Making Prisons Safer Through Technology

By Sarah V. Hart

As the U.S. Department of Justice's research, development and evaluation agency, the mission of the National Institute of Justice is to use science and technology to improve the nation's criminal justice system. For more than 30 years, NIJ has developed partnerships with state and local agencies and practitioners to address the needs of the criminal justice field.

NIJ responds to the needs of the criminal justice community by funding science and technology initiatives aimed at practical problem-solving. NIJ applies technology to improve the safety and effectiveness of the nation's prisons and jails, realizing that technology can greatly improve how state and local criminal justice systems, including the correctional system, operate.

A clear and overriding concern of those in the criminal justice field is the safety of correctional officers and inmates. In its report, *Prison and Jail Inmates at Midyear 2001*, the Bureau of Justice Statistics found that in 1990, states reported 10,731 assaults by inmates on prison staff. By 1995, that number had risen to 14,165, resulting in 14 employee deaths. Not only did the number of assaults increase, but the severity of these assaults also worsened. Many of the weapons used were handcrafted by inmates, routinely from items readily available to inmates, such as locks, athletic equipment, toothbrushes, razors, combs, writing instruments and toiletries.

In response, NIJ has supported research and development projects that produce practical solutions to enhance prison and jail safety. Safer environments will not only benefit correctional officers and other staff, but also inmates, who are frequently the primary target of prison assaults. In addition, safer prisons and jails are a wise financial investment, as the nation's taxpayers ultimately pay the cost of assaults through increased medical costs, missed time by injured officers and inmate lawsuits.

A Unique Approach

The best way to improve safety for correctional officers, staff and inmates is to reduce the number of weapons in prisons and jails. For decades, correctional staff have addressed this by looking for and confiscating these weapons. Although an obvious solution, this is an endless task with limited returns. While weapons are discovered and confiscated on a regular basis, replacement weapons are typically not far behind. This ongoing cycle is underscored by statistics that point to continued violence and a need to consider alternative methods.

While weapons confiscation is essential, one additional innovative approach is to make the production of these handcrafted devices more difficult, if not impossible. This approach has sparked interest in the field and at NIJ, and has led NIJ to partner with Johns Hopkins University's Applied Physics Laboratory (APL) on a project to eliminate the production of these devices. The project, Improving Correctional Officer Safety: Reducing Inmate Weapons Initiative, has great potential and is an example of NIJ's broader approach to using science and technology to benefit the nation's criminal justice system.

To begin this effort, APL will determine the nature, quantity, frequency and severity of attacks within prisons in order to provide information on the design and material composition of items that are commonly used in prison assaults. Using this information and working with NIJ, APL researchers will try to determine if there are alternative materials or manufacturing processes with which to produce items commonly found within prisons to make it difficult or impossible for inmates to fashion weapons.

NIJ will receive several prototypes that may be able to resist weapons adaptation. These prototypes will be evaluated for feasibility, cost, ease of manufacture and implementation issues. Throughout this research effort, NIJ will work closely with corrections professionals. The institute will convene a working group of officers and administrative staff from prisons and jails to help guide the project and ensure that it meets the needs of the corrections community and that any solutions produced are practical.

Corrections Technology

NIJ's research partnership with APL is an excellent example of NIJ's broader science and technology research for the criminal justice community. For many years, NIJ has played an important role in the development of technology for corrections professionals. For example, its standards and testing procedures for puncture-resistant vests have helped ensure correctional staff safety. NIJ has also demonstrated the use of telemedicine, allowing an off-site medical professional to make routine decisions about patient care by closed-circuit television, thus reducing prison health care costs. NIJ has published a guide for the implementation of telemedicine in corrections, which can be viewed on its Web site at www.ojp.usdoj.gov/nij/pubs-sum/190310.htm.

Whenever possible, NIJ implements technology solutions in real-world settings to demonstrate and evaluate their effectiveness. For example, the institute is implementing biometric access technologies at

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a jail facility in Prince George's County, Md., and at the Navy Brig in Charleston, S.C. In addition to testing the technology, researchers are looking at how tools are applied to improve operations. For example, at the Navy Brig, biometric access tools are replacing grease pencils and phones for inmate tracking. The system has improved the ability to find inmates who violate prison rules while reducing the routine communication among officers required by the old system.

In other facilities, NIJ is examining the use of automated telephone abuse monitoring systems with voice recognition and other checks to help prevent illegal activities through phone calls in correctional facilities. Most prison officials recognize that telephone abuse is a major problem but do not have the resources to monitor more than a handful of calls. The automated system flags a small percentage of calls as suspicious, which can then be examined by prison officials in detail at a later time. This will help prisons save time and money and increase the likelihood of detecting illegal activity.

NIJ is also studying the effects of blunt trauma weapons and chemical sprays. For example, it is looking at the effectiveness of pepper sprays, especially given the widely varying formulations of the different products. In addition, as part of its long-standing body armor program, NIJ has established a stab-resistant armor standard. All these tools are important to a wide range of law enforcement and correctional officers.

Mapping tools can help with prison management by tracking disciplinary incidents, visitation patterns and medical information; managing gangs and escape threats; and identifying personal information about inmates. One technology under development by NIJ's National Law Enforcement and Corrections Technology Center-Southeast is correctional mapping (CORMAP). Using CORMAP, administrators can create three-dimensional diagrams to help identify the locations of inmates and incidents. CORMAP can instantaneously display all known information about an inmate, security vulnerabilities and incident patterns. NIJ is also using mapping systems to track violent attacks, including the types of weapons used and other details important to officer safety. As part of this research, correctional officers will be surveyed to determine how well perceptions of danger zones and hot spots in these facilities accurately match the incidence of violent attacks. The results will help administrators understand and respond to patterns of violence within prisons and jails.

Relying on the Experts

Since NIJ's technology research and development efforts are greatly enhanced by contributions from the field, NIJ has established working partnerships with correctional associations. For example, NIJ makes use of the expertise of corrections professionals identified by the American Correctional Association to review and evaluate proposed research and development projects. In addition, the Association of State Correctional Administrators evaluates technology for use by the corrections community through the Northeast Corrections Technology Product Assessment Committee, which is supported by NIJ. And NIJ regularly consults with ASCA's Technology Committee about its ongoing work.

Information for the Field

NIJ also works to inform the corrections community of new and emerging technologies, tools and best practices. One such way is through its annual Mock Prison Riot. The event, held at the former West Virginia Penitentiary in Moundsville, W.Va., brings together correctional officers and vendors for technology showcases and training exercises. The Mock Prison Riot not only showcases emerging technologies, but it gives correctional officers and tactical team members from across the country an opportunity to use the technologies in riot training scenarios. The next Mock Prison Riot is scheduled for April 27-30. For more information, visit www.justnet/org/training/mockriot.html. NIJ also sponsors a Technology Institute for Corrections, which offers participants the opportunity to learn about existing and developing technologies and share lessons learned from their own experiences. For information about regional corrections institutes, visit www.nlectc.org/training/techinst.html.

Finally, through the National Law Enforcement and Corrections Technology Center system, NIJ provides regular technology assistance to state and local criminal justice agencies. The center helps law enforcement and correctional agencies make informed procurement and acquisition decisions by providing individual assistance to agencies and disseminating publications and training materials on a wide variety of technology matters. For more information about the center's system, visit www.justnet.org.

During the past several years, there has been a growing realization that the safety and working conditions of corrections personnel deserve greater attention. The increasing use of technology is an important aspect in addressing the needs of the law enforcement and corrections communities. New technologies have also proved helpful in reducing costs and improving the effective management of facilities. In short, technology can make prisons and jails safer for both corrections professionals and inmates. NIJ is committed to continuing its important role in the research, development and evaluation of technology solutions for corrections.

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