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JOURNAL

Innovations in Corrections

- Getting Ready: How Arizona Has Created a 'Parallel Universe' for Inmates

- 'Redemption' in an Era of Widespread Criminal Background Checks

- Standardizing Parole Violation Sanctions

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Preventing Neighborhood Crime: Geography Matters

Ten Ways You Can Use the NCSTL Web Site

DIRECTOR'S MESSAGE

The corrections situation in the United States is serious: The number of offenders in prison is at an all-time high, and there are currently 5 million people on probation or parole — more than three times the number only 25 years ago.

With approximately 7 million adults in this country now under some form of correctional control, the National Institute of Justice continues to examine what works in the field of corrections, especially policies and practices that prevent recidivism. That is why we have dedicated half the stories in this issue of the *NIJ Journal* to corrections.

Alfred Blumstein and Kiminori Nakamura of Carnegie Mellon University discuss preliminary findings from a project that developed an "actuarial" model to determine when an ex-offender's risk of committing another crime declines to the same risk as anyone else in the general population. In other words: How long does an offender have to stay clean before the likelihood that he will commit another crime is the same as other people his age? The ramifications of this ongoing research could be very significant, as we try to balance employers' rights to conduct criminal background checks with the goal of reintegrating ex-offenders into our communities.

We also explore an innovative prison program called Getting Ready, which gives inmates a prison experience that better reflects what their lives will be like when they are released. The third corrections article examines the experiences of two states, California and Ohio, in using tools to calculate sanctions for parole violators.

Finally, I want to share news of a "listening" campaign that was launched in April 2009 by Laurie Robinson, acting assistant attorney general for the Office of Justice Programs. The listening sessions are the first step in widening our channels of communication with key stakeholders, including leaders from law enforcement professional organizations, victim advocate groups and many criminal justice professional associations. They talked … and we listened.

What have we heard? One recurring theme was a need for our "thought leaders" to share their insights and provide easy-to-understand guidance to a variety of audiences. "We want," said one constituent, "to know what you know." People from groups as diverse as the National Crime Prevention Council, the Parents of Murdered Children and the National Conference of State Legislatures said that they were excited to see a renewed commitment by the Obama administration to the value of science and research. They also asked for more collaboration and coordination among OJP agencies, and we received an earful about improving the solicitation and awards processes.

I hope this issue of the *NIJ Journal* meets the clarion call from our stakeholders for compelling, easy-to-digest discussions of what we know.

Kristina Rose
Acting Director, National Institute of Justice

To hear the acting director discuss her thoughts on the "listening" sessions, check out the following link: www.ojp.usdoj.gov/nij/journals/ 263/NIJ_Video_Player.html.

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Getting Ready: How Arizona Has Created a 'Parallel Universe' for Inmates
by Dora Schriro

Throughout my years of working in corrections, I began to notice that some things never changed. The "good" inmate stayed on his bunk, kept his head down and followed orders. Upon release, the same "good" inmate too often became a really lousy ex-offender.

Back in the community, the "good" inmate was ill-equipped to make good decisions because the only thing he had learned to do in prison was sit on his bunk and take orders. Not having spent the workday or his leisure time productively while confined, the newly released offender was not prepared to find or keep a job or develop better relationships. Lacking these critical skills, it was more likely that "good" inmates would make bad choices on the outside.

The sad truth is that most traditional corrections systems in this country take men and women who are already clearly imperfect in their decision-making and severely restrict their opportunity to learn to make any decisions. In many ways, this allows them to continue to shift responsibility and avoid accountability for their prior bad acts and for their conduct in general.

Shortly after I arrived in Arizona, staff throughout the Department of Corrections came together as a team to lay the groundwork for developing Getting Ready, a common-sense approach to pre-release preparation that begins on day one of incarceration and continues to the conclusion of every inmate's sentence. The program is a bottom-up, systemwide reform that can be implemented without enabling legislation or new funds. Getting Ready redefines the officer-offender relationship, shifting many responsibilities from the staff to the inmates and empowering both groups to function at

substantively higher levels than in other correctional systems. For example, officers do not tell inmates when to get up and when to go to sleep. Getting Ready does not just preach about what you ought to be doing when you get back to the real world. We bring the real world — what we now call a "Parallel Universe" — into prison so that inmates in every custody level acquire and practice basic life skills from the first to the last day of their incarceration.

Parallel Universe

The remaking of prison life to resemble life in the community is a central premise of Getting Ready. Modifying ordinary facets of life in prison to parallel life outside prison — thus, its name, Parallel Universe — begins with one basic question: How do people in the real world tackle this problem?

Take health care as an example. As most people know, health care costs are rising. In Arizona, we applied the Parallel Universe model by asking, How do we address this problem in the outside community?

If someone in the community adheres to healthy habits — by not smoking, eating healthy foods, exercising and complying with medical directions — he will likely have a lower co-pay. On the other hand, people with unhealthy habits are at higher risk and thus will have a higher co-pay. We applied this same solution in Getting Ready,

Editor's Note

Dora Schriro, former director of the Arizona Department of Corrections, spoke at NIJ's 2008 annual conference. Her discussion about Arizona's innovative Getting Ready corrections program was so well received that we invited her to write an article for the *NIJ Journal*. The Getting Ready program won an Innovations in American Government award from Harvard University's John F. Kennedy School of Government in 2008. Although Getting Ready has not yet undergone an independent evaluation by NIJ, we feel it is keeping with the *Journal's* role as an active participant in the "marketplace of criminal-justice ideas" to continue this discussion with our readers.

EVALUATION OF GETTING READY
by Gerald Gaes

Every year, the Ash Institute — part of Harvard University's Kennedy School of Government — holds a competition to identify government initiatives that improve the lives of our citizens. I was asked by the Ash Institute to prepare a report on the Getting Ready program in Arizona; my report was one of the factors that the committee of judges considered in giving Getting Ready a 2008 Innovations in American Government award.

My report was based on a tour of four of the Arizona Department of Corrections prison complexes; during this visit, I talked with 70 staff members, representing all levels of the organization, and 55 inmates. I also talked with then-Arizona Governor Janet Napolitano, now secretary of the U.S. Department of Homeland Security, and with members of several nonprofit groups, such as Mothers Against Drunk Driving, Girl Scouts Behind Bars and the ADC Labor Relations Council, which consists of civilian and uniformed corrections personnel. I also reviewed numerous documents, including:

- ADC policies on inmate discipline, mail, phone calls, visitation, property and recreation.
- Technical manuals on inmate classification and individual corrections plans.
- Policies on Getting Ready's earned incentive program and work activities.
- ADC's 2007 five-year strategic plan.
- Data published by the U.S. Department of Justice's Bureau of Justice Statistics.

Objective Outcomes

To determine objective performance measures, I compared data from 2003 (a year prior to the development of Getting Ready) to data from 2007. It is important to note that, from 2003 to 2007, ADC's prison population grew 27 percent.

creating an all-encompassing incentive system that includes wellness, so that healthy habits deliver personal and fiscal benefits for both the prisoner and the system.

We also applied Parallel Universe to inmates' work assignments. Some prison jobs are menial, but because they are important to the system, they tend to pay higher wages. This, of course, is not the way it

is done in the real world. So we turned to the U.S. Department of Labor's *Dictionary of Occupational Titles* to determine job categories and salaries and revised inmate pay to reflect what someone could expect to receive proportionately for performing this work in the community.

The same principle was applied to education. An inmate is not required to complete or further his education, but until he earns a GED — assuming he is academically able, which encompasses the vast majority of the population — he can be employed only in entry-level jobs, earning entry-level wages. However, as in the real world, once he earns a GED, many other employment opportunities open up. In Getting Ready, a GED becomes a prerequisite to job training, better work assignments and higher wages.

For example, one of the job opportunities available to inmates in Arizona who earn a GED is with a company we have partnered with for many years. When the company won a business innovation award, the CEO said that he wished the inmates who contributed to the firm's success could have attended the awards ceremony. So I said, "Why don't you bring the award out to the prison, and we'll replicate the awards ceremony?"

We brought together more than 300 inmates from various housing units in a common yard where the impact of the partnership and shared success was immediately apparent. In addition to friendly banter and lots of laughter, I observed many of the prisoners who were employed in the award-winning business generously praising the officers who had helped make this happen. Both inmates and staff spoke about what they had accomplished. The inmates knew that they did not get the work assignment by accident; they had to get their GED and remain violation-free to participate in the employment program. And the staff knew that they were correctional professionals who had inspired, supported and sustained this change.

Today, three-quarters of the inmate population in Arizona have a GED certificate, and needless to say, this is a win-win for inmates and for the entire community. A GED is a very effective prison management tool in that it improves self-esteem, enabling our population to be more insight-oriented and less action-oriented and thus, easier to interact with and manage day-to-day. This is precisely what the research has shown: Having a GED contributes to reduced violence in the prison. A GED and its benefits — postsecondary job training and premium-pay work assignments, for example — work as well in prison as on the street.

Getting Started

The first step, of course, happens during intake and classification. The staff conducts an in-depth objective assessment of inmate needs and risks. The assessment provides the basis for housing, work and supervision decisions and program assignments — based on acuity of need for intervention, risk to self and others, length of stay and amenability to treatment — and also helps create an individualized corrections plan for each inmate.

Here is an analogy of how I regard an individualized corrections plan: Everyone goes to the same supermarket and everyone gets a cart. But as you walk down the aisles, you take only the things off the shelves that meet your needs. In essence, Getting Ready stocks the shelves with a variety of options. But you cannot just open up any package and sample it as you go — the program ensures that an inmate can add to his cart things that the intake assessment has determined are necessary for growth and development.

As with any good system, Getting Ready's individualized plans — including assessments and a re-evaluation of risk — are updated at least annually throughout an inmate's incarceration.

We cannot afford for inmates to put off discharge planning until the last several months of their sentence. In Arizona, every inmate, regardless of custody level, is expected to work full time toward the completion of the corrections plan prior to release. We call the process by which they do this "7 x 3 x 3." Inmates should be focused seven days a week, during the three facets of every day (school or work, structured self-improvement, and community betterment), and motivated by a three-tiered system of incentives that they can earn throughout their sentence.

You do not have to look hard to see Parallel Universe at work. Unlike the typical prison day, which starts about 9 a.m. and ends around 3 p.m. and rarely extends to the weekend, Arizona inmates apply themselves every day of the week, working to become literate, employable and sober, and during leisure time, focusing on their families and communities and improving their lives. When inmates make the right choices for the right reasons, they benefit in ways that parallel our lives.

Getting Ready's Incentive System

In most traditional prison systems, inmates can go one way — and that is down. It is usually as good as it is going to get the moment they walk in the door. In most institutions, the staff says, "Here are your uniforms and undergarments, one pair each of sneakers and shower shoes, towels and sheets. Make the most of it because it's not going to get any better. If you behave badly, we will take some of this away. If you do well, we will leave you alone."

Most corrections systems rely predominately, if not exclusively, on motivating the population to not do bad things. This is fundamentally different from purposely motivating prisoners to do good things. Getting Ready uses a three-tiered earned incentive system that changes the traditional paradigm. This system recognizes good behavior — greater acceptance of responsibility and better decision-making — with

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rewards or incentives that can be earned over time, are appropriate to each custody level, and are prized by the population.

Some of these incentives are not unique to corrections, but we bundled them in a low-cost, or no-cost, way that works. How did we do this? First, we held a series of inmate forums, which marked a significant change in how communication usually happens in prisons. Inmates were asked, "What are the things you miss most? Without compromising security, what things would you want to have back in your life?"

One thing they identified was the ability of family members to bring food on visitation days. Most corrections systems prohibit food items from being brought in because it presents an opportunity to smuggle in contraband. In Getting Ready, an inmate has to work very hard to earn a visit in which family members are allowed to bring food, and not all inmates in every custody level are eligible. But we have found that these visits are also so meaningful to the inmate's family that family members themselves have become an effective "policing authority." These visits have taken place at a number of Arizona facilities with not a single untoward incident reported.

Another thing inmates said that they missed from the outside was the chance to have dinner and a movie, so we built this into the earned incentive system. Now inmates have the possibility of eating their meals in a less

Inviting Arizona's crime victim community to actively participate in the Getting Ready program has enabled us to build a striking sense of accountability and responsibility in the prison population.

regimented setting, followed by a show or televised sports event, and the opportunity to buy snacks not ordinarily sold in the commissary.

The things the inmates identified during the forums were not difficult to provide. In fact, their suggestions were normal and, to me, indicated not that the inmates were trying to get comfortable being in prison, but that they wanted to try to normalize their lives as much as possible.

Free Time

Recidivism studies show that, even when an inmate gets a job or acquires other skills in prison, how he spends his free time is crucial to his long-term success. Therefore, Getting Ready contains a two-part component for free time. The first focuses on self-improvement and includes classes in conflict resolution, cultural diversity, spiritual pursuits, arts and recreation, and relapse prevention, such as Alcoholics Anonymous or Narcotics Anonymous. The second leisure-time component is dedicated to community betterment and family reunification.

Community betterment can include a number of different activities, but in Getting Ready, crime victims are a key constituency. Crime victims represent the segment of our community that has been most directly affected by the inmates' unlawful conduct; crime victims are united in their desire that others not become victims of crime when these inmates are released. Inviting Arizona's crime victim community to actively participate in the Getting Ready program

has enabled us to build a striking sense of accountability and responsibility in the prison population.

Although victim classes are not unique to Arizona, we have coupled them with other Getting Ready components. For example, inmates are involved in fundraisers and other activities that support victims' organizations. In fact, the inmates themselves select victims' organizations and then, working with staff, seek advice from these organizations on how best to support them. Inmates also become better community members by making donations to charities — and those who do not have money can get involved in other ways. For example, inmates have donated their hair to Locks of Love and walked their facilities' perimeter to raise awareness for breast cancer survivors. I have seen these activities empower inmates, men and women alike, raising their awareness of the impact of their prior bad conduct on others and also increasing their awareness of the powerful positive impact of good conduct on themselves and their families. That can be truly transformative.

I have also witnessed greater responsibility among Getting Ready inmates for their criminal conduct and its impact on crime victims; in the past four years, for example, inmates in Arizona have raised more than $1.4 million for crime victim agencies, and court-ordered restitution has increased 14 percent per inmate.

Another benefit we have seen is enhanced civility in the population and between staff and inmates. Let me be clear: This is not about being more "familiar"; it is about striving to be more effective. Today, inmates seek out staff members; inmates want the approval of staff members, and they value their opinions. It is also rewarding for staff to be recognized as role models.

Outcomes

Since we implemented Getting Ready in 2004, Arizona's corrections system has experienced significant positive outcomes.[1]

Violence has been reduced with inmate-on-inmate assaults decreasing 46 percent, inmate-on-staff assaults down 33 percent, suicides down 67 percent and sexual assaults down 61 percent.

Inmate problem-solving is demonstrably better, with grievances falling 27 percent and inmate lawsuits over conditions of confinement down 63 percent.

I also believe that the community is safer. The average one-year return rate for all releases in the two years before and after Getting Ready started improved 2.75 percent. Within this group of releases were 1,500 inmates who completed Getting Ready in its entirety. This group has done considerably better, as much as two years after release, than inmates of comparable risk who did not have access to the program during the phased implementation. Inmates completing Getting Ready have committed 35 percent fewer new crimes and had 5 percent fewer parole revocations.

As with any innovative program however, many measures of success are anecdotal and more difficult to measure with numbers. One of my favorite stories concerns inmate art.

As many people know, inmate art is unique, and it can be fairly violent. At one of our prisons, inmates painted a mural of a fleet of boats — we often refer to ourselves as a correctional system moving toward flagship status — and each boat depicted a unit at the prison and a facet of the Getting Ready program. Onboard are staff and inmates together, steering the ships and raising their sails. That is the degree to which inmates see themselves as part of the Getting Ready team. At another prison, there is a mural showing the metamorphosis of an inmate coming into prison, going through Getting Ready, then walking out: a grown-up in a suit, carrying an attaché, with his family waiting for him.

Getting Ready imposes real-world expectations on inmates. Although the program focuses on the 97 percent of a state's correctional population that is sentenced to a term of years and then goes home, it is no less applicable to those serving a life or a death sentence.

We instituted Getting Ready with no new monies — we simply used our scarce resources of staff, space and time more wisely. I think the fundamental fairness behind Getting Ready has played an important role in the program's widespread acceptance in Arizona. Fueled by the principle of Parallel Universe, Getting Ready does not ask anything of inmates that we do not ask of ourselves in the real world. And as is the case in the real world, Getting Ready does not mandate inmates, per se, to do anything ... just like in life on the outside. You can "opt out" if you want to, but with fewer than 2 percent of the population opting out, it is clear that inmates recognize its value, too.

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Notes

1. Schriro, D., "The Arizona Plan Getting Ready: Keeping Our Communities Safe," Phoenix: Arizona Department of Corrections, 2008, available at www.azcorrections.gov/adc/PDF/plan3_FY2008.pdf.

About the Author

Dora Schriro, Ph.D., J.D., was director of the Arizona Department of Corrections for six years and director of the Missouri Department of Corrections for eight years. She is now special advisor on Immigration and Customs Enforcement and Detention & Removal to Secretary Janet Napolitano at the U.S. Department of Homeland Security. Schriro earned her Ph.D. from Columbia University and her J.D. from St. Louis University. She has been honored by the National Governors Association for her recidivism policies, and in 2008 Getting Ready received an Innovations in American Government award from the John F. Kennedy School of Government at Harvard University.

EVALUATION OF GETTING READY

(continued from page 3)

Some metrics are reported as raw numbers and other metrics as rates or percentages.

Sexual assaults (confirmed):
2003: 20
2007: 7

Suicides:
2003: 6
2007: 8

Major rule violations:
(down 12.5 percent)
2003: 522 (per 1,000)
2007: 457 (per 1,000)

Inmate-on-staff assaults:
down 51 percent

Inmate-on-inmate assaults:
down 37.5 percent

Inmate grievances: down 17 percent

Medical grievances: down 19.8 percent

Inmate lawsuits: down 41.5 percent

Positive random drug tests:
2003: 6.2 percent
2007: 3.3 percent

GED graduates:
2003: 791
2007: 3,306

'Softer' Outcomes

Staff members and inmates — including those who were initially skeptical when Dora Schriro first announced her approach to re-engineering ADC management strategies — described dramatic changes in the culture, safety and attitudes of both inmates and staff. Although a few correctional officers said that they preferred the system before Getting Ready, they were in the minority. Most of the staff told me that, pre-Getting Ready, ADC was typical of many correctional systems that have extremely rigid and harsh procedures that institutionalize an "us-versus-them" mentality, in which inmates must rigidly follow rules, many of which are infractions that would not rise to the level of a misdemeanor in state or federal criminal codes and that can be arbitrarily interpreted. This approach gave correctional officers the discretion to choose when they wanted to enforce rules and when they wanted to ignore them. Getting Ready redesigned the misconduct policy so that it is more like the Arizona criminal codes, just one element of the program's "Parallel Universe" concept that emphasizes similarities, rather than distinctions, between prison life and the free community.

Inmates described the pre-Getting Ready environment as one in which there was nothing to look forward to, little opportunity for self-improvement and no consideration for their needs or views. Getting Ready dramatically changed this paradigm. Inmates stated that there was more communication with staff, and some described a job fair at which 15 inmates who were being released found a job, a practice that never occurred before Getting Ready.

I spoke with inmates who worked at a telemarketing firm that was located within the prison compound, just one Getting Ready job opportunity for inmates who had earned their GED. Many of them told me that this work opportunity had "changed their life." Another inmate told me that, before Getting Ready, there was no way to solve problems; there was little or no staff guidance. "You just did your time," she said. Now, she continued, time is spent constructively and inmates have a greater sense of pride. One very articulate inmate told me that, before Getting Ready, she thought of herself as lying in a glass coffin, watching the world go by, decaying and wasting away; now, she said she feels that she has self-worth and she sees opportunity not only within the prison environment but when she returns to the free community.

Safer Communities?

The Getting Ready program was designed with specific, clearly stated goals:

- Improve the safety and security of staff and inmates.

- Increase public safety in the community by reducing recidivism.

- Enhance civility between and among staff and inmates.

- Promote greater inmate participation in productive work, schooling and treatment.

- Increase inmate concern for victims and acts of civic responsibility.

The objective and subjective ("softer") outcomes that I was able to measure clearly indicated that Getting Ready had dramatically improved the prison environment for inmates and staff alike. But the important policy question remained: Does Getting Ready improve community safety?

Recidivism can be measured many different ways. Most correctional agencies compute the percentage of prisoners released in a fiscal year who return to prison — for technical violation of community supervision or committing a new crime — within a particular period of time. The average one-year return rate for ADC in 2002 and 2003 was 30 percent; that is, during the two years before Getting Ready was implemented, 30 percent returned to prison within one year of their release. The average for the four following years was 27.25 percent, a difference of 2.75 percent.

Although this may seem like a small impact, the Getting Ready program was still rolling out when I performed my review for Harvard, and even if this figure represents the recidivism impact over a longer time period, it could be considered significant. Because implementing Getting Ready required little additional funding — and considering the fact that prison costs $30,000 or more per inmate per year — even small reductions in prisoner returns produce significant taxpayer savings.

Considered on a nationwide basis, such a program could have a large impact.

An Innovative Program

It was not possible for me to judge all aspects of Getting Ready during my two-day site visit and review of written data; for example, I did not visit segregation cells where the most aggressive and difficult-to-manage inmates are held. I visited only four of ADC's 10 complexes; however, these four managed inmates at all security levels, and I had no reason to suspect that there would be significant differences.

Make no mistake about it: ADC still operates prisons. There are fences, razor wire, correctional officers and guns on the perimeter. Inmates wear orange jump suits. Correctional officers wear brown and beige uniforms with gold star badges. ADC conducts counts four times a day to ensure that inmates are where they should be. But, in my assessment, Getting Ready is a successful program innovation. Its innovation lies in the integration of many individual components that are used in other modern progressive penal systems, such as offering classes in victim awareness, involving both line staff and inmates in strategic planning, conducting needs and risk assessments, instituting an earned incentive program, and keeping inmates productively occupied. Getting Ready is a model program that proves that changes can be made with little or no additional resources and that they can be made in a relatively short period of time.

Getting Ready is a model program that proves that changes can be made with little to no additional resources and that they can be made in a relatively short period of time.

About the Author

Gerald Gaes, Ph.D., received his doctorate in social psychology from the State University of New York at Albany in 1980. He worked for the Federal Bureau of Prisons for 20 years, including as the director of the Office of Research. He served as a visiting scientist at NIJ for five years; he also served a two-year detail at the United States Sentencing Commission. Gaes is first author of Measuring Prison Performance: Government Privatization and Accountability; *he has published extensively in professional journals, including* Crime and Delinquency, Criminal Justice Review, Criminology and Public Policy, Justice Quarterly, *and* Punishment & Society. *In July 2000, Gaes received the U.S. Department of Justice Attorney General's Distinguished Service Award for the correctional research that he conducted during his BOP career.*

'Redemption' in an Era of Widespread Criminal Background Checks
by Alfred Blumstein and Kiminori Nakamura

One of the stated goals in President Barack Obama's crime and law enforcement agenda is to break down employment barriers for people who have a prior criminal record, but who have stayed clean of further involvement with the criminal justice system. To understand how many people are affected by some of these barriers, we only need look at the widespread computerization of criminal history records in the United States.

According to the Society for Human Resource Management, more than 80 percent of U.S. employers perform criminal background checks on prospective employees.[1] Add two additional factors to that equation — advances in information technology and growing concerns about employer liability — and we can begin to understand how complicated the issue of employing ex-offenders has become.

The numbers leave no doubt that we have reached a broad penetration of criminal history records into the fabric of our society:

■ In 2006, nearly 81 million criminal records were on file in the states, 74 million of which were in automated databases.[2]

■ Another 14 million arrests are recorded every year.[3]

What does this mean for employers? And what does it mean for ex-offenders who need a job?

Consider a 40-year-old male who was convicted of burglary when he was 18 years old and has committed no further crimes. Every time he applies for a new job, he tells the potential employer that he was convicted of a felony; even if he does not state this up-front, the employer is likely to do a criminal background check. In either case,

he probably will not get the job because many employers are unwilling to hire an ex-offender.[4]

This situation prompted us to ask the question: Is it possible to determine empirically when it is no longer necessary for an employer to be concerned about a criminal offense in a prospective employee's past?

Most people would probably agree that there should be some point in time after which ex-offenders should not be handicapped in finding employment. The question is when, precisely, should this occur? In the case of our hypothetical 40-year-old, when should a prospective employer no longer consider a burglary that was committed more than two decades earlier if the job applicant has stayed clean since then?

Currently, employers have no empirical guidance on when it might be considered safe to overlook a past criminal record when hiring an ex-offender for a particular job. Employers generally pick an arbitrary number of years for when the relevance of a criminal record should expire: five or 10 years, for example. It goes without saying that different types of employers will have different sensitivities about the potential employee's criminal record. Those serving vulnerable populations like children and the elderly would be particularly sensitive to a prior record involving violence, while a bank hiring a teller would be particularly sensitive to property crimes. A hiring crew for a construction company might be far less sensitive to most prior records.

The point is that determining when a potential employee's criminal record may no longer be relevant has, to date, been an arbitrary exercise. Although considerable research has been done on how to forecast possible criminal behavior, no empirical basis has been found for deciding when a person's record is stale enough for an employer to consider it no longer useful or relevant.[5]

Until now.

There should be some point in time after which ex-offenders should not be handicapped in finding employment. The question is when, precisely, should this occur?

The National Institute of Justice funded our study to "actuarially" estimate a point in time when an individual with a criminal record is at no greater risk of committing another crime than other individuals of the same age. Although our research is ongoing — and our findings, discussed in this article, are preliminary — we have created a model for providing empirical evidence on when an ex-offender has been clean long enough to be considered, for employment purposes, "redeemed." An in-depth discussion of our findings and research methods appears in the May 2009 issue of *Criminology.*[6]

What We Have Known for Years

It is well known — and widely accepted by criminologists and practitioners alike — that recidivism declines steadily with time clean.[7] Most detected recidivism occurs within three years of an arrest and almost certainly within five years.[8] But is it possible to identify when the risk of recidivism has declined sufficiently to be considered irrelevant in hiring decisions?

In our study, we obtained the criminal history records of 88,000 individuals who were arrested for the first time in New York state in 1980.[9] First, we determined whether they had committed any other crime(s) during the ensuing 25 years or if they had stayed clean. Then we compared this data against two populations:

(1) People in the general population who were the same age.[10]

(2) People of the same age who had never been arrested.

We believe that our analysis provides the criminal justice community with the first scientific method for estimating how long is "long enough" for someone with a prior record to remain arrest-free before he or she should be considered "redeemed" by a prospective employer.

Our goal was to determine empirically at what point in time the risk of recidivism for people in our study group was no greater than the risk for our two comparison populations.[11] To do this, we plotted data curves to determine when the risk of re-arrest for individuals in our study group:

- Dropped below the risk of arrest for same-aged people in the general population.

- Approached the risk of arrest for people who had never been arrested.

We believe that our analysis provides the criminal justice community with the first scientific method for estimating how long is "long enough" for someone with a prior record to remain arrest-free before he or she should be considered "redeemed" by a prospective employer.

Determining the Hazard Rate

Our analysis was based on a statistical concept called the "hazard rate." The hazard rate is the probability, over time, that someone who has stayed clean will be arrested. For a person who has been arrested in the past, the hazard rate declines the longer he stays clean.

To determine the hazard rate for our study group, we looked at two factors:

- Age at the time of the 1980 (first) arrest.

- Type of crime.

We then compared these hazard rates, as they declined over time, to people of the same age in the general population. For these data, we used the arrest rate (the age-crime curve) from the Uniform Crime Reports, maintained by the Federal Bureau of Investigation.

In the figure on page 13, we show the hazard rate for 18-year-olds when they were arrested for a first offense of one of three crimes: robbery, burglary and aggravated assault. The figure shows that for robbery, the hazard rate declined to the same arrest rate for the general population of same-aged individuals at age 25.7, or 7.7 years after the 1980 robbery arrest. After that point, the probability that individuals would commit another crime was less than the probability of other 26-year-olds in the general population.

The figure also shows our analysis for burglary and aggravated assault. The hazard rates of people who committed burglary at age 18 declined to the same as the general population somewhat earlier: 3.8 years post-arrest at age 21.8. For aggravated assault, the hazard rates of our study group and the general population of same-aged individuals occurred 4.3 years post-arrest or at age 22.3.

Individuals who were arrested for robbery at age 18 had to stay clean longer than those who were arrested for burglary or aggravated assault to reach the same arrest rate as same-aged people in the general population.

We also looked at the effect of the arrestee's age at the time of his first arrest in 1980. We examined the hazard rates for three ages of people in our study group — 16, 18 and 20 years old — who were arrested for robbery in 1980. Based on the criminal histories of these people, we found that individuals who were first

Hazard Rate for 18-Year-Olds: First-Time Offenders Compared to General Population

The probability of new arrests for offenders declines over the years and eventually becomes as low as the general population.

Probability of first arrest for general population or subsequent arrest for previous offenders

Chart labels: 25%, 20%, 15%, 10%, 5%, 0

Data point labels: 3.8, 4.3, 7.7

Line labels: General population, Robbery, Aggravated assault, Burglary

X-axis: 2, 4, 6, 8, 10, 12, 14, 16, 18

Years since first arrest
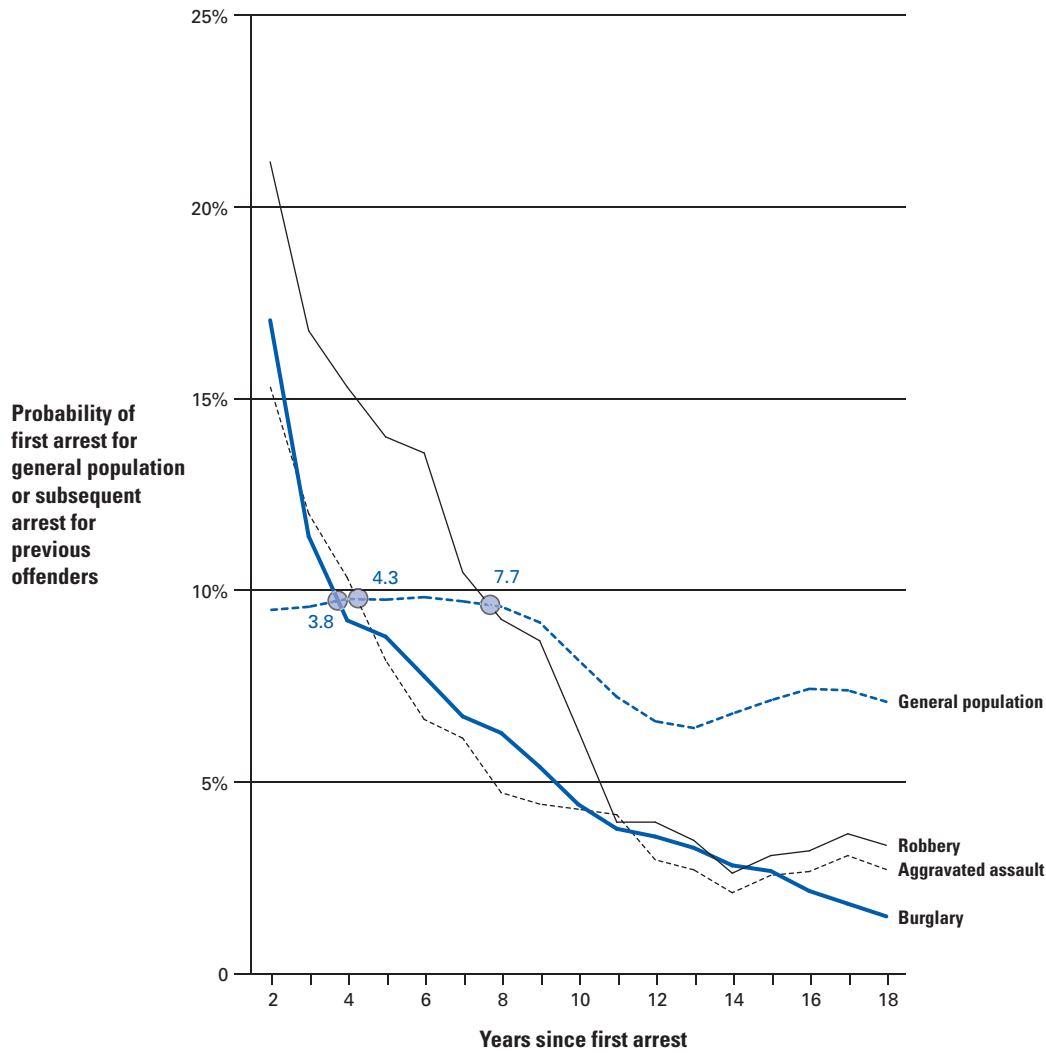
arrested when they were 18 years old had the same arrest rate 7.7 years later as a same-aged individual in the general population. In contrast, those whose first arrest occurred at age 16 crossed the curve for a same-aged individual in the general population 8.5 years later, and individuals who

were first arrested at age 20 crossed their curve 4.4 years after their first arrest.

Thus, our analysis showed that the younger an offender was when he committed robbery, the longer he had to stay clean to reach the same arrest rate as people

Our findings could play an important role in policy discussions about the maintenance of and access to criminal record databases.

his same age in the general population. We also performed the same analysis for the first offenses of burglary and aggravated assault and found similar results.

Comparing Hazard Rates to the Never-Arrested

As noted earlier, our study also compared hazard rates to people who had never been arrested. Needless to say, the hazard rates for people in our study group (because they had been arrested) would never be the same as the hazard rate for people who had never been arrested. But it is reasonable to expect that an ex-offender's hazard rate gets close enough — the longer he stays clean — for an employer performing a criminal background check to determine acceptability for a particular position.

The higher an employer's risk tolerance — that is, the closer a prospective employer would have to get to the hazard rate of the never-arrested — the longer an ex-offender would have to stay clean.

How Robust Were Our Results?

Our preliminary results are limited to people who were arrested in New York state in 1980. Our next step will be to determine if the data hold true at other times and in other places. For example, we want to see whether we get similar results if we draw upon a sample of people who were arrested for the first time in 1985 and in 1990 because these years were quite different from 1980 in a number of important ways:

- 1980 was a peak crime year due to demographic shifts of baby boomers aging out of the high-crime ages.

- 1985 saw a "trough in crime rates" before young people were recruited to sell crack as older crack sellers were sent to prison.

- 1990 was near a peak before the beginning of the crime drop in the 1990s.[12]

If we find that the hazard rates for ex-offenders in these years are similar to what we have found in our preliminary analysis, the usefulness of our hazard-rate analysis method would be strengthened.

Note that our analysis looked at any crime as the marker for when a second arrest occurs; we would also like to examine the relative risk of a specific second crime because, as we stated earlier, different types of employers have different risk tolerances for particular crimes.

We also want to test our risk-analysis model with data from different states. Although it is possible that variations in local populations and arrest practices may affect the results, we anticipate that they would be reasonably close.

Another aspect of future research will explore the possibility that some of the individuals in our study group who looked clean in New York state might have been arrested in another state. We will access FBI records to determine if an individual with no further arrests in New York may have been arrested in New Jersey or Florida, for example.

Public Policy Implications

We believe that our preliminary findings and ongoing research offer an opportunity to think about when an ex-offender might be "redeemed" for employment purposes — that is, when his or her criminal record empirically may be shown to be irrelevant as a factor in a hiring decision.

People performing criminal background checks would find it valuable to know when an ex-offender has been clean long enough that he presents the same risk as other

people in the general population. Employers also might be more likely to use this type of analysis if there were state statutes protecting them against due diligence liability claims when they adhered to reasonable risk-analysis findings.

We also believe that our findings could play an important role in policy discussions about the maintenance of and access to criminal record databases. Considerable policy control rests with those who oversee state criminal history repositories. These decision-makers could establish policies that prevent repositories from distributing records that are determined by hazard-rate analysis to be no longer relevant. Or repositories could seal or even expunge old records if they are deemed, based on such an analysis, to be no longer relevant to assessing future risk. Such policy decisions would inevitably vary from state to state and be driven by other relevant considerations, but policymakers may find valuable guidance in our research findings and methods for considering such decisions.

For example, officials who manage repositories of criminal records could inform prospective employers (and others who access criminal history records) when such records are "stale" — that is, when a recidivism risk analysis demonstrates that a prior arrest or conviction is no longer meaningfully relevant. Pardon boards, too, could use this type of analysis to decide when to grant a pardon to an applicant.

Where to From Here?

At a meeting of the American Society of Criminology in the early 1970s, one of the panelists argued against computerization — that was just then beginning — of criminal history records. Computers, he maintained, didn't understand the Judeo-Christian concept of "redemption." Another panelist challenged him, stating that paper records certainly did not understand that concept … but at least computers could be "taught."

We believe that these findings represent the first empirical evidence on "redemption times" and how these could affect policies aimed at enhancing employment opportunities for ex-offenders.

Our research is looking at what we might "teach" those computers.

As we said at the beginning of this article, our research is ongoing and needs much further robustness testing to ensure that findings apply more universally, beyond our study group of first-time 1980 arrestees in New York. Nonetheless, we believe that these findings represent the first empirical evidence on "redemption times" and how these could affect policies aimed at enhancing employment opportunities for ex-offenders.

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For More Information

- Blumstein, A., and K. Nakamura, "Redemption in the Presence of Widespread Criminal Background Checks," *Criminology* 47 (2) (May 2009).

- See *Criminology & Public Policy* 7 (3) (August 2008): Uggen, C., "Editorial Introduction to 'The Effect of Criminal Background Checks on Hiring Ex-offenders,'" 367-370; Freeman, R., "Incarceration, Criminal Background Checks, and Employers in a Low(er) Crime Society," 405-412; Stoll, M.A., and S.D. Bushway, "The Effect of Criminal Background Checks on Hiring Ex-offenders," 371-404; and Western, B., "Criminal Background Checks and Employment Among Workers With Criminal Records," 413-417.

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9. Data were provided by the New York State Division of Criminal Justice Services; we thank David van Alstyne, a research manager in that office, for his support in this research study. All data were provided with no individual identifiers — that is, all names and other identifying information were removed before the data were given to us.

10. "General population" included people with no arrests as well as ex-offenders who had served their time and were back in the general population.

11. All of the findings reported in this article are based on arrest records. As our research continues, we will address case disposition. We anticipate that hazard rates in our ongoing analyses will be somewhat higher because they will not include individuals who were not charged or who were found to be not guilty.

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Books in Brief

To Protect and To Serve: Policing in an Age of Terrorism

David Weisburd, Thomas E. Feucht, Idit Hakimi, Lois Felson Mock and Simon Perry, eds.

Since Sept. 11, the threat of terrorism has become a key issue in police agencies throughout the world. How should the police change to counter terrorism threats? What implications do such changes have on law enforcement's traditional responsibilities? *To Protect and To Serve: Policing in an Age of Terrorism* brings together distinguished American and Israeli policing scholars to shed light on what has happened to policing since the turn of the century and what trends can be expected over the next few decades.

To Protect and To Serve discusses how terrorism raises new questions for democratic societies and explores the role that law enforcement should play in preventing and responding to threats. The book also presents strategies and tactics that agencies use to prevent and combat terrorism and examines how police agencies have responded organizationally to the added responsibilities of fighting terrorism.
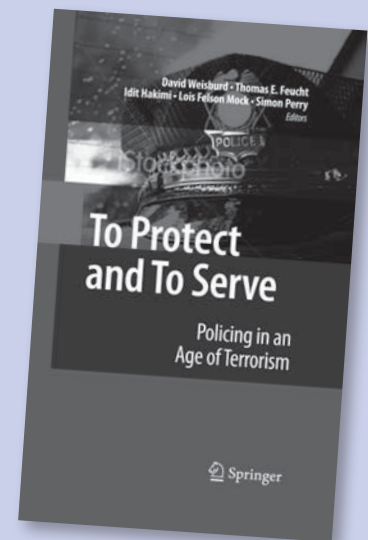
Standardizing Parole Violation Sanctions
by David Fialkoff

States struggling with a large number of parolees share many concerns: a system that may not be responsive to identifying parolees' risks and needs, time-consuming and costly parole violation hearings, an overuse of expensive custody sanctions instead of treatment, and questions of fairness and proportionality.[1]

Ohio and California have recently tackled issues of fairness and proportionality by using tools to calculate sanctions for parole violations. In Ohio, officials have been using a matrix for about four years; in California, they began using a computer-based model in 2008.

Use of standardized tools for sentencing is not new, but research regarding the effectiveness of similar tools for parole and probation officers in Ohio and California could have implications for the country as a whole.

Ohio Adopts a Matrix

Does using a matrix make a difference? In Ohio, the answer is yes. Brian Martin and Steve Van Dine, researchers with the Ohio Department of Rehabilitation and Correction, looked at how effective the matrix had been in reaching the state's policy goals for reducing reliance on revocation hearings and increasing the use of community sanctions for early violations.[2]

Corrections officials in Ohio had mixed reactions to the matrix. Many parole officers responded positively to it, but some felt that their skills and opinions had not been considered in the matrix's design. Others perceived the matrix as undermining their authority and discretion.

The Ohio matrix allows multiple sanctions — called "unit-level sanctions" — before parole is revoked. Possible sanctions include more

restrictive conditions on parole, increased structured supervision, substance abuse testing and monitoring, reprimands and halfway house placement.

This graduated sanction system is less rigid than those used, for example, by many drug courts. On the other hand, the matrix is nondiscretionary in that it limits the number of unit sanctions. In addition, the number of sanctions decreases as risk level, violation severity and number of violations increase. This, in turn, increases the likelihood of a revocation hearing, opening up the possibility that a parolee will be returned to prison.

The Martin and Van Dine data show that the matrix yielded many of the results policymakers were looking for:

- Costly revocation hearings — and the even more costly option of reincarceration — were significantly reduced.

- Hearings that did occur were more efficient, and resources were concentrated on those releasees who presented a higher risk of reoffending.

- There was greater proportionality between the risk of reoffending and the sanctions imposed.

- Sanctions increased in severity for each reoffense or violation.

The study did not show that progressively punitive sanctions, by themselves, had an independent effect on diminishing future criminal behavior. Adding treatment services to the progressive sanction scheme, however, significantly reduced recidivism by high-risk offenders who were sentenced for parole violations after Ohio started using the grid. Researchers found that the progressive policy led to a better matching of services based on an individual offender's risks and needs — and, they noted, the looming certainty of more restrictive sanctions may also help focus an offender's attention on the benefit of actively participating in treatment.

Adding treatment services to the progressive sanction scheme significantly reduced recidivism by high-risk offenders who were sentenced for parole violations after Ohio started using the grid.

California Goes Digital

California began using a computer-based parole violation sentencing system in November 2008. Called the Parole Violation Decision Making Instrument, it might be considered the next generation of matrix, in that — unlike a two-dimensional grid, such as that used in Ohio — it is computer based.[3]

Corrections officials first determine the offender's risk score. This is calculated using the California Static Risk Assessment, an instrument that predicts the likelihood of reoffending based on criminal history and personal characteristics such as age and sex.

Then officials use PVDMI to determine where the parolee's violation falls on a severity scale. The degree of severity is then cross-referenced with the CSRA score to determine a response level or sanction.

Sanctions range from community-based programs that take offenders away from family and employment for a short time to the severest sanction of reimprisonment.

California's new PVDMI assessment tool was designed to focus on higher risk parolees while diverting less serious parole violators to treatment alternatives. However, parole agents and unit supervisors can recommend overriding the instrument based on factors that include the unavailability of an appropriate program alternative in the community.

Parole violation sanction tools are not immune to controversy. The Los Angeles Police Protective League recently filed a formal complaint objecting to further use of the PVDMI.

Use of the PVDMI began at four pilot sites — Chula Vista, the San Fernando Valley, Santa Maria and Stockton — with statewide rollout expected through the summer of 2009. According to Joan Petersilia, a professor of criminology, law and society at the University of California, Irvine, early word from parole agents is that sanctions that are directed by PVDMI appear to be appropriate in a majority of cases. Efficacy of PVDMI will be formally evaluated by the U.C.-Irvine Center for Evidence-Based Corrections.[4]

As the statewide rollout is set to begin, not everyone is confident. On May 5, 2009, the Police Protective League (the union that represents Los Angeles police officers) filed a formal complaint with Governor Arnold Schwarzenegger, objecting to further use of PVDMI. The officers expressed concern that the main purpose of PVDMI was to save money and argued that its use will result in a dangerous decrease in the monitoring of releasees.[5]

California's Unique Challenge

In 2005, the National Institute of Justice funded Petersilia and fellow researchers Ryken Grattet from the University of California, Davis, and Jeffrey Lin from the University of Denver to study parolee supervision in California. Their report, which considered 2003-2004 data and was published in 2008, offers a compelling description of the problems that California faces.[6]

In addition to having the largest prison population of any state, California has an enormous parolee population. The Bureau of Justice Statistics reports that on any given day in 2006, the state had

about 120,000 parolees under its supervision.[7] That amounts to 15 percent of all parolees in the United States. Potentially increasing this figure: On February 9, 2009, a three-judge panel of the District Courts for the Eastern and Northern Districts of California issued a tentative ruling requiring California to relieve overcrowding by releasing tens of thousands of additional prisoners.[8]

The magnitude of the situation stems from California's unique compulsory parole system, in which almost all prisoners are placed into mandatory parole upon release. Effectively, this means that parole in California is an extended period of out-of-custody supervision — a reality that prompted Jeremy Travis, president of John Jay College of Criminal Justice, to call it "back-end sentencing."[9] In their final report, *Parole Violations and Revocations in California,* Grattet, Petersilia and Lin noted that offenders often call it "doing a life sentence on the installment plan" because they go in and out of prison for parole infractions and, therefore, are never fully discharged from the system.[10]

California's situation is also exacerbated by a phenomenon that some call "catch and release." Although the maximum prison term for a parole violation in California is 12 months, not everyone is given the maximum, and credit is given for time in custody awaiting a hearing. According to the study, the average time served was about four months; in 2004, 20 percent of violators served less than one month.[11]

"Parolees quickly learn that being revoked from parole does not carry serious consequences, and the state wastes resources in reprocessing the same individuals over and over again," the researchers said. The constant in-and-out also disrupts community treatment programs and leads to the spread of prison gang culture into communities. Most significantly, given California's overcrowding crisis and the high cost of keeping so many offenders in custody and under supervision, the researchers recommended

that policymakers consider whether it is cost-efficient to fill prisons with those who may pose little risk to the public.

Grattet, Petersilia and Lin spent three years creating a massive database that tracked every adult parolee in California in 2003-2004: more than a quarter million people. They also recorded details of each parolee's behavior weekly and merged this with data on personal characteristics and criminal histories, the ways in which the parolees were supervised, who supervised them, and the demographics of their communities. The database was then used to analyze how all of these factors led to variations in parole outcomes.

The comprehensive study reached some significant conclusions. For one thing, race appeared to be a factor in how parole violations were handled:

- African-American parole violators were more likely to be referred to the parole board, rather than getting a court trial, and the board was more likely to reincarcerate them compared to their white parolee counterparts.

- Hispanics were also more likely than white parolees to be returned to custody by the board.

- Although white parolees had the lowest likelihood of return by the parole board, they were among the most likely to be returned to prison for the technical violation of absconding.

In the report, Grattet, Petersilia and Lin state that community characteristics — not race or ethnicity per se — may be behind these findings. They hypothesize that black parolees may be penalized due to the high unemployment rates that plague the pre-dominantly black neighborhoods to which they are returned. Parole boards may consider a community with high unemployment to be an unstable environment, where the potential for reoffending may be higher, and therefore may be less inclined to release the parolee at all.

On the other hand, the researchers noted that community characteristics can also give parolees an advantage. For example, parole boards handed down more lenient sentences to parolees who were being released in areas with more mental health and substance abuse services. This, the researchers theorize, may have been because the parole boards had more options than just sending them back to prison.

Practical constraints on the parole board also appeared to play a role in the sanctions that they imposed. For example, during times when prison intake centers were full, the parole board was more receptive to continuing parole.

In short, the research revealed that, at least before California implemented PVDMI, outside factors played a role in determining parole violation sanctions. It remains to be seen if some or all of these concerns are eliminated by the new, less discretionary structure.

The Problem Nationwide

The 2008 Ohio study and Grattet, Petersilia and Lin's ongoing work in California could have implications nationwide. As Travis told members of Congress in March 2009, "We have reached an important moment in our nation's history. With record high incarceration rates, unprecedented extension of state supervision over individuals leaving prison and a complex maze of legal barriers to reintegration, more people than ever before are returning home after serving time in prison and are facing daunting barriers to successful reintegration. In these circumstances, the leadership of our federal government in the re-entry arena is commendable, and the level of innovation in the world of practice is impressive. Yet our re-entry policies are still quite primitive; we are just now beginning to develop an approach to re-entry based on evidence of best practices."[12]

Revocations continue to occur in states using the risk assessment tools. However, these tools have the potential to lower revocation rates and overall corrections expenses. The Ohio and California parole violation sanction tools represent two approaches to meeting some of the nation's re-entry challenges.

NCJ 226873

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About the Author

David Fialkoff is a publications supervisor at Lockheed Martin Corporation with 20 years of experience in writing about criminal justice issues. He received his J.D. from the George Washington University National Law Center in 1988. Fialkoff is a former managing editor of the *NIJ Journal.*

CORRECTIONS RESEARCH NOTES

The National Institute of Justice sponsors research on a host of criminal justice topics. Selected research projects in corrections are described below. For more information regarding ongoing work and future directions in corrections, check out the following link: www.ojp.usdoj.gov/nij/topics/corrections/welcome.

■ **Investigating Prisoner Reentry: The Impact of Conviction Status on the Employment Prospects of Young Men**
This two-part study investigated the barriers of race and criminal background as they relate to access to low-wage labor market jobs. The first stage of the research involved a large-scale field experiment in which teams of trained young men applied for entry-level jobs, varying only according to their race and criminal background. The field experiment was then followed by survey interviews and in-depth interviews with the same employers to provide more detailed information about their businesses and their concerns about hiring applicants with criminal records.

■ **Effects of Low-Level Offense Records and Race on Employability**
Employers today often have access to applicants' criminal records, even for misdemeanor cases that never resulted in formal charges. It is unknown to what extent employers consider low-level offense records in making hiring decisions. This two-part study uses an experimental audit methodology to estimate the effects of low-level records and race on employment prospects as well as interviews with employers to learn more about their sensitivity to the differences in the severity, timing and nature of the criminal record.

■ **Day Reporting Centers for Parolees in New Jersey: Evaluation of Efficacy**
This study evaluates the effectiveness of Day Reporting Centers versus the standard response to parolees who are at risk of being reincarcerated — intensive supervision parole. Only one prior study of DRCs has examined their effectiveness.

■ **PREA: Identifying Promising Practices and Developing Performance Measures**
The Prison Rape Elimination Act of 2003 states that prison rape is the result of the failure of state officials "to adopt policies and procedures that reduce the incidence of prison rape." This project involves the identification of promising inmate-on-inmate prevention or intervention practices employed by private, state and federal prisons and jails, including male and female facilities and institutions of all security levels.

■ **The Prison Experience and Reentry: Examining the Impact of Victimization on Coming Home**
With the adoption of PREA, institutions around the country are developing policies and procedures related to the detection, prevention and elimination of sexual victimization in prison. This study explores the incidence and impact of emotional, physical and sexual victimization on inmates who are returning to the community.

■ **Situational Crime Prevention Approaches to Sexual Assault, Violence and Self-Harm in Jails**
This research project applies situational crime prevention, which focuses on closing off opportunities for crime, to address sexual assaults and related acts of violence and self harm in three county jail facilities. The researchers are working in partnership with corrections officials in each of these sites to analyze historical violence data, making note of the environmental and situational factors associated with these incidents. This work will inform the development of a plan to alter the design and management of each jail to reduce violence and self-harm.

Using 911 Calls to Detect Terrorism Threats

by Kevin J. Strom, John Hollywood and Mark Pope

Terrorists frequently engage in surveillance activities when selecting a target and planning an attack.[1] Needless to say, when we are able to spot such surveillance activities, we stand a greater chance of preventing an attack. In 2007, for example, authorities thwarted a terrorist plot in Germany when they caught people surveying U.S. military facilities near Hanau.[2] In 2006, two men were charged with videotaping the U.S. Capitol building, the World Bank, a Masonic temple and a fuel depot in Washington, D.C., to send to overseas terrorist groups.[3] And in 2004, the U.S. Department of Homeland Security raised the terrorist threat level following reports of terrorist surveillance of key financial institutions in New York City, New Jersey and Washington, D.C.[4]

Pre-attack surveillance can include videotaping, photographing, or taking notes on or drawing sketches of a building's structural components or security defenses. Other activities might involve trespassing in secure areas, asking detailed questions about a target's occupants or defenses, or leaving suspicious packages or making bomb threats to study emergency response procedures. These behaviors — also known as "hostile surveillance" — require terrorists to temporarily expose themselves and reveal their true intentions.

Suspicious activity reports document behavior (including criminal and attempted criminal acts that may be related to terrorism) reported by citizens or observed by police.[5] Information in a SAR can come from unclassified sources — such as 911 calls for service, field interview reports, crime incident narrative reports and site security logs — or from classified sources, such as informant tips or law enforcement investigation reports.

Developing a comprehensive process for identifying and analyzing information from SARs could enable police to prevent or deter a terrorist attack. But in trying to

pull this information quickly out of SARs, law enforcement agencies face two major challenges:

- **Identifying:** How to efficiently identify and prioritize cases of interest from the large volume of SARs.

- **Analyzing:** How to analyze SARs that often have dissimilar formats and that contain open-text comment fields that must be searched for key data.

Identifying cases of interest is not easy: Attempting to determine if suspicious behavior is truly indicative of something more sinister is like looking for the proverbial needle in the haystack. Potentially hostile surveillance is, of course, intended to appear innocuous to the casual observer. And as every law enforcement officer knows, behaviors can be misinterpreted by citizens, officers or security personnel, which, in turn, can result in "false-positive" reports.

Analyzing information from SARs is also inherently challenging. For example, only a small number of potential terrorist-related activities may be contained in a 911 call database of thousands of SARs. The large volume of data requires a filter process, a process to separate the merely suspicious from true terrorist surveillance activities. Most law enforcement agencies, however, have had limited guidance on analyzing, prioritizing and disseminating operationally relevant information from SAR data sources that often are in different formats and that contain comment fields not easily comparable.

In 2006, the National Institute of Justice funded RTI International to develop and test a process for analyzing and prioritizing data from one type of SAR: 911 calls for service.[6] As part of that project, RTI researchers (including the authors of this article), in collaboration with the Washington, D.C., Metropolitan Police Department, analyzed more than 1.3 million 911 MPD call records.

The main goal of our study was not to identify confirmed terrorist activity. Rather,
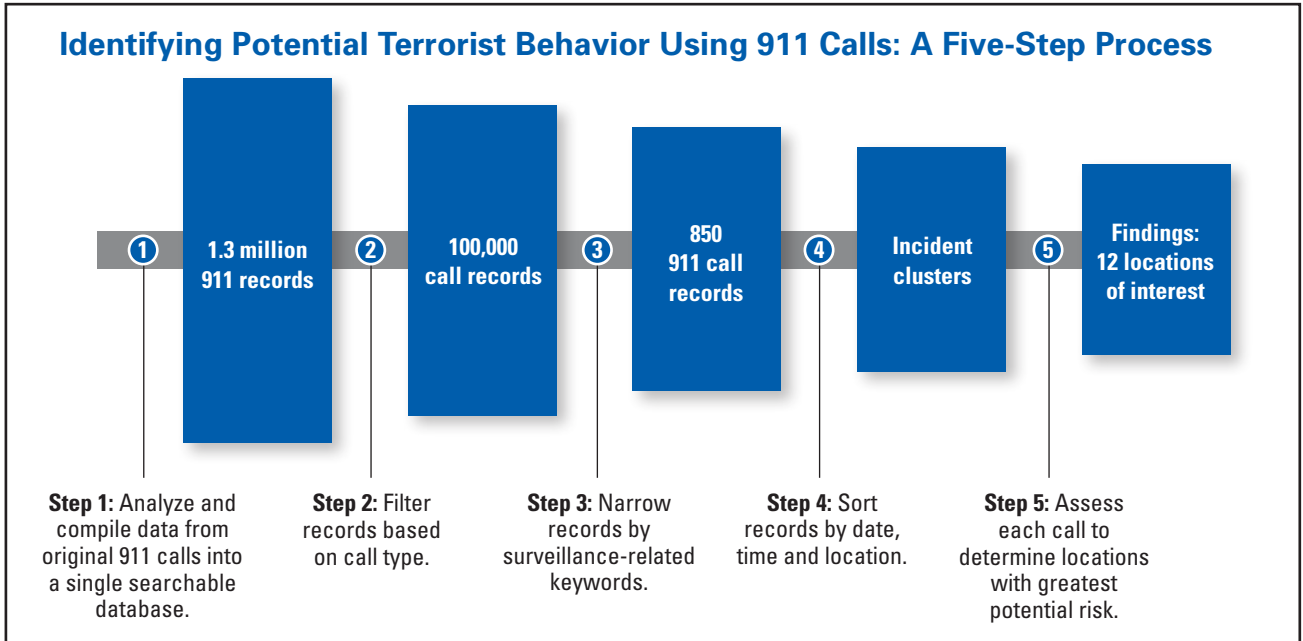
Our study showed that simple analytic processes could produce operationally relevant findings from 911 calls.

we designed and tested a process for reducing a large volume of data to a smaller subset of incidents that could then be reviewed for follow-up investigation. Our study showed that simple analytic processes could produce operationally relevant findings from 911 calls. We documented this process so it could be implemented and refined in other jurisdictions.

Analyzing 911 Calls

There are several advantages to being able to use 911 call records to detect potential terrorist activities. First, in one sense, data have already been "filtered" through the citizen's perception: that is, before a person makes a 911 call, the suspicious behavior has already risen to a certain level of seriousness in his or her mind. Second, 911 calls constitute public information that can be analyzed without infringing on individual privacy rights (unlike analyses of personal data from credit card transactions and phone records, for example, which have come under heavy criticism for violating privacy).[7] Perhaps most importantly, 911 calls include behaviors underreported in other police data sources. For instance, if police respond to a suspicious activity call and the suspect is no longer at the scene, a formal incident report may not be completed.

The process we developed to analyze 911 calls has five major steps (see, "Identifying Potential Terrorist Behavior Using 911 Calls: A Five-Step Process," page 26). These steps can be easily replicated and do not require extensive technical training or software. Once refined and tested in additional jurisdictions, this process could be implemented more widely to monitor suspicious activity as part of a police department's homeland security and crime prevention efforts.

Identifying Potential Terrorist Behavior Using 911 Calls: A Five-Step Process

| ① 1.3 million 911 records | ② 100,000 call records | ③ 850 911 call records | ④ Incident clusters | ⑤ Findings: 12 locations of interest |

Step 1: Analyze and compile data from original 911 calls into a single searchable database.

Step 2: Filter records based on call type.

Step 3: Narrow records by surveillance-related keywords.

Step 4: Sort records by date, time and location.

Step 5: Assess each call to determine locations with greatest potential risk.

Step 1: We started with more than 1.3 million electronic 911 call records that spanned a 20-month period. There were two types of records: one with consistent data fields and one with text of the conversation between the 911 operator and the caller. In this step, we compiled data into a single searchable database, including call location (for example, geospatial coordinates, cross streets or addresses); call date and time; type of call (for example, bomb threats or suspicious persons, vehicles or packages); and comments entered by the 911 operator.

Step 2: We filtered the records based on their call type: "suspicious persons," "suspicious vehicles," "suspicious packages," "bomb threats," "investigate the trouble" and "other." This narrowed the data to about 100,000 records.

Step 3: We searched the 100,000 records for surveillance-related keywords: video, photography, taking notes and using visual aids. This narrowed the records search to approximately 1,200, which we then manually reviewed. Our manual review reduced the pool of potential hostile surveillance or probing records to about 850.

Step 4: We sorted the 850 records by location, time and type of activity to identify clusters of incidents in time and space. "Space" refers to the same address or addresses that are close by. "Time" refers to clusters in a particular space that occurred within a few months or, in some cases,

Surveillance-Related Keywords

Type of Surveillance	Keywords Used in the 911 Call
Photography	Photo, Camera, Picture
Video	Video, Taping, Film, Camcorder
Note-taking	Note, Write, Typing
Visual Aids	Binocular, Telescope, Lens

Assessing Potential Preoperational Surveillance Incidents

Location of Interest	Evidence Indicating Possible Terrorist Surveillance	Evidence Mitigating Against Possible Terrorist Surveillance
Highway bridges and overpasses	• 16 incidents in 6 clusters. • 3 additional calls (not in the 6 clusters) for trespassing in bridge infrastructure. • Disruption to this area would have major consequences.	• Stopped cars and people on highways are more likely to be noticed. • Site provides scenic views for tourists.
Highway tunnels and exits	• 9 incidents. • 5 of these 9 incidents were similar calls for a man taking pictures of traffic.	• Stopped cars and people are more likely to be noticed. • Cluster is comparatively old (calls occurred in 2005).
Military facilities	• 9 incidents, most concerned people taking pictures of the facilities from a highway or a bridge.	• Stopped cars and people on highways are more likely to be noticed. • Sites provide scenic views for tourists.
Hospital	• 2 calls about a woman taking photos; 1 involved a chemical facility.	• Cluster is comparatively old (calls occurred in 2005).
Power plant	• 3 calls for taking photos of a power plant.	• Cluster is comparatively old (calls occurred in 2005).

days. Incident locations were plotted using geographic software to find geographic clusters. We also looked for spikes in potential surveillance incidents across similar types of locations, such as hotels, hospitals and other types of landmarks and infrastructure.

Step 5: We assessed the risk of each call to identify locations of greatest potential risk. In consultation with MPD, we developed a risk-assessment framework that assigned a score to the potential preoperational surveillance incidents based on a 10-point scale. We used four main factors to assess risk:

- Is the incident atypical, or can it be easily explained by tourist activities, albeit somewhat unusual activities, such as taking pictures of a bridge?

- Is the location attractive for an attack? For example, is it a well-known landmark? Could an attack result in significant casualties?

- Is the call part of a larger cluster for the same target?

- Was a police report filed?

Looking at the scores, we identified 12 locations that had multiple incidents and were assessed to be at moderate risk or higher; these became our "locations of interest." We searched for additional evidence that the locations of interest were, in fact, being targeted. We queried the database for all calls that involved suspicious activity at these locations, even calls that had been previously filtered out. We reviewed every incident at those locations for any additional incident potentially related to surveillance or probing.

What Was Identified?

This five-step process reduced the amount of information to a manageable level for a human analyst. Out of the more than 1.3 million calls that initially went into the

This five-step process reduced the amount of information to a manageable level for a human analyst. Out of the more than 1.3 million calls that initially went into the database, 175 calls for 12 locations were identified as potentially related to preoperational terrorist activities.

database, 175 calls for 12 locations were identified as potentially related to preoperational terrorist activities.

We looked at the evidence indicating possible terrorist surveillance for each location and the evidence mitigating against it being terrorist related. Evidence that locations of interest were potentially being targeted included having a cluster of recognized incidents within a small defined area. Evidence that mitigated against a location being a target included other likely explanations for the behavior.

Based on the evidence, we identified five areas from the 12 locations of interest that warranted further investigation (see "Assessing Potential Preoperational Surveillance Incidents," page 27). MPD staff determined that some of the incidents could be explained by routine tourist behavior. For example, it was likely that most of the

highway and bridge incidents were tourists taking photos, despite some personal risk from traffic. However, cases of trespassing within a bridge infrastructure (underneath the bridge or within the bridge support structure) were cause for concern.

What Are the Next Steps?

The Office of the Director of National Intelligence is working toward establishing a nationwide capacity to gather, analyze and share terrorism-related suspicious activity reports. This evolving process also seeks to ensure that privacy is protected and civil liberties are guarded.[8]

Developing a systematic approach for monitoring 911 calls for suspicious activity is important for our nation's homeland security. We cannot rely solely on an alert patrol officer or 911 dispatcher to identify relevant cases; rather, we need an automated process for filtering calls related to potential terrorist activity from the large volume of 911 calls. Recently, important steps have been taken in outlining the basic processes for standardizing the gathering, processing and analysis of suspicious activity by law enforcement agencies.[9] Our study addressed two aspects of these processes: As described above, we first developed and tested a method for filtering 911 call data to isolate those records most likely associated with potential terrorist-related activities; then we used a straightforward analytic process that does not require specialized software.

Plans are under way to continue to refine this method by automating some of the data-processing steps and testing it in additional U.S. jurisdictions. As our study demonstrated, analyzing 911 call data can reveal previously unknown information or shed light on existing information to help identify high-risk locations within and across cities. More broadly, information identified from 911 data and other sources can be used to establish a baseline level of suspicious activity in a jurisdiction that can be monitored over time.

This method for analyzing 911 calls might also be used in traditional ("predictive

About the Authors

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policing") crime prevention. Many 911 calls about suspicious or criminal activity — for example, calls about drug activity, disorderly conduct and suspicious activity related to criminal activities (casing locations or victims) — do not result in formal police reports. This means that important information is lost, leaving analysts only with crime incident and arrest data that may be insufficient for analyzing local crime trends and predicting emerging patterns in crime. By analyzing 911 calls-for-service data and identifying normal levels of activity, it may be possible to identify and predict small-area upswings in crime. Such analysis could also enhance our understanding of which types of suspicious and criminal activity are precursors to violent crime.

Ultimately, the systematic use of this data could help law enforcement agencies take more complete advantage of citizen reporting, both in terms of counterterrorism and crime prevention.

NCJ 226874

For More Information

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Preventing Neighborhood Crime: Geography Matters
by Ronald E. Wilson and Timothy H. Brown, with Beth Schuster

Every neighborhood has a unique geography. Research suggests that crime and residents' perceptions of crime are strongly linked to this underlying geography.

Neighborhoods also have diverse characteristics in relation to crime, and consequently, solutions for one community may be different from those for another community. The connection between crime and geography, however, is often overlooked when implementing local Neighborhood Watch programs.

The Neighborhood Watch program is one of the largest community-based crime-prevention efforts in the United States. The program encourages residents to act as the "eyes and ears" of local law enforcement to make their neighborhood less vulnerable to crime. Neighborhood Watch programs typically use street signs to deter potential offenders.[1] (See "What Is Neighborhood Watch?" page 31.)

Often the national program model is implemented in a neighborhood with little consideration given to local conditions. But if Neighborhood Watch programs are to be truly effective in preventing crime, the geography of each neighborhood must be examined and should inform an individualized program that addresses the specific elements of a community.

Defining a Neighborhood

Neighborhoods serve as geographical frames of reference, encompassing the demographic, economic and ecologic characteristics of a particular place. The definition of a "neighborhood," however, relies heavily on perspective. Neighborhoods have different geographic scales that serve different purposes. For example, metropolitan governments often define a neighborhood as a very large area for planning, providing services or maintaining infrastructure. Business investors or visitors, on the

WHAT IS NEIGHBORHOOD WATCH?

Neighborhood Watch is a crime-prevention program that brings community members together and teaches them how to make their neighborhoods safer by using basic crime prevention techniques and identifying and reporting suspicious activity. Supported by the National Sheriffs' Association since 1972, the program encourages residents to act as the "eyes and ears" of local law enforcement and to take steps to make their homes and property less vulnerable to break-ins and vandalism.[2] Many Neighborhood Watch programs are also a means to prepare neighbors to work as a team in planning responses to disasters.

Not all of the programs in place today are limited to the boundaries and tenets of "Neighborhood Watch"; variations include block watch, apartment watch, home watch, citizen alert and community watch. However, each adaptation shares the common goal of bringing community members together to fight crime.

Neighborhood Watch programs vary in size of the area covered: Some cover just a few households, others cover thousands of homes. Volunteers who donate time and resources are typically at the center of programs because many do not have formal budgets or funding sources. Most are started with assistance from law enforcement.

Programs typically use street signs to show the program's presence and deter potential offenders, alerting them that the risk of detection and apprehension has increased. Some also offer programs that target youth, such as athletic activities, drug programs and tutoring, to provide young people with alternative and positive activities.

For more information on Neighborhood Watch, go to www.USAonwatch.org.

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other hand, see neighborhoods as smaller areas, extending several blocks in any direction from a central point. For residents, the neighborhood often extends only one or two blocks from their home.[3] For law enforcement, the neighborhood is part of the concept of "place," which is a factor in decisions about deploying resources and maintaining quality of life in a community.[4]

Members of a community frame their sense of neighborhood using geographic markers such as streets, buildings or natural land formations as boundaries. Consequently, their community-based efforts — centered on what is meaningful to them, such as health, housing, schools, jobs, services and crime — occur within those boundaries. This proximity connects community members to the same experiences — good or bad — according to Deborah Martin, assistant professor of geography at Clark University.[5] Researchers David Wilson and Dennis Grammenos at the University of Illinois, Urbana-Champaign, add that both geography and social interaction help form collective identity.[6]

In his seminal work on how people carve out territories (referred to as human territorial functioning), Ralph Taylor of Temple University provides a conceptual model that links the physical environment in which people live to a common understanding that cooperation fosters better results in community-based efforts. His model is place-dependent and is based on compact geographic areas.[7] A study funded by the National Institute of Justice and led by Taylor in Baltimore, demonstrated that people perceive common boundaries for their neighborhoods (that is, people define their environment using a common set of blocks, a larger area or a city) and have common perceptions of the quality of life and safety of the environment in these neighborhoods.[8]

The Neighborhood and Fear of Crime

To understand how geography relates to Neighborhood Watch programs, we must first understand why people's fear

Visual cues of an improved neighborhood can send strong messages to both residents and outsiders about community involvement and concern.

of crime matters. James Garofalo of the State University of New York at Albany defines fear as the emotional response to a sense of danger and anxiety about physical harm. Fear of crime, then, relates to the potential for such harm to be inflicted during a crime event.[9]

According to Garofalo, people tend to associate the threat of physical harm with certain places: where they live, a place they are visiting, somewhere they want to go, or a place they avoid. And although crime can happen anywhere, certain locations experience crime more frequently.[10] Generalizations about crime rates help establish the psychological link between the likelihood of a crime occurring in that place and a person's fear of being a crime victim.

Visual cues based on a place's geography also influence perceptions of how bad crime is — or is not — in a neighborhood. For example, areas with high rates of crime and deviant behavior tend to be densely populated, physically deteriorated places, with a substantial number of transients. In addition, residences are often mixed with less-than-desirable commercial establishments.[11] Residents who are able to move out of these areas usually do so, and people who live in "safe" neighborhoods generally avoid the high-crime areas because of fears they will be victimized. Visitors might be warned not to go into certain neighborhoods or might leave an area if they inadvertently wander into one that "looks bad." This also extends to how businesses view neighborhoods; possible victimization and potential loss of investment may influence whether business owners invest in certain areas.

Fear of crime, though, based on visual cues alone is not always substantiated.

Demographic factors such as education, income level and lifestyle further influence perceptions and fear. Thus, fear of crime changes across different neighborhoods. For this reason, the national Neighborhood Watch program model might not be an optimal strategy for all neighborhoods or blocks and may need to be modified to address the location's unique characteristics.[12]

Altering a Neighborhood's Physical Features

Research has shown that blighted and deteriorated neighborhoods are associated with crime.[13] However, Neighborhood Watch programs often do not consider the link between the physical environment and crime, and consequently, the conditions associated with crime remain. If community members also work to improve and maintain the physical neighborhood, their programs might thwart more crime because visual cues of an improved neighborhood can send strong messages to both residents and outsiders about community involvement and concern.

For example, in an NIJ-funded study, Ralph Taylor and Adele Harrell explored the link between crime, fear of crime and the physical features on the street block and neighborhood level.[14] In their report, they discuss four physical features of settings where crimes occur and techniques for reducing vulnerability and crime in these settings.

Housing design features and block layout. Fear is often higher in locations that offer good refuge for a potential offender (for example, areas with tall shrubs, alcoves and blind corners) and little opportunity of escape for residents. Physical features that offer better surveillance, delineation between public and private space and proximity to well-used locations enable stronger control of spaces by law-abiding residents.

Such control leads to less delinquency, less fear and less victimization.

The researchers offered three approaches to reducing crime, crime vulnerability and the perception of crime in an area:

- Decrease the number and accessibility of crime targets available to potential offenders.

- Allow for easier detection of offenders or crimes in progress.

- Add features to the landscape that physically obstruct or deter offenders from committing crime (also known as crime prevention through environmental design, or CPTED).

Land use and circulation patterns. The layouts of low-crime neighborhoods often have more one-way, narrow and low-volume streets, which make entry more difficult. Conversely, high-crime neighborhoods tend to be laid out in a way that provides easier access. In some cities, the percentage of lots zoned for commercial use can be a significant predictor of high robbery rates. Taylor and Harrell report in their study that changing the pattern of how neighborhood space is used can reduce contact between potential offenders and their targets and abate crime. This includes giving careful attention to walkways, paths, streets, traffic patterns, and the location and hours of operation of public spaces and facilities.

Resident-generated territorial signage. This involves promoting increased neighborhood markings and signs by local residents to influence perceptions of crime — the very core of the Neighborhood Watch program.[15] The hope is that if residents increase the number of signposts in their neighborhood, it will be apparent to others (including potential offenders) that residents are involved in the community, vigilant about what happens on the street and willing to intervene if needed. This, in turn, reduces the perception of crime and vulnerability of an area.

They found that perceptions about safety were more affected by the neighborhood's socioeconomic status than by the words on or the condition of the signs.

Controlling physical deterioration and disorder. Controlling the physical deterioration in a neighborhood by limiting graffiti, trash accumulation and other signs of distress in public areas and on personal property can influence a potential offender's perception of an area's vulnerability to crime. It can also influence residents' fear of crime.[16]

Does the Condition of Signs Matter?

If we know that markings and signs put up by local residents can influence people's perceptions of vulnerability and crime, the next question is: Does the type or physical appearance of the sign play a role in those perceptions?

P. Wesley Schultz and J.J. Tabanico used students in a laboratory setting to test the effect of the condition of Neighborhood Watch signs and the words on the signs.[17] They found that the students' perceptions about safety were more affected by the neighborhood's socioeconomic status than by the words on or the condition of the signs. For example, communities with low SES were perceived to be less safe and have higher levels of crime no matter what the sign said and regardless of its condition (new, defaced or aged). Other interesting findings from the study include:

- A new sign elicited a negative perception because its posting suggested that crime was becoming a problem in the neighborhood.

- A worn sign that appeared to have been in place for awhile lowered perceptions of crime and victimization.

One primary theme is clear in all the research regarding neighborhoods and crime: Geography affects how people, residents and potential offenders alike, view a neighborhood.

The students' perspectives suggest that visual cues of the physical environment — including the type and condition of Neighborhood Watch signs — send messages about the level of crime in a neighborhood, regardless of who lives there. These visual signals (ecological characteristics), combined with knowledge about the neighborhood's residents (demographic) and the presence or lack of businesses (economic), shape people's perceptions about the safety of an area.

Geography Is the Starting Point

One primary theme is clear in all the research regarding neighborhoods and crime: Geography affects how people, residents and potential offenders alike view a neighborhood. Because both the nature

and the degree of the problems communities face vary, programs like Neighborhood Watch must therefore take into account the full range of community characteristics in order to implement a successful approach to crime prevention.

To do this, smaller geographic frameworks are needed to work within and between neighborhoods. However, the larger the area, the more difficult it is to get participation and cooperation from those in a community. Residents should enact crime prevention measures that complement existing program elements such as block watches or other local meetings that aim to involve residents in community betterment. Crime ebbs and flows in neighborhoods, and when crime rates drop, residents often lose interest — and with it momentum — in maintaining crime prevention efforts. The marriage of crime prevention programs like Neighborhood Watch with other community initiatives helps to ensure long-term success.

NCJ 226875

Notes

1. Although early evaluations praised the Neighborhood Watch program, more recent research has suggested that not all results are positive. More information regarding these findings can be found in Holloway, K., T. Bennett, and D.P. Farrington, *Crime Prevention Research Review No. 3: Does Neighborhood Watch Reduce Crime?* Washington, DC: Office of Community Oriented Policing Services, April 2008, available at www.cops.usdoj.gov/RIC/ResourceDetail.aspx?RID=460.

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About the Authors

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15. Schultz, P.W., and J.J. Tabanico, *A Social Norms Approach to Community-Based Crime Prevention: Implicit and Explicit Messages on Neighborhood Watch Signs,* final report submitted to the National Institute of Justice, U.S. Department of Justice, Washington, DC: May 2009, NCJ 226821, available at www.ncjrs. gov/pdffiles1/nij/grants/226821.pdf.

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Ten Ways You Can Use the NCSTL Web Site

by Diana Botluk

Where do you go when you need to know more about a type of forensic science or a particular scientific evidentiary issue? Whether you are a law enforcement professional looking for information on voice analysis, a lawyer preparing a forensic anthropologist for trial, an academic doing research on forensic linguistics, or a person who just wants to know if the latest story line on *CSI: Miami* could possibly be true, there is a Web site that can help.

The National Clearinghouse for Science, Technology and the Law at Stetson University College of Law offers a resource for judges, lawyers, scientists, law enforcement officials, academics and others who seek information about the nexus between law, science and technology. Sponsored by a grant from the National Institute of Justice, the Web site (www.ncstl.org) is free to everyone. Users who register can save searches or stop in the middle of a session and come back to it later. Search results can be shared through e-mail or posted on another Web site, allowing click-throughs to specific search results. Here are some of the resources the NCSTL Web site provides.

1. **Search the Database**
    Do you need to understand the latest forensics regarding text messaging or access research on arson and fire investigation? The NCSTL database contains thousands of bibliographic records for forensic and criminal justice resources. Search results provide an abstract for each record as well as the URL to the full text if it is available online. Searches are more targeted than using a general Web search engine because Information in the NCSTL database is hand-picked by professional researchers.

2. Browse the Calendar
Are you looking for a conference on cybercrime or entomology? NCSTL's calendar provides dates, locations and descriptions for conferences and seminars on a wide range of forensics.

3. *It's Evident*
NCSTL's quarterly newsletter, *It's Evident,* features articles on the latest topics and trends in forensic science. For example, a recent issue showcased articles on "Cutting Edge 'Spoof Proof' Biometrics," "The 4nsics of Txt Msgs" and "Electronically Stored Information: A Primer — A Litigator's Guide." The newsletter can be e-mailed or found online; archives of newsletters are located in the "About" section.

4. Expert Witnesses
See a video of NCSTL Director and past President of the American Academy of Forensic Sciences Carol Henderson presenting *Digging Up Dirt on Experts.* She explains how to find an expert in a particular field or locate background information on an expert witness. The video is accompanied by a list of other resources.

5. Prepare for Trial
Expert witnesses who are preparing for trial will want to look at *Expert Testimony: Resources for Expert Witnesses,* which discusses the deposition and trial processes and offers tips — and references to other resources — for presenting testimony.

6. Learn the Law
Coming soon to the Web site: a free interactive course, *Law 101: Legal Guide for the Forensic Expert,* designed to inform non-lawyers about policies, procedures and protocols in serving as an expert witness. Available now is "Related Links," through which users can locate specific case law and legislation regarding scientific evidence. For example, there is a page devoted to

NCSTL Database Topics

Here are some of the forensic disciplines that the NCSTL database covers:

- **Biometrics**
- **Bioterrorism**
- **Blood Pattern Analysis**
- **Cybercrime**
- **Entomology**
- **Fingerprints**
- **Linguistics**
- **Toxicology**

www.ncstl.org

post-conviction DNA legislation and policy as well as links to rules of evidence about expert testimony.

7. Attend an Online Lecture
NCSTL hosts live seminars on Stetson University College of Law's campus in Gulfport, Fla. — and these seminars are also available online. NCSTL has hosted many internationally renowned forensic experts, such as Henry Lee, founder and professor of the forensic science program at the University of New Haven,

and renowned forensic pathologist Michael Baden. NCSTL has twice hosted the National Conference on Science, Technology and the Law, featuring experts in cutting-edge forensic issues. Search the database for other online presentations and seminars as well as audio and video resources on a wide range of forensic sciences.

8. **Link to Resources**
"Related Links" provides links from general forensic information to specific resources, such as the recently released report from the National Research Council, *Strengthening Forensic Science in the United States.* The "Education & Training" section contains information devoted to locating cold case resources, called the "Cold Case Toolkit."

9. **Follow Up With Bibliographies**
Under "Education & Training," the database contains many bibliographies, including those related to a guest lecture or a specific NCSTL project. Many of these readings can be found online or in NCSTL's special collection in the Stetson Law Library. If the full text is not online, check with a local librarian, who can use the Interlibrary Loan system in which Stetson participates.

10. **Connect to Organizations and Associations**
The "Related Links" page also contains information regarding forensics-related organizations and educational programs, along with a directory of state crime labs; also check the "Calendar" for upcoming events.

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About the Author

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