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The National Institute of Justice 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.

Opinions or conclusions expressed in this paper are those of the authors and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

## To the President, the Attorney General, and the Congress:

It is my honor to transmit the National Institute of Justice's annual report on research, development, and evaluation for fiscal year 2017, pursuant to Title 1 of the Omnibus Crime Control and Safe Streets Act of 1968 and Title II of the Homeland Security Act of 2002.

Respectfully submitted,

A handwritten signature in dark ink, reading "David B. Muhlhausen", followed by a long horizontal flourish.

David B. Muhlhausen, Ph.D.  
Director, National Institute of Justice



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# Law Enforcement

## New Research to Support Officers

Law enforcement officers have difficult jobs, and a priority of NIJ's research agenda is to understand the types of pressure these officers face in order to better support them. In 2017, NIJ expanded the breadth of research supporting officers by initiating two new areas of research: (1) officer safety, health, and wellness and (2) officer decision-making.

The first new research area focuses on the causes and effects of stress and trauma on law enforcement and corrections officers, in alignment with the strategic priorities of NIJ's *Safety, Health, and Wellness Strategic Research Plan 2016-2021*. (Learn more about the plan in Highlights of Dissemination on page 25.) In particular, NIJ sought to fund research using behavioral, psychological, and physiological measures related to officers' mental and physical health, tracing the effects of both acute and chronic stress. The goal of this program is to translate the scientific insights of current physiology and neuroscience into evidence-based recommendations for criminal justice.

NIJ made six research awards in the area of stress and trauma in 2017, for a total of \$4,202,824. Three awards were for research on correctional officers and three were for research on law enforcement officers. These awards include evaluating methods of reducing stress among police and correctional officers, understanding the impact of post-traumatic stress on police officer decision-making, identifying correctional officers who have high levels of stress, examining the impact of critical incidents in correctional facilities on correctional officers' health and well-being, and understanding how the particular characteristics of the neighborhoods that police officers patrol might affect their levels of stress.

The second new area of research is officer decision-making. The ability to make sound decisions is an officer's most important attribute, and the decisions that officers make are crucial to creating trust with citizens and upholding police legitimacy. In 2017, as part of its decades-long research program on police use of force, NIJ focused on funding projects that examine how factors such as personality traits, environment, and training affect an officer's decision to use force. A greater understanding of this decision-making process will enhance the outcomes of police-citizen interactions, particularly in stressful situations.

NIJ made three research awards in the area of supporting officer decision-making in 2017, for a total of \$2,096,780. The awards included examining the utility of virtual reality technology for police training, comparing the value of simulation- and classroom-based training from a behavioral standpoint, and understanding how personality influences decisions made in stressful situations.

## Understanding the Impacts of Policing Strategies and Practices

Evaluations of policing strategies have traditionally relied on crime reduction as the key indicator of an effective strategy. However, another factor to be considered is whether the policing strategies and practices that reduce crime might also generate negative collateral consequences, particularly for communities. Community support is vital to reducing crime in the long term.

NIJ has initiated a new approach to understanding the impacts of policing strategies. This approach addresses both the effectiveness of these strategies for near-term crime reduction along with their collateral effects on community engagement and perceptions of fairness. Understanding the broad spectrum of collateral consequences that policing strategies can have on individuals, neighborhoods, communities, and police organizations will allow law enforcement practitioners to make better-informed decisions when evaluating existing practices or considering new ones.

NIJ made five research awards in this area in 2017, for a total of \$4,405,388. The awards included examining the impacts of different variations of hot spot policing strategies, examining a proactive policing strategy to keep juveniles from committing crimes, exploring officer and citizen perceptions of body-worn cameras and their potential impacts on community health, and evaluating a new approach to dealing with residential burglary.

## Guiding Policing Research for the Next Five Years

Effective policing services depend on officers' interpersonal and technical skills, particularly the skills needed to engage effectively with communities while ensuring officer safety and readiness. Support from the community, the local government, and other agencies underpins police efforts to sustain public safety. In addition, effective policing services require resources and strategies to support officers and their activities.

NIJ developed the *Policing Strategic Research Plan 2017-2022* to guide its current and projected efforts to advance policing practices in the United States. The plan focuses on three fundamental elements that support policing services — the workforce, the organization, and citizens and their communities — and lays out three strategic research priorities: workforce development for officers and civilian personnel, policing practices, and the relationship between policing and communities.

The plan unites the interests of researchers, lawmakers, and justice practitioners. NIJ envisions both interdisciplinary collaboration and partnerships between researchers and the practitioner community as an integral feature of the research promoted by this agenda.

## Law Enforcement Advancing Data and Science (LEADS) Scholars Program

NIJ and the International Association of Chiefs of Police (IACP) launched the Law Enforcement Advancing Data and Science (LEADS) Scholars program in 2014 to support the professional development of research-minded law enforcement officers. Under LEADS, NIJ awards merit-based scholarships to sworn, mid-rank officers who have either partnered on a research project or infused research into policy development within their agency.

Through LEADS, NIJ is helping to develop the next generation of law enforcement leaders. In 2017, NIJ continued to support and expand the LEADS Scholars program. NIJ provided funding for 30 officers to attend the IACP Annual Conference, George Mason University Center for Evidence-Based Crime Policy Annual Conference, and NIJ Summer Symposium. NIJ also supported these officers by building a community of practice and integrating the officers into expert working groups and peer reviews, offering opportunities to publish materials, and supporting site visits to ongoing research projects.

In 2017, NIJ also added two experienced criminologists to LEADS, tasking them to build a LEADS Agencies program to complement the Scholars program. The LEADS Agencies program will provide law enforcement agencies with technical assistance to build in-house research capacity, improve data collection, and develop a system for integrating research results into policies and procedures. The objective of this program is to empower policing practitioners to answer their agencies' basic research questions and generate solutions uniquely tailored to their own agencies' needs. While NIJ has traditionally advanced science-based criminal justice practice by supporting researchers who are responsive to the needs of the field, the LEADS Agencies program seeks to develop practitioners who are capable of simultaneously advancing science and the police profession.

## National Law Enforcement and Corrections Technology Centers

The National Law Enforcement and Corrections Technology Centers (NLECTC) system is the conduit for sharing technology information between researchers and criminal justice professionals in the field. The NLECTC system, which is an NIJ program, works with criminal justice professionals to identify urgent and emerging technology needs and provides technology-related information to criminal justice agencies across the United States to facilitate the adoption of technology into practice. Created in 1994, the NLECTC system allows NIJ to help federal, state, local, and tribal law enforcement, corrections, and other criminal justice agencies address their technology needs and challenges.

Among other activities in 2017, NLECTC continued to host the Justice Technology Information Network (JUSTNET), including PoliceArmor.org, a central repository of information on body armor for criminal justice practitioners. NLECTC also continued to publish *TechBeat* — a monthly journal that reports on technology developments in law enforcement, corrections, and forensic science — and the Just Science Podcast, a resource for forensic science professionals and others who are interested in learning more about advances in forensic science.

NLECTC research produced in 2017 includes:

- *Pursuit Technology Impact Assessment, Version 1.1* — assesses a commercial off-the-shelf remote vehicle tracking system.
- *A Market Survey on Body Worn Camera Technologies* — summarizes the methodology and results of a market survey of commercial body-worn cameras.
- *A Primer on Body-worn Camera Technology* — provides background context for body-worn cameras and considerations for implementing them.



# Forensic Science, Technology, and Evidence

## Graduate Research Fellowships

Under the Graduate Research Fellowship (GRF) program, NIJ supports doctoral students who conduct studies that advance the agency's scientific mission. Fellows receive up to \$50,000 in NIJ funding to support doctoral dissertations directly relevant to crime and justice. The goal of the program is to increase the pool of scholars engaged in research that addresses the challenges of crime and justice in the United States, particularly at the state and local levels. NIJ offers two tracks under the GRF program: one focused on science, technology, engineering, and mathematics (STEM) and the other focused on the social and behavioral sciences (SBS).

The Graduate Research Fellowship Program in Science, Technology, Engineering and Mathematics (GRF-STEM) is designed to increase the pool of researchers who are involved in providing STEM-based solutions to problems that affect criminal justice policy and practice in the United States. In addition to supporting fellows' dissertation research and writing, GRF-STEM also encourages fellows to produce materials that communicate their research to both scholarly and informal audiences. These materials include peer-reviewed scientific journal articles, conference presentations, chapters or books in the academic press, technological prototypes, patented inventions, websites, and online tools.

In FY 2017, NIJ made 59 new and supplemental awards under GRF-STEM; more than half of the awards support proposals submitted by female doctoral candidates. FY 2017 applications ranged from electrical and computer engineering and applied mathematics to human genetics and analytical chemistry.

The Graduate Research Fellowship Program in the Social and Behavioral Sciences (GRF-SBS) supports doctoral students in all social and behavioral science disciplines who are conducting research on crime, violence, and other criminal justice-related topics. NIJ made four awards to academic institutions that supported doctoral students under GRF-SBS in 2017, for a total of \$127,749. These highly competitive research awards examine diverse areas with implications for criminal justice policy and practice, including citizen cooperation with the police in violent crime investigations, perceptions of citizen-police interactions, prosecutorial involvement in exonerations, and prediction of gang locations using police administrative data.

## Postconviction DNA Testing

Since the advent of forensic DNA analysis, a number of persons who were convicted of violent crimes have been exonerated through DNA analysis of evidence that was untested at the time of trial. New technologies have increased the likelihood of successfully analyzing aged, degraded, limited, or otherwise compromised biological evidence. As a result, crime

scene samples once thought to be unsuitable for testing may now yield viable DNA profiles. Moreover, samples that had previously generated inconclusive DNA results may be amenable to reanalysis using newer methods.

Since 2008, NIJ has helped states defray the costs associated with postconviction DNA testing for violent felony offenses in which actual innocence might be demonstrated. This supports the Department of Justice's mission to ensure fair and impartial administration of justice. While successful exonerations to correct injustice may constitute the most visible outcomes of this program, the process of carefully reviewing and closing cases in which postconviction DNA testing does not ultimately demonstrate innocence also contributes significantly to the fair application of justice.

Recipients of funding awarded under *the Postconviction Testing of DNA Evidence* solicitation are able to cover the costs of additional personnel, overtime, testing supplies, and services. Since 2015, NIJ has expanded the program to accept applications from states, units of local government, and public institutions of higher education. This wider pool of eligible applicants more accurately reflects the diverse institutions across the United States that are currently engaged in postconviction DNA testing efforts.

In 2017, NIJ made six awards to fund postconviction DNA testing, for a total of \$3,313,287.

## National Initiative To Reduce DNA and Evidence Backlogs

Forensic evidence is collected from crime scenes, victims, and suspects in criminal cases and then submitted to a laboratory. Processing this evidence is time-consuming because it must first be screened to determine whether any biological material is present and, if so, what kind of biological material it is. Only then can DNA testing begin. The demand on crime laboratories is often higher than their capacity, resulting in a backlog of unprocessed and untested evidence.

The goals of NIJ's DNA Capacity Enhancement and Backlog Reduction (CEBR) program are to increase the throughput of evidence processing at the nation's forensic DNA laboratories and to improve the quality of testing. Improvements achieved through increased efficiency come from a variety of innovations, such as faster technologies and streamlined workflows. Recipients of funding under the CEBR program determine what portion of their funding to use for capacity-building purposes and what portion to use for analysis of forensic DNA and DNA database samples. Recipients can use the funding to conduct DNA testing on all evidence that is submitted to the laboratories — including evidence related to sexual assaults, which often includes more than just a sexual assault kit. Recipients often hire personnel and purchase equipment and supplies with the funding to help enhance their current capacity.

NIJ made 131 awards through the CEBR program in 2017, for a total of \$61,127,904. A similar number of state and local crime laboratories receive this funding annually. Since the funding was first awarded in 2005, over 725,000 cases have been completed, over 2.95 million database samples have been completed, over 327,000 forensic profiles have been uploaded to the Combined DNA Index System (CODIS), over 3 million database profiles have been uploaded, and over 165,000 CODIS hits have been generated.

Often, however, a single case submission includes requests for forensic analyses in DNA and non-DNA disciplines. Enhancing capacity and improving efficiency in the processing and testing of non-DNA evidence from cases that also involve a request for DNA analysis will ultimately reduce the backlog of DNA evidence, but the CEBR program does not include funds for non-DNA disciplines. To address this gap, NIJ established the Forensic DNA Laboratory Efficiency Improvement and Capacity Enhancement (EI&CE) program. The program has two objectives: (1) increase the capacity and efficiency of crime laboratories in processing, recording, screening, and analyzing DNA and other forensic evidence and (2) decrease the turnaround time for processing and analyzing DNA evidence.

In 2017, NIJ made 20 awards through the EI&CE program, for a total of \$6,607,450.

## Research and Development in Forensic Science for Criminal Justice Purposes

The Research and Development in Forensic Science for Criminal Justice Purposes program supports research and development (R&D) projects relevant to criminal justice. The program encompasses basic scientific research, research within forensic science, and R&D in other scientific disciplines with forensic science applications.

The program's overall goal is to help researchers develop highly discriminating, accurate, reliable, cost-effective, and rapid methods for processing physical evidence for criminal justice purposes. Within basic research, the program promotes improved understanding of the accuracy, reliability, and measurement validity of forensic science disciplines. Within applied research, the program helps increase the knowledge necessary to guide criminal justice policy and practice related to the forensic sciences. In general, the program is designed to develop tools and methods with increased sensitivity and specificity and reduced processing times. Better and faster tools improve the criminal justice system's ability to identify, detain, charge, and sentence criminal offenders.

NIJ made 52 awards under the Research and Development in Forensic Science for Criminal Justice Purposes program in 2017, for a total of \$25.7 million. Seventeen of these awards (nearly \$9 million) funded projects to develop solutions to meet the operational needs of forensic biology and DNA laboratories. Program investments in 2017 also addressed the operational needs of forensic scientists working in anthropology, pathology, medicolegal death investigation, impression and pattern evidence, trace evidence, forensic toxicology, and controlled substances.

While improvements to all forensic science methods through R&D have the potential to increase public safety, some projects specifically promote public safety and officer safety. In 2017, almost \$3 million was dedicated to funding R&D projects in forensic toxicology and controlled substances. Projects that focus on improving the understanding, characterization, identification, and classification of drugs of abuse will build a foundation for better control of their use, as well as improve understanding of the emerging dangers to communities. Further, the development of portable and noncontact methods for drug detection can minimize exposure by law enforcement officers in the course of their duties, protecting them from unnecessary harm.

Over \$2.6 million of 2017 R&D funds supported projects designed to improve the analysis of sexual assault evidence. Five of these projects focused on developing novel methods to identify and differentiate forensically relevant biological fluids, including attempts to more efficiently identify and isolate sperm cells and male-specific DNA. One unique project targets the development of a method that uses novel markers in blood to detect and confirm a victim's exposure to drugs typically used in drug-facilitated crimes, such as sexual assault, long after the assault has occurred. With the increased demand for processing sexual assault evidence, it is not enough for forensic laboratories to focus solely on increasing existing technology, equipment, procedures, and the human resources to use them. The long-term solution will require innovation and new technologies that increase efficiency and productivity. These 2017 R&D investments have the potential to reduce sexual assault kit processing time, inform investigators about the crimes that took place, and shift analysts' efforts to the examination of only those samples most probative to the investigation.

## **Paul Coverdell National Forensic Science Improvement Grants Program**

The goal of NIJ's Paul Coverdell National Forensic Science Improvement Grants program is to help improve the quality and timeliness of services provided by forensic science and medical examiner/coroner's offices. Coverdell program funds are used to eliminate backlogs in the analysis of forensic evidence, including firearms, latent prints, impression evidence, toxicology, digital evidence, fire evidence, controlled substances, forensic pathology, questioned documents, and trace evidence. Funds may also be used to train and employ additional forensic laboratory personnel and medicolegal death investigators; address emerging forensic science issues and emerging technologies such as contextual bias, automation, and statistical software; and educate and train forensic pathologists, facilitate the accreditation of medical examiners and coroners, and certify medicolegal death investigators.

All Coverdell grants are awarded to states and units of local government. Program outcomes are measured as demonstrated improvement over current operations in the quality and timeliness of forensic science or medical examiner/coroner's office services provided in the state, including services in laboratories operated by the state and those in laboratories operated by units of local government within the state.

NIJ made 62 Coverdell awards in 2017, for a total of \$10,606,081 — 52 awards (\$9,208,206) under the formula program and 10 awards (\$1,397,875) under the competitive program. Since the funding was first offered in 2002, 1,281 awards have been made to state and local forensic laboratories, for a total of \$228,245,163 through FY 2017.



# Crime

## Real-Time Crime Forecasting Challenge

NIJ conducted the Real-Time Crime Forecasting Challenge in 2017 to encourage data scientists across all scientific disciplines to foster innovation in forecasting methods. The goal was to develop algorithms that advance place-based crime forecasting through the use of data from one police jurisdiction. Specifically, the Challenge tested how effectively and efficiently the entrants' crime forecasting algorithms could forecast actual police calls for service in Portland, Oregon. Through the application of machine learning techniques, entrants' algorithms attempted to forecast police calls for service based on five years of calls-for-service data provided by the Portland Police Bureau.

There were five forecast periods between March and May 2017 and four crime categories: all calls for service, burglary, street crime, and motor vehicle theft. In February 2017, entrants submitted their crime forecasts for the coming months. NIJ compared the entrants' predictions to the actual crimes committed during that time, assigning an effectiveness and efficiency index to each algorithm on this basis. In August 2017, winners were selected from submissions by five students, 42 small teams/businesses, and 15 large businesses.

In all, 62 algorithms were tested, making the Challenge the largest known comparative analysis of crime forecasting algorithms to date. The results indicate a clear and significant variance in the ability of the algorithms to forecast crime. No one algorithm did well across all categories and forecast periods, though some were more effective, more efficient, or both for some crime categories and forecast periods. There is clearly room for improvement to maximize the potential benefit of forecasting algorithms for fighting crime.

## Radicalization to Terrorism

Law enforcement plays an essential role in keeping us safe from terrorism; engagement and partnership with communities are also important. Terrorists target their messages to children, families, and individuals. The best defenses against extremist ideologies are well-informed and well-equipped families, communities, and local institutions.

In 2017, NIJ continued to lead the federal government's efforts to understand radicalization to terrorism. NIJ's 2017 "Research and Evaluation on Domestic Radicalization to Violent Extremism" solicitation focused on risk factors and risk assessment tools; development of instruments, procedures, and practices; and comparative multisite evaluations and analyses.

The solicitation aimed to bridge gaps in current knowledge by understanding why and how radicalization occurs, and what can be done to prevent it.

NIJ made five awards under this solicitation, for a total of \$3,316,124. These awards addressed a number of relevant topics, including investigating how components of risk are nested at multiple levels and how those variables work in combination to drive individual-level outcomes related to terrorism, examining and comparing the online presence and activities of different extremist groups, and producing a tool to help law enforcement identify individuals who are moving toward committing an act of violent terrorism.

NIJ also held a national meeting involving 100 grantees and stakeholders.

## Drugs and Crime

The use of heroin and other illegal opioids has increased dramatically across the United States and among different age groups, leading to more drug poisonings, overdoses, and drug-related crime. The opioid drug market is supplied with heroin, fentanyl, and other pharmaceuticals diverted for nonmedical use; and with novel, chemically engineered psychoactive substances whose manufacturers have a nearly unlimited capacity for rapid development of high-purity analogs.

NIJ is committed to supporting research on the policies, practices, and resources available to law enforcement for deterring, addressing, and prosecuting opioid abuse. Through the 2017 “Research and Evaluation on Drugs and Crime” solicitation, NIJ sought proposals for applied research to support narcotics, forensic science, and medicolegal death investigation and prosecution, as well as drug intelligence and community surveillance. These activities are crucial to understanding drug markets and use trends, identifying drug deterrent and interdiction opportunities, and pursuing organized crime targets.

In support of NIJ’s crime prevention and law enforcement goals, the Drugs and Crime program is designed to promote applied research that examines the feasibility, impact, and cost efficiency of criminal justice tools, protocols, and policies that address drug trafficking, markets, and use. In 2017, NIJ’s priorities in the area of drug abuse were heroin and other opioids (including diverted prescription drugs) and novel psychoactive substances (i.e., synthetic drugs). NIJ supported applied research applicable to state, local, and tribal jurisdictions that addressed these priorities in two categories: (1) case-level criminal investigation and prosecution and (2) aggregate drug intelligence and surveillance. Findings from the program will benefit researchers and consumers, including first responders, law enforcement, forensic science labs, medical examiner and coroner offices, and public health service providers.

NIJ made four awards for research and development on drugs and crime in 2017, for a total of \$3,053,125. Each project addresses opioid abuse from a different angle. NIJ-funded researchers will use data mining to generate trend reports on routine, novel, and emerging opioids; analyze and improve protocols for heroin-involved drug investigations to secure faster indictments and successful manslaughter prosecutions of drug dealers after an overdose death; study urban and rural distribution networks of heroin, fentanyl, and other drugs to maximize law enforcement and community efforts to disrupt the supply of illegal opioids; and develop an online platform that provides drug intelligence and community surveillance capabilities to law enforcement and medical examiners.

## Human Trafficking

Human trafficking is a threat to all nations. A grave human rights abuse, it promotes the breakdown of families and communities, fuels organized crime, deprives countries of human capital, undermines public health, creates opportunities for extortion and subversion among government officials, and imposes large economic costs.

NIJ has been funding research on human trafficking for over a decade, and in 2017 NIJ continued to lead the federal government's efforts to understand it. NIJ-funded research projects focus on identifying the nature and extent of human trafficking; detecting, investigating, and prosecuting traffickers; and providing services for trafficking victims. Among other results of NIJ's research efforts in this area is a screening tool that law enforcement can use to identify trafficking victims.

NIJ made three awards under its "Research and Evaluation on Trafficking in Persons" solicitation in 2017, for a total of \$2,151,028. The first project seeks to identify the indicators most closely associated with online sex trafficking advertisements in order to create a practical guide for police and prosecutors who analyze these advertisements and use them as evidence. The second project examines the personal and structural vulnerabilities that put U.S. citizens at risk for labor trafficking in order to understand how U.S. citizens experience labor trafficking victimization. The third project is an assessment of the impact that existing task forces funded by the Bureau of Justice Assistance and the Office for Victims of Crime have had in identifying and assisting victims of sex and labor trafficking and prosecuting traffickers.



# Violence and Victimization

## Reducing Violence at the Community Level

NIJ has a long-standing history of funding research on crime prevention and community violence reduction. While NIJ and other agencies have been successful in identifying evidence-based programs and practices that are effective in preventing and reducing violence, the goal of achieving sustained, community-level violence reduction has been elusive. This is particularly true in some of the most violence-prone communities in the United States.

To develop scientific evidence and build knowledge of the factors that contribute to achieving enduring violence reduction in communities, NIJ launched a new line of research in 2017 with the “Research on Reducing Violence in Communities” solicitation. This program seeks to produce sustained, community-level reduction in violence.

NIJ made one award under this solicitation in 2017, for nearly \$1 million. The project will examine the range of efforts that have been used to address violence levels in the East Durham area of Durham, North Carolina, and in the Northside area of Minneapolis, Minnesota. Researchers will use open source crime data from the cities, collect data on programs implemented, and gather contextual information such as legislative changes and socio-demographics in cities. The goal of the project is to understand why the cities have not seen sustained reductions in violence and what can be done to reduce violence.

## Violence Against Women Research Consortium

In 2016, NIJ partnered with the Center on Violence Against Women and Children at the Rutgers University School of Social Work to create the Violence Against Women Research Consortium. Bringing together 13 core faculty members from around the country, the Consortium addresses emerging issues in the field and supports ongoing NIJ efforts and programs in the area of violence against women.

The first in-person meeting of the core members of the Consortium, NIJ, and other federal stakeholders occurred in August 2017 and established five working groups to identify research gaps and propose projects in key criminal justice areas.

## Comprehensive School Safety Initiative

NIJ’s Comprehensive School Safety Initiative (CSSI) supports projects that build science-based knowledge about the causes of school violence; it also tests innovative approaches for safeguarding the nation’s students and schools. Projects under CSSI feature partnerships among schools, scientists, law enforcement, mental and behavioral health professionals, and others. All projects contribute to one or more of the initiative’s three primary goals: (1) improve the safety of schools and students by developing, supporting, and rigorously evaluating school safety programs, practices, and strategies; (2) develop and test a

comprehensive school safety framework for K-12 public schools; and (3) increase scientific knowledge about the incidence and root causes of school violence and other threats to school and student safety.

NIJ has administered CSSI since 2014. From 2014 to 2017, NIJ funded 95 projects valued at over \$248 million. These studies will produce findings on a wide range of school safety topics, including identifying effective programs and practices for law enforcement officers working in schools, providing mental and behavioral health services to students, improving school discipline without unnecessary exclusion or justice system contact, developing school emergency plans, improving school safety technology, and establishing school climates and systems of support that reduce the likelihood of violence. To date, NIJ has identified and profiled over 140 school-based programs and practices on the CrimeSolutions.gov website. More than 100 of these programs and practices are rated as “promising” or “effective” in terms of producing positive outcomes for improving school safety.

In FY 2017, NIJ hosted the first CSSI national conference. About 200 awardees and stakeholders attended the conference.

# Standards and Testing

## Productive Private-Sector Partnerships

To accelerate the introduction of performance standards for the equipment used by criminal justice agencies while reducing costs to the federal government, NIJ has adopted a strategy of collaboration with private-sector standards development organizations. As a result of this strategy, in February 2017 the National Fire Protection Association (NFPA) published *NFPA 1986 Standard on Respiratory Protection Equipment for Tactical and Technical Organizations*, which law enforcement agencies can use to identify respirators (i.e., gas masks) that meet their operational requirements. The committee that developed this standard was led by an NIJ engineer. By participating directly in the development process with external organizations, NIJ scientists and engineers can provide criminal justice-specific expertise and translate knowledge from the field to ensure that resulting standards accurately reflect the needs of law enforcement officers and other criminal justice practitioners.

NIJ has also adopted a strategy to expand the number of items of equipment tested to NIJ performance standards by allowing third-party standards organizations to conduct the testing. This strategy was implemented in July 2017, when NIJ published *Minimum Scheme Requirements to Certify Criminal Justice Restraints Described in NIJ Standard 1001.00*. The document outlines the minimum reasonable expectations that a certification body should meet in order to operate a certification program for restraints according to the NIJ standard.

## Testing Police Body Armor

Firearms are one of the most dangerous threats that law enforcement officers face. During the past three decades, ballistic-resistant soft body armor has saved the lives of more than 3,000 police officers. Body armor is critical safety equipment that law enforcement and corrections officers need for personal protection.

NIJ's predecessor, the National Institute of Law Enforcement and Criminal Justice, began developing lightweight body armor in 1971 and testing it in 1978. Today, police body armor is one of the best-known products resulting from NIJ-funded research.

NIJ has been setting voluntary body armor standards since 1972. The NIJ standard is the only nationally accepted standard for the body armor worn by law enforcement and corrections officers. NIJ also administers a program to test commercially available armor for compliance with the standards to determine whether it will perform as expected. In addition to being tested for NIJ compliance, body armor models must meet workmanship and labeling requirements. NIJ also has a follow-up inspection and testing requirement to ensure that the body armor worn by officers is safe and reliable.

In 2017, NIJ achieved the milestone of having tested 1,000 unique models of body armor to the current version of the NIJ ballistic-resistant body armor standard — NIJ Standard 0101.06 — since its publication in 2008. From January through July 2017, 59 new armor models were tested, of which 39 passed. Follow-up inspection and testing were conducted on 63 models, and all models passed. Preliminary data indicate that 22 officers' lives were saved from January to September 2017 because they were wearing body armor, while 33 officers were killed during the same period as the result of gunfire. In 2017, the testing program issued four advisory and safety notices informing law enforcement agencies of concerns with certain body armor models. This included the removal of two models from the NIJ list of body armor models compliant with NIJ Standard 0101.06 and the suspension of two others.

In October 2016, NIJ adopted a mark that is used to designate armor models tested and found to be compliant with NIJ Standard 0101.06. Only NIJ can authorize manufacturers to use the NIJ Mark, and can take action against unauthorized use.

## New Standards

Since the mid-1990s, firearms have been developed with advanced gun safety technology to varying degrees of maturity. These firearms are designed to contain authorization systems with an authentication device that activates a blocking mechanism in a seamless process that takes less time than handling and firing a conventional gun.

Before gun safety technology is ready for widespread adoption by law enforcement agencies, officers must be confident that the integration of the technology does not compromise the reliability, durability, and accuracy they expect from their service weapons. A first step in addressing this issue is to define the operational requirements for any firearms equipped with gun safety technology. The U.S. Departments of Justice and Homeland Security assembled a working group led by NIJ to develop baseline specifications for law enforcement service pistols with security technology, which allows the pistol to be fired only by designated individuals. NIJ published these specifications in November 2016 as *Specifications for Law Enforcement Service Pistols with Security Technology*.

In July 2017, NIJ established a special technical committee on law enforcement firearms to revise NIJ Standard 0112.03, *Autoloading Pistols for Police Officers*, and NIJ Standard 0113.00, *12-Gauge Shotguns for Police Use*, and to develop a new minimum performance standard for patrol rifles.

In May 2017, NIJ convened a workshop with representatives of law enforcement agencies from across the United States to consider the development of standards for the safety equipment that law enforcement agencies use in responding to civil disturbances.



## Unmanned Aircraft Systems

In August 2015, NIJ convened a group of public safety stakeholders and aviation experts in Washington, D.C., for a meeting on unmanned aircraft systems (UAS). Participants discussed how best to leverage innovative UAS technology while keeping necessary safeguards in place. The goal was to produce a blueprint for how law enforcement agencies can use these systems effectively, fairly, and transparently.

In December 2016, NIJ published a report documenting the findings and recommendations of this stakeholder workgroup. *Considerations and Recommendations for Implementing an Unmanned Aircraft Systems (UAS) Program* is a guide for law enforcement agencies on how to implement UAS in practice. The report reflects the comments and issues that the participants raised and includes some essential recommendations for successfully implementing a UAS program. In addition to outlining potential uses for UAS and civil liberties concerns that must be considered in their deployment, the report highlights actions that agencies can take internally and with the community as they implement a UAS policy.



# Improving the Criminal Justice System

## The NIJ-FBI Sexual Assault Kit Partnership

Since 2014, NIJ and the FBI Laboratory have partnered to address the complex issues surrounding unsubmitted sexual assault kits (SAKs). This partnership is designed to gather information about the nature of unsubmitted SAKs in an effort to inform practices and protocols surrounding SAKs and help reduce the number of unsubmitted SAKs across the nation.

Under this program, state and local law enforcement agencies can send their SAKs to be analyzed for free by the FBI Laboratory in Quantico, Virginia. Each month, the FBI Laboratory processes and tests a group of previously unsubmitted SAKs while scientists at NIJ collect and analyze data about the kits. The goal of this project is to better understand the issues involved in handling SAKs and suggest ways to improve the collection and processing of DNA evidence.

NIJ and the FBI expect the work to lead to improved policies and practices for collecting sexual assault evidence and protocols for submitting and testing kits. The program, which uses funding from previous years, is ongoing with over 2,200 SAKs processed, nearly 1,200 CODIS entries, and more than 450 investigative leads (i.e., CODIS hits). Information gathered during this program was included in *National Best Practices for Sexual Assault Kits: A Multidisciplinary Approach*. (For more information, see Highlights of Dissemination on page 25.)

## National Missing and Unidentified Persons System

In 2005, NIJ hosted the Identifying the Missing Summit, during which the missing persons community voiced a need for improved access to information about missing persons. They identified two principal needs. The first was a centralized repository for the nation's unidentified and a way to capture essential information, including biometrics, that would allow for comparisons with open missing persons cases. The second was a way to close the communication gap between agencies, jurisdictions, and the public so they can share information, collaborate on cases when needed, and help relatives in their search for family members.

NIJ's answer to these needs was to establish the National Missing and Unidentified Persons System (NamUs), a national, centralized repository and resource center for locating and identifying missing persons and unidentified human remains, and for repatriating unclaimed persons. NIJ launched NamUs in 2007, and continues to fund and administer the program.

NamUs is a web-based system provided free of charge to medical examiners, coroners, law enforcement officials, allied forensic professionals, families of lost loved ones, and members of the general public who are trying to resolve cases. With users in all 50 states, NamUs is a collaborative system that bridges the communication gap among stakeholder communities, fostering enhanced information sharing and case support.

NamUs currently has records for 13,509 missing persons and 11,515 unidentified persons. NamUs also has 4,191 cases in the Unclaimed Persons database, which aggregates the names of decedents who have been identified but have yet to be claimed. Since its development in 2007, NamUs has helped to resolve over 1,200 unidentified person and 1,750 missing person cases.

In March 2017, NamUs submitted over 1,500 fingerprint images from unidentified persons to the FBI's Latent Print Support Unit. These images were subjected to a new technology known as Next Generation Identification. This technology allows analysis of poor-quality entries in the FBI's fingerprint database, enabling more focused searches and increasing the likelihood of an identification even with prints that have been searched in the past. Through this partnership, over 200 identifications were made in four months. Based on this success, the partnership between NamUs and the FBI has become an ongoing collaboration.

## SAFER Working Group

The Sexual Assault Forensic Evidence Reporting (SAFER) Act of 2013 calls for, in part, the development of practices “appropriate for the accurate, timely, and effective collection and processing of DNA evidence, including protocols and practices specific to sexual assault cases.” In response, NIJ created a SAFER Working Group to recommend best practices. The multidisciplinary working group addressed issues relating to evidence collection, inventory and tracking, communication strategies, victim engagement and notification, and efficiencies in processing and testing sexual assault evidence.

More than 50 subject-matter experts from multiple disciplines — including victim advocates, sexual assault nurse examiners, medical examiners, forensic laboratory professionals, law enforcement officials, prosecutors, and members of the judiciary — contributed to the efforts of the SAFER Working Group. Additionally, representatives from jurisdictions that identified and successfully addressed large volumes of untested sexual assault kits shared strategies in an effort to help other jurisdictions move forward.

In FY 2017, NIJ released *National Best Practices for Sexual Assault Kits: A Multidisciplinary Approach*. This publication includes 35 recommendations to ensure that the nation's response to sexual assault is collaborative, continuous, and sensitive to the victim's perspective. The recommendations are designed to optimize the collection and processing of DNA evidence and to help develop investigative leads.

## Strengthening the Medical Examiner System

Death investigations performed by medical examiners and coroners (ME/C) are vital to criminal justice, especially investigations of violent deaths. ME/C offices investigate about one-fifth of the estimated 2.6 million deaths that occur annually in the United States, amounting to nearly 500,000 cases in approximately 2,400 jurisdictions. According to a 2009 report from the National Research Council, more than 500 additional forensic pathologists

are needed to meet the demand for services. This shortage means that workloads for practicing forensic pathologists are often too high, causing backlogs and potentially compromising the quality of services. Increasing death tolls from opioids and other drugs are putting additional strain on this already overburdened system.

In response, NIJ initiated a new solicitation in 2017, “Strengthening the Medical Examiner-Coroner System Program.” The ME/C program is designed to support the enhancement of medicolegal death investigation services and increase the supply of forensic pathologists nationwide. The two purpose areas included under the inaugural ME/C program were forensic pathology fellowships and ME/C office accreditation.

Forensic pathology fellowships provide specialized training in autopsies and death scene investigations under the direct supervision of board-certified forensic pathologists, as well as general training in courtroom testimony, criminalistics, anthropology, odontology, toxicology, research techniques, and other forensic science-related specialties. A fellowship year is required for physicians to become board-certified forensic pathologists, in addition to at least four years of medical school and three to four years of medical specialty training in anatomical or clinical pathology. By helping fellowship programs recruit quality candidates who have completed all necessary medical education and pathology residency requirements, funds awarded under the first purpose area of the ME/C program will increase the number of board-certified forensic pathologists and the quality of their training.

The accreditation of ME/C offices component provides an independent measure of quality assurance by certifying that an office maintains written policies and procedures, adequate staff, equipment, training, and suitable physical facilities to conduct forensically documented, accurate, and credible death investigations. Funds awarded under this purpose area of the ME/C program will facilitate accreditation of ME/C offices through professional bodies such as the National Association of Medical Examiners and the International Association of Coroners and Medical Examiners. By increasing the number of accredited ME/C offices and ensuring that offices are in compliance with industry and professional standards and performance criteria, the program will strengthen the quality of ME/C services in the United States.

NIJ made 14 awards under this program in 2017, for a total of \$2,332,080. Seven awards were funded under the first purpose area — eight fellows each received \$100,000. Seven awards were also made under the second purpose area — projects included renovating medical examiner offices, increasing the body storage capacity of a morgue, and implementing quality management systems in ME/C offices by updating, developing, and revising policies and procedures to meet accreditation standards.

## Expanding Diversity in Criminal Justice

In 2017, NIJ developed and executed a new diversity initiative that encourages American Indian and Alaska Native undergraduate and graduate students in STEM fields to explore applications of their education and training to issues of criminal justice and public safety.

In 2017, NIJ sponsored five American Indian students to attend the 124th IACP Conference and Exposition in Philadelphia, Pennsylvania. The 2017 scholars represented five tribes across four states and included three graduate and two undergraduate students.

The goal of NIJ's scholarship program is to introduce these students to the fields of criminal justice and public safety so they can learn how to apply their STEM education and training. During the conference, the scholars had the opportunity to interact with scientists and criminal justice stakeholders, attend panel discussions on the most urgent issues facing communities, and learn about innovative, evidence-based solutions to those challenges. They also could attend the NIJ Day session, the IACP's Indian Country Law Enforcement Section meeting, and the LEADS Scholar Roundtable. Through these meetings, the scholars were able to learn about NIJ's work as well as the perspectives of and issues facing police chiefs from across Indian Country.

This initiative is part of broader efforts by NIJ to build capacity for research and evaluation on issues of tribal crime and justice. Other activities include presentations at the conferences of the American Indian Science and Engineering Society and the Society for the Advancement of Hispanics/Chicanos and Native Americans in Science, as well as listening sessions and intramural research to understand areas for improvement in NIJ funding and how NIJ's approach to evidence in science can better align with tribal perspectives.

## The Sentinel Events Initiative

Unexpected negative outcomes in a complex system can rarely be traced back to a single act, event, or error. More often, these outcomes are "sentinel events" that signal underlying weaknesses in the system. Rather than stemming from a single point of failure, sentinel events are best understood as a confluence of these systemic weaknesses and multiple, compound errors. If properly analyzed and addressed as part of a sentinel event review, these events offer important keys for strengthening the system, addressing underlying flaws, and preventing future negative outcomes.

In criminal justice, a sentinel event might be a police shooting, the wrongful conviction of an innocent person, the release of a dangerous offender from prison, or even a "near miss" that could have led to a tragic outcome. In 2011, NIJ established the Sentinel Events Initiative (SEI) to investigate the feasibility of using the sentinel event review approach — nonblaming, forward-thinking, involving all stakeholders — to learn from errors in the criminal justice system.

In 2013, NIJ convened a roundtable of experts to discuss the approach in a criminal justice context. In 2014, NIJ sponsored successful beta testing of criminal justice sentinel event reviews in Milwaukee, Philadelphia, and Baltimore. Since then, NIJ has funded more research on the sentinel events approach and published the *Sentinel Events Initiative Strategic Research and Implementation Plan* (see Highlights of Dissemination on page 25).

In 2017, NIJ partnered with the Bureau of Justice Assistance to fund a \$1.5 million award for a technical assistance provider to support the SEI National Demonstration Project. The project supports 20 to 25 sentinel event review panels across the country. The technical assistance provider will help establish and facilitate these multistakeholder review panels. In addition, the provider will complete a process evaluation to identify promising practices and common challenges to implementation.

The SEI National Demonstration Project builds on five years of NIJ efforts supporting scientific research, practitioner outreach, and successful pilot tests. The reviews supported by the project will be locally driven, with each site determining the process, cases to review, and desired outcomes it will pursue. The goal of the project is to determine how best to empower state and local jurisdictions to explore criminal justice system weaknesses and generate tailored solutions to mitigate risk and improve systemwide performance. This approach transforms negative outcomes into opportunities for jurisdictions to address systemic flaws, prevent their recurrence, and earn public trust.

## **Sexual Assault Forensic Evidence – Inventory, Tracking, and Reporting Program**

Evidence from sexual assaults (such as weapons, bedding, clothing, and SAKs) can be used to verify that a crime occurred, identify or eliminate a possible perpetrator, and determine whether a suspect may have been involved in other crimes. SAKs contain biological and trace evidence along with other physical evidence collected from a victim.

NIJ's Sexual Assault Forensic Evidence – Inventory, Tracking, and Reporting (SAFE-ITR) program assists law enforcement agencies in the inventory, tracking, and reporting of all untested and unsubmitted SAKs, encouraging accountability and transparency. Results from SAK testing help ensure that offenders — many of whom have committed multiple crimes — are identified and prosecuted.

SAKs may be stored in many different places, including crime laboratories, police department evidence storage units, hospitals, and clinics. Many law enforcement agencies do not have computerized systems to track SAK processing. The SAFE-ITR program helps laboratories and law enforcement by funding modern computer systems to ensure that all SAKs in a jurisdiction are accounted for, analyzed, and tracked from collection to court disposition. The program also provides inventory, tracking, and reporting technology that can link information from all interested parties within multidisciplinary teams. For example, one project will operationalize a tracking software program with barcoding capabilities to start the process of accounting for over 4,000 currently unsubmitted SAKs. NIJ made seven awards under the SAFE-ITR program in 2017, for a total of \$1,869,901.





# Highlights of Dissemination

## ***Restrictive Housing in the U.S.: Issues, Challenges, and Future Directions***

Restrictive housing is a common practice in corrections and is one of the more extreme measures of confinement used by prison and jail officials. Although this practice — commonly referred to as administrative segregation or solitary confinement — is widely implemented, its long-term effects and effectiveness are relatively unknown.

To address these shortcomings in knowledge, NIJ published *Restrictive Housing in the U.S.: Issues, Challenges, and Future Directions* in November 2016. This volume of research represents the most comprehensive review to date of emerging issues and concerns surrounding restrictive housing. Topics explored include the roles that gangs, violence, and mental health play in the management of individuals in restrictive housing. The report also has a strong focus on the conceptual and empirical challenges involved in addressing restrictive housing. The report provides the groundwork for other applied research; it will be a foundational resource for those coordinating future research and evaluation efforts on restrictive housing sponsored by NIJ and partnering agencies.



## ***National Best Practices for Sexual Assault Kits: A Multidisciplinary Approach***

Behind every sexual assault case is a person whose life has been irrevocably affected. To support victim-centered approaches for responding to sexual assault cases, in August 2017 NIJ released *National Best Practices for Sexual Assault Kits: A Multidisciplinary Approach*, a report on best practices for handling sexual assault kits. The report's recommendations are relevant to many NIJ stakeholders, including crime laboratories, law enforcement officers, victim advocates, medical professionals, and the legal community. This publication includes 35 recommendations to ensure that the nation's response to sexual assault is collaborative, continuous, and sensitive to the victim's perspective. The recommendations are designed to optimize the collection and processing of DNA evidence and to help develop investigative leads.



This publication outlines practices that can improve the overall quality of evidence collected and streamline processes for the submission, testing, and analysis of sexual assault kits; it also helps keep victims at the center of a trauma-informed, multidisciplinary response

to sexual assault. More specifically, these best practices outline time periods for testing, processes for communicating information between stakeholders, and auditing standards for sexual assault kits, including those that were collected but not reported and those that have never been submitted to a laboratory for testing. The needs and resources of jurisdictions vary, but these recommendations provide a solid starting point for developing plans and protocols for untested kits.

## ***NIJ Journal* Issue Nos. 277 and 278**

The *NIJ Journal* features articles that help criminal justice policymakers and practitioners stay informed about new developments. The *Journal* presents research-based information that can help inform policy decisions and improve understanding of the criminal justice system. By putting the results of recent and ongoing NIJ research in the hands of policymakers and practitioners, the *Journal* ensures that NIJ will have the widest possible impact in advancing criminal justice nationwide through science.

In FY 2017, NIJ released two issues of the *Journal*. Issue No. 277, published in September 2016, focused on how NIJ applies science by providing evidence-based results to help make decisions about policies and practices. The articles in this issue discussed:

- The results of an analysis of programs and practices in CrimeSolutions.gov on whether cognitive behavioral therapy can deter crime, assist victims, and prevent recidivism.
- Findings from a study showing that American Indian and Alaska Native women and men suffer violence at alarmingly high rates.
- Controversy in the forensic, legal, and law enforcement communities over the roles of science — particularly forensic science — in the courtroom and judgments about the certainty of scientific evidence.
- A review of literature on campus sexual assault that indicates a substantial number of college students are sexually assaulted.
- The importance of collective efficacy and social cohesion in maintaining harmonious and well-functioning neighborhoods.
- NIJ's revised bomb suit equipment standard, which includes updated test methods and requirements for the protective clothing worn by public safety bomb technicians.



Issue No. 278 of the *NIJ Journal*, published in May 2017, marked a shift in how the *Journal* is organized. Each new issue focuses on a single theme, allowing the articles to delve into one topic from different scientific points of view. By identifying and nurturing the links between scientific disciplines and fostering discussion of how scientific findings can inform one another, NIJ is strengthening the impact of research investments and supporting multidisciplinary work in the field.

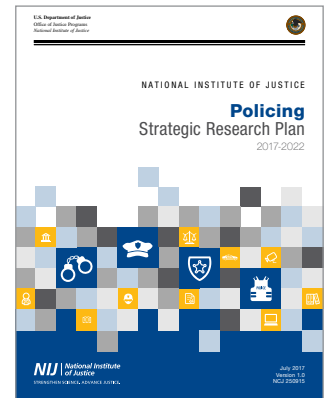
The theme of Issue No. 278 was corrections research. The articles in this issue showed how research from the social sciences and physical sciences complement each other to provide evidence-based information and guidance for improving corrections practices and promoting institutional safety. The articles in this issue discussed:



- Risk factors facing children of incarcerated parents, including significant and complex threats to their emotional, physical, educational, and financial well-being.
- Research on the use of performance management systems to identify at-risk corrections officers and give them the opportunity to receive counseling, targeted training, or other corrective interventions.
- The strengths and limitations of Colorado's administrative segregation study, as well as the response to its findings and areas needing further research.
- The rationale for equipment performance standards in correctional settings, and the development of a standard for offender tracking systems.
- An overview of NIJ's plan for interdisciplinary research and strategic partnerships related to the safety, health, and wellness of federal and state criminal justice corrections personnel and the persons they supervise.
- The RAND Priority Criminal Justice Needs Initiative, which is holistically examining how technology could help mitigate correctional staff or facility limitations and improve training as well as organizational policies and practices.
- Lessons learned from deploying radio frequency identification devices to monitor, track, and investigate inmate movements in a women's prison.

## ***Policing Strategic Research Plan 2017-2022***

In July 2017, NIJ published *Policing Strategic Research Plan 2017-2022*, which focuses on promoting research that will provide the police with knowledge and tools to support their workforce, promote better policing practices, protect officers, and support effective strategies that are designed and implemented to fight crime. Additionally, the strategic plan calls upon the research community to provide policymakers and practitioners with the evidence they need to improve police practices, both internally and in the context of the community, and to provide police officers with effective tools that can protect them from harm and keep the nation safe.



The plan includes three strategic priorities: (1) promoting and supporting research to optimize workforce development for officers and civilian personnel, (2) promoting and supporting research on policing practices, and (3) promoting and supporting research on the relationship between policing and communities.

## ***Sentinel Events Initiative Strategic Research and Implementation Plan: Sentinel Events Initiative 2017-2021***

NIJ developed the *Sentinel Events Initiative Strategic Research and Implementation Plan: Sentinel Events Initiative 2017-2021* to describe its current and projected efforts to explore, develop, and evaluate a mechanism for learning from error in criminal justice. The plan provides a summary of the Sentinel Events Initiative and its progress to date, and offers a roadmap of NIJ's plans for expanding the initiative.



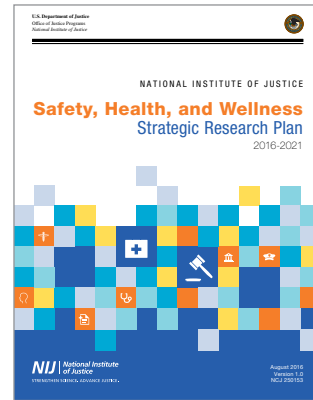
The plan's primary focus is on answering three overarching research questions with regard to sentinel events:

- Can nonblaming, all-stakeholder, forward-looking reviews of sentinel events be implemented in the criminal justice context?
- If such reviews are implemented, can they provide jurisdictions with the information necessary to inform procedures and practice, and will this contribute to system improvement?
- If these reviews can contribute to system improvements in criminal justice, can they be standardized and sustained over time?

## ***Safety, Health, and Wellness Strategic Research Plan 2016-2021***

NIJ is dedicated to the development of knowledge and tools to promote safety, health, and wellness for law enforcement officers, individuals under the supervision of the criminal justice system, and those in contact with or affected directly or indirectly by the criminal justice system. In August 2016, NIJ published the *Safety, Health, and Wellness Strategic Research Plan 2016-2021* to describe its current and projected efforts to promote the safety, health, and wellness of individuals affected by, or employed within, the criminal justice system.

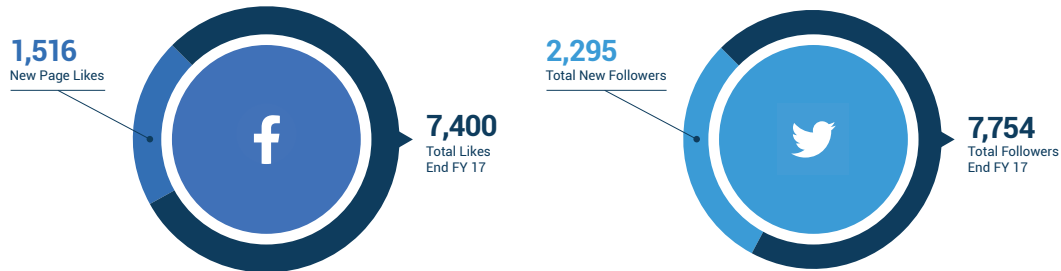
The plan puts forth two strategic priorities: (1) promoting research to improve safety within the criminal justice system and (2) supporting research on individuals' health and wellness within the criminal justice system.





# Social Media

## How Many People Connected with NIJ on Social Media?



## How Many People Saw NIJ's Social Media Posts?

### Facebook

<b>441</b> Total Posts	<b>1,276</b> Average People Reached Per Post FY 17	<b>0.4%</b> Reach Change Compared with FY 16
<b>562,640</b> Total People Reached	<b>1,270</b> Average People Reached Per Post FY 16	

### Twitter

<b>752</b> Total Posts	<b>1,175</b> Average People Reached Per Post FY 17	<b>-8.7%</b> Reach Change Compared with FY 16
<b>883,621</b> Total People Reached	<b>1,277</b> Average People Reached Per Post FY 16	

## How Did People Engage with NIJ on Social Media?

### Facebook

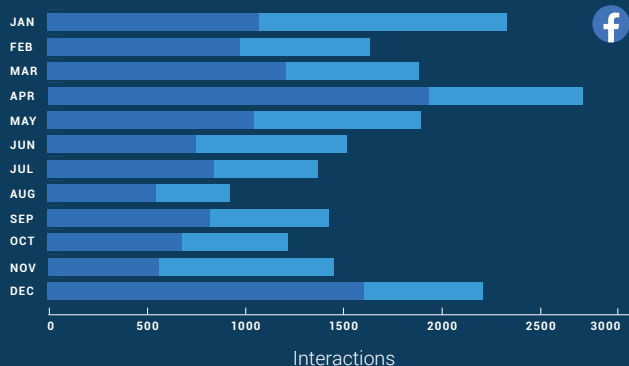
**12,061**  
Total Interactions FY 17

**18,083**  
Total People Reached

### Twitter

**8,511**  
Total Interactions FY 17

**10,837**  
Total People Reached







# Appendix: Financial Data

**Exhibit 1: Funds Made Available Pursuant to P.L. 115-31**

Type of Funds	FY 2017 Amount (in millions)
<b>Research, Evaluation, and Development</b>	
NIJ “Base” Appropriation	\$35.50
Domestic Radicalization Research	\$4.00
Evaluation Clearinghouse/What Works Repository (CrimeSolutions.gov)	\$0
National Commission on Forensic Science	\$1.00
National Institute of Standards and Technology*	\$3.00
<b>Violence Against Women Prevention and Prosecution Programs</b>	
Analysis and Research on Violence Against Indian Women	\$1.00
Research and Evaluation on Violence Against Women and Related Issues	\$3.00
<b>State and Local Law Enforcement Assistance</b>	
National Missing and Unidentified Persons System (NamUs) (new program) (carve-out of JAG Formula)	\$2.40
DNA-Related and Other Forensic Programs and Activities	\$117.00
Postconviction DNA Testing	\$4.00
Sexual Assault Forensic Exam Program (formerly, Sexual Assault Nurse Examiners)	\$4.00
Paul Coverdell Forensic Science Improvement Grants (85% formula and 15% competitive)	\$13.00
Comprehensive School Safety Initiative	\$50.00
<b>Reimbursements From Other Federal Entities (including OJP components)</b>	\$14.76
<b>Section 215 2% RES Set-Aside for Research and Statistics</b>	\$14.69
<b>Carry-Forward Funds From Prior Fiscal Years (including reimbursements)</b>	\$5.29
<b>Total Funds</b>	<b>\$272.64</b>

\* P.L. 113-235 directed NIJ to transfer \$3 million to the National Institute of Standards and Technology.

**Exhibit 2: Allocation of Funds**

Type of Activity	Subcategory	Percent	FY 2017 Amount (in millions)
<b>Social Science</b>	Research and Development*	24.0%	\$65.39
	Training and Technical Assistance	1.6%	\$4.25
<b>Science and Technology</b>	Research and Development*	6.2%	\$16.88
	Technology Assistance/Test and Evaluation	1.3%	\$3.41
<b>Investigative and Forensic Science</b>	Analysis and Capacity Enhancement**	30.7%	\$83.75
	Research and Development*	11.0%	\$29.92
	Training and Technical Assistance	4.9%	\$13.48
<b>Dissemination/Outreach/Program Support</b>		4.3%	\$11.70
<b>Tribal 7% Set-Aside Assessment</b>		4.8%	\$13.16
<b>Carve-Out for Section 215 Set-Aside for Research and Statistics</b>		1.0%	\$2.81
<b>OJP Management and Administration</b>		6.6%	\$18.01
<b>Direct Transfer to the National Institute of Standards and Technology</b>		1.1%	\$3.00
<b>Carryover (including reimbursements)***</b>		2.5%	\$6.88
<b>Total</b>		<b>100%</b>	<b>\$272.64</b>

\* Per Section 200.87 of the new OMB Uniform Guidance: Cost Principles, Audit, and Administrative Requirements for Federal Awards (Omni-Circular): "Research and development" means all research activities, both basic and applied, and all development activities that are performed by nonfederal entities. The term research also includes activities involving the training of individuals in research techniques where such activities utilize the same facilities as other research and development activities and where such activities are not included in the instruction function. "Research" is defined as a systematic study directed toward fuller scientific knowledge or understanding of the subject studied. "Development" is the systematic use of knowledge and understanding gained from research toward the production of useful materials, devices, systems, or methods, including design and development of prototypes and processes.

\*\* Grants to states and units of local government to improve and enhance crime laboratories (including funds for analyses/backlog reduction).

\*\*\* NIJ received "no-year" funding for these programs in FY 2017 (funds that did not expire at the end of the fiscal year). "Carryover" funds are those that remained unobligated as of the end of the fiscal year. Depending on the provisions of future appropriations legislation, these funds may be subject to statutory rescission. Also included are funds received via Reimbursable Agreement from another federal agency (including an OJP component) that remained unobligated at the end of the fiscal year.

### Exhibit 3: Allocation of Funds for DNA-Related and Other Forensics Programs and Activities

The National Institute of Justice received \$117 million in the FY 2017 appropriation for DNA-related and other forensic programs and activities. No carryover funds from FY 2017 were available. Funds were used as follows:

<b>DNA Analysis, Capacity Enhancement, and Other Forensic Activities</b>	<b>FY 2017 Amount (in millions)</b>
<b>Awards That Directly Benefit State and Local Government Efforts To Build Capacity and Reduce Backlogs</b>	
Forensic DNA Backlog Reduction Program*	\$61.12
Forensic DNA Laboratory Efficiency Improvement and Capacity Enhancement Program	\$6.60
Sexual Assault Forensic Evidence – Inventory, Tracking, and Reporting Program (SAFE-ITR)	\$0.11
<b>Research and Development</b>	
Research and Development in Forensic Science for Criminal Justice Purposes	\$14.41
Research and Evaluation on Drugs and Crime	\$1.47
Reimbursable Interagency Agreements With Federal Partners	\$0.71
<b>Training and Technical Assistance</b>	
Training and Technical Assistance (including \$5.0 million for the National Missing and Unidentified Persons System (NamUs) and \$3.4 million for Operations and Maintenance of the Forensic Science Technology Center of Excellence)	\$8.77
<b>Other</b>	
Dissemination/Outreach/Program Support	\$3.87
Carve-Out for Section 214 NIJ/BJS Set-Aside for Research, Evaluation, and Statistics	\$2.34
Office of Justice Programs Assessment for Management and Administration	\$8.97
Tribal 7% Set-Aside Assessment	\$8.19
Peer Review of DNA Analysis, Capacity Enhancement, and Other Forensic Activities	\$0.10
<b>Subtotal</b>	<b>\$116.66</b>

NIJ received \$4 million in the FY 2017 appropriation for Postconviction DNA Testing and Assistance. No carryover funds from FY 2017 were available. Funds were used as follows:

<b>Postconviction DNA Testing Assistance Program</b>	<b>FY 2017 Amount (in millions)</b>
Postconviction DNA Testing Assistance Program Grants	\$3.31
Office of Justice Programs Assessment for Management and Administration	\$0.31
Peer Review of Postconviction DNA Testing Program Applications	\$0.02
Carve-Out for Section 214 NIJ/BJS Set-Aside for Research, Evaluation, and Statistics	\$0.08
Tribal 7% Set-Aside Assessment	\$0.28
<b>Subtotal</b>	<b>\$4.00</b>

NIJ received \$4 million in the FY 2017 appropriation for the Sexual Assault Forensic Exam Program. No carryover funds from FY 2017 were available. Funds were used as follows:

<b>Sexual Assault Forensic Exam Program</b>	<b>FY 2017 Amount (in millions)</b>
Sexual Assault Forensic Exam Program Grants	\$3.31
Office of Justice Programs Assessment for Management and Administration	\$0.31
Peer Review of Sexual Assault Forensic Exam Program Applications	\$0.02
Carve-Out for Section 214 NIJ/BJS Set-Aside for Research, Evaluation, and Statistics	\$0.08
Tribal 7% Set-Aside Assessment	\$0.28
<b>Subtotal</b>	<b>\$4.00</b>
<b>Total Funding</b>	<b>\$124.66</b>

\* NIJ elects to administer the DNA Capacity Enhancement and Backlog Reduction Program through an NIJ-established formula that is described annually in the solicitation document. The funds are discretionary in nature (i.e., there is no statutory requirement to administer them as a formula program).

## Exhibit 4: Solicitations by Title, Number of Applications and Awards, and Value

### Competitive Awards

Solicitation Title	Awards Made	Value of Awards
ABCD Social Development Sub-Study	1	\$2,020,000
Comprehensive School Safety Initiative, Fiscal Year 2017	17	\$37,309,201
Continuation Awards, Fiscal Year 2017	9	\$5,306,419
Forensic DNA Laboratory Efficiency Improvement and Capacity Enhancement Program	20	\$6,607,450
Graduate Research Fellowship in Science, Technology, Engineering, and Mathematics	19	\$910,861
Graduate Research Fellowship in the Social and Behavioral Sciences	4	\$127,749
Investigator-Initiated Research and Evaluation on Firearms Violence	4	\$2,863,634
NIJ Evaluation of OVC's Vision 21: Law Enforcement and the Communities They Serve: Supporting Collective Healing in the Wake of Harm Program	1	\$499,826
NIJ FY 2017 Visiting Fellows Program	0	\$0
NIJ Research and Evaluation on Drugs and Crime FY 2017	4	\$3,053,125
New Investigator/Early Career Program in the Social and Behavioral Sciences and Science, Technology, Engineering, and Mathematics (STEM)	2	\$375,545
Paul Coverdell Forensic Science Improvement Grants Program – Competitive	10	\$1,397,875
Postconviction Testing of DNA Evidence	6	\$3,313,287
Research and Development in Forensic Science for Criminal Justice Purposes	50	\$24,635,842
Research and Evaluation for the Testing and Interpretation of Physical Evidence in Publicly Funded Forensic Laboratories	0	\$0
Research and Evaluation in Safety, Health, and Wellness in the Criminal Justice System	6	\$4,202,824
Research and Evaluation on Domestic Radicalization to Violent Extremism	5	\$3,316,124
Research and Evaluation on Trafficking in Persons	3	\$2,151,028
Research and Evaluation on Victims of Crime	0	\$0
Research and Evaluation on Violence Against Women: Teen Dating Violence, Sexual Violence, and Intimate Partner Violence	5	\$3,332,414
Research on Bias Crimes	2	\$998,965

Solicitation Title	Awards Made	Value of Awards
Research on Reducing Violence in Communities	1	\$999,728
Research on the Abuse, Neglect, and Exploitation of Elderly Individuals	2	\$771,804
Research to Improve Officer Decision-Making	3	\$2,096,780
Research, Development, and Evaluation of Technologies to Improve School Safety	3	\$3,583,200
Sexual Assault Forensic Evidence – Inventory, Tracking, and Reporting Program (SAFE-ITR)	7	\$1,869,901
Strengthening the Medical Examiner-Coroner System Program	14	\$2,332,080
Understanding the Impacts of Policing Strategies and Practices (Beyond Crime Reduction)	5	\$4,405,388
W.E.B. Du Bois Program of Research on Race and Crime FY 2017	4	\$1,818,445

**Noncompetitive Awards**

Solicitation Title	Awards Made	Value of Awards
DNA Capacity Enhancement and Backlog Reduction (CEBR) Program	131	\$61,127,904
Paul Coverdell Forensic Science Improvement Grants Program – Formula	52	\$9,208,206
Nonsolicited Awards, Fiscal Year 2017	7	\$9,621,177



