffic Incidents in 2018, Report Says," NPR.org, December 27, 2018, <https://www.npr.org/2018/12/27/680410169/more-police-officers-died-from-gunfire-than-traffic-incidents-in-2018-report-say>.
- Blue Lights: Beth Pearsall, "Keeping Officers Safe on the Road," *NIJ Journal* 265 (April 2010), <https://www.ncjrs.gov/pdffiles1/nij/229885.pdf>.









NCJ 252960