Violence by Young People: Why the Deadly Nexus?

Controlling Crime Before It Happens: Risk-Focused Prevention
The Latest Criminal Justice Videotape Series From NIJ:
Research in Progress

Learn about the latest developments in criminal justice research from prominent criminal justice experts.

Each 60-minute tape presents a well-known scholar discussing his or her current studies and how they relate to existing criminal justice research and includes the lecturer’s responses to audience questions.

The first 11 tapes in the series are now available in VHS format:


NCJ 152257 — Christian Pfeiffer, Ph.D., Director of the Kriminalologisches Forschungsinstut Niedersachsen: Sentencing Policy and Crime Rates in Reunified Germany.

NCJ 152258 — Arthur L. Kellerman, M.D., M.P.H., Director of the Center for Injury Control, School of Public Health and Associate Professor in the Division of Emergency Medicine, School of Medicine, Emory University: Understanding and Preventing Violence: A Public Health Perspective.

NCJ 152692 — James Inciardi, Ph.D., Director, Drug and Alcohol Center, University of Delaware: A Corrections-Based Continuum of Effective Drug Abuse Treatment.

NCJ 153270 — Adele Harrell, Ph.D., Director, Program on Law and Behavior, The Urban Institute: Intervening with High-Risk Youth: Preliminary Findings from the Children-at-Risk Program.

NCJ 153271 — Marvin Wolfgang, Ph.D., Director, Legal Studies and Criminology, University of Pennsylvania: Crime in a Birth Cohort: A Replication in the People’s Republic of China.

NCJ 153730 — Lawrence W. Sherman, Ph.D., Chief Criminologist, Indianapolis Police Department, Professor of Criminology, University of Maryland: Reducing Gun Violence: Community Policing Against Gun Crime.

NCJ 153850 — Cathy Spatz Widom, Ph.D., Professor, School of Criminal Justice, State University of New York—Albany: The Cycle of Violence Revisited Six Years Later.

NCJ 153272 — Wesley Skogan, Ph.D., Professor, Political Science and Urban Affairs, Northwestern University: Community Policing in Chicago: Fact or Fiction?

NCJ 153273 — Scott H. Decker, Ph.D., Professor and Chair, Department of Criminal Justice and Criminology, University of Missouri–St. Louis, and Susan Pennell, Director, Criminal Justice Research Unit, San Diego Association of Governments: Monitoring the Illegal Firearms Market.

Individual titles are available for only $19 in the United States and $24 in Canada and other counties. To order from the National Criminal Justice Reference Service, see the inside back cover for ways to contact NCJRS.
## Contents

<table>
<thead>
<tr>
<th>Feature</th>
<th>Research in Action</th>
<th>Participation</th>
<th>Technology Transfer From Defense</th>
<th>The CALEA Standards: What Is the Fit with Community Policing?</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>10</td>
<td>19</td>
<td>28</td>
<td>35</td>
</tr>
</tbody>
</table>

This issue of the National Institute of Justice Journal highlights an issue of grave concern—youth violence. An indepth analysis by noted criminologist Alfred Blumstein links the rise of gun-related homicide by juveniles to drug markets and the spread of guns into the community. On a hopeful note, we include two discussions of responses keyed to prevention. One applies the public health model to propose identifying factors that place children at risk for violence and cultivating protective factors. Nationwide many communities are creating and others are looking for similar, promising approaches. NIJ has developed an information resource that makes it easy to find out what and where these are. We present the details of this resource, PAVNET, in this issue.

Given the immediacy of the gun violence problem, prevention needs to be accompanied by stronger enforcement. We discuss NIJ’s partnering with the military to adapt technologies for detecting concealed weapons. We also include an analysis of whether the national accreditation standards for policing accommodate community policing. This question is particularly important because of the opportunities that community policing offers for prevention.

Much less visible than violent crime but more extensive in number of victims is fraud in its multiple forms. These crimes do not have the devastating effects of violence but, as the analysis presented here makes clear, they are much more common than generally assumed and can mean heavy financial losses. The study challenges conventional wisdom about who is most prone to be victimized and what types of fraud are most commonly attempted.

Jeremy Travis
Director
National Institute of Justice
Why the Deadly Nexus?

by Alfred Blumstein

Despite evidence that aggregate rates of crime have been leveling off or even declining in the past two decades, there continues to be widespread concern about the issue on the part of policymakers and the public. Indeed, among all issues, crime may be the one perceived by Americans as most pressing. When aggregate crime data are broken down by certain demographic and other variables, however, the otherwise flat trend shows major distinctions, indicating that the concern is understandable. Although gender and race account for much of the differences in crime rates,
Age is the variable whose effect has been changing significantly in recent years. And while many of the national trends have remained strikingly flat, there has been some dramatic change in violent crime committed by young people.

The rise in juvenile crime

Data gathered from a variety of sources indicate that after a period of relative stability in the rates of juvenile crime, there was a major turning point in about 1985. Then, within the next seven years, the rate of homicides committed by young people, the number of homicides they committed with guns, and the arrest rate of nonwhite juveniles for drug offenses all doubled. The sudden upward surge in all three of these indicators, beginning with the increased drug trafficking of the mid-1980’s, is the topic of this article.

Particularly relevant to future crime, and to consideration of prevention and intervention strategies, is the size of the current teenage population. The age cohort responsible for much of the recent youth violence is the smallest it has been in recent years. By contrast, the cohort of children ages 5 to 15, who will be moving into the crime-prone ages in the near future, is larger. This suggests that if current age-specific rates do not decline, planning needs to begin now to address the increase in crime likely to occur as this group grows older.

The age factor

That young people commit crime at a high rate is no revelation. Age is so fundamental to crime rates that its relationship to offending is usually designated as the “age-crime curve.” This curve, which for individuals typically peaks in the late teen years, highlights the tendency for crime to be committed during an offender’s younger years and to decline as age advances.

For example, figures on rates of robbery and burglary, broken down by age, indicate that for both these crimes, the peak age of offending has been about 17, after which there is a rapid decline as the offender gets older. For burglary, the rate falls to half the peak by age 21, whereas the falloff for robbery is somewhat slower, reaching half the peak rate by age 25. The age-specific patterns are about the same for the most recent year data are available (1992) as they were in 1985.

Young people and murder. The age-specific patterns for murder present quite a different pattern; the trends for this crime have changed appreciably in the past decade. First, the peak is much flatter. For a fairly long period—1965 to 1985—the age at which the murder rate was highest remained fairly stable, with a flat peak covering ages 18 to 24. In other words, during this 20-year period, people in this age group were the most likely to commit murder, and it was in the age group of the mid-30’s that the rate dropped to half the peak. Then, in 1985, an abrupt change began to take place, with the murder rate moving to a sharp peak at age 18 instead of the more traditional flat peak covering the entire 18-to-24 age group. (See figure 1.)

The change over time in the age-specific murder rate is striking, especially for the peak ages 18 to 24. (See figure 2.) Following an initial increase from 1965 to 1970, the rate remained stable (and about the same for all ages in this group) for about 15 years— from 1970 through 1985. Among people at the older end of this age spectrum—the 24-year-olds—there has been no strong trend since 1970. But beginning shortly around 1985, murder by people under 24 increased, with the rate of increase inversely related to age. For people age 18, the increase was dramatic—it more than doubled.

For people at all ages under age 18, the increase was equally dramatic—it too more than doubled. For 16-year-olds, for example, whose murder rate before 1985 was consistently about half that of the 18-to-24 peak rate, the increase between 1985 and 1992 was 138 percent. By contrast, for ages older than 24, there has been no growth, and even a decline for ages 30 and above.

“Excess” murders committed by young people. The increase in murder by very young people after 1985 has not at all been matched by increases among the older groups (ages 24 and over). Among them murder rates have even declined. Thus, much of the general increase in the aggregate homicide rate (accounting for all ages) in the late 1980’s is attributable to the spurt in the murder rate by young people that began in 1985.

One can calculate the “excess” murders attributable to the rise in murder by young people over and above the average rate that prevailed for each of the young ages in the period 1970–85. In other words, this figure represents the number of murders that would not have been committed had the youth murder rate remained at its earlier, flat average. For the eight ages, 15 through 22, in the 7 years of 1986 through 1992, the number of “excess” murders is estimated to be 18,600.

The number is a significant component of the overall number for that period; it accounts for 12.1 percent of the annual average of about 22,000 murders in those years.
Race

There are important race differences in involvement in murder, both in the rate itself and the change since 1985. Among African-American males ages 14 to 17, murder rates have been about four to five times higher than among white males of the same age group, although for both groups the rates had remained fairly stable from the mid-1970’s until the mid-1980’s. (See figure 3.) Then, beginning about 1985, the rates rose for both groups, though the growth rate was much faster among blacks. For white males in this age group, their annual rate for murder was 8.1 per 100,000 in the period 1976 to 1987, after which it almost doubled in the next four years (from 7.6 in 1987 to 13.6 in 1991). In those four years, the arrest rate for murder by black males in this age group rose even faster, more than doubling (from 50.4 to 111.8 per 100,000).

Factors generating fear

Strangers. Persistent fear of crime is not caused by reviewing the aggregate rate of homicide and noting the absence of a trend. Rather, distinctive incidents or changing patterns of crime stimulate the anxiety levels. In particular, because young people are generally perceived to be more reckless than their elders, the growth in youth homicide conveys a sense that their killing is random. This is confirmed by the greater extent to which homicide by the young is committed against strangers. When victims seem to be selected at random, vulnerability is heightened: anyone can be a target. For example, the FBI’s Supplementary Homicide Report for 1991 noted that 28 percent of the homicides committed by people under 25 were against strangers, whereas only 18 percent of those committed by offenders age 25 and above were against strangers.
**Guns.** Also intensifying the fear of crime is the increasing involvement of guns in homicides committed by young people. This factor generates fear because of the recognition that young people are less likely to exercise the restraint necessary to handle dangerous weapons, particularly rapid-fire assault weapons. Data on the use of weapons in homicide reflect the same patterns described above: after a period of stability came an abrupt increase in the mid-1980’s. Thus, from 1976 to 1985, a very steady average (59 percent) of homicides committed by juveniles involved a gun. Beginning in 1985, there was steady growth in the use of guns by juveniles in committing murder, leading to a doubling in the number of juvenile murders committed with guns, with no shift in the number of non-gun homicides. (See figure 4.)

### Juvenile violence and the drug-crime connection

The public also has a vague sense of a link between the growth in juvenile violence and drugs. In part, this derives from recognition that, especially in the past decade, a major factor affecting many aspects of criminal behavior has been the illicit drug industry and its consequences. Beyond the offenses of drug sale or drug possession, the drug-crime link has been described as taking several forms:

- Pharmacologically/psychologically driven crime, induced by the properties of the drug. (The most widely recognized connection is between alcohol and the violence it induces.)
- Economic/compulsive crimes, committed by drug users to support their habit.
- Systemic crime, which includes the crimes committed as part of the regular means of doing business in the illicit

---

**Figure 3. Homicide Arrest Rate of 14–17-Year-Old Males**

*This rate is scaled up by a factor of 4 to put it on a scale comparable to that of blacks.*

**Source:** The data were generated by Glenn Pierce and James Fox from the FBI’s Supplementary Homicide Reports, which are based on reports of individual homicides submitted by the Nation’s police departments.

**Figure 4. Number of Gun and Non-Gun Homicides**

**Juvenile Offenders (ages 10–17)**

*Source:* The data were generated by Glenn Pierce and James Fox from the FBI’s Supplementary Homicide Reports, which are based on reports of individual homicides submitted by the Nation’s police departments.
drug industry. (An example is the violence used to resolve disputes between competing traffickers.)

There is a fourth, still broader connection of drugs to crime: the community disorganization effect of the illicit drug industry and its operations in the larger community. This effect includes the manner by which the norms and behaviors of the industry, which can become a significant activity in some communities, influence the behavior of people who themselves have no direct connection to drug trafficking. The effect could, for example, include the influence on others of the widespread possession of guns by drug sellers. When guns are so prevalent, people in the community might arm themselves, perhaps for self-defense, perhaps to settle disputes that have nothing to do with drugs, or perhaps just to gain respect. In other words, once guns are used within the illicit drug market, they become more prevalent in the larger community, and used for purposes unrelated to buying and selling drugs. Hence, they add to community disorganization well beyond what happens as a direct result of the drug industry.

**Juveniles and illicit drug marketing.** Drug arrest rates, especially for nonwhites, began to move upward in the early 1980’s, and then accelerated appreciably after 1985 as the distribution of crack cocaine became widespread, particularly in inner-city areas. Among nonwhite juveniles, drug arrest rates were lower than those of whites in the 1970’s, and were also fairly constant, until they began a very rapid acceleration until about 1985, doubling by 1989. This pattern contrasted with that of the 1960’s and 1970’s, when the rate at which young whites were arrested for drug-related offenses followed the pattern of whites, but stayed somewhat low. The arrest rate of whites then peaked in 1974 and then began a steady decline. (See figure 5.)

The acceleration in drug arrests of young nonwhites (primarily blacks) reflected a major recruitment of sellers to market crack, which required many more street transactions. The racial differences in arrest rates indicate the extent to which drug enforcement has focused on blacks more than on whites. The black-white difference is magnified also because black drug sellers tend much more often to operate in the street, where they are vulnerable to arrest, whereas white sellers are much more likely to operate indoors. The amenability of inner-city nonwhite juveniles to recruitment into the illicit drug industry was undoubtedly enhanced by their pessimism—or perhaps even hopelessness—as they weighed the diminishing opportunities available to them in the legitimate economy.

**A proposed hypothesis.**

This striking array of changes in juvenile crime since 1985—a doubling of the homicide rate, a doubling of the number of homicides committed with guns, and a doubling of the arrest rate of nonwhites for drug offenses, all after a period of relative stability in these rates—cries out for an explanation that will link them all together. The explanation that seems most reasonable can be traced to the rapid growth of the crack markets in the mid-1980’s. To service that growth, juveniles were recruited, they were armed with the guns that are standard tools of the drug trade, and these guns then were diffused into the larger community of juveniles.

**Recruitment.** The process starts with the illicit drug industry, which recruits juveniles partly because they work more cheaply than adults, partly because the sanctions they face are less severe than those imposed by the adult criminal justice system, and partly because they tend to be daring and willing to take risks that more mature adults would eschew. The plight of many urban black juveniles, many of whom see no other comparably satisfactory route to economic sustenance, makes them particularly vulnerable to the lure of the profits of the drug industry. The growth in the drug arrest rate of nonwhite juveniles is evidence of this recruitment.

**Guns as a means of self-protection.** These juvenile recruits, like all participants in the illicit drug industry, are very likely to carry guns for self-protection, largely because in that industry guns are a major instrument for dispute resolution as well as self-defense. People involved in the drug industry are likely to be carrying a considerable amount of valuable product—money or drugs—and are not likely to be able to call on the police if they are robbed.

**The diffusion of guns.** Since a considerable number of juveniles can be involved in the drug industry in communities where the drug market is active, and since juveniles are tightly “networked,” at school or on the street, other juveniles are also likely to arm themselves. Again, the reason is a mixture of self-protection and status-seeking. Thus begins an escalation: as more guns appear in the community, the incentive for any single individual to arm himself increases, and so a local “arms race” develops.

**The violent outcome.** The recklessness and bravado that often characterize teenage behavior, combined with their lack of skill in settling disputes other than through physical force, transform what once would have been fist fights with outcomes no more serious than a bloody nose into shootings with much more lethal consequences because guns are present. This sequence can be exacerbated by the socialization problems associated with extreme poverty, the high proportion
of single-parent households, educational failures, and the pervasive sense of hopelessness about one’s economic situation.

It does appear, however, that by the time these young people move beyond their early twenties, they develop a measure of prudence. It may be that the diffusion process is far slower because adults are less tightly networked and less prone to emulate each other’s behavior. Even within the drug industry, they appear to act more cautiously when they are armed, and to otherwise display greater restraint. However, there is some concern that the restraint that normally comes with age may not materialize in this particular age group. It is possible that a cohort effect may be occurring, with the possibility that the 18-year-olds currently responsible for the higher homicide rates may continue their recklessness as they get older. This possibility needs to be monitored and explored.

Evidence of the diffusion. The possibility that guns are diffused from drug markets to the larger community through juvenile recruits is further confirmed by the pattern of white and nonwhite arrests for murder. Since 1980, the murder arrest rates for adults, both white and nonwhite, have followed the same downward trend, and have shown no growth since 1985. (See figure 6.) By contrast, among juveniles the murder arrest rates for whites and nonwhites have grown markedly between 1985 and 1992. The increase among nonwhite juveniles was 123 percent (from 7.1 to 15.8 per 100,000). Among white juveniles the murder arrest rate also increased markedly, although by a lesser amount—80 percent (from 1.5 to 2.7 per 100,000). (See figure 7.)

What is notable in these figures is that the murder rate rose among white as well as nonwhite juveniles since 1985, at a time when the drug arrest rate for
nonwhites alone began to climb. Thus, the apparent absence of significant involvement of white juveniles in the drug markets during this time (figure 5) has not insulated them from the growth of their involvement in homicide, possibly through the suggested process of the diffusion of guns from drug sellers into the larger community.

When the arrest trends of young nonwhites for homicide and drug offenses are compared (figure 8), it is evident that both rates climbed together from 1985 through 1989, suggesting the relationship between the two. The drug arrest rate declined somewhat after 1989. There was a flattening out, but no corresponding decline in the murder arrest rate. In other words, the continued high rate of murder arrests seems to demonstrate that once guns are diffused into the community, they are much more difficult to purge.

**Reversing the trends**

If the explanation outlined above is at all valid, it implies the need for solutions, some immediate and others longer range. One immediate approach would involve aggressive steps to confiscate guns from juveniles carrying them on the street. Laws permitting confiscation of guns from juveniles are almost universal, but they require more active and skillful enforcement.

The need is particularly urgent in communities where homicide rates have risen dramatically, probably coincident with the appearance of drug markets. James Q. Wilson has made some concrete proposals for pursuing such efforts, including better devices for detecting guns from a distance.

Also, in contrast to the intense pursuit of drug markets by law enforcement over the past 15 years, very little attention has been paid to the illegal gun markets through which guns are distributed to juveniles. This issue clearly
needs much greater attention. More complex in its implications for policy are the links among the magnitude of the criminal drug market, the use of guns in drug markets, and the juvenile homicide rate—the subject of this discussion. The presence of guns in drug markets results from the fact that these markets are criminalized. This does not, of course, warrant an immediate call for legalization of drugs. Any policy in the broad spectrum between full prohibition and full legalization involves carefully weighing the costs of criminalization (of which homicide is but one) against the probable consequences of greater use of dangerous drugs. The complexity of this issue prohibits its discussion here. However, if the diffusion hypothesis is correct, the impact on juvenile homicide represents one component of the cost of the current policy.

To the extent that efforts to diminish the size of the illegal drug market could be pursued (through greater investment in treatment, more effective prevention, or other health care initiatives responsive to addicts' needs), then although illegal markets would continue, the demand for drugs and the volume of drugs sold in the markets would diminish. A cost-benefit comparison of current policies and possible alternatives is needed but has yet to be made. Perhaps concern about the recent rise in the juvenile homicide rate might lend urgency to the issue.5

Notes


5. In my presidential address to the American Society of Criminology in November 1992, I suggested proposing establishment of a Presidential Commission to examine the costs and benefits of our current zero-tolerance policy and to contrast that with various possible alternatives. Such an assessment would require major research support from the National Academy of Sciences. (See Alfred Blumstein, “Making Rationality Relevant,” Criminology 30:1–16.)

Alfred Blumstein, Ph.D., is J. Erik Jonsson University Professor of Urban Systems and Operations Research at Carnegie Mellon University’s H. John Heinz III School of Public Policy and Management.

The research reported in this article is being extended with the aid of an NIJ grant on juvenile violence and its relationship to drug markets. Recently, Dr. Blumstein led a seminar about this research at NIJ; a 60-minute videotape of his presentation and responses to audience questions is available for $19.00 ($24.00 outside the United States) from the National Criminal Justice Reference Service, PO Box 6000, Rockville, MD 20849–6000; telephone 800–851–3420 or e-mail askncjrs@aspensys.com. Ask for NCJ 152235.
Traditionally, the juvenile justice system has employed sanctions, treatment, and rehabilitation to change problem behaviors after they have occurred. Advocates of a prevention-based approach to crime control invite the scorn of critics who believe prevention amounts to little more than “feel-good” activities. Yet the practitioner—the probation officer confronted daily with young people in trouble—is often aware of the need for effective prevention. As a probation officer in the early 1970’s working with delinquent teenagers, I found myself asking, “Couldn’t we have prevented these youngsters from getting to this point? Couldn’t we have interceded before they were criminally referred to the courts?”

Once they have experienced the reinforcing properties of drugs and are convinced of crime’s profitability, young people are difficult to turn around. Once invested in the culture of crime, they reject the virtues attributed to school and family, for reasons that are all too clear. For them, school is not a place of attachment and learning, but of alienation and failure; family is not a source of love and support, but of unremitting conflict.

Dealing with these youths as a probation officer, I saw my job as something akin to operating an expensive ambulance service at the bottom of a cliff. The probation staff were the emergency team patching up those who fell over the edge. Many of us who have worked in juvenile corrections have come to realize that to keep young people from falling in the first place, a barrier is needed at the top of the cliff. In short, we believe that prevention is more effective and less costly than treatment after the fact. David Mitchell, chief judge of the juvenile court for Baltimore County, once observed, “It is of no value for the court to work miracles in rehabilitation if there are no opportunities for the child in the community. Until we deal with the environment in which they live, whatever we do in the courts is irrelevant.”

Effective prevention based on the public health model

In prevention, where action precedes the commission of crime, it is wise to heed the admonition that guides physicians: “Above all, do no harm.” Hard work and good intentions, by themselves, are not enough to ensure that a program to prevent violence or substance abuse will succeed, let alone that it will not make things worse.

Early prevention efforts in the “War on Drugs” serve to illustrate this point. Well-meaning people were concerned about substance abuse and decided to do something about it by introducing prevention programs in the schools. They collected information, pictures, and even samples of illicit drugs, took these materials to the schools, and showed them to students; they talked about the behavioral and health effects of drugs and warned of the risks associated with their use. Contrary to intention and expectation, these drug information programs failed to reduce or eliminate drug use and, in some instances, actually led to its increase. The real lesson learned in the schools was that information, which is neutral, can be employed to the wrong end, producing more harm than good. These early prevention workers had not envisioned drug information in the context of a comprehensive prevention strategy.

Increasingly, the preventive approach used in public health is being recognized as appropriate for use as part of a criminal justice strategy. It is instructive to review an example of how the model has been applied to disease control. Seeking to prevent cardiovascular disease, researchers in the field of public health first identified risk factors; that is, the factors whose presence increased a person’s chances of contracting the disease: tobacco use, high-fat diet, sedentary lifestyle, high levels of stress, and family history of heart disease. Equally important, they determined that certain protective factors (e.g., aerobic exercise or relaxation techniques) helped prevent the development of heart problems.
Over the past few years, longitudinal research (that is, studies that follow youngsters from the early years of their lives into adulthood) has identified factors associated with neighborhoods and communities, the family, the schools, and peer groups, as well as factors residing in the individual that increase the probability of violence during adolescence and young adulthood. These factors, presented in Exhibit 1, also have been shown to increase the probability of other health and behavior problems, including substance abuse, delinquency, teen pregnancy, and dropping out of school. It is important to note that only factors identified in two or more of these longitudinal studies to increase the probability of the checked health or behavior problem have been included in the exhibit. Although future research may reveal, for example, that alienation and rebelliousness place an individual at risk of violent behavior, consistent evidence does not yet exist to support this hypothesis.

In neighborhoods. Five risk factors arising from the community environment are known to increase the probability that a young person will engage in violence:

- Availability of guns. The United States has one of the highest rates of criminal violence in the world, and firearms are implicated in a great number of these crimes. In recent years, reports of gun-toting youths in inner-city schools and of violent incidents involving handguns in school environs have created mounting concern. Given the lethality of firearms, the increased likelihood of conflict escalating into homicide when guns are present, and the strong association between availability of firearms and homicide rates, a teenager having ready access to firearms through family, friends, or a source on the street is at increased risk of violence.

- Community laws/norms favorable to crime. Community norms are communicated through laws, written policies, informal social practices, and adult expectations of young people. Sometimes social practices send conflicting messages: for example, schools and parents may promote “just say no” themes while alcohol and substance abuse are acceptable practices in the community. Community attitudes also influence law enforcement. An example is the enforcement of laws that regulate firearms sales. These laws have reduced violent crime, but the effect is small and diminishes as time passes. A number of studies suggest that the reasons are community norms that include lack of proactive monitoring or enforcement, as well as the availability of firearms from jurisdictions having no legal prohibitions on sales or illegal access. Other laws related to reductions in violent crime, especially crime involving firearms, include laws governing penalties for licensing violations and for using a firearm in the commission of a crime.

Identifying risk factors for violence

Using the public health model to reduce violence in America’s communities calls for first identifying the factors that put young people at risk for violence in order to reduce or eliminate these factors and strengthen the protective factors that buffer the effects of exposure to risk.

These public health researchers were concerned with halting the onset of heart disease in order to avoid risky, invasive, and costly interventions, such as angioplasty or bypass surgery, after the disease had taken hold. Their goal was to reduce or counter the identified risk factors for heart disease in the population at large; their strategy was to launch a massive public advocacy campaign, conducted in multiple venues (e.g., the media, government, corporations, schools), aimed at elimination of “at risk” behaviors (and the attitudes supporting them). If risk could not be avoided altogether, the campaign could at least promote those behaviors and attitudes that reduce risk of heart disease. Proof that this two-pronged strategy has been effective is in the numbers: a 45-percent decrease in the incidence of cardiovascular disease, due in large measure to risk-focused prevention. Application of the same prevention principles to reduce the risks associated with problem behaviors in teenagers, including violence, can work as well.
### Exhibit 1. Risk Factors and Their Association With Behavior Problems in Adolescents

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>Adolescent Problem Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Substance Abuse</td>
</tr>
<tr>
<td>Community</td>
<td></td>
</tr>
<tr>
<td>Availability of Drugs</td>
<td>✓</td>
</tr>
<tr>
<td>Availability of Firearms</td>
<td></td>
</tr>
<tr>
<td>Community Laws and Norms Favorable Toward Drug Use, Firearms, and Crime</td>
<td>✓</td>
</tr>
<tr>
<td>Media Portrayals of Violence</td>
<td></td>
</tr>
<tr>
<td>Transitions and Mobility</td>
<td>✓</td>
</tr>
<tr>
<td>Low Neighborhood Attachment and Community Disorganization</td>
<td>✓</td>
</tr>
<tr>
<td>Extreme Economic Deprivation</td>
<td>✓</td>
</tr>
<tr>
<td>Family</td>
<td></td>
</tr>
<tr>
<td>Family History of the Problem Behavior</td>
<td>✓</td>
</tr>
<tr>
<td>Family Management Problems</td>
<td>✓</td>
</tr>
<tr>
<td>Family Conflict</td>
<td>✓</td>
</tr>
<tr>
<td>Favorable Parental Attitudes and Involvement in the Problem Behavior</td>
<td>✓</td>
</tr>
<tr>
<td>School</td>
<td></td>
</tr>
<tr>
<td>Early and Persistent Antisocial Behavior</td>
<td>✓</td>
</tr>
<tr>
<td>Academic Failure Beginning in Elementary School</td>
<td>✓</td>
</tr>
<tr>
<td>Lack of Commitment to School</td>
<td>✓</td>
</tr>
<tr>
<td>Individual/Peer</td>
<td></td>
</tr>
<tr>
<td>Alienation and Rebelliousness</td>
<td>✓</td>
</tr>
<tr>
<td>Friends Who Engage in a Problem Behavior</td>
<td>✓</td>
</tr>
<tr>
<td>Favorable Attitudes Toward the Problem Behavior</td>
<td>✓</td>
</tr>
<tr>
<td>Early Initiation of the Problem Behavior</td>
<td>✓</td>
</tr>
<tr>
<td>Constitutional Factors</td>
<td>✓</td>
</tr>
</tbody>
</table>

© 1993 Developmental Research and Programs, Inc.

Media portrayals of violence. The highly charged public debate over whether portrayals of violence in the media adversely affect children continues. Yet research over the past 3 decades demonstrates a clear correlation between depictions of violence and the development of aggressive and violent behavior. Exposure to media violence also teaches violent problem-solving strategies and appears to alter children’s attitudes and sensitivity to violence.

Low neighborhood attachment/community disorganization. Indifference to cleanliness and orderliness, high rates of vandalism, little surveillance of public places by neighborhood residents, absence of parental involvement in schools, and low rates of voter participation are indicative of low neighborhood attachment. The less homogeneous a community in terms of race, class, religion, or mix of industrial to residential areas, the less connected its residents may feel to the overall community and the more difficult it is to establish clear community goals and identity. Higher rates of drug problems, juvenile delinquency, and violence occur in such places.

Extreme economic deprivation. Children who live in deteriorating neighborhoods characterized by extreme poverty are more likely to develop problems...
with delinquency, teen pregnancy, dropping out of school, and violence. If such children also have behavior and adjustment problems early in life, they are also more likely to have problems with drugs as they mature. The rate of poverty is disproportionately higher for African American, Native American, or Hispanic children than for white children; thus, children are differentially exposed to risk depending on their racial or cultural backgrounds.

**In families.** Obviously, the home environment, family dynamics, and parental stability play a major role in shaping children. Three risk factors for violence are associated with the family constellation: poor family management practices, including the absence of clear expectations and standards for children’s behavior, excessively severe or inconsistent punishment, and parental failure to monitor their children’s activities, whereabouts, or friends; family conflict, either between parents or between parents and children, which enhances the risk for all of the problem behaviors; and favorable parental attitudes and involvement in violent behavior, which increases the risk that children witnessing such displays will themselves become violent.

**At school.** Two indicators of risk for violence are associated with a child’s experiences at school. Antisocial behavior of early onset (that is, aggressiveness in grades K–3, sometimes combined with isolation or withdrawal or sometimes combined with hyperactivity or attention-deficit disorder) is more frequently found in boys than girls and places the child at increased risk for problems, including violence, during adolescence. The risk factor also includes persistent antisocial behavior first exhibited in adolescence, such as skipping school, getting into fights, and misbehaving in class. Young people of both genders who engage in these behaviors during early adolescence are at increased risk for drug abuse, juvenile delinquency, violence, dropping out of school, and teen pregnancy. Academic failure, if it occurs in the late elementary grades and beyond, is a second school-related risk factor that is likely to result in violence and other problem behaviors. Specifically, it is the experience of failure that appears to escalate the risk, rather than ability per se.

**In peer groups and within the individual.** If youngsters associate with peers who engage in problem behaviors (for example, drug abuse, delinquency, violence, sexual activity, or dropping out of school), they are much more likely to do the same. Further, the earlier in their lives that young people become involved in these kinds of experiences—or take their first drink of alcohol or smoke their first marijuana cigarette—the greater is the likelihood of prolonged, serious, and chronic involvement in health and behavior problems. Even when a young person comes from a well-managed family and is not burdened with other risk factors, associating with friends who engage in problem behaviors greatly increases the child’s risk. In addition, certain constitutional factors—those that may have a biological or physiological basis—appear to increase a young person’s risk. Examples of constitutional factors include lack of impulse control, sensation seeking, and low harm avoidance.

**Protective factors**

It is well known that some youngsters, even though they are exposed to multiple risk factors, do not succumb to violent, antisocial behavior. Research indicates that protective factors reduce the impact of negative risk factors by providing positive ways for an individual to respond to these risks. Three categories of protective factors have been identified:

- **Individual characteristics:** A resilient temperament and positive social orientation.
- **Bonding:** Positive relationships with family members, teachers, or other adults.
- **Healthy beliefs and clear standards:** Beliefs in children’s competence to succeed in school and avoid drugs and crime coupled with establishing clear expectations and rules governing their behavior.
Individual characteristics. Youths who seem able to cope more successfully than others with risk factors appear resilient: they are able to bounce back in the face of change or adversity; they experience less frustration in the face of obstacles and do not give up easily. They are also good-natured, enjoy social interaction, and elicit positive attention from others. Gender is another factor. Given equal exposure to risks, girls are less likely than boys to develop violent behavioral problems in adolescence. Finally, intelligence protects against certain problem behaviors, such as delinquency and dropping out of school, although it does not protect against substance abuse. Such individual characteristics enhance the likelihood that children will identify opportunities to make a personal contribution, develop the skills necessary to follow through successfully, and receive recognition for their efforts. However, these individual protective factors—resilient temperament, positive social orientation, gender, and intelligence—are innate and are extremely difficult to change.

Bonding. Several studies have revealed that children raised in environments in which they are exposed to multiple risk factors have nevertheless become productive, contributing members of the community. In interviews with these young people, they invariably note that someone took an interest in them. Some adult in the community—whether a parent, an aunt, a grandmother, a teacher, a youth worker, a minister, a businessperson—established a bond of affection and cared enough to reach out. Research has shown that the protective factor of bonding with positive, prosocial family members, teachers, or other significant adults or peers can be strengthened by preventive intervention.

Healthy beliefs and clear standards. When the adults with whom young people bond have healthy beliefs and well-defined standards of behavior, these serve as protection against the onset of health and...
behavior problems in those youngsters. Examples of healthy beliefs include believing it is best for children to be free of drugs and crime and to do well in school. Examples of well-defined standards include clear, consistent family prohibitions against drug and alcohol use, demands for good performance in school, and disapproval of problem behaviors. When a young person bonds to those who hold healthy beliefs and set clear standards, the two protective factors are reinforcing; they work in tandem by providing a model on which to base behavior and the motivation to practice approved behavior so that the bond is not jeopardized. Both bonding and healthy beliefs/clear standards mediate the relationship between a young person and the social environment, including community, family, schools, and peer groups; these protective factors can be encouraged and strengthened.

**The preconditions of bonding.**
Bonding may take place with a caregiver, a family member or other significant adult, or it may represent an attachment to a social group. For bonding to occur, however, three conditions must be met. The first is the *opportunity for active involvement*. People become bonded to a family, a school class, or a community because they are given the chance to participate in the life of the group. In a classroom where the teacher calls on only the students in the front who raise their hands, the others are denied an opportunity for active involvement; as a result they may lose their commitment to education. The situation is similar in a family where the 13- or 14-year-old uses the home as a hotel—essentially a place to sleep—but has no responsibilities in the family. Youngsters need to be given the chance to contribute, in ways commensurate with their level of development, to life in the family, in the classroom, and in the wider community.

The opportunity to become involved is not enough, however. A second condition of effective bonding is having the skills needed to succeed once involvement gets underway. Young people need to be taught the skills without which they will be unable to pursue opportunities effectively. Examples of skills that have been shown to protect children include good cognitive skills, such as problem-solving and reading abilities, and good social skills, including communication, assertiveness, and the ability to ask for support.

The third condition of bonding is a *consistent system of recognition or reinforcement for skillful performance*. Young people often receive little or no recognition for doing the right thing. The focus is on what they have done wrong; much less frequently are their accomplishments acknowledged. The efforts they put forth, the challenges they face, and the contributions they make should be celebrated in personally and culturally accepted ways.

Thus, along with opportunities and access to skills, recognition or appreciation provides an incentive for continued contribution and is a necessary condition for enabling young people to form.
Thus, prevention interventions need to be geared to the appropriate developmental stages of the child. If behavior problems at age 4, 5, and 6 are known to be associated with substance abuse and delinquency later in life, this means all youngsters should be taught in the early elementary grades the skills they need to manage and control their impulses in order to get along with others.

Allied to the principle of intervention at the appropriate stage is early intervention, necessary to prevent behavior problems from stabilizing and becoming entrenched. Ideally, prevention begins before the child is born to ensure that low-income mothers and other adult caregivers have the skills they need to nurture children. These skills will equip them to understand that a crying baby is not a bad baby who needs to be spanked or disciplined. Prenatal care, home visits to low-income single mothers, and caregiver training in nurturing skills can significantly reduce child abuse. Studies show that more than a fourfold reduction in child abuse is achievable by home visitation before birth and during the first few months of infancy.5

Prevention programs need to reach those who are at high risk by virtue of exposure to multiple risk factors. These multiple risks require multiple strategies that also are sensitive to achieving the desired outcome. Community leaders should keep in mind some key principles. The first is that prevention strategies should focus on known risk factors. Once communities identify the risk factors they need to address, the prevention program developed in response should be targeted to reducing those factors and to enhancing protective factors. Another guideline is that intervention should be planned to coincide with the point in a child’s development that is optimal for close attachments to their communities, schools, and families. Exhibit 2 shows how protective factors are developed and how they influence one another.

Community guidelines for preventive intervention

In designing preventive interventions for the 1990’s and beyond,
the cultural diversity that characterizes many communities.

Commitment to risk-focused prevention programs arises only when there is buy-in by the community; that is, when the programs are felt to be “owned and operated” by the community. This sense of proprietorship evolves when all the various stakeholders in the community—the key leaders through the grassroots members—come together representing their diverse interests and develop a strategy for how to implement risk-focused prevention. The “Communities That Care” approach is one such strategy.

Implications for criminal justice

The inclusion of prevention as a central element of criminal justice policy and practice is emblematic of a new emphasis reflecting the realization that enforcement alone is not enough to reduce youth violence. This realization reflects the recognition that, in spite of geometrically increasing investments in enforcement, the courts, and corrections, violent crime, especially among young people, has continued to rise over the past decade (discussed by Alfred Blumstein elsewhere in this issue).

For criminal justice, the orientation to prevention means establishing partnerships with other organizations, groups, and agencies in the community to identify and reduce risks for crime and violence and to strengthen protective factors that inhibit violence in the community. Community policing represents a clear example of this shift in criminal justice from an exclusive focus on the “back end”—after the crime has been committed. Integral to the intervention process is the involvement of the community and of social service and other agencies at the “front end”—working in tandem with law enforcement to identify problems and design strategies to solve them. In refining its role, criminal justice is taking on a much greater challenge than in the past, but doing so holds the promise of reducing crime in the long term.

Notes


3. From a speech delivered at the National Academy of Sciences in January 1994, by Kenneth I. Shine, M.D., President of the National Institute of Medicine.


6. For information about the Communities That Care comprehensive community prevention planning approach, contact Developmental Research and Programs, 130 Nickerson Street, Suite 107, Seattle, WA 98109. Phone: (800) 736–2630; Fax: (206) 286–1462.

J. David Hawkins teaches social work at the University of Washington in Seattle and directs the University’s Social Development Research Group. Dr. Hawkins was co-developer of the “social development strategy,” supported by the U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention (OJJDP), and adopted by OJJDP as the basis for its comprehensive strategy for serious, violent, and chronic juvenile offenders. OJJDP continues to support the social development model and the application of the Communities That Care approach. OJJDP has used Dr. Hawkins’ work as the basis for its new, congressionally mandated delinquency prevention program that addresses the risk factors associated with delinquency and adolescent substance abuse. For more than a decade, Dr. Hawkins has led the Seattle Social Development Project, a longitudinal prevention study, based at the University of Washington, that tests his risk reduction strategy, using his theoretical work as the basis. This article is based on a presentation made by Dr. Hawkins at the federally sponsored conference, “Solving Youth Violence: Partnerships That Work,” held in Washington, D.C., August 15 to 17, 1994. Dr. Hawkins’ publications for OJJDP include “Parent Training for Delinquency Prevention,” with M. W. Fraser and M. O. Howard, Washington, D.C.: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention, and National Institute on Drug Abuse, 1988. He also contributed to the Guide for Implementing the Comprehensive Strategy for Serious, Violent, and Chronic Juvenile Offenders, ed. James C. Howell, U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention, May 1995.
Youth violence has grown to alarming proportions, but the good news is the strong response to tackling the problem. Communities large and small are working hard at devising innovative approaches, many of them integrating components of prevention, deterrence, rehabilitation, and control. At every level—municipal, county, State, and Federal—programs are making a difference in the lives of those they touch. They help high-risk adolescents manage anger and control conflict, ensure youngsters a safe place to have fun after school, provide sanctions other than prison for youthful offenders, offer young people job counseling and training, teach parenting skills to young adults, and counsel teens in self-esteem and leadership skills.

Until now, finding out what these programs are and where they are has been a daunting prospect, if only because there are so many. The Partnerships Against Violence Network (PAVNET) is changing all that. Conceived by the National Institute of Justice and built with the technical assistance of the U.S. Department of Agriculture’s National Agricultural Library, PAVNET is a service that provides information about youth anti-violence programs operating throughout the country and about the availability of technical assistance and funding for such programs. The information is available in print, on diskette, and through “PAVNET Online” via the Internet.

One of the most distinctive features of PAVNET is the partnership of Federal Government agencies it represents. Seven cabinet-level agencies have joined forces to integrate information to remove barriers communities face in locating resources to help them reduce violence.

The old way to access information

Before PAVNET, community officials who wanted to create a program to deal with youth substance abuse, for example, would confront a laborious and time-consuming task. In planning their program they would probably want to first look into what other communities like their own were doing. Their strategy might be to pick and choose among program components to select ones that fit their needs. They might have proceeded by contacting a neighboring jurisdiction known to have a program on youth substance abuse or by looking into a high-visibility project set in a major urban area. Alternatively, they might have gotten in touch with one or another Federal agency to find out about programs to explore.

The search would require a considerable amount of time and other resources. It would mean looking in many directions and in the worst case end up as a hit-or-miss exercise. The principal reason has been the absence of a centralized repository of the information they need. Locally based programs are diffused nationwide and a multiplicity of agencies and organizations, public and private, sponsor them.

And the new

PAVNET greatly simplifies the task of local government officials and others who want to know and need to know about programs and other resources to reduce youth violence. Literally hundreds of these programs are up and running all over the country. PAVNET not only centralizes information about them but makes it accessible easily, rapidly, and to a worldwide audience.

Promising programs. Using PAVNET to locate information about anti-drug programs for young people, the hypothetical local government officials turn to the section entitled “Promising Programs: Substance Abuse” in the electronic or printed versions. There they will find three types of programs: that emphasize prevention, enforcement, or treatment and rehabilitation.

In addition to substance abuse, other program categories are family violence, services to victims, community violence, and youth violence prevention. Altogether, almost 600
### Sample PAVNET Listing

**Transitional Aftercare Group (TAG) Program**

**Contact**
John C. Smith, M.S.W.
Health Promotions
Morehouse School of Medicine
720 Westview Drive, S.W.
Atlanta, GA 30310
Tel: 404–752–1754
Fax: 404–752–0094

**Program Type**
Community reintegration and rehabilitation through education and social services

**Target Population**
Recently released juvenile offenders in the State of Georgia

**Setting**
Aftercare group program of juveniles making the transition from incarceration to the community

**Project Startup Date**
September 1993

**Information Source**
National Clearinghouse for Alcohol and Drug Information (NCADI) PREVline electronic data system (U.S. Department of Health and Human Services)

---

**Evaluation Information**
The Centers for Disease Control and Prevention (CDC) is sponsoring a 10-month process evaluation that will focus on the extent to which the program sites are successful in implementing proposed activities.

**Annual Budget**
$100,000

**Sources of Funding**
National Center for Injury Prevention and Control, CDC, Division of Violence Prevention

**Program Description**
The Georgia Department of Children and Family Services TAG program is designed to reduce recidivism among newly released juvenile offenders. The program provides case management; treatment services; and career, educational, and vocational training at three sites in Georgia. Case management includes a needs assessment of each person, crisis intervention, treatment planning, referrals, and placement. Treatment services include counseling, parenting classes, alcohol abuse education, drug abuse education, success seminars, and literacy education. Career, educational, and vocational training includes basic skills and instruction related to receiving a high school diploma, career counseling, and job placement. Partners include the Morehouse School of Medicine and the Georgia Department of Children and Youth Services.

---

Each program listing offers a snapshot view or “abstract” of the project, plus information about the specific population targeted, the type of setting, the startup date, the budget, the funding source or sources and, perhaps most important, the name of someone to contact and the ways to reach him or her by phone, fax, or e-mail. (See "Sample PAVNET Listing"). Armed with this information about a program or programs that interest them, the hypothetical officials, who may be based in Ohio, can get in touch with their counterparts in whatever jurisdiction a listed program operates.

**Technical assistance.**
Sometimes a community may want to locate an organization with the expertise to provide technical assistance or other help in developing a program, operating it, or making it better. PAVNET contains these types of listings as well—more than 300. They present information on such resources as training materials, educational curriculums, information clearinghouses, and hotline numbers, as well as listings.
for organizations that can provide onsite assistance to local communities. Examples are the Boston Area Educators for Social Responsibility, which offers conflict resolution training to teachers, administrators, and counselors working in elementary, middle, and secondary schools and the Washington, D.C.-based Center for Community Change, which provides technical assistance to disadvantaged urban and rural communities that want to bring about change. For each listing, the services are described briefly and a contact person’s name, address, and phone number (plus fax number and e-mail address, if available) are included.

Funding sources. In an era of budget constraints and cutbacks, funding takes on added significance. PAVNET meets the need for information about financial support through a section on public and private sources. These range from organizations that support projects in specifically named localities to those like the USDA Extension Service’s Youth at Risk initiative, which operate nationwide.

Quality of the information. In developing PAVNET, quality control was and remains a major consideration. Paul Estaver, who directed the initial drafting, editing, and input of data at NIJ, noted the importance attached to this part of the process. “We went to great lengths to be sure the information was accurate,” he said. All information for each entry was verified before inclusion in the data base.

Several criteria were established to consider a program’s “eligibility” for PAVNET. Programs judged to be “promising” are aimed at resolving a violence problem or making a community safer, have clear and measurable goals, and have been in operation for at least a year. The targeted problem needs to be significant in number of people affected or has to meet another, similar standard. Perhaps most important was the emphasis on evaluation. Whenever possible, evidence that programs have achieved some success in meeting their stated goals is included in the description. This is done to help PAVNET users determine if the initiatives can be adopted or adapted elsewhere.

PAVNET online and other formats

PAVNET is available in three formats: in a printed, hard-copy version; on diskettes (both in WordPerfect and ASCII); and via the Internet. NIJ’s G. Martin Lively, who worked with John Kane of the Department of Agriculture to coordinate the technical aspects of PAVNET Online, noted there is sound reasoning behind the offer of multiple formats. “We may be a little ahead of the curve in providing this information via the international information superstructure,” he said, “because Internet connectivity is not yet universal or universally available.” He added, however, that the growing use of the Internet (by one estimate it links 45,000 networks and serves between 10 and 25 million users) seems proof positive that the potential user base for PAVNET Online will grow accordingly.

To help Internet users navigate the Information Superhighway to reach PAVNET Online, a guide for online users has been published. And for anyone with a personal computer but without Internet access, the diskette version of PAVNET is available.

The advent of more advanced technology does not spell the abrupt demise of tools developed earlier. They will continue to coexist for some time to come. PAVNET was created in this period of transition—between the time of universal accessibility to online information and reliance on printed documents. So PAVNET has also been made available in a two-volume, hard-copy format.

Cost savings and other benefits.

Like any other electronic search and retrieval system, PAVNET Online creates savings in time and other resources. But such savings also accrue from use of the print version as
**PAVNET means "one-stop shopping" for the consumer of information.**

Well. Whatever its format, PAVNET means “one-stop shopping” for the consumer of information.

Obviously, PAVNET Online generates the most benefits, for both “suppliers” and “customers.” On the supplier end, a one-time, front-end input of resources was needed for initial data input, and resources are needed on an ongoing basis for administration and management. Still, the savings and government efficiency accrue from eliminating printing and distribution costs. Inventory problems (even inventory itself) can become a thing of the past. Customers need no longer wait for the mail to arrive, for they can view, download (transfer), print, and make multiple copies of any of these public-domain files when they want them. Speed of information retrieval, probably the greatest advantage for users, can also result in cost savings. At least for the present, many users get Internet access free of charge through their sponsoring institution.

Internet accessibility also enables the supplier to update and manage information on a real-time basis. Paper documents can have a short “shelf life” when their contents become out-of-date. PAVNET Online does not require reprints. For the user, the information will always be as current as real-time data entry permits.

---

**The genesis of PAVNET**

The initial steps in creating PAVNET were taken by the National Institute of Justice, an agency of the Justice Department. But PAVNET’s reach is far beyond the domain of criminal justice. It contains programs in education, health, job training and placement, counseling, recreation, and many other areas. The reason the net was cast so wide is the recognition that violence cannot be defeated through law enforcement alone or even with all the multiple resources at the disposal of the criminal justice system. Violence needs to be approached from many angles, and that calls for the involvement of many disciplines. To paraphrase the African proverb: it takes the resources of the entire community to save a child.

The need for a multifaceted approach was part of the thinking behind Project PACT (Pulling America’s Communities Together), the program PAVNET was initially designed to support. Begun in the fall of 1993, PACT started as a consortium of Federal agencies that serves as a catalyst to build coalitions at every level—local, State, and Federal—to reduce violence. In the cities designated as PACT sites, the Federal Government takes on the role of facilitator and coordinator, helping communities as they themselves define the specific violence-related problem they want to address and as they shape their own response. That mandate extends to helping the sites ensure their anti-violence strategies are comprehensive; that is, inclusive of the full spectrum of approaches, from prevention through control, represented by the several Federal agencies in Project PACT.

The PACT program itself makes no commitment to Federal funding. Rather, the emphasis is on technical assistance, such as providing information. The response to the call for better online information about Federal resources and guides to promising anti-violence activities was the genesis of PAVNET. In the startup stages of PAVNET, the support of the Department of Justice representative on the PACT team, Shay Bilchik (now Director of the Office of Juvenile Justice and Delinquency Prevention) was invaluable. The team that developed PAVNET was headed by Paul Cascarano, Assistant Director of NIJ. Cascarano summarized the objective he set for himself and his team: “What we wanted to do,” he said, “was to build a mechanism that could pull together all the information about programs and strategies that show promise of success, put it in one place, and make it widely available.”
Federal interagency cooperation is the linchpin of PAVNET.

Building the data base

Federal interagency cooperation is the linchpin of PAVNET. The number of cabinet-level agencies that have joined PAVNET is now seven, but there is no limit to membership. Units within each agency tapped information clearinghouses plus other sources to find promising programs and other resources in their respective mission areas. Thus, for example, the Department of Agriculture contributed a listing for Project CARES (Children at Risk Extended School), a school-based child care program for at-risk elementary school students and their families, which the agency co-sponsors through its extension agent in Ogden, Utah.

Among the entries from the U.S. Department of Labor is the Center for Employment Training, a job training and placement program operating in several States for at-risk youth, farmworkers, and others. One of the listings provided by the Department of Justice-operated National Criminal Justice Reference Service is the Mediation and Restitution Services (MARS) program, which offers juvenile offenders the opportunity to repay the losses incurred by the injured parties as an alternative to prison.

The information in PAVNET comes from these and many other sources. But although there are several sources, users of PAVNET access what to all intents and purposes is a single, comprehensive, seamlessly constructed data base.

Toward a distributed data base.

Initial data input and processing, as well as quality control (verification of facts, for example), editorial support, and production of the printed volumes and the diskettes were handled largely by NIJ, chiefly through its information clearinghouse, the National Criminal Justice Reference Service. Placing the data online was largely the work of John Gladstone, a systems manager with the U.S. Department of Agriculture, under the direction of John Kane, who coordinates the Youth Development Information Center at the National Agricultural Library. To update the data on a continuous basis, plans are for each PAVNET member agency to input its own data as well as to manage it for the purposes of future quality control, adding and purging data, and making other changes.

In this distributed data base structure, a single point of entry would remain for the user, but input would have several access points—as many as there are participating agencies. To the user, PAVNET Online would retain the appearance of a centralized repository, but that centralization would exist in virtual reality, through electronic linkages among the data bases. Data input and management would be “distributed” among the PAVNET agencies, which are expected to increase.

The information infrastructure

Building the PAVNET Online structures was in large part the work of the U.S. Department of Agriculture’s Extension Service. USDA has played this central role because it already had the necessary hardware and software, used for the past several years to publish Youth Development Information Center documents electronically via the Internet. This system was adopted for use by PAVNET Online.

The system is physically housed at USDA and managed from its National Agricultural Library (NAL). On the NAL gopher, the data base was uploaded on the Internet and tools were built to help users navigate the system. John Kane noted the benefits of gopher technology: “We chose this software, which is basically a menu-based way to retrieve information,” he said, “because for users who either telnet to or log directly onto the system over the Internet, it increases the chances they’re going to find exactly what they want. Gopher technology allows you to get from where you are to practically anywhere else on the Internet without having to know in advance where the information you want is located.”
Kane cited the new possibilities opened up with World Wide Web technology, which allows users to view documents in exactly the way they were created in print. “More and more people are getting access to the Web, and we need to accommodate them,” he said. To do so, a home page is being created for PAVNET on the Internet. (A home page is best explained by way of analogy: it is to the information resource what the cover of a magazine is to what is inside the magazine.)

**Search tools.** Built into PAVNET Online are search tools that make locating information about specific topics a simple exercise. A user might want to find information about programs operating in his or her State or about programs in certain subject categories. For example, the search can be narrowed to information about programs in Maryland or those dealing with “conflict resolution.” The “search engine” scans the full text of each data entry rapidly to match the word or words the user wants to find.

**Expanding resources.** Gopher technology also points PAVNET Online users to Federal clearinghouse and private-sector data bases that in turn point to other resources for information about violence prevention information. For example, the gopher menu can be used to connect directly with the National Criminal Justice Reference Service and with the National Clearinghouse on Alcohol and Drug Information. A “Latest Addition to PAVNET Online” section presents information about related topics, such as conference announcements, legislative initiatives, and new features of PAVNET, among them how to obtain files via e-mail.

John Gladstone, who provides technical support to PAVNET Online,
noted what motivated the team in offering these added services. “We want to be as timely as possible, and as comprehensive as possible,” he said, “and we also want to create pathways that link the users as a group, beyond what they can achieve over the phone.”

One way to promote dialog among users is through listservs—electronic mail groups or information exchanges that enable subscribers to send messages on predetermined topics to everyone on the list and also to receive messages. Within a few weeks after the recently created PAVNET listserv was established, hundreds of subscribers, in police agencies, correctional facilities, community programs, and institutions of higher education, located here and abroad, had signed up. (See PAVNET Online Via the Internet for directions on how to subscribe to the listserv—pavnet-mg.) The PAVNET listserv is designed to host online discussions, nationwide and internationally, on anti-violence issues and permit more community involvement in building PAVNET.

**PAVNET II**

PAVNET reflects what is happening in the field all over the United States. But programs and practices in the field are often established on the basis of research or are modified and replicated following evaluations. This link between practice and research suggested the need for a data base of information about ongoing research in violence.

Like practice in the field, research in violence is not confined to criminal justice, but covers many disciplines, such as health. The National Institutes of Health and the Centers for Disease Control and Prevention, for example, are among the agencies conducting research into one or more aspect of violence. PAVNET II has been proposed as a way to centralize information about research in violence being conducted from many perspectives. The data base would extend to projects under way in institutions of higher education and private research organizations that receive their support from a Federal or State agency, or private foundations.

Such a resource could have several uses: it would help eliminate duplicate research projects and thereby generate cost savings; it would foster collaboration on related projects; and, by including projects undertaken by disciplines outside criminal justice, would be another means to promote a multidisciplinary approach to reducing violence.

NIJ has been exploring what it would take to establish this data base. Feasibility work now under way is targeted to finding out what agencies sponsor such research, how to access the data for input, what restrictions might limit access,
and how to create structures for inputting and managing the data through a single point of entry.

**Government reinvented**

NIJ Director Jeremy Travis summarized the significance of PAVNET’s simplifying systems, structures, and processes: “PAVNET is all about reinventing government. That means making government more responsive.” So successful has the project been in improving “customer service,” that it was formally recognized for its contribution to government reinvention. Two of its most distinctive features—Federal inter-agency cooperation and the coordination of multiple online data bases—led to its designation as a model project in the government reinvention process. As a “reinvention laboratory,” PAVNET becomes a model for replication elsewhere in the Federal Government.

Director Travis noted that although the process of building PAVNET has been innovative, the “product” is the central consideration for NIJ. “Reinventing government is only the means,” he said. “What has been first and foremost in the minds of the PAVNET team is the end.” That end is breaking down barriers to communication, and linking community to community. The “partnership” in Partnerships Against Violence is not just the coalition of Federal agencies, Travis noted, but the coalitions nurtured at the grass roots level with the help of the PAVNET project. And ultimately, he said, the end is repairing, improving, and sustaining the quality of life of our communities by doing something about the violence that continues to claim the lives of so many of our young people.

**Notes**

1. See the article on youth violence by Alfred Blumstein, elsewhere in this issue.


4. The PAVNET files are available on two 3.5” diskettes for use in DOS-based personal computers in either WordPerfect 5.1 or ASCII, for $16.

5. Volume 1, Promising Programs; and volume 2, Information Sources, Funding, and Technical Assistance. Both volumes were published by the U.S. Department of Justice, National Institute of Justice, in December 1994. (The draft version was published in August 1994.)


7. Currently, in addition to the Office of Justice Programs of the U.S. Department of Justice (Bureau of Justice Assistance, Bureau of Justice Statistics, National Institute of Justice, Office for Victims of Crime, and Office of Juvenile Justice and Delinquency Prevention) and the U.S. Department of Agriculture, PAVNET membership consists of the U.S. Department of Education, the U.S. Department of Health and Human Services, the U.S. Department of Housing and Urban Development, the U.S. Department of Labor, and, to a limited extent, the U.S. Department of Defense.

8. Telnet is a way to use the Internet to connect to a computer that is housed at a distant location.

9. On December 7, 1994, Vice President Al Gore presented the “Hammer Award” to the team that developed PAVNET. The award was given as part of National Performance Review process of “reinventing government.” (The name of the award derives from the tool being used symbolically to build an efficient and effective government. The hammer presented in the award, which cost $6, recalls the hammers purportedly purchased by the government for $600 that once became a symbol of government waste.)

________________
Joan Alpert, who is with the National Criminal Justice Reference Service, coordinated the drafting, editing, data input, and production of PAVNET. Judy Reardon is a writer-editor with NCJRS.
millions of Americans are learning—sometimes the hard way—to deal with one or another of the following scenarios:

✦ When they answer the phone, the voice at the other end tells them they have won a free vacation at an exotic locale, and the caller needs only a credit card number to verify their identity.

✦ In retrieving their mail, they find a letter requesting a contribution to a charitable organization whose name is similar to one that is well known.

✦ They answer the doorbell to find an official-looking and -sounding individual who describes a roof problem with their house, says it violates the building code, needs immediate attention, and offers his company’s service to make the repair.

✦ They find a notice in the mail urging them to call a 900 number that will access information about a cost-free plan for loan consolidation.

The scenarios are infinitely varied, but many have one aim: to defraud. The considerable media attention being paid to these crimes suggests how common they have become. Yet locating more systematic information—how frequently the crimes occur, what types are most common, who is most prone to be victimized—is no easy task. One reason is that data on these offenses are not collected in the major Federal Government crime surveys. Partly as a result, research on the topic has been limited. Two recent studies, which focused on telemarketing fraud and fraud in direct personal marketing, revealed these crimes to be fairly extensive.

Meeting the need for comprehensive, accurate data

The need for systematic information about economic crimes, including personal fraud, has been noted by criminal justice professionals and researchers. Finding out how much damage is being inflicted by personal fraud is essential if the criminal justice system is to provide an optimal response.

Meeting the need for information was the thinking behind a nationwide study of fraud conducted by the National Institute of Justice. The aims were to better grasp the extent to which this crime is committed, and to probe such issues as the kinds of fraud being perpetrated, the financial and other losses suffered by victims, the types of people most frequently victimized, and the actions taken by people after they have been victimized. (See “What is Personal Criminal Fraud” for a definition of fraud as used in this study and “The Design of the Fraud Study” for a description of the study method.)

Challenging conventional wisdom

While it may come as no surprise that a substantial proportion of the adult population is affected by fraud, or that fraud is more common than many crimes reported in the National Crime Victimization Survey, many of the other findings of the study were unanticipated. For one thing, the researchers found that when projected to the general population, monetary losses are extremely high, running into the billions. The widespread perception of the elderly and the poorly educated as most vulnerable was revealed to have little basis in reality. Fraud was found to be no respecter of age, gender, race, or income. In short, many of the findings challenged the conventional wisdom that has surrounded these crimes in the absence of accurate and comprehensive information.

How many victims?

Fraud claims many victims. More than half the respondents (58 percent) reported having experienced a victimization or an attempted victimization thus far in their lives. Those who had a fairly recent experience with fraud (in the 12 months before the survey) constituted almost one-third (31 percent) of the 1,246 respondents. The attempt to defraud these people was successful in nearly half of the instances cited. (See table 1, page 31.)
How much is lost?

Losses are frequent and the amounts lost can be high. More than 88 percent of the people “successfully” victimized (and 13 percent of the sample as a whole) reported losing money or property. The amounts ranged widely, from less than $25 to as much as $65,000. (See table 2, page 32.) Projected to the country’s adult population, the average loss ($216) yields an estimated annual figure of more than $40 billion.

Although typically the monetary loss is small, it can be quite large, tending to vary with the type of fraud. Thus, auto and appliance repair scams, fraudulent prices (prices that turn out to be higher than originally quoted by the seller), 900-number swindles, and fake warranties tend to involve relatively large amounts (an average of more than $250). In auto/appliance repair and 900-number frauds, losses can run as high as $3,000 or more, as can losses through fraudulent use of bank or credit cards, impersonations of legitimate brokers and financial planners, and fake insurance and investment schemes.

Losses may not be just financial. In 20 percent of the cases in which the attempt succeeded, the victim experienced resultant credit or other financial problems. Health or emotional problems were reported in 14 percent of these cases, and lost workdays in 13 percent. For more than one in ten of these crimes, other members of the victim’s household suffered significant harm or loss.

Who is victimized the most?

The age factor. A common belief of people who investigate fraud is that certain groups, such as the elderly, are more vulnerable. This study effectively dispelled that notion. Age does matter, but as the study
What Is Personal Criminal Fraud?

A type of property crime, fraud is the deliberate intent, targeted against individuals, to deceive for the purpose of illegal financial gain. The deception consists of the misrepresentation of facts, generally through promises of goods, services, or other benefits that do not exist or that the offender never intended to provide.

Included in this definition are various forms of telemarketing fraud, frauds involving consumer goods and services, deceptive financial advice, and scams in insurance coverage and investment or business dealings. Examples include offers of “free” prizes that contain hidden costs, scams involving credit assistance or loan consolidation, unauthorized use of credit card or bank account numbers, charity scams, worthless warranties, fraudulent health or beauty products, and provision of unnecessary or useless goods and services, including repairs.

Asking about Fraud

The questions asked in the survey present examples of the multiple types of fraud. Some of the questions are as follows:

- Has anyone ever sold or tried to sell you what they claimed was a lottery ticket, or a ticket of admission which turned out to be fake?
- Has anyone ever pretended to be the police or a bank official in order to get you to withdraw money from your bank and give it to them?
- Has anyone convinced or tried to convince you to put money into a business venture such as a work-at-home plan, a franchise, or a business opportunity that you found out was a fraud or a fake?

Are the educated immune? Other than age, education is the only factor affecting the frequency of victimization. Here again, the findings challenge conventional wisdom, which holds that educated people are less likely to be victims of this type of crime. What the survey found was that people at the extremes of the education spectrum (those without a high school diploma and those with graduate degrees) are least likely to be touched by fraud. It is those who have some college or an undergraduate degree who appear to be the most vulnerable to fraud. Moreover, the level of education does not affect the outcome; that is, education has no relationship to whether the fraud, when attempted, actually succeeds. In fact, an attempt to defraud someone with a graduate degree is slightly more likely to succeed than an attempt against someone who did not finish high school.

Education does not appear to confer the protection that might be expected in a type of crime that calls for a battle of wits (rather than a physical confrontation) between victim and assailant. This being the case, for an individual to believe that more education means greater ability to deal with con artists could prove a costly supposition.

The combined effects of youth and education. It may be that age and education are working in tandem to make these fraud victims more vulnerable. Younger, better-educated people may have wider interests and engage in a broader range of activities. For these reasons revealed, older people are less likely to be victimized than younger people. In this respect, fraud victimization follows the pattern of other crimes. Moreover, when the elderly are victimized, they are less apt than younger people to lose money or property.

A partial explanation for the perception of the elderly as more frequently victimized may stem from their greater tendency to report fraud to the authorities. The reports bring these people to investigators’ attention. Another possibility is that older people are being unfairly stereotyped. The study findings suggest that far from being the trusting and compliant victims commonly portrayed in much of the fraud literature, the elderly clearly get smarter as they get older.
they may be more likely to find themselves in circumstances (such as inclusion on telephone or mailing lists) that can result in fraudulent solicitations. In addition, the typically lower incomes of young people in general may make them more receptive to promises of fabulous bargains and spectacular opportunities. Compared to their elders, they have not had time to become sadder but wiser about such matters.

Is there a “typical” victim? Looking at the characteristics of people affected by fraud attempts that succeed, the researchers found no standard profile. There is no “typical” fraud victim. Demographic variables such as education, income, age, race, and gender do not significantly influence an individual’s likelihood of succumbing to a fraud attempt. Nor is the success of the attempt related to the region of the country where a prospective victim lives; fraud is as likely to succeed in rural as in urban areas. In other words, none of these factors is significant in predicting whether attempted fraud will succeed.

The most common kinds of fraud

When it comes to identifying the types of fraud that are most common, the findings once again defy the stereotypes. Frauds often cited by experts who investigate these matters are the “pigeon drop,” impersonations of bank officials or official inspectors, and schemes involving counterfeit tickets (such as lottery and admission tickets) and fraudulent offers of credit repair. In fact, the survey revealed that appliance and auto repair scams, fraudulent prices, 900-number swindles, fake subscriptions, and fake warranties were not only attempted most frequently, but were also most likely to succeed.

Some may argue that the types of fraud found to be most common involve consumer transactions and could be interpreted as being misunderstandings between vendors and customers, or as instances of consumer dissatisfaction. However, the survey was specifically designed to orient the respondent from the outset to report events that were criminal and fraudulent and that involved not misunderstandings but deliberate intents to deceive. (See “The Design of the Fraud Study,” page 33.)

The findings also revealed that other types of fraud, though frequently attempted, are not often successful. These included offers of “free” prizes, credit card number scams, and fake charities.

Circumstances affecting the outcome

Knowledge and locational factors. The success or failure of an attempt to defraud also depends on the circumstances surrounding the crime. One determining circumstance is the relationship of victim to offender. Frauds in which the prospective victim is acquainted with or has some knowledge of the offender

---

Table 1. Prevalence of Fraud

<table>
<thead>
<tr>
<th></th>
<th>Number of People</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attempts in Past Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Attempts Made in Past Year</td>
<td>859</td>
<td>69%</td>
</tr>
<tr>
<td>Attempts Made in Past Year</td>
<td>387</td>
<td>31%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,246</strong></td>
<td><strong>100%</strong></td>
</tr>
<tr>
<td>Outcome of Attempts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Successful</td>
<td>200</td>
<td>52%</td>
</tr>
<tr>
<td>Successful</td>
<td>187</td>
<td>48%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>387</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Seeking help from the authorities

One of the most unsettling findings was that only a small percentage of incidents were reported to the authorities: just 15 percent overall. Of these, the majority (62 percent) were brought to the attention of the police or other law enforcement agency, while most of the remaining reports were filed with consumer protection agencies and the Better Business Bureau. Moreover, when victims reported the incidents to authorities, they tended to receive little in the way of a response.

The likelihood that a fraud will be reported has no relationship to whether it succeeded or failed. In other words, victims are no more likely to report cases in which the crime was carried out successfully than those that were attempted but failed.

What can be done to better combat fraud?

Public education could make a difference in preventing fraud. As noted, attempts were less likely to succeed in cases where victims had heard of the particular fraud they experienced. Thus, information about the types of fraud prevalent in a certain area or at a certain time, and about the modus operandi of con artists operating in a certain area or at a certain time could be useful.

Table 2. Financial Losses from Fraud in Past 12 Months

<table>
<thead>
<tr>
<th>Amount of Loss</th>
<th>Number of People</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Loss*</td>
<td>22</td>
<td>11.8%</td>
</tr>
<tr>
<td>$1 to $25</td>
<td>38</td>
<td>20.3%</td>
</tr>
<tr>
<td>$26 to $50</td>
<td>21</td>
<td>11.2%</td>
</tr>
<tr>
<td>$51 to $100</td>
<td>21</td>
<td>11.2%</td>
</tr>
<tr>
<td>$101 to $250</td>
<td>29</td>
<td>15.5%</td>
</tr>
<tr>
<td>$251 to $500</td>
<td>19</td>
<td>10.2%</td>
</tr>
<tr>
<td>$501 to $1,000</td>
<td>9</td>
<td>4.8%</td>
</tr>
<tr>
<td>$1,001 to $2,000</td>
<td>11</td>
<td>5.9%</td>
</tr>
<tr>
<td>$2,001 to $5,000</td>
<td>8</td>
<td>4.3%</td>
</tr>
<tr>
<td>$5,001 to $10,000</td>
<td>4</td>
<td>2.1%</td>
</tr>
<tr>
<td>$10,001 to $65,000</td>
<td>5</td>
<td>2.7%</td>
</tr>
<tr>
<td>Total</td>
<td>187</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

* Loss was subsequently recovered by respondent, or respondent considered amount so minimal as to constitute no loss at all.

in exposing the scams and forewarning prospective victims. Since there is essentially no typical victim, the information net needs to be cast widely, highlighting the pervasiveness of the threat and noting the at-risk status of virtually all sectors of society. Young people and people with relatively high levels of education need to know they are not immune. Information about prevalent frauds needs to be supplemented by counsel about what prospective victims can do to protect themselves through detection and prevention. This information might be made available through 800-numbers and by referrals to service providers.

A “heads-up” for law enforcement. The revelation that comparatively few incidents are reported to the authorities—law enforcement and others—and that the response is not what victims think it might be indicates another area of need and suggests that fraud victims may merit more attention than they are now receiving.

**Toward a better understanding**

The study was intended as an overview of fraud, designed in part as an exploratory attempt to find out if fraud victimization could be effectively measured. More indepth studies are needed to explore the many facets of the issue. Future research could take a number of directions:

- Analyses of information available from public and private organizations that deal with consumer protection and the investigation and prosecution of fraud. Because reporting rates are low and may not represent all fraud victims, other kinds of research are also needed.
- Analysis of information from victims, agencies to which the victims report the incidents, and court and corrections records. This more comprehensive approach could be based on a representative sample of cases and would produce a more complete picture of how these crimes are perpetrated, investigated, prosecuted, and punished. It might also include detailed profiles of the offenders and their modus operandi.
- Regularly conducted, nationwide surveys of fraud victimization, similar to the National Crime Victimization Survey, conducted annually by the U.S. Department of Justice, Bureau of Justice Statistics to obtain data on FBI-designated “Part I” (serious) crimes.

---

**The Design of the Fraud Study**

The survey that formed the basis of the study used a random sample representative of the adult population of the United States. A total of 1,246 respondents were contacted by telephone in the survey, which was administered in 1991. With a participation rate of 66 percent, minimal weighting was required for nonparticipation.

Attempted as well as completed crimes were examined, in what is believed to be the first study of victimization by multiple types of fraud. An initial series of questions was designed to orient respondents’ thinking to the criminal nature of these incidents. The respondents were then presented with descriptions of 21 types of fraud (plus a catch-all “any other” category) and were asked if they had ever been victimized or if an attempt had ever been made to victimize them.

Recent victimization was studied in some depth through questions that probed for detailed information about incidents of fraud or attempted fraud experienced in the previous 12 months. The focus on recent experience was meant to ensure greater accuracy of recall. In these “incident reports,” respondents were asked about the characteristics of the crime and the offender, the effects of the crime, whether the crime was reported, and what type of assistance, if any, was received.

Demographic data—information about age, race, gender, education, and other information—were obtained to enable researchers to profile the victims.

The survey instrument (the questionnaire) was designed by National Institute of Justice staff with input from fraud investigators and was administered by the survey research firm of Schulman, Ronca, and Bucuvalas; NIJ staff researchers analyzed the results.
Specific questions to explore. Several issues could not be examined within the scope of the current study. These included:

- The reasons some people are more likely than others to be targeted by con artists. (This is important to explore because there are no demographic differences between people targeted by a fraud attempt and people who are not.)

- The strategies employed by people who are more adept than others in resisting attempts at fraud.

- The public information programs that are most effective in educating people about fraud and how to resist it.

- The ways that law enforcement and regulatory agencies can more proactively detect and respond to emerging fraud schemes with less reliance on reporting by victims.

- How the criminal justice system can develop and use more appropriate sanctions for deterring fraud.

Notes


Richard Titus, Ph.D., manages NIJ’s victims of crime program. Fred Heinzelmann, Ph.D., is the former director of NIJ’s crime prevention and enforcement division. John M. Boyle, Ph.D., is senior vice president of the survey research firm, Schulman, Ronca, and Bucuvalas, Inc. Dr. Titus may be reached at NIJ by fax at 202–307–6394, and by e-mail at titus@justice.usdoj.gov.
Technology Transfer From Defense: Concealed Weapon Detection

Table: Examples of Technologies

<table>
<thead>
<tr>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inexpensive night vision goggles.</td>
</tr>
<tr>
<td>“Smart guns” that can only be fired by an authorized user.</td>
</tr>
<tr>
<td>Virtual reality training, simulation, and mission planning.</td>
</tr>
<tr>
<td>Devices that can detect bombs, mines, and weapons.</td>
</tr>
<tr>
<td>Less-than-lethal weapons that use blinding light/sticky foam.</td>
</tr>
</tbody>
</table>

Speaking to members of the defense, intelligence, and industrial communities in November 1993, U.S. Attorney General Janet Reno contrasted their victory in the Cold War, ending with the collapse of the Soviet Union, to the battle still being waged domestically against crime. She likened the new mission of her audience—trying to keep the peace in distant areas where “the enemy” is hard to recognize, well-armed, and aggressive—to that of the law enforcement community:

So let me welcome you to the kind of war our police fight every day. And let me challenge you to turn your skills that served us so well in the Cold War to helping us with the war we’re now fighting daily in the streets of our towns and cities across the Nation.

Shortly after this challenge was issued, the Department of Justice (DOJ) and the Department of Defense (DoD) entered a 5-year partnership to formalize joint technology sharing and development efforts for law enforcement and those military operations unrelated to war. The Memorandum of Understanding (MOU) signed by both agencies gives examples of technologies that have both law enforcement and military applications:

- Less-than-lethal weapons that use blinding light/sticky foam.

Under the MOU, the systematic transfer of existing technologies into the law enforcement and criminal justice communities is permitted for the first time. One result of the cooperative arrangement has been to enable DoD to use the regional centers of the National Law Enforcement Technology Center (NLETC) to support its nonwar-related research and development work on producing better tools for law enforcement. (For more information on NLETC, see box, “Law Enforcement’s ‘One-Stop Shop’ for New Technology Product Information.”)

Another major consequence is an NIJ initiative to draw on DoD technologies to develop ways to find concealed weapons. Under the MOU, the systematic transfer of existing technologies into the law enforcement and criminal justice communities is permitted for the first time. One result of the cooperative arrangement has been to enable DoD to use the regional centers of the National Law Enforcement Technology Center (NLETC) to support its nonwar-related research and development work on producing better tools for law enforcement. (For more information on NLETC, see box, “Law Enforcement’s ‘One-Stop Shop’ for New Technology Product Information.”)

NIJ-sponsored research on a police department experiment in Kansas City showed that crime rates went down in neighborhoods where police seized illegal weapons. The experiment was based on adherence to Fourth Amendment limitations on searching only those individuals for whom there was reasonable suspicion that they were carrying concealed weapons. But what would happen if technology would permit less intrusive searches?

Developing devices to detect concealed weapons

In response to growing public concern over the illegal possession of concealed weapons on the streets and in public buildings, NIJ launched an initiative in March 1995 to promote development of technology that would enhance the detection and identification of weapons carried by unauthorized individuals. NIJ Director Jeremy Travis defined the goal of the project as finding ways to lower the risk for law enforcement personnel in dealing with criminal suspects. For example, police officers could stop a car, order suspects out, and scan them for concealed weapons without police officers’ having to leave the safety of their car. Funding to design and field test prototype detection systems has been approved for three separate technologies, each employing different physical principles and each having situation-specific strengths and weaknesses. NIJ expects one or more of the detectors to be in commercial production within 3 years. These technologies draw on those used by DoD to track Russian submarines and locate buried nuclear waste.
Law Enforcement’s “One-Stop Shop” for New Technology Product Information

The law enforcement and criminal justice communities now have access to a centralized information source—a “one-stop” shop—for state-of-the-art technology and product information. The National Law Enforcement Technology Center (NLETC) expands on NIJ’s Technology Assessment Program Information Center (TAPIC), which has provided technology information for nearly two decades. NLETC’s data bases will initially include: manufacturer and product identification information, a user product data exchange to link potential purchasers with product users, and technical assistance to help agencies locate or borrow equipment or identify experts in a particular field.

Special advisory panels and councils—with members from law enforcement, the courts, the military, academia, and community and private industry groups—will provide a “reality check” for technologies under consideration for potential development by NIJ.

NLETC regional centers

Regional centers are integral to NLETC’s mission of providing diverse and timely support to law enforcement and criminal justice communities. Each of these centers, linked by a Technology Information Network, will perform specialized services:

- Charleston, South Carolina—corrections technologies and development of the electronic hub for NLETC’s Technology Information Network.
- Denver, Colorado—interoperability problems in law enforcement, including ways to facilitate communication across jurisdictional lines using existing equipment.
- El Segundo, California—investigative and surveillance technology support.
- Rome, New York—weaponry and weapons safety technologies.
- San Diego, California—development of technologies to control border-related crime.
- Wheeling, West Virginia—technology transfer from the Federal laboratories to industry for development/manufacture of useful law enforcement tools.

The Office of Law Enforcement Standards (OLES) at the National Institute of Standards and Technology—another component of NLETC—develops voluntary national performance standards for compliance testing to ensure that individual items of equipment are suitable for use by criminal justice agencies. OLES also produces user guides that explain in nontechnical terms the capabilities of available equipment. Technologies now under development include: improved methods for DNA identification and fingerprinting, less-than-lethal technologies for subduing suspects without injury, and improved technology for suspect-tracking and detection of contraband, concealed weapons, and illicit substances.

Accessing NLETC’s information network

Users of NLETC’s one-stop shop will be able to access information about a broad range of products and technologies applicable to their individual requirements. Information on how to use NLETC’s network is currently accessible via:

- An 800 telephone number linked to the National Center.
- Dial-up access to data bases and bulletin boards.
- Technology Beat newsletter.
- National and regional conferences and national and local publications.
- Visitor centers that will showcase technology.

The NLET center in Rockville, Maryland, houses a reading room and a visitors area that showcases new and emerging technologies. To learn more about NLETC, please call 800–248–2742 or write NLETC, Box 1160, Rockville, MD 20849.
Research in Action

Much of the basic development work has already been completed by Raytheon. In the NIJ project, the company will conduct an experiment that will test the system’s feasibility and provide performance data on probabilities of detection and false alarm rates. The experiment will establish that sufficient discriminating ability exists to meet police “probable cause” requirements for a physical search for weapons. This technology has the potential for development of portable and “standoff” weapon detection devices.

The project will include the development, fabrication, and evaluation of a fixed-site camera (that could be mounted on a police cruiser) and monitoring console and a proof-of-concept hand-held camera with a video screen, connected by cable to a signal analyzer box. Designs will also be developed for a totally portable, battery-powered camera and a standoff camera system suitable for use from a law enforcement vehicle.

Low-frequency electromagnetic radiation. The Raytheon Company will design and field test a concealed weapons detection device based on low frequency electromagnetic radiation. When trained on a subject and linked to a computer, the device will send a signal (e.g., a green light) indicating that the person is armed.

Passive millimeter wave images. The Millitech Corporation’s recent development of passive imaging technology operating in the millimeter wave portion of the electromagnetic spectrum offers the opportunity for rapid and remote detection at a distance of up to 12 feet, without a direct physical search, of metallic and nonmetallic weapons, plastic explosives, drugs, and other contraband concealed under multiple layers of clothing. This purely passive imaging technique relies solely on existing natural emissions from objects, does not require manmade irradiation of the person. Screening observations of individuals can be done remotely and with discretion as required. Although passive millimeter wave imaging devices do literally see through clothing, the resulting image display does not reveal intimate anatomical details of the person.

The passive imaging approach to the detection of concealed weapons and other contraband hidden under people’s clothing works well at millimeter wavelengths because of a fortunate convergence of several key factors:

- Adequate resolution in a reasonable sensor size.
- The high transparency of virtually all clothing.
- The extraordinarily high emissivity (the power of a surface to emit heat by radiation) of human skin.

The Contraband Detection System reveals two guns hidden under this man’s sweater; the weapon on top is stainless steel, while the one on the bottom is ceramic.

Photo: Courtesy of Millitech Corporation
with a magnetic sensor, and can be operated in an unobtrusive manner. (Because the system could be housed in a small object like a brief case, a person under surveillance would not be aware of being monitored.) The concept is based on illuminating the subject with a low-intensity electromagnetic pulse known as a Heaviside pulse and measuring the time decay of the reradiated energy from metal objects carried by the person. The intensity and the time decay of the secondary radiation can be characterized and the “signatures” identified as a gun or nonthreatening metal object. System applications range from large gathering places, such as shopping malls, schools, meeting places, and airports, to small stores and banks.

Magnetic gradient measurements. The Idaho National Engineering Laboratory concealed weapon detection scheme will utilize a proven, existing technology used in mineral exploration, environmental characterization, military navigation, and submarine detection. The technology is based on passive sampling of the earth’s magnetic field. Local aberrations in the magnetic field produced by ferromagnetic objects such as guns and knives will be detected and measured by extremely sensitive magnetometers. This is a new application of an existing technology—magnetometer sensors, which are commercially available.

The proposed approach is to construct a scanner that can be a stand-alone unit, much like an airport scanner system, or directly incorporated into doorways or hallways of a building, but that is more reliable than those currently in use. Data will be collected simultaneously from all sensors in the system providing a top to bottom magnetic profile of a person. Reasonable suspicion will be dictated by the location and magnitude of magnetic anomalies. The system will be used to collect magnetic profiles of a variety of weapons in differing locations and a number of nonweapon personal artifacts to establish an electronic catalog of magnetic signatures. These signatures will later be used in analysis schemes that will determine the presence, location, and, potentially, the type of weapon carried. This technology will only detect ferromagnetic materials, but few handguns are likely to be excluded from detection.

Crime-fighting tools for today

As the weapon detection initiative illustrates, much of the technology needed in the law enforcement community has been around for awhile, but until now it has not been available or fully suited to law enforcement and criminal justice requirements. Through technology transfer, existing and useful technologies to help fight crime today can be quickly identified and adapted. David Boyd, who as head of NIJ’s Science and Technology Division oversees these and other projects that assist law enforcement, noted why technology transfer is as important as technology development. “We exploit what’s already out there—by taking products straight off the shelf or spending some time adapting them to police use—and we make gains in efficiency,” he said. “And while developing new technologies for law enforcement is critically important, equally important is the ability to deliver existing technologies into the hands of the police right now.”

Note

Accreditation confers recognition that a level of professional competence has been attained through conformance with measurable standards. For law enforcement agencies, standards are defined by the Commission on Accreditation for Law Enforcement Agencies (CALEA). Although only about 2 percent of the Nation’s 17,000 law enforcement agencies have been accredited by CALEA, the program is important because it signifies achievement on the part of the accredited departments and because it establishes uniform national standards for policing.

CALEA standards cover many aspects of law enforcement and tend to promote the adoption of formalized practices. By contrast, community policing calls for a more open, informal approach to law enforcement than has been traditional. For this reason, there is some belief that CALEA standards are contradictory to the principles of community policing. This thinking prompted a study of the CALEA standards to determine their compatibility with the community policing approach.

Researchers looked at problem-policing and community policing, and also examined organization/management as key aspects of structure and process thought to be affected by accreditation. Finally, researchers conducted an overall assessment of the CALEA standards. The study findings indicated that the CALEA standards neither supported nor contradicted community policing goals and policies.

Application to community policing. For the most part, the CALEA standards were silent or neutral about community policing. Few standards pertained directly to this enforcement approach, and those that did corroborated community policing precepts. For example, there were almost no standards related to the issue of community input. Only a few encouraged or required community input in areas such as recruitment, crime prevention, and community relations, but no standards clearly discouraged or prohibited community input. Overall, the accreditation standards supported a limited form of community policing, and very few of them appeared to seriously impede implementation of the more far-reaching forms.

Application to problem-oriented policing. When the standards’ compatibility with problem-solving or problem-oriented policing was examined, the researchers found them generally supportive of the analysis and collaboration called for in these approaches. One standard recommends analyzing vice and organized crime complaints to “evaluate both the community problem and public attitudes toward the problem.” A number of the standards encouraged or required collaboration with outside agencies or officials, among them courts, prosecutors, fire departments, and social services (including victim-witness assistance).

None of the standards specifically refers to problem-oriented policing, nor do any require the full problem-solving process. Rather, they tend to encourage analysis and collaboration within a largely conventional and incident-based framework. And although the standards do not prescribe attention to fear of crime, disorder, and similar matters, they tend to focus on the more traditional issues of crime and traffic.

Organization/management. Overwhelmingly, the standards require formalization of organizational practices. Usually, this takes the form of requirements for written directives. Typical standards begin with the phrase, “A written directive,” followed by such terms as “requires,” “establishes,” or “specifies.” By no means, however, do the standards seem to advocate the centralized or hierarchical structures typical of traditional law enforcement organizations. The CALEA standards tend to require specialization by task much more than the creation of special units, but many of the pro-task specialization standards simply require that responsibility for some function be vested in an identifiable person or position or that specialized training be provided.

Managerial accountability is stressed in the standards more than operational accountability. In other words, managers and supervisors more than
patrol officers and detectives are covered in the accountability standards. The accountability standards that do apply to the rank-and-file tend to emphasize administrative tasks rather than performance or service to the public.

A number of the standards encourage police departments to be more concerned about employees and customers and, perhaps surprisingly, given the accreditation program’s emphasis on promulgation of written directives, few standards directly reduce or even provide guidelines for police officer discretion.

Overall assessment. By far, most CALEA standards were deemed to have little affinity with either the “professional” or community policing models. The standards focused much more on administrative matters than on police operations. Even standards in sections entitled “Operations” often pertained more to administration. Finally, the standards were considered to be more process- than outcome-oriented; that is, they emphasized methods and procedures rather than goals, objectives, or products.

While the CALEA standards do not directly conflict with the principles of community policing, they offer little more than modest support for a quite limited version of this enforcement approach. Thus, while the standards encourage law enforcement agencies to gather and analyze data and to collaborate with other public and private agencies, they do not require systematic adoption of problem-oriented policing. They view police work and police administration more in terms of incidents than problems, and they cite such current concerns as drugs, citizens’ fear, disorder, and community relations in only a very few instances. In general, the standards encourage agencies to “work smarter, not harder,” but not necessarily to reconsider their basic assumptions about police work and their basic methods of providing police service. Taken as a whole, they reflect more concern with internal organizational issues than with substantive community problems.

For the most part, the standards tell police executives how to set up and run their organizations. They do not specify philosophy or strategy to any great extent and they leave most questions about day-to-day operations and service delivery to each agency’s discretion. Thus, agencies committed to community policing will not find much in the accreditation standards that interfere with their strategic orientation. By the same token, agencies that look to the accreditation standards for strategic guidance will not be directed to community policing to any great extent.

Implications for the future. It seems likely that police officials who envision a fairly limited version of community policing will find nothing in the accreditation program’s administratively oriented standards that interferes with their management of community policing. On the other hand, police officials whose greatest concerns are with empowering their officers, encouraging risk-taking, and removing organizational barriers to employee creativity may find the accreditation standards more constraining to the implementation of their versions of community policing.

Since the study was conducted, the CALEA standards have been revised, and a third edition was published in April 1994. The impetus for the revision, which reduced the number of standards by more than half (from 897 to 436), was to eliminate duplication. The change should make it easier for police agencies to apply for accreditation and should therefore generate more applications. The researchers are analyzing the revised standards and conducting case studies of law enforcement agencies at 12 sites (all are CALEA-accredited), examining how community policing functions within the framework of the standards.

Gary W. Cordner, Ph.D., an NIJ Fellow, is a professor in the College of Law Enforcement at Eastern Kentucky University. Gerald L. Williams, Ph.D., is Director of the Bill Blackwood Law Enforcement Management Institute of Texas, at Sam Houston State University. Their work is being supported by NIJ grant #92–IJ–CX–K038.
NCJRS Special Emphasis on

Youth Violence and Guns

Because our Nation faces an alarming increase in youth violence and use of firearms, the National Criminal Justice Reference Service (NCJRS) has begun a special initiative to collect and disseminate information on this critical issue. NCJRS also welcomes publications, reports, training manuals, program descriptions, and other relevant materials from juvenile justice agencies; social service agencies; law enforcement agencies; local, State, and Federal policymakers; public school officials; and community organizations to enhance the ability of NCJRS to help you and others to address this important issue.

NCJRS resources include:

- **Timely access to up-to-date information.**
- **Referrals to other sources.**
- **Office of Justice Programs agencies and Office of National Drug Control Policy publications.** Several NIJ products are mentioned on the inside front cover and in the articles in this issue; other relevant releases include:


  Sheley, Joseph F., Zina T. McGee, and James D. Wright, *Weapon-Related Victimization in Selected Inner-City High School Samples*, February 1995, NCJ 151526. (A two-page Update on this study is also available.)


  Violence Prevention in Middle Schools, NIJ Update, August 1995, FS 000094.


Contact: National Criminal Justice Reference Service

by mail: P.O. Box 6000, Rockville, MD 20849–6000
by telephone: 800–851–3420
by Internet e-mail: askncjrs@ncjrs.aspenys.com
by modem to NCJRS Bulletin Board System: 301–738–8895
by telnet to NCJRS*BBS: ncjrsbbs.aspenys.com

This Journal and other NIJ documents can be viewed and downloaded from the NCJRS Bulletin Board System (NCJRS*BBS). Please note also that if a document is out of print, you can still obtain a paper copy through interlibrary loan or by paying a minimal fee for xeroxing or for microfiche.