TECHBeat

Dedicated to Reporting Developments in Technology for Law Enforcement, Corrections and Forensic Sciences

FORENSIC TECHNOLOGY CENTER OF EXCELLENCE PROMOTES AWARENESS IN THE

SEXUAL ASSAULT RESPONSE COMMUNITY

P. 3

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Forensic Technology Center of Excellence Promotes
Awareness In The
Sexual Assault Response
Community

By Becky Lewis

It took the young woman, still frightened, a week to report what had happened. Five days longer than the department's usual 48-hour timeframe for collecting samples for a sexual assault kit (SAK).

Fortunately, the detective assigned to the case worked closely with the area forensics lab, and knew that recent advances in DNA technology might still provide valuable evidence from the woman's collected samples. It was evidence that, months later, led to a conviction. Unfortunately, this is not always the case for many victims.

In 2014, at the direction of the National Institute of Justice (NIJ), the Forensic Technology Center of Excellence (FTCoE), undertook a special initiative focusing on systemic challenges that impede the

investigation of criminal sexual assaults in the United States. Goals included creating an awareness of resources and ensuring that existing research, information, knowledge and best practices are available and accessible to sexual assault nurse examiners, sexual assault forensic examiners and sexual assault response teams (SANE/SAFE/SART), and other practitioners dedicated to improving the response to sexual assault.

The project included an extensive literature review; a meeting with federal stakeholders to conduct an educational assessment of SANE/SAFE/SART training programs; a meeting with sexual assault response researchers, practitioners and stakeholders to develop a landscape analysis of best practices and training curricula; an online policy forum focusing on the development of best practices, and emerging techniques and approaches; and the final publication of *Organizing and Transferring SANE/SAFE/SART Knowledge and Best Practices: Final Report.*

Dr. Patricia Melton, senior research forensic scientist, says that a key takeaway for law enforcement is that the development of Y-STR research means that viable DNA evidence can be collected possibly as long as 10 days after the assault took place. Y-STR analysis localizes DNA analysis only to the Y chromosome, which is present only in males. Although not as statistically powerful as traditional short tandem repeat (STR) analysis, Y-STR analysis has the ability to provide DNA results under conditions in which traditional STRs fail.

"A lot of agencies have a 48-hour rule on collecting evidence, and that no longer needs to be the case," Melton says. "I hope law enforcement agencies will look at the recommendation and the evidence we cite [recommendation p. 19; discussion on p. 7, p. 14]. The longer the period of time, the less likely you are to obtain evidence, but we do have some new tools in our toolbox. Five or 10 years ago, collecting samples 10 days after the fact was not on anybody's radar. The bottom line is when in doubt, collect evidence if you are able."

Recent NIJ-supported research clearly demonstrates the functionality of collecting sexual assault kit evidence beyond 48 hours and the subsequent success of obtaining Y-STR results (https://www.ncjrs.gov/pdffiles1/nij/grants/241299.pdf).

Melton says that forensics professionals are well aware of these technology advances, but sometimes that information doesn't make its way to the persons conducting the investigations or the professionals collecting the evidence, therefore it is important that information flow fluently between disciplines.

Helping agencies be aware of the need to institute evidence-based changes in their policies and procedures, and to share awareness of best practices was a key goal of the project, and the timely delivery of the report and the archives of the other components should help the FTCoE, and the sexual assault response practitioner community, achieve that goal. (See sidebar, "Recommendations and Strategies," for related information.)

In addition, the FTCoE is dedicated to assisting with the adoption of those best practices and policies. In collaboration with Rachell Ekroos, a sexual assault nurse examiner, the FTCoE has begun work on a standardized terminology glossary that will lay the groundwork for a larger centralized repository of resources, thereby supporting one of the presented recommendations.

"It was a large project that we were pleased to accomplish within a year," Melton says. "So often, there is such a lag between when a study takes place and the dissemination of information, and we wanted to avoid that. We really want to generate exposure to this. It's a lot of material and it's not a light read, but the more we can get people to look at it and use it, the better."

NIJ's FTCoE is using conference presentations as one way to generate exposure, including one at the End Violence Against Women International Conference on Sexual Assault, Domestic Violence and Campus Responses, held in New Orleans on April 7-9, 2015. Melton says despite an early morning timeslot, the presentation drew a large crowd that ranged from law enforcement professionals to nurse examiners and SART team members to academics, lawyers and victim advocates.

"They were very engaged, even talking right through the break," she says. "They were excited to learn about this new technology and to have that information to take back to their agencies."

Investigation and Prosecution of Campus Sexual Assault, a webinar presented by Duquesne University, a partner with the FTCoE, also helped promote information sharing, as did a presentation at the American Society of Crime Laboratory Directors meeting April 24-30, 2015 in Washington, D.C.

Future efforts this year include another presentation at the International Association of Forensic Nurses International Conference on Forensic Nursing Science and Practice, October 28-31, in Orlando, Fla. The FTCoE also has representation on the Sexual Assault Forensic Evidence Reporting SAFER Act working group that is focusing on developing best practices for the collection and processing of evidence from sexual assault kits.

"A lot of the discussion focused on the best way to collect evidence, and the fact that the technology keeps moving forward and the labs know about it, but the information doesn't always get to the SANE/SAFE/SART practitioners. The audiences have been excited to have the resources found in the report. The literature review is really a key piece for them," Melton says.

By including that extensive literature review and the recommendations, she feels that the FTCoE took the project to a higher level. The center could have stopped with the panel discussions and obtaining a land-scape view of best practices, but the FTCoE took it farther, providing documented recommendations and evidence-based research among the many pieces in the final report and extensive literature review.

"We wanted to connect the dots and say here is where to go to look for additional research, and for recommendations that will help you decide how to adjust your policies," Melton says.

Organizing and Transferring SANE/SAFE/SART Knowledge and Best Practices: Final Report, can be accessed from https://rti.connectsolutions.com/p6quq6euyx2/. Access archives on the meetings and policy forum at https://forensiccoe.org/Our-Impact/Focusing-on-Special-Initiatives/Sexual-Assault.

For information on the projects and programs of the NIJ forensics technology portfolio, contact Gerald LaPorte, Director, Office of Investigative and Forensic Sciences, at Gerald.LaPorte@usdoj.gov.

Recommendations and Strategies

Organizing and Transferring SANE/SAFE/SART Knowledge and Best Practices: Final Report offers four recommendations and strategies for implementing them that resulted from the Forensics Technology Center of Excellence Special Initiative Focusing on Sexual Assault:

Recommendation 1: Create awareness of the availability of evidence-based best practices for use in guidelines.

Strategy: Conduct more research to establish evidence-based best practices for procedures that were traditionally only anecdotally determined. Provide a mechanism for the dissemination and create awareness of these derived best practices. Some example research questions to corroborate best practice within the SANE/SAFE/SART community are included under Recommendation 3.

Recommendation 2: Provide a system of communication, collaboration, education and knowledge transfer that can be maintained and updated.

Although several previous programs have released excellent educational components that, at the time, were effective, no mechanism was implemented for long-term maintenance of these items when location and funding becomes obsolete — both in content and functionality.

Strategy: Develop an educational outreach system that is created with input from professional organizations vested in SARTs (e.g., nursing, law enforcement, victim services, legal); is easily accessible to medical, forensic, and criminal justice practitioners on a variety of platforms; and has the fluidity to be updated over time. Training across multiple disciplines on victim-centric care for survivors of sexual assault is critical.

Recommendation 3: Develop evidence-based best practices for the collection and processing of sexual assault forensic evidence.

Strategy: Assist in the development of consensus documents based on peer-reviewed research, with input from practitioners, to derive best practices for evidence collection during the sexual assault examination.

Recommendation 4: Provide outreach and resources for development of policies that will maintain high-quality performance over time.

Strategy: Initiate the development of this repository by first creating a centralized glossary with a focus on establishing a common terminology for practitioners associated with the response to sexual assault. This would be a pilot project that will lay the foundation for a larger repository containing additional literature, education, training, best practice and policy development resources.

See *Organizing and Transferring SANE/SAFE/SART Knowledge and Best Practices: Final Report, https://rti.connectsolutions.com/p6quq6euyx2/,* pp. 18-21.

Resources on BODY-WORN CAMERAS

By Michele Coppola

The implementation of a body-worn video camera program can pose challenges for law enforcement agencies as they consider which technology to employ and how to establish policies on use.

Depending on the model, the cameras can be attached to a shirt pocket, helmet, glasses or lapel. Potential benefits include that camera use can protect officers from false accusations, reduce agency liability and citizen complaints, enhance community trust in the police, and provide evidence for use in court. Concerns include privacy issues and potential costs of storing video footage and responding to requests for footage.

As more law enforcement agencies consider using body-worn cameras, materials are available to inform departments on the types of cameras available to test or purchase and to provide guidance on implementation and establishing policies and procedures.

Following is a brief sampling of resources available.

National Body-Worn Camera Toolkit. Launched in May 2015 by the Office of Justice Programs' Bureau of Justice Assistance, this website provides an extensive range of information in one place, serving as a clearinghouse to help agencies make decisions about adopting the use of body-worn cameras. The toolkit organizes frequently asked questions and resources by topic areas, including research, policy, technology, privacy and training. It contains a section on community stakeholders, whose participation can help inform the implementation process. Community stakeholders can include civic leaders, legislators, victim and privacy advocates, media and law enforcement labor organizations.

The site also includes an implementation page with frequently asked questions, resources and a Law Enforcement Implementation Checklist. Videos discuss body-worn camera programs from the perspective of police chiefs and prosecution and defense attorneys. Types of documents on the site include research reports, such as results of pilot projects involving body-worn cameras; sample policies; news articles; and sample agency requests for proposals.

To access the website, go to https://www.bja.gov/bwc/.

Body-Worn Video Cameras for Law Enforcement Assessment Report. This 2015 U.S. Department of Homeland Security SAVER program report assesses advantages and disadvantages of seven body-worn cameras for law enforcement. The SAVER, or System Assessment and

Validation for Emergency Responders program, conducts objective assessments and validations on commercially available equipment and systems and provides those results to the emergency responder community. SAVER comes under the First Responders Group of the Department of Homeland Security Science and Technology Directorate.

The body-worn camera assessment addressed 16 evaluation criteria in three SAVER categories: capability, deployability and usability. Evaluation criteria included image quality, low-light capability, field of view, system indicators, audio quality, video tagging, microphone options, data transfer, illumination control, physical characteristics, camera activation, instant video playback, point of view, attachment options, durability and weight. Sample advantages cited in the report, depending on the model of camera, include easy on/off capability, easily deployed with minimal training and exceptional image quality. Sample disadvantages on some models include buttons too small and close together, narrow field of view and grainy image quality.

To read *Body-Worn Video Cameras for Law Enforcement Assessment Report,* go to http://www.firstresponder.gov/SAVER/Documents/Body-Worn-Cams-AR_0415-508.pdf.

Body-Worn Cameras for Criminal Justice: Market Survey. This 2014 report provides information on 18 commercially available devices, summarizing their features and estimated cost. The document serves as a companion piece to the 2012 *A Primer on Body-Worn Cameras for Law Enforcement,* which provides an introduction to body-worn cameras and focuses on factors an agency should consider when planning to deploy the technology. Both reports were produced by the Sensor, Surveillance, and Biometric Technologies Center of Excellence, funded by the Office of Justice Programs' National Institute of Justice. To access the Market Survey, go to https://www.bja.gov/bwc/pdfs/Body-Worn-Camera-Market-Survey-508.pdf.

Implementing a Body-Worn Camera Program: Recommendations and Lessons Learned. This 2014 report from the Police Executive Research Forum and Office of Community Oriented Policing Services discusses the perceived benefits of body-worn cameras and explores the policy concerns and questions to consider when implementing body-worn cameras,

including privacy implications, the effect cameras have on community relationships and community policing, officers' concerns, the expectations cameras create and financial costs. To read the report, go to http://www.policeforum.org/assets/docs/Free_Online_Documents/Technology/ implementing%20a%20body-worn%20camera%20program.pdf.

Police Officer Body-Worn Cameras: Assessing the Evidence. This 2014 report from the Office of Justice Programs' Diagnostic Center provides a review of the current evidence on the challenges and benefits of body-worn video camera technology to provide a resource to help law enforcement agencies understand the factors to consider to make informed decisions regarding the adoption of body-worn camera technology. To read the report, see https://www.ojpdiagnosticcenter.org/sites/default/files/spotlight/download/Police%20Officer%20Body-Worn%20Cameras.pdf.

In addition to published research, ongoing research projects include two funded by the National Institute of Justice to examine the impact of the implementation of body-worn cameras in the Las Vegas Metropolitan Police Department and the Los Angeles Police Department. The Las Vegas project will include study on how use of body-worn cameras affects police-citizen encounters. Researchers for the Los Angeles project will study how body-worn video technology is used in the field and its impact on police-citizen behavior and on crime.

For additional information on National Institute of Justice efforts surrounding body-worn cameras, contact Martin Novak at martin.novak@usdoj.gov.
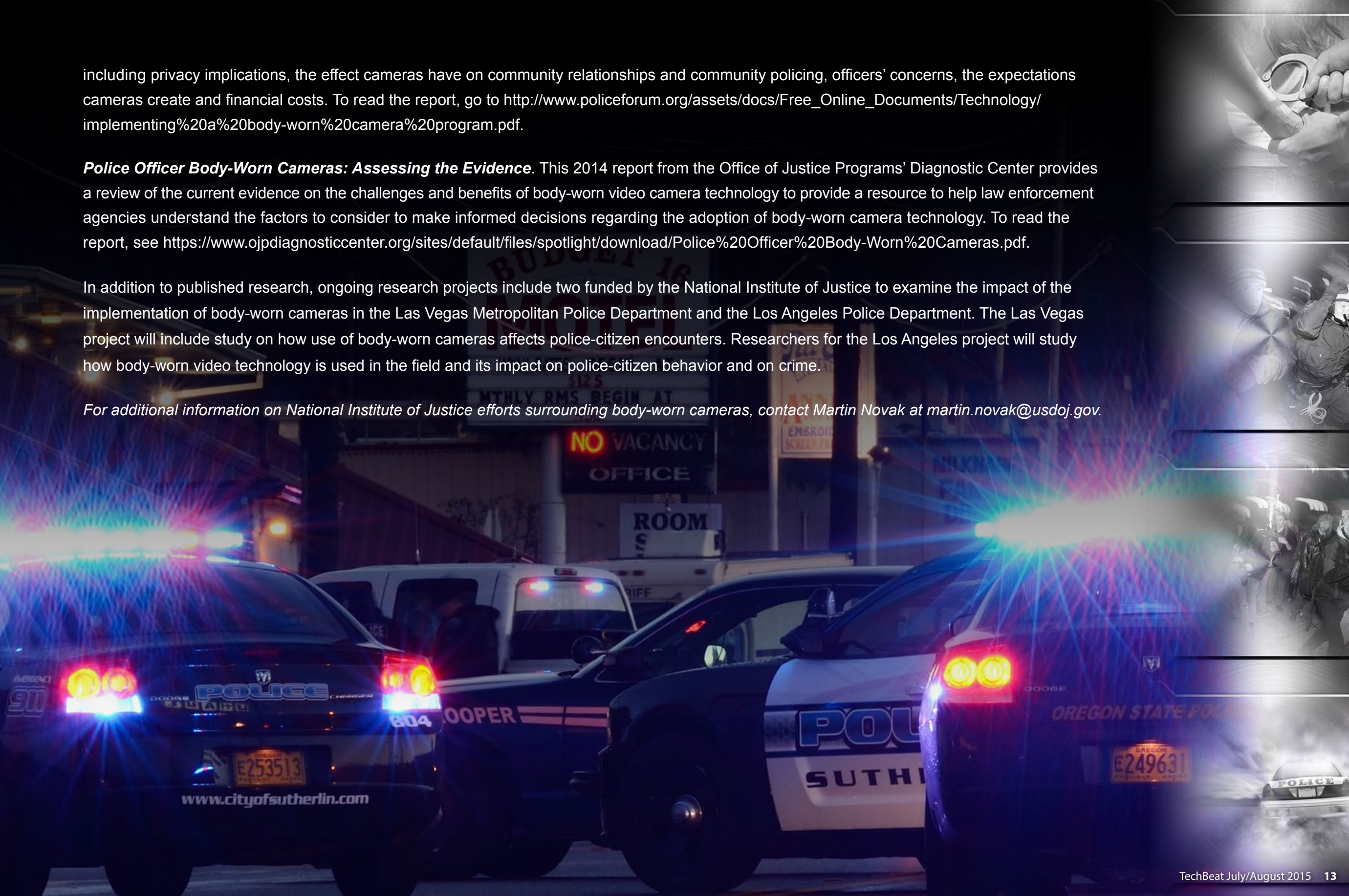
VIRGINIA EVALUATES threat ASSESSMENT PROCESSES

By Becky Lewis

Virginia is unique in many ways: the Virginia General Assembly is the oldest continuous law-making body in the "New World," independent cities and counties operate in the same way and it is the most populous state in the country without a major professional sports team.

It's also the only state in the country that mandates that every school have a threat assessment team, and in the 2013-2014 school year, the first after the authorizing legislation passed, threat assessment teams received reports of 3,283 student threats, of which two-thirds were classified as low risk, and 96 percent were subsequently resolved without any acts of violence.

Data behind the research came from a school safety survey conducted annually via its website by the Virginia Center for School and Campus Safety (VCSCS).

A report funded by the National Institute of Justice (NIJ), *Threat Assessment in Virginia Schools: Technical Report of the Threat Assessment Survey for 2013-2014*, provides detailed information on the threat assessment teams' impact. Data behind the research came from a school safety survey conducted annually via its website by the Virginia Center for School and Campus Safety (VCSCS), part of the Virginia Department of Criminal Justice Services, with analysis conducted by a team led by Dr. Dewey Cornell from the Youth Violence Project of the Curry School of Education at the University of Virginia.

Donna Michaelis, VCSCS manager, explains that Virginia has required threat assessment teams at institutions of higher education since 2008, in the wake of the 2007 Virginia Tech shooting, and the state added the requirements for all public K-12 schools following the Sandy Hook incident in 2012.

"Many schools in the state created threat assessment teams after Columbine, but they all had their own approach," Michaelis says. "This legislation mandated development of model policies and procedures, guidance documents and training materials, all of which can be found on our website. And after the implementation, schools started calling us and saying, 'We have this case and we don't know what to do about it,' so we implemented an agreement with a threat management consultant who works with them."

Schools can apply to the Center for some of the consultant's time, and Michaelis says currently available assistance also includes train-the-trainer courses and materials. In

the near future, the Center plans to release a customizable app that can serve as both an educational resource on the threat assessment process and a reporting tool.

"We want to make sure schools and the community know how to recognize when someone needs help, who needs to know about it, and how the team should intervene and provide services. We're trying to educate the community as well as school personnel about what threat assessment teams in schools do," Michaelis says. "In almost every incident [of serious targeted violence] that has occurred in U.S. schools, there was leakage, that is, somebody knew something about the person's behavior or plans. If someone is on a pathway to violence, concerned school personnel want to intervene and stop the progression."

Threat assessment teams should include members with expertise in counseling, instruction, school administration and law enforcement, and may serve more than one school. Also, team members can work at different locations, provided they are available when needed to evaluate a potential threat. Through
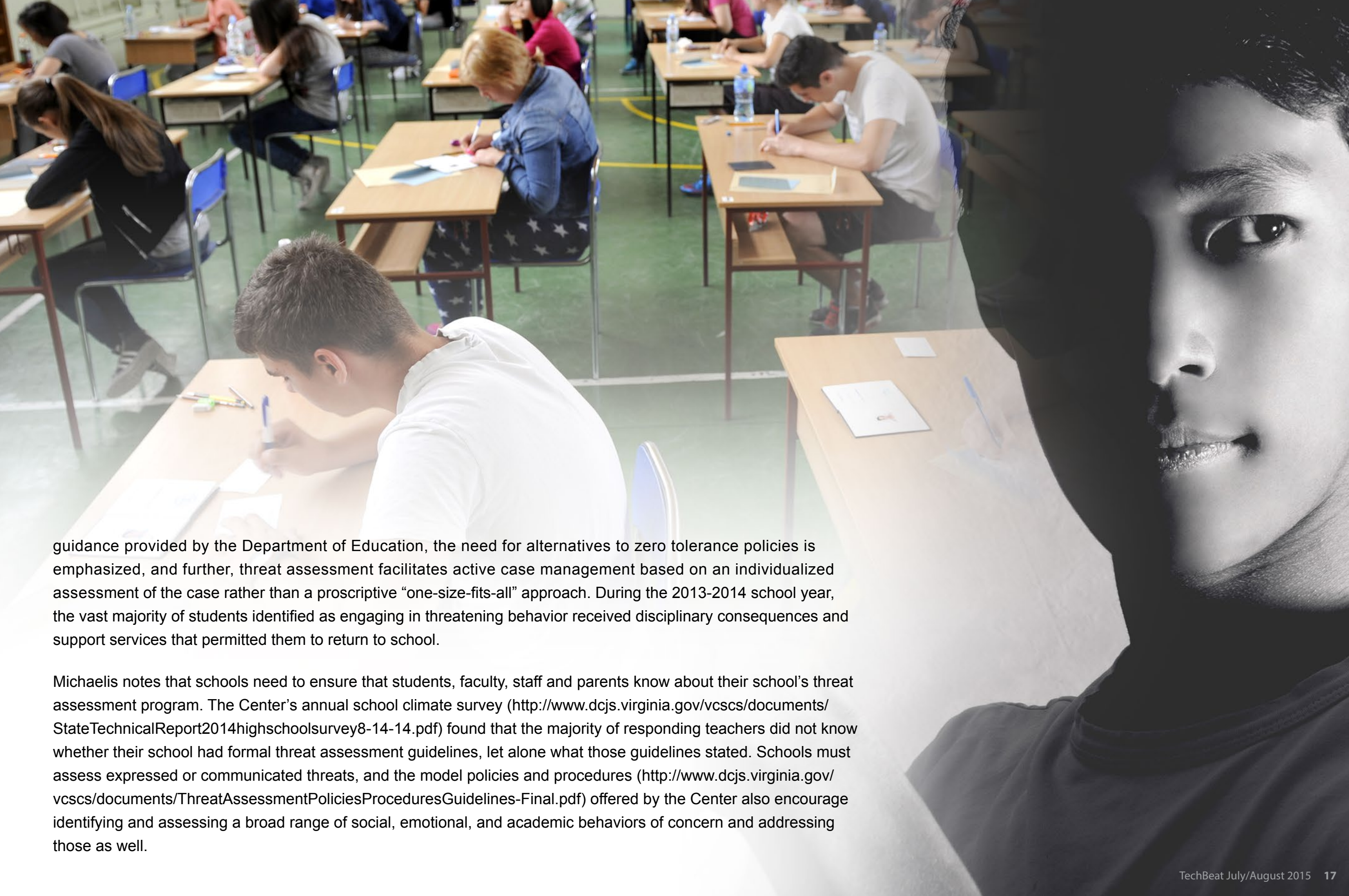
guidance provided by the Department of Education, the need for alternatives to zero tolerance policies is emphasized, and further, threat assessment facilitates active case management based on an individualized assessment of the case rather than a proscriptive "one-size-fits-all" approach. During the 2013-2014 school year, the vast majority of students identified as engaging in threatening behavior received disciplinary consequences and support services that permitted them to return to school.

Michaelis notes that schools need to ensure that students, faculty, staff and parents know about their school's threat assessment program. The Center's annual school climate survey (http://www.dcjs.virginia.gov/vcscs/documents/ StateTechnicalReport2014highschoolsurvey8-14-14.pdf) found that the majority of responding teachers did not know whether their school had formal threat assessment guidelines, let alone what those guidelines stated. Schools must assess expressed or communicated threats, and the model policies and procedures (http://www.dcjs.virginia.gov/ vcscs/documents/ThreatAssessmentPoliciesProceduresGuidelines-Final.pdf) offered by the Center also encourage identifying and assessing a broad range of social, emotional, and academic behaviors of concern and addressing those as well.

These policies and procedures are consistent with the process set forth in *Threat Assessment in Schools: A Guide to Managing Threatening Situations and to Creating Safe School Climates*, a 2002 publication of the U.S. Secret Service and the U.S. Department of Education; they also reflect other procedures used in some Virginia schools divisions, including the "Virginia Student Threat Assessment Guidelines" developed by the Youth Violence Project. (Note that schools may use the model policies and procedures, but may use other procedures as well.)

For more information about Virginia's use of threat assessment teams, including links to model policies and procedures, training materials, reports, enacting legislation and other related information, visit the Virginia Center for School and Campus Safety website at http://www. dcjs.virginia.gov/vcscs/.

To read more articles on school safety, visit NIJ's SchoolSafetyInfo.org website.

Research Highlights

Threat Assessment in Virginia Schools: Technical Report of the Threat Assessment Survey for 2013-2014 can be downloaded from http://www.dcjs.virginia.gov/vcscs/documents/TechnicalReport2014ThreatAssessmentSurvey5-12-15.pdf.

Some highlights follow:

- Of Virginia's 2,000 schools, 810 reported at least one case involving threatening statements or behavior. Those 810 schools reported a total of 3,283 cases, generating a prevalence rate of approximately four cases per school and 6.1 cases per 1,000 students. This equates to only 1.6 threats per school if all 2,000 schools are considered.

- Threats were identified by faculty (51%), students (34%), administrators (11%), other school staff members (9%), parents (7%) and others (4%). (Percentages exceed 100 because some threats were reported by more than one source.)

- High schools had lower prevalence rates (4.3 per 1,000) than elementary (6.6) and middle (6.7) schools. The highest frequencies of threats were in grades 3-9.

- Most threats were made by boys (81%).

- There was a presence of prior discipline referrals in 60.7 percent of cases.

School responses included notifying the student's parents (88%), cautioning the student about the consequences of carrying out the threat (65%) and increasing monitoring of the student (53%). In approximately half (51%) of cases, the threat was resolved with the student giving an explanation or apology (having engaged in no known attempts to act on the threat that was communicated).

Various kinds of safety precautions were undertaken when the threat was deemed to be serious. These included consultation with the school resource officer or other school safety specialist (42%), notifying the intended target's parents (35%), protecting and notifying intended targets (29%), developing a behavior intervention or safety plan (25%) and providing direct supervision of the students until removed from campus by law enforcement or a parent (21%).

A guiding principle of threat assessment is that the most effective way to prevent violence is to address the problem or conflict that underlies the threat. Accordingly, students were referred for school-based counseling (33%), mental health assessment (20%), review of an existing Individualized Education Program (18%) or 504 Plan (2%), special education evaluation (4%) or hospitalization (4%). Disciplinary procedures were followed in 80 percent of cases; 80 percent also returned to school.

In almost all cases (96%), there was no known attempt to carry out the threat. Although a positive finding, this does not clearly demonstrate that the threat assessment process prevented the threat because there was no control group (e.g., threats made in schools without a threat assessment process) to allow comparison.

There were 30 threats (2%) judged by schools to have been averted when a student attempted to carry them out. These cases primarily involved attempted battery, but there were two cases in which the student had possession of a firearm and 11 attempts to stab in which a student had possession of a knife or cutting weapon. There were 29 threats (2%) judged by the schools to have been carried out by the student. These cases primarily involved battery, with two stabbings.

Mobile ID Fingerprint Technology *can provide* RAPID RESULTS AND IMPROVE OFFICER SAFETY

By Michele Coppola

As mobile ID fingerprint technology has evolved, the handheld devices have grown in popularity among law enforcement agencies.

The devices allow officers in the field to collect fingerprints and check them against state and federal databases in under a minute. They can be used to determine if the person has provided a false identity, reveal criminal history or if the individual is wanted for a crime. They can improve safety by alerting officers that they are dealing with a person with a history of violence. The devices can also be used by law enforcement officers to ensure warrants are served on the correct individuals, and to identify deceased or unconscious persons.

One agency using the technology is the Pinellas County Sheriff's Office, which began using it in January 2015 after purchasing 65 mobile fingerprint ID devices for $1,500 each. Each device is assigned to one deputy, and they are deployed county wide.

Officers can request to scan a subject's fingerprints to verify identity if the individual does not have a form of identification, or when false information may have been provided.

Once prints are taken, they are relayed wirelessly to check against the Florida Department of Law Enforcement database and the FBI's Repository for Individuals for Special Concern (RISC), which is a database of persons of special interest such as terrorists, wanted criminals and sex offenders. Information is provided in 45 seconds. If the device gets a hit, it provides the person's name and criminal history; if not, the fingerprint is deleted.

"It puts the technology in the front lines where it is needed," says Bill Schade, biometrics records manager for the sheriff's office. "Taking things back to the lab is useful, but using the mobile fingerprint technology is like putting it on an iPhone instead of an office computer. People are mobile today and we have to keep up with that. With these mobile devices we can do a national search in real time. I've been doing this for 40 years and this is amazing stuff."

The device used by Pinellas County can capture prints from the index and middle fingers, one at a time.

"Generally we capture the right-hand fingerprints first and if we don't get a hit, we then capture the left hand as well. To have your best shot you need to do both hands, so we train our people to run the right first, then the left if they don't get a hit," Schade says. He emphasized the importance of training.

"The devices are getting much better but users still need to ensure they capture a clear impression. If it does not produce a good image we have

Scanning

Indentification Progress: 39%

to do it again, so we have to train the deputies on the proper way to place the finger on the device and look at the image. With any technology, you need to have a systematic approach to implementation and ensure the devices are being used."

Database hits the sheriff's office has had since implementing the technology include a man arrested on a minor charge who wouldn't tell deputies his name. A fingerprint check revealed there was an attempted homicide warrant out for him in Indiana. In another case, deputies used the technology to identify a man with multiple warrants in New York and North Carolina, including kidnapping and robbery.

The agency uses the mobile fingerprint technology to complement its facial recognition system, which it has used for more than a decade and which checks facial photos against a database of mug shots.

"Sometimes the fingerprints work when facial recognition does not and vice versa, so we have the benefit of both," Schade says.

For more information on the Pinellas County Sheriff's Office use of mobile ID fingerprint technology, contact Bill Schade at bschade@pcsonet.com. A 2014 report prepared by the National Institute of Justice's Forensic Technology Center of Excellence provides an overall view of issues related to use of mobile fingerprint ID devices and a survey of commercially available products. To view the Landscape Study of Mobile ID Fingerprint Devices, *go to https://rti.connectsolutions.com/p6jrhaqgn0f/. The report was also featured in the July/August 2014 issue of* TechBeat, *https://www.justnet.org/Interactive TechBeat/eTECHBEAT/eTechbeat_JulAug_2014/index.html.*

TECHshorts
Technology News Summary
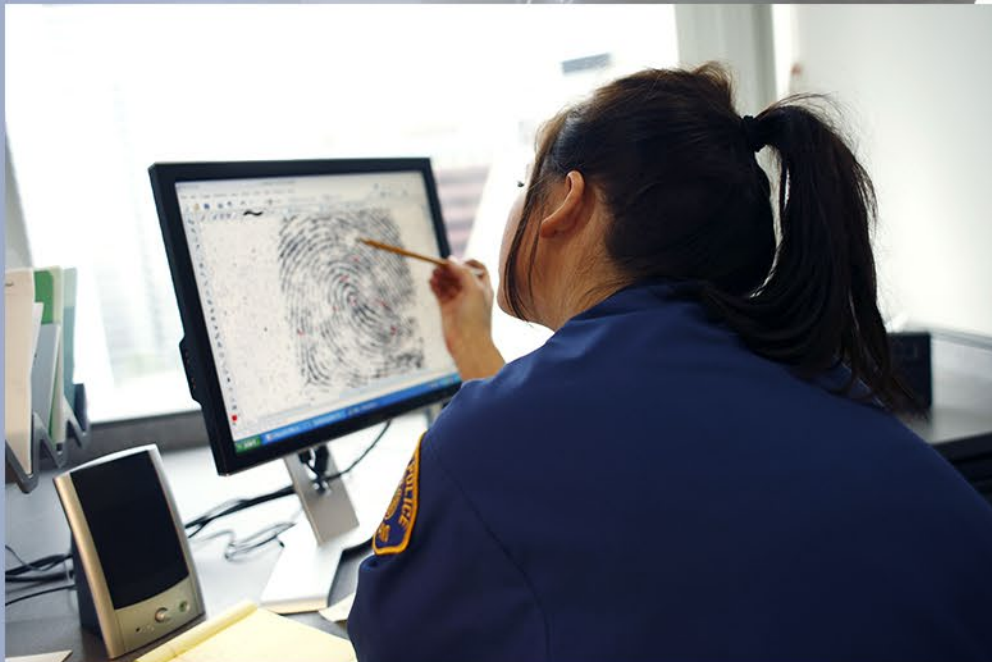
TECHshorts is a sampling of the technology projects, programs and initiatives being conducted by the Office of Justice Programs' National Institute of Justice (NIJ) and the National Law Enforcement and Corrections Technology Center (NLECTC) System, as well as other agencies. If you would like additional information concerning any of the following TECHshorts, please refer to the specific point-of-contact information that is included at the end of each entry.

In addition to TECHshorts, *JUSTNET News*, an online, weekly technology news summary containing articles relating to technology developments in public safety that have appeared in newspapers, newsmagazines and trade and professional journals, is available through the NLECTC System's website, www.justnet.org. Subscribers to *JUSTNET News* receive the news summary directly via email. To subscribe to *JUSTNET News*, go to https://www.justnet.org/app/puborder/subscribe/subscribe.aspx, email your request to asknlectc@justnet.org or call (800) 248-2742.

Note: The mentioning of specific manufacturers or products in TECHshorts does not constitute the endorsement of the U.S. Department of Justice, NIJ or the NLECTC System.

STOLEN CAR RECOVERIES

License Plate Readers Double Stolen Car Recoveries

National Institute of Justice/Police Executive Research Forum

A report is available on the results of a randomized field experiment with license plate readers (LPR) conducted by the Police Executive Research Forum and the Mesa (Ariz.)

Police Department to target the problem of auto theft. The experiment sought to determine whether and to what extent LPR use improves the ability of police to recover stolen cars, apprehend auto thieves and deter auto theft.

The National Institute of Justice-funded project examined the operations of a specialized four-car police auto theft unit that worked in auto theft hot spots over a period of time both with and without LPR devices. The study showed that LPR use considerably enhanced the productivity of the auto theft unit in checking license plates, detecting stolen vehicles and plates, apprehending auto thieves and recovering stolen vehicles. The use of LPRs resulted in eight to 10 times more plates checked, nearly three times as many "hits" for stolen vehicles and twice as many vehicle recoveries. To read *Combating Auto Theft in Arizona: A Randomized Experiment with License Plate Recognition Technology,* go to https://www.ncjrs.gov/pdffiles1/nij/grants/248635.pdf.

Report on Bloodstain Patterns

National Institute of Justice

Bloodstain pattern analysis is an important forensic tool that can provide useful information that may help fill the gaps in the investigation of a crime. The examination of bloodstains or bloodstain patterns on clothing can provide information about the position, activity and movements of the wearer during and after the bloodshed event.

This study, *Bloodstain Patterns on Textile Surfaces: A Fundamental Analysis*, found that extreme care and consideration must be used in analyzing blood on textiles. The authors found that resulting blood-stains can be impacted by several factors, including what the fabric is backed by, wicking that might have occurred prior to analysis, and the angle at which blood impacted the fabric. To read the report, go to *https://www.ncjrs.gov/pdffiles1/nij/grants/248671.pdf*.

Testing Indicates All-Season Tires Can Outperform Winter Tires

Michigan State Police

A new report from the Michigan State Police (MSP) Precision Driving Unit, *2015 Pursuit Rated Winter Tire Performance Evaluation*, available at *https://www.justnet.org/pdf/2015-Pursuit-Rated-Tire-Winter-Performance-Evaluation-Book.pdf*, details test results for various all-season and winter tires conducted under severe weather conditions in January 2015. These results indicate that the all-season tires currently on the market provide year-round quality performance and may eliminate the need for agencies in the Snow Belt to perform semiannual switching.

The Michigan State Police maintains a patrol fleet of more than 1,000 cars, and research and the results of tire testing under summer conditions in 2011 (*https://www.justnet.org/pdf/2011-Police-Vehicle-Tire-Evaluation.pdf*) led to a switch to all-season

tires in May 2013. However, during winter 2013-2014, troopers driving rear-wheel Dodge Chargers complained about traction issues, leading to the winter tire testing covered in the new evaluation report.

MSP used the Charger (in both rear-wheel and all-wheel versions), rather than the Chevrolet Tahoe, as the test platform. Because the Charger can reach speeds of 152 mph, MSP tested snow and all-season tires with a W speed rating (capable of speeds from 150 to 168 mph) that came in the sizes used by the patrol fleet. The three tires that met these qualifications were:

- Nokian WRG3
- Goodyear Ultra Grip
- Firestone Firehawk

A fourth tire, the Firestone Firehawk PVS, had a V speed rating (capable of speeds up to 149 mph) but was tested due to its very aggressive tread pattern. The Precision Driving Unit developed tests for acceleration, braking, steady state turn and hill starts. The report includes detailed test results as well as a thorough description of the test methodologies. The overall good results for the all-season tire selected by MSP seem to indicate an improvement in all-season performance in the past decade. In 2004, the then-NLECTC-Northwest Center conducted winter driving tire tests in conjunction with the Royal Canadian Mounted Police, and came to the conclusion that winter tires provided superior performance to all-season tires (*https://www.justnet.org/standards/Winter_Tires.html*).

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NLECTC is offering tools and assistance to help law enforcement and corrections agencies locate and apply for funding opportunities.

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See www.nij.gov or www.grants.gov.

Give Us Your Tech Ideas

We are actively seeking ideas to help us identify technology needs and requirements as part of the National Institute of Justice's Research, Development, Testing, and Evaluation process.

Following are abstracts on public safety-related articles that have appeared in newspapers, magazines and websites.

Wildlife Forensics Lab Uses Tech to Sniff, Identify Illegal Wood

NPR, (06/28/2015)

The U.S. Fish and Wildlife Forensics Lab in Oregon is using a high-tech device to help track shipments of contraband wood. The lab's woodshop contains samples of some of the rarest woods, which are used the help identify illegal shipments. But with shipments of processed wood this can be challenging because the limbs, leaves and DNA-rich sapwood have been removed. The lab uses a DART-TOF (Direct Analysis in Real Time – Time of Flight) mass spectrometer to help identify contraband wood.

http://www.npr.org/2015/06/28/417164514/wildlife-forensics-lab-uses-tech-to-sniff-identify-illegal-wood

Stuck on You: Research Shows Fingerprint Accuracy Stays the Same Over Time

Michigan State University, (06/29/2015)

A study has found that fingerprint recognition accuracy remains stable over time. Researchers used fingerprint records of 15,597 subjects apprehended multiple times by the Michigan State Police over a time span varying from five to 12 years. The results show that fingerprint recognition accuracy doesn't change even as the time between two fingerprints being compared increases. The study was done by Anil Jain, an MSU University Distinguished Professor, computer science and engineering, along with a former student. The research was supported by a grant from the National Science Foundation Center for Identification Technology Research.

http://msutoday.msu.edu/news/2015/stuck-on-you-research-shows-fingerprint-accuracy-stays-the-same-over-time/

New App Helps Find Fugitives

WKLY.com, (06/30/2015), Mark Vanderhoff

Mobile Patrol, a free app, helped the Floyd County (Ind.) Sheriff's Department find a fugitive during its first week of use. Users who download the app to a smart phone or tablet receive updates about fugitives, including a list of the county's 12 most wanted suspects. Postings to the app are also automatically posted to social media.

http://www.wlky.com/news/new-app-helps-find-fugitives/33878738

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Testing Results. Up-to-date listing of public safety equipment evaluated through NIJ's testing program. Includes ballistic- and stab-resistant armor, patrol vehicles and tires, protective gloves and more.

Calendar of Events. Lists upcoming meetings, seminars and training.

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